NATURAL RESOURCES AND OPEN SPACE

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NATURAL RESOURCES AND OPEN SPACE

VISION STATEMENT

Pinole has set a major goal to preserve, enhance and strengthen natural resources and open space.

The built environment will be sensitive and complementary to Pinole's natural resources. Ridgelines, creek corridors, trees, open space areas, and the bayfront will enhance the City's community character and quality of life.

Open space will complement both the City's natural assets and the city and regional parks.

INTRODUCTION

Natural resources and open space areas within Pinole provide the opportunity for humans to interact with nature in an urban setting. Ensuring appropriate management and protection of the City's numerous natural resources, including biological, water, and visual resources, will positively contribute to Pinole's environmental health and quality of life for residents. This element provides the framework within which the City will manage existing natural resources and open spaces to ensure long-term sustainability while exploring new opportunities for conservation and preservation.

The Natural Resources and Open Space Element address issues of open space preservation and natural resource conservation

Recreation facilities, Parks and Trails are addressed in the Community Services and Facilities Element (Chapter 8).

PURPOSE

The Natural Resources and Open Space Element, a legally required element, is included in this General Plan to address and establish policies addressing the issues of natural resource conservation and open space preservation within the City limits. Open space in Pinole includes lands that are formally designated as open space by the General Plan, and lands that are designated for Parks and Recreation by the General Plan but are largely undeveloped. Pinole's natural resources and open spaces are some of the City's greatest assets. They serve to strengthen community identity, create a sense of place, and enhance Pinole's quality of life. This Element addresses resource conservation concerns within Pinole, including enhancement of the environment through resource conservation and preservation of biological resources. Policies addressing water and energy conservation are included in the Community Services and Facilities Element. This Element identifies the need to protect and preserve existing open space and natural recreational areas, the need to maintain those areas and create additional open space and natural recreation areas for the enjoyment of residents and the protection of the environment. It also expresses a vision for the future where "sustainable develop-

Open space land is any parcel or area of land or water which is essentially unimproved and devoted to an open space use… and which is designated on a local, regional or state open space plan as: (1) Open space for the preservation of natural resources, (2) Open space used for the managed production of resources. (3) Open space for outdoor recreation, or (4) Open space for public health and safety…

ment"[1] and conservation practices provide for the needs of existing residents and businesses while preserving choices for future generations. Of particular importance to the Pinole Community is the preservation and enhancement of the Pinole Creek and Watershed, access and use of the Shoreline along San Pablo Bay, protection of the ridgelines around Pinole and the addition of a portion of the Bay Trail in Pinole. The goals, policies, and implementation actions in this Element will foster the preservation of Pinole's many valuable natural resources, including wildlife, habitat, water resources, soils, and mineral resources.

RELATIONSHIP TO OTHER GENERAL PLAN ELEMENTS

The goals, policies and implementation actions in the Natural Resources and Open Space Element highlight and complement those in other elements of this General Plan:

Chapter 3: The Community Character Element contains goals and policies to maximize preservation of Pinole's identity, public buildings, services and programs.

Chapter 5: The Land Use and Economic Development Element contains goals and policies related to natural and man-made hazards, development constraints, conservation policies that affect the potential siting of land uses, open space policies, and policies that integrate parks and open space into development are all addressed

Chapter 7: The Circulation Element addresses pedestrian trails, linkages for Pinole and movement throughout the community.

Chapter 8: The Community Services and Facilities discusses open space trails in Pinole Chapter

Chapter 9: The Health and Safety Element contains goals and policies related to water quality.

ISSUES AND CONSIDERATIONS

During public workshops and discussions with the Steering Committee and City Staff, many issues were raised regarding Natural Resources and Open Space. The goals, policies and implementation actions in this Element attempt to address these issues.

1. Existing public access to Pinole Creek and the Shoreline is limited. Efforts to restore Pinole Creek, implement the Bay Water Trail launch and the San Francisco Bay Trail will help to maximize recreational opportunities in Pinole's natural areas.

2. Long-term strategic protection of resources, including additional open spaces, is needed to ensure that Pinole's high quality of life is maintained. Additional coordination with re-

[1] Sustainable development practices refer to the use of architectural and planning methods that address the needs of the present without compromising the ability of future generations to meet their own needs. Specific examples include the use of solar panels for energy conservation, placing jobs near housing to reduce vehicle trips, and infill development in urban areas to reduce the consumption of agricultural land. Policies related to Sustainability are identified with a symbol.

NATURAL RESOURCES AND OPEN SPACE

While it is the Natural Resources and Open Space Element that primarily addresses issues of biological, visual, and water resources, several other Elements, particularly the Sustainability, Land Use and Economic Development, Community Services and Facilities, Health and Safety, Growth Management and Community Character Elements are also concerned with the community's open space and natural resources.

gional and state-wide conservation organizations and agencies is needed to ensure long-term protection.

3. The Pinole Creek Restoration project provides plans for needed riparian habitat protection and restoration. Cooperation with other agencies and organizations will be needed to accomplish creek restoration goals. Additional opportunities for riparian habitat protection and restoration should be explored and implemented.

4. Existing creek and San Pablo Bay setbacks (100 feet from bayshore and 50 feet from creek) need to be expanded to protect and mitigate against the impact of new development near sensitive resources.

5. Ridgelines should be protected from development so they may serve the residents of Pinole as recreational and open space resources, community buffers and visual resources.

6. Pinole's wetlands are threatened by impacts from development.

7. Open space areas are challenged by lack of adequate funding to assure that they are properly maintained.

8. Both passive and active recreation needs should be addressed in open space areas.

NATURAL RESOURCES SETTING

Located on the edge of San Pablo Bay, Pinole's natural resources include the San Pablo Bay shoreline, creeks and ridges. These open spaces provide environmental protection and conservation to numerous biotic resources. Pinole's open space is dispersed throughout the City, but is also fragmented and discontinuous. A more contiguous system of protected open space and habitat for natural communities is a desirable outcome of this General Plan.

View of Pinole Creek

PLANT AND ANIMAL HABITAT

The geography and climate of Pinole result in a number of distinct habitat types, ranging from tall riparian forest and well established coast live oak-bay forest to open grassland and salt marsh. A total of 8 habitat types exist within the plan area including annual grasslands, saline emergent wetlands (salt marsh), coastal oak woodland, and coastal scrub (see **Figure 10.1**). The Characteristics of these observed plant and animal habitats can be found in the Background Report. The acreages of habitat types mapped within the City are detailed in **Table 10.1**.

Special-Status Species' Habitats and Wetlands in Pinole

Because the vegetation of Pinole ranges from highly disturbed annual grassland to coastal oak woodland and saline emergent wetland (salt marsh), it is likely that the City supports one or more of the special-status species known to occur in the region.

The steep slopes of the surrounding hillsides appear to be well drained and are not likely to support wetlands or other features which would fall under the jurisdiction of the U.S. Army Corps of Engineers. The lower slopes and valley floor are largely developed and landscape does not appear to support any areas where water is ponded or where jurisdictional features may occur. Pinole Creek, which drains through the middle of the city, is a perennial creek and is likely to support wetlands or other jurisdictional features along the channel and its tributaries.

Threatened and Endangered Species

The California Department of Fish and game have determined that the San Pablo Bay watershed is home to more than ten threatened or endangered species. The San Pablo Bay watershed (Reference Number 18050002) is grouped in the highest category, Priority I (Impaired), by the State of California. The San Pablo Bay watershed is home to over 10 threatened or endangered species.

Invasive Species

The City of Pinole is home to several invasive species. Invasive plant species such as giant reed (*Arundo donax*), Scotch broom (*Cytisus scoparius*), yellow star thistle (*Centaurea solstitialis*), Himalayan blackberry (*Rubus discolor*) and many others are established in segments of Pinole Creek.

Table 10.1
Existing Habitats Found within the City of Pinole

Habitats Mapped In the City of Pinole	Acreage of Each Habitat Type Mapped in the City of Pinole (acres)
Annual Grassland	716.71
Saline Emergent Wetland (Salt Marsh)	9.69
Estuarine (Tidal Flats)	57.87
Coastal Scrub	9.52
Coastal Oak Woodland	498.76
Perennial Creek (Pinole Creek)	31.96
Open Water (San Pablo Bay Conservation Area)	157.22
Urban	1,964.61
Total Acreage Delineated	3,489.55

Source: PMC, Baseline Biological Report, 2006

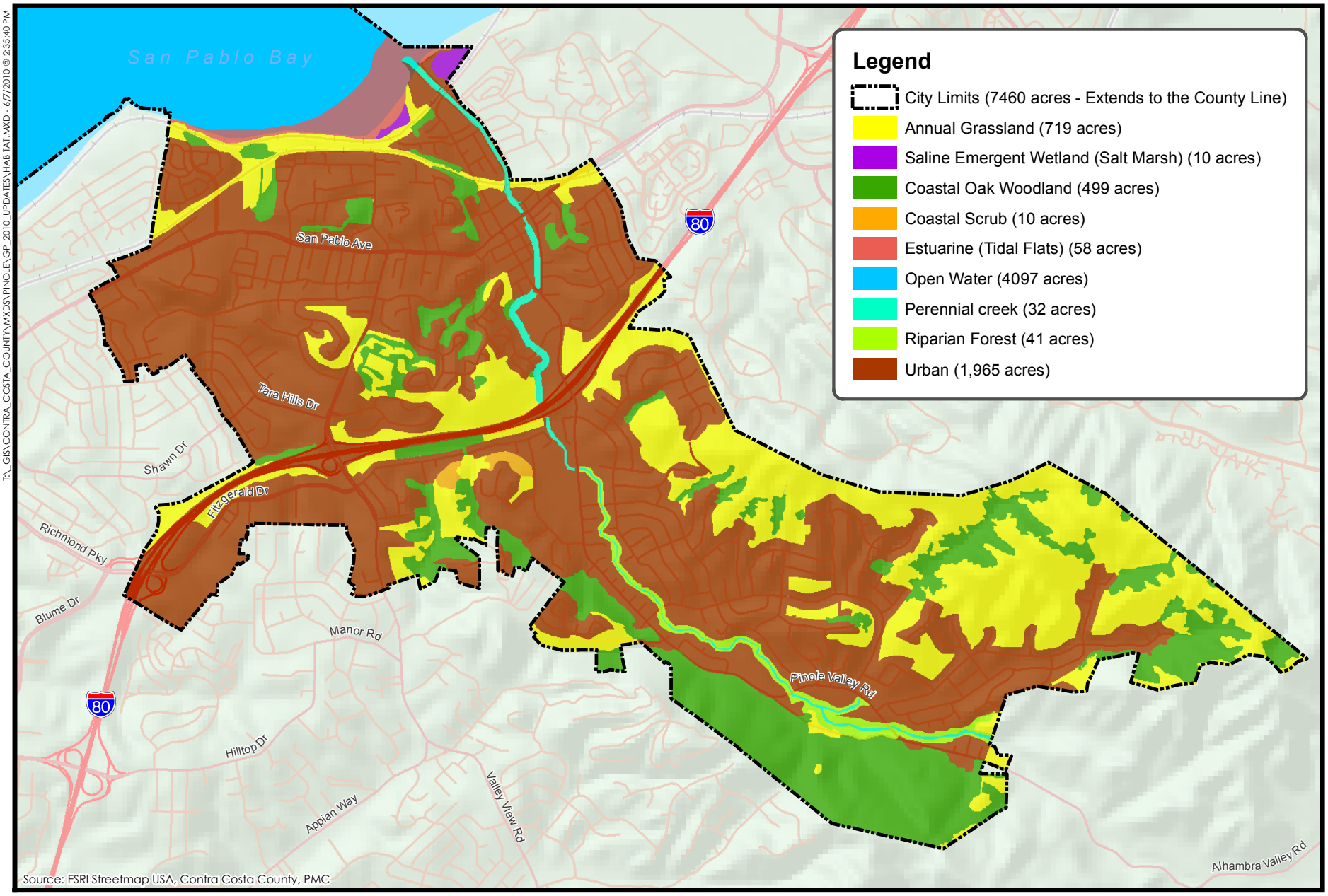

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Figure 10-1
Habitat Map

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Soils Resources

There are 23 mapped soil series within the City of Pinole. These soil units can be seen on the map presented as **Figure 10.2**. The soils themselves are described in the Background Report.

OPEN SPACE SETTING

Open spaces, trails, and natural resources provide active and passive recreation opportunities for residents and visitors. Providing a protected open space network for the future of Pinole is a cornerstone of sustainable community development. Pinole's existing open spaces include lands held by the City of Pinole as parkland and trails, and lands held by the East Bay Regional Park District as regional parklands. These lands provide City residents with an array of recreational opportunities, complemented by City-owned and maintained neighborhood parks.

Part of the Bay Trail in Pinole

The City intends to add to its open space system over time to accommodate future recreation needs and protect natural resources as opportunities arise and long-term land management and maintenance partnerships can be formed.

Please refer to the Community Services and Facilities Element (Chapter 8) for a full discussion on parks, trails and recreational facilities.

Existing Open Space

Residents of Pinole benefit from substantial open space and natural resources in various forms of ownership. The City itself has large holdings, while other parcels are held by homeowners associations, the West Contra Costa Unified School District, and the Contra Costa County Flood Control District, EBMUD, as well as private landowners. There is also an extensive array of regional open space lands in and adjacent to the City. These, combined with marsh and wetland sites along San Pablo Bay add to the availability of recreational open space in Pinole.

Despite the abundance of parks and open space in and adjacent to the City, the current system is fragmented and does not function as an integrated community-wide open space and recreation system or contiguous wildlife habitat. Policies contained in this Plan provide an organizing framework for Pinole's open space resources.

Regional Open Space Preserves

City-Owned Unimproved Parkland

Residents in Pinole use existing open space areas to walk, appreciate the area's natural beauty, hike, bird-watch, jog, and to socialize with friends.[2] There are several unimproved park and open public space areas in the City of Pinole. These preserves cover approximately 343.5 acres in the City limits (see **Table 10.2**).

Table 10.2
Unimproved Parks and Open Public Space Areas in Pinole

Park	Acreage
Bayfront Park	92.0
Pinole Valley Park	197.0
Pinole Valley Adobe Grove & Dog Parks	34.0
Amber Swartz Park	4.0
Wilson Point East Bay Regional Park	64.5
Hugh Young Park	1.0
Sarah Drive Park	11.0
Total	**343.5**

Source: City of Pinole Recreation Department, March 2010

Additional land has been preserved in Pinole Valley Park and the Crown Ridge Subdivision (Marsten Ranch).

The Fire and Public Works Departments are jointly responsible for the maintenance of open space and parks in Pinole. The Fire Department's maintenance responsibilities include vegetation control for fire prevention and safety. The Public Works Department is responsible for all other maintenance activities.

The Recreation and Facility Master Plan identifies three park categories, including undeveloped parks. Undeveloped parks are defined as open space with no amenities. The Recreation Park and Facility Master Plan does not provide standards, guidelines or management plans for the undeveloped parks. Without standards, guidelines or management plans for undeveloped parks, Pinole's City-owned open spaces may not be permanently protected. Additionally, the lack of management plans makes it difficult for the City to appropriately balance the competing needs of natural resources, people and varying recreational uses in open spaces. Policies contained in this element provide a framework for beginning to protect open spaces independent of other City park lands, and balance the needs of habitat *and* people on open space lands.

[2] June, 2007 General Plan Update Survey for Pinole Parks and Open Space.

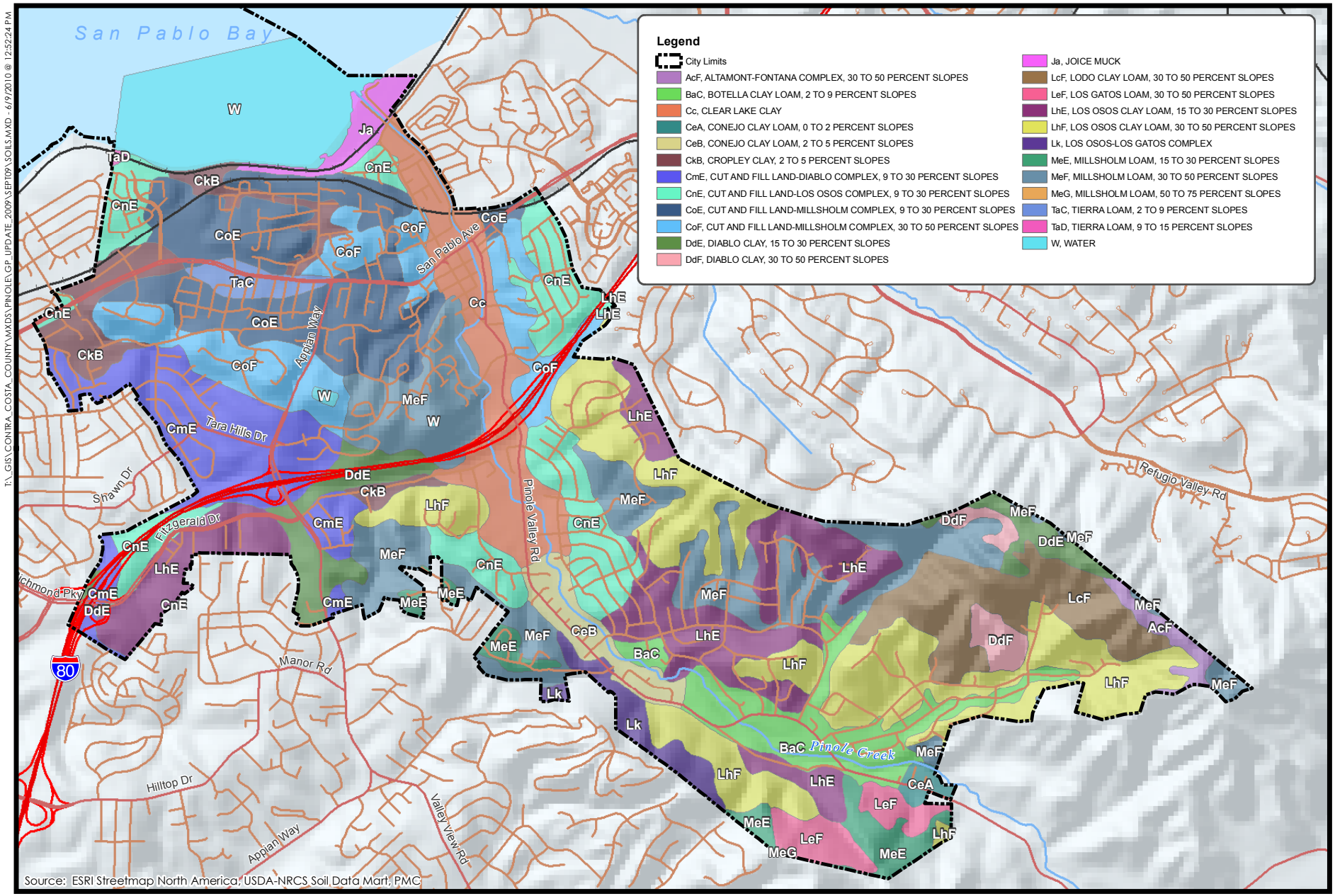

Figure 10.2 Soils

Soils Map

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Figure 10.3
North West Region of the East Bay Regional Park District

Source: http://www.ebparks.org/parks#se accessed 2/16/09)

Regional and Local Trails

City of Pinole Trails

Residents in Pinole use the City's trails to run, bike, walk, and to find solitude. The City of Pinole Recreation Department maintains both regional and local pedestrian and hiking trails for recreational use by residents and visitors. Pinole's paved pedestrian trails include:

- Pinole Creek Trail (from I-80 to Bayfront Park);
- Portions of the Bay Trail (1/6 of a mile) located at the end of Pinole Shores Drive;
- (1/4 of a mile) around Bayfront Park; and
- Sarah Drive Trail (1/6 of a mile) leading to Hoke Court and Stewart Elementary School.

The City of Pinole Recreation Department does not maintain an inventory or map of trails in unimproved parks, but plans to prepare an inventory of trail facilities and develop a list of trails with a map of and directions to each trail.

Trails, including the San Francisco Bay Trail, are discussed further in the Circulation Element, (Chapter 7) and the Sustainability Element (Chapter 11)

Visual Resources

The diverse open space system in Pinole contributes to the community's unique visual qualities. The City's San Pablo Bay shoreline, creeks (particularly Pinole Creek), ridgelines and other areas, as well as the historic qualities of Old Town, are focal points recognizable from many locations in the City. Preservation of existing and future open space areas will ensure the continuation of the City's unique visual qualities.

The Community Character Element (Chapter 3) discusses built visual resources in Pinole and their contribution to the community's character.

GOALS, POLICIES, AND IMPLEMENTATION ACTIONS

What follows are the goals corresponding policies and implementation actions of this element.

GOALS

- Goal OS1: Ensure the preservation of natural resources by determining appropriate land use and compatibility with natural resources and open space.
- Goal OS2: Sustain, protect, and enhance natural communities, including special-status plants, special status wildlife, and comply with all applicable Federal, State and local regulatory and trustee agencies.
- Goal OS3: Protect, preserve, and restore open spaces.
- Goal OS4: Provide a network of trails linking open spaces and recreation opportunities.
- Goal OS5: Provide community stewardship of open spaces.
- Goal OS6: Protect scenic visual resources that help define and distinguish Pinole as a unique and desirable community.
- Goal OS7: Secure adequate funding for on-going open space preservation and stewardship.
- Goal OS8: Ensure Excellent Water Quality and Secure Water Supply for Human and Natural Communities.

POLICIES AND IMPLEMENTATION ACTIONS

GOAL OS.1 Ensure the preservation of natural resources by determining appropriate land use and compatibility with natural resources and open space.

POLICY OS.1.1 Habitat Preservation. The City shall protect and preserve open space and remaining natural areas. Preserve oak/woodland, riparian vegetation, creeks, fisheries, saltwater and freshwater marsh, native bunchgrass grasslands, wildlife corridors and sensitive nesting sites. Loss of these habitats should be fully offset through creation of habitat of equal value. Compensation rate for habitat re-creation shall be determined by a qualified biologist in consultation with resource agencies.

Action OS.1.1.1 Develop a Habitat Protection plan that includes an inventory of resources, and identifies measures that may be undertaken to protect the resource, including:

a. Resource protection; and

b. Creating restoration objectives.

Action OS.1.1.2 The City will continue pursuing Riparian and Stream Restoration Programs, particularly as they relate to implementation of the Pinole Watershed Vision Plan, Pinole Creek Master Plan, and Pinole Creek Demonstration Project.

Action OS.1.1.3 Prepare an Open Space Plan that includes an inventory of existing open space lands and identifies Open Space management goals and objectives.

POLICY OS.1.2 Agency Cooperation. Work with Federal, State and local regulatory and trustee agencies to promote the long-term sustainability of local natural resources.

Action OS.1.2.1 The City will continue to communicate with resource agencies on Fish and Wildlife issues and potential impacts. This consultation will include early consultation with the U.S. Fish and Wildlife Services and the California Department of Fish and game as part of environmental review for development proposals.

Action OS.1.2.2 The City will involve Federal, State and local agencies in the formulation of resource protection and habitat restoration plans.

POLICY OS.1.3 Hillsides, Ridgelines, and View Corridors. Retain and protect sensitive hillside and ridgeline habitat, tree groves, and view corridors as shown on **Figure 10.4**.

Action OS.1.3.1 Explore the possibility of establishing guidelines or development standards to retain ridgelines as community separators and to preserve the visual attributes of Pinole's hillsides.

Action OS.1.3.2 Ensure that new development protects visually prominent existing physical features within Pinole.

POLICY OS.1.4 Protect and Mitigate Wetlands. All projects shall avoid impacts where feasible. If not feasible, projects shall mitigate impacts to wetlands consistent with Federal and State Policies to ensure there is no net loss in a regional context. Protect wetlands through careful environmental review of proposed development applications. The City shall recognize the U.S. Army Corps of Engineers as the designated permitting agency that regulates wetlands.

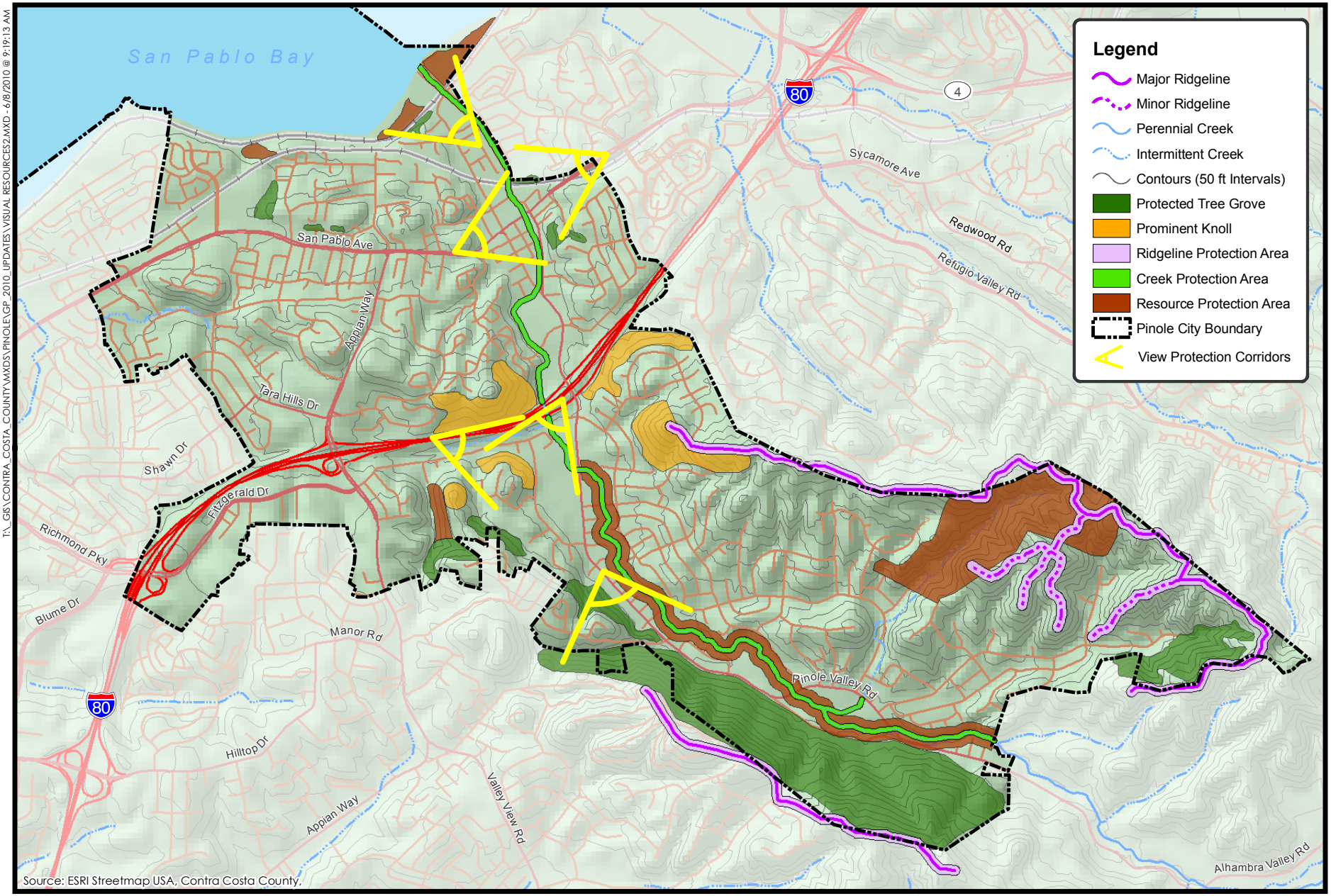

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Figure 10.4
Pinole Visual Resources

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Action OS.1.4.1 Consider developing a Wetland inventory that identifies the location and extent of wetlands within the City of Pinole.

Action OS.1.4.2 Explore establishing development standards that can be used to avoid and protect wetland resources.

Action OS.1.4.3 Continue to coordinate with Federal and State Agencies to ensure that necessary permits are issued for work in or near to identified wetlands.

Action OS.1.4.4 Continue to employ mitigation measures to reduce potential wetland impacts to a less than significant level.

Action OS.1.4.5 Continue to incorporate passive surface runoff management into project design in order to protect water quality and preserve natural drainage functions.

Action OS.1.4.6 Continue efforts to restore natural waterway functions within the Pinole Watershed.

POLICY OS.1.5 Integrated Management. Work toward integrated management of tidal areas and drainages within the City limits.

Action OS.1.5.1 Require new developments to minimize the amount of off-site drainage, maintain natural drainage channels, and avoid alteration of off-site drainage courses and impacts on downstream resources and tidal areas.

POLICY OS.1.6 Access to Wetlands. Provide appropriate access to wetlands.

Action OS.1.6.1 Explore developing guidelines and standards that will ensure visual access to Pinole wetlands while establishing limits on physical access in order to protect wetlands resources.

POLICY OS.1.7 Transitional Zones. The City will condition or modify development approvals to ensure that natural transitions along the edges of different habitat types are preserved and enhanced because of their importance to wildlife. Maintain proper buffers between sensitive habitat and conflicting land uses. Habitat types of particular concern are those along the margins of riparian corridors, marshlands, and oak woodlands. Preserves and areas with special conservation status must have compatible surrounding land uses.

Action OS.1.7.1 Establish development standards that protect upland areas surrounding riparian habitat, and buffer areas adjacent to oak woodlands and other resources. These policies may include:

a. Creek setbacks;

b. Ridgeline separation; and

c. Tree protection measures.

POLICY OS.1.8 Habitat Restoration. The City shall implement a re-vegetation plan which aims to identify and prioritize areas planned for habitat restoration. Areas planned for restoration may provide special-status species habitat, connectivity of wildlife corridors, transitional zones in between natural areas and incompatible land uses, or expansion of ecological functions such as flood management and water quality.

Action OS.1.8.1 Support restoration objectives for local habitat types identified in regional environmental planning documents. Where reasonably possible, attempt to restore lost or damaged habitat.

Action OS.1.8.2 Establish riparian and stream restoration programs that include erosion control measures, stream clean-up projects, and revegetation plans for denuded areas.

GOAL OS.2 Sustain, protect, and enhance natural communities, including special-status plants, special status wildlife, and comply with all applicable Federal, State and local regulatory and trustee agencies.

POLICY OS.2.1 Protection of Native Vegetation. Protect, preserve and create the conditions that will promote the preservation of significant trees and other vegetation, particularly native to California and the region.

Action OS.2.1.1 Periodically evaluate the tree preservation zoning regulations to ensure that adequate tree protection is provided.

Action OS.2.1.2 The City will continue to implement tree protection programs to preserve significant trees or groves of trees as part of the City's heritage.

POLICY OS.2.2 Invasive Species. The City shall attempt to prevent further expansion of invasive species and protect against noxious weeds through public education and development review of projects that occur adjacent to natural areas. These efforts shall include requiring the planting of native vegetation that supports native terrestrial and aquatic animal species.

POLICY OS.2.3 Invasive Species. Consider adopting guidelines and standards to help protect against the continued spread of invasive species; seek out opportunities to

replace invasive, non-native vegetation with native vegetation on public property; and support efforts that enhance habitat by replacing invasive, non-native vegetation with native California plant species over time within the City.

Action OS.2.3.1 The City shall work with local agencies to develop an approach to controlling the spread of non-native invasive species and reducing their extent on both public and private land, including developing an invasive species removal program.

Action OS.2.3.2 New development should incorporate native vegetation into landscape plans and discourage the use of invasive, non-native plant species.

Riparian Areas

POLICY OS.2.4 Riparian Areas and Creek Setbacks. Lands adjacent to riparian areas shall be protected as public or private permanent open space through dedication or easements. Riparian vegetation outside the setback should also be protected. Riparian areas within the City include but are not limited to: (1) Pinole Creek (2) Catty Creek (3) Duncan Canyon/Cole Creek; (4) Shady Draw; (5) Faria Creek and (6) Roble Creek and shall be protected from further degradation and enhanced during review of adjacent proposed development.

Action OS.2.4.1 Continue implementing the Pinole Creek Watershed Vision Plan and pursue related riparian and stream restoration programs.

Action OS.2.4.2 Establish minimum separation between creeks and adjoining development.

POLICY OS.2.5 Riparian Habitat Restoration. Require restoration or replanting of riparian vegetation to the extent feasible, projects shall mitigate impacts to wetlands consistent with Federal and State policies to ensure that there is no lest loss in a regional context.

POLICY OS.2.6 Riparian Mitigation. Impacts to riparian habitats shall be mitigated at a no net loss of existing function and value based on field survey and analysis of the riparian habitat to be impacted.

POLICY OS.2.7 Integrated Creek Management. The City will encourage and cooperate with Contra Costa County and other responsible agencies to plan and implement an integrated management plan for the long-term conservation and restoration of the riparian corridor along the Pinole Creek

Wildlife Corridors

POLICY OS.2.8 Maintain and Improve Wildlife Movement Corridors. Continuous wildlife habitat, including corridors free of human disruption, shall be preserved and where necessary created by interconnecting open spaces, wildlife habitat and corridors.

POLICY OS.2.9 Wildlife Movement Corridor Mitigation. The City will condition development permits in accordance with applicable mitigation measures to ensure that important corridors for wildlife movement and dispersal are protected. Features of particular importance to wildlife include riparian corridors, wetlands, bay shorelines, and protected natural areas with cover and water. Linkages and corridors shall be provided to maintain connections between habitat areas.

Action OS.2.9.1 Consider adopting an Open Space Management Plan that includes criteria to ensure free movement of wildlife throughout the City.

GOAL OS.3 Protect, preserve, and restore open spaces.

POLICY OS.3.1 Continuous Open Space Planning. Plan for connectivity of open spaces and wildlife habitat and corridors using species area plans, neighborhood plans, subdivision maps or other applicable planning processes, consistent with Open Space Guidelines.

POLICY OS.3.2 Regional Planning. Coordinate with Contra Costa County and adjoining jurisdictions, federal and state agencies to assure regional connectivity of open space and wildlife corridors.

POLICY OS.3.3 Cluster Development. Encourage cluster development and other creative site planning techniques to preserve open space, trails and visual, habitat, recreation and archaeological resources.

POLICY OS.3.4 Conserve Sensitive Resources. The City shall direct development away from “sensitive biological resource” areas, unless effective mitigation measures can be implemented.

Action OS.3.4.1 The City shall adopt policies to conserve and enhance the City’s biological resources in a manner which facilitates orderly development and reflects the sensitivities and constraints of these resources.

POLICY OS.3.5 Buffers for Sensitive Resources. When activities close to open space resources within or outside the urban area could harm these resources, the City will require buffers between the activities and the resources. The City will actively encourage individuals, organizations and other agencies to follow this

policy. Buffers associated with new development shall be on the site of the development, rather than on neighboring land containing the open space resource. Buffers provide distance in the form of setbacks, within which certain features or activities are not allowed or conditionally allowed. Buffers shall also use techniques such as planting and wildlife-compatible fencing. Buffers shall be adequate for the most sensitive species in the protected area, as determined by a qualified professional and shall complement the protected area's habitat values. Buffers shall be required in the following situations:

- Between urban development – including parks and public facilities – and natural habitat such as creeks, wetlands, rocky outcrops and grassland features to address noise, lighting, storm runoff, spread of invasive, non-native species, and access by people and pets.
- Between agricultural operations and natural habitat, to address noise, chemical use, sediment transport, and livestock access.

Action OS.3.5.1 Consider establishing creek setbacks in order to ensure adequate separation between development and riparian resources, and to preserve opportunities for public access to, and along creek corridors.

POLICY OS.3.6 Minimize Environmental Impacts. Encourage development patterns which minimize impacts on the City's biological, visual, and cultural resources, and integrate development with open space areas.

Action OS.3.6.1 Continue to employ mitigations to reduce potential impacts to wetland resources to a less than significant level.

Action OS.3.6.2 Establish standards to protect wetlands resources within the City of Pinole.

POLICY OS.3.7 Preserve Natural Features. Retain sensitive habitat areas in their natural state, where possible, and protect from inappropriate development and landscaping. New development shall incorporate natural features present on the site such as a creek, steep topography or natural vegetation, where feasible, unless appropriate mitigation measures can be incorporated.

Action OS.3.7.1 Continue to notify and consult early with the California Department of Fish and Game and the Army Corps of Engineers, BCDC and any other trustee agencies when development projects are proposed in locations where there may be impacts to fish and wildlife and their habitats.

Action OS.3.7.2 Require applicants to provide an environmental assessment in compliance with CEQA provisions for development proposed on sites that

may contain sensitive biological or wetland resources. Require the assessment to be conducted by a qualified professional to determine the presence of any sensitive resources, to assess the potential impacts, and to identify measures for protecting the resource and surrounding habitat.

Action OS.3.7.4 Development projects shall be modified to avoid impacts on sensitive resources, or impacts shall be mitigated by providing on-site or (as a lowest priority) off-site replacement.

POLICY OS.3.8 Protect Listed and Non-listed Special-status Species. Limit development in areas which support listed and non-listed special-status species. If development of these areas must occur, any loss of habitat should be fully compensated on-site. If off-mitigation is necessary, it should occur within the Pinole planning area whenever possible, and must be accompanied by plans and a monitoring program prepared by a qualified biologist.

POLICY OS.3.9 Biological Resource Evaluation. The City shall require a biological resources evaluation for private and public development projects in areas identified to contain or possibly contain listed plant and/or wildlife species based upon the City's biological resource mapping provided in the General Plan EIR or other technical materials. This evaluation shall be conducted prior to the authorization of any ground disturbance.

POLICY OS.3.10 Mitigation for Special-status Species. For those areas in which special-status species are found or are likely to occur or where the presence of species can be reasonably inferred, the City shall require mitigation of impacts to those species. Mitigation shall be designed by the City in coordination with the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Game (CDFG), and shall emphasize a multi-species approach to the maximum extent feasible. This may include development or participation in a habitat conservation plan.

Action OS.3.10.1 Protect Biodiversity. Continue to protect areas known to support a high degree of biological diversity and that may contain species known to be rare or protected under the State or Federal Endangered Species Act. These include the City's tidal wetlands, freshwater wetlands and riparian forest.

Education

POLICY OS.3.11 Environmental Education. Promote community involvement with development of increased environmental awareness and encourage the development of public environmental education.

Action OS.3.11.1 Develop Environmental Education Programs with schools and other agencies to help environmental awareness, through informational signage, school programs, restoration and clean-up workdays, and events.

POLICY OS.3.12 Balance Recreation and Habitat Needs in Open Space. Provide for a variety of recreational activities in open space areas within the City of Pinole while ensuring the protection of important habitat through environmental education and development of Open Space Management Plan

POLICY OS.3.13 Public Use and Access to Open Space. Clearly delineate public access areas from those areas to be protected from human disturbance through adequate signage and enforcement of regulations through environmental education and development of Open Space Management Plans

POLICY OS.3.14 Open Space Preservation and Management. Maintain and effectively manage an integrated pattern of open space areas for preservation of natural resources, visual resources, and for recreational use. The City may consider passing a habitat protection ordinance that would identify and protect areas of biological value, including streams, creeks and wetlands as well as include setbacks from creeks, guidelines for avoidance of filing of creeks or wetlands and destruction of riparian vegetation, standards for compensation of habitat loss (as established by a qualified biologist), and requirements for mitigation, monitoring and habitat enhancement plans..

Action OS.3.14.1 Preservation through the Development Review Process. Maximize open space preservation through the private development review process and other approaches that minimize ongoing City costs and liability exposure and still achieve City open space goals.

GOAL OS.4 Provide a network of trails linking the public to open spaces and recreation opportunities.

POLICY OS.4.1 Coordinate with other City-wide and regional trail planning efforts to establish a comprehensive network of trails through and Open Space Plan in Pinole

Action OS.4.1.1 The City shall work with trail users and interested parties to create a trail map showing existing trails in and around Pinole.

A trail in Pinole

GOAL OS.5 Provide community stewardship of open spaces.

POLICY OS.5.1 Encourage community engagement in open space stewardship through community events and education partnerships.

Action OS.5.1.1 Identify and support opportunities for installation of Interpretive Signage Plan and distribution of education materials that increase public awareness of local natural resources and how human and other animal populations can coexist.

Action OS.5.1.2 Support efforts that encourage low-impact, passive recreational and educational uses in marsh and tidal land areas within the Pinole Planning area.

POLICY OS.5.2 Coordinate with local educational institutions to encourage environmental education efforts to protect natural resources.

GOAL OS.6 Protect scenic visual resources that help define and distinguish Pinole as a unique and desirable community.

POLICY OS.6.1 Protect Existing Visual Resources. Protect the City of Pinole's character by protecting key visual resource areas.

Action OS.6.1.1 Make use of land dedications and scenic easements to preserve visual resources.

Action OS.6.1.2 Establish guidelines or standards to preserve ridgelines as community separators and to preserve Pinole's open hillsides as a visual resource.

POLICY OS.6.1 Scenic Resources. To further the image of Pinole, preserve significant knolls, stands of trees, rock outcrops and ridgelines within the city through scenic easements, where feasible, and ridgeline preservation measures.

POLICY OS.6.2 View Protection. Preserve prominent views of scenic resources and the bay, and consider visual access and view corridors when reviewing development proposals through requirement of scenic easements, where feasible, and ridgeline preservation policies.

Action OS.6.2.1 Require assessment of critical public views and ridgelines as part of the project review process to assure that projects protect natural resources through proper site planning, building design and landscaping.

POLICY OS.6.3 Open Space Separators. Maintain a continuous open space separator between Pinole and the cities of Hercules (Pinole Ridge), and El Sobrante/ Richmond (El Sobrante Ridge) through scenic easements and view protection measures.

POLICY OS.6.4 Major and Minor Ridgelines. Preserve major and minor ridgelines. Where possible, properties shall provide for a ridgeline setback of 400 feet horizontally from major ridgelines, 100 feet from minor ridgelines and a vertical setback of 100 feet from both.)

POLICY OS.6.5 Ridgeline Protection. Natural contours and vegetation on ridgelines shall be maintained. Locate and design structures and other public and private improvements so as to minimize cut and fill areas that will impact public views, safety and surrounding uses, and avoid building profiles (silhouettes) being located above the ridgeline when viewed from public streets and designated public access areas.

GOAL OS.7 Secure funding for ongoing open space preservation and stewardship.

POLICY OS 7.1 Funding for Maintenance. Pursue efforts and partnerships that help provide for a sustainable open space system through adequate funding for maintenance and management of open space

Action OS.7.1.1 Apply for grant opportunities that support open space enhancement, restoration, and protection objectives.

Action OS.7.1.2 Explore opportunities to provide funding for maintenance of existing publicly owned open space area.

GOAL OS.8 Conserve and enhance excellent water quality and secure water supply for human and natural communities.

POLICY OS.8.1 Manage and encourage water sustainably through planning, conservation, reclamation and recycling.

Action OS.8.1.1 The City will collaborate with local, regional and state water suppliers and water resource managers to comprehensively plan for a sustainable water supply.

Action OS.8.1.2 Will coordinate water resource management planning with other conservation planning efforts, such as open space and park planning, and creek restoration.

Action OS.8.1.3 Continue to work with the East Bay Municipal Water District to create a master plan for reclaimed water infrastructure (a "purple pipe" system) in Pinole.

Action OS.8.1.4 Participate in ongoing EBMUD water conservation programs to provide education and outreach materials and support water conservation efforts in Pinole.

Action OS.8.1.5 Continue to coordinate with wastewater system operators to identify and implement programs for the reuse of treated wastewater, particularly in landscaping and public facilities.

Action OS.8.1.6 Explore mechanisms with EBMUD to install infrastructure to transport existing or future supplies of reclaimed water ("purple pipe") or pay an in-lieu fee equal to the cost of installation, to be used toward the implementation of the Citywide system.

POLICY OS.8.2 Low Impact Development. Integrate Low Impact Development (LID) practices in all new development to reduce, treat, infiltrate and manage runoff flows caused by storms, urban runoff and impervious surfaces.

Action OS.8.2.1 Pursue Municipal Code changes that support LID development.

POLICY OS.8.3 Groundwater Recharge. Encourage natural groundwater recharge and identify groundwater recharge opportunities to combine groundwater recharge with habitat protection and recreational land uses, as part of other conservation planning efforts such as open space and park planning and creek restoration, where appropriate.

POLICY OS.8.4 Groundwater Quality. Collaborate with local and regional water resource managers to identify and monitor areas where hazardous waste and other pollutants may negatively impact groundwater quality.

Action OS.8.4.1 Groundwater Quality Protection. Require appropriately designated filters adjacent to all manmade storm drainage channels.

POLICY OS.8.5 Prevent Water Pollution. Take actions to prevent water pollution, consistent with federal and state water policies and standards.

Action OS.8.5.1 Continue to employ pollution prevention techniques in all city operations and maintenance activities, consistent with Contra Costa County Clean Water Program regulations.

POLICY OS.8.6 Water for Riparian Communities. Protect water sources for water-dependent species and the health of riparian communities

Action OS.8.6.1 Continue on-going riparian protection and enhancement efforts as expressed in the Pinole Creek Watershed Vision Plan, and implement existing surface run-off protection programs.

POLICY OS.8.7 Interagency Water Resource Projects. Help implement interagency projects, such as expansion of wastewater treatment capacity, joint development of new treatment or distribution infrastructure, water exchanges, and reclaimed water sales with local, regional and state water suppliers and water resource managers to ensure a sustainable water supply.

Action OS.8.7.1 The City shall ensure that the intensity and timing of new development are consistent with the capacity of water supplies and protect groundwater and other water supplies by requiring all applicants for discretionary projects to demonstrate the availability of an adequate water supply prior to approval.

Action OS.8.7.2 Support efforts and partnerships that coordinate water resource management planning with other conservation planning efforts, such as open space and park planning, and creek restoration.

Action OS.8.7.3 Work cooperatively with applicable agencies to encourage water conservation by disseminating education and outreach materials and providing local water conservation incentives.

Action OS.8.7.4 Work cooperatively with other wastewater system operators to identify and implement projects that result in reuse of treated wastewater, particularly in landscaping and public facilities, consistent with public health requirements.

POLICY OS.8.8 Protect creeks and San Pablo Bay within the Planning Area by implementing stormwater pollution-prevention activities.

Action OS.8.8.1 Minimize public and private use of pesticides that may harm water quality within the Pinole Creek Watershed and Planning Area through education and outreach efforts.

Action OS.8.8.2 Implement a comprehensive municipal stormwater pollution-prevention program in compliance with requirements of the California Regional Water Quality Control Board's stormwater National Pollutant Discharge Elimination System (NPDES) permit.

Action OS.8.8.3 Avoid excessive grading and disturbance of vegetation and soils, retain native vegetation and significant trees, and maintain natural drainage patterns by requiring proposed development to conform to natural land forms, where feasible.

Action OS.8.8.4 Continue to work cooperatively with other agencies and community groups to comply with water quality regulations, reduce pollutants in runoff, and protect and enhance water resources in the Pinole Creek Watershed and the Planning Area.

Action OS.8.8.5 Reduce directly connected impervious area by limiting the overall coverage of paving and roofs, directing runoff from impervious areas to adjacent pervious areas, and selecting permeable pavements and surface treatments to enhance water quality.

Action OS.8.8.6 Require new development projects to incorporate facilities and measures to treat stormwater before discharge from the site. The facilities shall be included in required Stormwater Control Plans and sized to meet NPDES permit requirements. Projects shall protect water quality by incorporating Low Impact Development (LID) design to detain, treat, and infiltrate runoff by minimizing impervious area; such as use of pervious pavements and green roofs, disperse runoff to landscaped areas; and/or route runoff to rain gardens, cisterns, swales, and other small-scale facilities distributed throughout the project area.

Action OS.8.8.7 Support and participate in regional efforts to protect water quality and enhance recreation opportunities by preserving and restoring riparian and wetland habitat within the Planning Area and the Pinole Creek Watershed.