TERRACE HILL OPEN SPACE CONSERVATION PLAN

Final Review Draft

City of San Luis Obispo
City Administration
Natural Resources Protection Program
990 Palm Street
San Luis Obispo, CA 93401

May 2015

Terrace Hill Open Space Conservation Plan

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Maps and Photos by City of San Luis Obispo staff, unless otherwise noted.

Executive Summary

The Terrace Hill Open Space ("Terrace Hill") is a hidden gem located entirely within the City of San Luis Obispo, offering spectacular 360° panoramic views of the City below and the surrounding region beyond, remarkable plant and wildlife diversity, a rich cultural resource legacy, and pleasant hiking and passive recreational opportunities. For these reasons, Terrace Hill is now the subject of a contemporary Conservation Plan process in order for the property to be managed in accordance with the City's Open Space Regulations and the Conservation and Open Space Element of the City's General Plan.

Site Description

Terrace Hill offers a full host of both natural and modified landscape features across a site of 23 acres. The site is fundamentally a conical volcano, one of the prized Morros that define our region. Over the years, however, much of the top of the hill was excavated and removed to provide fill for construction projects elsewhere in town. In addition, terraced roads were cut around the hill in anticipation of the planned development of hundreds of individual lots, while later a small gravel operation extracted the hard dacite, resulting in the fractured bowl feature on the east side of the hill. These actions resulted in the physical land morphology and elevation of 501 feet that we see today. The site was historically grazed, but has not been used as pasture in nearly 30 years, allowing for nascent oak woodland and maritime chaparral to establish in compliment to the annual grassland and rock outcrop features of the site.

Figure 1: Overview Photo of Terrace Hill Open Space

Management Considerations

The Terrace Hill Open Space Conservation Plan provides a framework to address long-term site stewardship of the property:

- **Natural Resources Protection.** The plan places priority on maintaining the natural ecosystem, while allowing passive public recreation as appropriate and compatible. Although Terrace Hill is ostensibly an "island" in the ecological sense (meaning it is not connected to larger terrestrial or aquatic wildlife migration corridors due to surrounding urbanization), nevertheless it provides habitat for several avian species of special concern that shall be protected and monitored over the long-term, as well as 85 different plant species. Protective status is given to native plant communities and habitats that persist or are establishing within the open space area for the functions and values that they provide.
- **Scenic Resources.** Terrace Hill is one of the most accessible of all City open space properties and the nearly level top of about 2 acres provides a pleasant walking loop with wonderful off-site views of the railroad district, downtown and surrounding neighborhoods, as well as the South Hills, Irish Hills, Cerro San Luis and Bishop Peak, Cal Poly lands, "High School Hill," Edna Valley, and the Cuesta Ridge area in the distance. Conversely, Terrace Hill itself is highly visible from the locations mentioned above, and shall be managed as a scenic resource.
- **Cultural Resources.** The City's Cultural Heritage Committee (CHC) reviewed a community member's nomination for adding Terrace Hill to the City's Contributing Property List of Historic Resources at its meeting on January 28, 2013. In consideration of the important historic events and people associated with Terrace Hill, the CHC made an affirmative recommendation to the City Council that will be introduced as counterpart to the Council's consideration of the Terrace Hill Open Space Conservation Plan. Improved trailhead signs and a new kiosk and will provide the opportunity to present an educational panel to the public that details the historic nature of the property.
- **Erosion and Drainage.** A Custom Soil Resource Report was prepared for Terrace Hill using the United States Department of Agriculture's Natural Resources Conservation Service (NRCS) website application. The report reveals that Terrace Hill is comprised entirely of heavy clay soils known as the Diablo-Lodo Complex and identified as soil map unit no. 133. This soil is excessively well drained and characterized as having severe erosion potential, especially given the 15-50% slopes. Both the City and contiguous private property owners have experienced drainage issues in the past. Accordingly, ongoing erosion control and water management strategies are necessarily a part of the Terrace Hill Open Space Conservation Plan.
- **Fire Protection.** Terrace Hill is entirely surrounded by at-risk residential land uses. Although it is not large enough to represent a significant wildland fire hazard, Terrace Hill does have the right "ingredients" to pose a localized fire hazard that could result in unacceptable safety risk and property loss. This is due to prevailing westerly winds; presence of annual grassland, chaparral, oak woodland, and mixed ornamental trees and vegetation; and the potential for human caused fire ignition associated with illicit smoking, open fire pits, and fireworks. The City has historically mowed the top of the hill and weed whacked a 20 foot strip behind the adjacent residences; this plan introduces the need to also attend to annual grassland areas of the steeper side slopes, preferably through the use of controlled and seasonal grazing with goats, or with mowing if necessary using specialized rubber track equipment to minimize any associated damage.
- **Trails and Passive Recreation.** A well-used system of trails provide access to Terrace Hill. Some of these trails have been considered formal through the City's publication of open space trail maps, while others are informal use trails. Some of the informal trails are incorporated by this conservation plan due to their utility and location, while others will be decommissioned or restored. Terrace Hill does not lend itself well to extensive mountain bike use due to its size and steep slopes, but the flat top does provide a suitable area for youth riders to begin to gain skills and confidence in an off-road setting. This conservation plan considers bicycle use on the main access road from Bishop Street and around the loop on the top to be compatible with the other overarching conservation goals, but will be monitored over time by the City's Rangers.

Figure 2: Site Map and Open Space Boundary (2011 Aerial Photo)

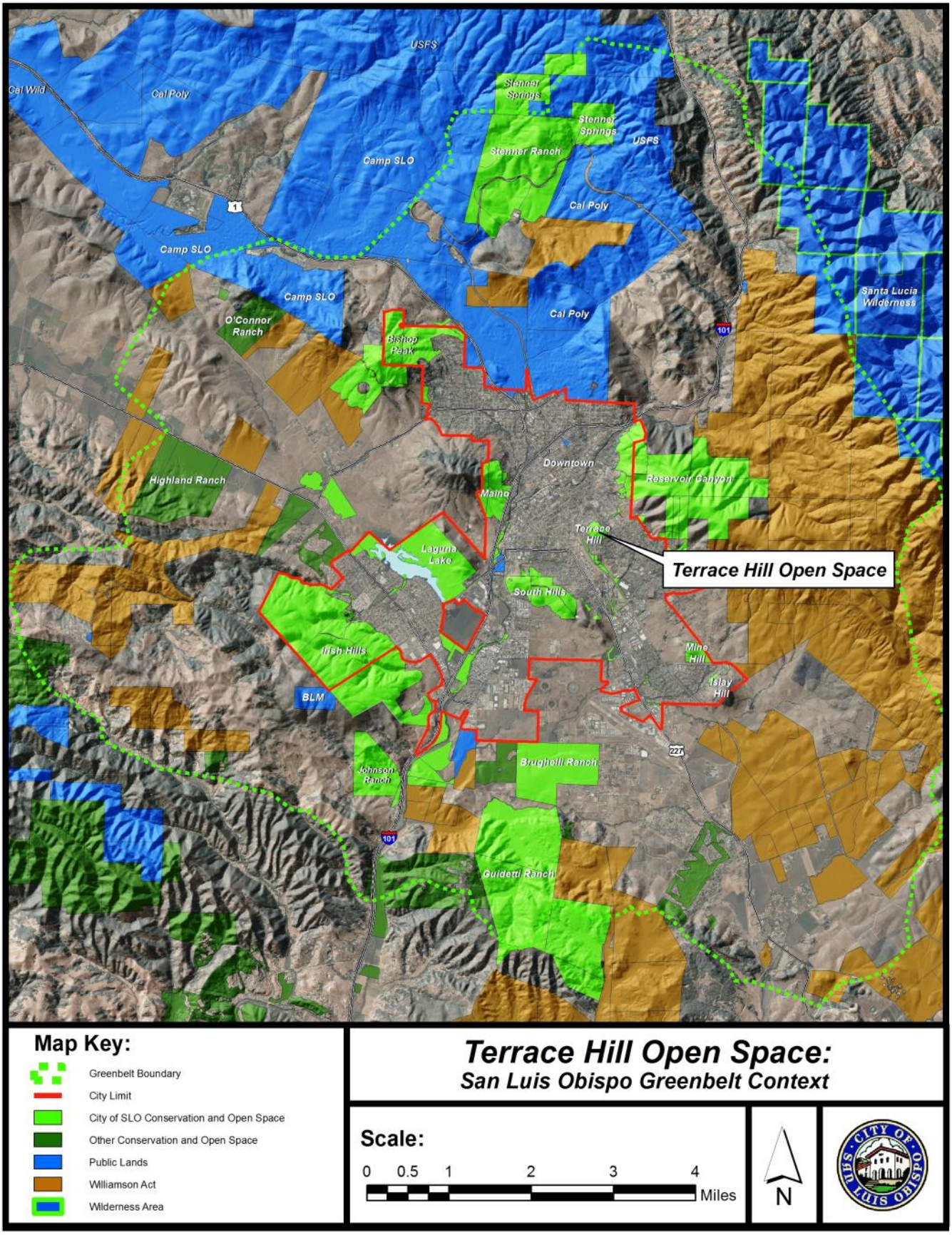


Figure 3: Terrace Hill Open Space and the City of San Luis Obispo Greenbelt

1. History

Terrace Hill is one of nine "Morros," geologically speaking. The Morros are ancient volcanic peaks that have eroded to the core plugs. The ancient peaks, located on the Pacific Plate, originated some 400 miles southeast near the present-day area of San Diego during the Miocene era about 25 million years ago. Known as the "Nine Sisters," or sometimes the "Seven Sisters," the Morros include Morro Rock (State Historical Landmark No. 821), Black Hill, Cerro Cabrillo, Hollister Peak, Cerro Romauldo, Chumash Peak, Bishop Peak, Cerro San Luis Obispo, and Islay Hill. The deeply submerged Davidson's Seamount in Estero Bay, Righetti Hill and Terrace Hill are typically omitted from the named sisters (*Mountains of Fire: San Luis Obispo's Famous Nine Sisters- A Chain of Ancient Volcanic Peaks.* Dickerson, 1990.)

The earliest inhabitants near and around Terrace Hill were the Chumash Native Americans, followed by the Spanish and the Alta California Missions. Mission San Luis Obispo de Tolosa was one of the more economically successful missions and ran considerable numbers of cattle. During December 1776 the Yokut Native Americans from the San Joaquin Valley raided the mission and set its roof on fire. Subsequent to the raid, the Yokuts would raid the area to steal cattle from the mission lands. The mission placed sentinels on the top of Terrace Hill to look out for marauding Yokuts. Also, as the European grasses were replacing the native grasses, the danger of wild range fires increased, and lookouts were posted on the hill to look for the fires (Kalkowski personal communication with Krieger, December 2012).

By the mid 1880's San Luis Obispo and San Francisco leading businessmen/speculators were pushing for the Southern Pacific Railroad to continue the line from San Francisco further up the Salinas Valley and eventually extend down Cuesta Grade to San Luis Obispo. This was the impetus for extensive land speculations. Money was to be made by opening the Central Coast beyond the more limited coastal steam ships and the Pacific Coast Railway. The speculators purchased lands surrounding the small town and added named additions to the town, which were in turn divided into lots for residential development. One such subdivision was the Buena Vista Addition, a subdivision that included the top of Terrace Hill (*Rails Across the Ranchos.* Nicholson,1980.)

The name Terrace Hill originates from the Buena Vista Addition subdivision, filed in 1887, by Edwin Goodall, president of The Goodall Syndicate Lands. A newspaper advertisement featuring the Goodall Syndicate Lands and the Buena Vista Addition discussed the hill. Some of the benefits featured in the advertisement state that the "hill… affords a sufficient elevation to give a magnificent view and perfect drainage. Water is guaranteed to parties buying on this tract as the reservoirs are now under construction and pipes being laid to carry water to the top of the hill." The Syndicate also purchased other sizeable, largely undeveloped land surrounding the young City of San Luis Obsipo, including the Central and Phillips Additions. Goodall was also the president of West Coast Land Company, which owned the California Southern Hotel Company, builder and owner of the Ramona Hotel, and was president of the horse-drawn streetcar of the San Luis Obispo Street Railway Company. (*Rails Across the Ranchos.* Nicholson,1980.)

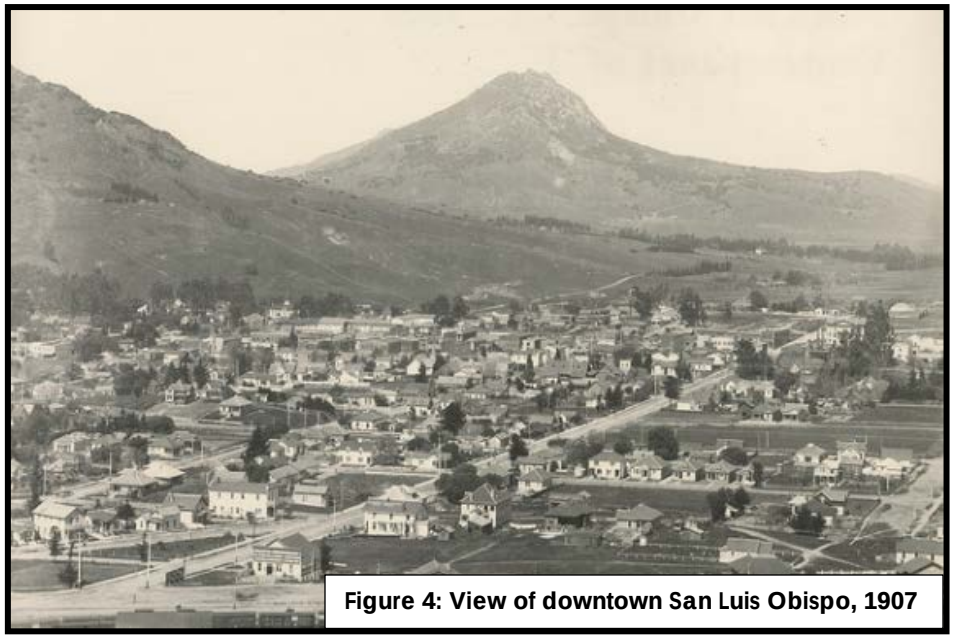


Figure 4: View of downtown San Luis Obispo, 1907

In 1894 the region suffered from a drought and the water company supplying water to the City was running low on reserves and flowing-water pressure from their reservoirs. The Southern Pacific Railroad (SPRR) had a water system of its own pumping from their wells to storage tanks located on their higher hillside Terrace Hill lots. The water company was able to secure an agreement with the SPRR to attach their lines to the SPRR water system to maintain water pressure and supply. (Kalkowski personal communication with Krieger, December 2012). Although rough grading was done to install roads and water tanks on Terrace Hill, the residential development along the steeper slopes and top of the hill never did occur.

Figure 5: 1877 Artist's rendering, "A Bird's Eye View of San Luis Obispo"

In 1912, the majority of the hill's land went into tax foreclosure. Sandercock Transfer Company was the successful bidder (at $63.53) for the land at the Tax Collector's tax sale. During WW II, the hilltop was used for the location of an enemy aircraft lookout. According to Caltrans documentation, in 1948 earthen fill and rock were taken from Terrace Hill to be used for portions of the construction of Highway 101.

Many San Luis Obispo families experienced life on the slopes of Terrace Hill, including the Callaway and Mazza families. In March of 2010, Betsy Bertrando and Buzz Kalkowski had a conversation with the now late Bill Callaway (retired City of San Luis Obispo Fire Marshal) and his late mother "Sis" Callaway. Mrs. Callaway was born in 1918 on a ranch above the old County Hospital just off of what today is Bishop Street. Mrs. Callaway recalls milking cows before going to school in the mornings.

Pacifico Mazza, a Southern Pacific railroad employee purchased a five bedroom house at the corner of Rachel Street and Rachel Court, along with a significant portion of the Terrace Hill land. The Mazza Family ran cattle on the hill. Mr. Mazza built four additional houses north of and east of the existing five bedroom house. This large house was once a boarding house, and some of the railroad crews from San Francisco and Los Angeles would stay there, as well as in one of the smaller houses northwest of the Big House. The Mazza Family kept cattle on Terrace Hill until around 1950, when some of the property on the hill was sold to a gravel operation.

On April 17, 1972, Cuesta Valley Properties, primarily owned by John D. and Charles E. French, purchased the land. Additional fill was later taken and used to construct the pad for the French Hospital parking lot. Finally, the 22.96 acre Terrace Hill was dedicated to the City of San Luis Obispo as Open Space in 1986 as part of the subdivision of Tract 926.

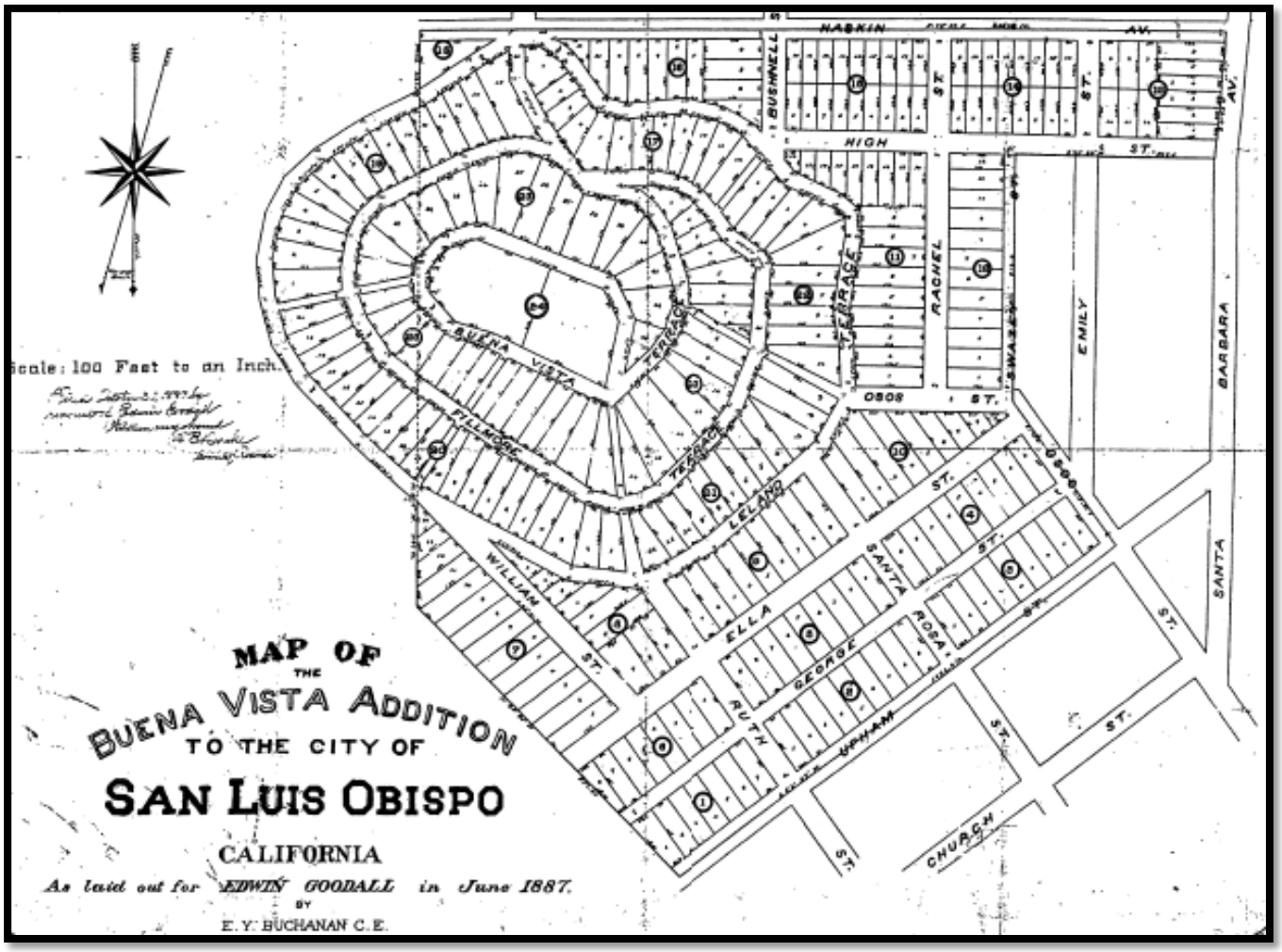


Figure 6: Edwin Goodall's Map of the Buena Vista Addition to the City of San Luis Obispo, 1887.

2. Inventory

2.1 Physical Inventory

Terrace Hill Open Space is a single legal parcel, APN 003-686-003. It is 22.96 acres in size with an elevation of 501 feet above mean sea level (msl). The primary entry and access to the site is from Bishop Street, where a locked gate can be opened to a dirt road that leads to the top of the hill. Terrain ranges from nearly level along the top, to steep side slopes ranging between 15% and 50%. A second trailhead exists along a narrow, paved path beginning at the corner of Rachel Street and Jennifer Street facilitated by a public, pedestrian access easement. A third trailhead has been offered by the developers of 17 new residences along Rachel Court, but this facility has not yet been constructed and accepted by the City as of March, 2015. There are four memorial viewing benches that have been installed by the City along the perimeter of the loop trail at the top of the hill. A drainage basin and facility exists near the Bishop Street entrance, while five-strand barbed wire fence protects the frontage of Terrace Hill along Bishop Street to prevent unauthorized vehicle access and unsanctioned trails. The City's Utilities Department maintains a large water storage tank at the southeast corner along Bishop Street, but this structure is on a separate parcel and is not considered a part of Terrace Hill Open Space.

2.2 Legal Agreements

There are no prior legal agreements (easements, rights of way, long-term leases, etc.) that staff is aware of that affect the management and use of Terrace Hill Open Space.

2.3 Soils

A Custom Soil Resource Report was prepared for Terrace Hill using the United States Department of Agriculture's Natural Resources Conservation Service (NRCS) website application. The report reveals that Terrace Hill is comprised entirely of heavy clay soils known as the Diablo-Lodo Complex and identified as soil map unit no. 133. This soil is excessively well drained and characterized as having severe erosion potential, especially given the 15-50% slopes. A soils map and complete listing of soils found within Terrace Hill Open Space is included as Appendix B.

2.4 Species Inventory

Several sensitive avian species have been observed at Terrace Hill Open Space. In addition, over the course of two field days in March 2015, staff from Terra Verde Environmental (biologists Rhett Blanton and Halden Petersen and botanist Sean Ryan) documented 85 different plant species, as well as numerous wildlife species either directly or through evidence of their presense . See Appendix C for Terra Verde Environmental's complete memorandum, species list, and mapping.

Table 1: Avian Species Observations at Terrace Hill Open Space

Anna's Hummingbird

Calypte anna

Red-tailed hawk

Buteo lineatus

Photo Credit: Terra Verde Environmental, 2015

Prairie falcon

Falco mexicanus

Photo credit: quoteimg.com

3. Goals and Policies

The Conservation and Open Space Element of the City's General Plan and the document *Conservation Guidelines for Open Space Lands of the City of San Luis Obispo* (2002) describes management guidelines and policies for all City open space properties, and is incorporated by reference into the Conservation and Open Space Element of the City's General Plan.

The Terrace Hill Open Space Conservation Plan has as its overarching goal to achieve sustainable conservation of habitat, while also allowing for passive recreational elements. The plan will accomplish this goal, and address the management issues described, above, through the following goals and policies.

Goals

The City will manage Terrace Hill Open Space with the following goals:

3.1 Conserve, enhance, and restore natural plant and wildlife communities by protecting their habitats in order to maintain viable wildlife populations within balanced ecosystems.

3.2 Provide the public with an opportunity for greater understanding and appreciation for the cultural and historic resources values associated with the Open Space.

3.3 Provide the public with a safe, accessible, and pleasing natural environment in which to pursue passive recreational activities, including hiking and biking, while maintaining the integrity of natural resources and minimizingthe impacts on the wildlife and habitats present in the Open Space.

3.4 Actively address sedimentation sources and erosion both within the Open Space, and from the Open Space.

3.5 Minimize the impacts of harmful activities, such as off-trail hiking and biking use or catastrophic wildfire, while maintaining natural drainage systems as a means of conveying storm water into and within urban areas.

3.6 Provide signage and interpretive features to enhance user safety, prevent unauthorized entrance at neighboring private property, and for educational purposes.

3.7 Maintain, protect, and improve aesthetic views as seen from various locations throughout the City of San Luis Obispo.

3.8 Protect and officially designate the important historic and cultural resources associated with the Open Space.

3.9 Regularly monitor and patrol the Open Space, establish Levels of Acceptable Change (LAC), and take action to correct areas or problems that exceed LAC.

Policies

The City will manage Terrace Hill Open Space in accordance with the City's adopted *Conservation Guidelines for Open Space Lands of the City of San Luis Obispo* (2002), as well as the following policies that elaborate upon, or are in addition to, those found in the *Conservation Guidelines*:

3.9 Public Comment and Input

This Conservation Plan seeks to accommodate community preferences while addressing the City's goals in the Conservation and Open Space Element. A public meeting was held on March 11, 2015 in order to gather neighborhood input prior to staff's preparation of the Conservation Plan. Both written

comments and public testimony received during the advisory body review process will be considered in the Final Review Draft.

3.10 Vegetation Management

3.10.1 The City will monitor and manage vegetation to meet prescribed goals for the land. Management strategies such as the following will be implemented where necessary: physical pruning/removal of unwanted or problematic vegetation – especially dead, dying, diseased, or non-native species; controlled, seasonal grazing or mowing with a rubber track piece of equipment; erosion and sediment control or removal strategies; and, application of Integrated Pest Management practices.

3.10.2 Restoration and/or re-vegetation techniques will be utilized when necessary to restore a degraded vegetative community to a fully functioning ecosystem. All restoration activities will utilize site or region-specific native grasses, herbs, shrubs, and trees. Planting of invasive, non-native species will be prohibited. Adjacent landowners are encouraged to undertake efforts to control target non-native vegetation on their land.

3.10.3 All existing native trees will be protected wherever possible, and new native trees planted to enhance wildlife habitat. Where possible, vegetation will be left to follow its natural course of succession; however hazardous trees and fire protection will necessitate active management in some areas and instances. The ultimate goal will be to re-establish, or preserve, a self-sustaining ecosystem.

3.11 Passive Recreation

Common passive recreational activities that take place within Terrace Hill Open Space include bird watching, kite flying, Frisbee, dog walking, hiking, and biking. All recreational uses will be monitored and patrolled in accordance with the City of San Luis Obispo's Open Space Regulations, Municipal Code, Chapter 12.22, in general.

Active recreational uses are considered more intrusive to the local natural environment and include activities such as special events, horseback riding, discharge of weapons, paintball, and hunting that will be prohibited. All passive recreation uses will be monitored for potential impacts to plant species and wildlife habitat that occur within Terrace Hill Open Space.

3.12 Scientific Research

Non-destructive scientific study and research will be permitted with prior, written approval from the City's Natural Resources Manager. A condition of approval will be that the applicant provides the City with a written report of the findings of the study. This will assist the City in compiling a detailed inventory of natural and biological resources located within Terrace Hill Open Space. Numerous research projects could arise from this Conservation Plan. Issues such as successional forest planning, non-native species control, species population monitoring, drainage and sedimentation analysis projects could easily be developed with students to further the collective knowledge base of Terrace Hill Open Space, as well as assist in adaptive management strategies.

4. Conservation Plan

4.1 Naming

Terrace Hill Open Space shall be the name of the plan area. The property is comprised of a single parcel acquired at one time from one party. It is therefore an "Open Space," according to the City's Open Space Regulations (Municipal Code, 12.22.030).

4.2 Land Use Designations

The property is zoned R-1-PD, although the land use designation is Conservation – Open Space. In the future, the City's Community Development Department will rectify this mapping discrepancy. Internal land uses of Terrace Hill Open Space are explained below, and depicted in the following map, Figure 7.

4.2.1 Habitat Area – Land areas where the primary objective will be to protect natural resources by maintaining intact native plant communities and habitat for both resident and migratory wildlife. This is by far the largest share of the land uses, comprising approximately 20 acres of the property.

4.2.2 Management Areas

a. Maintained Trails – Active management of land in these areas will be required to facilitate approved activities while protecting valuable natural resources. These trails are generally kept clear and receive maintenance as needed to prevent erosion, pooling of water, and instability. Slopes range generally from 10% or less to as much as 30%. Biking is allowable on maintained trails. The loop trail located at the top of the hill may be improved for all-weather design.

b. Dirt Road – A vehicular access road provides access from Bishop Street to the top of the hill. This area will be managed primarily as a trail corridor, and requires periodic maintenance of rolling dips and tranverse trenches in order to direct water drainage to the inlet facility at the bottom. Biking is allowed on the dirt road. Vehicular use shall be restricted to authorized City personnel for management and maintenance purposes only, as well as emergency services.

c. Drainage basin and culvert – Drainage facilities consisting of a small basin and culvert outlet are located near the entry point along Bishop Street and above the Buena Vista Estates property, and require periodic maintenance and soil removal in order to remain functional.

d. Viewing Benches – Four memorial viewing benches have been installed along the perimeter of the loop trail around the top of the hill.

e. Grazing – The grassland portions of Terrace Hill were historically grazed by cattle . Secure perimeter fencing and a steady supply of stock water are not present on the property any longer; however, "high intensity, short duration" controlled seasonal grazing with goats appears to be a viable management strategy for reducing hazardous fuel loads, while the recruitment of native bunchgrasses and annual forbs that are adapted to a disturbance regime is also a desired management goal. Successful implementation will require the use of electric "hot wire" fence, portable watering facilities, and close supervision.

f. Gates, Signs, and Fencing – The entry gate at Bishop Street shall be maintained in functional condition to ensure readily available access for emergency and maintenance purposes. Signs with Terrace Hill Open Space shall also be maintained in legible and functional condition. As fencing is repaired or replaced, five-strand fencing should be installed that is barbless on the top and bottom strand, with the bottom strand being located 18" off the ground in order to allow for safe wildlife passage both over and under the fence.

4.2.3 Restoration Areas – Two areas of Terrace Hill Open Space warrant restoration activities. Below the rock outcrop along the westerly perimeter of the loop trail is a growing stand on invasive French broom that should be removed, followed by stabilization and replanting efforts. The steep trail leading from the top of the hill down to the trailhead at the corner of Rachel Street and Jennifer Street has become progressively wider in recent years as hikers seek vegetated footing under wet, slippery conditions. This area shall be restored and monitored, as it represents a visual blight as well as a potential sedimentation / drainage concern.

4.3 Photo Monitoring Points

City staff has established photo-monitoring points throughout Terrace Hill Open Space in order to document baseline conditions and periodically observe changes. Photo points include property corners, areas of heavy public traffic, areas likely to suffer erosion damage, and habitats with sensitive plant and wildlife species.

The photo points will be used to establish baseline conditions. Additional points may be added as necessary if conditions change or new issues arise. Photos points and an associated map of point locations are included as Appendix A.

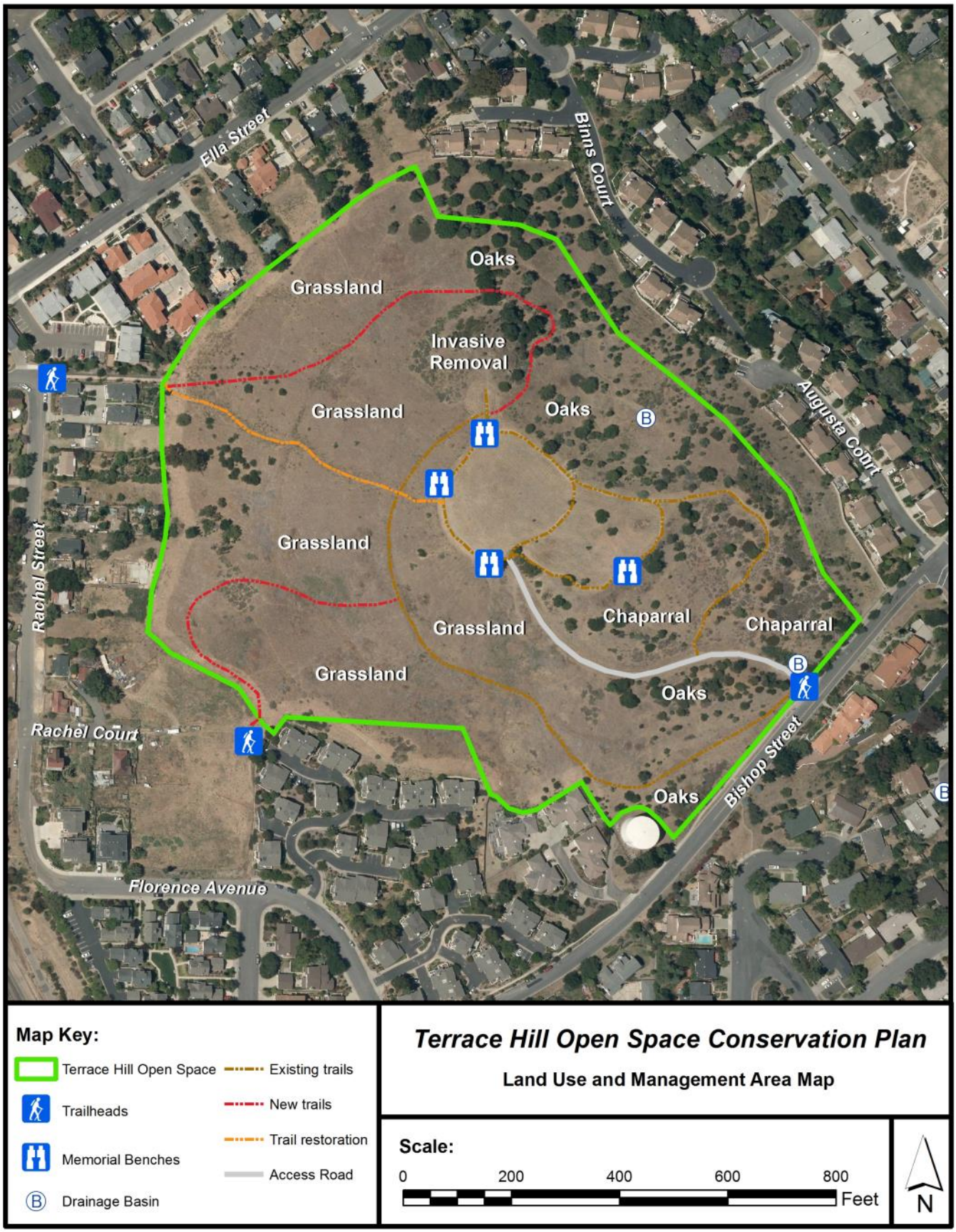


Figure 7: Land Use and Management Area Map

4.4 Needs Analysis

The *Terrace Hill Open Space Conservation Plan* contemplates the need for a variety of projects and initiatives in order provide long-term stewardship, restoration, and proper management of the land.

4.4.1 Resource Management and Protection

Biological surveys are the basis for natural resource management in Terrace Hill Open Space. After the initial surveys conducted for the creation of this plan, the City will need to monitor and protect the habitat areas and sensitive species identified.

4.4.2 Resource Enhancement

Enhancement of natural resources will focus on restoration of two areas, as described in 4.2.3, above.

4.4.3 Signage

Signage for Terrace Hill Open Space is currently outdated compared to the standards used for the City's other open spaces, and should therefore be upgraded. Signs located at the trailheads would be used to provide directions, apprise users of open space regulations, and identify adjacent private property ownership. A three-panel kiosk at the main Bishop Street trailhead will highlight natural and historic resources with interpretive features, as well as provide a trail map graphic.

4.4.4 Trailhead Amenities and New Trails

A new entry gate and turnstile at the main trailhead at Bishop Street, as well as a garbage receptacle and "mutt mitt" dispenser are needed. Brief sections of new trail will be constructed from the other two trailheads at the corner Rachel Street and Jennifer Street and at Rachel Court. These trails will be constructed by City staff to contemporary standards for slope and drainage, and shall be designed to minimize any potential impacts to nearby neighbors.

4.4.5 Site Stewardship and "Pride of Ownership"

Additional needs at Terrace Hill include the following items:

- Increase ranger and police patrols
- Promptly attend to and abate graffiti
- Remove trash, refuse, broken bottles
- Maintain drainage facilities
- Remove or cut in place derelict drip tubing
- Remove and replace dead trees and shrubs

Figure 8: Examples of Site Stewardship Needs at Terrace Hill Open Space

5. Wildfire Preparedness Plan

Terrace Hill Open Space is not considered to be located within a Fire Hazard Severity Zone by CalFire. However, Terrace Hill is entirely surrounded by at-risk residential land uses. Although it is not large enough to represent a significant wildland fire hazard, Terrace Hill does have the right "ingredients" to pose a localized fire hazard that could result in unacceptable safety risk and property loss. This is due to prevailing westerly winds; presence of annual grassland, chaparral, oak woodland, and mixed ornamental trees and vegetation; and the potential for human caused fire ignition associated with illicit smoking, open fire pits, and fireworks. Accordingly, City Open Space Regulations prohibit fires, smoking, discharge of weapons, and fireworks or any kind, and also allow for closure if hazardous conditions warrant such action (12.22.050). Important pre-fire activity includes continuing to mow the top of the hill and weed whack a 20 foot strip behind the adjacent residences, while this plan also introduces the need to attend to annual grassland areas of the steeper side slopes, preferably through the use of controlled and seasonal grazing with goats (as described in 4.2.2 (e), above) or with mowing if necessary using specialized rubber track equipment to minimize any associated damage. Exclusion of fire as a management strategy and as part of the natural fire ecology is anticipated, so this plan also calls for the removal of dead and downed trees and shrubs, as well as the stand of invasive French broom, a plant species that is known to be highly flammable during the dry season.

Terrace Hill is very proximate to and visible from City Fire Station 1, but the two locations are bifurcated by the Union Pacific Railroad tracks. As such, City Fire Station 3, which is typically equipped with wildland fire fighting apparatus (Type III or similar), would be the primary response unit. The only driving access into Terrace Hill is through the main driveway gate located at 1300 Bishop Street, which can be opened with a Parks Master key (marked PM on the lock itself). There are several other access points that can provide emergency ingress and egress, and nearby fire hydrants are located on all sides of the hill. The City does not maintain any critical, at-risk infrastructure within the property itself, although the City's water tank is located contiguous on Bishop Street.

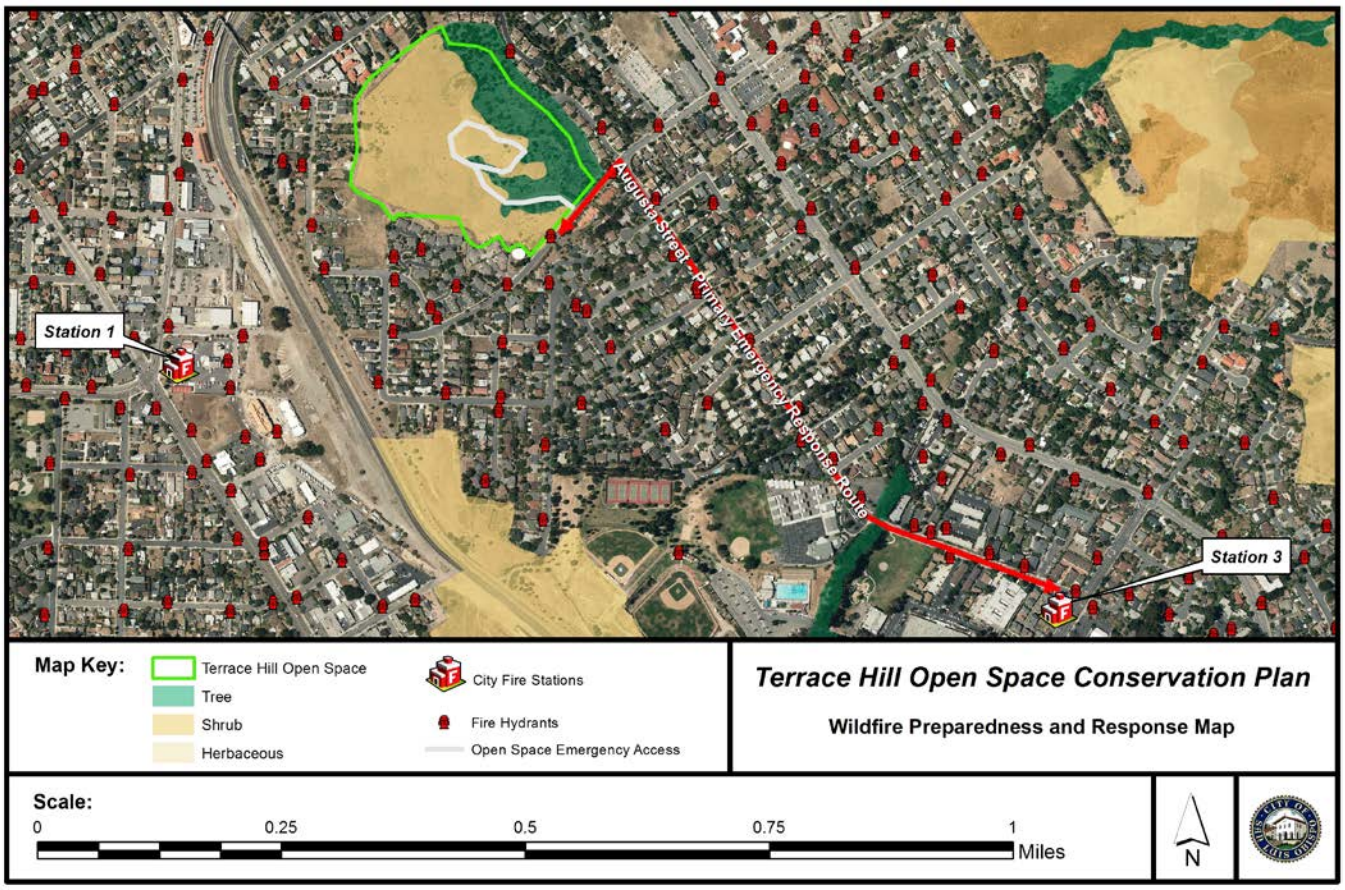


Figure 9: Wildfire Preparedness Plan Map

6. Implementation

General maintenance activities in accordance with the adopted policies described in *Conservation Guidelines for Open Space Lands of the City of San Luis Obispo* and the *Conservation and Open Space Element* shall be implemented on a regular or as-needed basis.

Specific Tasks are anticipated as follows, subject to available funding:

Years 1-3

- Install new, updated signage at trailheads and along trails
- Install new trail sections, entry gate, turnstile, and trailhead amenities (trash can and mutt mitts)
- Implement and monitor grazing strategy

Ongoing Specific Tasks

- Maintain sediment basins
- Monitor ecosystem health
- Monitor non-native, dead, or dying vegetation and remove as appropriate
- Regularly patrol the property and interact with users
- Weed whacking, mowing, and grazing for hazardous fuel reduction
- Site stewardship and "pride of ownership" tasks
- Work with local universities to contiunue resource inventories

7. Fiscal Statement

Day-to-day management of Terrace Hill Open Space will continue to be supported through the operating budgets within the Natural Resources Program and Ranger Service. City staff has developed a Capital Improvement Plan (CIP) program for major maintenance activities and improvements that is under consideration for the 2015-17 Financial Plan. The program will include signage, trail work, and trailhead amenities. City staff will also pursue grants and volunteers to augment funding for this plan's identified projects. Overall, the fiscal impact of the conservation plan and its implementation is considered relatively minor given opportunities to phase projects and leverage modest investments of City funds.

8. Updates and Amendment

This Conservation Plan is intended to guide management actions over the course of the next ten years, after which time staff should consider the need for an update. Any portion of the plan may be considered for amendment upon request. Any citizen or other interested party may initiate such a request, and shall be directed to the City Manager or designee. Such a request will include the nature of the requested amendment and rationale for the request. If appropriate, the amendment will be processed in the same manner as the original Conservation Plan.

9. References

The following sources are available by request:	
1.	City of San Luis Obispo Municipal Code, Open Space Regulations, Chapter 12.22. Ordinance 1332§ 1 (part), 1998.
2.	*Conservation and Open Space Element, General Plan.* City of San Luis Obispo, 2006.
3.	*Conservation Guidelines for Open Space Lands of the City of San Luis Obispo*. City of San Luis Obispo, 2002.
4.	Kalkowski, Kenneth, personal communication with Dan Krieger. December 2012.
5.	*Mountains of Fire: San Luis Obispo's Famous Nine Sisters – A Chain of Ancient Volcanic Peaks.* Dickerson, 1990.
6.	*Rails Across Ranchos.* Nicholson, 1980.

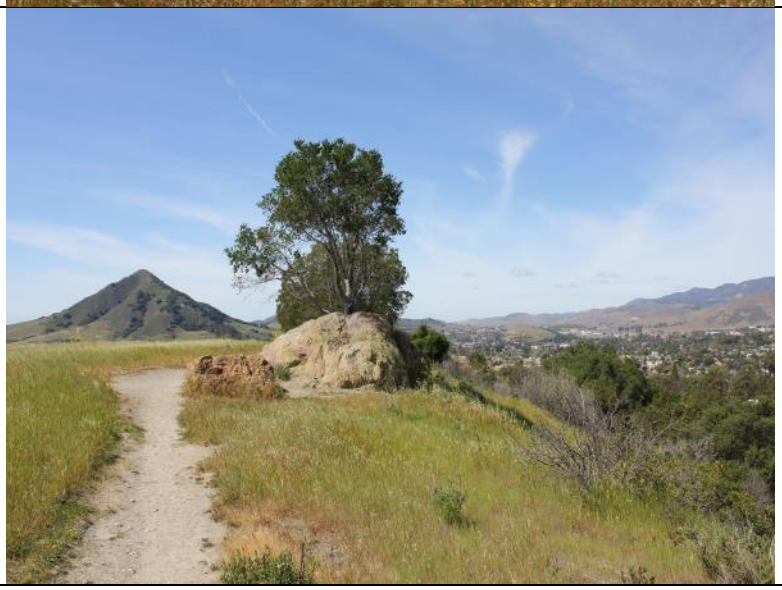
Appendix A: Photo Monitoring Points & Map

Photo monitoring points for Terrace Hill Open Space, as discussed in Section 4.3. These locations may be modified, or new locations may be added, as conditions warrant.

Table 2: Photo Monitoring Points:

(All photos established March 24, 2015 by Robert A. Hill, Natural Resources Manager, using unaltered images from a Canon EOS "Rebel" T2i digital camera)

1a.	
1b.	

2.		
3a.		
3b.		

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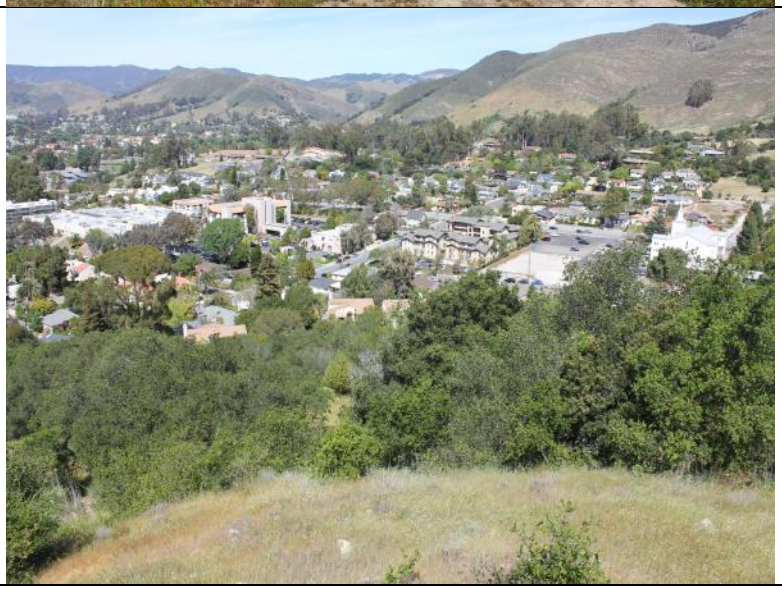
5a.		

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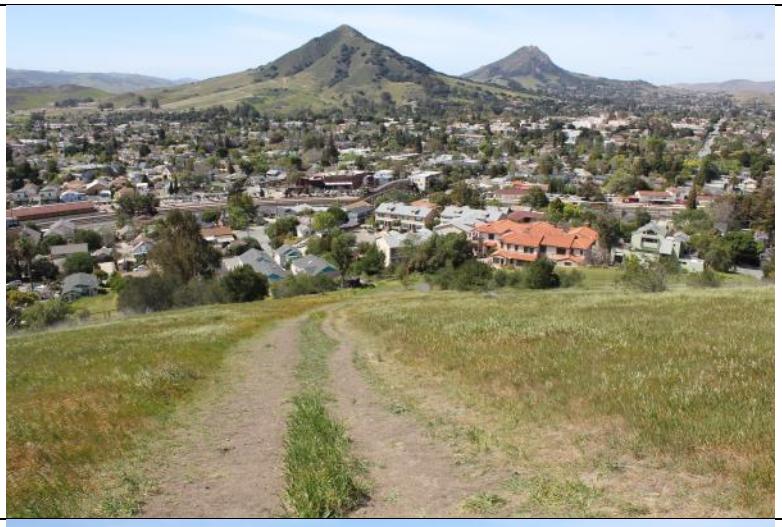
6c.		
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Ella Street
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Augusta Court
Rachel Street
Rachel Court
Florence Avenue
Bishop Street
1
2
3
4
5
6
7
8
9
10
11
Map Key:
Terrace Hill Open Space
Photo Points
Terrace Hill Open Space Conservation Plan
Baseline Conditions Photo Monitoring Map
Scale:
0
250
500
750
1,000
Feet
N

Appendix B: Soil Report for Terrace Hill Open Space

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for San Luis Obispo County, California, Coastal Part

March 24, 2015

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (http://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the

individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

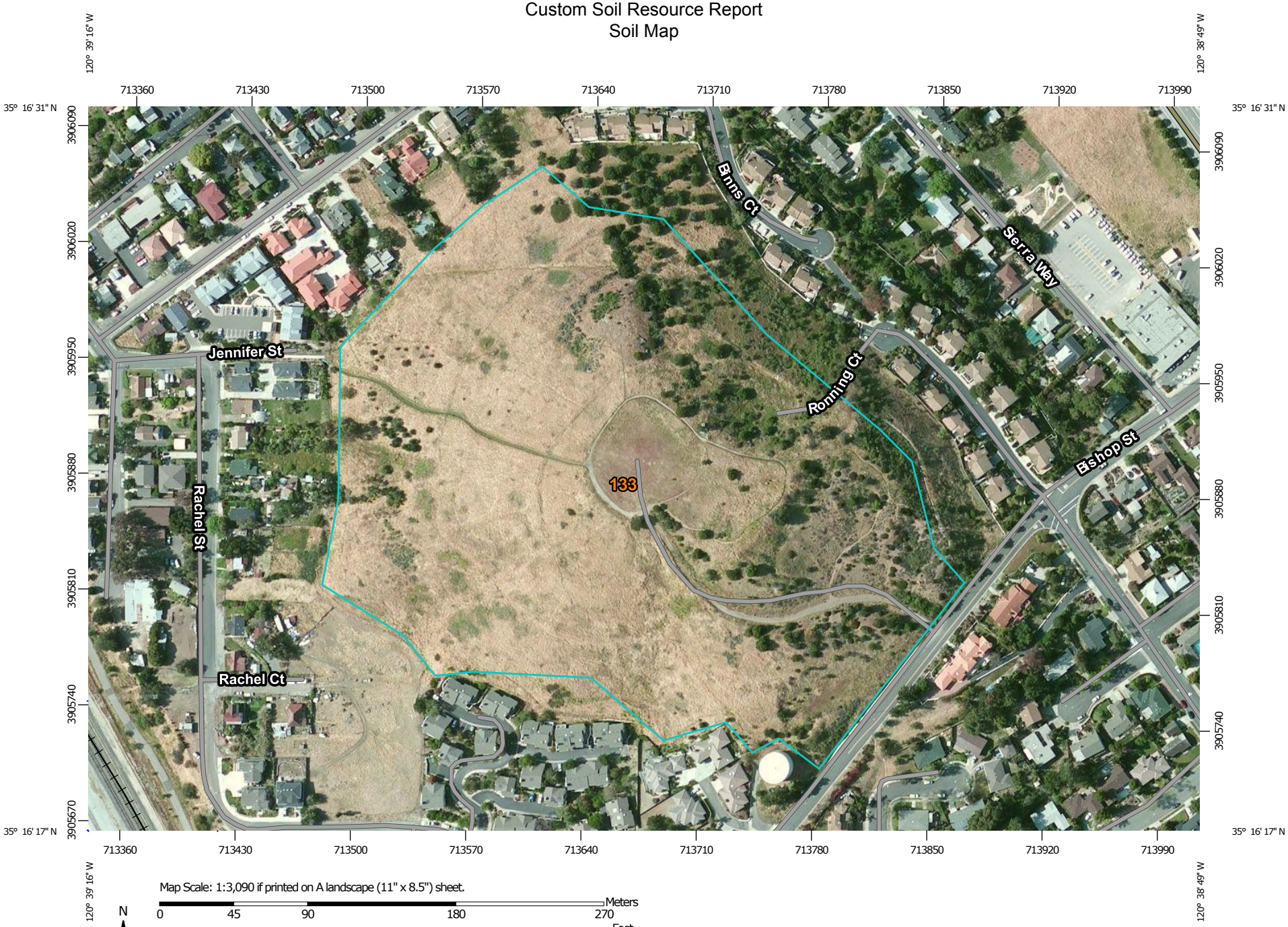
Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: San Luis Obispo County, California, Coastal Part
Survey Area Data: Version 6, Sep 26, 2014

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 8, 2010—May 21, 2010

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

San Luis Obispo County, California, Coastal Part (CA664)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
133	Diablo-Lodo complex, 15 to 50 percent slopes	22.0	100.0%
Totals for Area of Interest		**22.0**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

San Luis Obispo County, California, Coastal Part

133—Diablo-Lodo complex, 15 to 50 percent slopes

Map Unit Setting

National map unit symbol: hbnb
Elevation: 300 to 3,000 feet
Mean annual precipitation: 14 to 28 inches
Mean annual air temperature: 59 degrees F
Frost-free period: 275 to 350 days
Farmland classification: Not prime farmland

Map Unit Composition

Diablo and similar soils: 45 percent
Lodo and similar soils: 35 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Diablo

Setting

Landform: Hills, mountains
Landform position (two-dimensional): Backslope, summit
Landform position (three-dimensional): Mountainflank, crest, side slope
Down-slope shape: Convex, linear
Across-slope shape: Convex
Parent material: Residuum weathered from mudstone, sandstone and/or shale

Typical profile

H1 - 0 to 38 inches: clay
H2 - 38 to 58 inches: clay
H3 - 58 to 62 inches: weathered bedrock

Properties and qualities

Slope: 15 to 50 percent
Depth to restrictive feature: 45 to 58 inches to paralithic bedrock
Natural drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: High (about 9.8 inches)

Interpretive groups

Land capability classification (irrigated): 6e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: C
Ecological site: Clayey (R015XD001CA)

Description of Lodo

Setting

Landform: Hills, mountains
Landform position (two-dimensional): Backslope, summit

Landform position (three-dimensional): Mountainflank, crest, side slope
Down-slope shape: Convex, linear
Across-slope shape: Convex
Parent material: Residuum weathered from sandstone and shale

Typical profile

H1 - 0 to 12 inches: clay loam
H2 - 12 to 22 inches: unweathered bedrock

Properties and qualities

Slope: 15 to 50 percent
Depth to restrictive feature: 4 to 20 inches to lithic bedrock
Natural drainage class: Somewhat excessively drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 1.9 inches)

Interpretive groups

Land capability classification (irrigated): 6e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: D
Ecological site: Shallow fine loamy (R015XD070CA)

Minor Components

Cibo, clay

Percent of map unit: 3 percent

Lopez, very shaly clay loam

Percent of map unit: 3 percent

Los osos, loam

Percent of map unit: 3 percent

Millsap, loam

Percent of map unit: 3 percent

Obispo, clay

Percent of map unit: 3 percent

Rock outcrop

Percent of map unit: 3 percent

Unnamed

Percent of map unit: 2 percent

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Appendix C: Summary and Results of a Plant Inventory and Wildlife Survey at Terrace Hill Open Space, City of San Luis Obispo, California

March 16, 2015

Mr. Bob Hill
Natural Resources Manager
City of San Luis Obispo
990 Palm Street
San Luis Obispo, CA 93401

RE: Summary and Results of a Plant Inventory and Wildlife Survey at Terrace Hill Open Space, City of San Luis Obispo, California

In support of the proposed updates to the City of San Luis Obispo (City) Conservation Plan for the Terrace Hill Open Space (Open Space), Terra Verde Environmental Consulting, LLC (Terra Verde) was retained to conduct a plant and wildlife survey of the Open Space. Prior to conducting the survey, results of a California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) query were evaluated as well as a review of available aerial site imagery and proposed trail alignments (see Attachment A - Figure 1: 1.5-mile CNDDB Map).

Survey Methodology

Terra Verde biologist Rhett Blanton and botanist Sean Ryan conducted a reconnaissance level survey on March 3, 2015 of the entire 30-acre Open Space. Environmental conditions consisted of clear skies, 2-5 mile per hour winds, and temperatures ranging between 55-62° F. Seasonal timing and weather conditions were suitable for detection of botanical and wildlife resources occurring in the open space area. A follow-up site visit was performed by Terra Verde biologist Halden Petersen on the afternoon of March 8, 2015. The botanical and wildlife inventories focused on documenting all detectable plant and wildlife species. Special-status plant and/or wildlife species were mapped using a hand-held Trimble Global Positioning System (GPS) and plotted on the Terrace Hill Open Space Map (refer to Appendix A – Figure 2).

A Peterson bat detector was employed at a Terra Verde residence near the base of the Open Space's southern slope. The detector was employed on March 6, 2015 and collected data for a single night period. Full spectrum acoustical data was analyzed using SonoBat US West (Szewczak). Results of the acoustic monitoring are included in the results section of this report.

Plants

During the botanical portion of the survey, a comprehensive floristic survey was conducted. The timing of the survey coincided with the blooming period of several special-status species known to occur within a 1.5-mile radius of the Open Space; however, it may have been early for the detection of Cambria morning-glory (*Calystegia subacaulis* ssp. *episcopalis*). Cambria morning-glory typically blooms from April to June and may have been missed due to the timing of the survey. Refer to Attachment B for a full list of botanical species observed.

The majority of the Open Space (i.e., the hilltop terrace, and the western and southern slopes) is comprised of non-native annual grassland habitat dominated by wild oats (*Avena* spp.), bromes (*Bromus* spp.), and barley (*Hordeum* spp.), with abundant black mustard (*Brassica nigra*) and localized patches of purple needle grass (*Stipa pulchra*), coast morning-glory (*Calystegia macrostegia*), and silver bush lupine (*Lupinus albifrons*). Large portions of the north slope and perimeter of the hilltop loop are dominated by Coast live oak (*Quercus agrifolia*) with native and ornamental tree species intermixed. The northeast slope contains a mosaic of coastal sage scrub habitat co-dominated by black sage (*Salvia mellifera*) and California sagebrush (*Artemisia californica*) with scattered toyon (*Heteromeles arbutifolia*), coffee berry (*Frangula californica*), and individual oak trees. Upslope of the eastern entrance from Bishop Street is coast sage scrub habitat dominated by California buckwheat (*Eriogonum fasciculatum*) with occasional buckbrush (*Ceanothus cuneatus*) and Hooker's manzanita (*Arctostaphylos hookeri* ssp. *hookeri*). Just below the crest of the north-facing slope is a rock outcrop with a small population of lance-leaved dudleya (*Dudleya lanceolata*), and abundant native wildflowers (e.g., Johnny-jump-up [*Viola pedunculata*] and blue dicks [*Dichelostemma capitatum*]). Additionally, ornamental trees such as acacia, ash, pine, redwood, pepper tree, and eucalyptus have been planted in several locations within the Open Space.

Wildlife

During the wildlife portion of the survey, all species observed directly and/or indirectly (i.e., sign such as tracks, scat, remains, etc.) were documented. The majority of the wildlife species were avifauna. Raptor species such as red-tail hawk (*Buteo lineatus*) and prairie falcon (*Falco mexicanus*) were observed foraging over open grasslands on the northwestern portion of the Open Space while passerine species such as oak titmouse (*Baeolophus inornatus*) and Townsend's warbler (*Dendroica townsendi*) were observed foraging in Coast live oak trees in the northern section of the site. No active bird nests were identified during the survey effort, however the Open Space offers suitable nesting habitat for a variety of raptor and passerine species. Night time acoustic monitoring was

limited to the identification of Mexican free-tailed bat (*Tadarida brasiliensis*), a common bat species. Refer to Attachment B for a full list of wildlife species observed within the Open Space and their listing status.

In summary, Terra Verde's survey effort resulted in a total of 87 common plant species, and 28 wildlife species. Of those, one raptor (prairie falcon) is on the CDFW Watch List and one passerine (oak titmouse) is on the North American Bird Conservation Initiative (NABCI) Yellow Watch List. Lastly, one sensitive invertebrate species (Monarch butterfly) is on the CDFW Special Animal list.

If you should have any questions or require further information please contact me at sryan@terraverdeweb.com or at (805) 550-7332.

Sincerely,

Sean Ryan
Botanist

Attachments

A – Maps
Figure 1: 2-mile CNDDB Map
Figure 2: Terrace Hill Open Space Map

B – List of Species Observed in the Terrace Hill Open Space

C – Representative Site Photographs

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ATTACHMENT A – Maps
Figure 1: 2-mile CNDDB Map
Figure 2: Terrace Hill Open Space Map

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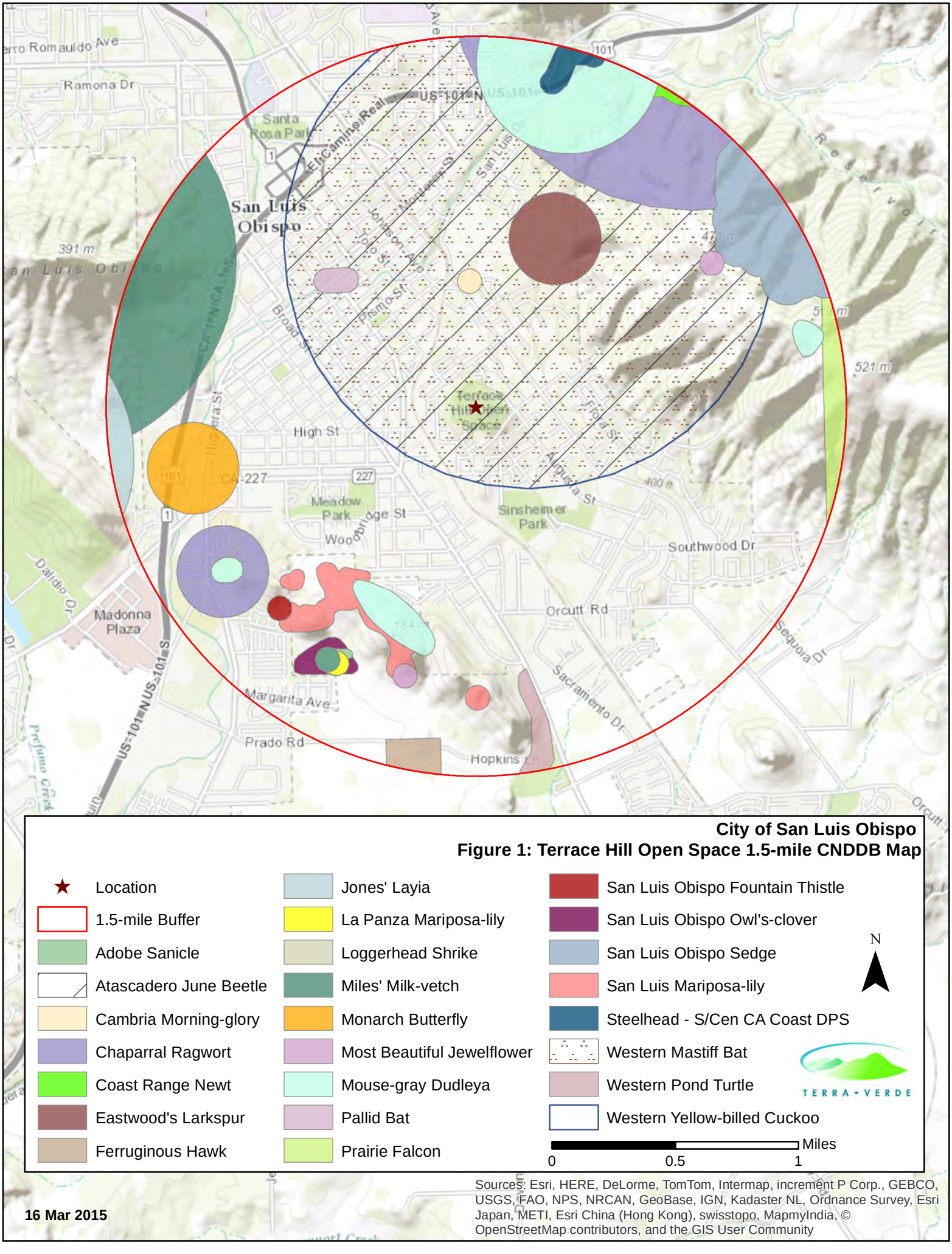
City of San Luis Obispo
Figure 1: Terrace Hill Open Space 1.5-mile CNDDB Map
Location
1.5-mile Buffer
Adobe Sanicle
Atascadero June Beetle
Cambria Morning-glory
Chaparral Ragwort
Coast Range Newt
Eastwood's Larkspur
Ferruginous Hawk
Jones' Layia
La Panza Mariposa-lily
Loggerhead Shrike
Miles' Milk-vetch
Monarch Butterfly
Most Beautiful Jewelflower
Mouse-gray Dudleya
Pallid Bat
Prairie Falcon
San Luis Obispo Fountain Thistle
San Luis Obispo Owl's-clover
San Luis Obispo Sedge
San Luis Mariposa-lily
Steelhead - S/Cen CA Coast DPS
Western Mastiff Bat
Western Pond Turtle
Western Yellow-billed Cuckoo
N
Miles
0
0.5
1
TERRA-VERDE
16 Mar 2015
Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community


Ella Street
Johnson Avenue
Rachel Street
Augusta Street
Bishop Street
Florence Street
City of San Luis Obispo
Figure 2: Terrace Hill Open Space Map
Oak Titmouse (NABCI: Yellow Watch List)
Prairie Falcon (CDFW: Watch List)
Approximate Open Space Boundary
N
Feet
0
250
500
TERRA · VERDE
Project Location
16 Mar 2015
Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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ATTACHMENT B -
Species List

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Terrace Hill Open Space Plant List
Species Observed by Terra Verde on March 03, 2015

*indicates non-native species

Scientific Name	Common Name
Adoxaceae	**Muskroot Family**
Sambucus nigra ssp. *caerulea*	Blue elderberry
Agavaceae	**Century Plant Family**
*Agave americana**	American century plant
Chlorogalum pomeridianum	Soap plant
Anacardiaceae	**Sumac Family**
Rhus integrifolia	Lemonade berry
Rhus ovata	Sugar bush
*Schinus molle**	Pepper tree
Toxicodendron diversilobum	Poison-oak
Apiaceae	**Carrot Family**
*Foeniculum vulgare**	Fennel
Asteraceae	**Composite Family**
Artemisia californica	California sagebrush
Baccharis pilularis	Coyote brush
Hazardia squarrosa	Saw-toothed goldenbush
*Helminthotheca echioides**	Bristly ox-tongue
*Hypochaeris glabra**	Smooth cats ear
Pseudognaphalium thermale	Small headed cudweed
*Sonchus oleraceus**	Common sow thistle
Boraginaceae	**Borage Family**
Amsinckia intermedia	Common fiddleneck
Phacelia distans	Common phacelia
Brassicaceae	**Mustard Family**
*Brassica nigra**	Black mustard
*Hirschfeldia incana**	Perennial mustard
Cactaceae	**Cactus Family**
Opuntia littoralis	Western prickly-pear
Caryophyllaceae	**Pink Family**
*Spergularia bocconi**	Boccone's sand-spurrey
*Stellaria media**	Common chickweed
Casuarinaceae	**She-oak Family**
*Casuarina cunninghamiana**	River sheoak
Convolvulaceae	**Morning-glory Family**
Calystegia macrostegia	Coast morning-glory

*Convolvulus arvensis**	Bindweed
Crassulaceae	**Stonecrop Family**
Dudleya lanceolata	Lance-leaved dudleya
Cucurbitaceae	**Gourd Family**
Marah fabacea	California man-root
Cupressaceae	**Cypress Family**
Calocedrus decurrens	Incense cedar
Juniperus sp.	Juniper
Sequoia sempervirens	Coast redwood
Ericaceae	**Heath Family**
Arctostaphylos glauca	Big berry manzanita
Arctostaphylos hookeri ssp. *hookeri*	Hooker's manzanita
Fabaceae	**Legume Family**
*Acacia melanoxylon**	Blackwood acacia
Acmispon glaber	Deerweed
Cercis occidentalis	Western redbud
*Genista monspessulana**	French broom
Lupinus albifrons var. *albifrons*	Silver bush lupine
*Medicago polymorpha**	California burclover
*Melilotus indicus**	Sourclover
*Vicia sativa**	Spring vetch
*Vicia villosa**	Hairy vetch
Fagaceae	**Oak Family**
Quercus agrifolia	Coast live oak
Quercus durata	Leather oak
Quercus lobata	Valley oak
Geraniaceae	**Geranium Family**
*Erodium botrys**	Longbeak stork's bill
*Erodium cicutarium**	Redstem filaree
*Geranium molle**	Woodland geranium
Iridaceae	**Iris Family**
Sisyrinchium bellum	Western blue-eyed grass
Lamiaceae	**Mint Family**
Salvia mellifera	Black sage
Lauraceae	**Laurel Family**
Umbellularia californica	California bay
Malvaceae	**Mallow Family**
Fremontodendron californicum	Flannelbush
*Malva parviflora**	Cheeseweed
Myrtaceae	**Myrtle Family**
*Eucalyptus globulus**	Blue gum
*Eucalyptus citriodora**	Lemon-scented gum

Oleaceae	**Olive Family**
Fraxinus velutina	Velvet ash
Oxalidaceae	**Oxalis Family**
*Oxalis pes-caprae**	Bermuda buttercup
Papaveraceae	**Poppy Family**
Eschscholzia californica	California poppy
Pinaceae	**Pine Family**
*Pinus pinea**	Italian stone pine
Pinus radiata	Monterey pine
Plantaginaceae	**Plantain Family**
*Plantago lanceolata**	English plantain
Poaceae	**Grass Family**
*Avena barbata**	Slender wild oat
*Avena fatua**	Wild oat
*Bromus diandrus**	Ripgut grass
*Bromus hordeaceus**	Soft chess
Festuca microstachys	Small fescue
*Festuca perennis**	Rye grass
*Hordeum murinum**	Wall barley
*Hordeum vulgare**	Barley
*Lamarckia aurea**	Goldentop grass
Melica imperfecta	Little California melica
*Pennisetum setaceum**	Crimson fountain grass
*Phalaris aquatica**	Harding grass
Stipa pulchra	Purple needle grass
Polypodiaceae	**Polypody Family**
Polypodium californicum	California polypody
Polygonaceae	**Buckwheat Family**
Eriogonum fasciculatum	California buckwheat
*Rumex crispus**	Curly dock
Rhamnaceae	**Buckthorn Family**
Ceanothus cuneatus var. *cuneatus*	Buckbrush
Ceanothus oliganthus	Hairy ceanothus
Ceanothus thyrsiflorus	Blueblossom
Frangula californica	California coffee berry
Rosaceae	**Rose Family**
Heteromeles arbutifolia	Toyon
Prunus ilicifolia ssp. *ilicifolia*	Islay cherry
Salicaceae	**Willow Family**
Salix laevigata	Red willow
Salix lasiolepis	Arroyo willow

Sapindaceae	**Soapberry Family**
Aesculus californica	California buckeye
Themidaceae	**Brodiaea Family**
Dichelostemma capitatum ssp. *capitatum*	Blue dicks
Violaceae	**Violet Family**
Viola pedunculata	Johnny-jump-up

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Terrace Hill Open Space Wildlife List
Species Observed by Terra Verde on March 03 and 08, 2015

Scientific Name	Common Name	Listing Status
Avian Species		
Aphelocoma californica	Western scrub-jay	
Baeolophus inornatus	Oak titmouse	NABCI – Yellow Watch List
Buteo jamaicensis	Red-tailed hawk	
Buteo lineatus	Red-shouldered hawk	
Calypte anna	Anna's hummingbird	
Cathartes aura	Turkey vulture	
Corvus brachyrhynchos	American crow	
Dendroica townsendi	Townsend's warbler	
Falco mexicanus	Prairie falcon	CDFW – Watch List
Falco sparverius	American kestrel	
Larus occidentalis	Western gull	
Melospiza melodia	Song sparrow	
Melozone crissalis	California towhee	
Mimus polyglottos	Northern mockingbird	
Patagioenas fasciata	Band-tailed pigeon	
Pipilo maculatus	Spotted towhee	
Sialia mexicana	Western bluebird	
Zenaida macroura	Mourning dove	
Mammal Species		
Lepus californicus	Black-tailed jackrabbit	
Odocoileus hemionus columbianus	Columbian black-tailed deer	
Tadarida brasiliensis	Mexican free-tailed bat	
Thomomys bottae	Botta's pocket gopher	
Reptile Species		
Sceloporus occidentalis	Fence lizard	
Amphibian species		
Pseudacris regilla	Pacific chorus frog	
Invertebrate Species		
Bombus chinensis	Bumblebee	
Cornu asperum	European garden snail	
Danaus plexippus	Monarch butterfly	CDFW – Special Animal
Papilio sp.	Swallowtail butterfly	

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ATTACHMENT C -
Representative Site Photographs

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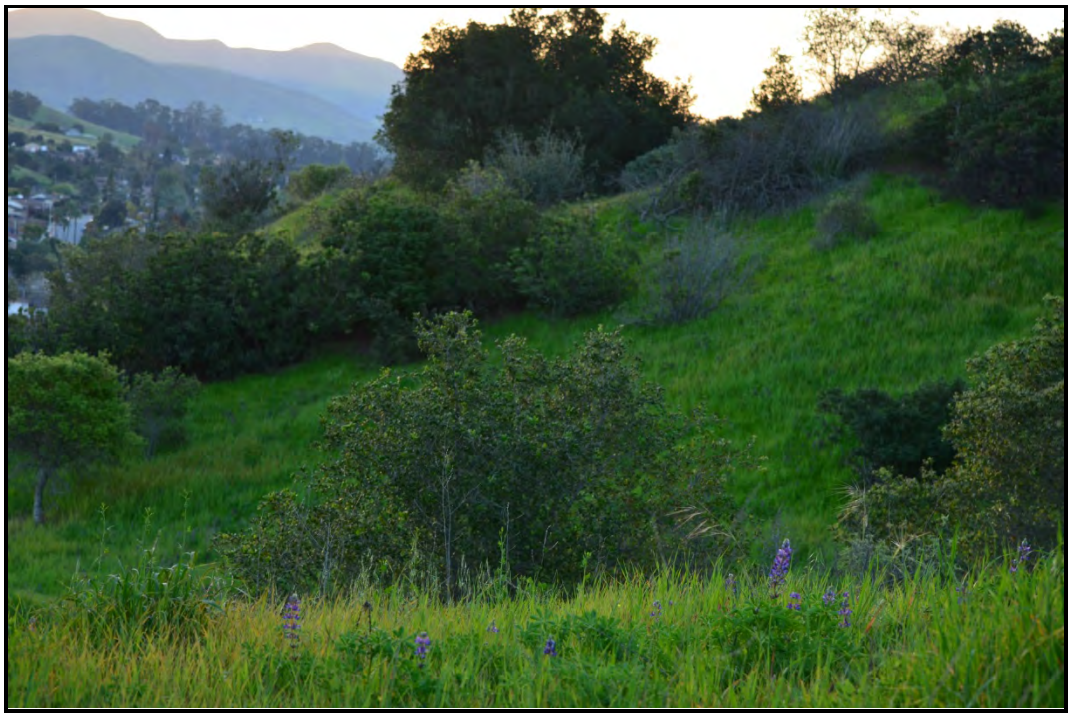


Photo 1. Coast live oak and grassland habitat areas on north side of the Open Space, view east (March 8, 2015).

Photo 2. Grasslands on Open Space hilltop terrace, view northwest (March 8, 2015).

Photo 3. Mixed vegetation near a rock outcrop just below the top of the Open Space, view south (March 8, 2015).

Photo 4. Blue dicks in flower on the northwest slope (March 03, 2015).

Photo 5. Western blue-eyed grass in flower on the northeast slope (March 03, 2015).

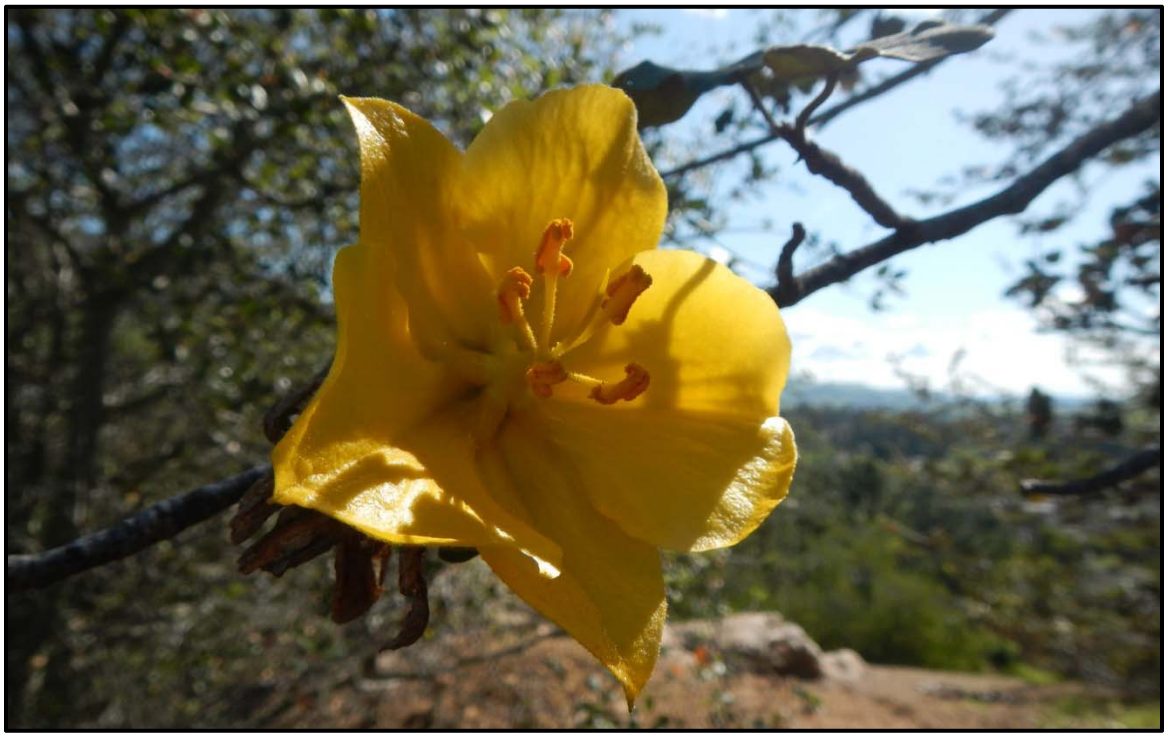


Photo 6. Flannelbush in flower near the southeastern gate entrance (March 03, 2015).

Photo 7. Coast morning-glory in flower on the southwestern slope, view southeast (March 03, 2015).

Photo 8. Black-tailed jackrabbit among non-native fountain grass, view west (March 8, 2015)

Photo 9. Anna's hummingbird perched on black sage in the Open Space (March 8, 2015).

Photo 10. Red-tailed hawk foraging over open grassland within the Open Space, view northwest (March 03, 2015).

Appendix D: Written Public Comment

Hill, Robert

From: D. Dollar <dddollar@gmail.com>
Sent: Friday, March 21, 2014 8:04 AM
To: Hill, Robert
Subject: Terrace Hill

Hi Bob,

I understand that you are starting to work on a Management Plan for Terrace Hill. I am interested in this plan and wish to be informed of meetings, issues, changes from current use, etc.

Some thoughts on Terrace Hill:

1. Name ~ Consider something that really highlights the main feature of the area, The View, ~ such as Terrace Hill Vista Natural Preserve/Reserve

2. Structures ~ No structures of any type; platforms, stages, radio or communications towers or fake trees, no more benches (there are enough)

3. Vegetation management ~ no livestock grazing (except very short term for quantifiable resource management objects, such as goats to control exotic plants);
tree plantings, none around rim of terrace (so as not to obstruct view)

4. The View ~ Views of the surrounding area from Terrace Hill and views of Terrace Hill from the surrounding area need strong protection.

5. Monitoring ~ effective monitoring, that is reviewed frequently and applied to changes on the ground - help prevent small resource issues from becoming larger issues that are harder and more
costly to fix.

6. Activities ~ no commercial/ competitive events, no sound amplication

7. Bikes ~ prohibit; area is too small; downhilling issues

8. Access ~ Define access points and close/rehab others

Sincerely,

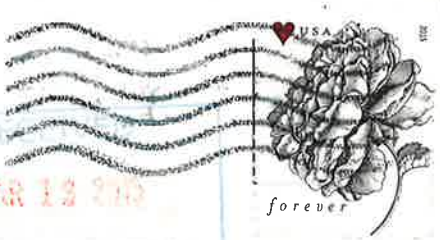
Don Dollar

SAN LUIS OBISPO ❖ Bishop's Peak is the tallest of the volcanic peaks that march from San Luis Obispo to the ocean at Morro Rock.

87-112: © Pete Mounier

SANTA BARBARA CA 931 3 T

12 MAR 2015 PM



MAR 12 2015

SLO CITY CLERK

in regards to Terrace Hill open Space Conservation Plan - stop building houses on it - stop building on all of San Luis Obispo hills and farmland - Dalidio Ranch.

Thank you.

Sylvia Stevenson

City of San Luis Obispo
Natural Resources
Program
990 Palm St.
San Luis Obispo
California
93401

CENTRAL COAST BOOKS
P.O. BOX 365
SAN LUIS OBISPO, C

Hill, Robert

From: Gulnar Poorsattar <docmom4g@yahoo.com>
Sent: Monday, March 16, 2015 6:59 PM
To: Hill, Robert
Subject: Water drainage and flooding from terrace Hill open space

Dear Sir
I would like you to consider a big nuisance to be taken care of, during this project.
I am very happy that someone is posting to this issue and neighborhood needs.
The surface water of hill has been a major problem over years.
I know of this calamity for last 20 years.
I was in the impression that there is under hill water stream or water spring.
I started my investigation, and talked to neighbors and studied the trend and rain.
The water comes down from the open space straight down to houses on 1197 Ella street and the neighbors.
We need a culver along the edge of terrace hilltop to direct the water from hilltop to Bins Court Street and then to ocean, not backyard of Ella street houses.
I would like this to resolve as the area is getting attention.
Thank you
Main Professional LLC
Gulne Poorsattar, Manager

From: Buzz Kalkowski [mailto:buzdna@charter.net]
Sent: Friday, April 10, 2015 2:19 PM
To: Hill, Robert; Davidson, Doug
Cc: Valerie Marlow; Lorene & Ed; Janet Shaner
Subject: from Buzz

My late evening (nearly morning) comments became sloppy and disorganized so I wrote my comments (attached) on behalf of the Buena Vista Estates HOA so that the concerns are on record and will go to the Council (I will be out of the country when the Council hears the Terrace Hill Open Space Plans).

Thanks Bob for your efforts to improve the hill.

Doug, would you share the letter with the Planning Commission?

Buzz

Community Development Department

Date: 04-13-15

Distributed by: Laurie

To:

- [x] Planning Commissioners
- [ ] ARC Commissioners
- [ ] CHC Committee Members
- [x] Asst. City Attorney
- [x] Doug Davidson
- [x] Kim Murry
- [x] Robert Hill
- [x] Counter Binder
- [ ] _____

Original to: Doug Davidson

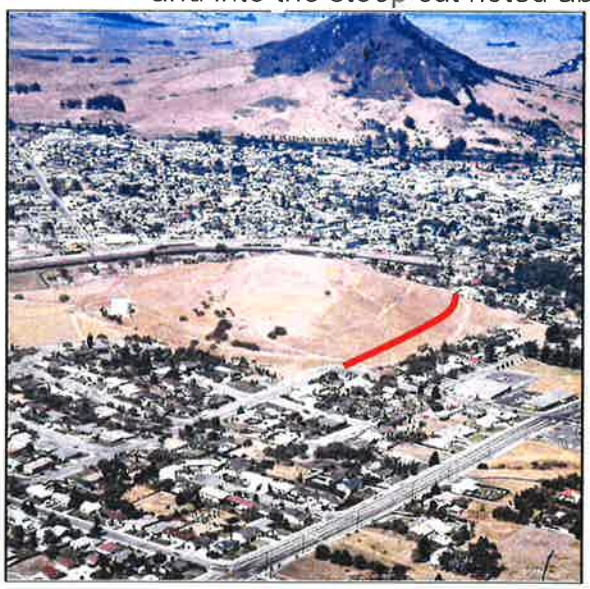
Wednesday's, April 8, 2015, late hour Agenda Four, Terrace Hill Open Space Plan

First, I wish to thank Bob Hill, the Natural Resources Manager, for his efforts to develop the Terrace Hill Open Space Conservation Plan, and for assistance offered (to the BVE HOA ↓).

The late night Planning commission agenda did not offer an easy Homeowners Association concern input. Please allow a brief statement of concerns for the record and for the Council.

1. The **Buena Vista Estates Homeowners Association** (BVE HOA) has, by far, the largest border area adjacent to the Terrace Hill Open Space (NOTE aerial photo on Page PC-4).
    a. Twenty seven homes and two large Common Area Lots – with four private streets (cul-de-sac). Both Common Area Lots adjoin the Terrace Hill Open Space (THOS).
2. The BVE HOA supports **managed** public uses within the THOS. It is not uncommon to count 20 to 25 people on the hill during the sunset hours throughout the year.
3. However ***some* THOS use-activities cause concerns**:
    a. High school and college age **parties**. While the BVE HOA appreciates the recent stepped up police and ranger patrols, the activities continue.
    b. **Smoking and drinking**. It is common to see cigarette butts throughout the hill. With the significant dry grass and shrub on the hill, a single discarded butt on a windy day could set the hill ablaze with embers flying high and far. Likewise it is common to find **empty liquor bottles and beer cans** – and soft drink containers throughout the hill. Please **NO SMOKING or DRINKING** on the hill *with frequent enforcement* to support the bans.
    c. **Encampments and open fires by transients**. (One encampment was made on BVE HOA property above Kristy Court, and the access to the camp almost certainly came through city-owned THOS. This included torn American flags and more. When reported to the city, the BE HOA was told that the removal responsibility belonged with the HOA.
    d. **Bishop Street** has approximately 400 linear feet of ***"no eyes on street activities"*** between the THOS main entrance and to past the water tank. Cars have been noted to be parked with occupants waiting for other cars to meet up with, where occupants from the latest-arriving car going to the original waiting car, then returning and driving off.
    e. Other less desirable neighborhood activities have also been noted on the THOS.
    f. The HOA would appreciate more frequent patrols, particular during the dark hours.
4. **Proposed trail changes.** The BVE HOA wants the plan to use some methods to discourage trespassing from the assigned trails and on the BVE HOA Common Area property, and to keep fires, camping and discarded beer cans, liquor bottles from being tossed on to the HOA lands below.
    a. Along the trail immediately above Augusta Court, it is desired that brush be consistently planted along the downhill side of the trail to discourage activities invading privacy and the tossing of beer cans. The existing trail is immediately above the very steep HOA Common Area property and uphill Augusta homes.
5. **Wildlife**. In addition to the falcon, deer occupy the hill (in the middle of the city). Except for the last two years, fox and raccoons shared the hill too. Dog waste is consistently left along the Bishop Street sidewalk.
    a. The neighborhood would like see the enforcement of dogs on a leash and waste removed, not only on the hill, but in neighborhood surround the hill – as people pass through taking their dogs to the hill.

6. The city photos taken from the helicopter show the **± 20 feet fire prevention weed wacking by the city** above the private properties butting up to the THOS. However, the BVE HOA Common Area lots are by far the largest private properties to the THOS, yet the city does not provide the same service to the BE HOA.
    a. The BVE HOA would appreciate equal city-made efforts as received by other private properties adjacent to THOS.
7. **Drainage**. A city drainage containment basin exists above the uppermost Binns Court Cul-de-sac. It drains a small natural circular basin below the hilltop split-rock with the tree. The outflow is to the BVE HOA concrete swale above Binns Court. However, when the eastern-northeastern side of Terrace Hill was removed to provide fill for the French Hospital parking lot (note the original slope as shown in an early photo – below). Just to the east and below the mentioned basin, a landslide (slippage) has been an on-going occurrence on HOA property. The City approved the HOA improvements and development in the area (The concrete swale immediately behind and above 2075 Binns Court is some 30 feet below the original/natural grade) with full knowledge of potential slides in the given area. Back during the 1990's the BVE HOA made significant and costly repairs, and again in 2014 the Association paid more than $19,000 for restoration remedies to control the landslide. Sheeting rainfall from the THOS above seeps into the slide area, creating concerns.
    a. BVE HOA asks the city to find ways to redirect the majority of sheeting rainfall to the northern more gentle and tree covered slopes so that it does not flow down and into the steep cut noted above.



Line in red represents where the BVE HOA exist today.

8. THOS access limitations. At times dark hour THOS visitors access the hilltop through the Augusta Court Cul-de-sac.
    a. The Association would like the city patrols to keep an eye on these late night hill accesses at the Augusta Court Cul-de-sac location.

Thank you.

Buzz Kalkowski
President
Buena Vista Estates HOA

April 9, 2015