6.25 EDGEHILL MOUNTAIN

GENERAL DESCRIPTION AND LOCATION

Edgehill Mountain is located northwest just across Portola Drive from Mount Davidson (Figure 1-1). Edgehill Mountain itself is mostly developed, but a small forested area remains on the south side. This 2.3-acre Natural Area is bordered on the west by Kensington Way and on the north by Edgehill Way (Figure 6.25-1). Access to the Natural Area is by Shangrila Way from the northwest and Knockash Hill on the southeast, both of which dead end at the Natural Area entrance. This small Natural Area is almost entirely covered with blue gum forest. Edgehill Mountain supports small populations of sensitive plants and the forest habitat provides habitat for sensitive bird species. In addition, this Natural Area has values to the people of San Francisco that include: city views; recreational trail use; coastal scrub plant habitat; suitable habitat for a variety of bird species; and urban forest.

GEOLOGY, HYDROLOGY, AND TRAILS

This Natural Area is underlain by Franciscan chert bedrock. Most of the chert is buried under slope debris and is mapped as "thin rocky soil over bedrock" (Figure 6.25-2). The entire park is subject to soil slips and rockfalls because of the steep terrain. The chert is exposed in elongated scarps along the south-facing hillside of the park (mapped as "chert outcrop") and in the roadcut for Kensington Avenue just outside the base of the Natural Area.

There is no surface water at the site. Drainage of the area is by overland flow. The Natural Area is densely vegetated, providing protection from erosion. Some rainfall percolates into fissures in the rock, but runoff generally is rapid. Natural runoff-formed furrows on the slopes are not eroded extensively because the underlying chert is very hard and resistant to weathering.

A defined network of trails (approximately 750 feet long) exists in the central portion of the park with wooden steps installed by the Natural Areas Program staff crossing particularly steep slopes. Few social earthen trails have developed because the terrain is too steep for casual access. Approximately 440 feet of new trails are proposed.

VEGETATION

Only four vegetation series were mapped at Edgehill Mountain (Table 6.25-1). Of those, blue gum eucalyptus dominates the landscape (1.87 acres). A small patch, 0.12 acres, of mixed herbaceous vegetation, rock outcrops (0.05 acres), and some developed areas (0.28 acres) comprise the rest of the land cover within the Natural Area (Figure 6.25-3). The vegetation series mapped as part of this plan indicate that this Natural Area is dominated by invasive species. Pockets of remnant native plant communities occur on the lower slopes. These areas were once

highly degraded due to shading by dense eucalyptus and the encroachment of ivy and other understory weeds. The San Francisco Recreation and Park Department (SFRPD) and volunteer groups have been working to enhance these areas since 1998 and have planted native species in degraded areas in order to expand habitat and diversity. The restoration areas at Edgehill Mountain are a good example of future conditions in MA-2 restoration areas, where scattered eucalyptus trees co-occur with coastal scrub and prairie gaps.

Sensitive Plant Species

Two sensitive plant species are found on Edgehill Mountain (Figure 6.25-4). As part of countywide efforts to conserve sensitive plant species California fescue (*Festuca californica*) and Pacific reed grass (*Calamagrostis nutkaensis*) have been reintroduced here.

WILDLIFE

Birds

The bird species expected to occur here are those typically found in eucalyptus forests (Appendix Table C-4). In San Francisco, this includes species such as American crow (*Corvus brachyrhynchos*), common raven (*Corvus corax*), American robin (*Turdus migratorius*), and dark-eyed junco (*Junco hyemalis*). The trees could provide roosting and nesting habitats for raptors, but none have been reported from Edgehill Mountain. Of the birds considered sensitive for this plan, three have been reported from this Natural Area (Table 6.25-2). Pygmy nuthatch (*Sitta pygmaea*) is reported to nest within this area. Also reported are orange-crowned warbler (*Vermivora celata*) and white-throated swift (*Aeronautes saxatalis*). White-throated swift may forage over the Natural Area but they nest on cliffs or tall buildings which are not present onsite. No important bird habitat has been designated for this Natural Area.

Mammals/Reptiles/Amphibians/Invertebrates

Vertebrates likely to use Edgehill Mountain are those commonly found in urban areas. It is expected that small animals such as the house mouse (*Mus musculus*), black rat (*Rattus rattus*), raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), and Virginia opossum (*Didelphis virginiana*) may use the area. California slender salamanders (*Batrachoseps attenuatus*) likely occur in the duff on the forest floor. Because this Natural Area is almost entirely forested, it does not support suitable habitat or host species for sensitive butterflies.

MANAGEMENT AREAS

Two Management Areas (MAs) have been designated at Edgehill Mountain (Figure 6.25-5). The MA-2 areas occupy the center of the Natural Area and include coastal scrub and prairie grassland

habitats. An MA-3 area includes the remaining urban forests of this Natural Area. The following text presents issues and recommended management actions by Management Area.

ISSUES AND RECOMMENDATIONS

Several conservation and recreation-related issues have been identified for Edgehill Mountain. Recommendations developed for each of these issues will guide restoration, enhancement, and maintenance work. In the following discussion, system-wide issues and recommendations (GR-1 for example; see Chapter 5) that apply to the entire Natural Area are presented first, followed by site-specific issues and recommendations. Site-specific recommendations are keyed to the Management Area in which they should occur.

Site Improvements – Implementation of management recommendations at Edgehill Mountain would not change significantly the overall look of the park and would result in:

- enhanced coastal scrub and prairie habitat;
- improved and more structurally diverse urban forest habitat for wildlife; and
- improved public access on designated trails.

Implementation of the following recommendations will result in a more diverse coastal scrub habitat which will benefit wildlife species. Although dominated by invasive forest, increases in the understory complexity including installation of sensitive species may someday create a coastal scrub interface similar to that found on Mount Davidson.

Vegetation

Issues relating to vegetation management at Edgehill Mountain involve the protection of sensitive habitats typically through the control of invasive plants (GR-1) and management of sensitive species and vegetation series of limited distribution (GR-2). Issues relating to the general safety of visitors and surrounding homes, fire hazards posed by vegetation and trees, and illicit activities must be considered during management of the Natural Areas (GR-13). Management of the urban forests at Edgehill Mountain will follow the general urban forest management practices (GR-15). In addition to these general recommendations, the following site-specific issues should be addressed.

Issue EM-1: Edgehill Mountain supports two populations of sensitive species and important scrub, grassland, and rock outcrop habitats. Habitat loss and herbaceous species threaten to reduce plant diversity and populations of sensitive plants.

> ***Recommendation EM-1a*:** To protect the existing grassland and scrub habitats, contain and reduce herbaceous and woody invasive plants such as Cape ivy, English ivy (*Hedera helix*), and ehrharta grass (*Ehrharta erecta*), in MA-2a. Additionally, these species should

be controlled within the understory of the urban forest in MA-3a. In order to protect and enhance native habitats and sensitive species, prevent invasive tree species from becoming established within MA-2a.

***Recommendation EM-1b*:** No trees will be removed from MA-2a. However, as the existing trees naturally mature and expire, they will be replaced with native oaks, toyon, and other species typical of coastal bluff scrub and oak woodland habitats. All of the approximately 300 trees in the urban forests in MA-3a will be managed as per GR-15.

***Recommendation EM-1c*:** In MA-2a where invasive plants have been removed, revegetate using appropriate native plants that will maintain and enhance the existing scrub and grassland habitats. In order to develop pockets of oak woodland, plant clusters of oaks and related species. Planting plans for scrub, grasslands and oak woodlands should use diversity, cover, and density targets generated from reference sites within and around San Francisco (see Appendix B).

***Recommendation EM-1d*:** In order to prevent extinction of existing rare or uncommon plant species, consider augmenting existing sensitive plants such as Pacific reed grass and California fescue. Additionally, to help ensure the countywide survival of sensitive plant species, consider reintroducing sensitive plants such as San Francisco gumplant (*Grindelia hirsutula* var. *maritima*) and Islais cherry (*Prunus ilicifolia*) to MA-2b.

Wildlife

Wildlife issues at Edgehill Mountain focus on habitat, food sources, and shelter. Vegetation management during the breeding season can impact nesting birds (GR-4); however, vegetation management also can provide materials to create artificial habitat for ground-dwelling birds, small mammals, and reptiles (GR-9). Finally, reduction in predation pressures will benefit all animals within the Natural Area (GR-7). Implementation of urban forest recommendations that will increase structure and diversity in urban forests will benefit wildlife (GR-15). Vegetation management recommendations in EM-1 above will diversity habitat for wildlife. Implementation of these recommendations will enhance the wildlife habitat present. No site-specific issues have been identified for this Natural Area.

Soils, Erosion, and Public Use

Most of the erosion issues at Edgehill Mountain relate to the trail system and public use. The issue of erosion and habitat impacts related to social trails that may develop is addressed through implementation of GR-11 and GR-12. Interpretive signs regarding the ecosystem of Edgehill Mountain should also be considered (GR-14). In addition to these general recommendations, the following site-specific issue should be addressed.

Issue EM-2: There are a few well-defined trails within this Natural Area. However, the only formal access points are at the end of Knockash Hill and Shangrila Way. Neighbors on Kenningston Way and Edgehill Way cannot easily access the park.

> ***Recommendation EM-2a*:** Consider developing two new entrances and trails through the Natural Area. One new trail could enter at Kensington Way and connect to the existing primary trail. Above the existing primary trail in the park, a second new route could be developed and connect to Edgehill Way at the upper end of the Natural Area (Figure 6.25-5). Both of these proposed trails would be located on very steep slopes. Care shall be given to prevent erosion (see Section 5.3). These new entrances to the Natural Area could then be beautified with small native plant gardens that, when coupled with educational signage, could help educate the public about the benefits of native plant gardening.

Table 6.25-1. Vegetation series mapped at Edgehill Mountain.

	Vegetation Series	Total Acreage
Forest	blue gum forest	**1.87**
Grassland	mixed exotic herbaceous	**0.12**
Other	developed	0.28
	rock outcrop	0.05
	Subtotal	**0.32**
Grand Total		**2.31**

Table 6.25-2. Sensitive species presently and historically known to occur at Edgehill

Species	Common Name	Status Federal, State, CNPS, Local	Local Significance
Vertebrates			
Vermivora celata	Orange-crowned Warbler	SLC	Presently occurs
Sitta pygmaea	Pygmy Nuthatch	SLC	Presently breeds
Aeronautes saxatalis	White-throated Swift	SLC	Presently occurs
Plants			
Calamagrostis nutkaensis	Pacific Reed Grass	LS	Presently occurs
Festuca californica	California Fescue	LS	Presently occurs

Status Key:

Federal Status

FE Endangered. Species in danger of extinction throughout all or significant portion of its range.

FT Threatened. Species likely to become endangered within foreseeable future throughout all or a significant portion of its range.

FPE Proposed for listing as endangered.

FC Candidate for listing as endangered. Candidate information now available indicates that listing may be appropriate with supporting data currently on file.

FSC Species of Concern. Former Category 2 Candidate for listing as endangered.

FPD Proposed de-listing.

California State Status

SE Endangered. Species whose continued existence in California is jeopardized.

ST Threatened. Species, although not presently threatened with extinction, that is likely to become endangered in the foreseeable future.

SSC Species of Concern.

SFP State Fully Protected under Sections 3511 and 4700 of the Fish and Game Code.

Sens Considered a sensitive species by the California Department of Forestry.

California Native Plant Society

1A Plants presumed extinct in California

1B Plants that are rare or endangered in California and elsewhere.

2 Plants that are endangered in California, but more common elsewhere.

3 Plants about which more information is needed.

4 Plants of limited distribution (a watch list).

LS Locally Significant.

Golden Gate Audubon Society

SLC Species of Local Concern

EIP ASSOCIATES

Source: Aerial photography San Francisco Department of Public Works, 2002, Orthophoto - San Francisco - 1-foot resolution, 2001; property boundary data derived by San Francisco Recreation and Park Department (RPD) 2005 from data provided by San Francisco Department of Telecommunications and Information Services, 2002; natural area boundary data created by San Francisco State University Institute for GISc from information provided by RPD's Natural Areas Program (NAP), 2005; contour lines provided by San Francisco Department of Conservation; all data are California State Plane Zone III, NAD 83.

Created by Debra Dwyer, San Francisco State University Institute for GISc, May 3, 2002, revised June 10, 2005.

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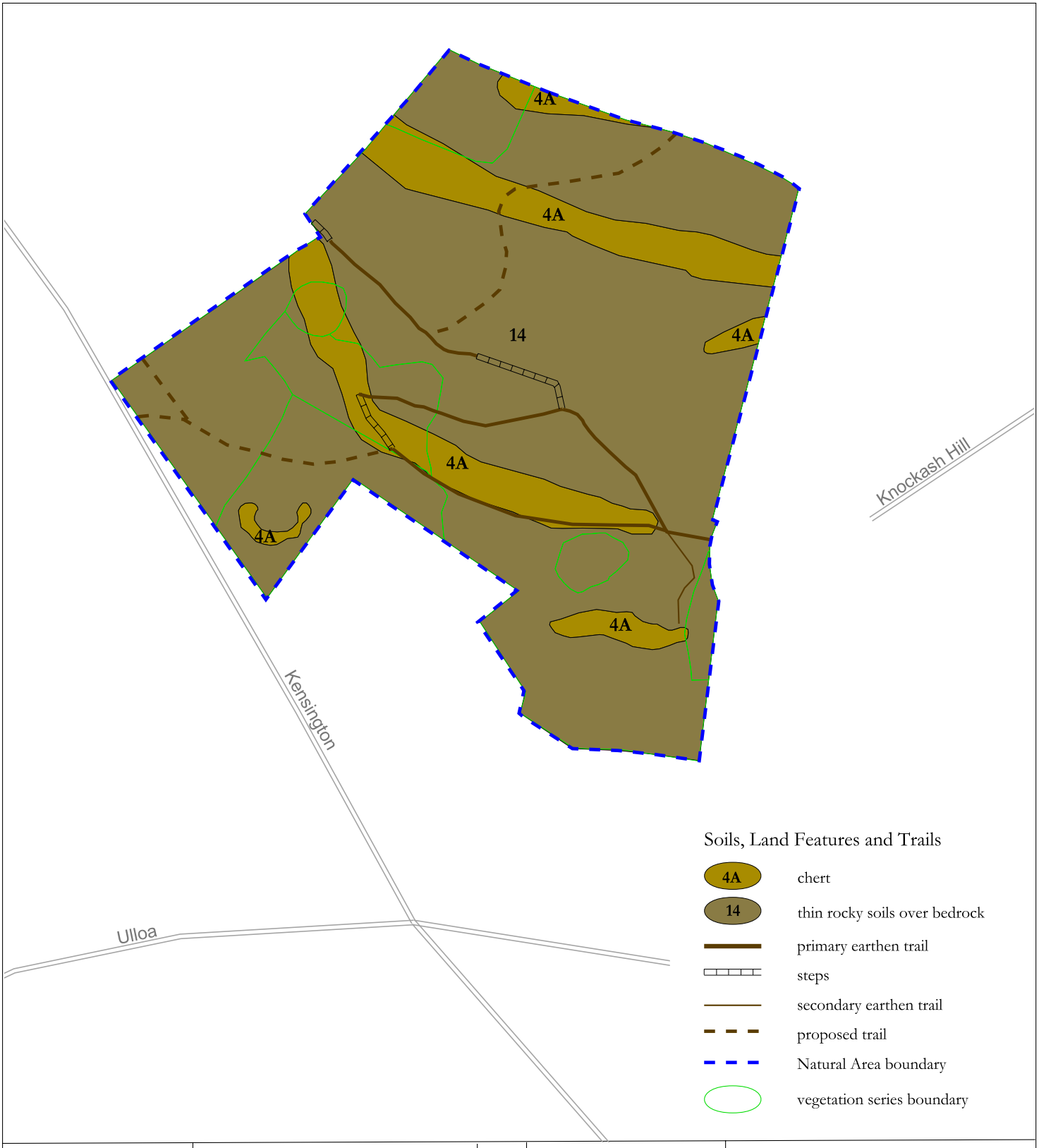
FIGURE 6.25 - 1

AERIAL PHOTOGRAPH, PROPERTY BOUNDARIES, AND NATURAL AREAS

Edgehill Mountain

Significant Natural Resource Areas Management Plan

San Francisco, California



EIP ASSOCIATES

Source: Soils and land features data collected by EIP Associates, 2005; trails and vegetation data collected by San Francisco Recreation and Park Department Natural Areas Program (NAP), 2005; vegetation data collected by NAP, 2005; data layers digitized by San Francisco State University Institute for GISc (SFSU IGIS), 2005; natural area boundary created by SFSU IGIS using data determined by NAP, 2005; streets data excerpted from ArcView StreetMap 2000 Data, copyright 1998-2000, Environmental Systems Research Institute, Inc. (ESRI).

Created by D. Dwyer, San Francisco State University Institute for GISc, December 10, 2005.

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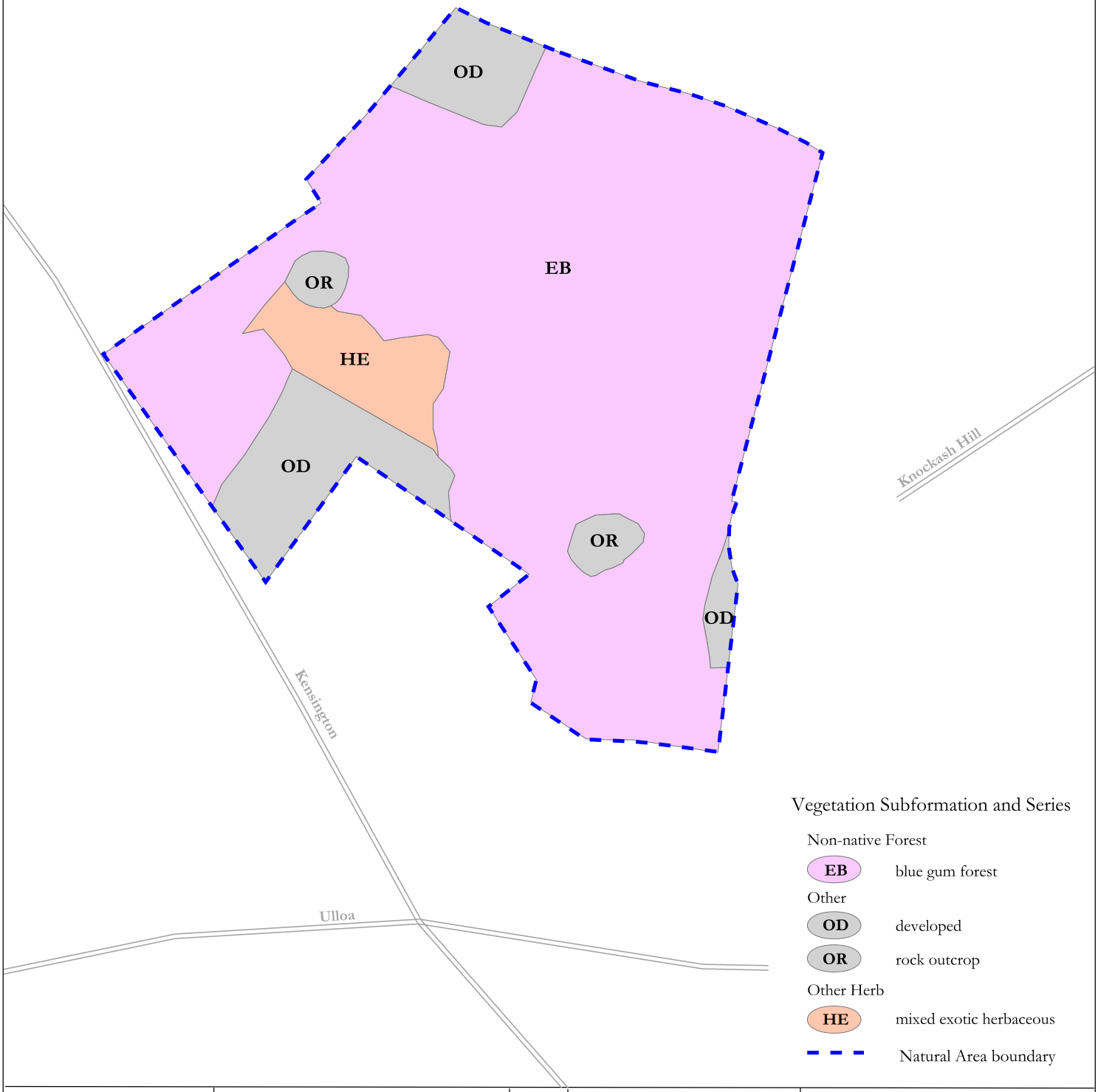
FIGURE 6.25 - 2

SOILS, LAND FEATURES, AND TRAILS

Edgehill Mountain

Significant Natural Resource Areas Management Plan

San Francisco, California



EIP ASSOCIATES

Source: Vegetation data collected by San Francisco Department of Recreation and Parks Natural Areas Program (NAP), San Francisco State University Biology Department and EIP Associates, 1999-2000; data layers digitized by Geotopo, Inc., 2000; edited and corrected by San Francisco State Institute for GISc (SFSUGIS), 2000 - 2002; natural area boundary created by SFSUGIS from data provided by NAP, 2005; streets data excerpted from ArcView StreetMap 2000 data, copyright 1998-2000, Environmental Systems Research Institute, Inc (ESRI).

Created by D. Dwyer, San Francisco State University Institute for GISc, June 9, 2005.

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FIGURE 6.25 - 3
VEGETATION
Edgehill Mountain
Significant Natural Resource Areas Management Plan
San Francisco, California

EIP ASSOCIATES

Source: Sensitive species data collected by San Francisco Recreation and Parks Department Significant Natural Areas Program (NAP), 2005; vegetation data collected by NAP, San Francisco State University Biology Department,and EIP Associates, 1999 - 2000; data layers digitized by Geotopo, Inc., 2000, edited and corrected by San Francisco State University Institute for GISc (SFSUGIS), 2000 - 2005; natural area boundary created by SFSUGIS based on a determination by NAP, 2005; streets data excerpted from ESRI's StreetMap 2000 data, copyright ESRI 1998-2000.

Created May 23, 2005 by Debra Dwyer, San Francisco State University Institute for GISc Center. revised June 5, 2005.

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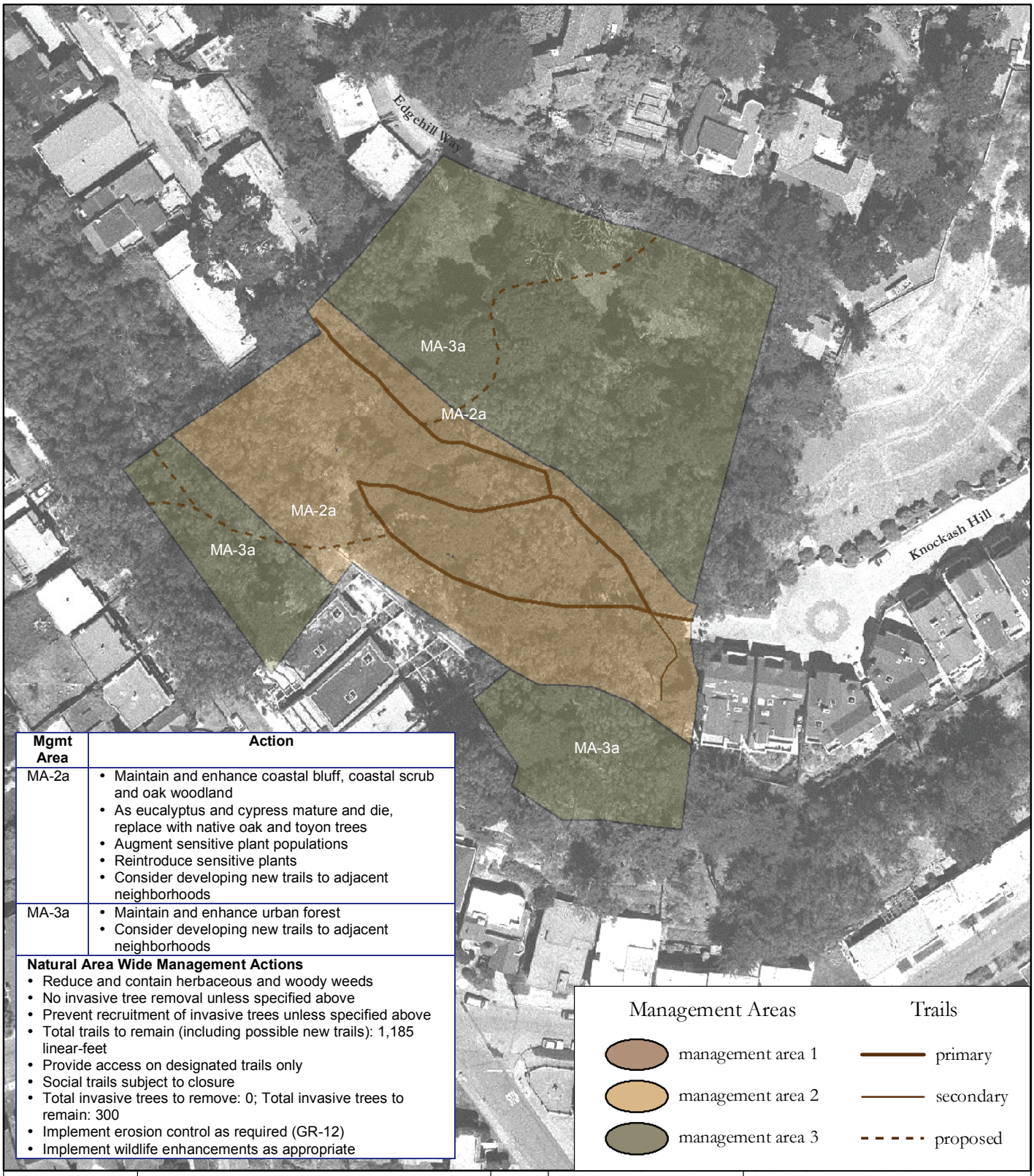
FIGURE 6.25 - 4
SENSITIVE SPECIES
Edgehill Mountain
Significant Natural Resource Areas Management Plan
San Francisco, California



Mgmt Area	Action
MA-2a	• Maintain and enhance coastal bluff, coastal scrub and oak woodland • As eucalyptus and cypress mature and die, replace with native oak and toyon trees • Augment sensitive plant populations • Reintroduce sensitive plants • Consider developing new trails to adjacent neighborhoods
MA-3a	• Maintain and enhance urban forest • Consider developing new trails to adjacent neighborhoods

Natural Area Wide Management Actions

- Reduce and contain herbaceous and woody weeds
- No invasive tree removal unless specified above
- Prevent recruitment of invasive trees unless specified above
- Total trails to remain (including possible new trails): 1,185 linear-feet
- Provide access on designated trails only
- Social trails subject to closure
- Total invasive trees to remove: 0; Total invasive trees to remain: 300
- Implement erosion control as required (GR-12)
- Implement wildlife enhancements as appropriate

Management Areas

management area 1

management area 2

management area 3

Trails

primary

secondary

proposed

EIP ASSOCIATES

Source: Management areas and trails data collected by San Francisco Department of Recreation and Park Natural Areas Program (NAP), 2005; trails data digitized by San Francisco State University Institute for GISc (SFSU IGIS), 2005; streets data excerpted from Environmental Systems Research Institute (ESRI), Inc.'s StreetMap 2000 data copyright ESRI 1998-2001; aerial photography San Francisco Department of Public Works, 2002, Orthophoto - San Francisco - 1-foot resolution - 2001; all data are in California State Plane Zone III projection, NAD 1983; map produced using ArcGIS 9.0 software by ESRI.

Map created May 29, 2005 by Debra Dwyer, San Francisco State University, Institute for Geographic Information Science; revised August 23, 2005.

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0 25 50 100

Feet

FIGURE 6.25 - 5

MANAGEMENT AREAS AND TRAIL PLAN

Edgehill Mountain

Significant Natural Resource Areas Management Plan

San Francisco, California