

STEELE PEAK INAUGURAL TRAIL CONCEPT DESIGN PLAN

May 2021



PREPARED FOR:



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INTRODUCTION

Background

The Western Riverside Council of Governments (WRCOG) and Riverside County Habitat Conservation Agency (RCHCA) have developed this Inaugural Trail Concept Design Plan for the RCHCA-owned parcels in the Steele Peak Reserve. The Steele Peak Reserve (the Reserve) is located in the southwest corner of the Mead Valley planning area in Riverside County. The site has historically been closed to public access with the intent of preserving Stephens' Kangaroo Rat (SKR) habitat, which covers approximately half of the site.

This plan includes an analysis of existing conditions and uses of the area, recommends preliminary trail alignments, wayfinding, and amenities, and provides guidelines for future implementation. Residents adjacent to the reserve have been engaged through a public outreach process, to allow feedback on proposed designs as well as the overall concept of bringing public access to the site.

This concept plan provides a low-impact recreational access concept within the reserve area that allows public use and habitat conservation to coexist. Consideration has been given to the limits to which the area is opened to the public, the balance of use with potential overuse, and the accommodation of activities with lower environmental impacts while discouraging those with potentially higher impact.

Plan Goals

Given the sensitive environmental context and preserve status of the site, a careful balance between ecosystem health and recreational access will be the ultimate goal of this plan. A sustainable trail network that responds to the needs of the community while maintaining relatively undisturbed conditions of the project area will be the guiding force behind the planning process.

EXISTING CONDITIONS

Regional Context

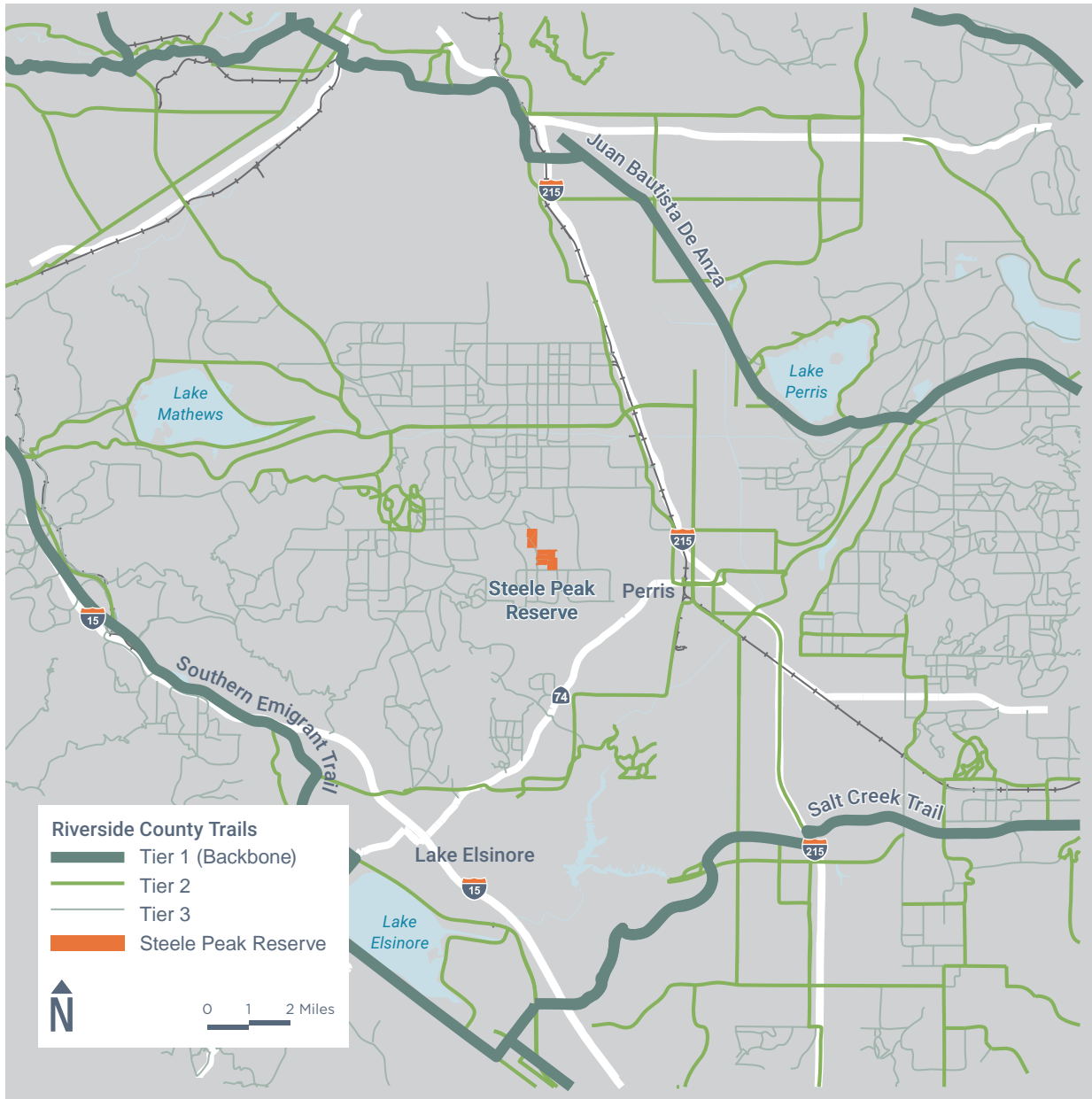
The RCHCA-owned parcels of the Reserve are in an unincorporated area of western Riverside County just west of the City of Perris. The site is regionally accessible from Interstate 215 to the east, Interstate 15 to the west, and Highway 74 to the south. Several significant water bodies surround the site, most notably: Lake Perris, Lake Matthews, and Lake Elsinore.

The Steele Peak Reserve lies midway between the Juan Bautista De Anza and Southern Emigrant Trails, both Tier 1 backbone trails identified in Riverside County’s Comprehensive Trails Plan, 2018. While the Reserve is not directly adjacent to these backbone trails, it is situated along several Tier 3 trails included in that plan.

Figure 1: View of Perris from the Reserve



Figure 2: Regional Context Map



Site Context

The Steele Peak Reserve includes lands owned by both the Bureau of Land Management (BLM) and Riverside County Habitat Conservation Agency (RCHCA). The project area is a portion of the reserve managed by the RCHCA that covers approximately 209 acres across 8 parcels, situated 2.4 miles northeast of the actual Steele Peak.

The site has been historically closed to the public and as a result of this closure an assortment of gates and fencing surround the property. Fencing is removed in many locations, where unauthorized access to

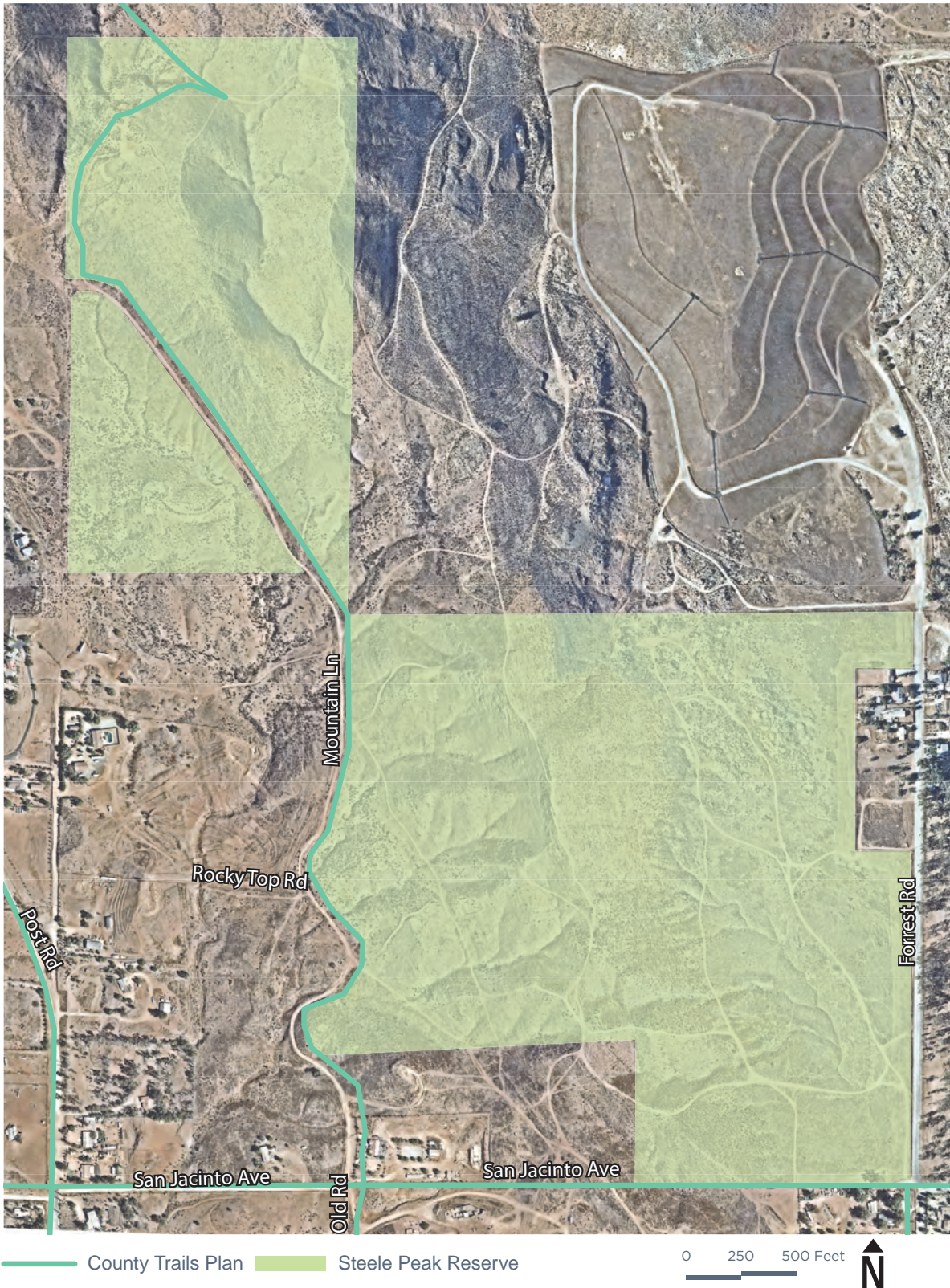
the site has been gained. Adjacencies include low-density single-family homes abutting the property, with horses on several larger properties. The land is comparably undisturbed as a result of the SKR habitat protection enforcement with scenic rolling hills covered in a mix of native and invasive vegetation.

Two blocks of RCHCA-owned parcels meet at their southeast and northwest corners respectively, forming two separate areas connected by Mountain Lane, which runs north from the intersection of San Jacinto Avenue and Old Road. Dirt roads and trails crisscross the area.

Figure 3: Adjacent private properties are generally fenced and minimally developed.



Figure 4: Reserve boundaries and adjacent county planned trails



Topography

The existing roads and trails on the site cross a variety of terrain, with some trails seeing significant elevation change. The rolling hills create peaks and valleys in the area, with a significant ridgeline running north/south through the site. The eastern side of the site is flattest, and shows the greatest evidence of existing illegal use.

A new trail system could take advantage of the north/south ridge to provide views and a challenging hike. The greatest elevation

change goes from approximately 1,715' at Forrest Road to the high point of the Reserve at over 2,200' in less than 3/4 of a mile, an average slope of 13%.

This nearly 500' difference in elevation from Forrest Road to the high point results in visually interesting topography, however the steep terrain necessitates trail alignment and design that prevents runoff from damaging any new trails.

Figure 5: There is over 500' of elevation gain from street level at Forrest Road to the high point of the site



Adjacent Land Use

The immediate context around the site is primarily rural in character with single-family homes on large lots. Roughly half of the total land within the reserve is occupied by the endangered Stephens' Kangaroo Rat. Roads through the site are not generally publicly accessible, and no roads connect through the site to the surrounding roadway network.

Figure 6: A range of uses are evident on the site



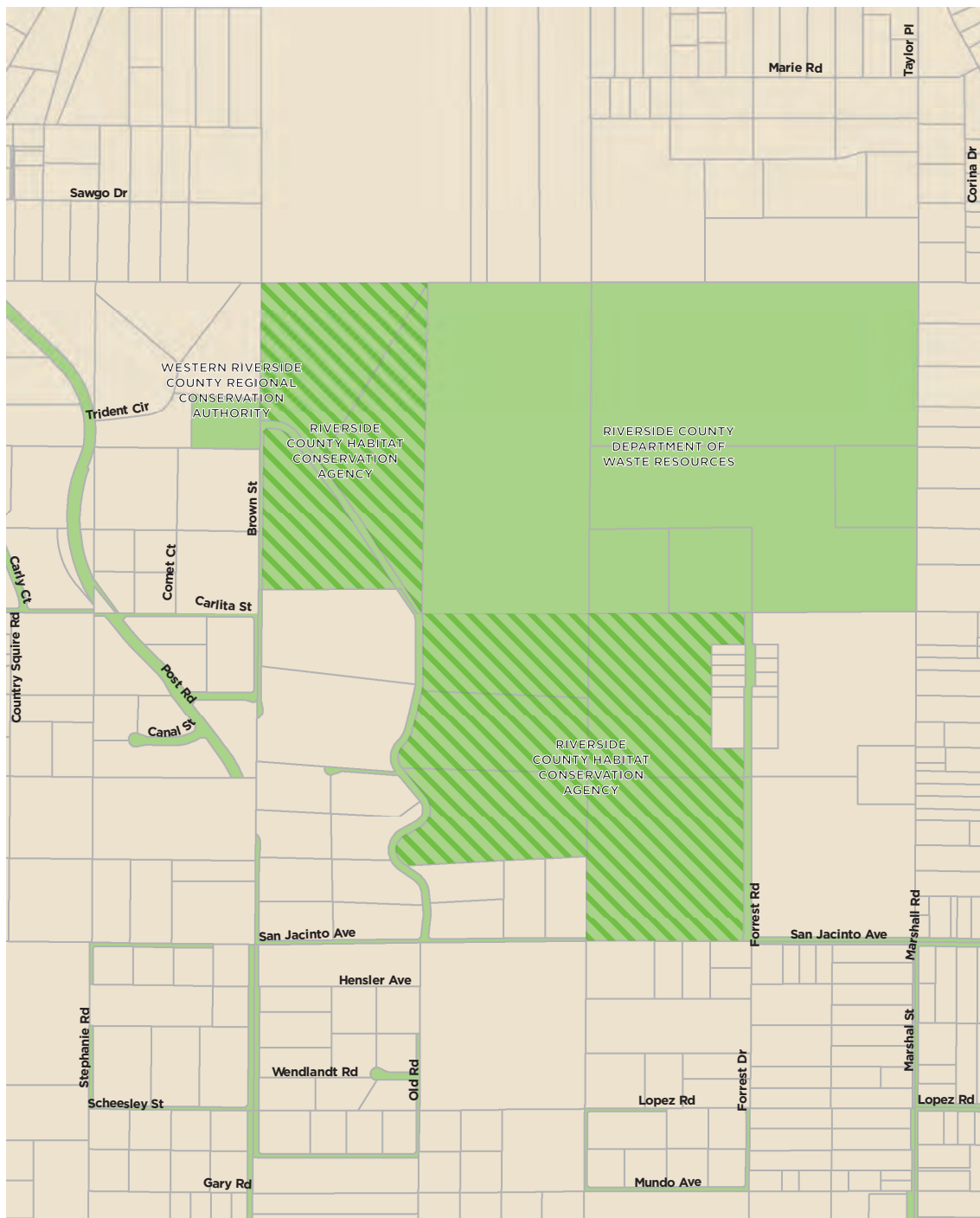
Observed Uses and Activities

Site visits were conducted to assess existing conditions, including the presence and condition of existing roads and trails. Evidence of trail use was visible throughout the site and included tracks from horses, mountain bikes, trucks, and hikers. There was also evidence of illegal dumping, fence removal, and unauthorized access to reserve lands.




Figure 7: Dumping is evident on land adjacent to the Reserve



Figure 9: Steele Peak Reserve and adjacent parcel land ownership



Legend

-  Steele Peak Reserve
-  Private
-  Public



Property Ownership

RCHCA owns the parcels within the Reserve outright. Adjacent parcels are owned by a combination of public and private entities. Private ownership surrounding the Reserve is primarily low density residential, with either single family private homes or vacant land on each parcel. North and east of the Reserve are a collection of county-owned parcels, which are managed by the Riverside County Department of Waste Resources, and occupied by a decommissioned landfill. Waste Resources periodically accesses the site for monitoring, but otherwise the site is non-operational.

West of the northern block of Reserve parcels is a parcel of MSHCP property, owned by the Western Riverside County Regional Conservation Authority.

The map on the preceding page illustrates private/public land ownership around the site. Public right-of-way (streets) are also shown in green to indicate public land.

PLAN AND POLICY CONTEXT

Stephens' Kangaroo Rat Habitat Conservation Plan

The Stephens' Kangaroo Rat (SKR) is a charismatic species native to the project area that's livelihood has been drastically compromised by increasing urbanization. Urban development has resulted in a patchy distribution of the SKR population, fragmenting the pattern of natural habitat, isolating populations from one another. These unfortunate circumstances for the SKR and its correlated population decline warranted its placement on the threatened species list in 1971 and its further escalation to the endangered species list in 1988 culminating in the SKR Habitat Conservation Plan (HCP) released in 1996.

Habitat Characteristics

The SKR HCP describes the specific habitat requirements for the species that is helpful in understanding ecologically sensitive trail alignment. The vegetation most commonly associated with SKR includes two native shrubs (coastal sagebrush and California buckwheat) and the non-native herb filaree. The two shrubs are typically indicator species of coastal sage scrub habitat.

Within the project area SKR are typically found in transition areas, including areas

where grasslands border coastal sage scrub, areas where sage scrub and grasslands are intermixed, areas of sparse sage scrub, and areas where native habitat has been removed or disturbed by agriculture and other uses. What each of these areas has in common is sparse, perennial vegetation covering less than 50% of the ground surface.

Topography and Elevation

SKR inhabit landforms that are relatively level or gently sloping. This species has been observed on slopes of 0 to 50% but seems to prefer areas of 7 to 10% slope. On steeper slopes and in shrublands, SKR typically is replaced by Pacific Kangaroo Rat (PKR). In terms of elevation, most SKR are found below 600 meters. However, some have been observed in areas as high as 1,100 meters.

Decline Factors

The principal SKR populations remaining within the species' current range are patchily distributed and largely isolated from one another. This circumstance is one of the primary factors cited by USFWS in its listing of the species as endangered in 1988, and also was apparent in 1971 when SKR was listed as threatened under the California ESA.

Habitat Loss and Fragmentation

Although SKR occupied habitat is patchily distributed by nature, the current isolation of populations is largely the result of urban development which has produced irreversible changes to the pattern of natural habitat within the species' range. Recreation and agricultural land uses also have contributed to the habitat loss and fragmentation but generally do not produce the same types of permanent impacts as those caused by urban development.

Predation

Predators of SKR are similar to those of other rodents; these include owls, snakes, fox, coyotes, and cats, both feral and domestic. Barn owls and long-eared owls, for example, are both known to include SKR in their diets. Studies of desert rodents further suggest that predator avoidance may be an important component in SKR selection of foraging habitat and the size of its home range. Here too, however, urban development magnifies the potential effects of predation on SKR populations in a way that changes it from part of the natural ecosystem to a factor contributing to the species' decline. This results from the fact that urban development simultaneously increases: 1) the presence of

known SKR predators, especially domestic cats; 2) ambient noise levels which may impair the SKR's ability to avoid predators, and; 3) nighttime illumination that potentially makes SKR an even easier prey.

Other Factors

Other factors that reduce habitat suitability or increase SKR vulnerability include grazing practices that either compact the soil or replace native vegetation with grasses not suitable for SKR, off-road vehicle activities that destroy foraging habitat, crush burrows, compact soil, and rodent control programs that poison SKR.

Guidelines for Trails and Recreation

The SKR HCP includes passive recreational activities such as hiking and wildlife observation as an encouraged, managed activity.

The SKR HCP does not contain specific guidelines for design, construction, use, and maintenance of trails, rather, the management plan of the reserve offers trail planning considerations, defines appropriate recreation activities, and provides recommendations for ensuring the compatibility of uses.

Primary trails planning considerations to date have been as follows:

- *Avoidance of impacts to sensitive biological resources*
- *Avoidance of impacts to cultural resources*
- *Protection of the local watersheds*
- *Avoidance of private property, or coordination with landowners for access*
- *Coordination with fire management planning and existing roads to minimize new disturbance*
- *Appropriate design, construction, operation and maintenance of trails to avoid unnecessary disturbance*
- *Design, operation and maintenance of trails to maximize user enjoyment and interpretive opportunities*

The development of trails in the Reserve will be consistent with the Reserve's MSHCP, Cooperative Management Agreement, and management plan with the SKR HCP for lands specifically managed for SKR. Although the Western Riverside County MSHCP has no management authority in the Reserve, it has been evaluated and includes provisions for public access that will be considered in developing trails in the Reserve.

Trail development and use:

- *Trails will avoid or minimize adverse impacts to sensitive biological and cultural resources pursuant to the regulatory framework stated above.*
- *Trails will utilize existing roads and fire/fuel breaks where feasible to minimize new disturbance.*
- *Trails will avoid or minimize potential conflicts with resource management, monitoring, and research. Infrastructure maintenance or reserve management, monitoring, or research may require trail closure.*
- *Trails will not result in adverse impacts to water quality or watersheds.*
- *Trails will avoid private property or obtain easements or permissions from property owners for access.*
- *Access to trails will be controlled and trail rules will be developed and enforced. Trails will be monitored for impacts to sensitive resources and continued use of trails will be subject to ongoing concurrence by the reserve management committee.*
- *Trails will provide interpretive opportunities for users to promote the benefit of conservation in the Reserve and elsewhere in Riverside County.*

Any trails proposed for the Reserve are recreational facilities and are allowable under the SKR HCP. Thus, the development of the potential trail alignments would not be incompatible with the SKR HCP with adherence to the guiding principles listed above.

Riverside County Trails Master Plan

The Comprehensive Trails Plan provides policies, a recommended backbone trail network, and design standards to encourage and promote new trails and improve existing trails. The proposed backbone trail network is constructed primarily from previously planned trails, and recommends alignments to close gaps and reach major destinations. Policies are provided related to trail funding, maintenance, future planning, and operations.

The County's extensive trails network is overseen by the District Trails Committee, housed within the Riverside County Regional Park and Open-Space District. This committee makes recommendations concerning the acquisition and maintenance of multi-use trails in Riverside County.

The County is responsible for planning and operating regional trails only, though it maintains data and maps of several other trail types, some existing and some only planned. These trails appear in and are updated in the County General Plan's Circulation Element.

While the County has, through land ownership and jurisdiction, a clear directive of lands that should receive regional trails, it also has the mandate to plan for trails with true regional connectivity. A trail network that is solely planned within County jurisdiction would have limited county wide connectivity. As such, the County has gradually added trails to its planned trail network that could not be implemented by the County alone.

The greatest opportunities for trail development within the County are those which leverage existing trails and public lands. By tying regional trails into trail systems within cities, National Forests, and other public open space, the total miles of trails required to create a County wide network are greatly reduced. Additionally, providing connections to desirable destinations, including those serving employment, retail, recreation, and tourism, will help ensure a trail system that is enjoyed by a variety of users and has wide-reaching support.

The Comprehensive Trails Plan includes cross sections and guidelines recommended as updates to the County's existing trail design standards. These sections cover a variety of available easement widths and are intended to serve as the standards upon which the backbone trail network is built. Guidelines include the treatment of intersections, combinations of trail users, and materials.

Western Riverside County Multiple Species Habitat Conservation Plan

The Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP or Plan) is a comprehensive, multi-jurisdictional Habitat Conservation Plan (HCP) focusing on conservation of species and their associated habitats in Western Riverside County. The MSHCP has several relevant sections with regulations that will inform the Inaugural Trail.

The MSHCP calls for infrastructural developments to match the needs of the surrounding community. This infrastructure could come in the form of utilities, roads, parks, trails and open space among other amenities. The call for trails within the MSHCP allows us to develop the site for public access, but with several stipulations.

Alignment and placing of trails will generally abide by conservation biology principles that aim to protect and maintain the health and productivity of the ecosystem. These principles include a focus on conserving large blocks of contiguous and connected habitat, a series of attributes found to be imperative to optimal preservation design.

There are general management measures that the MSHCP recommends to respond to increased human disturbance. The MSHCP

exercises the right of control to unauthorized public access through fencing, gates, and signage in response to illegal dumping, off-road vehicle use and vandalism.

According to the MSHCP, the primary public access component within the conservation area will be trails. The MSHCP defines two types of permissible trails, making the distinction between existing community trails and existing/proposed regional trails. It is important to note that the MSHCP strictly restricts development on existing community trails, explicitly stating that no impacts will be covered, nor improvements allowed on any of these existing trails.

The MSHCP has its own guidelines for the siting and design of newly proposed trails, trailheads, and interpretive centers as well as guidelines for operations and maintenance of the trails. These guidelines will be referenced in the development of trail and amenity recommendations for the Reserve.

OUTREACH

Kickoff Meeting

The kickoff meeting included stakeholders from across the county, representing agencies and organizations with ties to the project. The meeting was held in the field and involved a tour of portions of the site. Challenges and recreational opportunities were discussed, as were historical equestrian routes and mining roads on the site.

RCHCA Board Meetings

Project progress and a summary of existing conditions was presented at the September 19, 2019 RCHCA board meeting. Discussion covered topics related to anticipated user groups, overall site development, and further outreach steps.

Mead Valley Municipal Advisory Committee

Alta and RCHCA staff attended Mead Valley Municipal Advisory Committee (MAC) meetings on September 5 and November 7, 2019 at the Moses Schaffer Community Center. Attendees were supportive of positive recreation opportunities for the area and expressed appreciation at being involved in the planning process. Based on survey responses, most of the community like the plan to concentrate on small loop trails with vista points.

Figure 10: Kickoff meeting with stakeholders.



Figure 11: Attendees at the Mead Valley MAC



TRAIL CONCEPT DESIGN

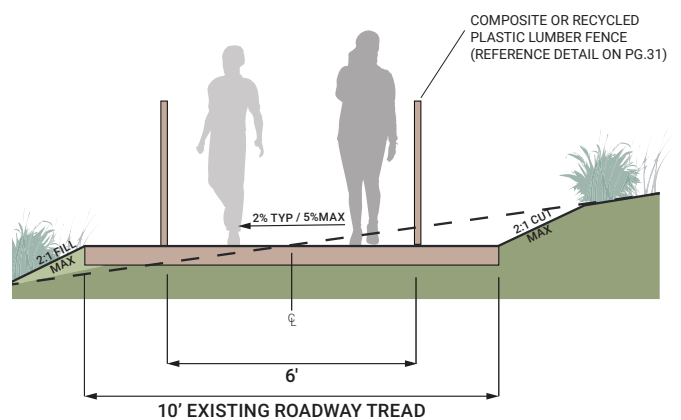
Recommended Alignments

Based upon feedback from stakeholders and agency representatives, balanced with site conditions and available resources, the recommended trails are on the eastern edge of the reserve, closest to Forrest Drive. This location is the flattest area of the site, will be most accessible for a range of trail users, is near potential parking areas, and does not require crossing private property for access. The trails in this phase will be open to hikers only, and amenities that accompany the trails will be minimal. Trails will follow existing roads in this area, and should be narrowed with vegetation, rock, and fencing to help prevent the current unauthorized vehicular access on the site.

Establishment of a lease from Waste Resources on a portion of the landfill property will allow the development of a parking area for 10 cars, and gates that will allow RCHCA to control operational hours to the site. Other amenities can include basic wayfinding, interpretive signage, and seating boulders.

Access to the reserve from the parking lot is anticipated to occur via an existing Southern California Edison easement that runs directly west from the parking area. By using this easement, existing facility access

Figure 12: Recommended cross-section for phase 1 trails



is maintained for Waste Resources, while trail access is provided without disturbing habitat. This easement will require renegotiation to allow trail use.

The following pages include the conceptual layouts of the proposed trail alignments, parking areas, access control, and wayfinding locations for the Inaugural Trail.

Figure 13: Conceptual trail, access control, wayfinding, and amenity plan

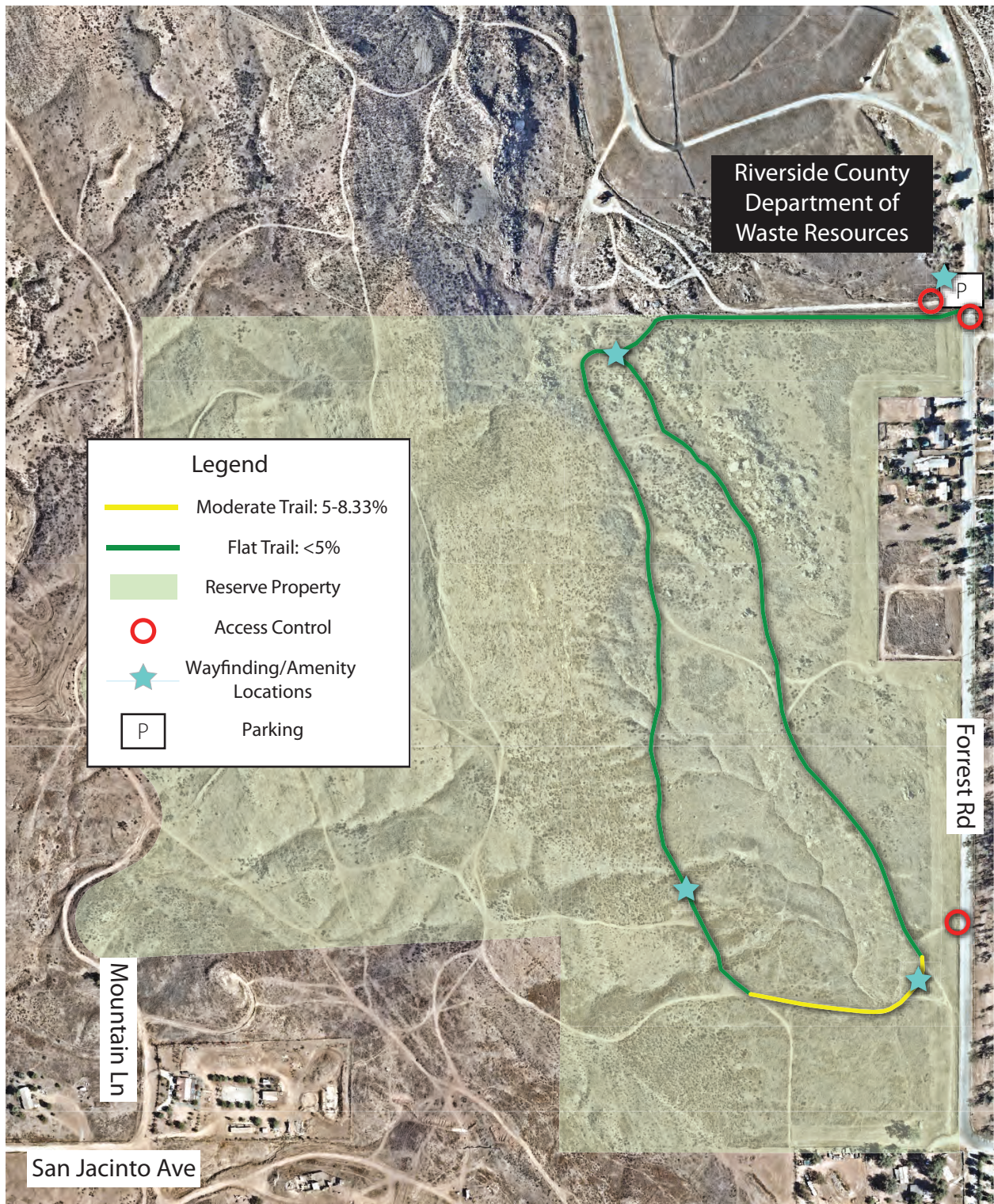
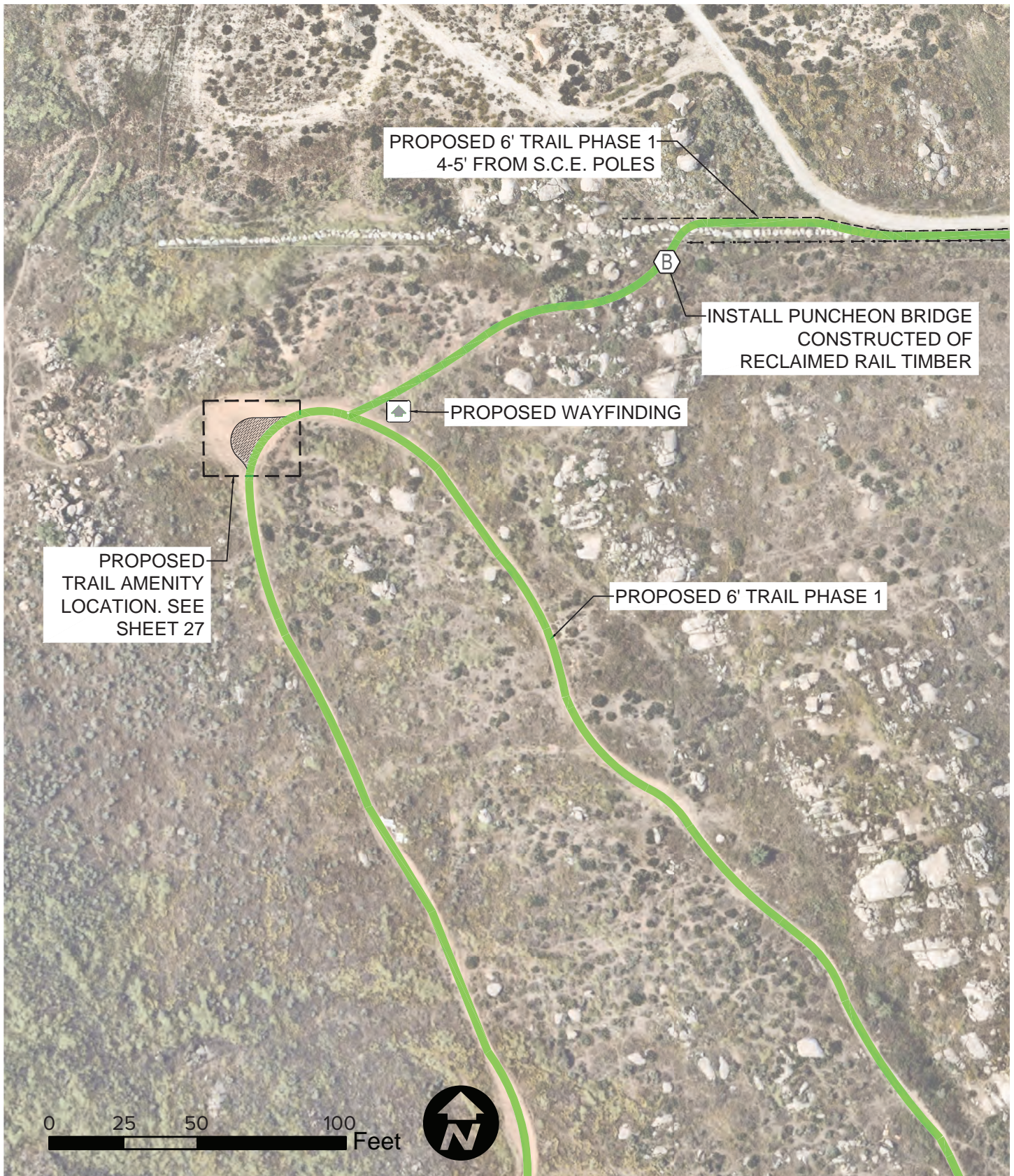


Figure 14: Conceptual Phase I Trail Plan



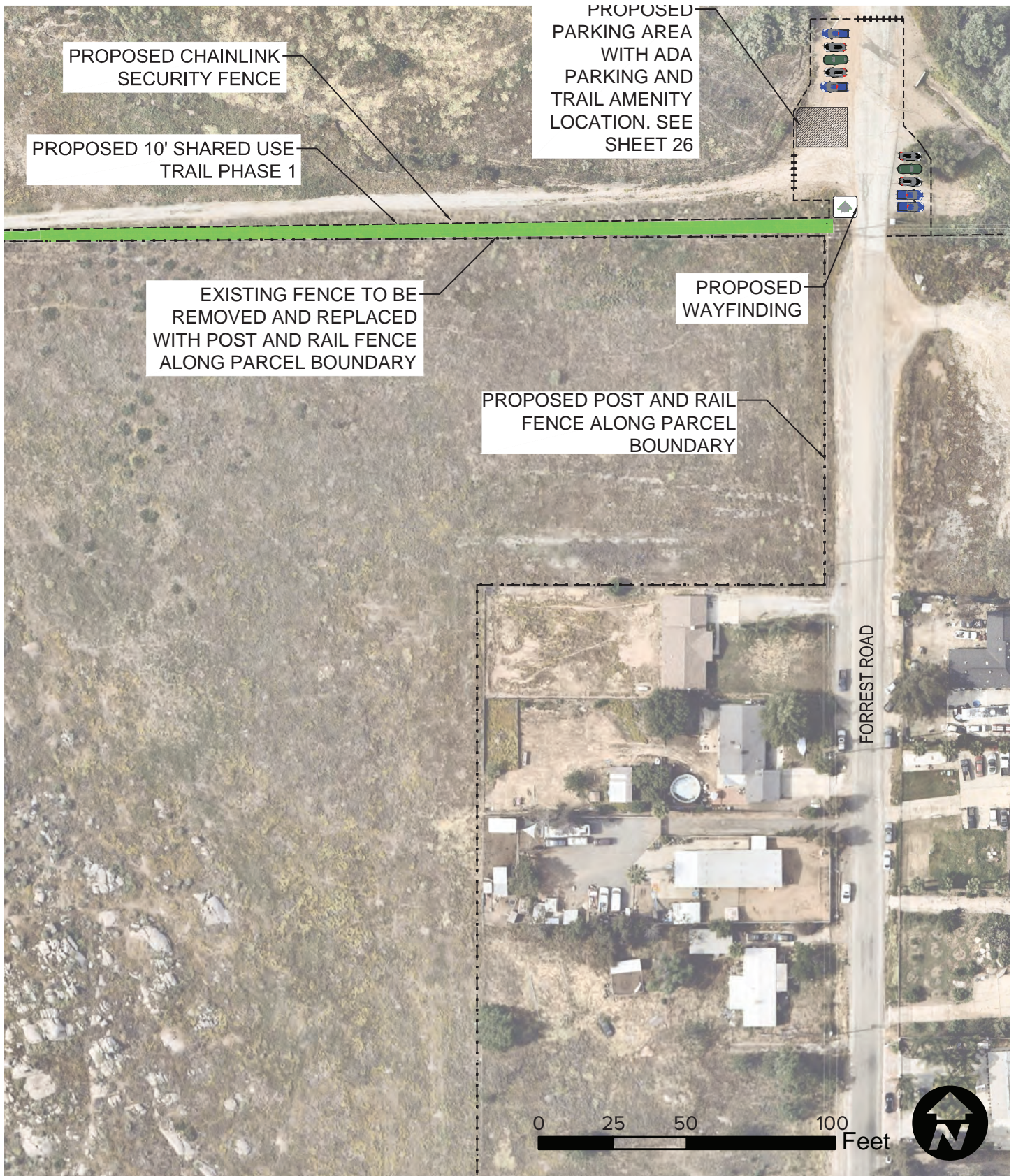
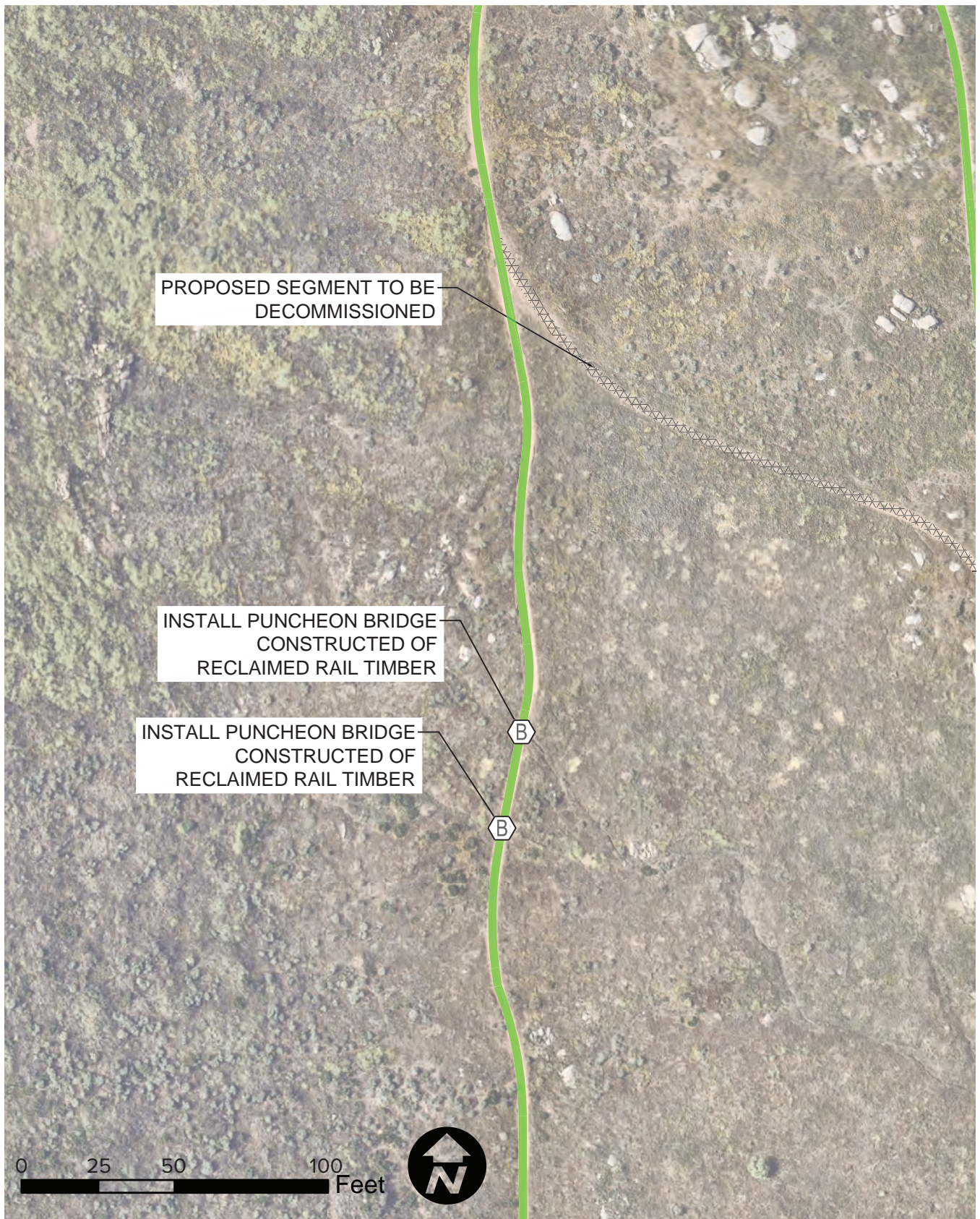


Figure 15: Conceptual Phase I Trail Plan, continued



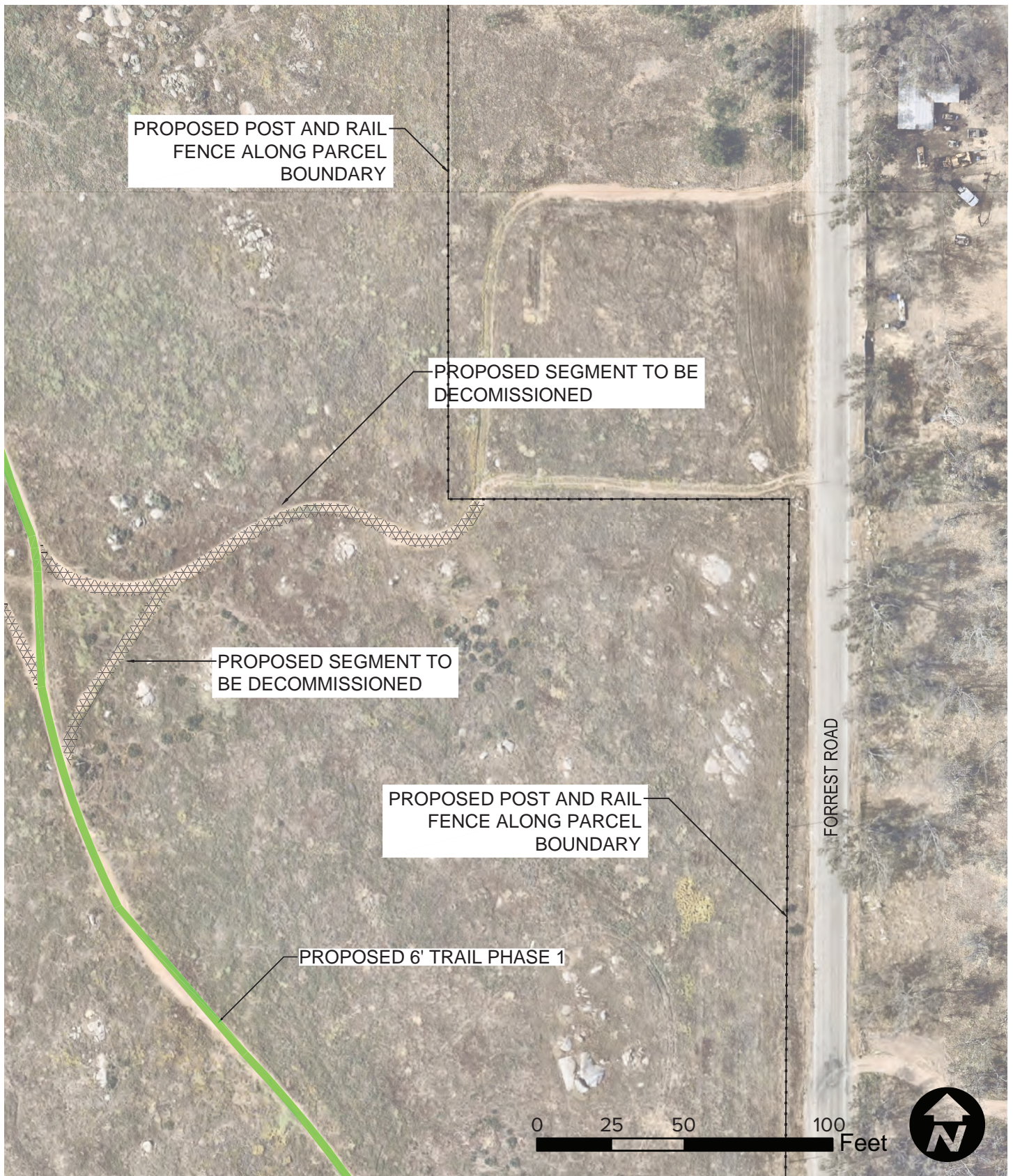
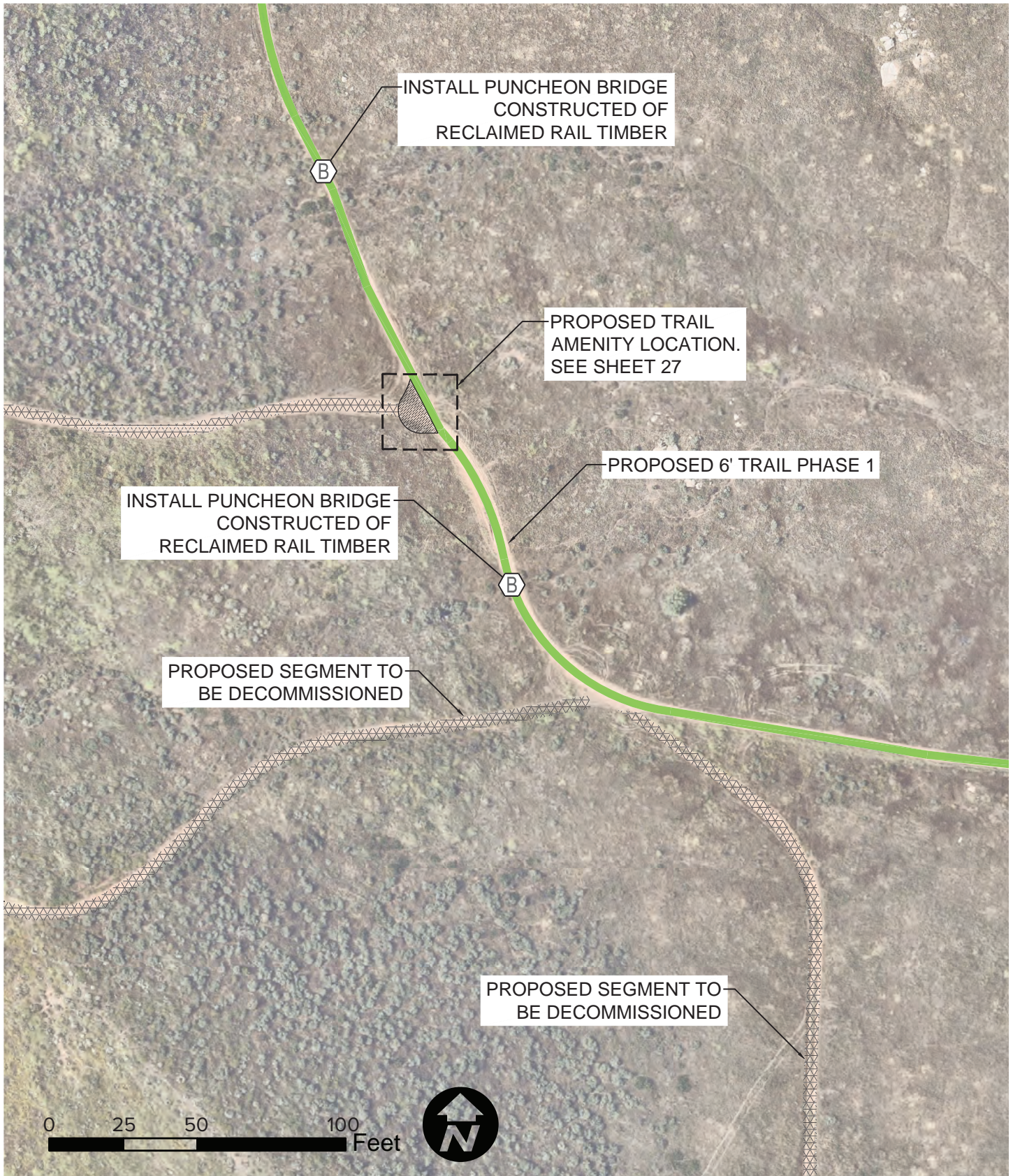


Figure 16: Conceptual Phase I Trail Plan, continued



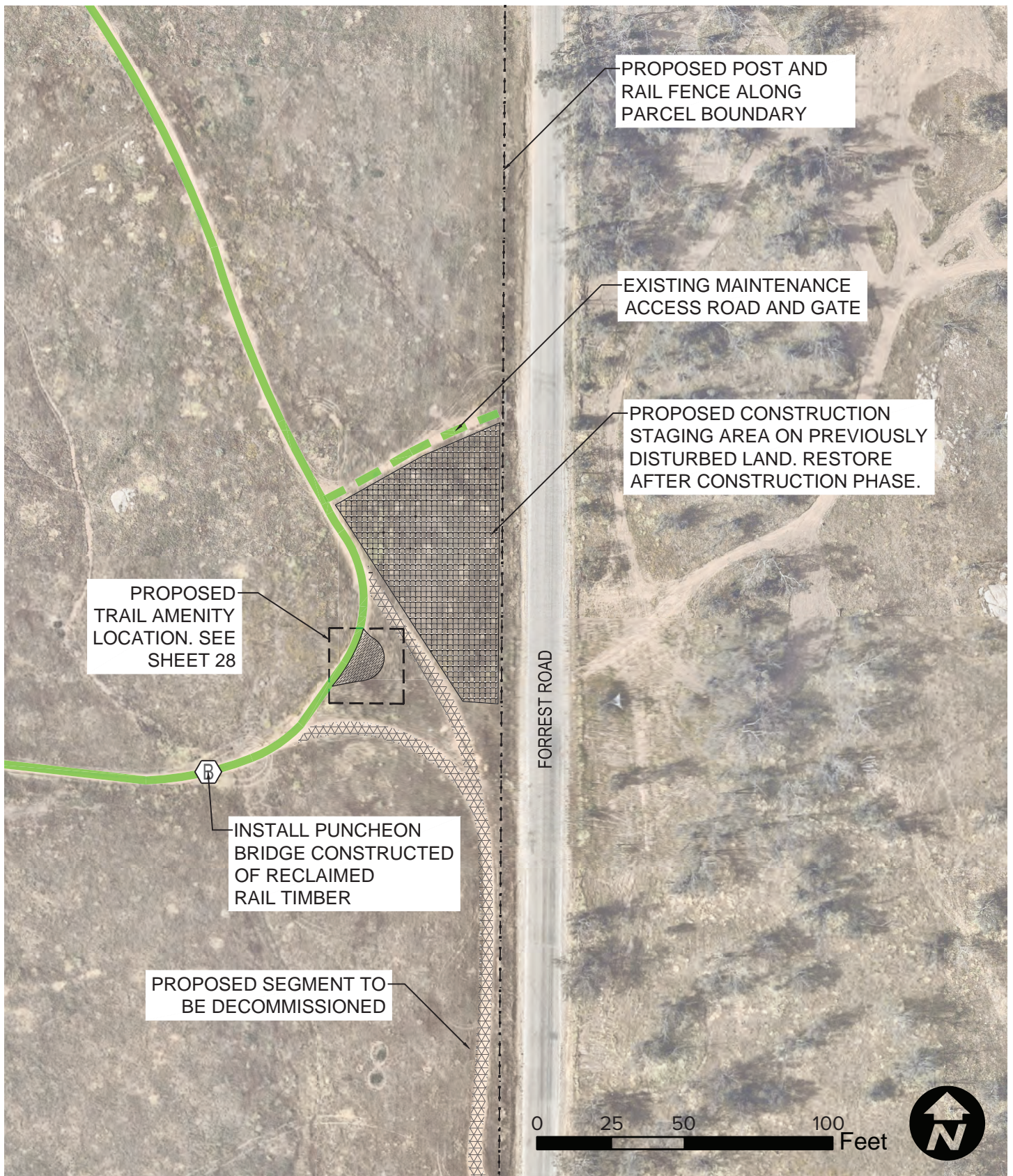


Figure 17: Conceptual Phase I Trail Plan, continued



Figure 18: Key Map





PROPOSED POST AND RAIL
FENCE ALONG PARCEL
BOUNDARY

SAN JACINTO AVENUE

0 25 50 100 Feet



Figure 19: Conceptual layout of proposed parking area at Waste Resources Facility

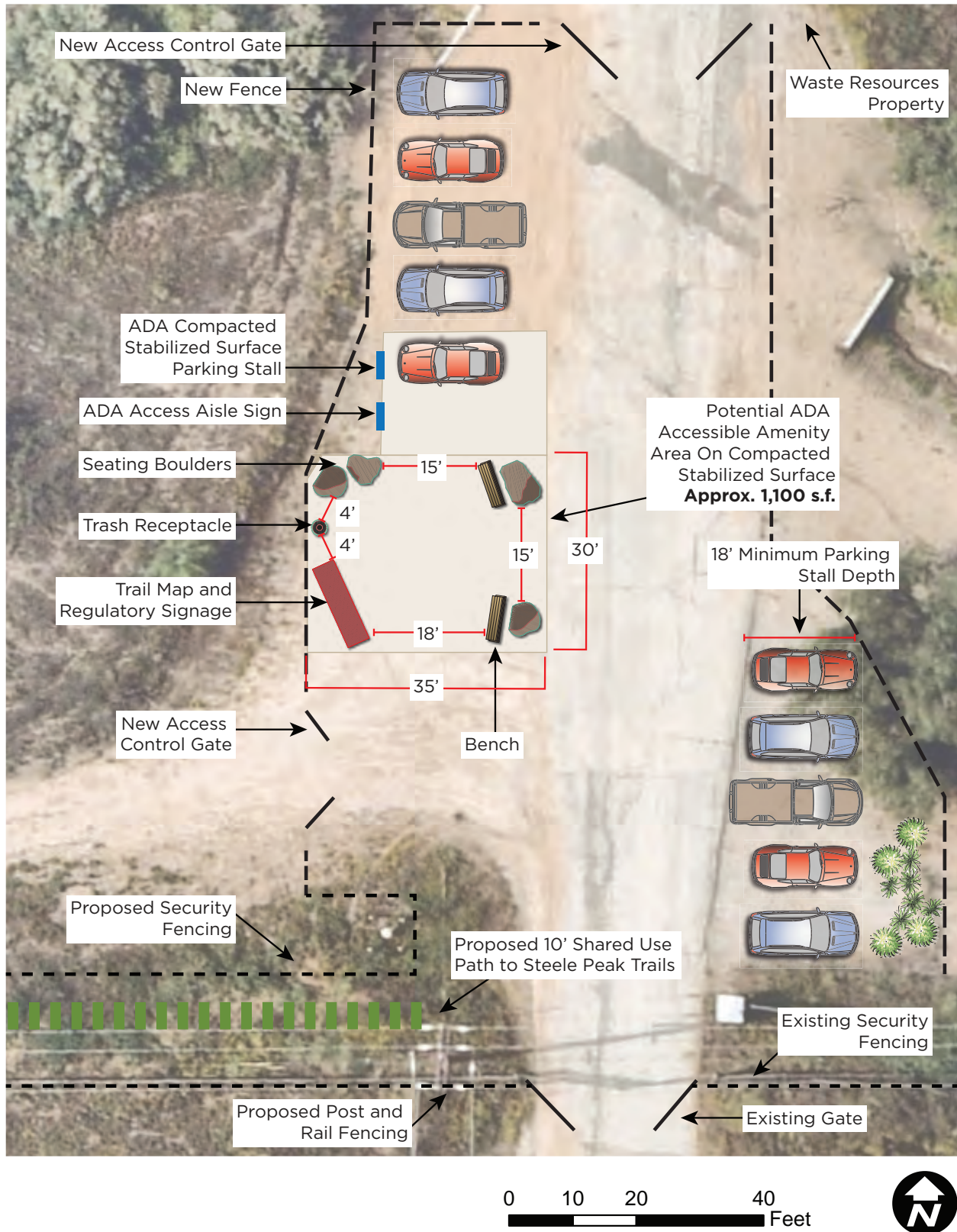


Figure 20: Conceptual layout of proposed trailside seating area near junction of primary trail alignment and parking area trail spur

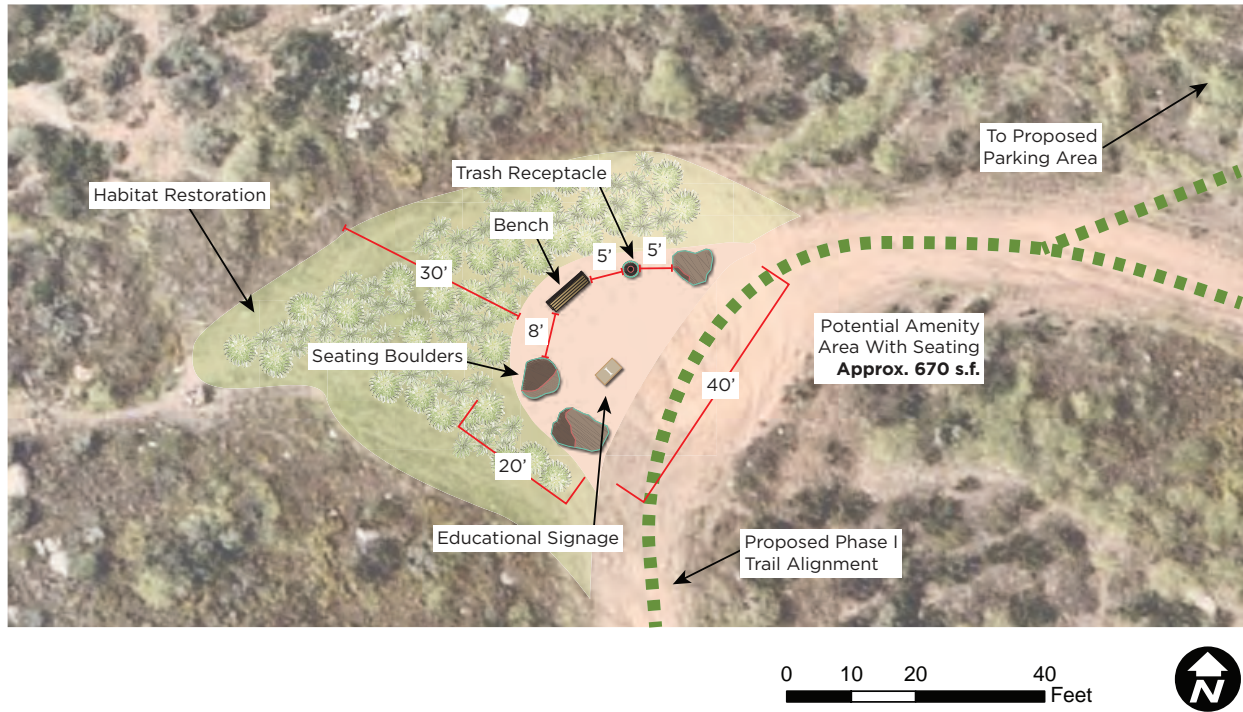


Figure 21: Conceptual layout of proposed trailside seating area at southwest corner of primary trail alignment

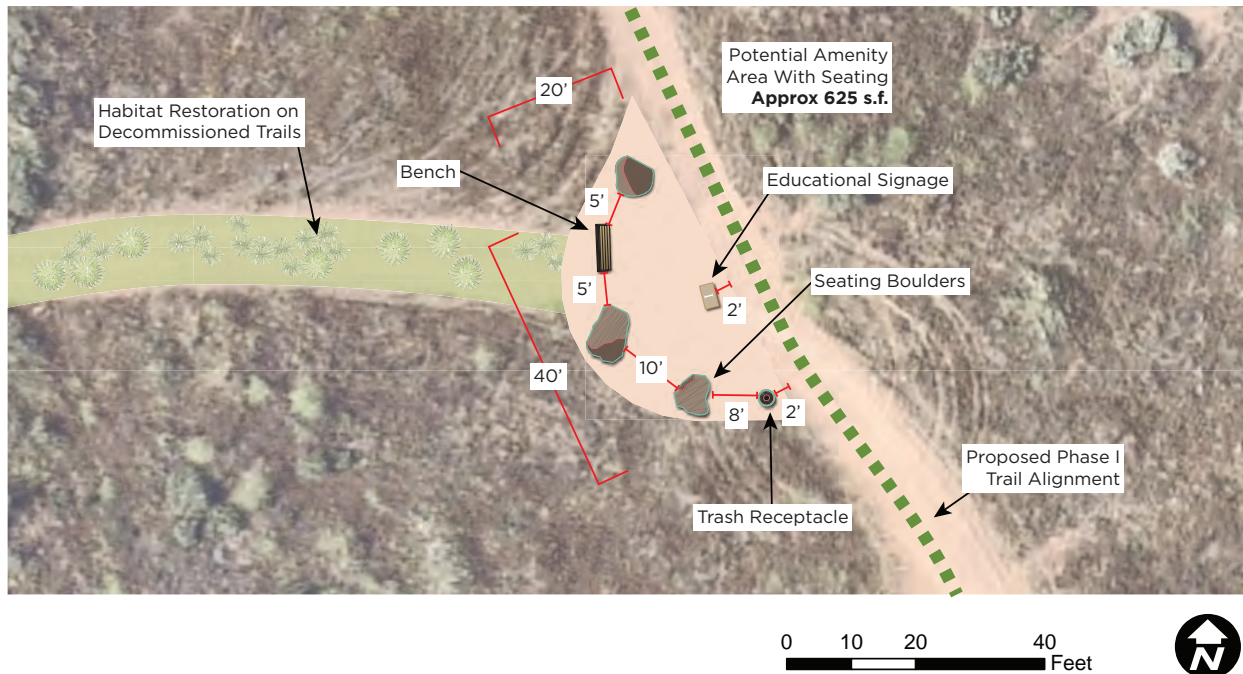
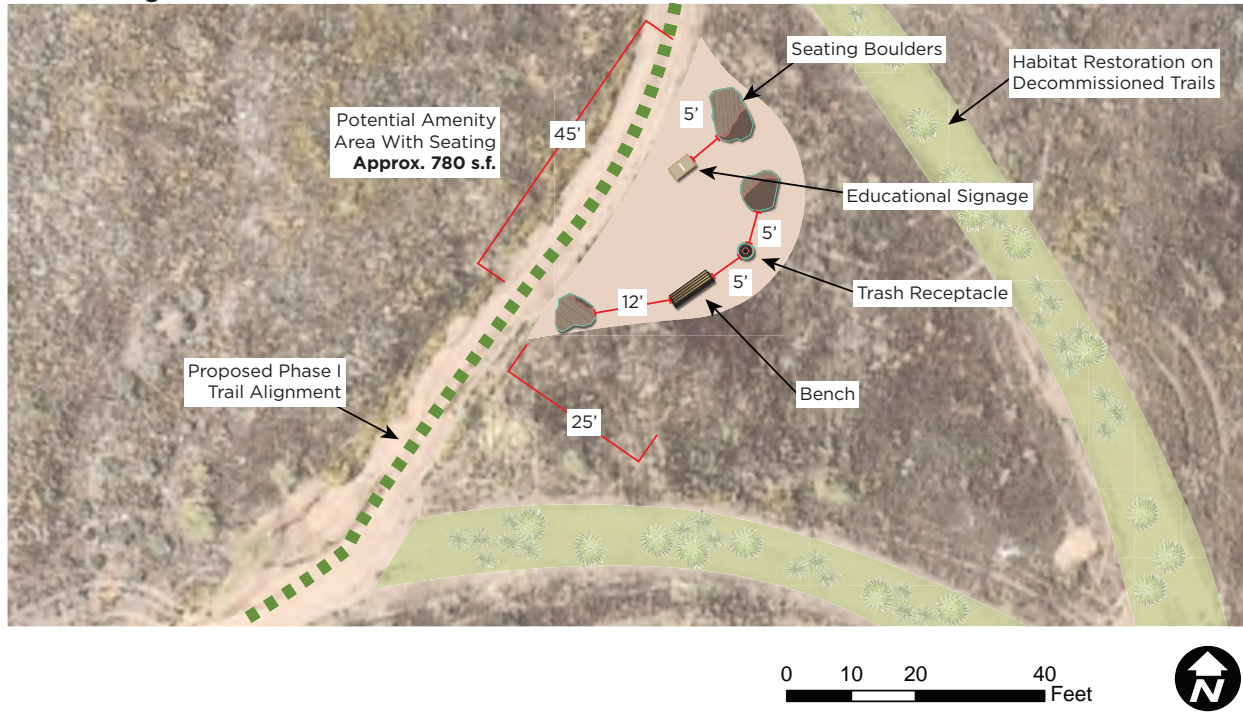


Figure 22: Conceptual layout of proposed trailside seating area at southeast corner of primary trail alignment



Trail Bridges

The Steele Peak Inaugural Trail crosses several drainages. Navigating these drainages can be facilitated for trail users through the use of bridges.

Design

Puncheon bridges are cost effective long-lasting structures that allow trail users to

cross shallow wet areas and small drainages. Puncheons are usually constructed from sawed, treated lumber or native logs, and rest directly on the ground. Reclaimed wood from an old nearby railway trestle can be used to construct the puncheons which will tie the history of the area into the Steele Peak Inaugural Trail.



<https://naturegroupie.org/story/stewardship-tip-biology-bog-bridges>

Flat areas where the trail crosses a drainage can utilize a simple puncheon construction of planks and sills.



<http://nebchw.com/images/BeadLakeBridge.jpg>

Steeper slopes carved out by drainages may require more robust puncheon construction to facilitate crossing for trail users.

Trail Fencing

Trails through sensitive habitat areas benefit from fencing to keep trail users on trail and prevent damage to the surrounding habitat.

Placement

Along the Steele Peak Inaugural Trail, fencing shall be placed on both sides of the trails. Since the recommended cross section of the trails within the reserve is 6-feet wide, and the trail alignment will follow existing dirt roads that are typically 10-feet wide, both the trail and fencing are not expected to impact undisturbed habitat areas. Perimeter fencing along Forrest Road will be established to help prevent unauthorized entry and illegal offloading in the reserve. It will provide a better aesthetic more in keeping with the rural character of the reserve than the existing chain-link fence. Along the northern project limits, abutting County Waste Resources property, the existing barbed-wire fence will be moved north, and a new perimeter fence will be added on the southern edge of this connection between the parking lot and the Inaugural Trail.

Design

A consistent style of fencing shall be used along trails and the perimeter of the reserve to ensure design continuity. Trail fence construction shall be Trex composite lumber (composed of recycled plastic and

recycled wood fiber or similar materials) or city-approved equivalent. A simple post and rail design, where rail boards can be easily bolted or screwed to posts, is to be used for ease of installation and maintenance. Fence posts are to be oriented toward the outside of the trail, with fence rails oriented toward the inside of the trail (see sample construction detail). Fence posts adjacent to the trail can follow a 'direct burial' installation, while posts along the reserve perimeter should be installed in a concrete footing. Dark colors such as brown or dark gray should be used to help the fence elements blend better with the landscape and obscure graffiti and overall wear-and-tear. Fence materials shall have a fire rating equal or better than 'Trex Seclusions' (Class B in the ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials).

Trail Amenities

Trail support facilities for the Reserve are recommended to be minimal, to both preserve the character of the site, and to minimize long-term maintenance burden. It is recommended that additional amenities be added as the site gains in popularity, and specific needs become evident. The primary new amenity to be added to the site is parking. Beyond wayfinding, other potential amenities for this phase include basic seating and kiosks that can provide minimal shade.



<https://www.nps.gov/media/photo/view.htm?id=A8F24FC8-DD8-B71B-0BBE7AA2548F9FE1>

Example of seating boulders placed strategically to capture the view.



<https://www.hikingproject.com/photo/7034250/mandeville-canyon-entrance-aka-westridge-trailhead>

Trailhead with simple kiosk, entry gate, and regulation board.



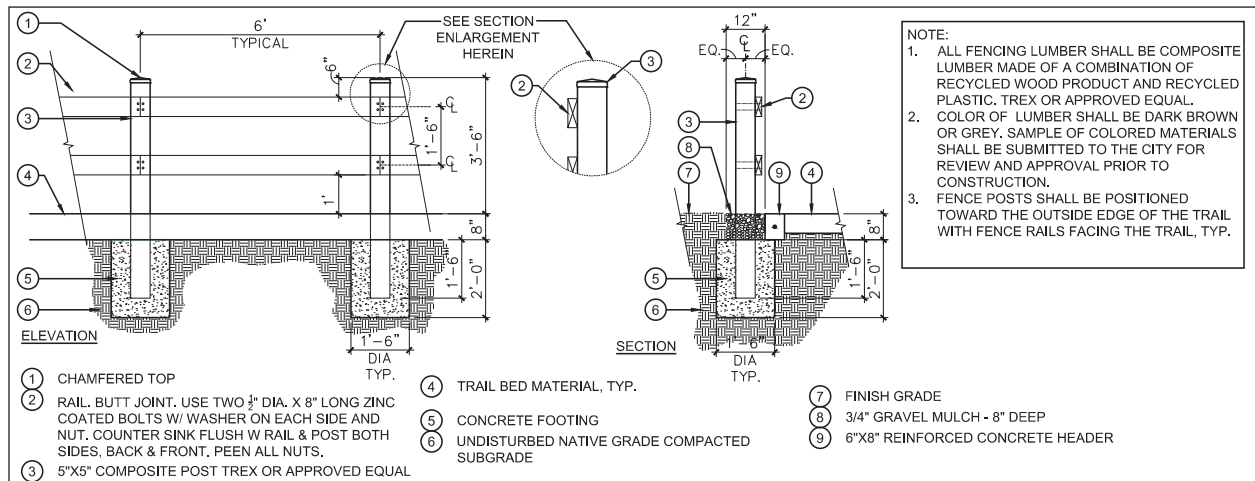
<http://www.urbandesignfurniture.com/fencing>

Example of a 2-rail fence with bolt-on rails.



<https://www.parktables.com/8-ft-recycled-bench-steel-frame-in-ground-or-surface-mount>

Simple in-ground mounted, recycled plastic bench adjacent to trail. Many outdoor furniture manufacturers offer benches constructed with recycled plastic.



Sample construction detail of a composite 2-rail fence

DESIGN GUIDELINES

Trail Design Best Practices

The long-term success of a trail depends on its ability to remain functional with minimal ongoing maintenance. A sustainable trail is one that maintains its designated use without off-site impacts and without excessive maintenance burdens. Factors that influence trail sustainability include trail geometry (steepness and orientation), drainage, soils, and types of use.

ADA Accessibility and Trail Grade

The trails that comprise the Inaugural Trail are generally less than 5% slope, and are expected to be compliant with U.S. Access Board guidelines for accessible trails. The southernmost portion of the trail loop, and the connection across the middle of the loop both approach an 8% slope but are also generally at or below 5% grade. The existing surface is firm and stable, and irregularities in the surface will be removed during construction. Existing cross slopes are minimal and will not be increased, and 6' of clear space will be maintained throughout the trail.

Beyond accessible areas, trails should generally have a sustained gradient of less than 12%, with short segments of up to 15% to 20%. Steeper trails will tend to collect water, function as drainages, and erode over time.

Trail Drainage

Maintaining natural drainage patterns is key for long-term trail sustainability. Managing water flows across a trail through intentional cross-sloping, outfalls, and periodic drain dips. Drain dips prevent water from concentrating on the trail, and force water to drain from the trail frequently, preventing concentrated flows that can erode the trail surface.

Switchbacks

Switchbacks should only be used as necessary, as users looking for a challenging trail often cut the corner of the switchback, causing additional erosion. This is especially true in open grassland areas, where the up and downslope legs of a switchback may be clearly in view of one another.

Fortunately, the existing roads and trails in the Reserve do not have existing switchbacks, though some may be required should trail development occur beyond the trails shown in this plan. Where switchbacks are required, a broad climbing turn is preferred over a tight switchback as these tend to drain better and are less frequently cut through. Turns should be made around vegetation and/or rock formations to block the view to the other leg of the switchback and further discourage cutting.

Steep Unstable Slopes

In order to prevent erosion and to ease passage by visitors, trails should avoid crossing steep unstable slopes wherever possible.

Swales and Valley Bottoms

In general, trails routed along valley and swale bottoms can be difficult to drain and thus tend to be wet and subject to getting muddy and rutted; for this reason these areas should be avoided.

OHV Use Prevention

Off-Highway Vehicle (OHV) and other motorized trail use can significantly impact trail surfaces, and trail layout should consider ways to discourage potential OHV encroachment onto trails designed for non-motorized use. Potential strategies include physical barriers, reduced trail widths, and a modified trail profile with tightly spaced drain dips, can be used. Trails and roads exhibiting OHV use in proximity to trails designed for non-motorized use should be partially blocked, decommissioned, and/or clearly signed for allowable uses.

Wayfinding

Wayfinding can be critical in creating trails

that are safe, accessible, secure, and well-used. The guidelines provided below align with county wide recommendations from the Riverside County Parks and Open Space District's (RCPOSD) Comprehensive Trails Plan, and provide guidance for future wayfinding development on the Reserve or other RCHCA properties. Key aspects of wayfinding include:

- *Improved awareness of trails*
- *Enhanced legibility for the public to find and follow trails*
- *A greater sense of security and comfort*
- *Intra- and inter-agency planning, coordination and management, where trails may cross jurisdictional boundaries*
- *Enhanced environmental protections, keeping trail users on sanctioned trails and away from protected areas*
- *A clear delineation of authorized trail use types*
- *Information to help users understand the intensity and commitment of the trail experience.*

Signage Design Guidelines

These design guidelines are general best practices, and do not provide a specific

design recommendation for the Reserve. Consistency with existing wayfinding systems is anticipated in the meantime. Should a new signage design scheme be desired, a dedicated wayfinding design process should be undertaken, which incorporates a design that will be standardized for the long-term across multiple trails and properties. Though the range sign types and elements described herein have different scales and dimensions, they should be instantly recognizable as part of the same wayfinding family. This is achieved through a uniform design style, including graphics and icons, colors, fonts, materials, shapes, and proportions.

Accessible Design

Wayfinding should be highly accessible, regardless of spoken language or cognitive ability. In areas with high concentrations of non-English speakers, consider having multi-lingual signs. Avoid relying exclusively on text, and utilize consistent icons and colors throughout. Follow ADA guidance for sign placement, offsets, and text sizes. Signs should include information about trail surface, slope, and distance.

Fonts & Text Hierarchy

Aside from fonts used in logos, a single sans-serif font family should be used across

all wayfinding. A hierarchy of size, bold, and italics should be used to communicate tiers of detail. This font hierarchy includes (from big/bold to small) agency designations, trail specific designations, destinations (if applicable), and distances.

Color

A small color palette should be used across all signs. Utilize no more than five colors with a wide range of contrast. Consider colors that reference existing RCHCA logos and branding as well as those more specific to the site, drawing from the natural landscape, and existing trail signage. As a general rule, maintain standard background, logo, and text colors.

Branding & Iconography

Successful wayfinding systems utilize branding to create an identity for a system as well as for individual trails. Creating a family of icons could include an overall “RCHCA Trails” icon as well as specific icons for major trails.

Types of Signage

A typical suite of wayfinding signage is presented below, and describes the range of signage that work together to provide entry, direction, information, and confirmation.

Gateway/Monument Sign

Gateway signs provide a landmark, placed at major trail access points. They enhance the visibility of a trail. Gateways define the entry into a distinct place with a defined identity. They are the first communication and introduction to a physical place, issuing a feeling of arrival.

Direction Signs

Direction signs provide directional and distance information to destinations, trail amenities, and other trails. Direction signs can contain the local trail name as a heading, with destinations underneath. They should be placed along trails to indicate upcoming destinations and junctures. Destination signs can include icons for specific amenities available along a given route. Destination signs are important at trail junctions, particularly when views do not allow a visitor to make visual contact with their destination.

Trailhead Kiosk

Trailhead kiosks are placed at access points, and are the first point of orientation for users.

Kiosks usually have enough space for a trail map, regulatory information, and interpretive material. Kiosks should be located in conspicuous areas along the primary route from parking areas to the trail. Sufficient space should be provided around the kiosk to allow people to observe the information without obstructing adjacent walkways and meet ADA clear zone requirements.

Confirmation Posts

Confirmation posts provide en-route reassurance of trail identity and inform users they are on a designated trail. They display, at minimum, an arrow indicating the sanctioned direction of travel. Confirmation posts also provide space for trail branding, informational icons, and can double as mile markers (see below). Where new, authorized trails cross older existing, but unauthorized trails, confirmation posts can help keep users on track.



<http://www.outdoordesignstudio.com/cgi-bin/signs.cgi?T=13&desc=Outdoor+Hikin>

Example of confirmation post.

Mile Marker

Mile markers are most important on longer trails and on trails where users lose visual connection with their origin or destination. They allow users to track how far they have traveled and help people put their location in context by matching the marker to a map. Knowing one's location on a trail is critical to assisting emergency responders trying to locate a person in distress. Mile markers are generally placed every $\frac{1}{4}$ to $\frac{1}{2}$ mile along a trail. In lieu of mile markings, latitude/longitude, QR codes, or a route-marker numbering system may be used to allow trail users to communicate location to emergency responders.

Interpretive Signs

Interpretive signs provide information at key natural, historic, cultural, or sites. They are typically larger signs angled towards a point of interest. They typically include large graphic material.

Interpretive signs provide content that informs, educates, and entertains the public. Interpretive panels can inspire a feeling of stewardship in site visitors, strengthening awareness of natural resources. Interpretive signage for the Inaugural Trail is recommended near the parking area, as well as key points along each trail.



Example of educational signage.

Operations, Maintenance, and Funding

Operations and Maintenance

The operation and maintenance of the Inaugural Trail will generally follow the existing procedures for other RCHCA properties. Additional maintenance of the trail itself, and of associated amenities, are expected to fall under overall RCHCA operational funds. These maintenance tasks will be as-needed, and primarily occur in response to vandalism.

Day-to-day operations will be handled by a full-time patrol, present during hours of operation. This patrol will help encourage appropriate uses of the site, and discourage vandalism and offroading. The gate to the parking area will be locked outside of hours of operation. This patrol will be funded through a non-wasting endowment which will be established prior to development of the Inaugural Trail.

The east-west connection between the parking area and the Inaugural Trail follows a row of Southern California Edison utility poles. Instances may occur where trail access is limited or closed should maintenance to these poles be necessary. This maintenance is anticipated to be infrequent, less than once per year.

Funding Resources

This section discusses the types of funding strategies available to the County. To complement this research, a survey of peer agencies' was conducted; many institutions responded that funding sources for trails generally originate through the federal government and are distributed through competitive grant programs.

Short Term Funding

Short term funding strategies typically occur within a narrow time frame, such as one to three years. In targeting funding resources for trail projects, managers should generally prioritize discretionary or competitive grant programs. However, these funds are distributed nationwide and sometimes only result in marginal gains on an annual basis. Other successful funding pursuits in the near term could come from a diverse set of funding available from not-for-profits, local government funds, and others. Because of the limited time frame associated with most funding resources, each funding resource may be in a state of flux and requires attention to ensure opportunities are not missed.

To complement these grants and other assistance programs, numerous local and state funding resources have been identified

as potential trail development resources. At the county and municipal level, municipal bonding, sales taxes, general funds, and fee programs are common sources for sustained and dedicated trails funding.

While there are substantial capital sources available at the federal, state and local level, for trail design and construction, trail managers often cite the need for dedicated federal and state funding for trail maintenance (Rails-to-Trails Conservancy, 2015).

Of the ten respondents to the survey, six indicated a developer impact fee program was in place. Three of the six respondents had the option to utilize those funds for construction, but none of the respondents indicated these fees could be used for maintenance once the trail is built.

Grant Programs

There are a number of programs throughout the nation which provide discretionary and competitive grants for projects. These resources often require an in-kind donation of capital or labor as part of the project. Grant programs are mostly funded through the federal government, but passed through to states and other organizations to administer, such as State Departments of Transportation. There are also many not-for-

profit organizations that provide grants for capital improvement and maintenance.

In the short term, these grants are generally available to applicants on an annual, recurring basis.

Additional information on California specific grants is provided below.

- The California Department of Parks and Recreation oversees a number of grant programs directly relevant to developing trails. The Office of Grants and Local Services (OGALS) manages a number of grants for consideration in the short term (California Department of Parks and Recreation).
 - » Land and Water Conservation Fund: This federal program is managed by the state and provides annual funding for projects that aim to implement projects.
 - » Habitat Conservation Fund: This fund is geared toward habitat conservation, but can still be used toward conservation projects that have trail elements.
- California Department of Transportation (Caltrans): There are numerous programs that are under the Active Transportation Program (ATP) including the State Safe Routes to Schools Program, Bicycle Transportation Account, and Transportation Alternatives Program (California Department of Transportation (Caltrans), 2016). This program combines state and federal funding sources under the jurisdiction of the Office of Active Transportation and Special Programs. While this program is not directly geared towards recreation it can be used to fund projects that improve non-motorized access to the Reserve.
- Proposition 68: The California Drought, Water, Parks, Climate, Coastal Protection, and Outdoor

Access for All Act of 2018, was approved by voters in June 2018. The purpose of Prop 68 includes creating parks, enhancing river parkways, and protecting coastal forests and wetlands. Grants under Proposition 68 include:

- » Statewide Park Program and Community Revitalization Program(SPP): A competitive program that creates new parks and new recreation opportunities in underserved communities across the state of California.
- » Per Capita Program: Funds are available for local park rehabilitation, creation, and improvement grants to local governments on a per capita basis. The grant promotes to rehabilitate existing infrastructure and address neighborhood lack of access to the outdoors.
- » Urban County Per Capita: Funds are available for Per Capita grants to cities and districts in urbanized counties with a population of 500,000 or more and providing park and recreation services within jurisdictions of 200,000 or less in population. Entities eligible for these funds are also available to receive funds from the Per Capita Program.
- » Regional Park Program: Competitive grants will create, expand, or improve regional parks and regional park facilities such as recreational activities and historical enrichment. Projects will create at least one new recreation feature, attracting visitors from at least a 20-mile radius or county-wide population to a regional park.

Not-for-Profits and “Friends of” Groups

These organizations and collections of individuals often support very localized trail initiatives and take ownership of trails in a meaningful way. In this context, Volunteer or “Friends of” groups are often geared

towards action for a specific community trail or area. Friends groups generally don’t have much capital, but are often relied upon to maintain trails. A local group based in the surrounding community could become stewards of the Reserve, helping strengthen the property’s place as a community resource, but also making the site more sustainable to maintain in the long term. Integration with Riverside County’s Adopt-a-Trail program is another way to tap into potential community-based maintenance assistance.

Local Funding Sources and Tools

User Fees

Many parks and trails require users to pay for the use of the facility. In remote areas without high levels of daily use, a non-staffed fee collection system, such as an “iron ranger” fee post, or a solar-powered parking ticketing system can be used. While iron rangers are less expensive to install and maintain, they require visitors to pay with cash, and require staff to collect fees periodically. Ticketing machines also allow visitors to pay with credit cards, which do not require collection. These machines also tend to be more visible and thus less easy to ignore by users.

Endowments

A dedicated endowment fund can provide a permanent fund to support trail development and maintenance at the Reserve. A separate endowment is being created for the Inaugural Trail, and the interest from this endowment will fund a full-time patrol as described in the above Operations and Maintenance section.

SKR Mitigation Fees

While the endowment is expected to cover the majority of operational expenses, existing mitigation fees that help fund overall SKR habitat protection can be used to supplement funding required for the Reserve.

Land Acquisition

Acquiring land for trails in the Reserve or mitigation lands requires not only funding, but also a strategic approach. While the trails proposed in this plan are not expected to require mitigation land, and all fall within land currently owned by RCHCA, future trail development may require acquisition of new properties or easements.

It is beneficial to use a diverse set of approaches to acquire different pieces of property. The strategies listed below are common practices which could be utilized and mixed on a parcel-by-parcel basis.

Leases

An alternative to acquisition, leases can allow limited uses of land based upon an ongoing agreement between the managing agency and land owner. This can be beneficial when a temporary use of the land is expected, or as an agreement between agencies.

Fee Simple and Easement Purchases, and Donations

Fee simple acquisitions are the purchase of land and all rights therein, while easements are acquisitions of the right to use land for a given purpose, such as developing a trail. Donations are provided to governments by individuals or organizations with a philanthropic sense to develop a trail. These acquisition approaches can be taken to acquiring land, but there are also certain measures cities and counties can take to ensure that land will be acquirable, once it is on the market.

Right of First Refusal

In some instances, land may not be available in the near term and agencies must become creative in their approaches to closing gaps. One approach is to enter into a right of first refusal agreement. This type of agreement enables an organization to make the first

offer on a tract of land once it becomes available for purchase. Landowners are not required to accept the offer, but it enables the organization in question to have a “first claim” if the offer is acceptable to all parties.

Dual Easements

Varied agencies, such as school boards, water managers, waste management, and utilities can negotiate trails as an allowed use on easements that would otherwise be acquired for a single use.

Condemnation

The use of eminent domain or acquisition of parkland or trail property is used when it cannot be obtained through other means. This is generally a last resort for institutions to take as it can sometimes result in costly litigation, and generally removes the ability to negotiate payment at anything less than full market value. It is also, understandably, not a popular approach when building public trust, and should be avoided whenever possible.

Policy Recommendations

As discussed in the policy review section, the trails and activities proposed in this plan are consistent with the SKR HCP, the MSHCP, and the County Trails Plan. Specific new policies are not recommended at this time,

though any trail development beyond what is recommended in this initial phase should follow the same guidelines established in this document in order to remain compliant with existing policies.