

APPENDIX B
NATURAL ENVIRONMENT STUDY REPORT

1. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact", as indicated by the checklist on the following pages.

- | | | |
|---|---|---|
| <input checked="" type="checkbox"/> Aesthetics | <input type="checkbox"/> Agricultural Resources | <input type="checkbox"/> Air Quality |
| <input checked="" type="checkbox"/> Biological Resources | <input type="checkbox"/> Cultural Resources | <input checked="" type="checkbox"/> Geology/Soils |
| <input checked="" type="checkbox"/> Hazards & Hazardous Materials | <input checked="" type="checkbox"/> Hydrology/Water Quality | <input type="checkbox"/> Land Use/Planning |
| <input type="checkbox"/> Mineral Resources | <input type="checkbox"/> Noise | <input type="checkbox"/> Population/Housing |
| <input checked="" type="checkbox"/> Public Services | <input checked="" type="checkbox"/> Recreation | <input type="checkbox"/> Transportation/Traffic |
| <input checked="" type="checkbox"/> Utilities/Service Systems | <input type="checkbox"/> Mandatory Findings of Significance | <input type="checkbox"/> None |

DETERMINATION

On the basis of this initial evaluation:

I find that the proposed project **COULD NOT** have a significant effect on the environment and a **NEGATIVE DECLARATION** will be prepared.

I find that, although the original scope of the proposed project **COULD** have had a significant effect on the environment, there **WILL NOT** be a significant effect because revisions/mitigations to the project have been made by or agreed to by the applicant. A **MITIGATED NEGATIVE DECLARATION** will be prepared.

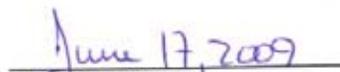
I find that the proposed project **MAY** have a significant effect on the environment and an **ENVIRONMENTAL IMPACT REPORT** or its functional equivalent will be prepared.

I find that the proposed project **MAY** have a "potentially significant impact" or "potentially significant unless mitigated impact" on the environment. However, at least one impact has been adequately analyzed in an earlier document, pursuant to applicable legal standards, and has been addressed by mitigation measures based on the earlier analysis, as described in the report's attachments. An **ENVIRONMENTAL IMPACT REPORT** is required, but it must analyze only the impacts not sufficiently addressed in previous documents.

I find that, although the proposed project could have had a significant effect on the environment, because all potentially significant effects have been adequately analyzed in an earlier EIR or Negative Declaration, pursuant to applicable standards, and have been avoided or mitigated, pursuant to an earlier EIR, including revisions or mitigation measures that are imposed upon the proposed project, all impacts have been avoided or mitigated to a less-than-significant level and no further action is required.



Tina Robinson
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June 17, 2009



Natural Environment Study Report

Nicholas Pond Trail ADA Improvement Project

June 8, 2009

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1.0 Introduction

1.1. Project Location

Leo Carrillo State Park (SP) is situated approximately 24 km (15 mi) northwest of Malibu, along the western end of the Santa Monica Mountains, in Los Angeles County, California (Triunfo Pass USGS 7.5-Minute Quadrangle). Established in 1953, the unit covers approximately 923 ha (2,282 ac), contains three main drainages (Arroyo Sequit, Willow Creek, and San Nicholas Creek), and extends from the coast to roughly 3.2 km (2 mi) inland. Nicholas Flat, which lies within a natural preserve in the northeast portion of the park, serves as the site for the current project (Figure 1).

1.2. Project Description

The California Department of Park and Recreation (DPR), in compliance with the Americans with Disabilities Act (ADA) and the California State Parks Accessibility Guidelines, is proposing to modify features along the Nicholas Pond Trail to increase public accessibility. As planned, work would primarily focus on reconfiguring or resurfacing the existing trail, but would also involve reestablishing a natural stream course and correcting localized erosion (Figures 2-3). Construction activities that would be undertaken to achieve the project's objectives are as follows:

- **Parking Space** - One accessible parking space (5.5 m x 5.0 m [18 ft x 17 ft]) and a small, concrete retaining wall (30.5 cm [12 in] high) would be constructed in the cul-de-sac at the end of Decker School Road, near the entry to Nicholas Pond Trail (Figures 4, 16, and 20).
- **Road to Trail Conversion** – Approximately 436 m (1,430 ft) of existing dirt road, extending from the trailhead south to Nicholas Pond, would be reduced in width from roughly 2.4 m (8 ft) to 1.2 m (4 ft). This section of trail served as an old fire road that was periodically graded by the previous property owner to ensure vehicle passage. Due to grading, a berm of soil has accumulated on the west or downslope side of the road, altered the natural water flows, and caused incising along the inside of the roadway and at certain locations into the creek. As a means of correcting the situation, work would involve using a cut and fill method to transfer the banked/mounded soils to the inside slope; backfilling gullies/ditches and narrowing the original road corridor. The technique would recreate a more natural, sloping hillside that would extend out to the creek,

thereby improving sheet flow into the drainage and eliminating erosional problems (Figures 5-6 and 21-22).

- **Road Removal** – A portion of roadway (roughly 197 m [645 ft] long), located slightly northeast of Nicholas Pond, would be abandoned to allow for an ADA trail reroute. Soils underlying the road would be decompacted and regraded, and allowed to naturally revegetate over time (Figures 7-8 and 23).
- **Trail Removal** – Two trail sections (91 m [300 ft]) bordering the western edge of Nicholas Pond (i.e., south of the second bridge and just north of the future overlook) would be removed due to difficulties concerning accessibility. The existing path would be subject to grading/recontouring and closed to the public to prevent potential disturbance (Figures 7-8 and 24).
- **Trail Reroute** – Approximately 320 m (1,050 ft) of ADA-compliant trails would be created to replace those portions removed from the pathway (Figures 8-9 and 25-26). The three reroutes would be constructed to the north and west of the pond and maintain an overall width of 1.2 m (4 ft).
- **Trail Reconstruction** – One segment of existing trail, totaling approximately 149 m [490 ft] in length, would be regraded to provide an accessible path of travel (Figures 9 and 27). The work would serve to establish a 1.2 m (4 ft) wide walkway along the west side of San Nicholas Creek and Nicholas Pond.
- **First Bridge Construction** – An approximately 20 m (65 ft) free spanning bridge would be built over San Nicholas Creek to allow for a continuous and compliant route to the pond. With completion of the new structure, an existing non-ADA crossing, consisting of a culvert and instream fill, would be eliminated, and the channel restored to a natural configuration (Figures 10-14, 18, and 28-29).
- **Second Bridge Construction** – A second bridge, extending roughly 14 m (45 ft) in length, would be installed over a side channel of San Nicholas Creek to replace an earthen crossing which currently encroaches into the drainage (Figures 10, 14, 19, and 30).

- **Overlook** – A single overlook (covering roughly 60 m² [354 ft²]) would be constructed along the southwestern edge of Nicholas Pond to afford an accessible view of the water and surrounding area (Figures 15 and 31).
- **Stream Improvements** – Work associated with the two bridges would include measures to restore and stabilize the creek. Upstream of the first crossing, an existing culvert and accompanying fill would be removed, thereby eliminating an instream obstruction, reestablishing more natural flows, and preventing head-cutting below the pipe. A series of rock steps would also be placed upstream and downstream of the culvert to control the grade, reduce the intensity of flows, and minimize overall erosion. Additionally, in the area of the second bridge, grading of the channel/tributary would be undertaken and rock step pools would be installed to correct head-cutting and stabilize the stream profile (Figures 17 and 32-33).

As part of the project, trees and/or shrubs within the work boundaries would be avoided, to the maximum extent practicable, or salvaged for subsequent use. No mature oak trees (>12.7 cm [5 in] diameter breast height [DBH]) should be removed; however, if such action is unavoidable, the tree(s) would be compensated at an appropriate ratio based on DPR and/or local guidelines. Following construction, all temporarily disturbed areas would either be stabilized using cleared/salvaged, native vegetation or potentially revegetated with locally occurring species obtained from a qualified nursery. As planned, construction is scheduled to begin around January 2010 and continue over an approximately 11-month period, with activities concluding by December 2010. Standard equipment, such as bulldozers, small excavators, small dump trucks, power and manual wheelbarrows would be used to conduct the proposed work. Minor tasks would generally be performed by crews using hand tools, such as shovels, Pulaskis, McLeods, picks, hammers, drills, rock bars, and a grip hoist. No utility work or associated trenching would be needed to complete the ADA improvements. Any excess soil from the project would be used as fill within or along the trail to provide a compliant path of travel or restore nearby slopes.

2.0 Study Methods

2.1. Studies Required and Surveys Performed

The potential for listed/sensitive species to occur near the project was determined from a search of the California Natural Diversity Database (CNDDDB) (CDFG 2008), a review of the California Native Plant Society's (CNPS) inventory (CNPS 2008), the results of previous studies for the area (DPR 1996b), and general mapping of the on-site habitat (DPR 1996a). All the information generated then served as the baseline during field reviews for the proposed improvements.

On June 24, 2008 and February 25, 2009, a general survey of plants and wildlife was performed along the Nicholas Pond Trail by DPR Environmental Scientists. The existing vegetation was also categorized and mapped to identify areas that could potentially support listed/sensitive species. The habitat was classified according to Holland's Preliminary Descriptions of the Terrestrial Natural Communities of California (1986). All vegetation types were outlined on an aerial photograph and subsequently inputted into a Geographic Information System (GIS) database. The site was reviewed on foot and locations were reasonably accessible, allowing for a complete evaluation of the project footprint. A wetland delineation was also conducted on the second field visit to determine the extent of jurisdictional wetlands/waters within and surrounding the project boundaries.

For reporting purposes, the botanical nomenclature follows Hickman (1993), bird classifications comply with the American Ornithologists' Union (2002), and amphibian, reptile, and mammal identification are based upon Laudenslayer et. al (1991). All species recorded during the field assessment can be reviewed/referenced in Appendix A.

2.2. Agency Coordination and Professional Contacts

Since the project is located within the coastal zone, a Coastal Development Permit from the California Coastal Commission (CCC) would have to be obtained before the start of construction. Additionally, as work would be conducted in San Nicholas Creek, authorization from the Regional Water Quality Control Board (RWQCB), U.S. Army Corps of Engineers (ACOE), and California Department of Fish and Game

(CDFG) would be needed to ensure compliance with the Clean Water Act (Sections 401 and 404), and the California Fish and Game Code (Section 1602). Accordingly, the DPR shall coordinate with these agencies, submit applications, and secure all appropriate approval(s) for the ADA improvements. However, since no effects to threatened or endangered species would be expected with implementation of the activities, no consultation with the U.S. Fish and Wildlife Service (USFWS) and no “take” permit from the CDFG would be required.

2.3. Limitations That May Influence Results

Due to the timing of the survey efforts (i.e., June 2008, February 2009), some sensitive/annual plants that typically would be evident in the spring, may not have been detectable during the field reviews. As a consequence, the list of plants compiled for the Nicholas Pond Trail ADA Improvement Project may not reflect the diversity of species that would be found under normal conditions.

3.0 Environmental Setting

3.1. Existing Environment

Leo Carrillo SP consists of 923 ha (2,282 ac) that extend from the coast to approximately 3.2 km (2 mi) inland and includes 3.5 km (2.2. mi) of ocean frontage. The majority of the unit is situated in the western Santa Monica Mountains of Los Angeles County, with a small portion lying in adjoining, eastern Ventura County. Topography can be characterized as mostly steep to very steep, although more level areas exist at the coastal margins, Nicholas Flat, a few ridgetops, and the outlet to the Arroyo Sequit (DPR 1996). Elevations within the park range from sea level to approximately 560 m (1,838 ft) near Nicholas Flat. The climate can be classified as Mediterranean Dry Summer Subtropical, having warm, dry summers and mild, wet winters. The average annual temperature is 15.1°C (59.2°F), with values reaching maximums in July-October (low 20s [°C]/70s [°F]) and minimums in December-March (~17-18 [°C]/low-mid 60s [°F]). Precipitation largely falls as rain during the months of November through April and can vary considerably within the park (DPR 1996a, 1996b).

As stated, Nicholas Flat is situated within a 243 ha (600 ac) natural preserve found in the northeast portion of the park. Officially designated in 1996, the area supports a variety of habitat types (e.g., coast

live oak woodland, Venturan coastal sage scrub, nonnative grassland, and valley freshwater marsh) and remains largely undeveloped, with the exception of some dirt trails/roads, remnant ranching equipment, Native American artifacts, and an asphalt entry road and parking area. Access to the site can be obtained via Decker Road (Highway 23) off Pacific Coast Highway, which eventually intersects with Decker School Road. Decker School Road, although extensive in length, terminates in a cul-de-sac at the entrance to the Nicholas Pond trailhead. Pedestrians can walk onto the path at this point or, alternatively, reach the preserve from the Leo Carrillo Canyon Campground, located to the southwest of Nicholas Flat, near the coast. Nicholas Pond, a frequent destination for visitors, is a natural, ephemeral pond that was enhanced in 1954 for the benefit of livestock. Covering approximately 2 ha (5 ac) at maximum capacity, the resource serves as habitat for waterfowl and other birds, amphibians, and some mammals.

3.2. Hydrology

Leo Carrillo SP lies within the Malibu Hydrologic Unit, which is a subset of the larger Los Angeles Hydrologic Basin that encompasses an area of approximately 10,917 km² (4,215 mi²) within Los Angeles and Ventura counties (Figure 34) (DPR 1996a). Arroyo Sequit, the largest stream in the unit, and Willow Creek are part of the Arroyo Sequit Hydrologic Subarea (HAS). San Nicholas Creek, located furthest to the east and passing through the project site, is contained within the Nicholas Canyon HAS. Roughly 70% of San Nicholas Creek, the second largest drainage (363 ha [896 ac]), falls inside the park's boundaries (DPR 1996b). Generally, this watercourse runs in a north-south direction, with flows collecting in Nicholas Pond (upper drainage area) before continuing downstream. Portions of the creek extending upstream of, and including, the pond are situated on a coastal foothill among gently or moderately sloping flats (DPR 1996a). South of the pond, the flows drop steeply into San Nicholas Canyon and traverse over approximately 4.0 km (2.5 mi) before reaching the Pacific Ocean. Along this section, rapid runoff events can occur due to severe slopes, which range up to 200%. Discharges within San Nicholas Creek also exhibit strong seasonal fluctuations, mainly in response to intense winter rains, and may have radically reduced flows during the summer (DPR 1996b). San Nicholas Creek is the only known stream course located within the project limits.

3.3. Soils

The majority of Leo Carrillo SP is mantled with soils derived from fine-grained sedimentary and basic igneous rocks that are typically shallow, expansive, and have limited permeability. These conditions, in combination with variations in slope and exposure, have resulted in a complex pattern of soil types. At Leo Carrillo SP, 25 soil mapping units are known to occur, of which 21 are soil phases representing 13 different soil series (Figure 35). The remaining four soil mapping units consist of miscellaneous land types, such as gullied land (DPR 1996a, b).

At Nicholas Flat, a total of seven different soil types underlie the project area. Near the parking lot and trailhead entrance, Gilroy clay loam (9 to 15 percent slopes, eroded) occurs as a minor component. Along the fire road (road to trail conversion area), the west and east sides are known to have Los Osos clay loam (15 to 30 percent slopes, eroded) and Millsholm loam (15 to 50 percent slopes), respectively. The two series are characterized as being well-drained, typical of moderately steep or steep uplands/slopes, and having similar rooting depths (from 56 to 97 cm [22 to 38 in]) and water-holding capacities (10.2 to 16.5 cm [4.0 to 6.5 in]). The Millsholm soils, however, are subject to faster runoff and pose an overall, higher erosion hazard. One other substrate found near the southern end of the fire road is Malibu loam (30 to 50 percent slopes), that is also associated with strongly sloping areas and is known to be extremely susceptible to erosion.

Near the two proposed crossings, and along the west side of Nicholas Pond, the predominate soil is Lockwood loam (9 to 15 percent slopes, eroded and 2 to 9 percent slopes, eroded), which tends to be deep and well-drained. Derived from mixed, but predominately sedimentary materials, this substrate is common to the Nicholas Flat grassland and coastal sage scrub areas. Gazos silty clay loam (30 to 50 percent slopes), a secondary/smaller mapping unit, is located to the north of the pond and northwest of the culvert. The soil has been recorded on very steep uplands and is usually underscored by hard fractured, banded shale. The Gazos silt clay loam is distinguished as having moderately slow permeability and rapid runoff that contributes to a high erosion hazard (DPR 1996a, b).

3.4. Vegetation Communities

A search of the CNDDDB database (CDFG 2008) indicated that one sensitive vegetation community could be present within or near Leo Carrillo SP (Table 1). Southern coast live oak riparian forest has previously

Table 1. Sensitive Vegetation Communities Potentially Occurring Near the Nicholas Pond Trail ADA Improvement Project, Leo Carrillo State Park (Source: CDFG CNDDDB Database).

Vegetation Community	Description ¹	Habitat Present/Absent ²	Rationale
Southern Coast Live Oak Riparian Forest	Open to locally dense evergreen sclerophyllous riparian woodlands dominated by <i>Quercus agrifolia</i> . This type appears to be richer in herbs and poorer in understory shrubs than other riparian communities.	A	The closest occurrence of riparian forest can be found immediately south of Nicholas Pond, at a distance of approximately 50 m (164 ft) from the project area.

¹Habitat descriptions are taken from Holland's Preliminary Descriptions of the Terrestrial Natural Communities of California (1986).

²Habitat: Absent (A) - No habitat present and no further work needed; Present (P) - General habitat present and species may be present.

been documented along Arroyo Sequit and the middle-to-lower portions of Nicholas Canyon, with the closest occurrence located roughly 50 m (164 ft) south of Nicholas Pond. Field reviews found mostly native habitat on-site, but did not observe any noticeable areas of southern coast live oak riparian forest. However, five other communities deemed sensitive by CDFG (i.e., coast live oak woodland, Venturan coastal sage scrub coast, southern willow scrub, nonnative grassland, and valley freshwater marsh) were recorded within the project boundaries (Figure 36). One other vegetation type (i.e., developed/disturbed areas) was identified during the assessment, but comprised a relatively small percentage of the existing lands. A description of each community and its relative abundance/distribution within the survey limits can be summarized as follows:

Coast Live Oak Woodland

Coast live oak woodland can be distinguished by the prevalence of *Quercus agrifolia*, an evergreen tree reaching heights of 10-25 m (33-82 ft). The canopy's structure can be quite variable and the shrub layer is typically poorly developed, potentially supporting toyon (*Heteromeles arbutifolia*), gooseberry (*Ribes* spp.), laurel sumac (*Malosma laurina*), or blue elderberry (*Sambucus mexicana*). The herb component may be continuous and dominated by ripgut grass (*Bromus diandrus*), and several other introduced taxa, or may be completely absent. Soils underlying the habitat tend to consist mostly of sandstone or shale-derived materials. Coast live oak woodland can generally be found on north-facing slopes (often very

steep) and shaded ravines in southern portions of the state (Holland 1986, Sawyer and Keeler-Wolf 1995).

Within the survey boundaries, coast live oak woodland was documented in the area immediately west and east of the existing culvert. The habitat also continued northward along the west side of the fire road towards the trailhead/cul-de-sac. At these locations, the understory was dominated by poison oak (*Toxicodendron diversilobum*), and California sagebrush (*Artemisia californica*), in combination with such species as mugwort (*Artemisia douglasiana*), monkeyflower (*Mimulus aurantiacus*), wild pea (*Lathyrus vestitus* var. *vestitus*), purple sage (*Salvia leucophylla*), and wild cucumber (*Marah macrocarpus*). In contrast, the oak woodland situated on the slopes, to the east of the entrance road, was heavily intermixed with greenbark ceanothus (*Ceanothus spinosus*) and bigpod ceanothus (*Ceanothus megacarpus*), creating a rather dense and obstructed understory. Overall, coast live oak woodland was the most extensive vegetation type found on-site, covering an estimated 4.35 ha (10.76 ac).

Venturan Coastal Sage Scrub

Venturan coastal sage scrub can typically be characterized by low growing (0.5-2.0 m [1.6-6.6 ft] tall), drought-deciduous, soft-woody shrubs having well-developed crowns, and areas of bare ground underneath and between the plants. Growth is most evident in late winter and spring, following the onset of winter rains, with flowering occurring from spring to summer. The habitat, adapted to fire and capable of crown-sprouting, is usually dormant and deciduous throughout the summer and fall. Venturan coastal sage scrub is usually situated on dry, more or less rocky slopes, often at low elevations (< 910 m [3,000 ft]), in association with species such as, California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), black sage (*Salvia mellifera*), lemonadeberry (*Rhus integrifolia*), and Our Lord's Candle (*Yucca whipplei*) (Holland 1986).

Venturan coastal sage scrub was largely distributed as scattered patches along Nicholas Pond Trail. The two most contiguous stands were located near the entrance to the fire road (east side) and adjacent to the proposed overlook (west side). In the former, the major components of the vegetation were chaparral mallow (*Malacothamnus fasciculatus*) and bigpod ceanothus, while at the latter site the vegetation was more characteristically composed of California sagebrush, with laurel sumac, purple sage, mallow, and

ceanothus providing some species diversity. Other smaller and isolated patches of coastal sage were interspersed in the nonnative grassland and oak woodland, including a monotypic stand of purple sage established just beyond the southern end of the fire road. Only 0.74 ha (1.83 ac) of the lands surveyed for the ADA improvements could be classified as Venturan coastal sage scrub.

Southern Willow Scrub

Southern willow scrub consists of dense, broadleaved, winter-deciduous riparian thickets dominated by several species of willow (*Salix* spp.). Within this vegetation, scattered individuals of cottonwood (*Populus fremontii*) and western sycamore (*Platanus racemosa*) may also be present. In the understory, development may be limited or minimal due to the density of the shrub/tree canopy layer. Generally, the habitat is associated with loose, sandy, or fine gravelly alluvium that has been deposited near stream channels during flood flows. Although once extensive along major rivers in coastal, southern California, the community has been severely reduced by urban development, flood control measures, and channel improvements (Holland 1986).

During the field review, individual willows were documented throughout the oak woodlands, but only one large, representative stand of southern willow scrub, along with two isolated patches, could be found on-site. Located to the west of the creek and largely north of Nicholas Pond, the habitat predominately supported arroyo willows (*Salix lasiolepis*) and had no distinct or noticeable understory components. Collectively, the southern willow scrub comprised less than 0.27 ha (0.67 ac) and was one of the smallest-sized, native communities within the survey boundaries.

Nonnative Grassland

Nonnative grassland is commonly comprised of a dense to sparse cover of annual grasses that have flowering stalks reaching roughly 0.2-0.5 (1.0) m (0.7-1.6 ft) in height. During favorable years of rainfall, the habitat can be seen to support a number of showy-flowered, native annual forbs (wildflowers), as well. Seed germination coincides with the onset of late fall rains, contributing to growth, flowering, and seed-set from winter through spring. With few exceptions, the plants are senescent through the summer-early fall season, persisting as seeds. Nonnative grassland can be found on fine-textured, typically clay soils, moist or even waterlogged during the winter rainy season and very dry during the summer and fall

(Holland 1986). Some plant species that tend to be established in nonnative grassland include, oats (*Avena barbata*, *A. fatua*), brome (*Bromus hordeaceus*, *B. diandrus*, *B. madritensis* ssp. *rubens*), storksbill (*Erodium botrys*, *E. cicutarium*), California poppy (*Eschscholzia californica*), tarweed (*Deinandra* spp.), goldfields (*Lasthenia* sp.), and lupine (*Lupinus* spp.) (Holland 1986).

At Nicholas Flat, large expanses of nonnative grassland were mapped on the flat or gently sloping uplands mostly to the northwest and northeast of the pond. An additional area was noted just south of the fire road on either side of the trail. Harding grass (*Phalaris aquatica*) was a primary constituent of the habitat, along with scattered/patchy numbers of milk thistle (*Silybum marianum*), oats, and ripgut grass. Native species also interspersed among the exotics included, foothill needlegrass (*Nassella lepida*), blue-eyed grass (*Sisyrinchium bellum*), and blue dicks (*Dichelostemma capitatum*). As estimated, 2.02 ha (5.0 ac) of nonnative grassland were identified during the site assessment.

Coastal and Valley Freshwater Marsh

Coastal and valley freshwater marsh is usually dominated by perennial, emergent monocots (4-5 m [12-15 ft] tall) that often form a closed canopy. The habitat generally occurs on quiet sites (lacking significant current) and tends to be permanently flooded by fresh water (rather than brackish, alkaline, or variable sources); thereby allowing the development of deep, peaty soils. The distribution of coastal and valley freshwater marsh is limited to scattered occurrences along the coast and near river mouths of coastal valleys, and on borders/margins to lakes and springs (Holland 1986).

The only area supporting freshwater marsh was restricted to the immediate perimeter of Nicholas Pond, along the north and northwest sides. At these sites, the vegetation was overwhelmingly composed of dense groupings of scirpus (*Scirpus californicus*), which crowded the shoreline and obstructed access to open water, except at a few, discrete locations (e.g., proposed overlook). Due to the prevalence and growth characteristics of the perennial plant, other species were not evident, although an occasional stand of broad-leaved cattail (*Typha latifolia*) could be observed. As anticipated, the approximately 0.22 ha (0.54 ac) of coastal and valley freshwater marsh found at Nicholas Flat would not be affected by any of the proposed ADA upgrades.

Developed/Disturbed Areas

Developed and/or disturbed areas refer to sites that have been cleared/graded to accommodate buildings, roads, or other man-made structures, or are subject to repeated use, such that no vegetation or largely nonnative annuals and exotic broad-leaf species persist. Within the project boundaries, the developed/disturbed areas include the paved cul-de-sac, existing fire road, and dirt hiking trails. The habitat accounts for roughly 0.27 ha (0.68 ac) of the lands inside the survey boundaries.

3.5. Jurisdictional Wetlands/Waters of the U.S.

The Army Corps of Engineers defines wetlands as “those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.” The CCC, which maintains jurisdiction, along with the CDFG, over wetlands in the California coastal zone, describe such areas as “lands where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and shall also include those types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent or drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentrations of salt or other substance in the substrate. Such wetlands can be recognized by the presence of surface water or saturated substrate at some time during each year and their location within, or adjacent to, vegetated wetlands or deepwater habitats”.

For the proposed project, a wetland delineation was performed, in accordance with the Corps of Engineers Wetland Delineation Manual (ACOE 1987), to determine the extent of jurisdictional wetlands/waters that could be affected by construction. During an initial review of topographic and aerial mapping for the Nicholas Flat Natural Preserve it was found that San Nicholas Creek and one tributary were blue-line streams. An on-site assessment, though, revealed that hydrophytic vegetation and/or hydric soils were lacking, therefore, the drainage would not qualify as ACOE jurisdictional wetlands. However, due to the presence of a defined bed and bank, evidence of drift lines, noticeable sediment deposits, and information from the topographic map, the watercourse could be assumed to support

intermittent flows. In addition, because of the connectivity between San Nicholas Creek and interstate waters (e.g., Nicholas Pond, Pacific Ocean), the drainage would qualify as other Waters of the U.S. Consequently, using the ordinary high water mark and/or the perimeter of the oak woodland canopy, the limits of the federally and State regulated waters were defined.

3.6. Listed/Sensitive Plants

Five listed/sensitive plants have been historically recorded (CDFG 2008, CNPS 2008) in the vicinity of Leo Carrillo SP (Table 2, Figure 37). Due to a lack of suitable habitat (i.e., sandy, coastal scrub/dunes), Orcutt's pincushion would not be expected in the Nicholas Pond area. For the Santa Susana tarplant and Santa Monica Mountains dudleya, coastal sage scrub was documented within the project boundaries. However, the underlying soils were not appropriate to support the species and field surveys found no evidence of these plants on-site (Appendices). As such, the three species would not be affected by any work related to the proposed improvements and shall not be further discussed. For the remaining two plants, however, potential habitat exists near/within the proposed footprint. As such, an expanded account of the biology and status of the species shall be provided.

Plummer's Mariposa Lily (*Calochortus plummerae*)

Listing: CNPS List 1B, R-E-D 2-2-3

Plummer's mariposa lily is a bulbiferous, perennial herb (30-60 cm [12-24 in] tall) occurring on granitic/rocky sites in chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, and valley and foothill grassland (CNDDDB 2008, CNPS 2008). The species can be distinguished by a fibrous bulb coat and pale pink to rose petals, with a broad central band of long, yellow hairs. Individual plants can have between 2-6 widely bell-shaped flowers, and petals with toothed margins, which generally are evident between May-July (Hickman 1993). Plummer's mariposa lily has been significantly reduced by development and is possibly threatened by other factors, such as collecting, road maintenance, and nonnative plants (CNPS 2008).

In 1995, several plants (11) were observed along Willow Creek Trail in the southern portion of Leo Carrillo SP. One other sighting has been documented along Decker Road, approximately 0.8 km (0.5 mi) north of

Table 2. Listed and Sensitive Plants Potentially Occurring Near the Nicholas Pond Trail ADA Improvement Project, Leo Carrillo State Park (Source: CDFG CNDDDB Database and CNPS Inventory).

Scientific Name	Common Name	Federal Status ¹	State Status ¹	CNPS Listing ¹	General Habitat	Habitat Present/Absent ²	Rationale
<i>Calochortus plummerae</i>	Plummer's Mariposa Lily			1B	Chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, valley and foothill grassland/granitic, rocky; elevation 1,000-2,200 m (3,300-7,200 ft).	P	Suitable habitat for Plummer's mariposa lily exists in the project area; however, surveys did not find the species on-site. The plant has been previously observed along Willow Creek, approximately 0.3 km (0.2 mi) upstream of Pacific Coast Highway and east of the Canyon Campground.
<i>Chaenactis glabriuscula</i> var. <i>orcuttiana</i>	Orcutt's Pincushion			1B	Coastal bluff scrub (sandy), coastal dunes; elevation 3-100 m (10-330 ft).	A	Suitable habitat for Orcutt's pincushion does not exist in the project area. The closest occurrence is known near the South Beach Day Use Parking Lot, situated approximately 2.8 km (1.7 mi) to the southwest of Nicholas Pond.
<i>Deinandra minthornii</i>	Santa Susana Tarplant		SR	1B	Chaparral, coastal scrub/rocky; elevation 280-760 m (920-2,500 ft).	A	Suitable habitat for the Santa Susana tarplant does not exist in the project area. Coast sage scrub is present, but the underlying soils are not appropriate to support the species and surveys did not locate the plant on-site. In 1986, three colonies were documented to the southeast in Charmlee County Park, roughly 2.3 km (1.4 mi) away.
<i>Dudleya cymosa</i> ssp. <i>ovatifolia</i>	Santa Monica Mountains Dudleya	FT		1B	Chaparral, coastal scrub/volcanic or sedimentary, rocky; elevation 150-1,675 m (500-5,500 ft).	A	Suitable habitat for the Santa Monica Mountains dudleya does not exist in the project area. Coastal sage scrub is present, but the underlying soils are not appropriate to support the species and surveys did not locate the plant on-site. The dudleya has been recorded within the park, approximately 2.0 km (1.2 mi) to the northwest along the upper Arroyo Sequit.
<i>Thelypteris puberula</i> var. <i>sonorensis</i>	Sonoran Maiden Fern			2	Meadows and seeps (seeps and streams); elevation 50-610 m (160-2,000 ft).	P	Suitable habitat for the Sonoran maiden fern exists in the project area; however, surveys did not find the species on-site. Historically, the plant has been found in Lachusa Canyon, located 2.5 km (1.6 mi) to the east of the trail improvements.

¹Status: Federally Threatened (FT); State Rare (SR); CNPS Plants Rare, Threatened, or Endangered in California and elsewhere (1B); CNPS Plants Rare, Threatened, or Endangered in California, but more common elsewhere (2).

²Habitat: Absent (A) - No habitat present and no further work needed; Present (P) - General habitat present and species may be present.

Pacific Coast Highway. Within the project boundaries, coast live oak woodland could serve as habitat for the species, although granitic/rocky soils appeared to be somewhat limited in extent. Surveys also did not uncover any sign of Plummer's mariposa lily and only one other geophyte (i.e., blue dicks) was documented in the area. Owing to the status of the habitat and the field results, the species would have an extremely low potential of occurring along Nicholas Pond Trail.

Sonoran Maiden Fern (*Thelypteris puberula* var. *sonorensis*)

Listing: CNPS List 2, R-E-D 2-2-1

Sonoran maiden fern is a large perennial herb that prefers moist soils of meadows, seeps, and streams at elevations of 50-610 m (60-2,000 ft) (CNDDDB 2008, CNPS 2008). Plant growth is achieved via long, creeping rhizomes (3-8 mm [0.01-0.3 in] wide) that produce aboveground shoots bearing regularly spaced leaves. The light green, pinnate leaves are 50-120 cm (19-47 in) long and have moderate to dense hairs on the axes, veins, and between the veins. The sori (sporangia cluster) tend to be circular in shape, while the indusia (outgrowth covering a sporangia cluster) are tan to brown and densely hairy (Hickman 1993). Records indicate that the Sonoran maiden fern is found in Los Angeles, Riverside, Santa Barbara, and San Bernardino counties, as well as Arizona, Baja California, and Sonora Mexico (CNPS 2008).

No observations of the plant are known from inside the park. One historic population (1963) presumably persists in Lachusa Canyon, located approximately 2.5 km (1.6 mi) to the east of the ADA improvements. Habitat conditions at the site would indicate that both the banks of San Nicholas Creek, and potentially the nonnative grassland, maintain characteristics that would be favorable to the Sonoran maiden fern. However, no sensitive plants were detected during the field reviews, and given information on past findings/locations, the Sonoran maiden fern would not be expected within the proposed project footprint.

3.7. Listed/Sensitive Wildlife

A review of the CNDDDB (CDFG 2008) and past surveys efforts (DPR 1996b) found that two special-status wildlife could exist within/near the park (Table 3, Figure 37). Subsequent field work determined that appropriate habitat was not present at Nicholas Flat for either the monarch butterfly (*Danaus plexippus*) or southern steelhead trout (*Oncorhynchus mykiss irideus*); therefore, the species are not anticipated and

would not be impacted by the ADA work. The initial site assessment, though, documented the occurrence of the sensitive San Diego mountain kingsnake (*Lampropeltis zonata [pulchra]*) at the southern end of the project limits. A brief description of the species is presented below.

San Diego Mountain Kingsnake (*Lampropeltis zonata [pulchra]*)

Listing: CDFG Species of Special Concern

The San Diego Mountain kingsnake, a member of the Colubridae Family, is a medium-sized (51-102 cm [20-40 in]) species that occupies valley-foothill hardwood, coniferous forest, chaparral, riparian woodland, or wet meadows within eight mountain ranges of southern California (i.e., Santa Monica, Santa Ana, Santa Rosa, Corte Madera, Cuyamaca, Hot Springs, Laguna, and Palomar) (CDFG 2008). Physically, the kingsnake is notable for having black, red, and white banding and shiny, smooth scales. The head and snout are generally black, and adjoin a band of white around the neck. The subspecies can be distinguished by having 26-39 sets of bands (or triads) that extend from the dorsum to ventral side (Stebbins 1985).

Historically, the San Diego mountain kingsnake is known from Cold Creek Preserve, located approximately 24.5 km (15.2 mi) to the east of Nicholas Pond Trail (CNDDG 2008). Within the park, no species records have been noted, but one individual was sighted during the field review, at the base of a coast live oak near the overlook. From the observation, the kingsnake, measuring approximately 61 cm (24 in), likely maintains a shelter/burrow below the tree's root system. Other coast live oak woodland in the area could also potentially support the San Diego mountain kingsnake. Since the species exists within the project limits, and could be affected by construction, measures would have to be employed to minimize habitat disturbance and avoid incidents of harm or harassment.

Table 3. Listed and Sensitive Wildlife Potentially Occurring Near the Nicholas Pond Trail ADA Improvement Project, Leo Carrillo State Park (Source: CDFG CNDDDB Database).

Scientific Name	Common Name	Federal Status ¹	State Status ¹	CDFG Status ¹	General Habitat	Habitat Present/Absent ²	Rationale
<i>Danaus plexippus</i>	Monarch Butterfly				Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress) with nectar and water sources nearby.	A	Suitable habitat for the monarch butterfly does not exist in the project area. One site within the park that is known to support the species (i.e., eucalyptus grove) is located roughly 2.9 km (1.8 m) to the northwest, along the Arroyo Sequit.
<i>Lampropeltis zonata (pulchra)</i>	San Diego Mountain Kingsnake			SC	Endemic to Santa Monica Mountains (Los Angeles County), Santa Ana Mountains, Santa Rosa Mountains, and Corte Madera, Cuyamaca, Hot Springs, Laguna, and Palomar Mountains. Inhabits a variety of habitats, including valley-foothill hardwood, coniferous forest, chaparral, riparian, and wet meadows.	P	Suitable habitat for the San Diego mountain kingsnake exists in the project area. During a field review, the snake was observed at the proposed ADA overlook, near the base of a coast live oak.
<i>Oncorhynchus mykiss irideus</i>	Southern Steelhead - Southern California ESU	FE		SC	Federal listing refers to populations from Santa Maria River south to southern extent of range (San Mateo Creek in San Diego County). Southern steelhead likely have greater physiological tolerances to warmer water and more variable conditions.	A	Suitable habitat for the southern steelhead does not exist in the project area. The species, though, has been documented within the Arroyo Sequit, roughly 2.0 km (1.2 mi) west of Nicholas Pond.

¹Status: Federally Endangered (FE); CDFG Species of Special Concern (SC). ²Habitat: Absent (A) - no habitat present and no further work needed; Present (P) - general habitat present and species may be present.

4.0 Project Impacts

4.1. Impacts

Impacts can occur at the time of construction (i.e., direct) and cause the temporary/permanent removal of biological resources or can appear later in time (i.e., indirect) as a secondary consequence of a project. For the proposed Nicholas Pond Trail ADA Improvement Project, the following impacts to vegetation communities, jurisdictional wetlands and waters, and listed/sensitive species have been assessed/quantified:

4.2. Vegetation Communities

As estimated, project activities would cause the permanent loss of 0.0247 ha (0.0610 ac) of coast live oak woodland, with disturbance primarily resulting from construction of the bridge abutments, the pond overlook, and some small trail reroutes (Table 4, Figure 36). Temporary impacts to 0.2494 ha (0.6157 ac)

Table 4: Project Impacts Resulting from the Proposed Nicholas Pond Trail ADA Improvement Project, Leo Carrillo State Park.

Habitat Type	Impacts		
	Permanent ha (ac)	Temporary ha (ac)	TOTAL ²
Coast Live Oak Woodland	0.0247 (0.0610)	0.2494 (0.6157)	0.2741 (0.6767)
Venturan Coastal Sage Scrub	0.0012 (0.0029)	0.0112 (0.0277)	0.0124 (0.0306)
Southern Willow Scrub	-----	0.0027 (0.0066)	0.0027 (0.0066)
Nonnative Grassland	0.0351 (0.0866)	0.0757 (0.1870)	0.1108 (0.2736)
Developed/Disturbed Areas	0.1418 (0.3501) ¹	0.0348 (0.0860)	0.1767 (0.4362)
TOTAL²	0.2028 (0.5006)	0.3738 (0.9231)	0.5766 (1.4237)

¹All developed/disturbed areas permanently impacted by construction would undergo regrading/mulching to return the site(s) to natural contours and assist in the reestablishment of native habitat.

²Hectare and acreage totals may not precisely match due to rounding errors.

would also occur during the road to trail conversion, removal/reconstruction of the existing path, crossings of the creek, the culvert elimination, drainage stabilization, and project staging. The work would largely be concentrated in the understory and involve the clearing of shrubs, the trimming of tree branches (up to 30 cm [12 in] in diameter), and earthmoving within the creek. Overall, eight oak saplings, measuring 5.1 cm (2 in) DBH or less, would have to be removed, but no mature oaks would be destroyed. For Venturan

coastal sage scrub, a minimal reduction in acreage (0.0012 ha [0.0029 ac]) would accompany the trail reroute to the northeast of Nicholas Pond, with activities near the entrance generating another 0.0112 ha (0.0277 ac) of short-term disturbance. Similarly, only small, linear expanses of southern willow scrub would be temporarily affected (0.0027 ha [0.0066 ac]) by grading and recontouring alongside the dirt trail. For the various reroutes, nonnative grassland would undergo a permanent decrease (0.0351 ha [0.0866 ac]) and experience another 0.0757 ha (0.1870 ac) of impacts that would be attenuated over time. In general, developed and/or disturbed areas would undergo the largest, relative loss (0.1418 ha [0.3501 ac]) during the narrowing of the fire road and proposed road/trail removal. Other portions of the existing path would be temporarily disturbed (0.0348 ha [0.0860 ac]) by trail reconfiguration, bridge construction, and general project operations.

Due to the upgrades, the portion of San Nicholas Creek (and its tributary) lying within the project boundaries would be rebuilt as an unobstructed waterway. Removal of the culvert and instream fill would return the drainage to a natural width and configuration, allowing the correction of ongoing head-cutting. Correspondingly, installation of rock step pools would serve to moderate the stream grade, and reduce flow velocities and erosion. All native habitat temporarily disturbed by the ADA work and all permanently affected developed/disturbed areas (e.g., road to trail conversion, road and trail removal) would be recontoured and regraded, and stabilized with salvaged vegetation to reduce the potential for erosion and provide a source of native seeds. As part of the permitting process, DPR shall coordinate with the resource agencies to ensure that project impacts are properly addressed. Collectively, then, the proposed construction is expected to improve the creek's ability to function both as a waterway and a wildlife corridor and, ultimately, enhance the habitat within the natural preserve.

4.3. Jurisdictional Wetlands/Waters of the U.S.

Based on the project footprint, and the results of the wetland delineation for San Nicholas Creek, approximately 0.0652 ha (0.1610 ac) of other Waters of the U.S. and 0.1130 ha (0.2793 ac) of State regulated areas would be directly impacted by the ADA upgrades. All disturbance would be associated with work for the two bridges, the culvert, and rock step pools. No jurisdictional wetlands/waters lying adjacent to the fire road and undergoing conversion to a trail would be affected, as construction would be

limited to the roadway shoulder and remain outside the creek's bed and bank. Additionally, the majority of impacts would be temporary in nature, with the exception of the bridge abutments, which would cause a permanent, but small loss of coast live oak woodland (0.0009 ha [0.0022 ac]) under the jurisdiction of the CDFG. Due to the bridge's free-spanning design, no piers would encroach into the drainage; however, materials comprising the rock step pools would fall within the channel. Even though the rocks would constitute a long-term, indirect effect, the pools would be configured to stabilize the streambed, attenuate flows, and control erosion within San Nicholas Creek.

4.4. Listed/Sensitive Species

As outlined in Sections 3.6 and 3.7, potential habitat for three sensitive species exists within the ADA footprint. Recorded sightings, however, of the Plummer's mariposa lily and Sonoran maiden fern are lacking from Nicholas Flat, and field reviews found that suitable soils are likely too limited to support the lily. In addition, as neither species was found during project surveys, the proposed improvements would not be expected to impact the plants. The San Diego mountain kingsnake, though, was observed to the west of the pond, immediately adjacent to the proposed overlook. As calculated, construction would result in impacts to approximately 0.0033 ha (0.0081 ac) of oak understory that, at a minimum, is likely used by the species for sheltering and foraging. Another 0.2708 ha (0.6686 ac) of surrounding coast live oak woodland would also be subject to grading, clearing, and/or trimming. Consequently, the species would experience a direct, but largely short-term loss of habitat, and disruption of behavior/activities, that shall require measures to reduce the likelihood of disturbance. As mentioned, mulching, along with other strategies, would be used to reestablish native habitat and regulate/control project impacts. With proper implementation, effects upon plants and wildlife should be minimized and no significant loss of biological resources should occur. Furthermore, as the Nicholas Flat Natural Preserve contains no proposed or designated critical habitat for federally listed species, no destruction or adverse modification of these areas would result from the ADA upgrades.

5.0 Cumulative Impacts

According to the California Environmental Quality Act (CEQA) Guidelines (Section 15355), cumulative impacts refer “to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.”

The Nicholas Pond Trail ADA Improvement Project lies within the Nicholas Flat Natural Preserve, which is situated in the northeast corner of Leo Carrillo SP. As the park extends over an area of 923 ha (2,282 ac), most activities that could cumulatively impact biological resources would likely result from park-related work. Currently, the only ongoing project, which could potentially have effects on the environment, would be the ADA improvements to the South Beach Day Use Parking Lot and Canyon Campgrounds. As estimated, only temporary impacts to disturbed southern sycamore alder riparian woodland (0.009 ha [0.023 ac]) and some loss of bare ground (0.014 ha [0.035 ac]) would be anticipated. Compensation in the form of native plantings and exotic removal shall be conducted to offset the removal of habitat. As such, the cumulative effects to biological resources would be minimal, when assessed with respect to the current project. Furthermore, most actions reasonable expected to occur within the foreseeable future would need review/approval from the CCC or other agencies to ensure compliance with local coastal programs, coastal development requirements, or resource mandates. Such procedures would serve to minimize habitat loss and species impacts within the park.

6.0 Avoidance and Minimization Measures

As a means of avoiding/minimizing effects to biological resources, the following measures shall be incorporated into the proposed Nicholas Pond Trail ADA Improvement Project:

1. All vegetation within the project footprint will be cleared between September 15 and February 14 to avoid potential impacts to breeding birds. If habitat removal can not occur during this

timeframe, then a pre-construction survey (one week prior) shall be conducted by a State Environmental Scientist to ensure that no breeding/nesting birds are present in the work area. Should a nest site be located, then appropriate measures, as determined by the State Environmental Scientist, will be used to minimize disturbance to the species.

2. Prior to the start of construction, temporary fencing shall be installed around the project limits. In areas adjoining or requiring access into San Nicholas Creek (e.g., road to trail conversion, bridge construction, overlook site), silt fencing, or other barrier approved by the State's Representative, shall be placed in a manner that prevents sediments from entering/collecting in the drainage or being transported downstream. For the road to trail conversion, the fencing shall be limited to the bermed shoulder of the road and will not be allowed to extend into the side bank of the creek.
3. San Nicholas Creek and other sensitive habitat, lying outside the project boundaries, are designated Environmentally Sensitive Areas (ESAs) and shall be strictly avoided. All ESAs shall be depicted on the project plans and no encroachment (i.e., workers, equipment, materials) will be allowed in these locations at any time. Sensitive vegetation or resources will be marked and protected by temporary fencing (e.g., orange plastic fencing, silt fencing) or other acceptable method. Work areas will be clearly marked in the field and confirmed by the State Environmental Scientist prior to habitat removal. All staked/fenced boundaries will be maintained throughout the construction period.
4. Work associated with the proposed overlook shall be completed from April 30 to October 30 (active season) to reduce the likelihood of harm/harassment to the San Diego mountain kingsnake. Should the species be observed on-site during construction, then the State's Representative shall halt activities until the State Environmental Scientist has the opportunity to review the situation. Any recommendations provided by the State Environmental Scientist shall be implemented before activities are allowed to recommence.
5. During vegetation trimming/clearing, all roots 5 cm (2 in) in diameter or greater that need to be removed shall be cleanly cut as supervised/directed by the State's Representative, in coordination with the State Environmental Scientist.

6. No oak tree(s) with a DBH of 13 cm (5 in) or greater shall be removed to construct the ADA improvements. However, if such action is unavoidable, then DPR shall mitigate for the loss of each tree at a 5:1 ratio, which shall be planted within the oak woodlands temporarily impacted by construction or the developed/disturbed areas permanently removed from the trail system. Trimming of oak branches shall only be allowed, if necessary to install project features or obtain clearance for vehicle/equipment operations.
7. Only wheeled vehicles shall be used within the drip line of an oak to prevent potential soil compaction and possible tree damage. Additionally, no parking of equipment or storage of vehicles, materials, or debris shall be allowed underneath an oak's canopy.
8. Access routes, staging areas, and the total footprint of disturbance shall be limited to the minimum number/size necessary to complete the project. Routes of travel and project boundaries will be configured to avoid unnecessary intrusions into coast live oak woodland, Venturan coastal sage scrub, southern willow scrub, nonnative grassland, or San Nicholas Creek.
9. A State Environmental Scientist will be made available for both the pre-construction and construction phases to review grading plans, address resource issues, and monitor ongoing work. The State Environmental Scientist shall maintain communications with the State's Representative to ensure that concerns related to sensitive species/habitats are appropriately and lawfully managed.
10. Best Management Practices (BMPs), to address both the stabilization of soils throughout construction and provide contingencies during rainfall events, shall be incorporated into the project. Measures that could be used include, temporary fencing, hay bales, fiber rolls, organic erosion control blankets, gravel bags, and any other items deemed appropriate by the State's Representative. Where applicable, weed-free products shall be used to minimize the spread of exotics. At all times, sufficient amounts of erosion control materials shall be available on-site to respond to potential emergencies and any rains forecasted within 24 hours.
11. Any work required along the banks or within the channel of San Nicholas Creek shall be conducted during low/no flow conditions (between May 15 and October 15) to reduce the

potential for water pollution. Some BMPs that will be employed to control potential erosion and sedimentation include, but are not limited, to:

- a) Construction areas encroaching into a flowing San Nicholas Creek shall be equipped with barriers that prevent muddy waters from entering the channel and carried downstream. Installation of the barriers shall be conducted in a manner that minimizes the release of soils/sediments into the watercourse. Barriers shall be maintained until work in the drainage has been concluded or soils along the bed/bank have undergone final recontouring and stabilization.
 - b) Silt fencing, fine mesh netting, or fiber rolls will be placed immediately downslope of abutment excavations, and downstream of bridge crossings and instream earthwork, to restrict excess silt, woody debris, and construction waste from entering the drainage.
 - c) Any removal of material from beneath/within the flows of San Nicholas Creek will not commence until a diversion system, capable of conveying unpolluted waters, is established around the areas of excavation. Diversions systems may consist of a small upstream dam, with flows piped around the work site and discharged into the channel below the disturbance. Alternatively, a berm may be constructed adjacent to the work area that redirects/carries waters away from the instream activities.
 - d) All fill, removed during excavations within the drainage, shall be stored on stable trail sections or similar nearby locations (approved by the State's Representative in coordination with the State Environmental Scientist) in a manner that prevents accidental discharge/entry into San Nicholas Creek.
12. BMPs shall also comply with water quality standards outlined in the Stormwater Best Management Practice Handbook (California Stormwater Quality Association, 2003) and guidelines/specifications described in the California State Parks Trails Handbook, Best Management Practices for Road Rehabilitation "Road to Trail Conversion", and Best Management Practices for Road Rehabilitation "Stream Crossing Removal", as appropriate. The State's Representative, in coordination with the State Environmental Scientist, will have the ability

to make changes to the BMPs, based on existing site conditions and the potential for excess erosion/siltation, or hazardous spills.

13. To minimize the spread of exotic/invasive plants, all heavy equipment used for the project shall be pressure washed, prior to entering the Nicholas Flat Natural Preserve.
14. Any areas requiring hydroseeding for temporary erosion control shall use only local, native plant species, approved by the State's Representative, in coordination with the State Environmental Scientist. No invasive, exotics shall be included in any proposed seed palette. Species identified on Lists A & B of the California Invasive Plant Council's List of Exotic Pest Plants of Greatest Ecological Concern in California, as of October 1999, will be prohibited.
15. Erosion control measures shall be inspected daily during rainfall events and at least weekly throughout construction. Prior to the onset of any precipitation, both active (disturbed) soil areas and stockpiled soils shall be stabilized to prevent sediments from escaping off-site or into San Nicholas Creek. Should inspection determine that any BMPs are in disrepair or ineffectual, action shall be immediately taken to fix the deficiency.
16. A toxic material control and spill-response plan shall be prepared and submitted to the State's Representative before the onset of construction. The plan shall outline techniques that will be used to promptly and effectively respond to any accidental spill. All construction workers will receive instruction regarding spill prevention and methods of containment.
17. The changing of oil, refueling, and other actions that could result in the release of a hazardous substance shall be restricted to designated areas that are a minimum of 15 m (50 ft) from any sensitive habitat (e.g., coast live oak woodland) or drainage. These sites shall be surrounded with berms, sandbags, or other barriers to further prevent the accidental spill of fuel, oil, or chemicals. Any discharges shall be immediately contained, cleaned up, and properly disposed, in accordance with the toxic material control and spill-response plan.
18. Debris or runoff, generated by the project, shall be directed away from any drainage to prevent deposition into waterways. The disposal of materials must be performed in a manner that will minimize unnecessary effects to the environment.

19. Construction dust impacts will be offset through implementation of measures that will appropriately reduce/control emissions generated by the project. The project biologist will also periodically inspect the work area to ensure that construction-related activities do not generate excessive amounts of dust or cause other disturbances.
20. Storage and staging areas shall be placed a minimum of 15 m (50 ft) from the banks of San Nicholas Creek and its tributaries. The site(s) shall be reviewed and approved by the State's Representative, in coordination with the State Environmental Scientist, and shall be limited to areas of development, disturbance, or nonnative habitat. All locations used for storage/staging shall be kept free from trash and other waste. No project-related items shall be stored outside approved staging areas at any time.
21. Any dried plant material, thatch, and/or dead wood within the project limits that could potentially pose a fire hazard will be removed at the beginning of operations, as directed by the State's Representative, in coordination with the State Environmental Scientist
22. All heavy equipment shall be outfitted with spark arrestors or turbo-charging, and maintain a fire extinguisher on board. Service vehicles shall park away from flammable materials (e.g., dry grass, brush) to reduce the chance for wildfires.
23. For reasons of safety, areas of excavation (e.g., large holes) shall be covered overnight or during periods of inactivity. These locations will be periodically inspected, over the course of the project, by the State's Representative, in coordination with the State Environmental Scientist, to ensure that no wildlife has become entrapped and that erosion control measures, as appropriate, are implemented.
24. All native habitat temporarily impacted by construction or developed/disturbed areas permanently removed from the trail system shall either be stabilized with vegetation cleared/salvaged by project operations or revegetated with locally occurring native species, as appropriate. Coordination between the DPR and permitting agencies, regarding mitigation procedures, will be completed to ensure both regulatory compliance and long-term enhancement of the habitat.
25. Any plants used for revegetation work will comply with Federal, State, and County laws requiring inspection for infestations. If requested, a certificate of inspection from the appropriate,

- overseeing agency shall be provided to DPR. Plants will be examined by the State's Representative, in coordination with the State Environmental Scientist, before accepting delivery.
26. Any weedy vegetation removed during the clearing and grading activities shall be collected and transported to a disposal site within the park. No weedy materials shall be used as mulch on areas temporarily disturbed by construction.
 27. The project footprint shall be kept clear of trash to avoid attracting predators. All food and garbage shall be placed in sealed containers and regularly transported from the property. Following construction, any trash, debris, or rubbish remaining within the work limits shall be collected and hauled off to an appropriate facility.
 28. At the conclusion of activities, any erosion control measures that are no longer needed, as deemed by the State's Representative, shall be removed and properly disposed off-site. BMPs may remain if the measures are necessary to provide continued stabilization or minimize pollution.
 29. All work related to the Nicholas Pond Trail ADA Improvement Project shall be performed during daylight hours. No nighttime operations (including lighting) shall be allowed to complete the project.
 30. Conditions set forth in the 401 Water Quality Certification, 404 Nationwide Permit, 1602 Streambed Alteration Agreement, and the Coastal Development Permit shall be observed and implemented as part of the proposed construction.

7.0 Conclusions

Implementation of the Nicholas Pond Trail ADA Improvement Project would largely result in minor, permanent effects to developed/disturbed areas, with lesser impacts on coast live oak woodland and nonnative grassland. Jurisdictional waters would also be subject to grading and/or fill during construction of the two bridges and rock steps pools along San Nicholas Creek. The proposed work, however, would eliminate an instream obstruction (i.e., existing culvert) and incorporate techniques (e.g., rock steps) that would stabilize the channel, reduce water velocities, minimize erosion, and reestablish more natural flows. Additionally, stabilization with salvaged plant materials and/or native plantings would be conducted

on all sites that were temporarily/permanently disturbed by the upgrades. Potential impacts to the San Diego mountain kingsnake, a sensitive species observed near the southern end of the site, would be minimized by employing specific conservation measures, while other methods/procedures would be used to limit overall construction disturbance. In general, the project would be expected to cause short-term impacts to habitat, but would likely benefit the area's resources over the long-term by restoring the channel configuration and associated hydrology within San Nicholas Creek.

8.0 References

- American Ornithologists' Union. 1998. Check-list of North American birds, 7th edition (<http://www.aou.org/checklist/index.php3>). American Ornithologists' Union, McLean, Virginia, USA.
- U.S. Army Corps of Engineers (ACOE). 1987. Corps of Engineers Wetlands Delineation Manual. Wetlands Research Program Technical Report Y-87-1. Environmental Laboratory, Waterways Experiment Station, Vicksburg, Mississippi., USA.
- California Department of Fish and Game (CDFG). 2008. Natural diversity database, rarefind version 3.1.0. California Department of Fish and Game, Sacramento, California, USA.
- California Department of Parks and Recreation (DPR). 1996a. Leo Carrillo State Park general plan. California Department of Parks and Recreation, Southern Service Center, San Diego, California, USA.
- California Department of Parks and Recreation (DPR). 1996b. Resource inventory Leo Carrillo State Park. California Department of Parks and Recreation, Southern Service Center, San Diego, California, USA.
- California Native Plant Society (CNPS). 2008. Inventory of rare and endangered plants, version 7-07a (<http://cnps.web.aplus.net/cgi-bin/inv/inventory.cgi>). California Native Plant Society, Sacramento, California, USA.
- Hickman, J. C. 1993. The Jepson manual, higher plants of California. University of California Press, Berkeley, California, USA.
- Holland, R.F. 1986. Preliminary descriptions of the terrestrial natural communities of California. State of California, The Resources Agency, Department of Fish and Game, Sacramento, California, USA.

Laudenslayer, W.F., Jr., W.E. Grenfell, Jr., and D.C. Zeiner. 1991. A check-list of the amphibians, reptiles, birds, and mammals of California. *California Fish and Game* 77:109-141.

Sawyer, J. O. and T. Keeler-Wolf. 1995. A manual of California vegetation. California Native Plant Society, Sacramento, California, USA.

Stebbins, R.C. 1985. A field guide to western reptiles and amphibians. Second Edition. Houghton Mifflin Company, Boston, Massachusetts, USA.

9.0 Appendices

APPENDIX A

Table 1. Plant Species Observed in the Vicinity of the Proposed Nicholas Pond Trail ADA Improvement Project, Leo Carrillo State Park.

Common Name	Scientific Name
Rancher's Fireweed	<i>Amsinkia menziesii.</i>
Yerba Mansa	<i>Anemopsis californica</i>
California Sagebrush	<i>Artemisia californica</i>
Mugwort	<i>Artemisia douglasiana</i>
Oats	<i>Avena sp.</i>
Coyote Brush	<i>Baccharis pilularis</i>
Black Mustard	<i>Brassica nigra</i>
Ripgut Grass	<i>Bromus diandrus</i>
Bigpod Ceanothus	<i>Ceanothus megacarpus</i>
Greenbark Ceanothus	<i>Ceanothus spinosus</i>
Cobwebby Thistle	<i>Cirsium occidentale var. occidentale</i>
Virgin's Bower	<i>Clematis ligusticifolia</i>
Tarweed	<i>Deinandra fasciculata</i>
Blue Dicks	<i>Dichelostemma capitatum</i>
Dudleya	<i>Dudleya pulverulenta</i>
Storksbill	<i>Erodium botrys</i>
California Buckwheat	<i>Eriogonum fasciculatum</i>
Gumplant	<i>Grindelia camporum var. bracteosum</i>
Saw-Toothed Goldenbush	<i>Hazardia squarrosa ssp. grindelioides</i>
Toyon	<i>Heteromeles arbutifolia</i>
Keckiella	<i>Keckiella cordifolia</i>
Wild Pea	<i>Lathyrus vestitus var. vestitus</i>
California-Aster	<i>Lessingia filaginifolia</i>
Giant Wild Rye	<i>Leymus condensatus</i>
Honeysuckle	<i>Lonicera subspicata var. denudata</i>
California Broom	<i>Lotus scoparius</i>
Chaparral Mallow	<i>Malacothamnus fasciculatus</i>
Malacothrix	<i>Malacothrix saxatilis</i>
Laurel Sumac	<i>Malosma laurina</i>
Wild Cucumber	<i>Marah macrocarpus</i>
Horehound	<i>Marrubium vulgare</i>
Monkeyflower	<i>Mimulus aurantiacus</i>
Foothill Needlegrass	<i>Nassella lepida</i>
Harding Grass	<i>Phalaris aquatica</i>
Smilo Grass	<i>Piptatherum miliaceum</i>
Western Sycamore	<i>Platanus racemosa</i>
Coast Live Oak	<i>Quercus agrifolia</i>
Sugar Bush	<i>Rhus ovata</i>
Fuchsia-Flowered Gooseberry	<i>Ribes speciosum</i>

<i>Table 1 (Continued)</i>	
California Rose	<i>Rosa californica</i>
California Blackberry	<i>Rubus ursinus</i>
Curly Dock	<i>Rumex crispus</i>
Arroyo Willow	<i>Salix lasiolepis</i>
Purple Sage	<i>Salvia leucophylla</i>
Pitcher Sage	<i>Salvia spathacea</i>
Scirpus	<i>Scirpus californicus</i>
Milk Thistle	<i>Silybum marianum</i>
Blue-Eyed Grass	<i>Sisyrinchium bellum</i>
Nightshade	<i>Solanum xanti</i>
Poison Oak	<i>Toxicodendron diversilobum</i>
Broad-Leaved Cattail	<i>Typha latifolia</i>
Canyon-Sunflower	<i>Venegasia carpesioides</i>
Verbena	<i>Verbena sp.</i>

Table 2. Wildlife Species Observed in the Vicinity of the Proposed Nicholas Pond Trail ADA Improvement Project, Leo Carrillo State Park.

Common Name	Scientific Name
Birds	
Western Scrub-Jay	<i>Aphelocoma californica</i>
Ring-Necked Duck	<i>Aythya collaris</i>
Oak (Plain) Titmouse	<i>Baeolophus inornatus</i>
Red-Tailed Hawk	<i>Buteo jamaicensis</i>
American Coot	<i>Fulica americana</i>
Song Sparrow	<i>Melospiza melodia</i>
Double-Crested Cormorant	<i>Phalacrocorax auritus</i>
Spotted Towhee	<i>Pipilo maculatus</i>
Black Phoebe	<i>Sayornis nigricans</i>
Reptiles	
Ringneck Snake	<i>Diadophis punctatus</i>
Southern Alligator Lizard	<i>Elgaria multicarinata</i>
Western Fence Lizard	<i>Sceloporus occidentalis</i>
Side-Blotched Lizard	<i>Uta stansburiana</i>

APPENDIX B

**DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)**

Project/Site: Nicholas Pond Trail Applicant/Owner: CDPR Investigator: Kristi Birney, Richard Burg, and Debbie Waldecker	Date: 02/25/09 County: Los Angeles State: CA
Do Normal Circumstances exist on the site? YES Is the site significantly disturbed (Atypical Situation)? NO Is the area a potential Problem Area? NO (If needed, explain in the Wetland Determination remarks section.)	Community ID: Oak Woodland Transect ID: 1 Plot ID: Point 1 Drainage

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <i>Platanus racemosa</i>	Tree	FACW	9.		
2. <i>Quercus agrifolia</i>	Tree	-----	10.		
3. <i>Sambucus mexicana</i>	Tree/Shrub	FAC	11.		
4. <i>Artemisia douglasiana</i>	Shrub	FACW	12.		
5. <i>Rosa californica</i>	Shrub	FAC+	13.		
6. <i>Artemisia californica</i>	Shrub	-----	14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC⁻): 66%

Remarks: Assessment conducted approximately 25 feet upstream of culvert, where two braided channels merge. Ground covered by heavy duff layer.

HYDROLOGY

<p><input checked="" type="checkbox"/> Recorded Data (Describe in Remarks):</p> <ul style="list-style-type: none"> <input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs <input checked="" type="checkbox"/> Other <p><input type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: <input checked="" type="text" value=">18"/> inches</p> <p>Depth to Free Water in Pit: <input checked="" type="text" value=">18"/> inches</p> <p>Depth to Saturated Soil: <input checked="" type="text" value=">18"/> inches</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input checked="" type="checkbox"/> Sediment Deposits <input checked="" type="checkbox"/> Drainage Patterns in Wetlands <p>Secondary Indicators (2 or more required):</p> <ul style="list-style-type: none"> <input type="checkbox"/> Oxidized Root Channels in Upper 12inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
---	---

Remarks: Mapping indicates that San Nicholas Creek and tributaries are blue-line streams.

SOILS

Map Unit Name(Series and Phase): Malibu loam, 30 to 50 percent slopes		Drainage Class: Moderately well drained			
Soil Taxonomy (Subgroup): Mollisol		Field Observations: Confirm Mapped Type?		NO	
Profile Description:					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
1-18	A	2.5YR 3/2	-----	-----	Loamy sand
Hydric Soil Indicators:					
<input type="checkbox"/>	Histosol	<input type="checkbox"/>	Concretions		
<input type="checkbox"/>	Histic Epipedon	<input type="checkbox"/>	High Organic Content in Surface Layer in Sandy Soils		
<input type="checkbox"/>	Sulfidic Odor	<input type="checkbox"/>	Organic Streaking in Sandy Soils		
<input type="checkbox"/>	Aquic Moisture Regime	<input type="checkbox"/>	Listed on Local Hydric Soils List		
<input type="checkbox"/>	Reducing Conditions	<input type="checkbox"/>	Listed on National Hydric Soils List		
<input type="checkbox"/>	Gleyed or Low-Chroma Colors	<input type="checkbox"/>	Other (Explain in Remarks)		
Remarks: Somewhat sandy soil, uniform in profile to 18 inches in depth. Braided channel further upstream, with existing "island" in middle of drainage.					

WETLAND DETERMINATION

Hydrophytic Vegetation Present? YES Wetland Hydrology Present? YES Hydric Soils Present? NO	Is this Sampling Point Within a Wetland? NO
Remarks: Drainage maintains defined bed and bank, roughly 15 feet wide at sampling location.	

**DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)**

Project/Site: Nicholas Pond Trail Applicant/Owner: CDPR Investigator: Kristi Birney, Richard Burg, and Debbie Waldecker	Date: 02/25/09 County: Los Angeles State: CA
Do Normal Circumstances exist on the site? YES Is the site significantly disturbed (Atypical Situation)? NO Is the area a potential Problem Area? NO (If needed, explain in the Wetland Determination remarks section.)	Community ID: Oak Woodland Transect ID: 1 Plot ID: Point 2 Drainage

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <i>Toxicodendron diversilobum</i>	Shrub	-----	9.		
2. <i>Leymus condensatus</i>	Shrub	FACU	10.		
2. <i>Quercus agrifolia</i>	Tree	-----	11.		
4. <i>Heteromeles arbutifolia</i>	Tree/Shrub	-----	12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC⁻): 0%

Remarks: Assessment conducted approximately 60 feet downstream of culvert. Moderate duff layer, abundance of poison oak.

HYDROLOGY

<p><input checked="" type="checkbox"/> Recorded Data (Describe in Remarks):</p> <ul style="list-style-type: none"> <input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs <input checked="" type="checkbox"/> Other <p><input type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: <input type="text" value=">15"/> inches</p> <p>Depth to Free Water in Pit: <input type="text" value=">15"/> inches</p> <p>Depth to Saturated Soil: <input type="text" value="12"/> inches</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 inches <input type="checkbox"/> Water Marks <input checked="" type="checkbox"/> Drift Lines <input checked="" type="checkbox"/> Sediment Deposits <input checked="" type="checkbox"/> Drainage Patterns in Wetlands <p>Secondary Indicators (2 or more required):</p> <ul style="list-style-type: none"> <input type="checkbox"/> Oxidized Root Channels in Upper 12 inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
<p>Remarks: Mapping indicates that San Nicholas Creek and tributaries are blue-line streams.</p>	

10.0 Figures

Figure 1. General Location of the Proposed Nicholas Pond Trail ADA Improvement Project, Leo Carrillo State Park.

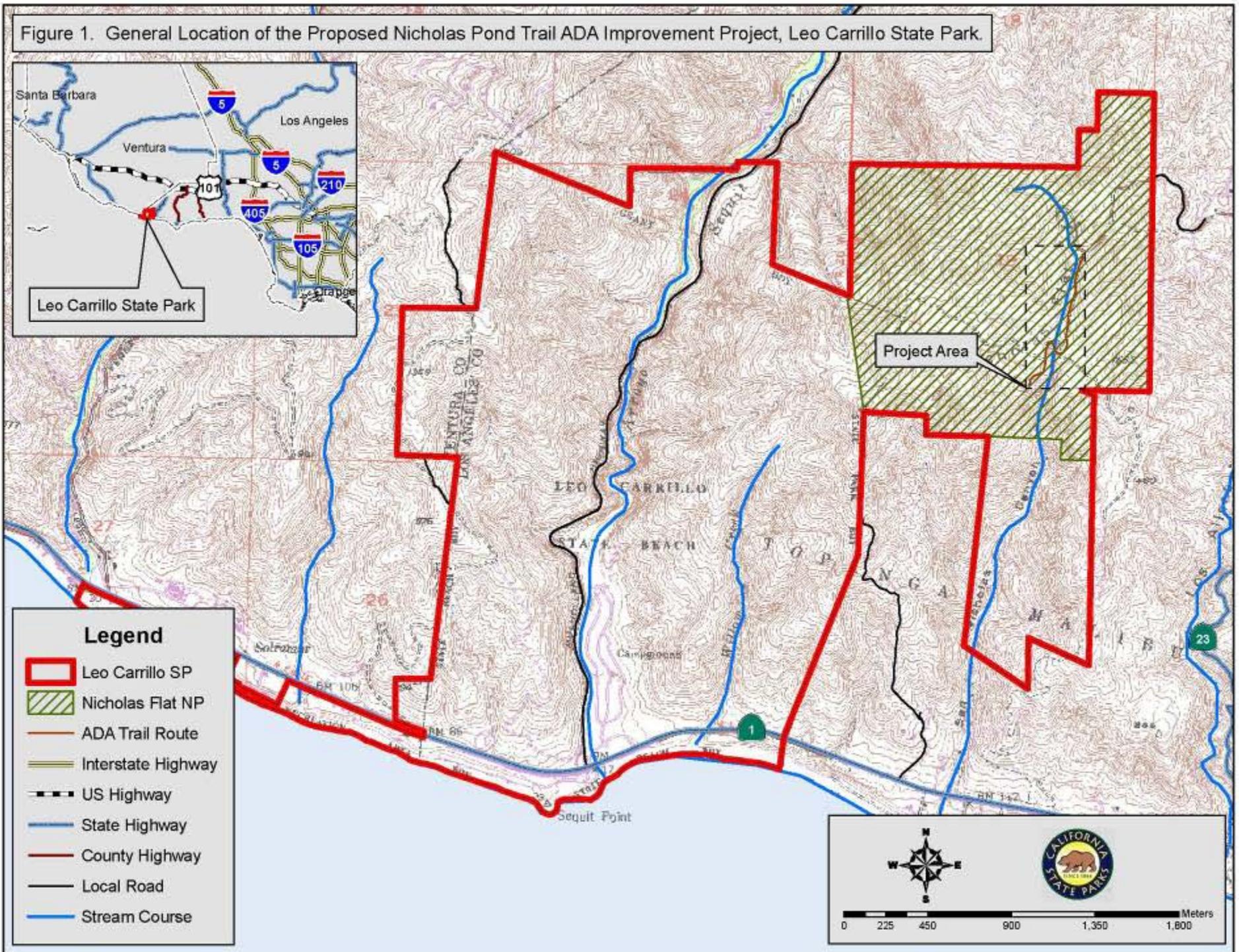


Figure 2. Overview and Details of the Proposed Nicholas Pond Trail ADA Improvement Project, Leo Carrillo State Park.

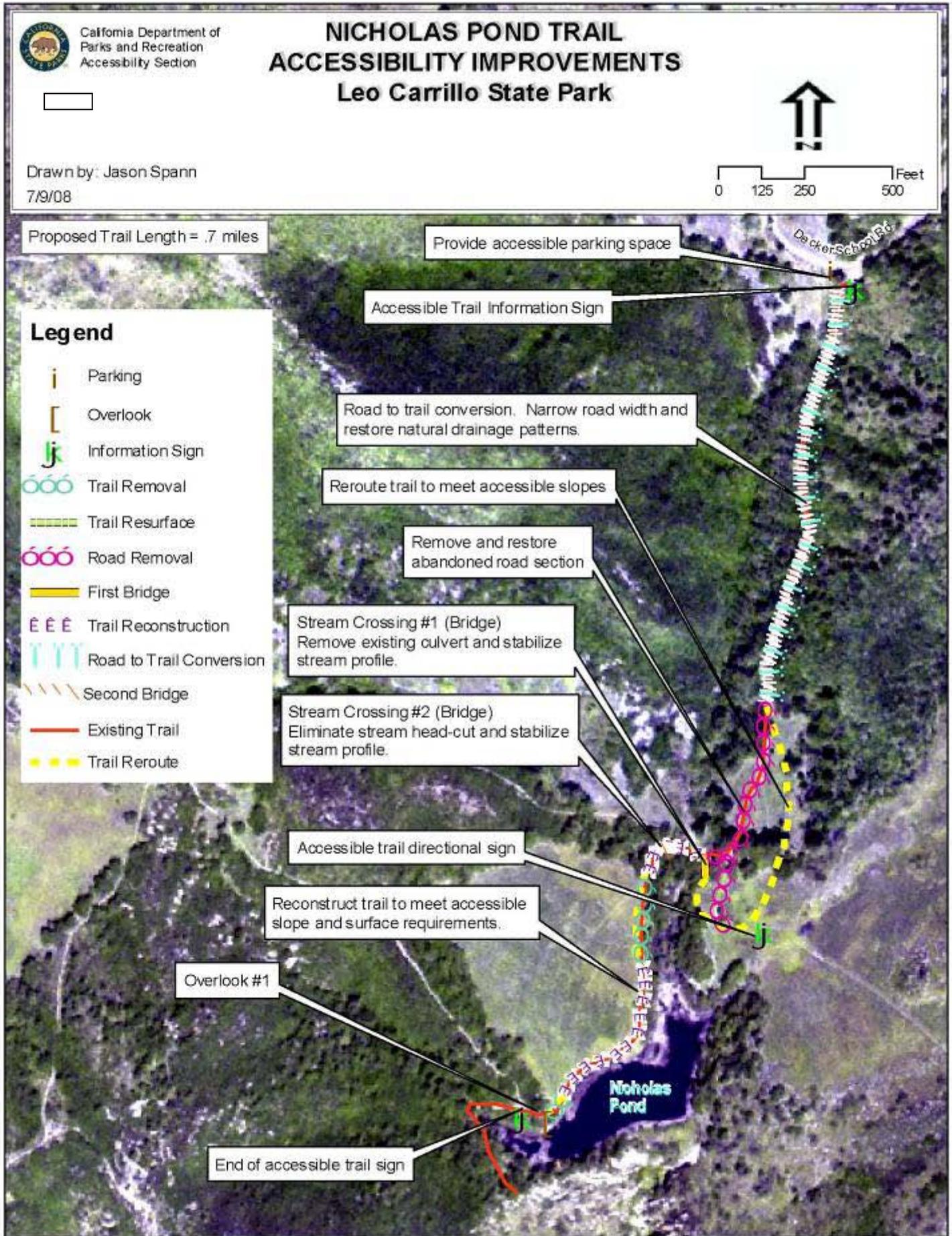


Figure 3. Overview and Details of the Proposed Nicholas Pond Trail ADA Improvement Project, Leo Carrillo State Park.

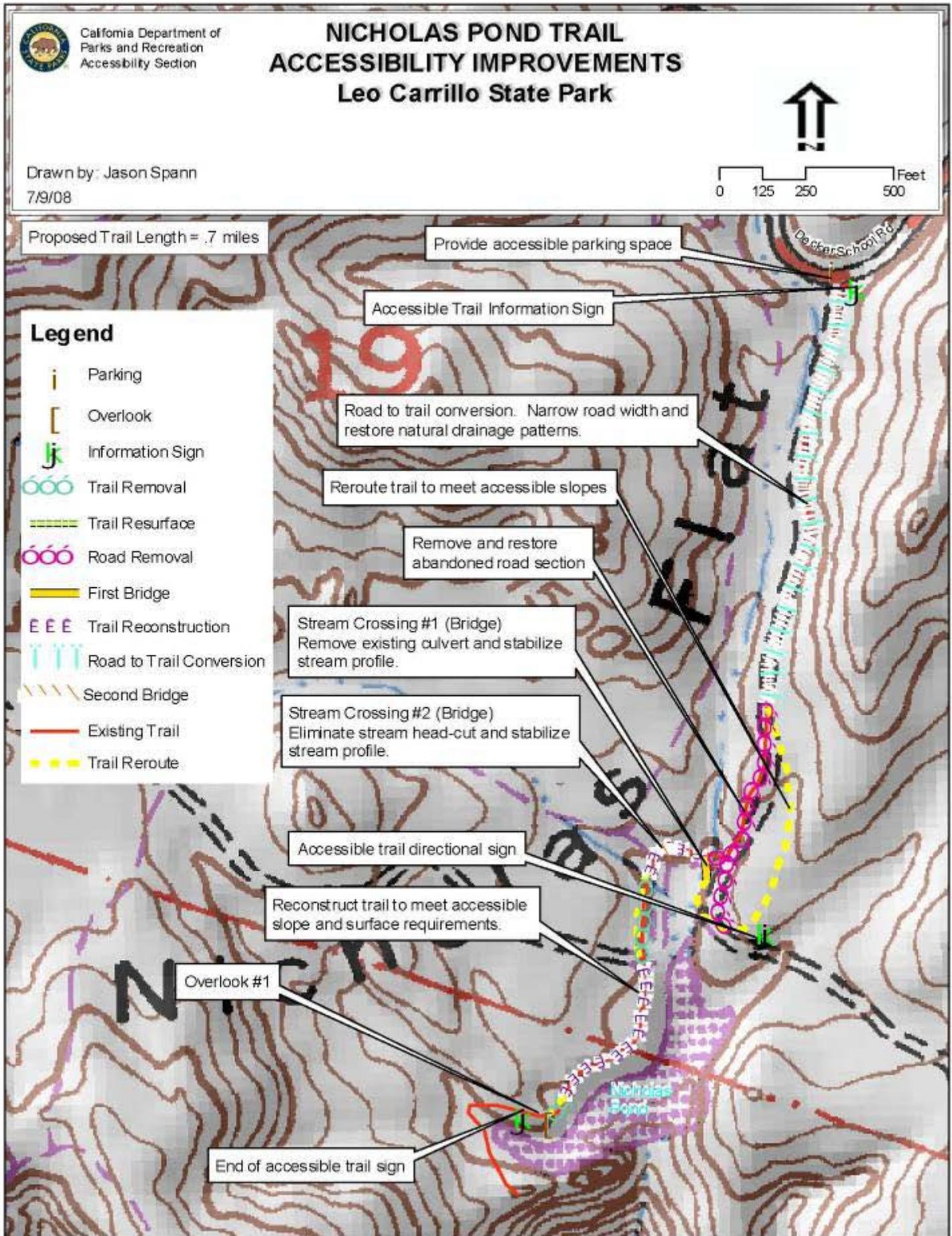


Figure 4. Overview and Details of the Proposed Nicholas Pond Trail ADA Improvement Project, Leo Carrillo State Park.

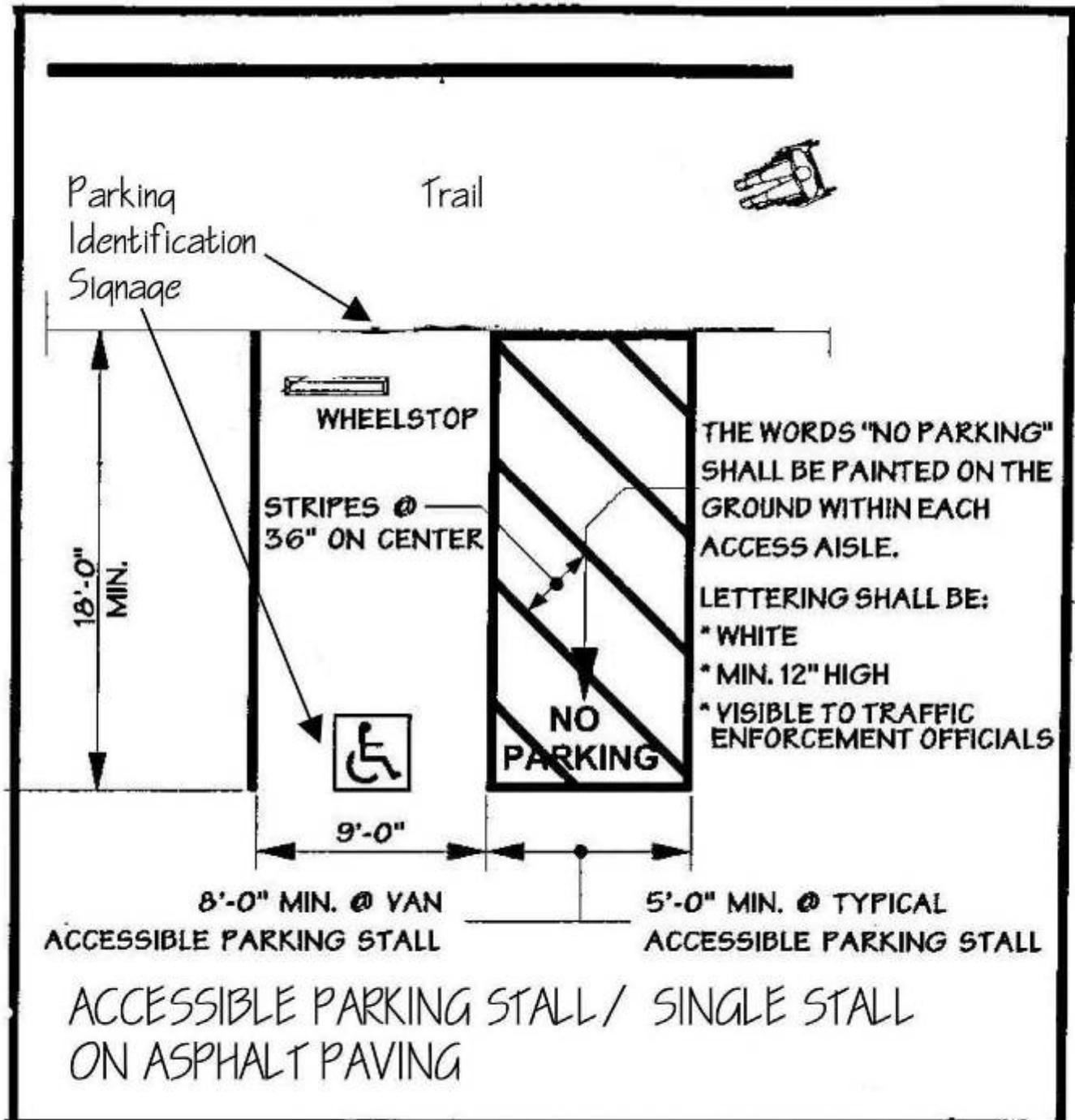
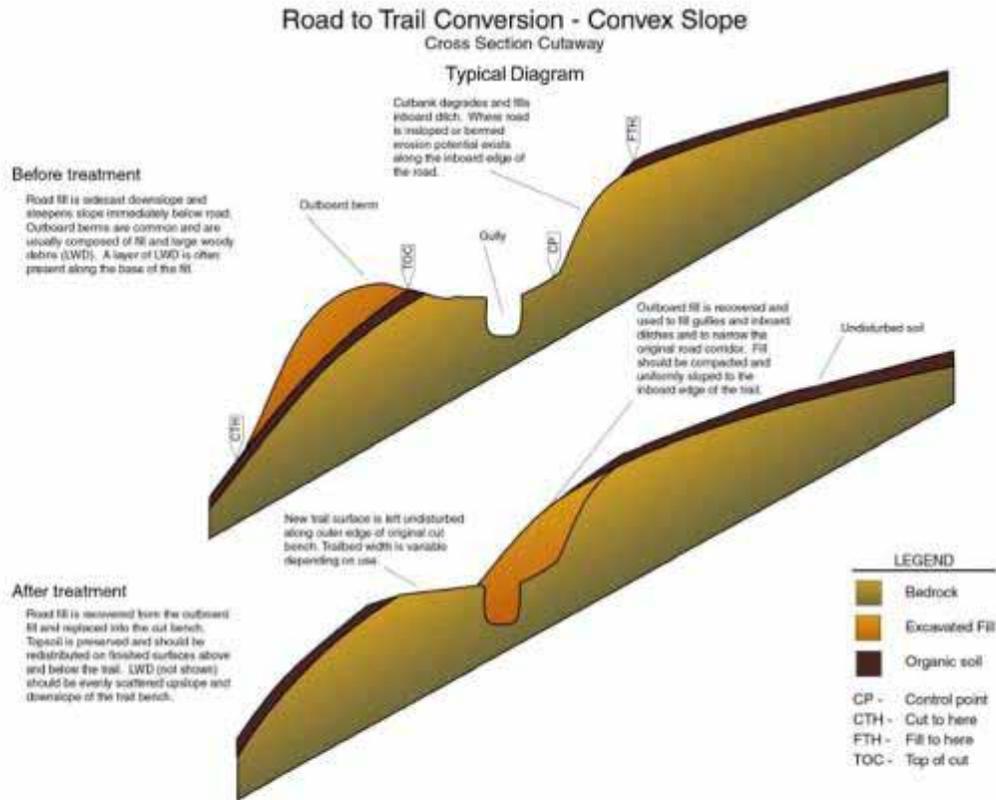
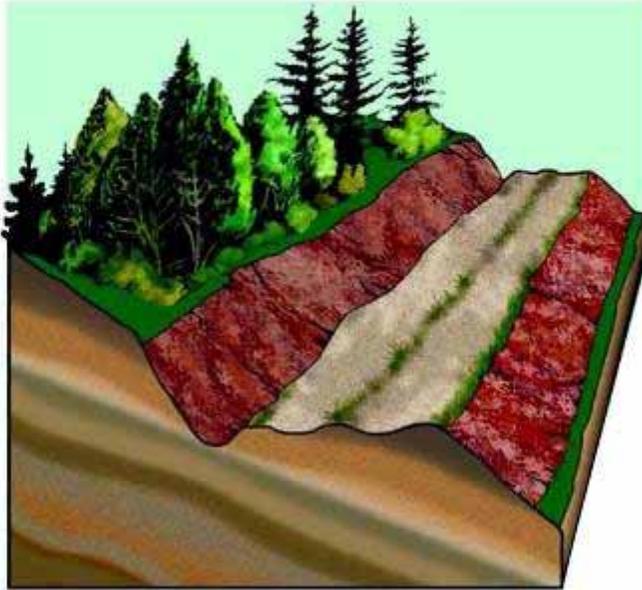


Figure 5. Overview and Details of the Proposed Nicholas Pond Trail ADA Improvement Project, Leo Carrillo State Park.



ROAD TO TRAIL CONVERSION



Many trails within State Parks are developed on legacy roads that were constructed before the area became public land. Early park managers found it was much easier to let a road close in with vegetation and become a trail, than to construct a new trail. Where roads did not connect, short trail segments were often built to link the roads into a trail network. Unfortunately, poorly constructed roads make poor trails. Grades are often excessive, and many of these roads continue to be sources of sediment and erosion problems. Roads that are unsuitable as trails are removed by full recontouring or decommissioning. Where roads do provide a suitable trail alignment, the road can be converted to a trail. Conversion greatly reduces erosion problems and provides park visitors with a more pleasant hiking experience.

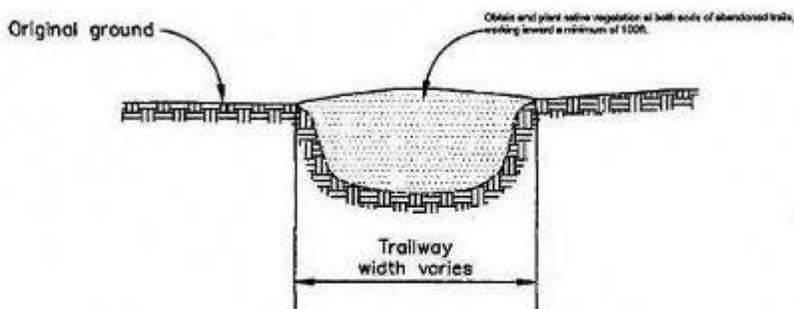
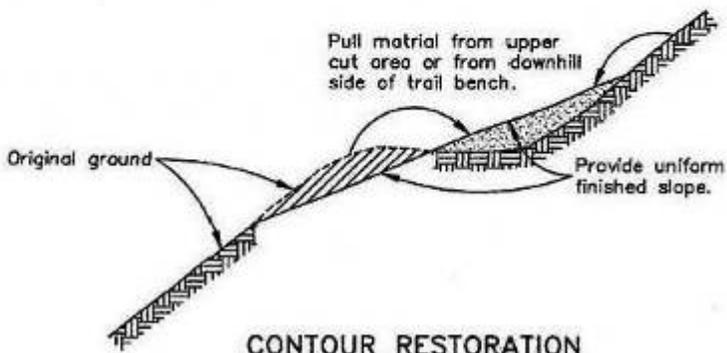
A road-to-trail conversion transforms an existing road into a recreational trail using heavy equipment. The process begins by removing encroaching vegetation from the roadway and stockpiling it nearby. Then the dozer rips the inboard ditch and inboard road surface to reduce ditch memory and increase the permeability of the roadbed. Once the roadbed is prepared, embankment fill is excavated from the outboard edge of the road and placed against the cutbank. Between the excavated fill and the cutbank fill, a 5-foot wide portion of the original road is preserved and will serve as the trail tread. The trail should be located on the cutbench of the road, not on the embankment fill. This ensures the trail is on stable well-compacted material. The trail can be constructed with gentle meanders to soften the appearance of a straight road section.



Figure 7. Overview and Details of the Proposed Nicholas Pond Trail ADA Improvement Project, Leo Carrillo State Park.

TRAIL OBLITERATION

NOT TO SCALE



TRENCH BACKFILL

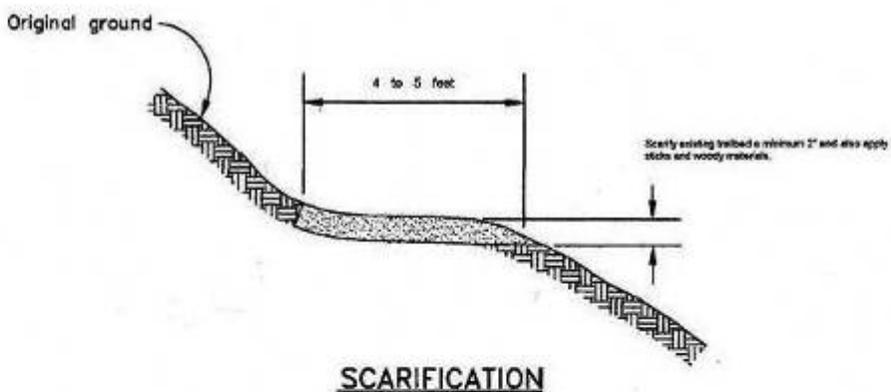


Figure 8. Overview and Details of the Proposed Nicholas Pond Trail ADA Improvement Project, Leo Carrillo State Park.

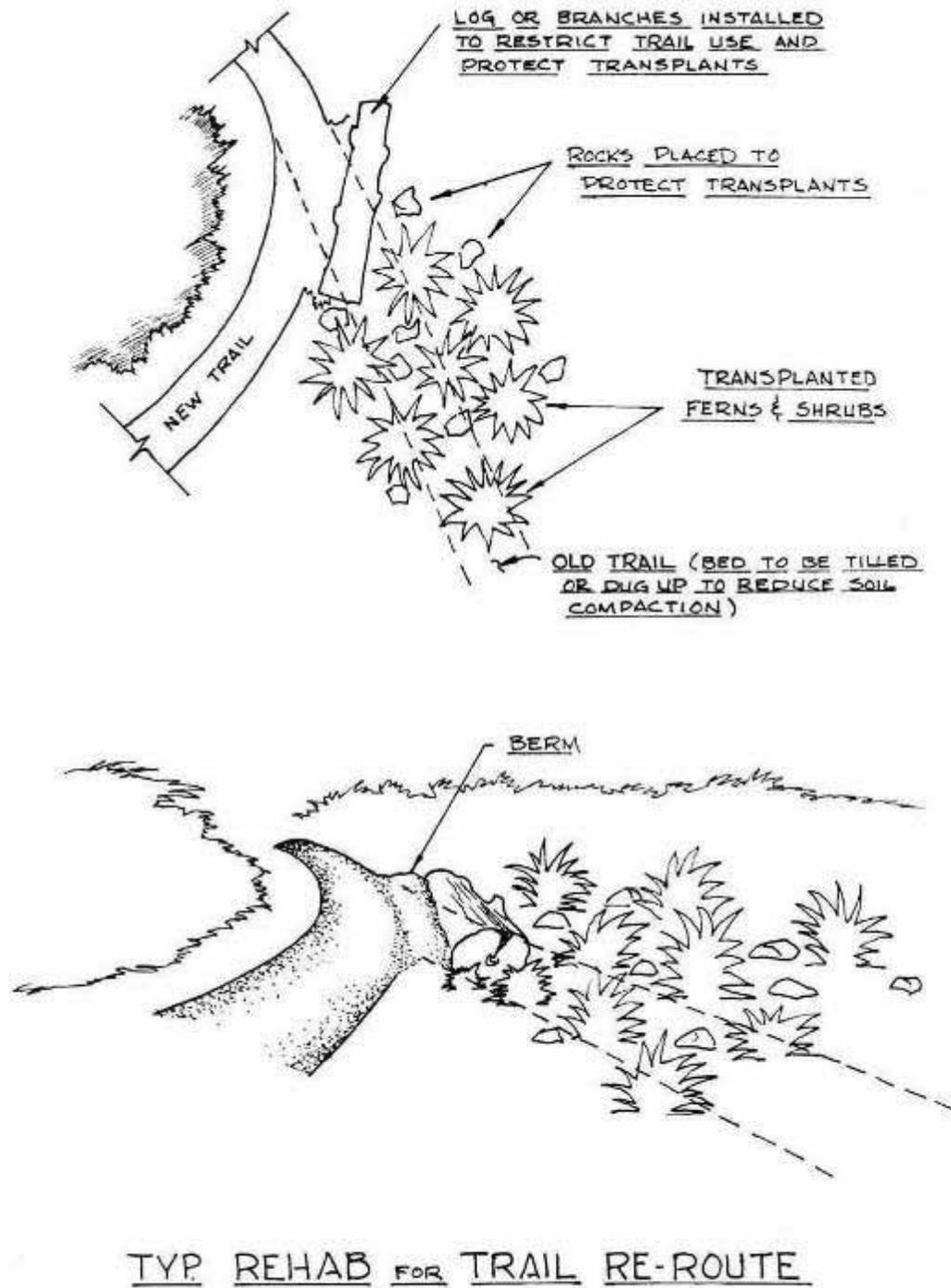


Figure 9. Overview and Details of the Proposed Nicholas Pond Trail ADA Improvement Project, Leo Carrillo State Park.

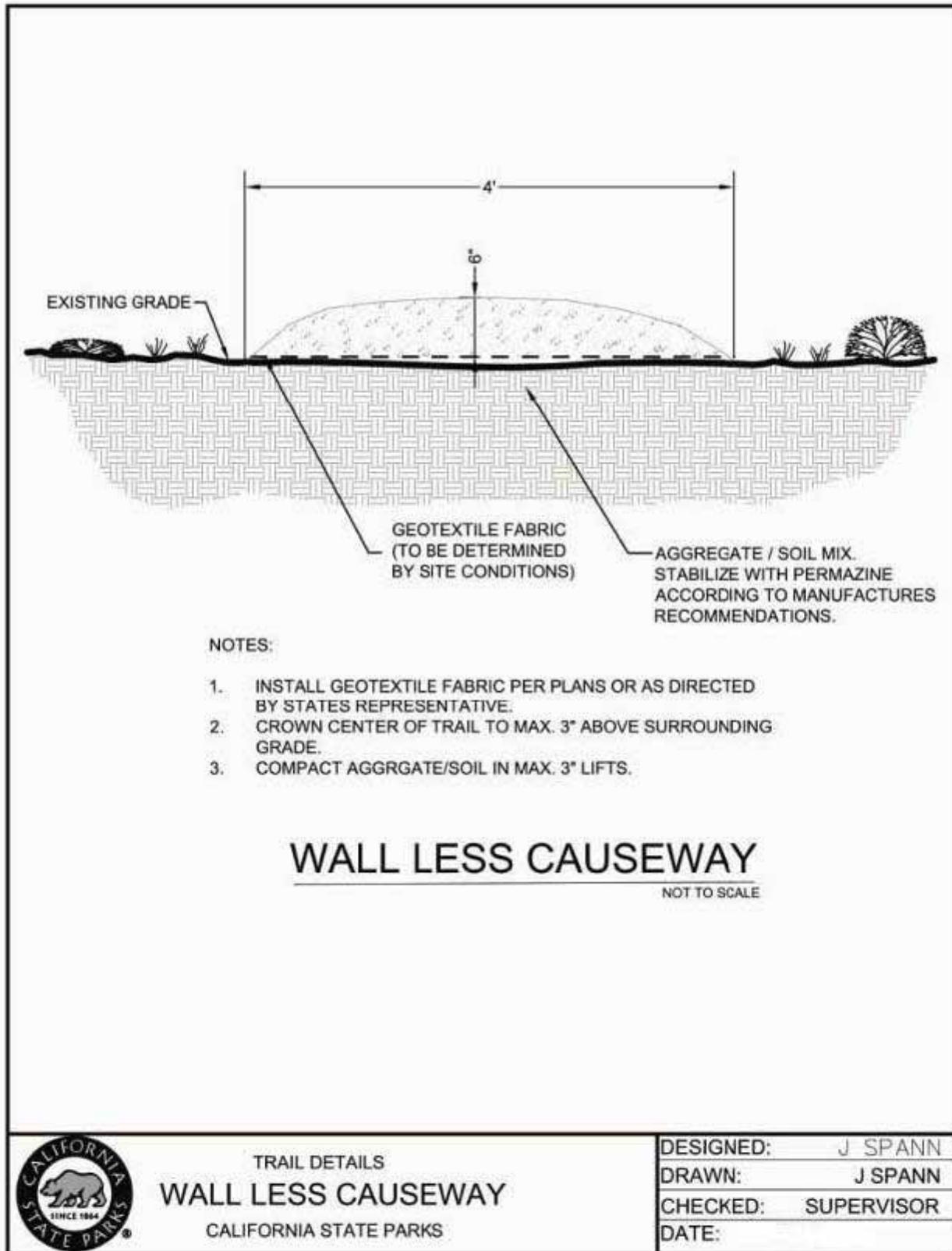


Figure 10. Overview and Details of the Proposed Nicholas Pond Trail ADA Improvement Project, Leo Carrillo State Park.

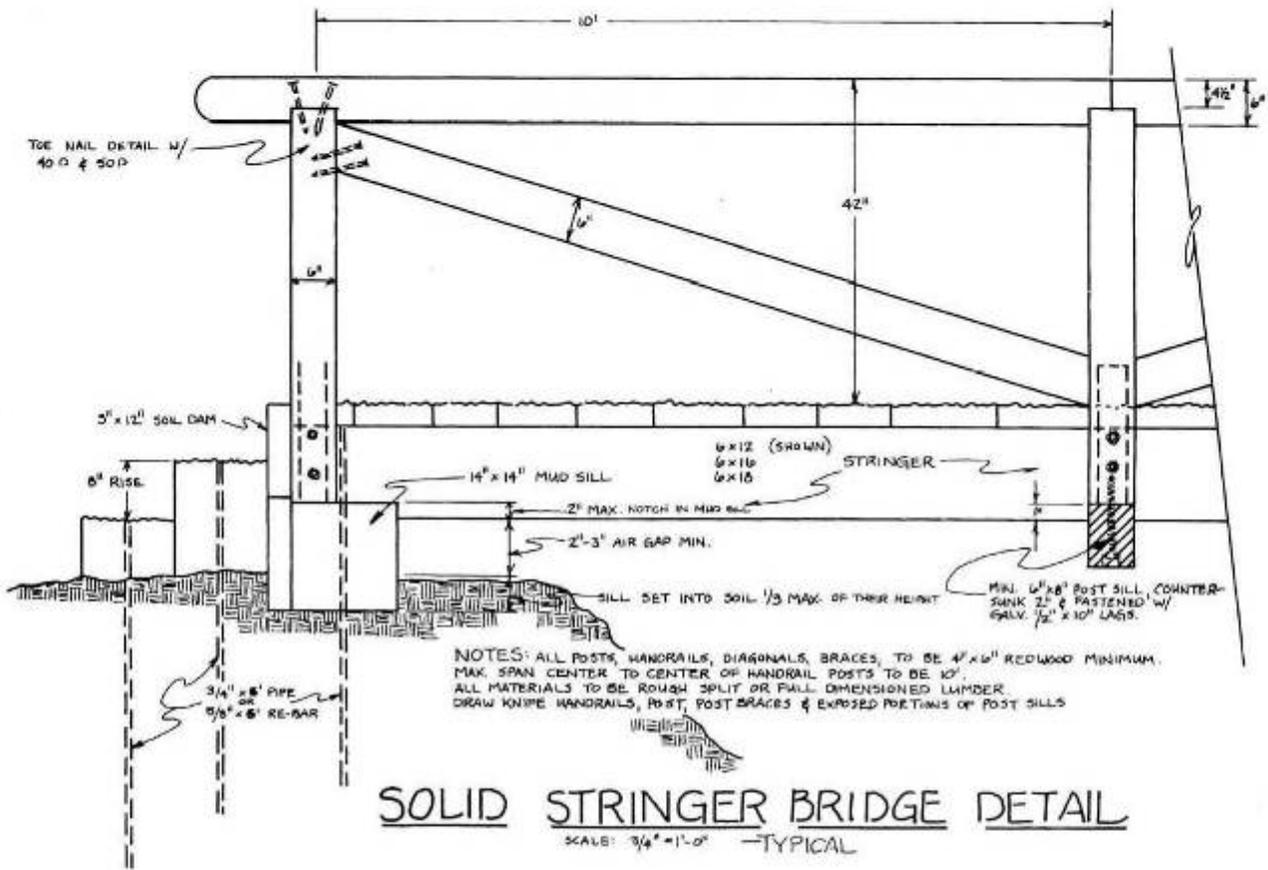


Figure 11. Overview and Details of the Proposed Nicholas Pond Trail ADA Improvement Project, Leo Carrillo State Park.

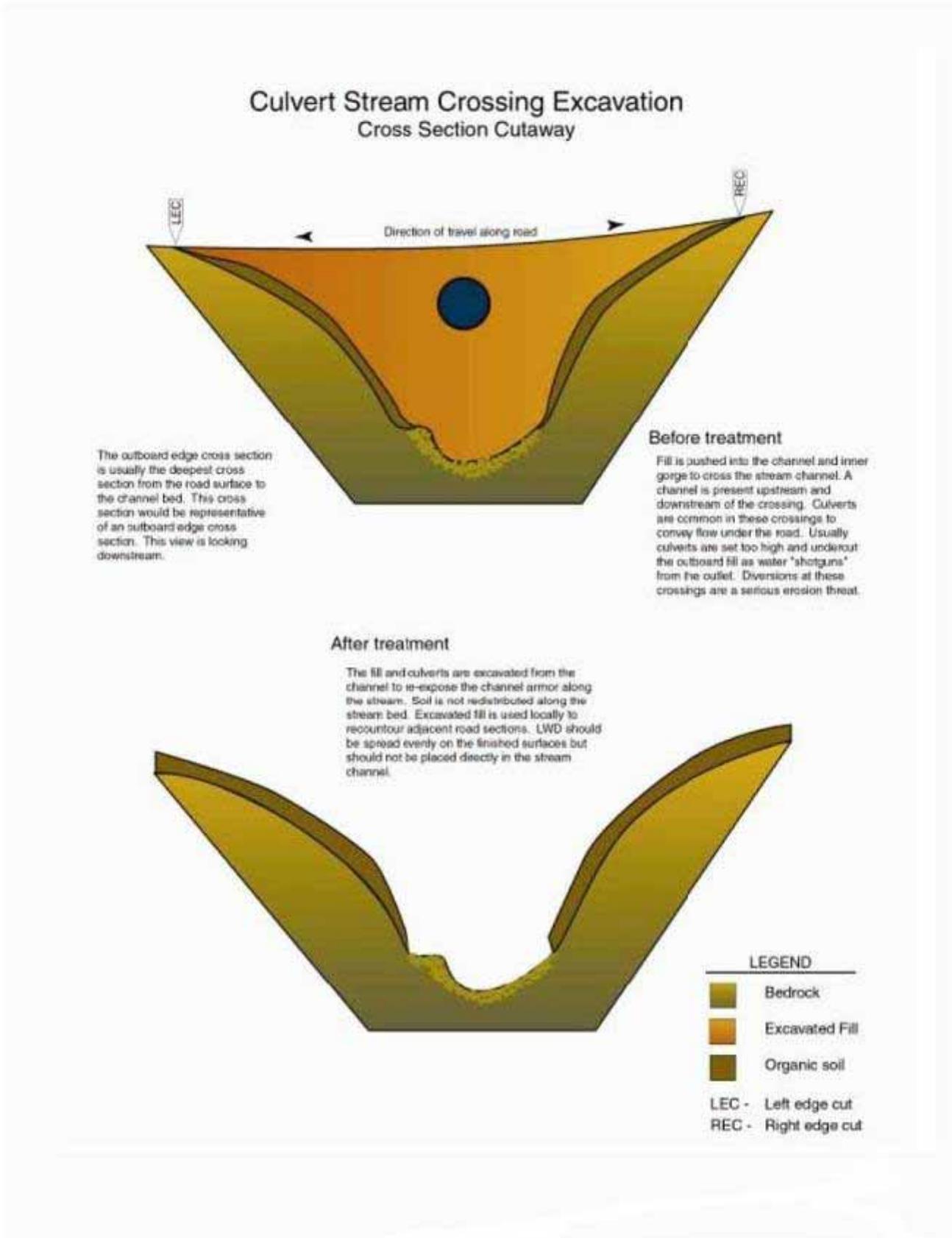
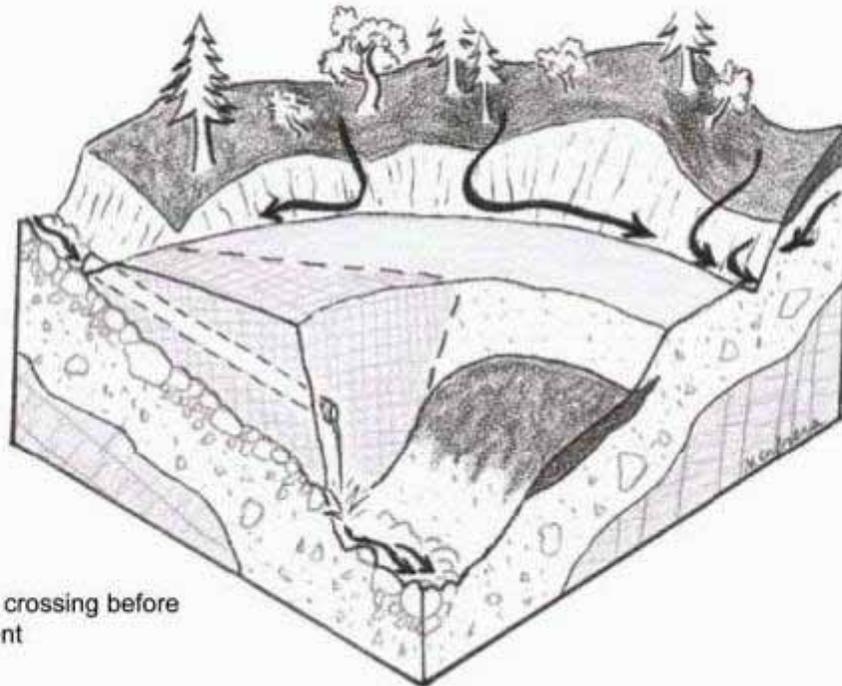
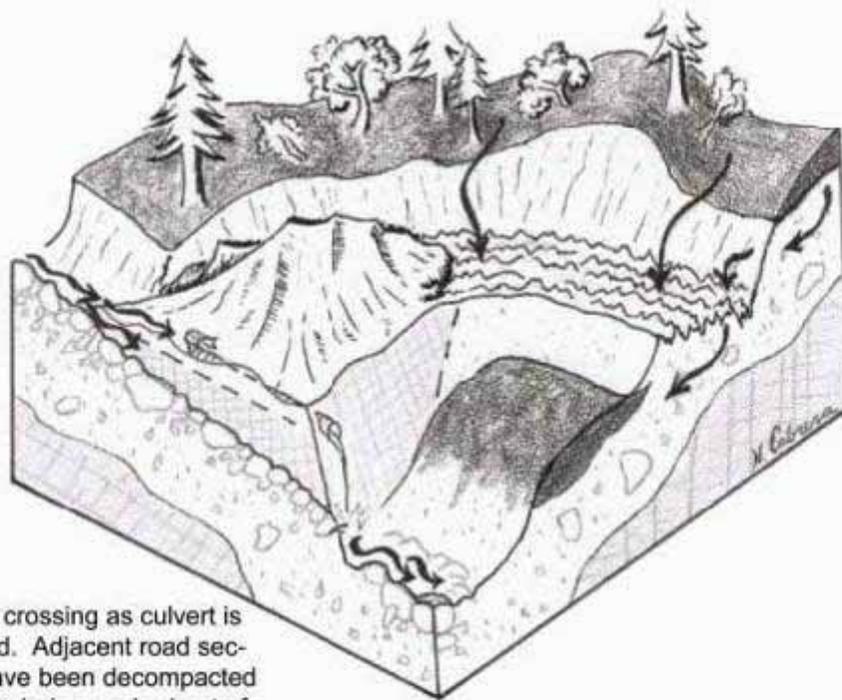


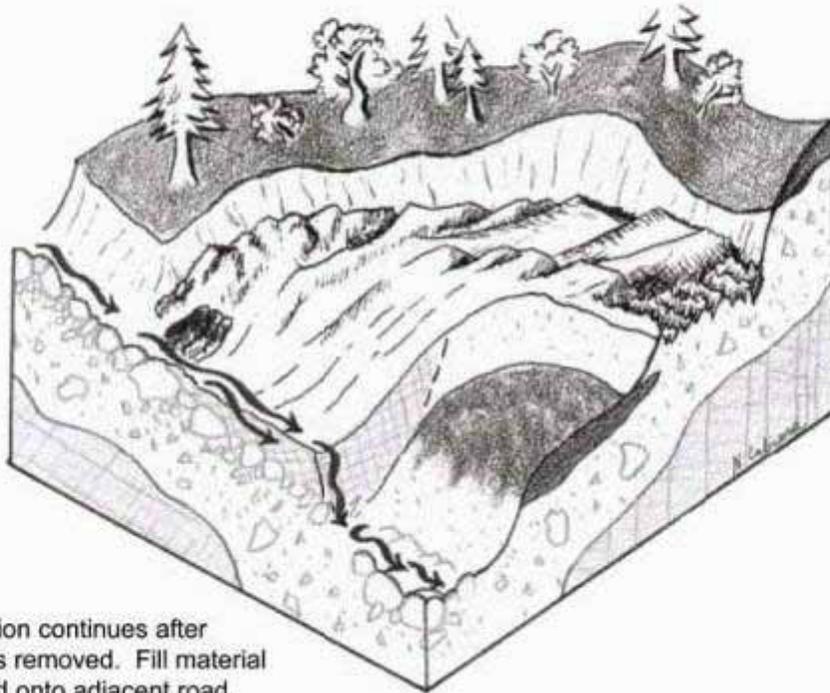
Figure 12. Overview and Details of the Proposed Nicholas Pond Trail ADA Improvement Project, Leo Carrillo State Park.



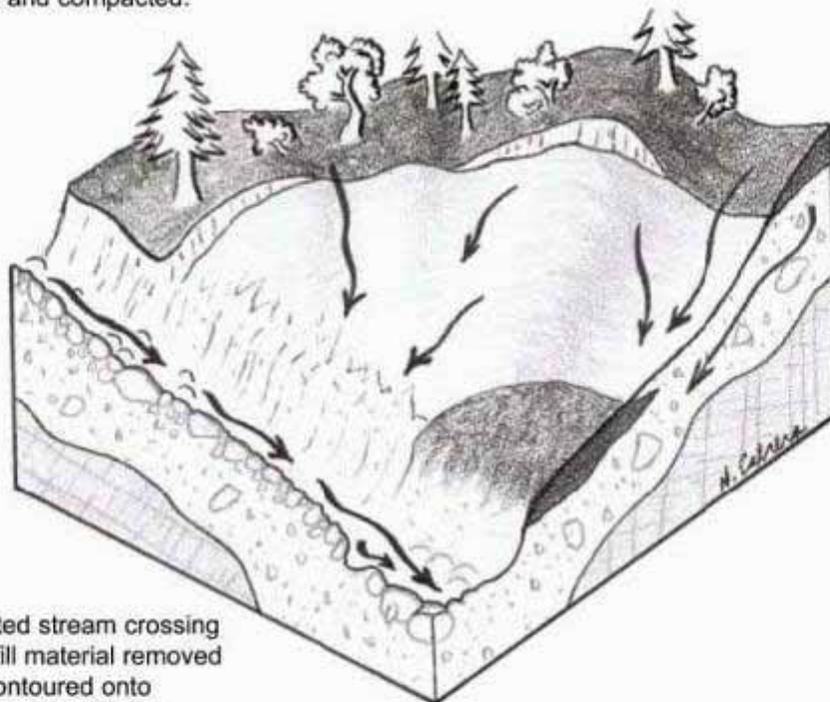
Stream crossing before treatment



Stream crossing as culvert is exposed. Adjacent road sections have been decompacted and fill is being pushed out of the crossing.

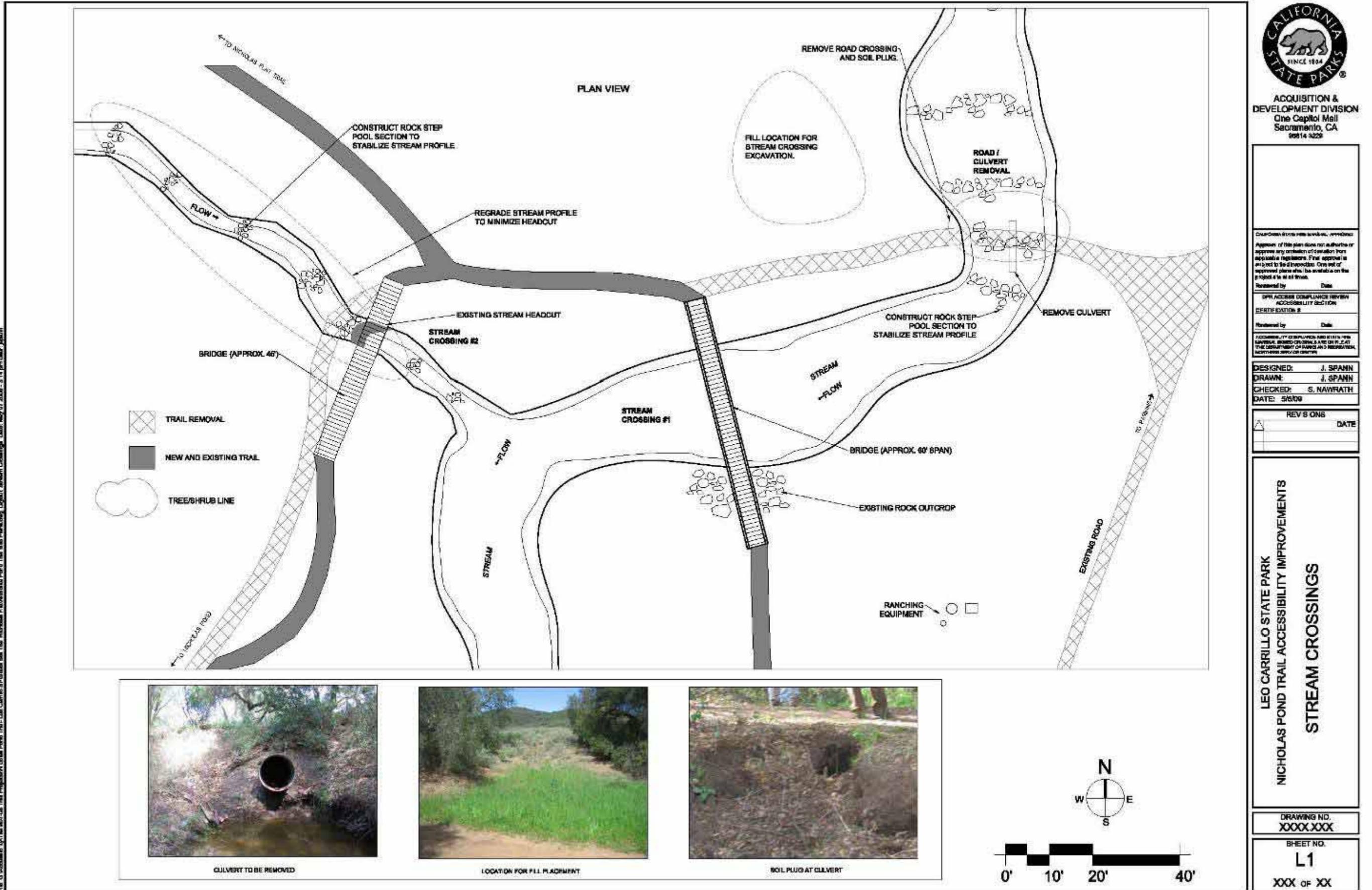


Excavation continues after culvert is removed. Fill material is moved onto adjacent road sections and compacted.



Completed stream crossing with all fill material removed and recontoured onto adjacent road sections.

Figure 14. Design Layouts for the Proposed Nicholas Pond Trail ADA Improvement Project, Leo Carrillo State Park.



File: C:\Users\j\OneDrive\Documents\Nicholas Pond Trail ADA Improvement\Drawings\Plan View.dwg
 Date: May 07, 2008 - 3:14 pm User: jspann


CALIFORNIA STATE PARKS
 SINCE 1934
 ACQUISITION & DEVELOPMENT DIVISION
 One Capitol Mall
 Sacramento, CA
 95814-3226

Check One of the following boxes:
 Approval of this plan does not authorize or approve any construction or alteration from applicable regulations. Final approval is subject to field inspection. One set of approved plans shall be available on the project site at all times.
 Reviewed by: _____ Date: _____
 DPI ACCESS COMPLIANCE REVIEW
 ACCESSIBILITY SECTION
 CERTIFICATION # _____
 Reviewed by: _____ Date: _____
 ACCESSIBILITY COMPLIANCE AND FIELD INSPECTION
 MANUAL BOARD ORDNANCE AND FIELD AT THE DEPARTMENT OF PARKS AND RECREATION, NORTHWOOD 3000/02 CENTER

DESIGNED: J. SPANN
 DRAWN: J. SPANN
 CHECKED: S. NAVRATH
 DATE: 5/6/08

REV'S	DATE

LEO CARRILLO STATE PARK
 NICHOLAS POND TRAIL ACCESSIBILITY IMPROVEMENTS
 STREAM CROSSINGS

DRAWING NO.
 XXXX.XXX
 SHEET NO.
L1
 XXX OF XX

Figure 16. Design Layouts for the Proposed Nicholas Pond Trail ADA Improvement Project, Leo Carrillo State Park.

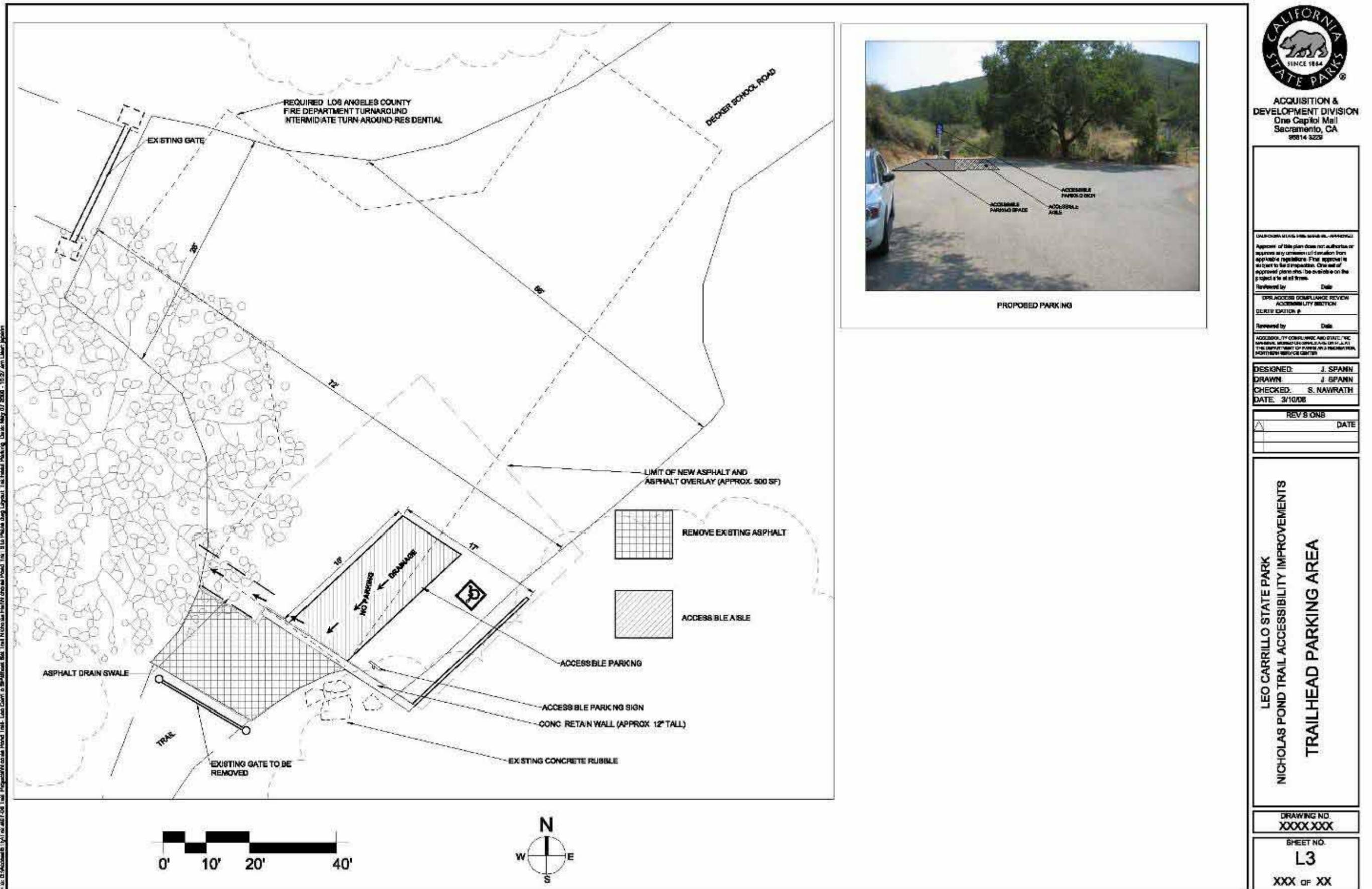


Figure 17. Design Layouts for the Proposed Nicholas Pond Trail ADA Improvement Project, Leo Carrillo State Park.

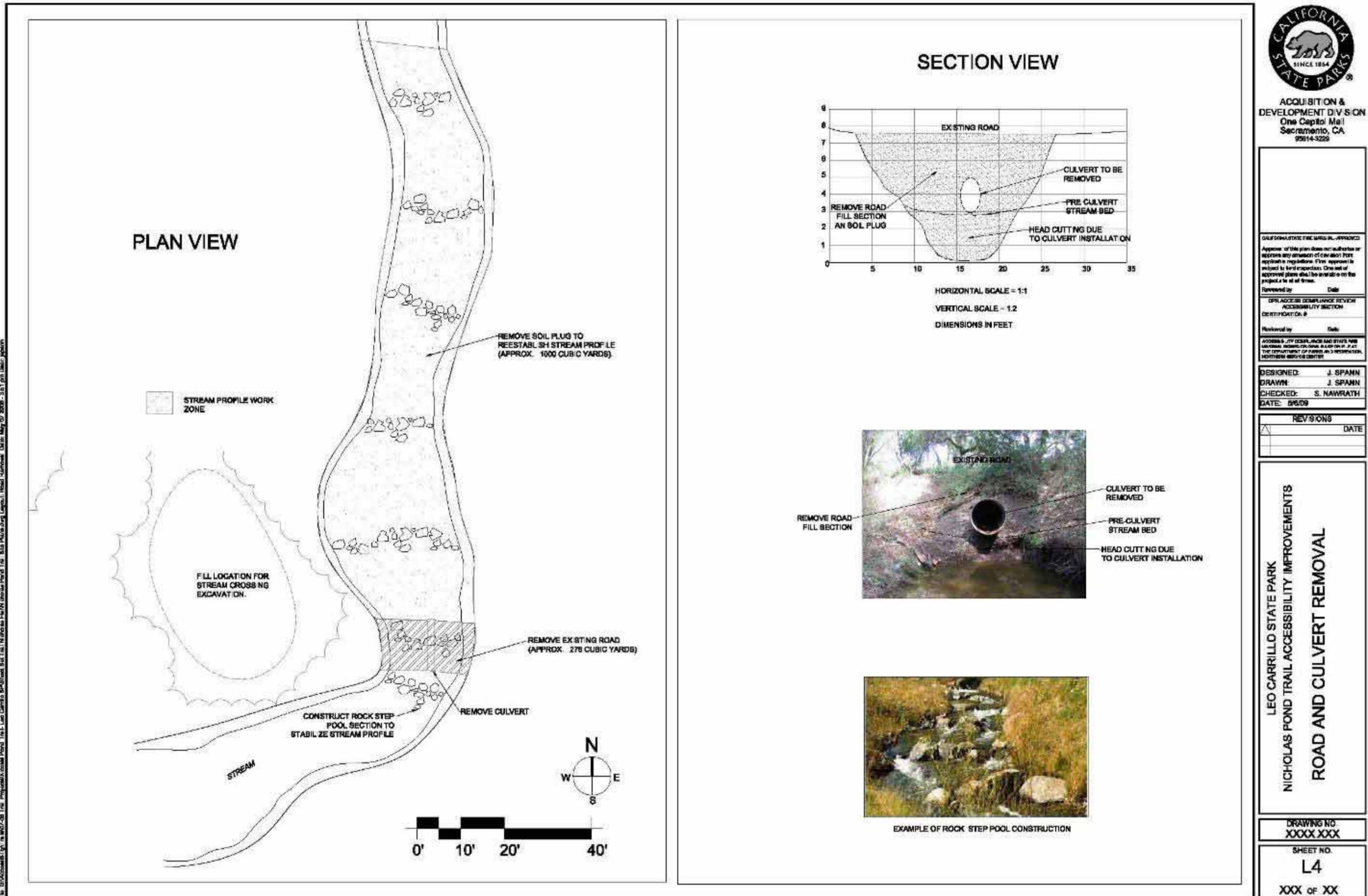


Figure 18. Design Layouts for the Proposed Nicholas Pond Trail ADA Improvement Project, Leo Carrillo State Park.

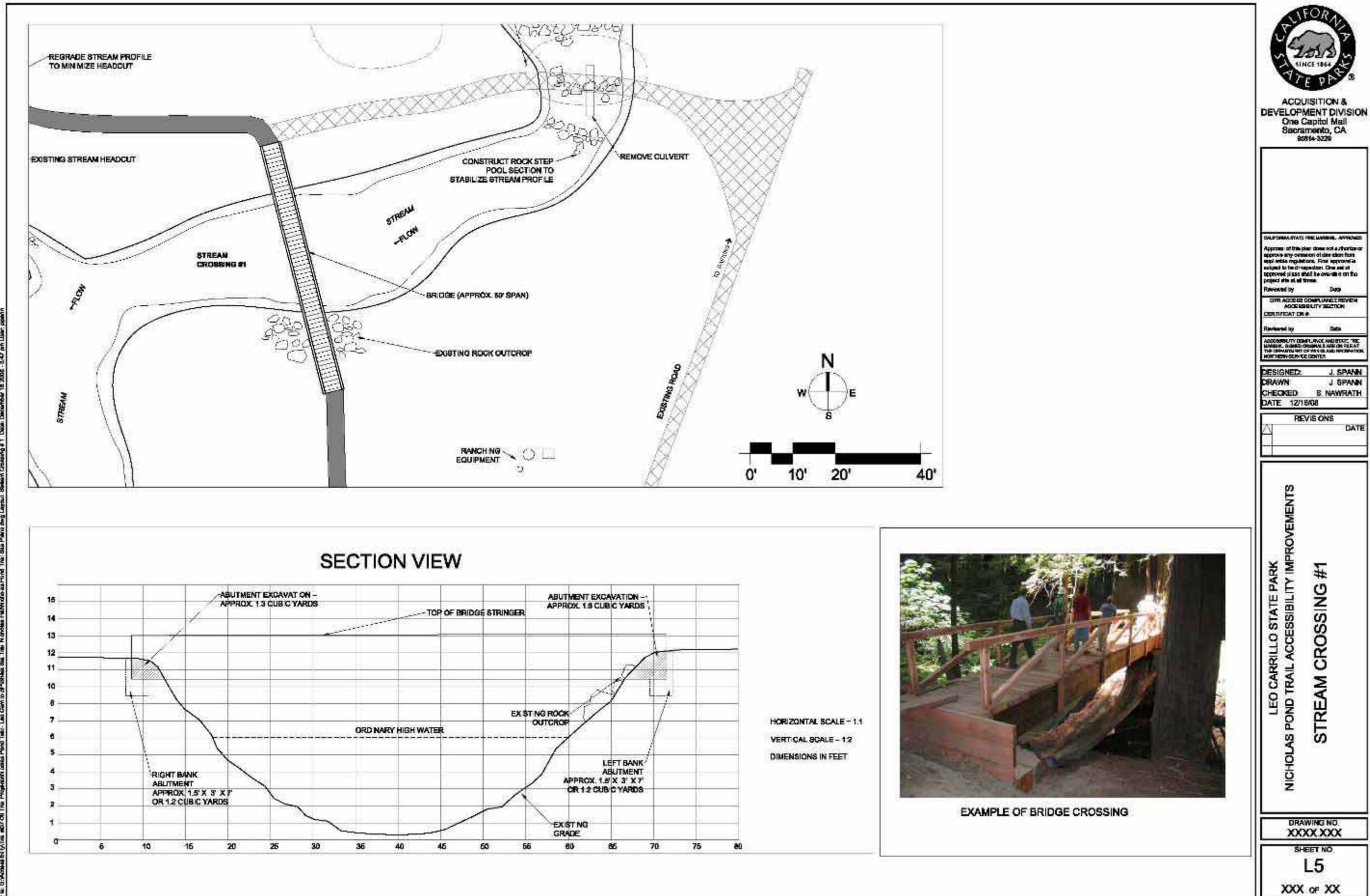




Figure 20. Proposed accessible parking space located at the end of Decker School Road, near the entrance to Nicholas Pond Trail.

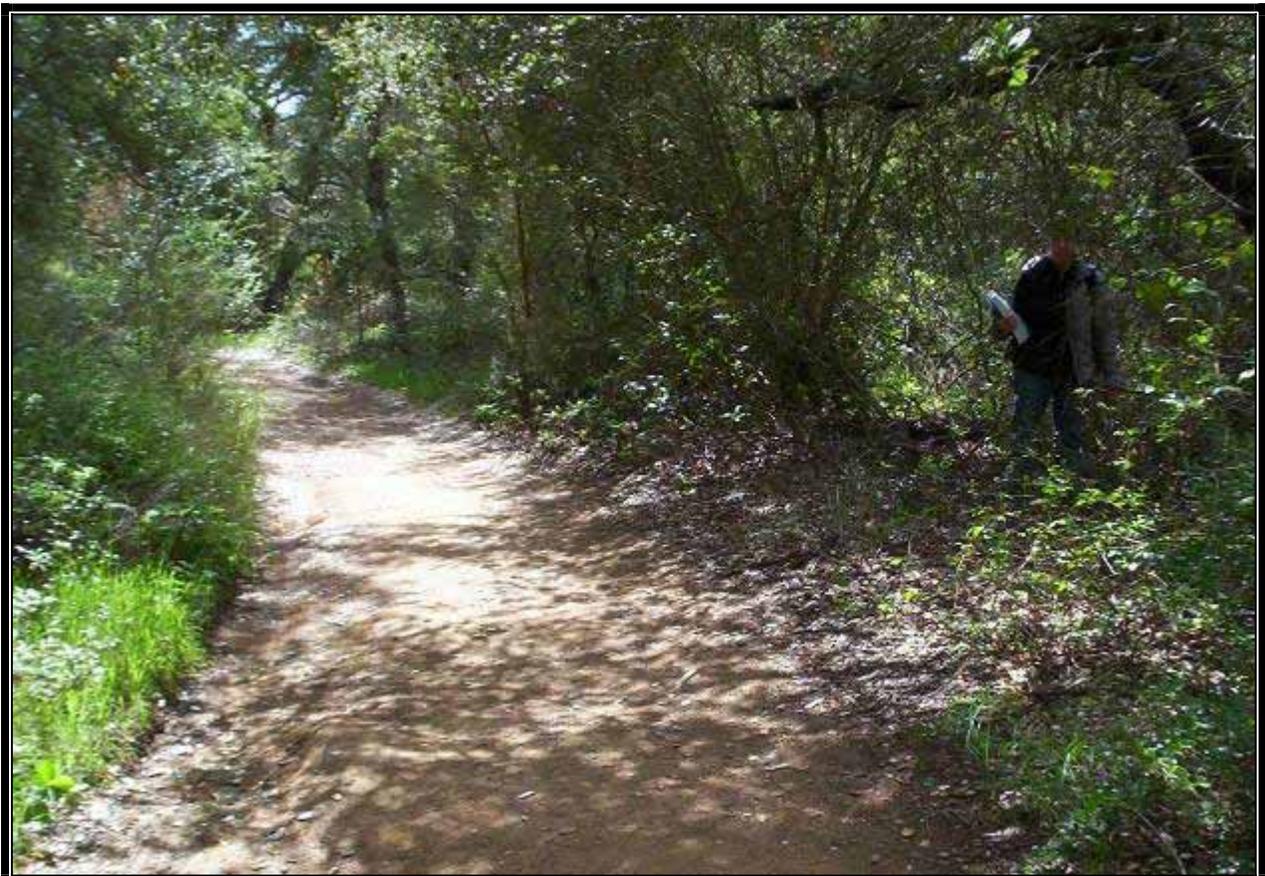


Figure 21. Portion of the 2.4 m (8 ft) wide fire road that would be narrowed to a 1.2 m (4 ft) trail by scraping soils from the bermed, downslope shoulder (right side) and transferring materials to the upslope/inside of the roadway (Gullying and erosion evident in lower left corner of photograph).



Figure 22. Example of severe gully erosion occurring on the downslope side of the fire road as a result of concentrated/channeled flows along and across the roadway.



Figure 23. Section of roadway, south of the road to trail conversion, that would be abandoned, regraded, and stabilized with cleared/salvaged vegetation.



Figure 24. Inclined section of trail, lying south of the second bridge, that would be eliminated from access as part of the ADA improvements.



Figure 25. Proposed trail reroute through an area of nonnative grassland and coast live oak woodland, situated south of the road to trail conversion.



Figure 26. A trail reroute, located near the southern end of the project limits and adjacent to the overlook, that would traverse through a section of nonnative grassland.



Figure 27. Existing portion of trail, found along the western edge of Nicholas Pond, that would be subject to regrading/reconstruction.



Figure 28. Typical vegetation found within the drainage near the southern end of the first bridge crossing.



Figure 29. View from existing trail of the proposed northern terminus of the first bridge that would span San Nicholas Creek.



Figure 30. Construction of the second bridge would be completed immediately downstream (to the left) of the current crossing to the creek's tributary.



Figure 31. Proposed overlook would be situated beneath an oak canopy at the southern end of the project boundaries, adjacent to Nicholas Pond.



Figure 32. View of habitat conditions within San Nicholas Creek, immediately upstream of the culvert crossing.



Figure 33. Downstream view of existing culvert and adjoining fill that would be removed to allow unobstructed flows along San Nicholas Creek.

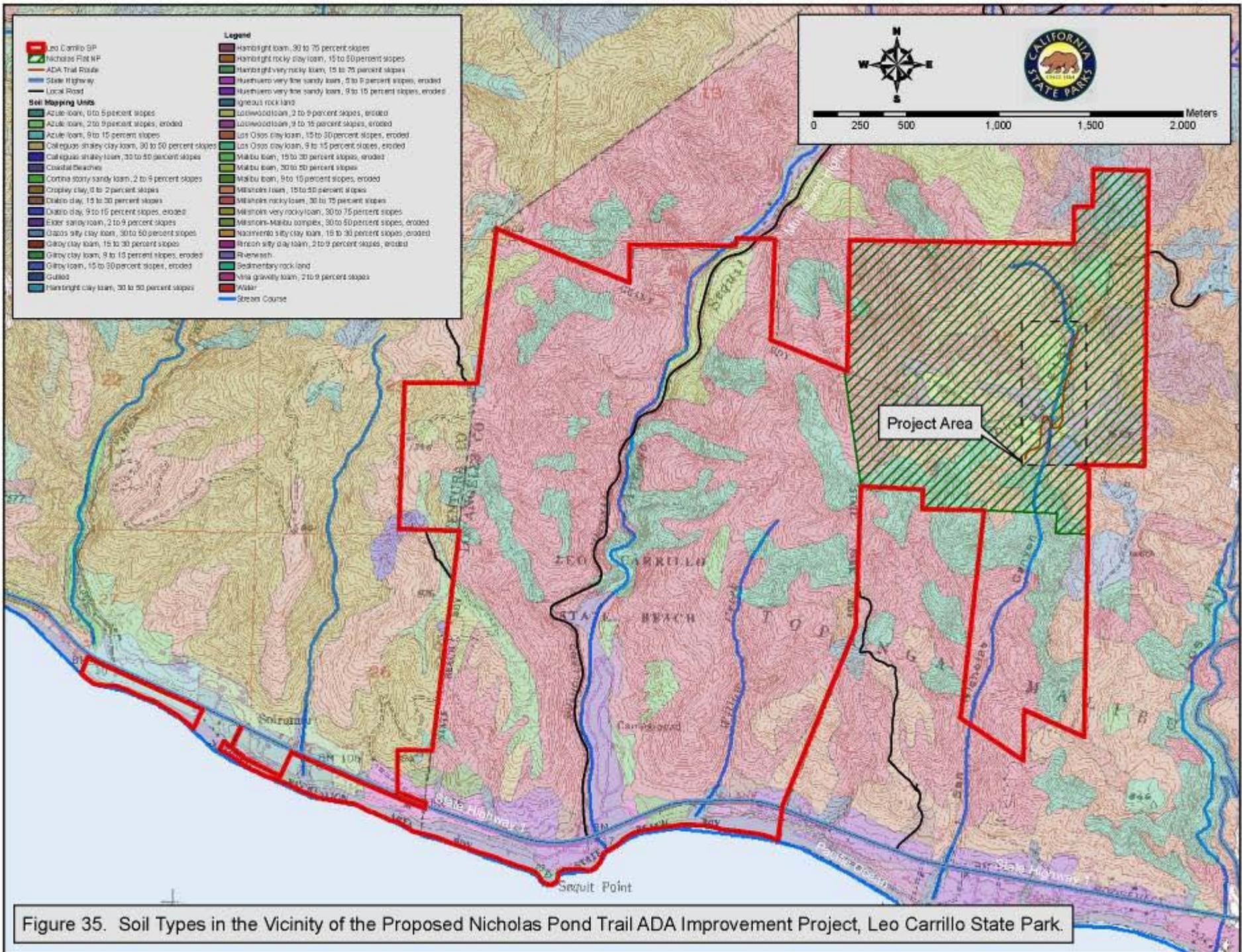


Figure 36. Vegetation Communities and Project Impact Areas for the Proposed Nicholas Pond Trail ADA Improvement Project, Leo Carrillo State Park.

