

TRAIL ALIGNMENT - STUDY AREA B

STUDY AREA B STEVENS CREEK COUNTY PARK TO LINDA VISTA PARK

LOCATION, LAND USE AND OWNERSHIP

Study Area B includes the entrance of Linda Vista Park and a closed quarry that is located between Stevens Creek County Park and Linda Vista Park. The 11-acre Linda Vista Park is owned and operated by the City of Cupertino. A private school, Canyon Heights Academy, is proposed on the 131-acre closed quarry. It is anticipated that a land dedication for park and open space purposes will be a component of any private development project proposed on the closed quarry site. A trail route through the closed quarry is identified in the 1993 City of Cupertino General Plan and the 1995 Santa Clara Countywide Trails Master Plan Update.

Study Area B is bordered by Linda Vista Park and Deep Cliff Golf Course to the north, Linda Vista Drive to the east, Stevens Creek County Park and Stevens Canyon Road to the west and Fremont Older Open Space Preserve to the south. Trails through Study Area B will provide access to the 1,042-acre Stevens Creek County Park, which offers diverse recreational amenities, including the 92-acre reservoir. The park serves hikers, bicyclists, picnickers, equestrians and water recreationists. Trail connections will also be provided to the 739-acre Fremont Older Open Space Preserve which is owned and operated by Midpeninsula Regional Open Space District (MROSD).

CULTURAL HISTORY

The Ohlone Indians lived in and around Santa Clara Valley for over 3,000 years prior to the arrival of the Europeans. The Guemelento Ohlone Indians inhabited the upper reaches of Stevens Creek where a large village, known as Ritocsi, was located along the creek. The Ohlones of this area were named the San Jose Cupertino Indians by the Spanish Missionaries. These people most likely used the present day Study Area B for hunting and gathering of food.

A portion of Stevens Creek County Park was originally purchased from the US Government under the Homestead Act in 1869 by Catherine Duncan. She later sold 160 acres to Santa Clara College. The property was purchased as a farming investment and vacation spot for the College. A chapel, villa house, winery and various barns were built. The Jesuit Brothers were responsible for

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planting the eucalyptus and pines that can still be seen lining the roadways within the park today. The college sold the property in 1945. The new owner ended up selling most of the property for quarrying operations. The Villa Maria chapel was torn down around this time in 1947.

Quarrying operations were undertaken by the McDonald-Dorsa family who later sold the property to Kaiser Permanente Cement which was founded by Henry J. Kaiser. Quarrying activities ceased in the 1970s. In 1987 the cement plant and surrounding lands were bought by a British holding company called Hanson. The cement plant was renamed Hanson Permanente Cement and non-essential land holdings were sold by the new owner. The closed quarry had several interim owners all of whom were interested in developing luxury homes on the 131 acres. In 1999, the property was bought for the purposes of developing a private school, Canyon Heights Academy.

Santa Clara County purchased 400 acres in the upper reaches of the canyon (near Mt. Eden Road) in 1924. Under the direction of the Public Works Department, this became the first County park, which today is known as Upper Stevens Creek County Park. In 1935, the Santa Clara Valley Water Conservation District purchased 171.5 acres of land northwest of the county's 400 acres to develop a reservoir. The Stevens Creek dam, one of six built in the county, was completed in 1936. The County's 400 acres were eventually transferred to the newly created Parks and Recreation Department in 1956. Additional parklands have been added since the 1960's to create the 1,042-acre Stevens Creek County Park, which lies adjacent to the 131-acre closed quarry, and the 1,095-acre Upper Stevens Creek County Park.

The Linda Vista Park site was purchased by the City of Cupertino in 1969. The 11-acre site was originally a part of the McDonald-Dorsa quarry. The park was dedicated in 1970.

CREEK CHARACTER, PLANT COMMUNITIES AND ANIMAL LIFE

Study Area B is dominated by the 131-acre closed quarry and Linda Vista Park. Six habitat types occur in the area. They include open grassland, oak woodland/chaparral, freshwater wetland (with seeps), willow-dominated riparian vegetation, golf course/park lands and suburban development (*See Map 4 - Study Area Habitat Map*). Rare, sensitive or listed species potentially existing in the area include steelhead trout, red-legged frog, western pond turtle and birds of prey. Stevens Creek flows through the Deep Cliff Golf Course and then skirts the northwest corner of the Study Area B.

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Open grassland is found at the bottom of the old quarry. This non-native grassland is growing on the highly disturbed, unconsolidated and eroding quarry slopes remaining after quarrying activities ceased in the 1970s. As is often the case on mined lands, only the hardiest species can survive such disturbance. The quarry area is eroding severely and large gullies are evident on the slopes and on the quarry floor. This unstable topography prevents many native species from establishing and encourages the spread of invasive, non-native species, such as pampas grass and French broom, both of which are growing in the quarry.

Several small flowing rivulets, probably formed by seeps, feed freshwater wetlands in the center and along the southern side of the quarry floor at the base of steep slopes. These drainages converge to form a small stream that flows to Stevens Creek at the mouth of the quarry. Typical wetland species, especially cattails (*Typha spp.*) and rushes (*Juncus spp.*), are prevalent in both wetlands. The larger wetland along the south edge of the quarry also supports willow riparian vegetation, including cottonwoods and alders. These wetlands represent potential red-legged frog habitat. Red-legged frogs are listed as threatened under the federal Endangered Species Act and are under the jurisdiction of the US Fish and Wildlife Service.

Perennial streams and drainages such as the one extending across the quarry floor provide flow to Stevens Creek. The primary purpose of the upstream reservoir is to collect surface runoff, store it and control release of the water for downstream percolation into groundwater sources. Several species of fish occur within the reservoir including rainbow trout (stocked), bass (stocked), sunfish, catfish and crappie.

The in-stream habitat of Stevens Creek is known to support adult and juvenile steelhead trout along its entire length from the reservoir in Stevens Creek County Park to Shoreline Park in Mountain View, where the creek meets San Francisco Bay. Steelhead are listed as threatened under the federal Endangered Species Act and are under the jurisdiction of the National Marine Fisheries Service. This anadromous form of rainbow trout lives in streams for some of their life cycle and in the ocean for the rest. Since 1937, water has been impounded in a reservoir at the head of Stevens Creek, resulting in only winter and spring flows. Stevens Creek was allowed to go dry each summer. As a result, the entire creek was used only for migration and rearing habitat was eliminated from the lower reaches. Recently, the Santa Clara Valley Water District, which manages flows in the creek, has allowed year round flows (Padley pers. comm. 1999). This new policy was initiated in 1998, and in

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September of that year, first and second year age class steelhead were observed in Stevens Creek in Mountain View (G. Seeds, pers. comm. 1998).

The Fisheries and Aquatic Habitat Collaborative Effort (FACHE) was initiated to research the habitat needs of steelhead, collect information on the effects of different water release policies in Santa Clara County streams, and provide recommendations for managing in-stream habitats for steelhead populations given the constraints of this urban setting. Research shows that Stevens Creek is a viable spawning habitat for adults and summer rearing habitat for juveniles if managed properly. Adult steelhead are limited in their distribution by in-stream fish barriers that impede their upstream movement in Stevens Creek. The survival of juvenile steelhead seems to be most limited by high in-stream water temperatures, which are not tolerated by young fish. Protecting this valuable steelhead habitat is a high priority.

Coast live oak woodland interwoven with chaparral occurs on the east and west wall of the quarry, over much of the knoll just above Linda Vista Park, and through the gulch that runs east-west from the quarry to Linda Vista Drive (along the south edge of Linda Vista Park). Coast live oak (*Quercus agrifolia*) the dominant tree, is found with a diversity of shrubs especially wild lilac (*Ceanothus spp.*), chemise (*Adenostoma fasciculatum*), manzanita (*Arctostaphylos spp.*), coyote bush (*Baccharis pilularis*) and toyon (*Heteromeles arbutifolia*). Under or around these large shrubs, California blackberry (*Rubus ursinus*), poison oak (*Toxicodendron diversilobum*), California sage (*Artemisia californica*), chaparral current (*Ribes sanguinum*), pearly-everlasting, ferns, monkey flower, and Indian paintbrush are easily found. Black-tailed deer, bobcat, coyote, gray fox, raccoon, opossum and cottontail rabbit are typical mammal residents of this habitat. Over 125 species of birds have been identified in Stevens Creek County Park.

Suburban development abuts Study Area B on the east side and some of the west side. Deep Cliff Golf Course borders the west and north edges of Linda Vista Park. The golf course and the park land habitat of Linda Vista Park provided habitat primarily for human-habituated species, such as jays, robins, and California towhees. Herons and egrets may also frequent the golf course ponds and in-stream habitat of Stevens Creek, which flows through the golf course.

Study Area B is located within the geologically complex and seismically active Coast Range which is characterized by a series of parallel, northwest trending faults, mountain ranges and valleys. Elevations within the study

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area range from ___ feet along the floor of the quarry to ___ feet on the knoll located on the northeast corner of the closed quarry above Linda Vista Park.

POINTS OF INTEREST

Stevens Creek County Park offers a variety of single track and multi-use trails for hikers, bicyclists and equestrians. Many of the trails connect with the adjacent Fremont Older Open Space Preserve. Mountain bicycling is one of the more popular recreational activities at Stevens Creek County Park. The 92-acre reservoir located in the park is for the exclusive use of non-power boating activities such as fishing, sailing and kayaking. First-come, first-served picnic areas are located throughout the park. Three large group picnic areas are available by reservation for weddings, ceremonies or other group functions. Stevens Creek County Park is also one of the most popular birding parks in the San Francisco Bay area(See Figure 5).

Linda Vista Park is an 11-acre site that includes a group barbecue facility for 100, two play equipment areas for pre-school and elementary age children, a fitness station, walking trails, a large turf area, and a stream with a waterfall that flows to Stevens Creek. The park serves as a neighborhood park for Linda Vista residents and provides group picnic facilities for families and organizations.

| POINTS OF INTEREST IN STUDY AREA B | |
|----------------------------------------|----------------------------------------|
| Recreational Facilities | Residential Neighborhoods |
| ◆ Stevens Creek County Park | ◆ Linda Vista Neighborhood |
| ◆ Fremont Older Open Space Preserve | Institutional Facilities |
| ◆ Linda Vista Park | ◆ Canyon Heights Academy (proposed) |

Figure 5 - Points of Interest in Study Area B

SITE ANALYSIS FINDINGS

Study Area B provides sufficient land for trail development. The closed quarry provides a link between Linda Vista Park and Stevens Creek County Park. However, there are three key challenges to trail design in Study Area B.

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The challenges include land ownership, steep topography and sensitive species and habitats. The site is privately owned by Canyon Heights Academy. Trail access through the property will likely be a condition of any future development. However, even with access through the property the site topography poses challenges to trail development. The steep, eroding quarry slopes are sparsely vegetated with native and exotic grasses and shrubs. Informal footpaths are found throughout the quarry. These footpaths do not meet the Accessibility Guidelines for Outdoor Developed Areas and any future trail routes will encounter the same challenge in meeting accessibility guidelines due to the steepness of the quarry slopes (U.S. Architectural and Transportation Barriers Compliance Board, 1999). Unconsolidated fill remains along the eastern slope of the quarry. The edge of this fill is eroding and abruptly drops off to the floor of the quarry. This area must be recontoured and compacted to support any trail.

A tributary to Stevens Creek flows through the bottom of the quarry. Riparian vegetation, shallow wetlands and grasslands dominate the quarry floor. This habitat may support the red-legged frog (*Rana aurora draytonii*), a threatened species under the federal Endangered Species Act. Any trail grading activities must not contribute sediment to creek or its tributary that flows across the floor of the quarry for Stevens Creek is the known habitat of the steelhead trout (*Oncorhynchus mykiss*), a threatened species under the federal Endangered Species Act.

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TRAIL ALIGNMENT

A trail connecting Linda Vista Park to Stevens Creek County Park is proposed through the closed quarry in Study Area B. The route through the quarry is proposed as single-track trail open to mountain bicyclists and hikers only. Several shorter trail segments are also proposed to link the quarry trail to existing routes in Stevens Creek County Park. These connecting trails are designated as both single-track and as soft surface, multi-use trails. These trail extensions match the existing trail surfaces and use designations of Stevens Creek County Park (*See Map 6 - Study Area B Trail Alignment - Stevens Creek County Park to Linda Vista Park*). Approximately 1.30 miles of single-track trail and 0.25 miles of multi-use trail are proposed within Study Area B.

MOUNTAIN BICYCLING AND HIKING TRAILS

The adjacent park and open space lands that are owned and operated by Santa Clara County Parks and Recreation Department (Stevens Creek County Park) and Midpeninsula Regional Open Space District (Fremont Older Open Space Preserve) primarily serve hikers, mountain bicyclists and equestrians. Mountain bicycling is one of the more popular recreational activities. The segment of the Stevens Creek Trail that extends along the east bank of creek and reservoir through the park is designated for hiking only. One of the goals within Study Area B is to provide a connection to the Stevens Creek Trail in the county park. Another goal is to provide trail connections to the multi-use Coyote Ridge Trail and to the Chestnut and Villa Maria picnic areas and associated parking.

The route between Linda Vista Park and Stevens Creek County Park is proposed to extend from the entrance of Linda Vista Park at Linda Vista Drive up a heavily vegetated ravine to the saddle of the quarry rim between the north and east faces of the cut quarry slopes. This saddle is located near the end of Lindy Lane. This alignment is steep and requires the removal of chaparral vegetation. The route would be located below the oak trees and above the centerline of the ravine to avoid impacting the hillside drainage pattern. The trail descends from the saddle in a southwesterly direction approximately following an existing informal path located on the east slope. The trail descends to a bench of unconsolidated fill. At this point, the trail switchbacks across the top of the fill in a northerly direction and descends to the floor of the quarry. This route avoids the wetlands on the quarry floor and could easily be integrated into the site plans of Canyon Heights Academy.

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The route does require the recountouring and compaction of some of the unconsolidated fill on the quarry bench.

Upon reaching the quarry floor the trail is routed in two directions. One route climbs the west slope of the quarry using an old access road to reach the crest of the quarry. At this location, trail users could connect to the Coyote Ridge Trail to enter either Stevens Creek County Park or Fremont Older Open Space

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Preserve. Trails users could also enter Stevens Creek County Park by following an access road into the Villa Maria picnic area. The second route from the quarry floor exits the mouth of quarry and parallels Stevens Creek until reaching an existing footbridge to cross the stream channel. Once across Stevens Creek, the trail would extend to the Chestnut picnic area and parking lot. This lower elevation alignment may intersect an access road or student footpath proposed for the new school. The trail alignment might dually serve the needs of student and park users.

ACCESS POINTS

The access points in Study Area B are improved and may include short segments of trail, gates, bollards and signage. Access points are identified at specific locations to minimize cross traffic and provide safe access to the trail. Trail access is proposed from Linda Vista Drive and two recreation facilities located adjacent to Study Area B. Access is provided from Stevens Creek County Park and Linda Vista Park. The trail also connects to the Coyote Ridge Trail in Stevens Creek County Park and Fremont Older Open Space Preserve. Access may be provided from Canyon Heights Academy, the private school proposed within Study Area B (See Figure 6).

| SUMMARY OF STUDY AREA B TRAIL IMPROVEMENTS | |
|-----------------------------------------------------------|---------------------------------------------|
| Trail Routes | Miles |
| ◆ Soft Surface Single Track Hiking and Mountain Biking | 1.30 |
| ◆ Soft Surface Multi-Use Trail | <u>0.25</u> |
| Total | 1.55 |
| Access Points | Staging Areas |
| ◆ Linda Vista Drive | ◆ Linda Vista Park |
| ◆ Linda Vista Park | ◆ Villa Maria Picnic Area in County Park |
| ◆ Villa Maria Picnic Area in County Park | ◆ Chestnut Picnic Area in County Park |
| ◆ Chestnut Picnic Area in County Park | |
| ◆ Coyote Ridge Trail | |
| ◆ Canyon Heights Academy (proposed) | ◆ Canyon Heights Academy (proposed) |

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Figure 6 - Summary of Study Area B Trail Improvements
See Map 6 - Study Area B Trail Alignment Map

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STAGING AREAS

Staging Areas are planned to accommodate those who wish to drive to a trailhead. A staging area provides automobile parking, access to the trail and amenities such as restrooms, drinking fountains and signage. Several of the staging areas for Study Area B are located at existing parks situated along the trail route (See Map 6 - Study Area B Trail Alignment - Stevens Creek County Park to Linda Vista Park). Additional parking is proposed at Linda Vista Park and Canyon Heights Academy may offer joint use of the school parking facilities during after school hours and on weekends(See Figure 6).

Linda Vista Park has 33 parking spaces and 2 handicapped accessible parking areas for a total of 35 parking stalls. The park is infrequently visited on weekdays, but can be very busy on weekends when events are scheduled at the group barbecue facility. A small staging area with 6 new parking spaces is proposed at the entrance to the park for trail users. The small parking area and trail extension would require a 4-foot retaining wall. It is recommended that 6 parking spaces be designated as trail parking with pavement markings and signs. The footprint for the new parking is located on City of Cupertino parkland and property owned by Canyon Heights Academy. Creation of this staging area will require negotiations with the Canyon Heights Academy. This additional parking should be constructed simultaneously with the development of the trail through the quarry.

Staging areas are also located at the Chestnut and Villa Maria picnic areas in Stevens Creek County Park. These parking areas will serve as staging areas for trail users wishing to access the new routes proposed through the quarry. A \$4.00 per vehicle entrance fee is collected by the County Parks and Recreation Department for parking. No fee is collected for individuals who walk or bicycle into the park.

During the development of this trail plan, Canyon Heights Academy indicated that it appeared unlikely sufficient land would be available to accommodate a staging area for the trail adjacent to Stevens Canyon Road. However, it may be possible to share the teacher parking area associated with the school. This parking area might be made available to the public during after school hours and on weekends. This potential shared use of the parking area must be evaluated by the project proponents and through the Environmental Impact Report (EIR).

INTERPRETIVE STATIONS

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Interpretive Stations are trailside way points that provide opportunities to experience scenic vistas, observe the flora and fauna of the creek environment, reflect on local history and/or learn about hydraulic, geologic or biological phenomena. These stations may include benches, overlooks or interpretive signs or monuments. Study Area B includes a single interpretive station (See Map 6 - Study Area B Trail Alignment - Stevens Creek County Park to Linda Vista Park). The interpretive site is located at the saddle on the quarry rim above Linda Vista Park. This site offers tremendous views of the quarry, Stevens Creek County Park and Santa Clara Valley. The location could be used to interpret any number of important natural history topics.

REJECTED ALTERNATIVES

Two alternatives for reaching the quarry floor from Linda Vista Park were rejected from further consideration. A knoll route was proposed from the upper picnic area in Linda Vista Park to the top of the eastern side of the quarry using two long switchbacks. This route was abandoned due to a longer climb and close proximity to steep drops both into the quarry and off the escarpment above Deep Cliff Golf Course. A trail route that skirted the edge of Deep Cliff Golf Course was evaluated, but eliminated from further consideration due to lack of land and impact to habitat.

HABITAT ENHANCEMENT OPPORTUNITIES

The quarry drainage is a basin formed by former quarry operations. A wetland at the bottom of the quarry is potential red-legged frog habitat. The drainage is degraded by a number of impacts especially eroding slopes and loss of chaparral vegetation along those slopes. Specific projects that can improve the region are geotechnical slope stabilization, revegetation with native species and protection of the wetland from sedimentation. This site may be subject to development and any restoration efforts associated with the trail project must be coordinated with future development.

This drainage basin is bounded by Linda Vista Park on the north, a bluff with homes on the east, and Stevens Creek County Park on the south. There are several poorly consolidated terraces in the center of the basin that step down to the elevation of Stevens Creek, which passes on the west side of the drainage. The steep topography on three sides of the basin and the terracing are all a result of former quarry operations. The slope on the north side lacks

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the native chaparral vegetation and is eroding. Erosion is also occurring down the terraces in the basin. Non-native grasses and several invasive non-native plants have colonized the eroding slopes and the bottom of the quarry. Native chaparral and coast live oak woodland occur on the south slope and the east side of the quarry basin. A freshwater wetland, fed by seeps, occurs at the bottom of the drainage in the center and on the south side. Water from the wetlands eventually flows into Stevens Creek. The wetland vegetation is dominated by cattails and rushes; willows, cottonwoods, and alders form a riparian edge. This wetland is potential red-legged frog habitat. Hikers have produced many “social” trails down the north side from Linda Vista Park and up the south face of the drainage to Stevens Creek County Park. The entire quarry is privately owned and development is being considered.

Natural Communities/Habitats

- Freshwater wetland community, which includes potential red-legged frog habitat
- Willow riparian community
- Chaparral and coast live oak woodland
- Non-native grassland

Problems Affecting Habitats in this Drainage

- Eroding slope
- Sedimentation impacts to the wetland
- Invasion by non-native species
- Loss of chaparral

Benefits of Restoration in this Region

- Protect and improve wetland habitat
- Enhance chaparral native plant diversity
- Provide community restoration projects

Agencies/Experts to Involve in Planning

- a) *Agencies:* Army Corps of Engineers, California Department of Fish and Game, U.S. Fish and Wildlife Service
- b) *Experts:* Wetland restoration specialist, red-legged frog expert, geotechnical expert, chaparral restoration specialist, volunteer coordinator

Project 1: Recontour and Stabilize Eroding Slopes and Terraces

Description of Problem

- Eroding slopes

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- Sedimentation impacts to the wetland
- Invasion by non-native species, especially pampas grass and French broom)

Project Goals

- Stabilize eroding areas with geotechnical methods
- Establish cover crop of non-invasive plants to hold soil
- Prepare soil for native plant species

Potential Methods

- Have geotechnical firm assess the current condition of the slopes and terraces, then develop an erosion control/slope stabilization plan using ecologically-sensitive engineering methods
- Use historical photos of the site to help determine final contours
- Use heavy equipment, geotechnical materials, or other approaches to produce stable slopes, prepare for trail access, and prepare for native species planting
- Remove non-native invasive species whenever possible
- Hydroseed (or other seeding method) with a cover crop, probably non-native but certainly non-invasive, which grows fast, holds soil and improves soil condition (example: red clover); cover crop must allow the future planting of native chaparral species

Timing Issues

- Grading and earth work must be completed during the dry season
- Seeding/planting should occur at the beginning of the rainy season

Agencies to Consult/Potential Permits

- Army Corps of Engineers/Clean Water Act, Section 404

Experts Needed

- Geotechnical experts, revegetation specialists

Volunteer Opportunities

- Probably none

Monitoring/Maintenance Needed

- Soil stability and gullyng must be monitored
- Establishment of cover crop must be monitored

Project Difficulty: ___ Relatively Simple
___ Moderately Difficult
X Difficult

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While the methods for slope stabilization are well known and effective, the quarry is a very large and steep area that will require significant work. The geotechnical firm should be familiar with steep slope projects and restoration goals.

Project 2: Remove Non-native Vegetation

Description of Problem

- Non-native species, such as pampas grass and French broom

Project Goals

- Remove invasive species from the basin
- Prepare sites for replanting with natives
- Control erosion

Potential Methods

- Hand pulling or mechanical methods such as “weed wrenches” or pulaskis
- Spot application of herbicides by an expert may be used for some species

Timing Issues

- None for mechanical methods; can be done at any time of the year
- Herbicide applications must be timed to protect the environment while having a lethal effect on the invasive plant

Agencies to Consult/Potential Permits

- None/None for mechanical methods
- Herbicide applications must be conducted by a professional with proper licenses

Experts Needed

- Restoration expert, volunteer coordinator, possibility an herbicide expert

Volunteer Opportunities

- Removing non-native plants by hand or with simple tools

Monitoring/Maintenance Needed

- Constant removal of non-natives as they reoccur

Project Difficulty: **Relatively Simple**
 Moderately Difficult
 Difficult

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Project 3: Revegetate with Native Chaparral/Oak Woodland Species

Description of Problem

- Loss of native chaparral and coast live oak woodland vegetation

Project Goals

- Reestablish a diversity of native chaparral and oak woodland species
- Choose species able to survive with minimum maintenance
- Allow for natural succession of ecological communities

Potential Methods

- Determine appropriate species mix by looking at reference sites that provide models for the restoration, such as habitat on Stevens Creek County or Linda Vista Parks
- Consult with a chaparral ecologist to determine which early colonizing, hardy species to plant first and which later succession species to plant in the future
- Collect plant materials locally, such as in Linda Vista or Stevens Creek County Parks
- Treat materials; grow seedlings in a greenhouse, lath house or nursery
- Treat soils as needed to prepare them for native species
- Plant seeds, seedlings, or other materials
- Use above- and below-ground herbivore protectors as recommended by a restoration expert
- Weed, water, replant with successful species as needed
- When early colonizing plants establish, begin growing and planting species indicative of a more mature chaparral/oak woodland community

Timing Issues

- Allow at least 1 year for growing plants in a greenhouse/nursery
- Plant species at the appropriate time in the yearly rainfall cycle

Agencies to Consult/Potential Permits

- None/None

Experts Needed

- Chaparral/oak woodland restoration expert, volunteer coordinator

Volunteer Opportunities

- Collecting plant materials for propagation
- Assisting with greenhouse duties and planting seedlings

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- Monitoring survival and growth rates of plantings
- Maintenance such as weeding, putting up herbivore protectors, occasional watering

Monitoring/Maintenance Needed

- Monitoring survival and growth rates of plantings
- Maintenance such as weeding, putting up herbivore protectors, occasional watering
- Replanting with species that survive well or with species that achieve other restoration goals

Project Difficulty: ___ **Relatively Simple**
___ **Moderately Difficult**
X Difficult

This project is more of a true native community restoration than any other project described. Reestablishing species diversity can be difficult; chaparral restoration is not common in the South Bay.