2.0 PROJECT DESCRIPTION

The proposed project is the Monterey Bay Sanctuary Scenic Trail (MBSST) Network Master Plan. The purpose of the Master Plan is to establish the continuous alignment, connecting spurs, and set of design standards for a bicycle/pedestrian (multi-use) trail for the length of Santa Cruz County. This section describes the proposed MBSST Network project, including information about the project proponent/lead agency, trail corridor location, major characteristics, and a list of discretionary approvals needed to implement the project.

2.1 PROJECT PROPONENT/LEAD AGENCY

Santa Cruz County Regional Transportation Commission (RTC)
1523 Pacific Avenue
Santa Cruz, California 95060

2.2 PROJECT LOCATION

The Master Plan corridor stretches the entire length of Santa Cruz County from the San Mateo County line north of Davenport past the Pajaro River in Watsonville. The trail would extend through unincorporated Santa Cruz County and portions of the cities of Santa Cruz, Capitola, and Watsonville. The southernmost segment (segment 20) would extend into Monterey County. The MBSST Network corridor would primarily align with the former Santa Cruz Branch Rail Line right-of-way, a 32-mile, continuous travel corridor, 31-miles of which are now owned by the Santa Cruz County Regional Transportation Commission (RTC). The rail right-of-way would serve both rail service and bike/pedestrian trail functions. North of the railroad right-of-way, the trail would align along the west side of Highway 1 for 7.5 miles, for a combined trail length of 39.2 miles. Other proposed new trails outside of the primary MBSST corridor would comprise 10.4 additional miles of paved and unpaved coastal spur trails. The trail network would span a combined total of 49.6 miles of bicycle and pedestrian facilities. The railroad generally runs along the coast, parallel to the Pacific Ocean, except where it turns inland near Manresa State Beach. From there, the tracks run inland toward Watsonville and ultimately end at the Watsonville Junction. Figure 2-1 illustrates the regional location of the MBSST Network corridor.

The MBSST Network corridor is separated into three reaches: the northern reach extends from the San Mateo County line to the western Santa Cruz city limit; the central reach extends from the western Santa Cruz city limit to Seascape Boulevard; and the Watsonville reach extends from Seascape Boulevard to Railroad Avenue in Monterey County. These reaches are further divided into smaller "segments." Segments one through six fall within the northern reach; segments seven through 14 fall within the central reach; and segments 15 through 20 fall within the Watsonville reach. Figure 2-2 illustrates the three reaches within the MBSST Network Master Plan area.

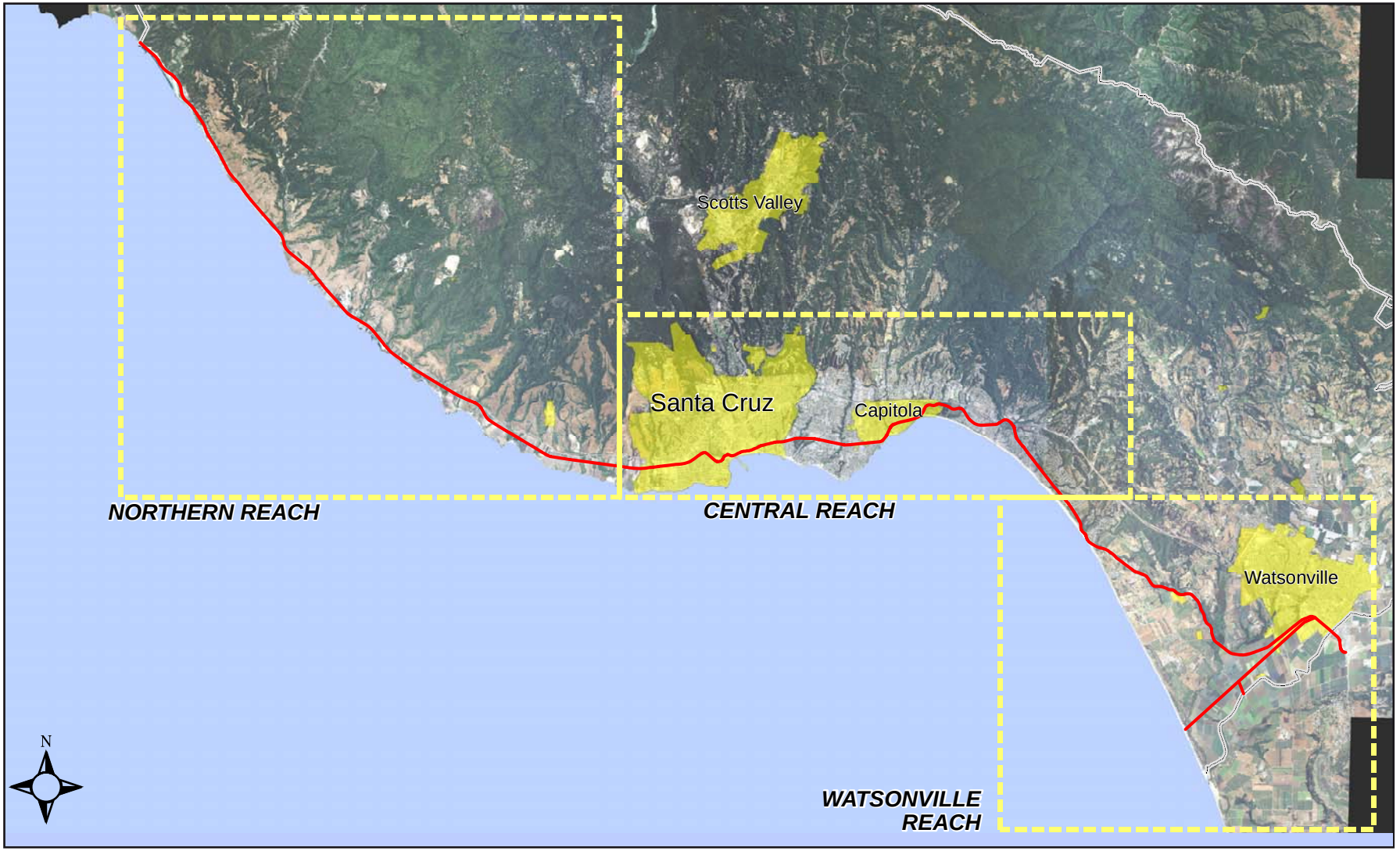
2.3 EXISTING BICYCLE AND PEDESTRIAN FACILITIES

Santa Cruz County has 215 miles of bikeways, 190 of which are bi-directional bike lanes, and 25 miles of which are separated paths. Several projects that benefit bicyclists and pedestrians were recently constructed including: the East Cliff Drive Parkway (bicycle/pedestrian multi-use trail)

Imagery provided by National Geographic Society, ESRI and its licensors © 2012.

Regional Location

Figure 2-1



Master Plan Area

Figure 2-2

Source: RRM Design Group, October 2013.

project; Eaton Street pedestrian improvements; Freedom Boulevard bicycle improvements; and a new bike/pedestrian bridge over the San Lorenzo River, adjacent to State Route (Highway) 1. Additional bicycle projects under development include the Broadway/Brommer bicycle and pedestrian path through Arana Gulch, Calabasas Road bicycle lanes and sidewalks, 38th Avenue bicycle lanes in Capitola, and a countywide bicycle route signage and way-finding program.

2.3.1 Existing and Planned Trail Networks

The proposed MBSST Network project's relationship to other existing and planned trail networks is described below.

California Coastal Trail. The California Coastal Trail is a statewide project that endeavors to create a continuous public right-of-way along the California coastline. Some of the Coastal Trail's key objectives are to provide a continuous trail as close to the ocean as possible, with connections to the shoreline, to provide sufficient transportation access to encourage public use, to create linkages to other trail systems, and to use the Coastal Trail system to increase accessibility to coastal resources from urban population centers. The Coastal Trail network alignment was developed by the California State Coastal Conservancy in conjunction with the California Coastal Commission, the California Department of Parks and Recreation, and Coastwalk, and segments have been incorporated into the proposed MBSST Network project. The MBSST Network project would also serve as the California Coastal Trail in Santa Cruz County and follow a blufftop alignment wherever feasible.

Monterey Bay Sanctuary Scenic Trail. The goal of the Monterey Bay Sanctuary Scenic Trail is to provide a safe bicycle and pedestrian route between the cities of Pacific Grove in Monterey County and Santa Cruz. Initially conceived by the Santa Cruz County Sanctuary Inter Agency Task Force, the project was expanded into a trail network plan by the RTC to include additional transportation alignments, namely the Santa Cruz Branch Rail Line Railroad right-of-way. The Sanctuary Scenic Trail will be a bicycle and pedestrian pathway that spans the entire coast of the Monterey Bay National Marine Sanctuary, from Pacific Grove to Santa Cruz. The vision of the project is to create a continuous, safe and accessible scenic trail for pedestrians, bicycles, and other users separated from automobile traffic. Portions of the planned trail are currently in place in Monterey and Santa Cruz counties; however, links between Marina and Aptos are currently missing. The trail is proposed to include interpretive features that provide information on the National Marine Sanctuary, the surrounding communities, adjacent farmlands and natural habitats. A portion of the Santa Cruz County Monterey Bay Sanctuary Scenic Trail alignment was conceptually developed in conjunction with preparation of the *Sanctuary Scenic Trail Standards Manual* in 2005. This document identifies an eleven mile "core-route" adjacent to the coastline between Wilder Ranch State Park and Seacliff Beach State Park. The eleven mile "core-route" alignment has been incorporated into the proposed MBSST Network project.

Pacific Coast Bike Route. In 1976, the American Revolution Bicentennial Commission of California and the California Department of Transportation developed the Pacific Coast Bicentennial Bike Route. The designated route began on U.S. Highway 101 at the California/Oregon state line and ended adjacent to Interstate Highway 5 at the Mexican border.

In the early 1990s, the California State Legislature designated this route the Pacific Coast Bike Route.

In Santa Cruz County, Highway 1 is recognized as the Pacific Coast Bike Route. The route generally follows Highway 1 north of Santa Cruz, surface streets in the cities and county urbanized areas, and along rural surface streets south of Aptos. The route draws recreational bicycle riders, mountain bikers, charity ride participants, group riders, bike delivery operations, triathlons, and bicycle races. The Pacific Coast Bike Route has been incorporated into the proposed MBSST Network project.

Local Hiking/Walking Trails and Public Access Areas. Each jurisdiction within the Master Plan Area has prepared a bicycle plan identifying existing routes. Currently, unincorporated Santa Cruz County has approximately 92 miles of Class II bike lanes and 4 miles of Class I bike paths. The City of Capitola has approximately 14 miles of bike lanes and less than 1 mile of Class I bike paths. The City of Santa Cruz has 48 miles of Class II bike lanes and approximately 10 miles of Class I bike paths. The City of Watsonville has approximately 18 miles of Class II bike lanes and 9 miles of Class I bike paths. The proposed MBSST alignment considers the existing facilities and recommends connections wherever possible with the intent of linking as many facilities as possible along one continuous alignment.

2.3.2 Existing Rail Line

The 136-year old Santa Cruz Branch Rail Line corridor parallels Highway 1, extending almost 32 miles from the town of Pajaro in Monterey County to Davenport in Santa Cruz County. The right-of-way is generally 50 to 60 feet wide with 37 bridges and trestles, including major crossings of the Pajaro River, Highway 1, Soquel Creek, the Santa Cruz Yacht Harbor, and the San Lorenzo River. The corridor links tourism and activity centers as it traverses downtown Watsonville, Aptos Village, Capitola Village, and the Santa Cruz beach area near downtown Santa Cruz.

The Santa Cruz Branch Rail Line historically transported lumber, quarried material, and agricultural products out of the Santa Cruz area. Incoming freight included coal and gypsum for delivery to the cement factory located in Davenport. Following the closure of the cement plant in 2010, freight business on the rail line was reduced by 90 percent. Currently, there is no daily freight service on the rail line outside of the City of Watsonville. There is a seasonal passenger rail service that operates between the City of Santa Cruz ~~and~~ to the northern reach~~,~~ south of Davenport and the City of Watsonville to east of Manresa State Beach. This seasonal service operates two to four passenger trains per day, with a higher number of trips on weekends. Within the Watsonville/Pajaro area, there are freight trips every weekday, and weekends as needed. These trips are localized and do not extend outside of the Watsonville/Pajaro area. The rail line in Watsonville is used to transport perishables (including raspberries, strawberries, and other agricultural products), lumber, and biofuels. There is currently no rail operation between Watsonville and Santa Cruz, except when needs arise for a special movement of equipment.

Iowa Pacific Holdings (IPH), operating as Santa Cruz and Monterey Bay Railway (SCMBR), is the current freight and tourist passenger service operator. SCMBR plans to implement

additional freight, passenger, and recreational rail service in the future. While recreational (non-tourist) passenger service is initially planned from Santa Cruz to Davenport, SCMBR is exploring the possibility of service throughout the entire County and possibly beyond.

2.4 PROJECT CHARACTERISTICS

2.4.1 Trail Classifications

The trail network travels through a varied landscape for its nearly 50-mile length. The sections within Santa Cruz, Capitola, Aptos, and Watsonville are urban in nature, characterized by the adjacency of residences and businesses, and a greater number of public street crossings. In contrast, the sections north of Santa Cruz and south of Aptos are surrounded by rural lands and for the most part, working agricultural operations, state parks, or open space.

The MBSST Network Master Plan identifies the type of trail to be constructed within each segment. These types of trails include multi-use paved Class I paths, Class II designated bike lanes, Class III on-street bike routes, unpaved trail surfaces, sidewalks, boardwalks, and shoreline routes[1]. The characteristics of each classification are described below.

Multi-Use Paved Path. A multi-use paved path is a derivative from the Caltrans-defined Class I bikeway. A Class I bikeway provides bicycle travel on a paved right-of-way completely separated from any street or highway. A multi-use paved path permits a variety of users in addition to bicyclists including walkers, joggers, wheelchairs, and scooters. Multi-use paved paths may generally include the following design elements[2]:

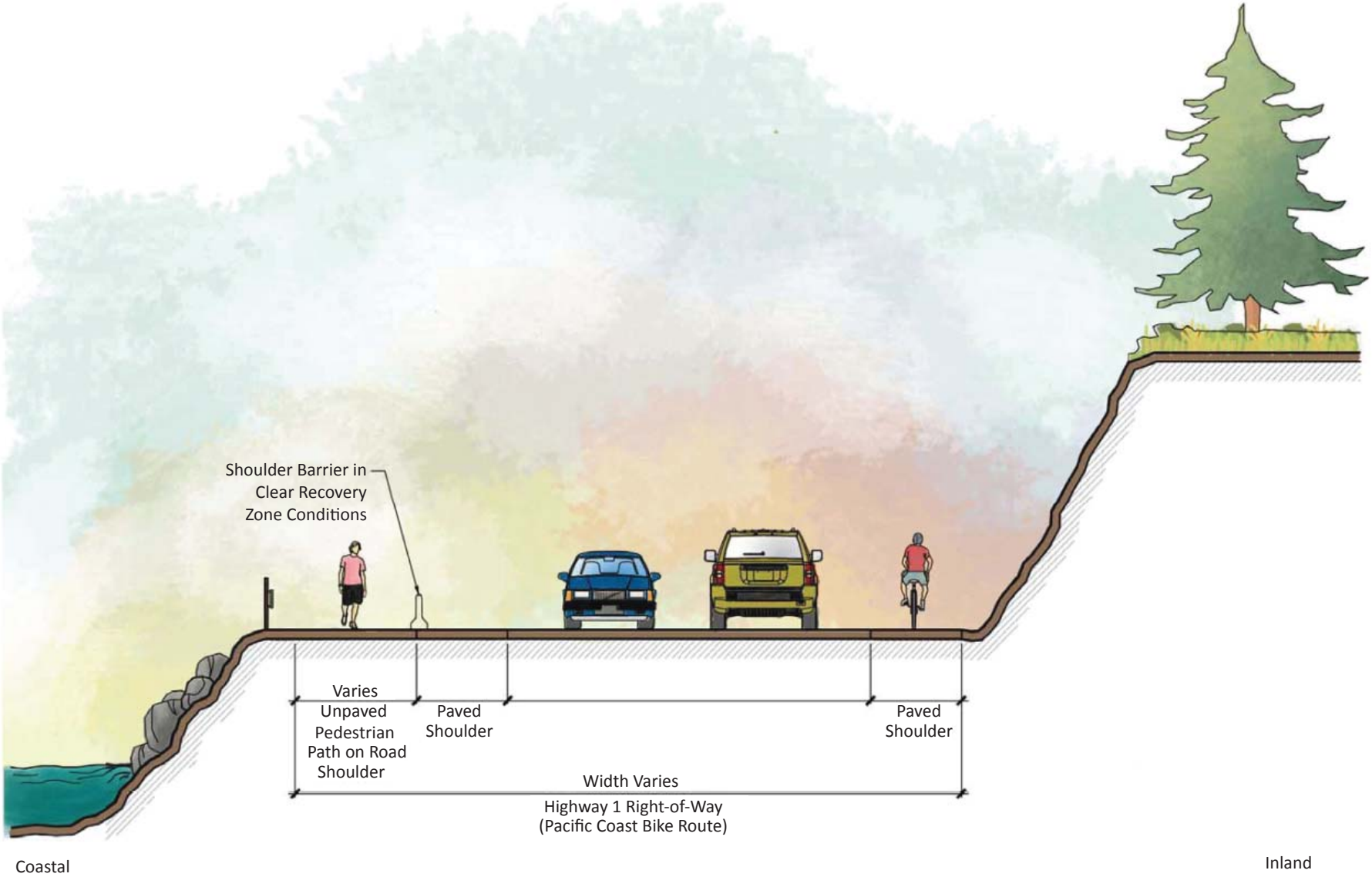
- *Paved surface of eight to twelve feet wide, or wider if right-of-way exists and/or high use is anticipated;*
- *"Rail trail" design for trail and train operations on a shared rail right-of-way;*
- *Center lane striping;*
- *Separation from adjacent roadways by at least twelve feet, where feasible;*
- *Safety fence separating inner trail edge from rail line (e.g. 54 inch minimum post and wire);*
- *Lighting fixtures;*
- *Use of non-invasive ornamental barrier plants as a buffer or to help soften fencing;*
- *Clearly illustrated and properly located signage with informal, interpretive and regulatory messages;*
- *Compliance with ADA requirements, where possible, in trail design; and*
- *Minimum eight foot six inch setback from railroad centerline.*

Typical multi-use paved rail trail cross sections are shown in Figures 2-3a and 2-3b (coastal areas) and 2-4 (urban area).

Designated Bicycle Lanes (Class II). Designated bicycle lanes are synonymous with Caltrans-defined Class II bike lanes. Often referred to as a "bike lane," a designated on-street

[1] *Unless otherwise noted, the terms "trails" and "paths" in this document are synonymously used to refer to paved bike/pedestrian multi-use facilities, defined by Caltrans as "Class I Bikeways (Bike Paths)" – Caltrans Highway Design Manual, Chapter 1000 Bicycle Transportation Design, Topic 1003 – Bikeway Design Criteria.*

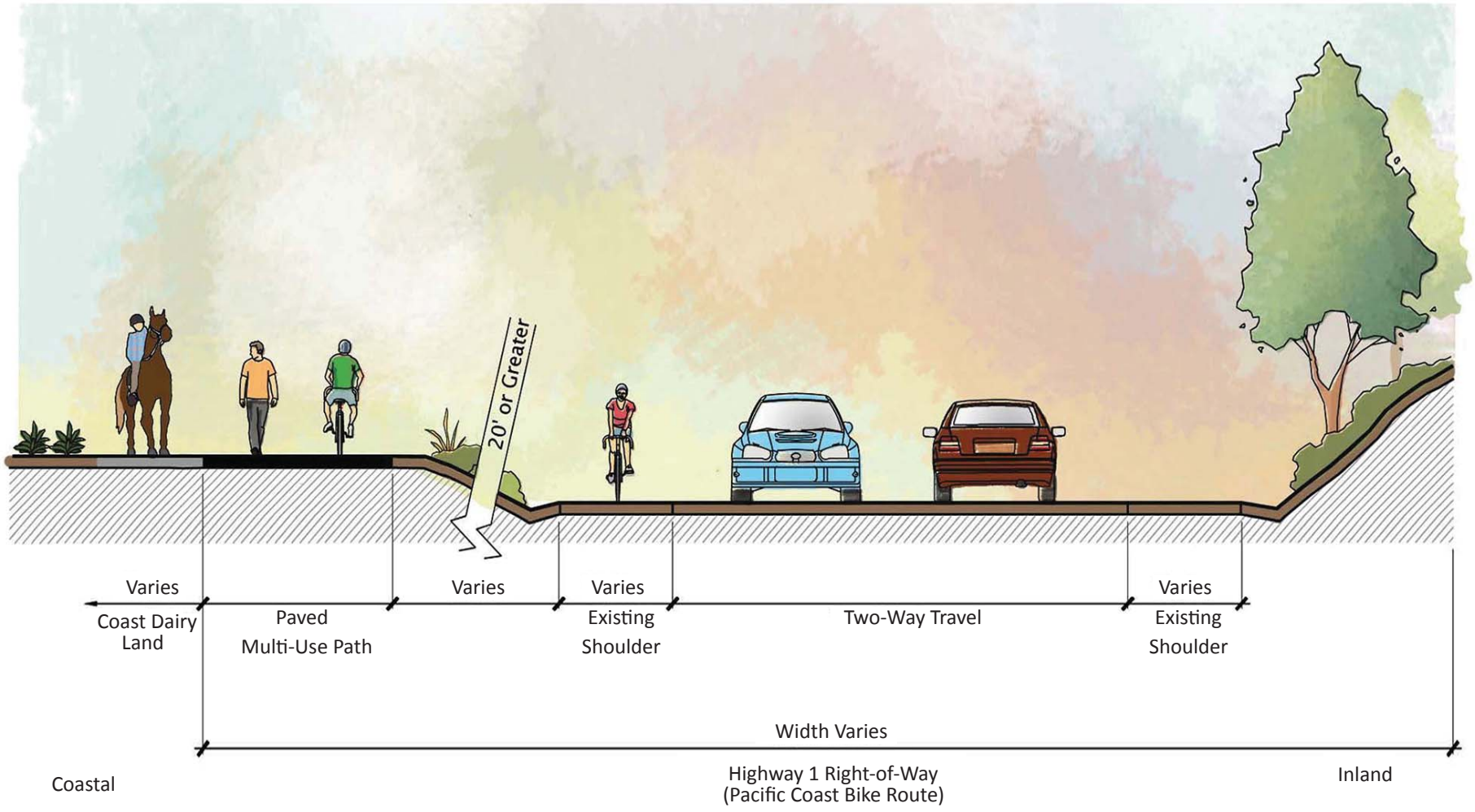
[2] *Precise design elements will vary from segment to segment.*



Typical Multi-Use Path Cross Section: Coastal

Figure 2-3a

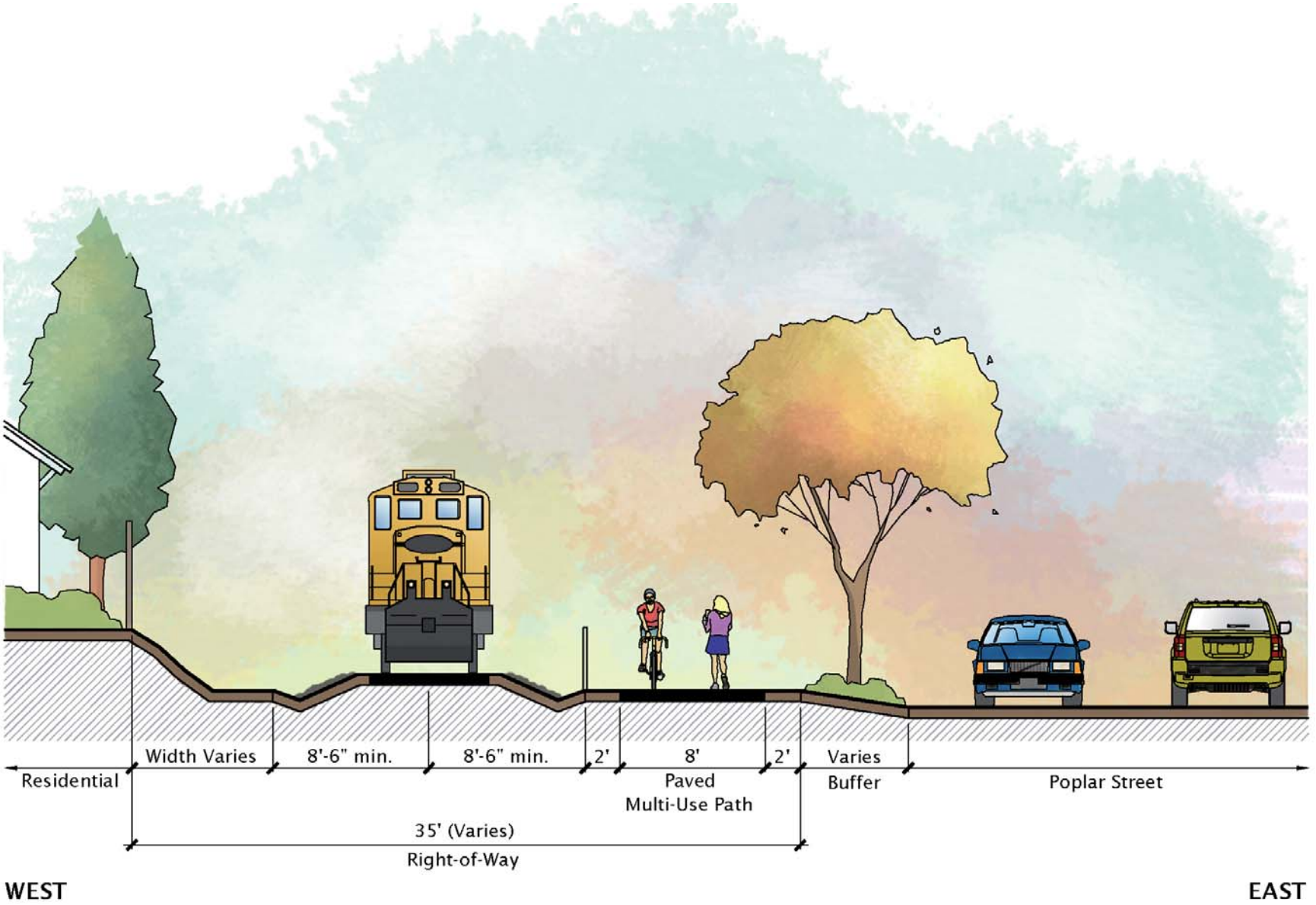
Source: RRM Design Group, 2012



Source: RRM Design Group, 2012

Typical Multi-Use Path Cross Section: Coastal

Figure 2-3b



Typical Multi-Use Paved Path Cross Section: Urban

Figure 2-4

Source: RRM Design Group, 2012.

bike lane provides a striped and stenciled lane for one-way travel on a street or highway. Typical design elements include:

- *Paved surface five feet in width or 3 foot plus a 2 foot curb and gutter;*
- *Lane striping; and*
- *Street markings indicating bike route or bike lane.*

Enhanced design elements include:

- *Colored bike lane; and/or*
- *Bike Box (a bright green rectangle painted onto asphalt at intersections and reserved exclusively for bikes).*

On-Street Bike Routes (Class III). On-street bike routes are synonymous with Caltrans-defined Class III bike routes. Generally referred to as a "bike route," an on-street bike route provides for shared use with motor vehicle traffic and is identified only by signing. Optional shared roadway bicycle marking pavement stencils are also available for use on Class III bike routes.

Sharrows. It is important to note that bicycles are permitted on all roads in the State of California except where specifically prohibited. In order to optimize vehicle and bicycle user understanding, a marking referred to as a "sharrow" may be used. Sharrow refers to shared lane pavement marking and is considered a Class III facility. A sharrow reminds drivers to share the road with bicyclists, while also informing bicyclists to make use of the full lane and position themselves away from vehicle doors. This marking is placed in the center of a travel lane to indicate that a bicyclist may use the full lane. The sharrow symbol consists of a bicycle symbol with two chevron markings above the bicycle. The best practice is to use a sharrow in conjunction with a "Bikes May Use Full Lane" sign. Typical design elements include:

- *Shared lane chevron stencils;*
- *Pavement markings indicating route; and*
- *Pole signage indicating route.*

Unpaved Trail Surface. Unpaved trail surfaces are located in the remote areas of the corridor including the northernmost portion of the northern reach and the southernmost portion of the Watsonville Reach. Unpaved trails are typically five to six feet wide through steep terrain and sensitive areas. To keep the trail as maintenance free as possible, these trails are designed to avoid exceeding grades greater than 12 percent, when possible. Unpaved trails may require some hand tooled segments with drainage crossings, blending with the site character and slope as much as possible. Unpaved trails may also be provided adjacent to a paved surface where right-of-way permits.

Sidewalks. Sidewalks and walkways enhance the walkability of an area. Sidewalk design should incorporate an appropriate walkway width, safety lighting, pleasant walking surface texture, benches and a landscaped separation of pedestrian and vehicular traffic to create a pleasurable walking experience. Sidewalk width is regulated by the implementing entity. Typically, sidewalks vary between four and ten feet wide, depending on available right-of-way and adjacent land use.

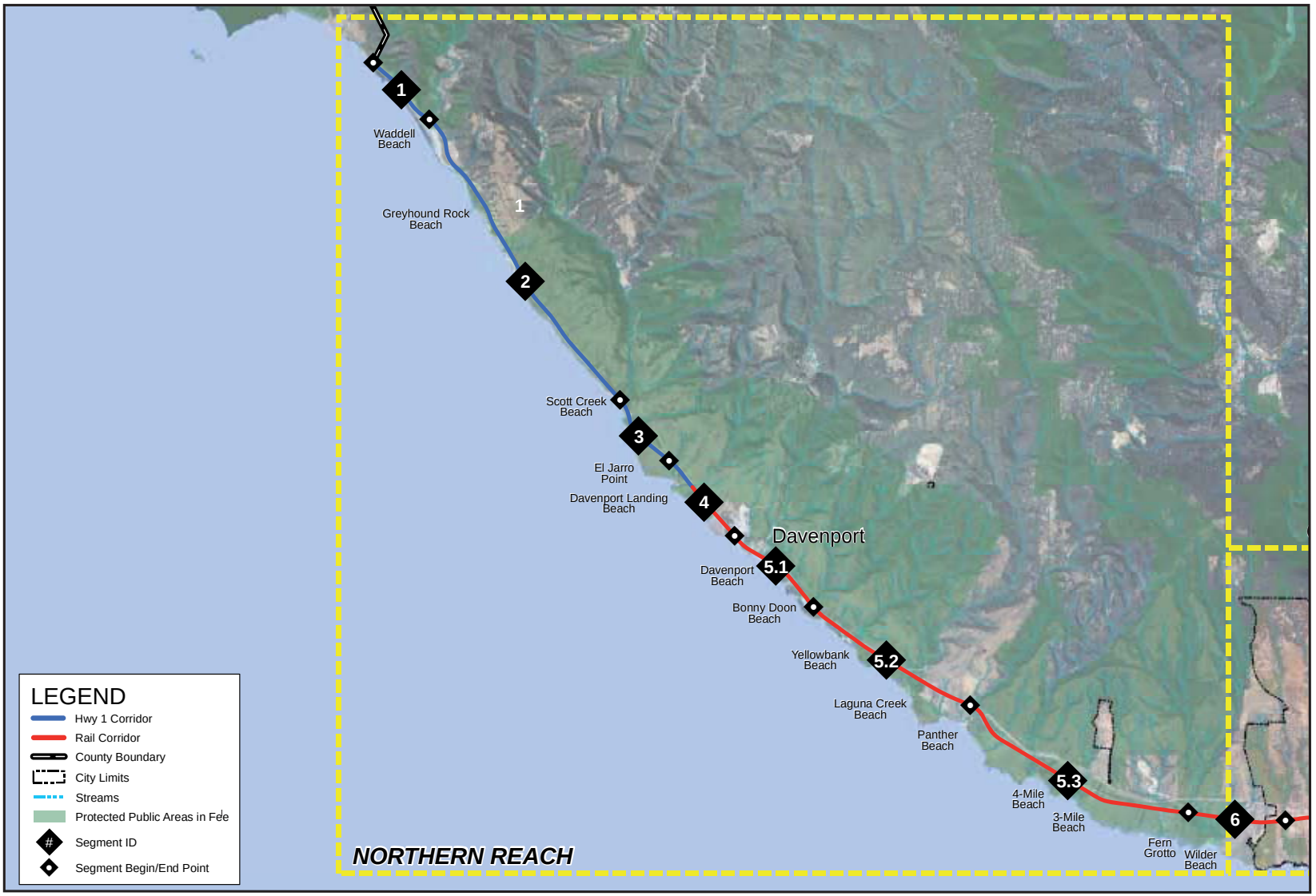
Boardwalks. Boardwalks are used to span unavoidable wet areas, sensitive resource areas or depressions. Boardwalks are considered in the Master Plan for segment 17 where wetland and sensitive habitat areas are located. They also can be used to provide trails in areas where grading and filling might harm tree roots or create trail surfaces that wildlife, such as amphibians, will not cross. Footings vary depending on soil conditions. Plastic lumber is more expensive than wood but very long-lasting for deck boards. Its heavier weight can help avoid floating in sites that flood and the pronounced texture can reduce slippery surfaces.

2.4.2 Proposed Corridor Description

The proposed trail alignment typically follows the Santa Cruz Branch Rail Line right-of-way through the length of Santa Cruz County and into Monterey County. The rail right-of-way would serve both rail service and bike/pedestrian trail functions. The northern reach generally follows coastal areas adjacent to Highway 1. The central reach primarily traverses existing urban neighborhoods of Santa Cruz, Capitola, and Aptos. The Watsonville reach is defined by rural agricultural and open space lands. Each reach and the segments within it are described in the sections that follow.

Northern Reach. The northern reach of the MBSST Network begins at the San Mateo/Santa Cruz county line on Highway 1, just north of the Waddell Bluffs, and continues south to the northern Santa Cruz city limits near Schaffer Road (refer to Figure 2-5). Currently, the northern reach consists primarily of narrow steep coastal bluffs from Waddell Creek to Yellow Bank Beach at Coast~~al~~ Dairies, transitioning to rural agricultural land and natural coastal mesas south to Schaffer Road. There are numerous small coves and beach strands with informal footpaths down to the beach shore. Large sections of the coastal edge are owned by California State Parks with several scenic rest stops along Highway 1 providing passive recreation access to beaches, coastal bluffs, and inland parkland trails. Much of the land between Highway 1 and the coastal bluffs is managed under agricultural leases with intermittent public coastal access adjacent to the agricultural land. These intermittent access points vary from paved parking lots with restrooms, potable water, and scenic overlooks to unpaved informal roadway pullouts with difficult access to steep coastal bluff tops and beaches.

An existing multi-use paved path parallels the railroad corridor and Highway 1 for approximately one mile, from Schaffer Road to the Wilder Ranch trailhead parking lot. Many of the other public access points along the northern reach are poorly signed and provide limited quality trail access along the coast. The railroad corridor parallels the coastal side of Highway 1 from Schaffer Road to Davenport, where the tracks cross Highway 1 to the inland side before ending one mile north of Davenport. Except for the crossing in Davenport, the railroad's offset from Highway 1 varies from 100 feet to 1,325 feet (¼ mile) between Schaffer Road and Scaroni Road. The tracks then parallel Highway 1 at a distance of between 50 feet and 100 feet as the coastal bluffs steepen and narrow toward Davenport. The rail tracks cross several small drainages with both wood trestles and box culverts in the northern reach. Much of the land south of Coast Dairies is flat with intermittent rolling hills giving way to steep coastal cliffs further north. Sensitive biological areas exist along perennial creeks and drainages and near coastal bluffs and sand dunes.



Northern Reach Location Map

Figure 2-5

Source: RRM Design Group, October 2012.

The northern reach is divided into five segments. These segments are shown in Figures 2-6a through 2-6g, and described below.[3]

Segment 1: Waddell Bluffs. The Waddell Bluffs segment is the northernmost segment of the MBSST Network corridor, extending for 1.06 miles from the San Mateo County line to Waddell Creek (refe to Figure 2-6a). The alignment of this segment generally follows Highway 1, which is limited in width by the narrow coastal edge on its western flank and the steep eroding cliffs above the roadway on the eastern edge (known as the Waddell Bluffs). Segment 1 proposed improvements include:

- *0.19 miles (1,000 linear feet [LF]) unpaved trail (roadway shoulder on coastal side of Highway 1)*
- *0.87 miles (4,600 LF) Class III on-street/road shoulder bike route*

Segment 2: Greyhound Rock – Cal Poly Bluffs. The Greyhound Rock - Cal Poly bluffs segment extends for 4.77 miles from Waddell Creek south to Scott Creek Beach (refer to Figures 2-6a through 2-6c). The segment is bounded to the east by Highway 1 and to the west by primarily private properties. As a result, this segment of the trail alignment would include sharing portions of the western edge of the Highway 1 right-of-way and optional bluff top trails within the County Park lands. Segment 2 proposed improvements include:

- *4.77 miles (25,170 LF) existing road shoulder improvements*
- *Routine road edge clearing, signs, and shoulder pavement striping*

Segment 3: Upper Coast Dairies at Scott Creek. The Upper Coast Dairies at Scott Creek segment extends for 1.11 miles from Scott Creek Beach to the intersection of Davenport Landing Road and Highway 1, along a small northern stretch of property owned by Coast Dairies (refer to Figure 2-6c and 2-6d). Segment 3 is the northernmost stretch where the publicly held coastal land is sufficiently wide to offer ample space for trail alignment options. Segment 3 proposed improvements include:

- *1.11 miles (5,870 LF) multi-use paved path*
- *One (1) pre-engineered bike/pedestrian bridge, 150-foot span*

Segment 4: Davenport Landing/End of Railroad Tracks. The Davenport Landing/End of Railroad Tracks segment extends for 3.64 miles from the intersection of Davenport Landing Road and Highway 1 to the end of the railroad tracks (refer to Figure 2-6d). This segment would include a new multi-use paved path trail on the west side of Highway 1 until connection with the northernmost extent of the railroad right-of-way, just south of the intersection of Davenport Landing Road, Highway 1, and Cement Plant Road. The trail would become a "rail trail" at this

[3] ~~*The improvements listed for each segment on the following pages may differ from the MBSST Network Draft Master Plan (October 2012) and the figures included in this section. However, the information included herein is considered the most up to date and accurate information regarding the planned improvements at the time of DEIR preparation. It is anticipated that the Final Master Plan will be updated to reflect this information. In addition, t*~~*The actual improvements proposed on any given segment may vary from what is described herein and will be reviewed prior to implementation. Given the programmatic nature of this DEIR, supplemental environmental analysis may be required depending on the final segment design.*

location and would include a paved multi-use path on the east side of Highway 1. Segment 4 proposed improvements include:

- *1.38 miles (7,300 LF) multi -use paved path*
- *1.41 miles (7,470 LF) coastal bluff trails*
- *0.85 miles (4,510 LF) on-street ~~improvements and/or sidewalks~~ bike lanes*
- *~~Four~~ Three (~~4~~ 3) road crossings*
- *One (1) rail crossing*

Segment 5: Davenport and Wilder Ranch. The Davenport and Wilder Ranch segment is the longest segment, extending for 10.55~~66~~ miles from Davenport to the existing Wilder Ranch staging area and trailhead parking lot. The rail corridor through this segment begins to narrow in places with the rail line and Highway 1 in close proximity to one another as they parallel their way along the coast.

This segment is broken up into three sub-segments (refer to Figures 2-6d through 2-6g). Sub-segment 5.1 starts at the Highway 1 rail crossing just up the coast from downtown Davenport and ends at the existing Highway 1 informal pull-off parking area at Bonny Doon Beach. Sub-segment 5.2 starts at the Bonny Doon Beach parking lot and continues down coast to Scaroni Road. Sub-segment 5.3 begins at upper Scaroni Road and ends at the existing Wilder Ranch staging area. Sub-segment 5.1 proposed facilities include:

- *1.49 miles (7,890 LF) multi -use paved path*
- *1.26~~7~~ miles (6,689~~0~~ LF) coastal bluff trails*
- *Parking lot improvements to existing dirt lot near the Davenport Overlook*
- *Two (2) road ~~or rail~~ crossings*
- *One (1) rail crossing*

Sub-segment 5.2 proposed facilities include:

- *2.58 miles (13,630 LF) multi-use paved path*
- *1.~~7~~60 miles (~~8,960~~ 8,430 LF) coastal bluff trails*
- *Three (3) road ~~or rail~~ crossings*
- *One (1) rail crossing*

Sub-segment 5.3 proposed facilities include:

- *3.51 miles (18,520 LF) multi-use paved path*
- *0.11 miles (570 LF) coastal bluff trails*
- *Twelve (12) road ~~or rail~~ crossings*
- *One (1) rail crossing*

Central Reach. Beginning at the City of Santa Cruz northern city boundary near Shaffer Road and extending southeast to Seascape Park just south of Aptos, this reach of the MBSST Network corridor traverses densely populated coastal urban areas (refer to Figure 2-7). In the Santa Cruz city limits, the corridor parallels many existing segments of the originally defined Monterey Bay Sanctuary Scenic Trail alignment. The existing Sanctuary Scenic Trail in the central reach is made

up of various pedestrian and bicycle facility types with limited consistency to the overall network. Some sections are strictly in the street as Class III bicycle routes with no sidewalks; other areas are coastal-edge pedestrian boardwalks with beach access and interpretive sites.

The central reach would include several existing large rail bridge and trestle structure crossings. These structures are old, narrow in width, and span steep drainages, roadways, and in one scenario, spans across a historic district in Capitola. The southern portion of the central reach parallels the coast, meanders atop steep coastal bluffs and multiple residential and resort areas.

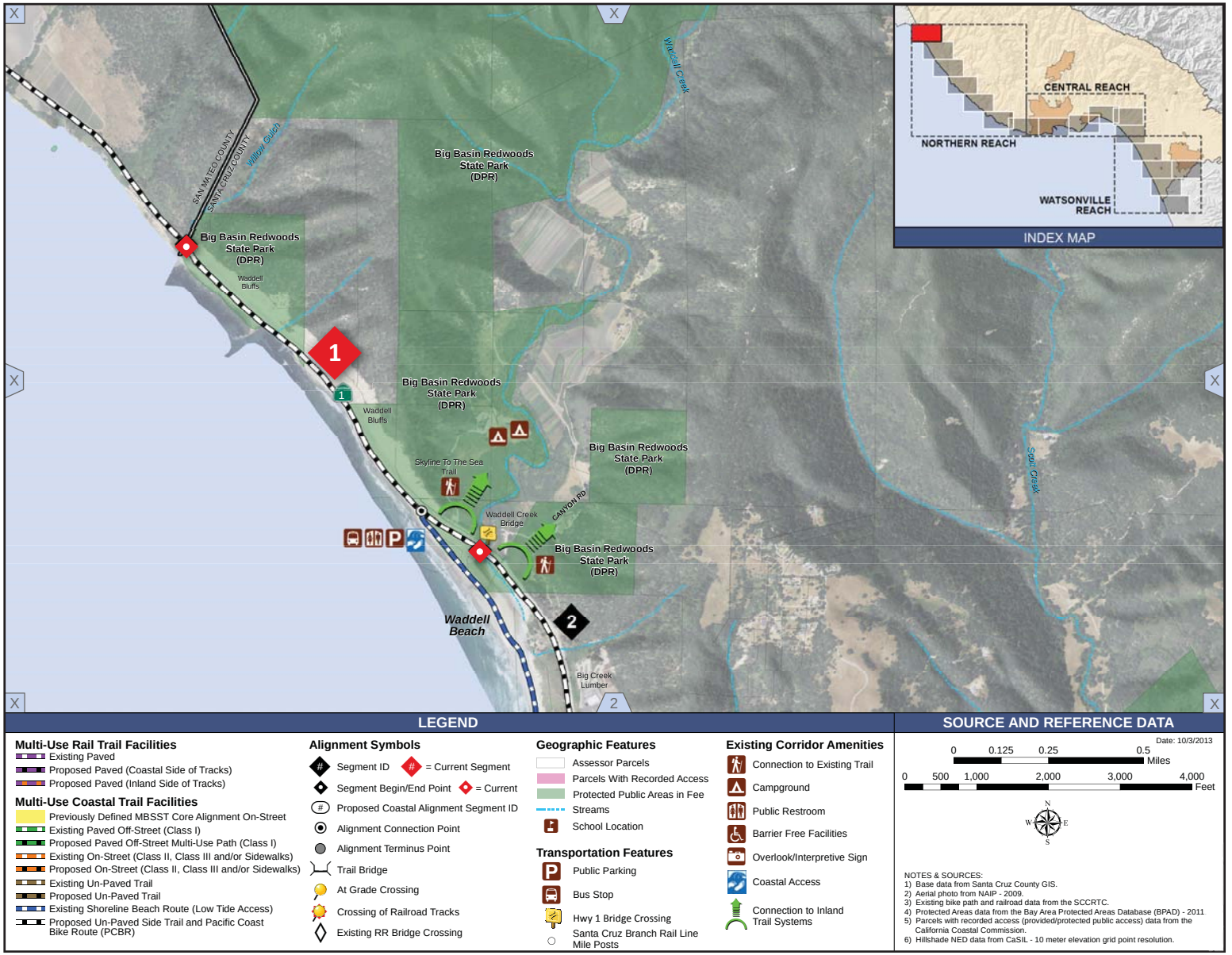
The central reach is divided into nine segments. These segments are shown in Figures 2-6g and 2-8a through 2-8e, and are described below.

Segment 6: Wilder Ranch Trail Head/Shaffer Road. Segment 6 would extend for 1.49 miles from the existing trailhead facilities at Wilder Ranch to down coast from the Schaffer Road/Moore Creek rail bridge trestle crossing near Antonelli Pond (refer to Figure 2-6g).This segment of the MBSST Network has some level of duplication with the existing Wilder Ranch Class I facilities running along the coastal side of Highway 1. The Wilder Ranch State Park trailhead provides parking, restrooms, and serves both travelers arriving by car or along existing multi-use trail from the south. An existing below-grade tunnel crossing of Highway 1 provides connectivity to existing trails leading to inland portions of the Wilder Ranch State Park trail network and the UC Santa Cruz campus lands. Segment 6 proposed facilities include:

- *1.36 miles (7,160 LF) multi -use paved path*
- *0.13 miles (670 LF) coastal bluff trails*
- ~~*One (1) pre-engineered bike/pedestrian bridge, 200-foot span*~~
- ~~*Six (6) rail or roadway crossings*~~
- *Four (4) roadway crossing*
- *Two (2) rail or culvert crossings*

Segment 7: Coastal Santa Cruz. The coastal Santa Cruz segment extends for 3.10 miles from Antonelli Pont to the Pacific Avenue and Beach Street intersection in the City of Santa Cruz (refer to Figure 2-8a). This segment represents the transition from a rural and agricultural environment in the northern reach to an urban and built-up environment in the central reach. This segment boasts several existing trail system networks as well as recreational facilities such as Wilder Ranch State Park, Younger Lagoon Reserve, Antonelli Pond Park, Natural Bridges State Beach, and connectors to the Cliff Drive coastal walk. The proposed trail facility would be located within the rail right-of-way on the coastal side of the rail tracks with at-grade crossings at Swift Street, Fair Avenue, Almar Avenue, and Rankin Street. The trail would cross from the coastal side of the tracks to the inland side at the Rankin Street at-grade crossing, and parallel the inland rail right-of-way toward Neary Lagoon Park. Segment 7 proposed facilities include:

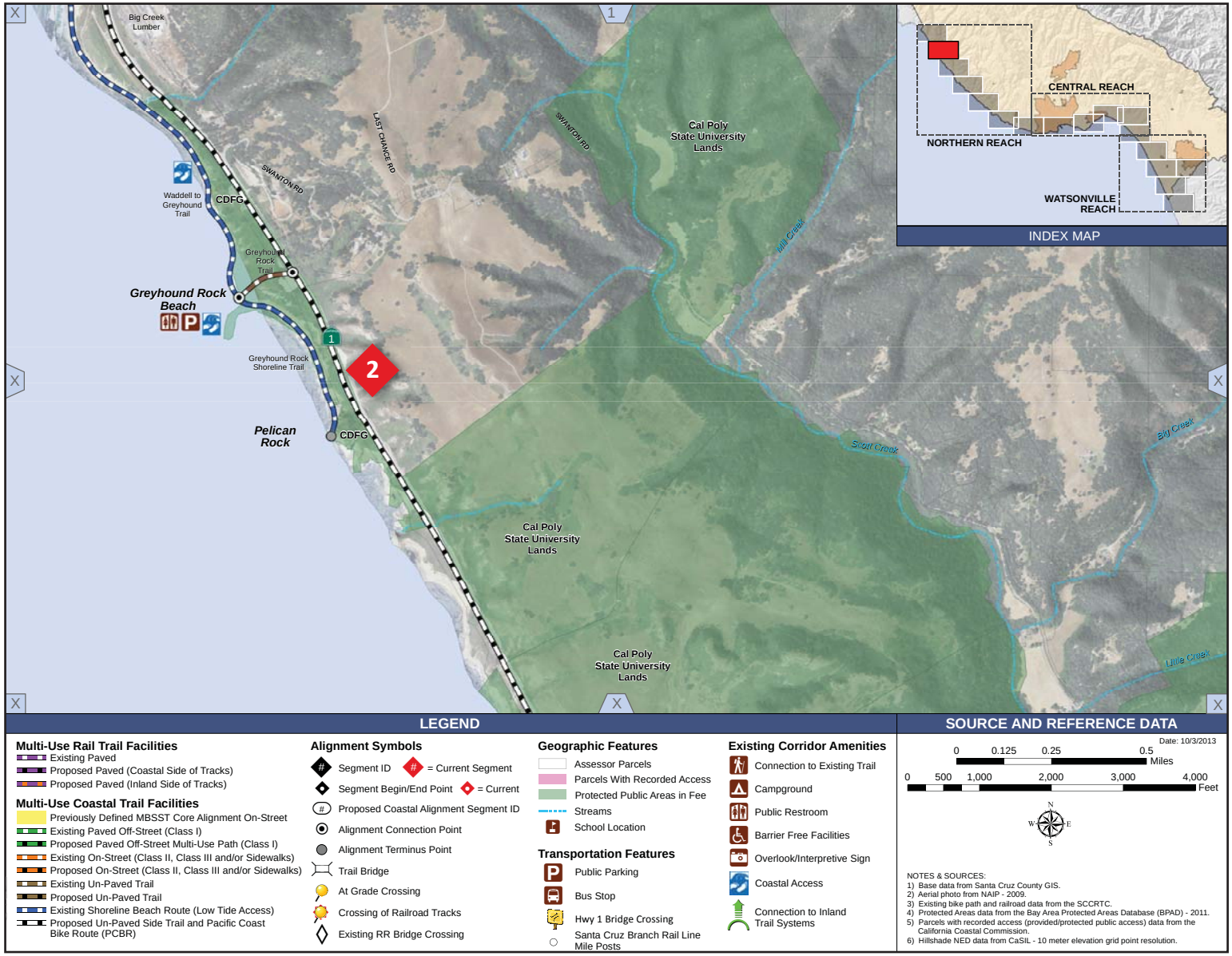
- ~~*3.02 miles (15,930 LF) multi- use paved path*~~
- *2.17 miles (11,450 LF) multi-use paved path along rail right-of-way*
- *0.85 miles (4,480 LF) multi-use paved path along the coastal side of the rail right-of-way*
- *0.08 miles (410 LF)* ~~*Class III*~~ *on-street bike route*
- ~~*Eighteen*~~ *Fifteen (*~~*18*~~ *15)* ~~*rail or*~~ *roadway crossings*
- *Three (3) rail crossings*
- *One (1) pre-engineered bike bridge*



Northern Reach: Segments 1 and 2

Figure 2-6a

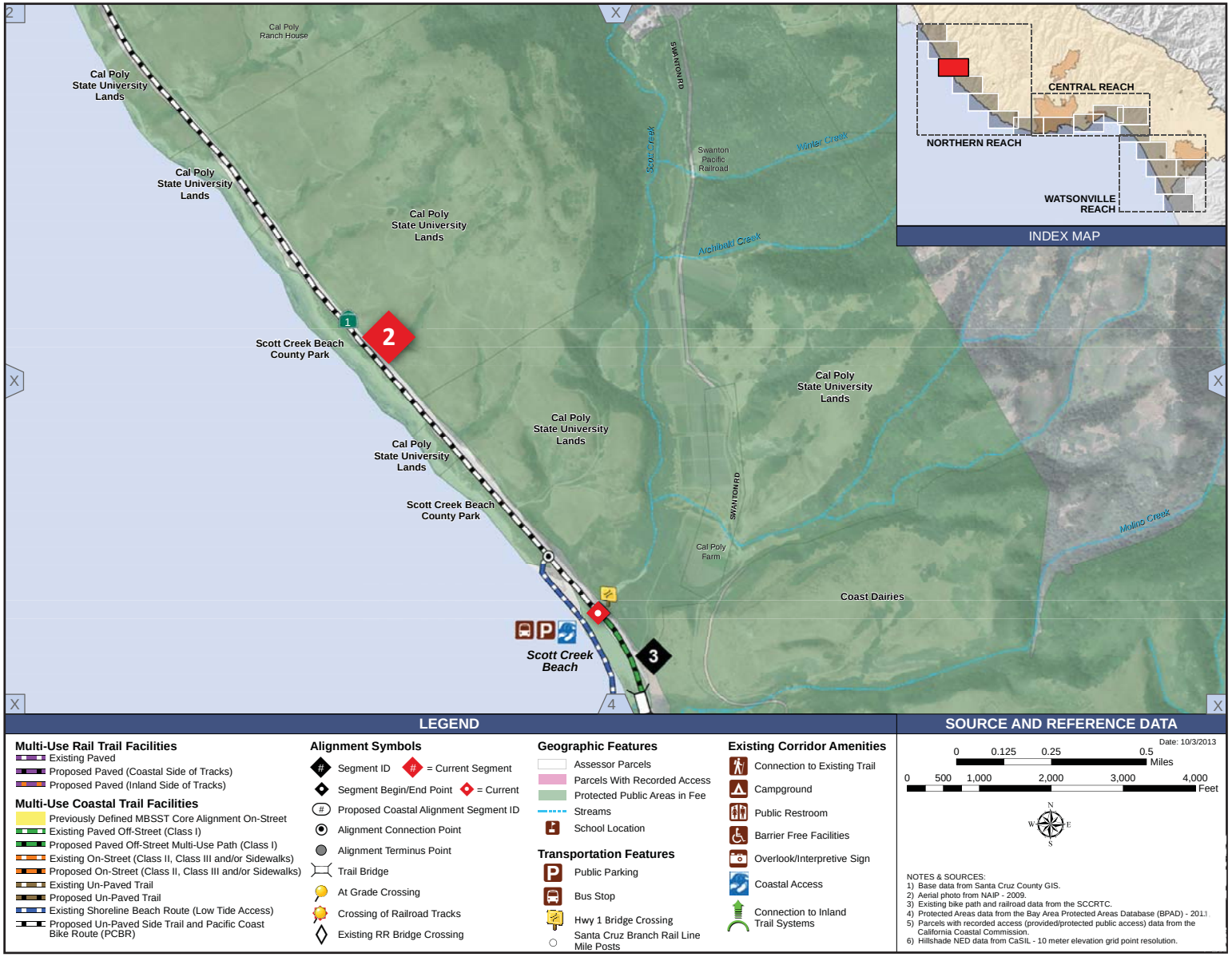
Source: RRM Design Group, October 2013.



Northern Reach: Segment 2

Figure 2-6b

Source: RRM Design Group, October 2013.



Northern Reach: Segment 2 and 3

Figure 2-6c

Source: RRM Design Group, October 2013.

Northern Reach: Segments 3, 4, and 5

Figure 2-6d

Source: RRM Design Group, October 2013.

Northern Reach: Segment 5

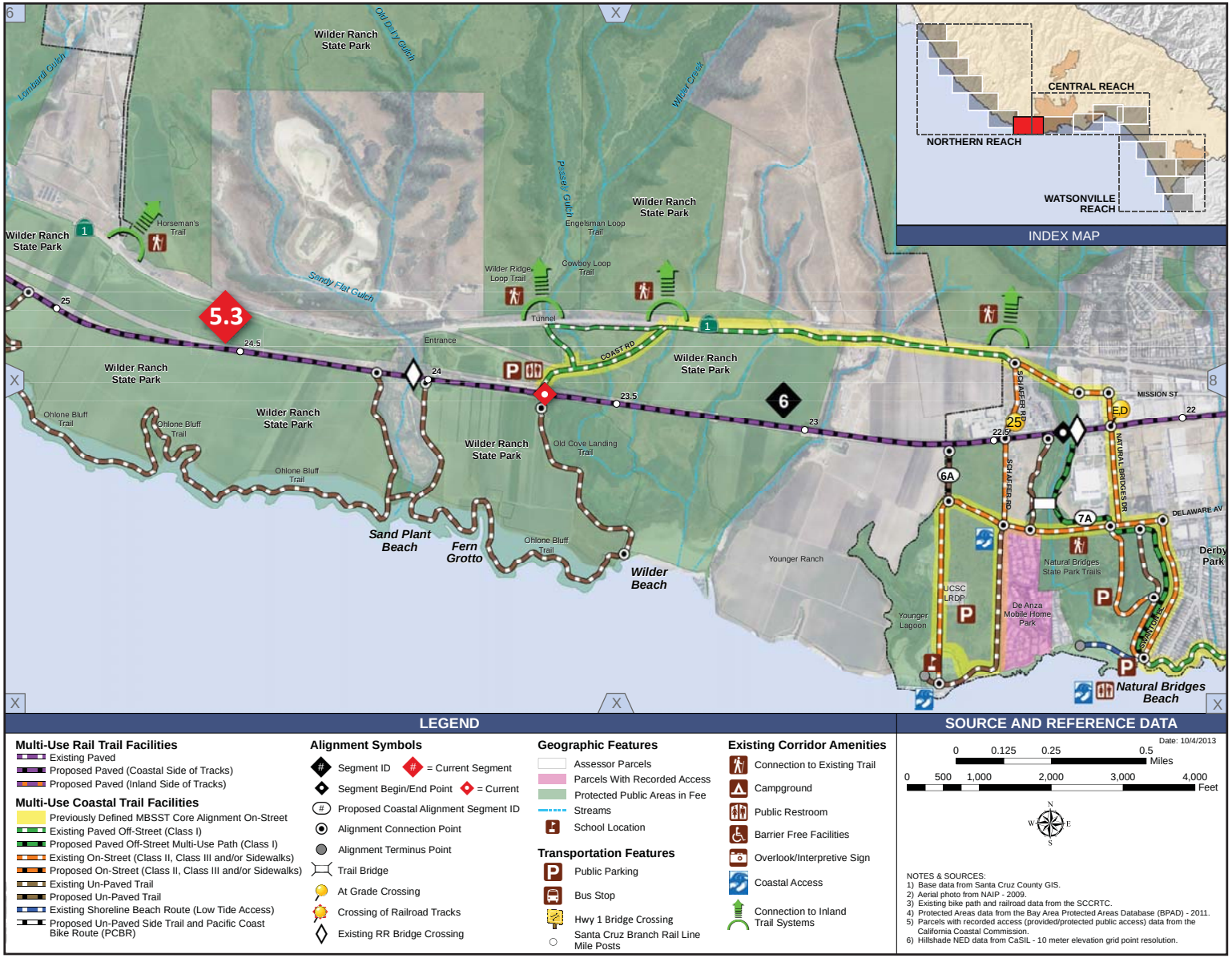
Figure 2-6e

Source: RRM Design Group, October 2013.

Northern Reach: Segment 5

Figure 2-6f

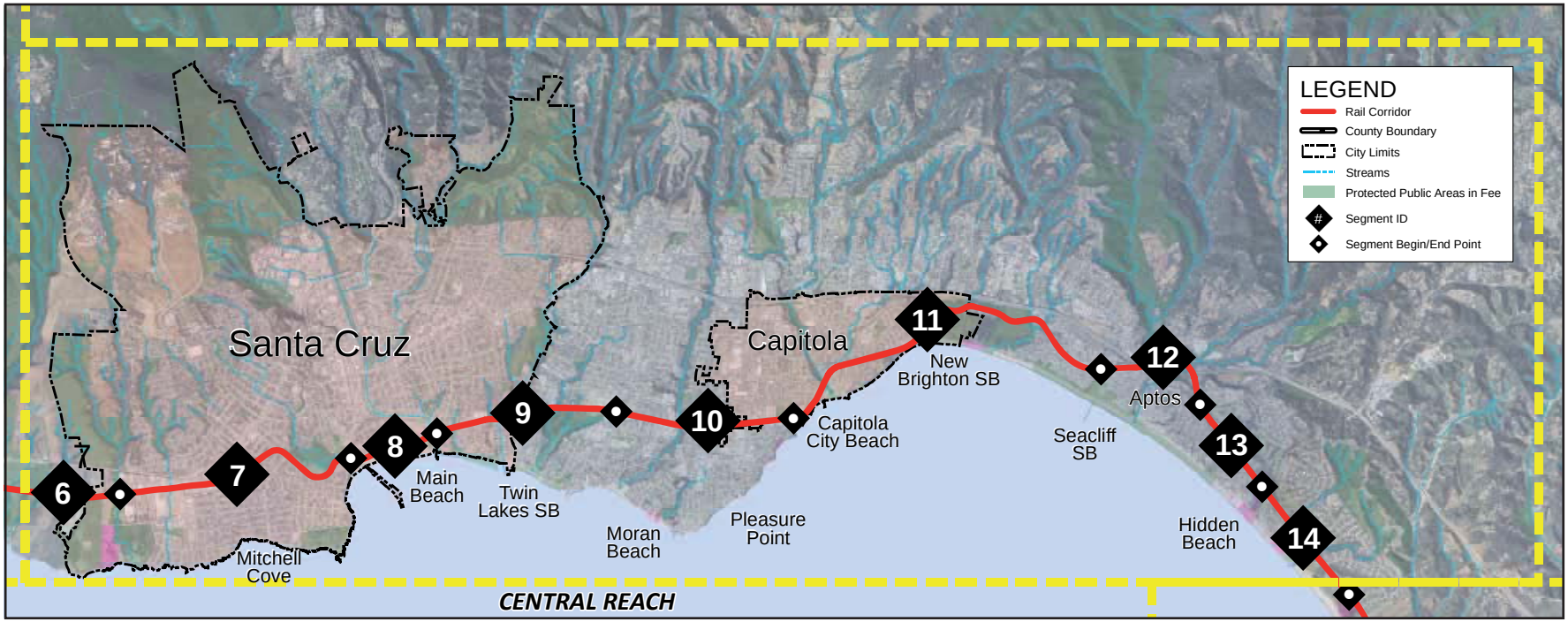
Source: RRM Design Group, October 2013.



Northern and Central Reaches Segments 5 and 6

Figure 2-6g

Source: RRM Design Group, October 2013.



Central Reach Location Map

Source: RRM Design Group, October 2012.

Figure 2-7

Segment 8: Santa Cruz Beach Boardwalk. The Santa Cruz Beach Boardwalk segment extends for 0.77 miles through the City of Santa Cruz, from Beach Street to the San Lorenzo River Rail Bridge crossing (refer to Figure 2-8a). This existing segment of the MBSST Network consists of a two-way cycle-track which follows the coastal side of Beach Street to the San Lorenzo River Rail Bridge. The two-way cycle-track continues between the pedestrian beach boardwalk and the one-way travel lanes along Beach Street. Segment 8 proposed facilities include:

- ~~*0.38*~~ *0.77 miles (~~2,000~~ 4,070 LF) on-street facilities (Class II, III, and sidewalks)*
- *One (1) pre-engineered bike and pedestrian bridge, ~~300~~400-foot span*
- *Improvements of striping to existing cycle track with future roadway roundabout at Pacific Avenue and Beach Street (2,000 LF)*
- *Upgrade existing rail trail to the minimum eight- (8-) foot standard from Depot Park to the intersection of Pacific Avenue and Beach Street*
- *Two (2) road crossings*
- *One (1) rail ~~or road~~ crossing*

Segment 9: Twin Lakes. The Twin Lakes segment extends for 1.73 miles from the eastside of ~~through~~ the City of Santa Cruz to the middle of Live Oak in the unincorporated County, from the San Lorenzo Bridge crossing, over the Harbor, to the 17th Avenue at-grade railroad crossing (refer to Figures 2-8a and 2-8b). The multi-use paved path would cross from the coastal side of the tracks to the inland side at 17th Avenue. The existing San Lorenzo River Rail Bridge (part of Segment 8) offers pedestrian access on the bridge superstructure. However, the attached pedestrian walkway on the inland side of the bridge is narrow and difficult to accommodate passing pedestrian and cyclists walking their bikes across the bridge. Existing facilities along this segment include both off-street and on-street trails and sidewalks as well as sandy beach routes within the City of Santa Cruz. Segment 9 proposed facilities include:

- *1.53 miles (8,100 LF) multi -use paved path*
- *0.20 miles (1,040 LF) on-street facilities (Class II, III, and sidewalks)*
- *~~One~~ Three (~~1~~3) pre-engineered bike/pedestrian bridge crossings~~, 200 foot span~~*
- *~~Five~~ Four (~~5~~4) ~~rail or~~ road crossings*
- *Two (2) rail crossings*

Segment 10: Live Oak – Jade Street Park. The Live Oak – Jade Street Park segment extends for 1.50 miles from the 17th Avenue at-grade railroad crossing in ~~Santa Cruz~~ Live Oak to Jade Street Park at 47th Avenue in Capitola (refer to Figure 2-8b). This segment would include a new multi-use trail on the inland side of the tracks. However, the railroad right-of-way is narrow (approximately 30 feet wide) through this segment, posing a constraint to multi-use trail development. Existing surface street bike lanes and pedestrian sidewalks through this segment would serve as alternate access until design solutions are identified. Segment 10 proposed facilities include:

- *1.50 miles (7,940 LF) multi -use paved path*
- *Relocation of 1.~~5~~0 miles ~~(7,940~~ 5,280 LF) of rail track and signal arm assemblies*
- *One (1) pre-engineered bike/pedestrian bridge crossing, 200-foot span (Rodeo Gulch Creek)*
- *~~Five~~ Four (~~5~~4) ~~rail or~~ road crossings*
- *One (1) rail crossing*

Segment 11: Capitola – Seacliff. The Capitola – Seacliff segment extends for 3.20 miles through Capitola, from Jade Street Park at 47th Avenue to State Park Drive (refer to Figures 2-8b and 2-8c). This segment is characterized by extreme topography, dense urban development, and infrastructure constraints. The greatest challenge in this segment of the trail is the rail trestle crossing of Soquel Creek. The current rail trestle passes through an historic district. Discussions are currently ongoing regarding improvements to this bridge trestle due to structural conditions. Coastal trail access through this area would continue on existing surface streets and sidewalks to cross Soquel Creek and navigate through Capitola Village. Segment 11 proposed facilities include:

- *3.20 miles (16,880 LF) multi -use paved path*
- *Bike and pedestrian facilities to be included in any design plans for rail bridge replacement of the Soquel Creek rail crossing*
- ~~*One*~~ *Two (~~1~~2) pre-engineered bike/pedestrian bridges~~, 50-foot span~~*
- ~~*Ten*~~ *Eight (~~10~~8) ~~rail or~~ road crossings*
- *One (1) rail crossing*

Segment 12: Aptos Village. The Aptos Village segment extends for 1.14 miles from State Park Drive to Rio Del Mar Boulevard in Aptos. As shown in Figures 2-6c and 2-6d, this segment crosses Highway 1 into Aptos Village and then crosses back over Highway 1 before heading southwest to the coastline. This segment would include two rail bridge crossings over Highway 1, four other rail bridge crossings, and would require redesign of existing parking along Soquel Drive in Aptos Village. The new facility would include a multi-use paved path on the inland side of the railroad tracks in the northern half of the segment and on the side of the tracks in the southern half.

Segment 12 proposed facilities would include the following:

- *1.14 miles (6,030 LF) multi -use paved path*
- *Three (3) pre-engineered bike/ped bridges, bridge spans vary*
- *One (1) modification to an existing bridge*
- ~~*Eight*~~ *Three (~~8~~3) ~~rail or~~ road crossings*
- *One (1) rail crossing*

Segment 13: Rio Del Mar – Hidden Beach. The Rio Del Mar – Hidden Beach segment extends for 0.85 miles from Rio Del Mar Boulevard to Cliff Drive/Hidden Beach in Aptos (refer to Figures 2-8d and 2-8e). This segment contains steep hillsides on either side of the alignment, and may require retaining walls to accommodate the proposed width of the trail. The close proximity of residences along this segment may also require privacy fences on the rail right-of-way boundary. Segment 13 proposed improvements include:

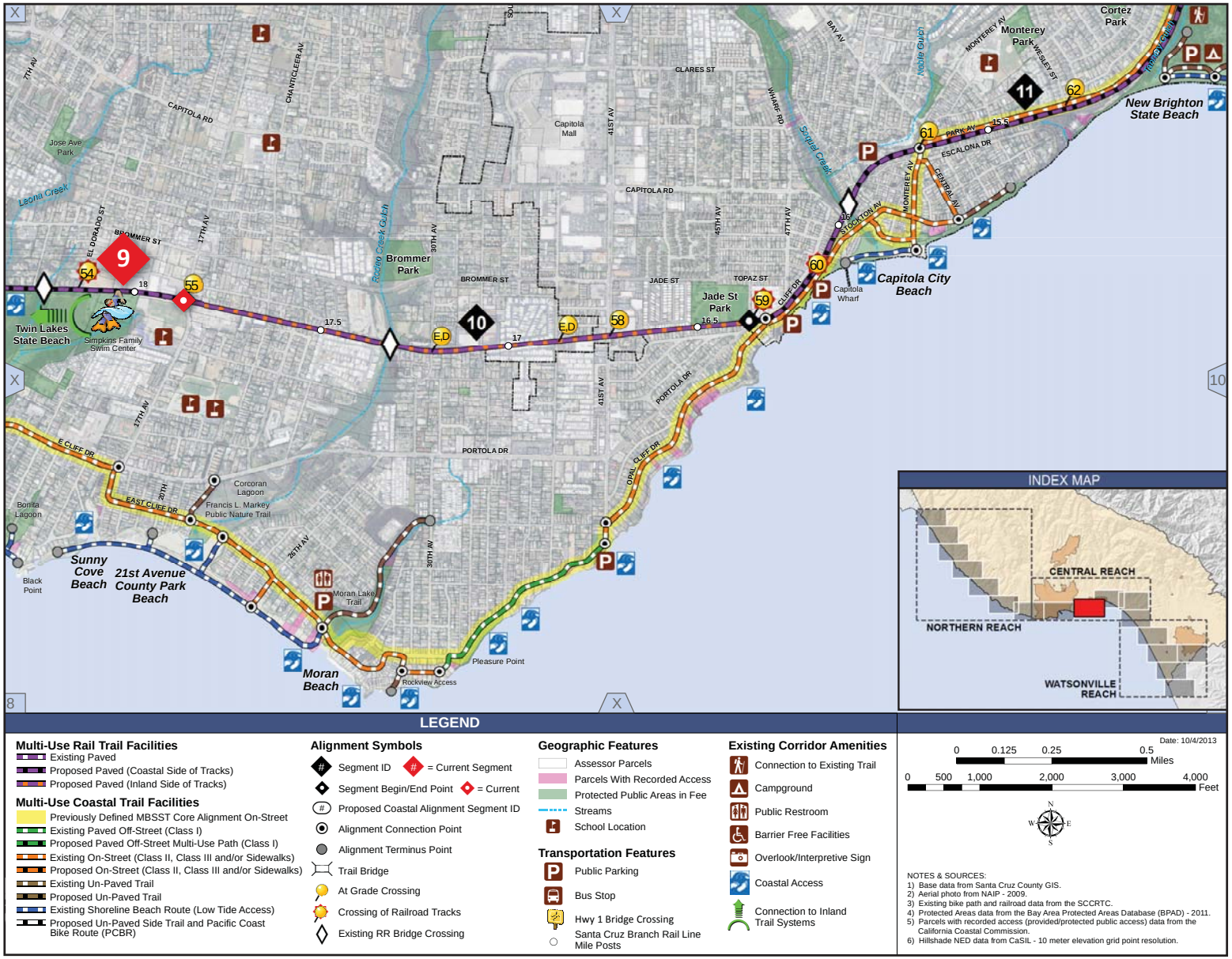
- *0.85 miles (4,510 LF) multi-use paved path*
- *One (1) existing undercrossing connection to Rio Del Mar Boulevard*
- *One (1) pre-engineered bike/pedestrian bridge, 200-foot span*

~~*One (1) road or rail crossing*~~

Central Reach: Segments 7, 8, and 9

Source: RRM Design Group, October 2013.

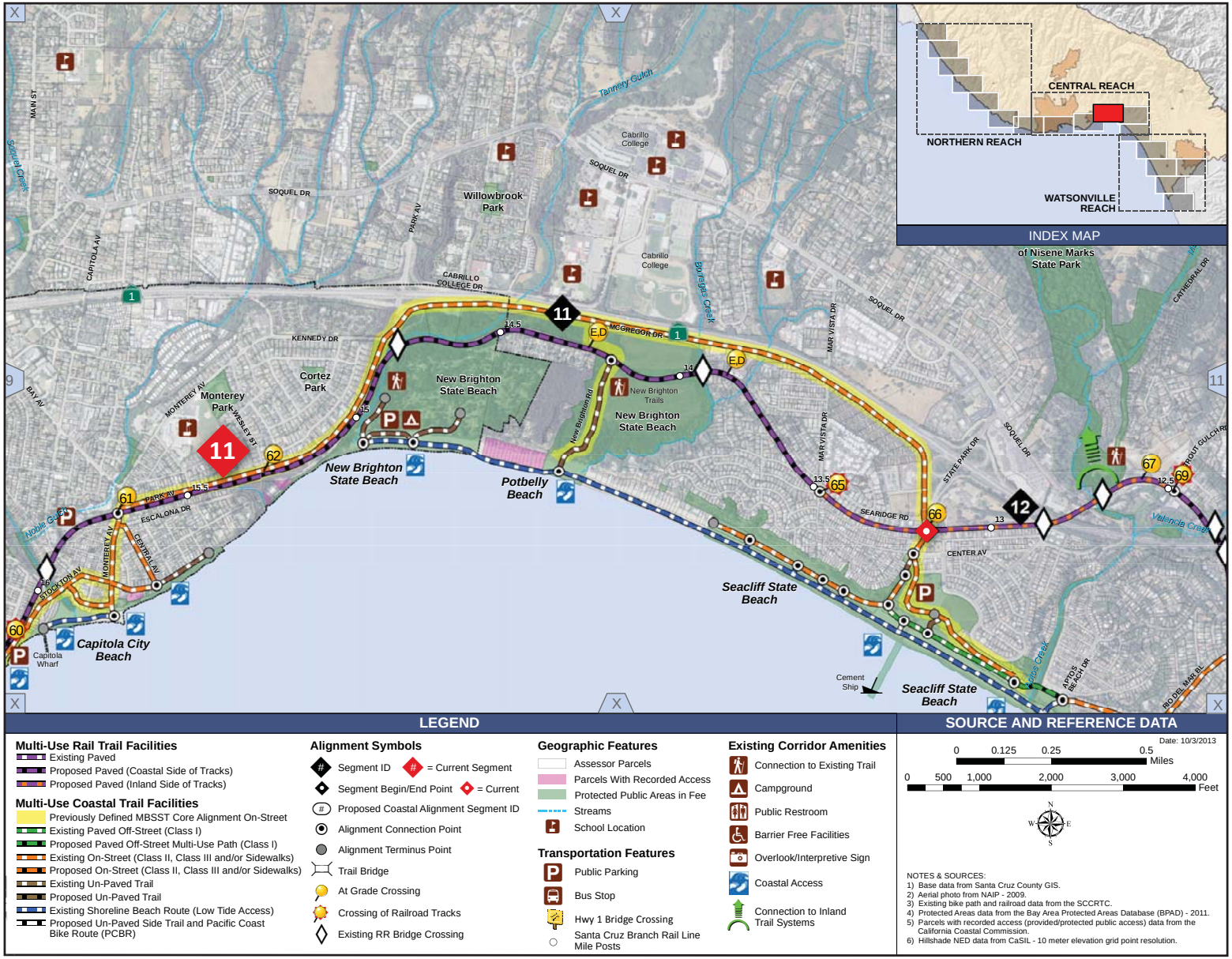
Figure 2-8a



Central Reach: Segments 9, 10, and 11

Figure 2-8b

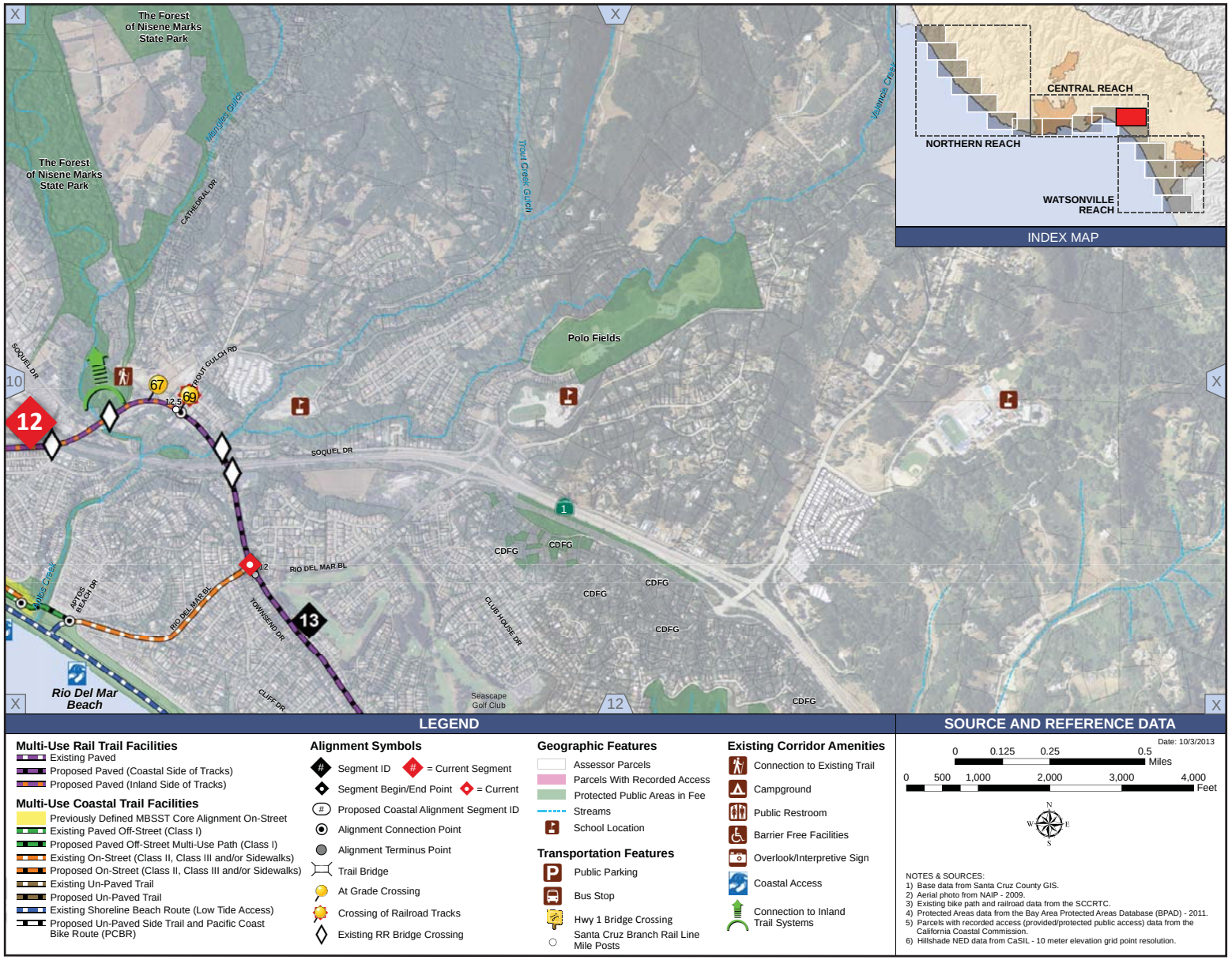
Source: RRM Design Group, October 2013.



Central Reach: Segments 11 and 12

Figure 2-8c

Source: RRM Design Group, October 2013.



Central Reach: Segments 12 and 13

Figure 2-8d

Source: RRM Design Group, October 2013.

Central Reach: Segments 13, 14, and 15

Source: RRM Design Group, October 2013.

Figure 2-8e

Segment 14: Seascape. The Seascape segment extends for 1.17 miles from Cliff Drive/Hidden Beach to Seascape Park in the Rio del Mar area (refer to Figure 2-8e). The proposed trail would use an existing rail trestle as a grade-separated crossing on the south abutment and cross under the tracks to the inland side of the rail corridor. The trail would continue on the inland side of the tracks next to Sumner Road with an at-grade street crossing at Clubhouse Drive. The trail would continue down the coast between Sumner Road and the rail tracks to the next trestle crossing near Sumner Road and Dolphin Drive. This segment includes several existing unpaved trails that would connect the proposed new facility to the beach. Segment 14 proposed improvements include:

- *1.17 miles (6,160 LF) multi -use paved path*
- *~~One~~ Two (~~1~~2) road ~~or rail~~ crossings*
- *One (1) trail undercrossing of the existing rail bridge at Hidden Beach*

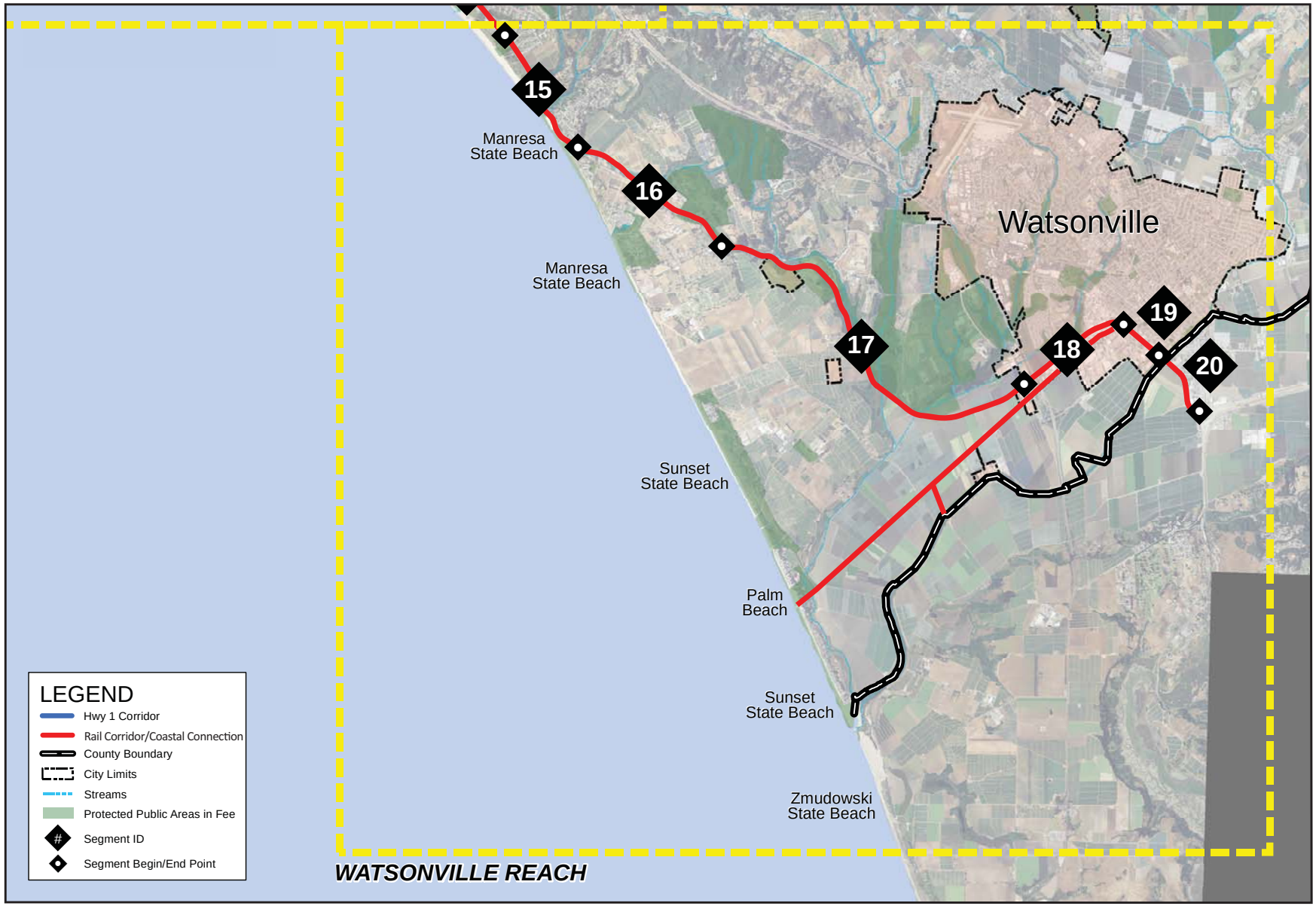
Watsonville Reach. The Watsonville reach of the MBSST Network begins at railroad mile marker 10 near Seascape Village Park and ends at Railroad Avenue in Monterey County (refer to Figure 2-9). A spur also connects via San Andreas Road to the Santa Cruz/Monterey County line at~~s~~ the Pajaro River to connect to Monterey County's MBSST system. This reach parallels the coastal edge for approximately one mile before it begins following the San Andreas Road alignment inland as it heads south and east. The landscape is primarily open space with some residential areas near Manresa, tapering off to rural farm and agricultural lands further to the south. The rail alignment eventually drifts away from San Andreas Road just south of railroad mile marker 7 and follows the inland side of a steep sloping mesa.

The Watsonville reach travels through native woodlands flanked to the west by agricultural land on the mesa top and to the east by rural land sloping away to the Galighan Slough below. The Harkin Slough is a formidable wetland crossing with wide open fields intermittently flooded throughout the year. The rail crossing at the Harkin Slough is on a stretch of raised earthen dike. The rail line eventually crosses the Watsonville Slough and passes through the center of the agricultural fields just west of the City of Watsonville, eventually connecting to city parkland and the downtown street network at Walker Street. The rail line crosses the Pajaro River to the south and ends at Porter Street in the town of Pajaro.

The Watsonville reach is divided into six segments. These segments are shown in Figures 2-10a through 2-10e, and described below.

Segment 15: Manresa State Beach. The Manresa State Beach segment extends for 1.37 miles from Seascape Park to the Manresa State Beach railroad bridge at San Andreas Road in unincorporated Santa Cruz County (refer to Figures 2-8e and 2-10a). This segment would include a new multi-use paved path on the inland side of the railroad tracks, and would connect to Manresa State Beach via existing, unpaved trails. This segment would include two rail bridge crossings. The multi-use paved path would cross to the coastal side of the tracks near the end of this segment. Segment 15 proposed improvements include:

- *1.37 miles (7,240 LF) multi -use paved path*
- *Two (2) pre-engineered rail bridge crossings, one ~~200~~300-foot span, one ~~100~~225-foot span*
- *~~Five~~ Four (~~5~~4) road ~~or rail~~ crossings*
- *One (1) rail crossing*



Watsonville Reach Location Map

Figure 2-9

Source: RRM Design Group, October 2013.

Segment 16: Ellicott Slough. This segment extends for 2.66 miles from the existing rail bridge crossing of San Andreas Road at Manresa State Beach to Buena Vista Drive in unincorporated Santa Cruz County (refer to Figure 2-10a). Within this segment, the proposed multi-use paved path would begin to head inland toward Watsonville. Manresa State Beach provides coastal access with public parking, restrooms, an accessible scenic overlook, and picnic areas, stairs and ramps down to the beach, drinking water, and State Park controlled gated access to the parking lot off San Andreas Road. The proposed trail would be located on the coastal side of the tracks connecting to the inland State Beach public facilities. Segment 16 proposed facilities include:

- ~~*2.18*~~ *1.78 miles (~~11,500~~ 9,400 LF) multi-use paved path along the rail right-of-way*
- *0.40 miles (2,100 LF) multi-use paved path along coastal trail*
- *0.48 miles (2,530 LF) on-street facilities (Class II bike lanes)*
- ~~*Four*~~ *Two (~~4~~2) road ~~or rail~~ crossings*
- *One (1) rail crossing*

Segment 17: ~~Gallighan~~ Harkins Slough. The ~~Gallighan~~ Harkins Slough segment extends for 4.00 miles from the Buena Vista Drive and San Andreas Road intersection to Lee Road (refer to Figure 2-10a). This segment is heavily wooded with several smaller rail trestle bridge crossings over small drainages and sloping ravines, and may require retaining walls on the uphill side of the ravines. This segment would include a new multi-use paved path on the inland side of the railroad tracks, and would pass by agricultural fields, a mineral quarry, and wooded slopes as it descends toward the Gallighan Slough-Harkins Slough wetland area. The Harkins Slough is seasonally flooded and a 400 foot segment of the trail may need to be a boardwalk type bridge structure to cross the wetland area to reach the south side of the Slough. Segment 17 proposed facilities include:

- *4.0 miles (21,140 LF) multi -use paved path*
- ~~*Four*~~ *Seven (~~4~~7) ~~pre- engineered~~ rail bridge/culvert crossings*
- ~~*Two*~~ *Three (~~2~~3) road ~~or rail~~ crossings*

Segment 18: Watsonville Slough Open Space Trails. The Watsonville Slough open space trails segment extends for 4.01 miles from Lee Road to Walker Street in the City of Watsonville (refer to Figures 2-10b and 2-10c). This segment would include a new multi-use paved path on the inland side of the railroad tracks, which would cut across agricultural fields before entering the southeastern portion of the City of Watsonville. The proposed alignment crosses the Ohlone Parkway at-grade rail crossing and connects to the Watsonville Wetlands trail system. This segment ends east of the industrial areas on the inland side of the tracks, just as they connect to Walker Street in the City of Watsonville. Segment 18 proposed facilities include:

- *1.20 miles (6,350 LF) multi-use paved path*
- *2.81 miles (14,820 LF) on-street facilities (Class II, III, and sidewalks)*
- ~~*Five*~~ *Two (~~5~~2) road ~~or rail~~ crossings*
- *One (1) rail culvert crossing*

Segment 19: Walker Street, City of Watsonville. This segment extends for ~~0.65~~ 0.47 miles from Walker Street to the north bank of the Pajaro River in the City of Watsonville (refer to Figures 2-10c). This segment would be part of the City of Watsonville bike facility network. Segment 19 starts as an existing Class II bike lane facility at the intersection of Walker Street and Coastal Beach Street. New Class II bike lanes would be added along Walker Street and sidewalks on the inland side of the street south of Riverside Drive, all the way to the terminus of Walker Street, to connect with the Pajaro River levy trail network. Segment 19 proposed facilities include:

- ~~*0.47 miles*~~ *0.29 miles* (~~*2,460*~~ *1,510 LF)* ~~*multi-use paved path*~~ *existing on-street facilities (Class II)*
- *New sidewalks on the inland side of Walker Street*
- *0.18 miles (950 LF) on-street facilities (Class II~~, III, and sidewalks~~)*
- *One (1) road ~~or rail~~ crossing*

Segment 20: Pajaro River. The Pajaro River segment is the final segment of the proposed MBSST Network corridor, and would extend for 0.74 miles from the north bank of the Pajaro River to Railroad Avenue in Monterey County (refer to Figure 2-10c). This segment is a short connection that includes a new pre-engineered bridge crossing the Pajaro River. This segment would extend through County of Monterey jurisdiction, and would require cooperation with the Transportation Agency for Monterey County (TAMC) and the County of Monterey. The purpose of segment 20 is to provide a regional connection to the existing and proposed Pajaro River levee-top trail network in Watsonville and the Monterey County section of the Monterey Bay Sanctuary Scenic Trail, which will span the entire coast of the Monterey Bay National Marine Sanctuary, from Pacific Grove to Santa Cruz. Segment 20 proposed facilities include:

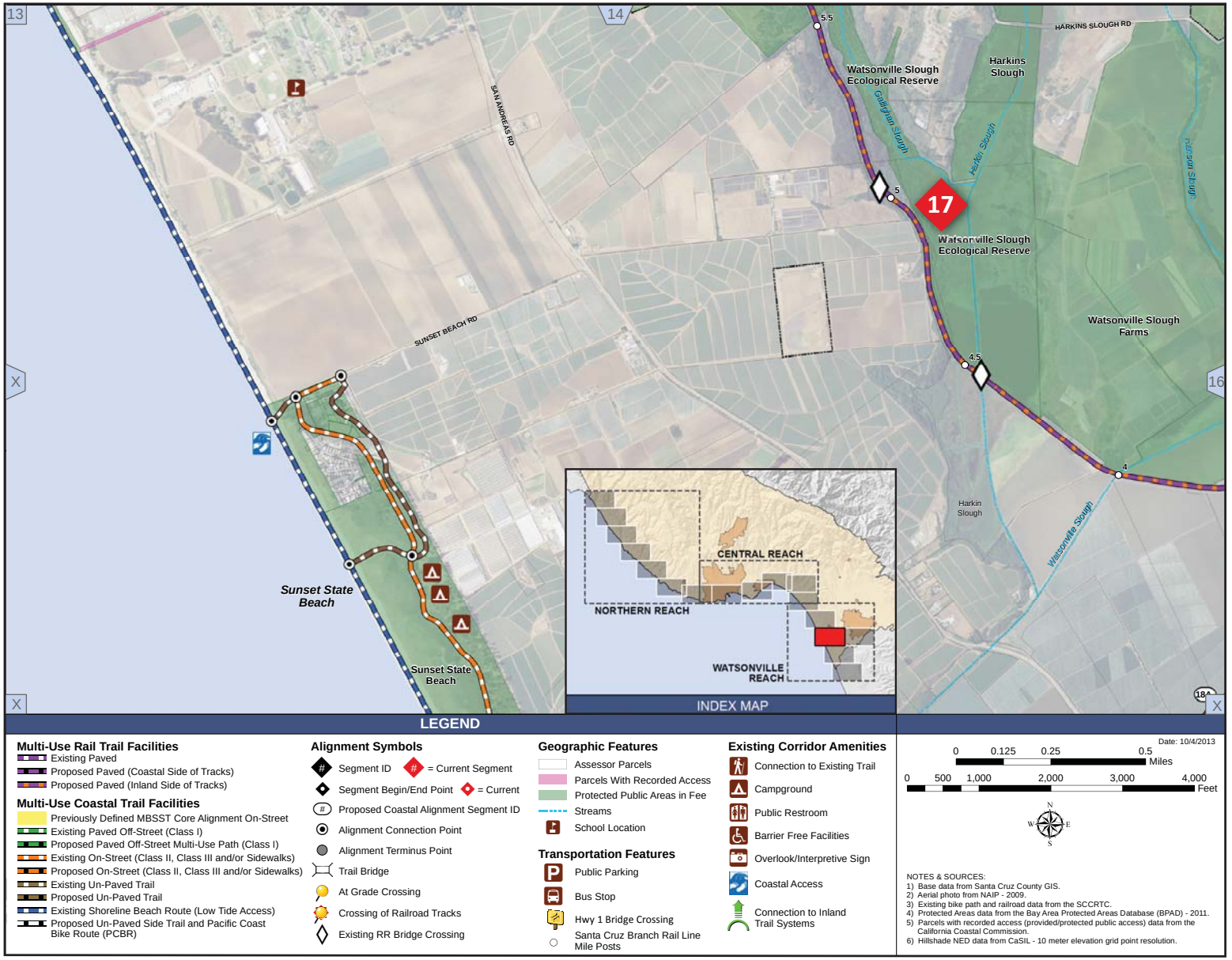
- *0.74 miles (3,930 LF) multi -use paved path*
- *One (1) new pre-engineered bike/pedestrian bridge, 200-foot span*
- *3,930 feet of fencing for agricultural operations and safety*

In addition to the segment-specific improvements outlined above, one new public restroom facility would be constructed within the Watsonville reach. Although its precise location has not been determined, it is anticipated that this restroom would be in a predominantly rural location and utilize a septic disposal system.

Watsonville Reach: Segments 15, 16, and 17

Figure 2-10a

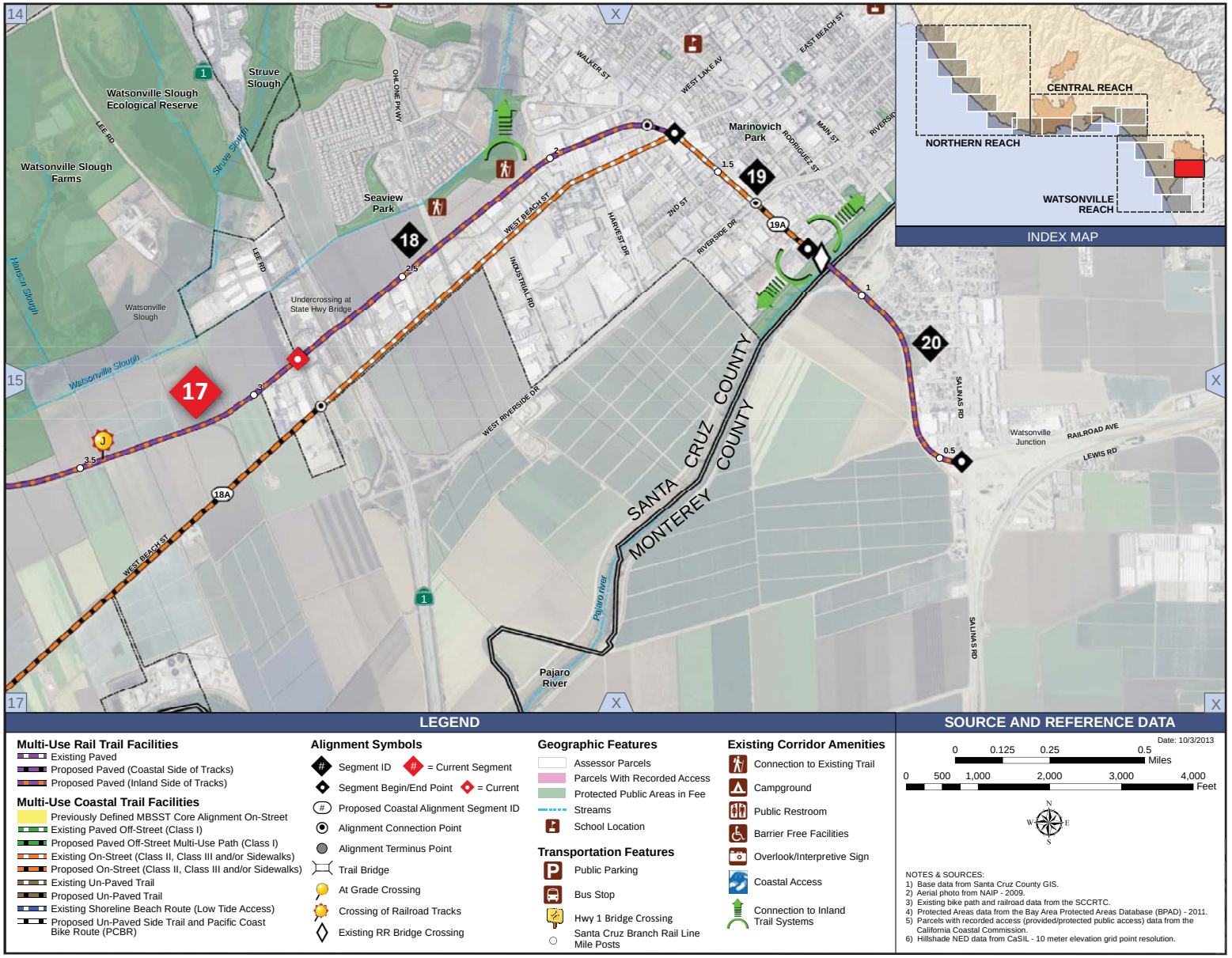
Source: RRM Design Group, October 2013.



Watsonville Reach: Segment 17

Source: RRM Design Group, October, 2013.

Figure 2-10b



Watsonville Reach: Segments 18, 19, and 20

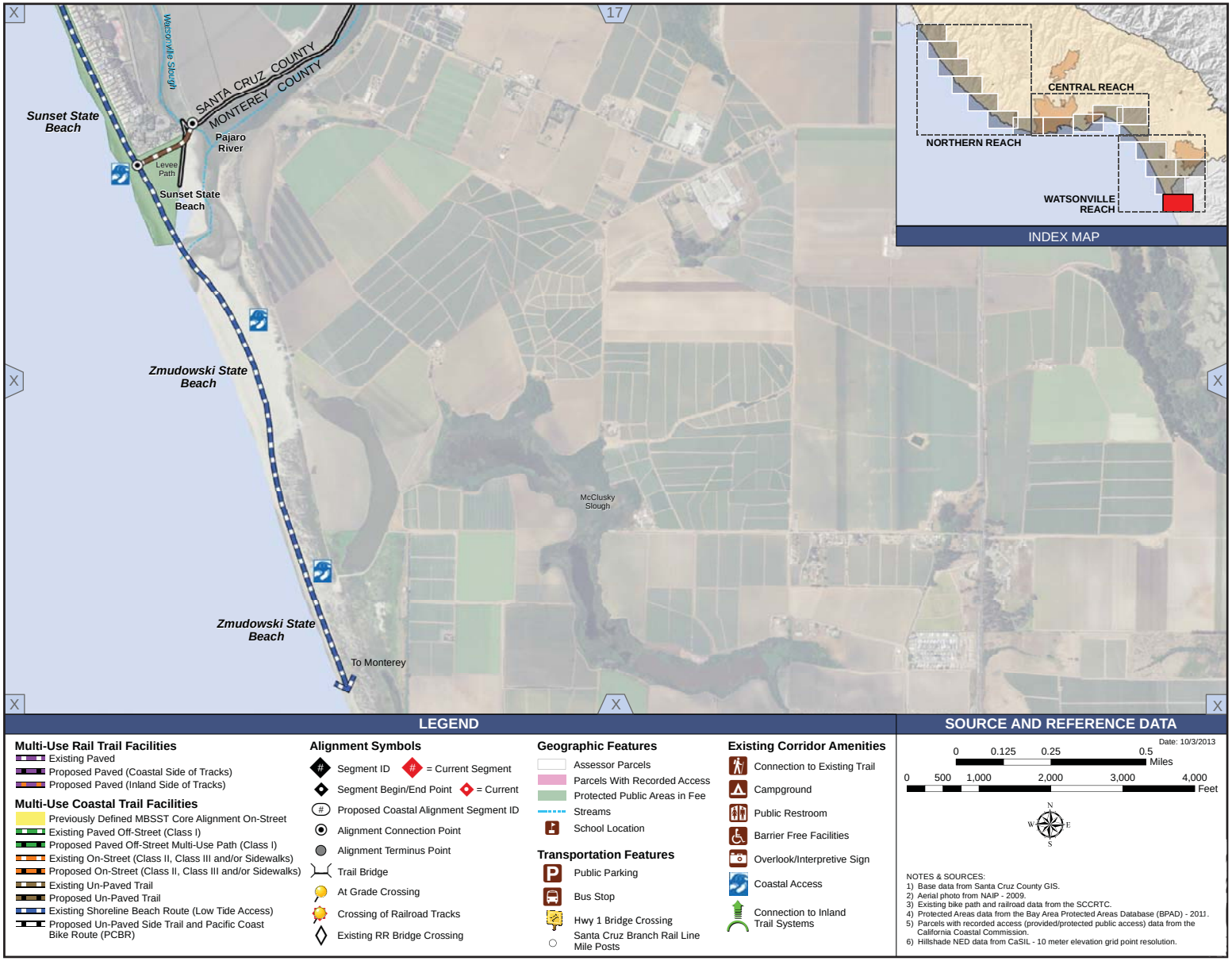
Figure 2-10c

Source: RRM Design Group, October 2013.

Watsonville Reach: Pajaro River Connection

Figure 2-10d

Source: RRM Design Group, October 2013.



Watsonville Reach: Shoreline Beach Connection

Figure 2-10e

Source: RRM Design Group, October 2013.

2.5 DESIGN STANDARDS

Trail classifications included in the MBSST Network Master Plan are described in Section 2.4.1. These include Class I multi-use paved paths, Class II designated bike lanes, Class III on-street bike routes, unpaved trail surfaces, sidewalks, and boardwalks. The proposed MBSST Network contains design standards for each facility type, some of which are mandatory and some of which are advisory. Mandatory standards include those related to: trail width; separation of pathway to roadway; design speed; Class I bike path standards; Class II bike lane standard; Class III bike route standard; bridge standards; signing, markings, and traffic controls; and sidewalks. Advisory (non-mandatory) standards are also provided, and include: striping; intersections and crossings; horizontal alignment; stopping sight distance; lateral clearance on horizontal curves; gradients; structural section; drainage; barrier posts; bikeway and railroad intersections; trail setbacks from railroad tracks; and multi-use path standards. Specific design standards are described in greater detail below.

2.5.1 Continuous Theme

Since the 49.6-mile MBSST Network crosses through several jurisdictions, certain design features are proposed to maintain a uniform and cohesive appearance. These key unifying design features include:

- *Trail Logo*
- *Directional Signs*
- *Kiosks and Information Resources*
- *Landscaping Features*
- *Pavement Markings*
- *Mile Markers*
- *Interpretative Exhibit Design*
- *Trail Entrance Features*

Trail logos, conceptual signage, and other drawings are included in Chapter 5 of the MBSST Network Master Plan.

2.5.2 Trail Crossings and Intersections

The proposed MBSST Network would require the construction of ~~17~~ 23 new, pre-engineered bridges; retrofitting of ~~one~~ 1 existing bridge; ~~and would require 93~~ 76 roadway crossings (including 1 undercrossing); ~~or~~ and 20 railway crossings (including 1 undercrossing).[4]

[4] ~~*The precise number of bridges and roadway/railway crossings may differ from the MBSST Network Draft Master Plan (October 2012) and the figures presented in Section 2.0, Project Description. However, the information included herein is considered the most up to date and accurate information regarding the planned improvements at the time of DEIR preparation. It is anticipated that the Final Master Plan will be updated to reflect this information. In addition, t*~~*The actual improvements proposed on any given segment may vary from what is described herein and will be reviewed prior to implementation. Given the programmatic nature of this DEIR, supplemental environmental analysis may be required depending on the final segment design.*

Trestle and Bridge Crossings. There are three possible bridge crossing treatments included in the MBSST Master Plan. The following treatment types describe three possible design concepts for existing railroad bridge and trestle crossings.

Type 1 Crossing: Rail Bridge Replacement. The MBSST Network project does not propose removal or replacement of any existing bridges. It is possible that some bridges may be slated for replacement as part of future projects. In such instances, the Master Plan encourages that future design of any replacement bridges consider including multi-use path facilities on the bridge deck.

Type 2 Crossing: Retrofitted Rail Bridge. Existing bridges, which are considered structurally sound and evaluated to potentially accommodate a retrofit trail bridge attached to the existing superstructure, would provide an alternate solution for trail crossings where there is no room for a new, separate trail bridge. This design alternative can sometimes be the most costly and would be evaluated against bridge crossing Types 1 and 3 for cost, span, scheduling, connectivity efficiency, environmental impacts and clearances. Retrofitting existing rail bridges is limited to one location for this project (in segment 12).

Type 3 Crossing: New Multi-Use Trail Bridge. Where retrofit of existing rail bridge structures is infeasible, a new separate trail bridge parallel to the existing rail bridge structure could be constructed. This scenario would include new abutments, a prefabricated bridge, and permitting for the new crossing. A total of ~~17~~23 such bridges are planned for the length of the MBSST Network.

Additional bridge design considerations, including consideration of drainage way characteristics, bridge length and placement, load consideration, aesthetics, and rail track realignment/relocation, are described ~~on page 5-15~~ in Section 5.3 of the ~~proposed~~ Master Plan.

Roadway and Railway Crossings. The proposed trail alignment would intersect public and private roadways and/or the railway at ~~93~~ 96 locations. ~~Eleven~~ Ten types of treatments are included in the MBSST Master Plan for these crossing locations. These improvements would be installed at railroad crossings and at street intersections or midblock crossings. In some locations, a custom treatment would be necessary and may include unusual combinations of the standard treatments or an altogether unique treatment. The treatment types include:

- *Type A. Railroad signal equipment – new signal or modification of existing signal*
- *Type B. Traffic signal modification*
- *Type C. Hawk traffic signal/pedestrian hybrid beacon*
- *Type D. Active enhanced midblock – Pedestrian-activated warning system*
- *Type E. Passive enhanced midblock – Additions to the Standard midblock treatment*
- *Type F. Standard midblock – Signs and markings*
- *Type G. Traffic calming measures – Raised medians, curb extensions, or bulb-outs*
- *Type H. Connection facilities–Pedestrian walkways, intersection crosswalks, and/or bicycle*
- *markings*
- *Type I. Rail crossing without railroad signal equipment (very low crossing volumes)*
- *Type J. Standard private crossing – Typical controls include a combination stop sign/private crossing-no trespassing sign*
- *Type K. No additional improvements or changes*

~~Figures 5.8 through 5.10 in the proposed Master Plan detail roadway crossing concepts that illustrate how the trail would interact with existing streets and with the rail tracks.~~

Custom Crossing Treatments. Twenty six custom crossing treatments are identified in the MBSST Network Master Plan. Each custom treatment contains unique features not found in Types A through K above. The custom treatments are depicted in ~~Figures 5.14 through 5.38~~ Figures F-4 through F-30 in the ~~proposed~~ Master Plan. The locations of these treatments are shown in Figures ~~5.11 to 5.13~~ F-1 to F-3 in the proposed Master Plan. Please refer to ~~Chapter 5~~ Appendix F of the proposed MBSST Network Master Plan.

2.5.3 Trail Amenities and Features

A variety of trail amenities in the form of benches, shade structures, informational signs, trash containers, staging areas, and a restroom, would be located along the trail in strategic locations. The proposed Master Plan calls for design of these elements to reflect an ocean theme through the use of wood, stone, wire fences, self weathering (rusted) steel, and other rustic materials. Specific aspects of these amenities are described below.

Trail Furnishings.

Benches and Seating Areas. Benches would be comprised of durable materials and secured to their locations to avoid theft and/or vandalism. Bench style would be consistent, rather than conform to the bench standards of each jurisdiction which it passes through. Benches would be placed at a minimum of every ¼ mile to ½ mile to provide convenient resting places along each segment. Existing adjacent park furnishings would be utilized as appropriate, to avoid redundancy or clutter. Alternatives to fabricated benches include the use of large boulders for seating in more rural or natural settings. Benches would be clustered with trash receptacles and other key furnishing elements.

Trash Receptacles. Trash receptacles would be placed in areas where there are benches and at all major trailhead locations. The trash receptacle unit would include one trash container and one recycle container. The containers would include animal proof lids and a consistent design, color, and style along those trail segments which are outside of an existing agency's park and trail segments.

Bike Racks. Bike racks would be located at rest areas, existing and proposed trail heads, near transit stops, at picnic and park sites, and in commercial areas adjacent to the trail.

Picnic and Shade Shelters. Shelters would be placed along the trail corridor where existing park facilities are located more than ¼ mile apart. They would be located at trailhead parking areas, rest areas, scenic overlooks, and removed or exposed segments along the trail corridor. Picnic and shade shelter design and style would be consistent along the trail corridor. Design exceptions may occur when a proposed shelter location is adjacent to or within an agency jurisdiction that has an existing shelter in that site or within view of the trail corridor's chosen location.

Bollards. The purpose of bollards is to keep unauthorized motorists off the path. Bollards would be removable for emergency and maintenance access, light in color, reflectorized for visibility, lit

with solar-powered LED lights (where feasible), and between 36 inches tall and 46 inches tall. Bollards, if used, would be positioned at least 5 feet apart and include diversion striping on the pavement.

Trail Fencing. Fencing along the trail would vary depending on the location and agreements between adjacent land owners and the RTC. Fencing along the trail corridor would be used conservatively to maintain the open feel and views of the coastal environment. Where excess right-of-way allows, a landscaped buffer would be provided instead of fencing. The fence designs proposed for the trail corridor are standards that can be applied to several scenarios. Fencing would typically be used for the following reasons: safety, security, trespass prevention, environmental impacts, and privacy. The following narrative describes the types of fencing at various locations.

- *Wire Security Fence.* This fence type would consist of 72-inch high woven-wire security fencing with metal posts. This fence type provides a high level of trespass prevention and security. This fence also provides an opportunity for screening with vine plantings to soften the look of the fence and provide additional protection from train blown dust and debris. This fence type would be provided in urban and industrial areas; as a rail track and trail separator (where a high number of illegal crossings are expected); and for safety and security.
- *Smooth wire fencing.* This fence type would consist of 54-inch high, ten-strand smooth wire fencing with concrete posts. This fence type provides a level of trespass prevention and provides open visibility of the surrounding landscape. This fence type is recommended in both rural and urban areas, at agricultural land boundaries, as a rail track and trail separator (where the trail is within 15 feet of rail tracks), within scenic and open space areas, and at environmentally sensitive sites. This type of fence would be used when required by either RTC or the adjacent landowner, and would be located at the right-of-way edge or a minimum of two feet from the outer most edge of the trail surface.
- *Concrete split-rail fencing.* This fence type would consist of 48-inch high, three-rail concrete split rails. This fencing provides a low level of trespass prevention, some open visibility, boundary delineation, and parkland character. This fence type is recommended in both urban and rural residential areas and within open space and park lands. In urban areas, this fence type may be used to separate the trail from adjacent property. The design and use of this fence is subject to the discretion of each implementing entity, as approved by the RTC. Fencing types may include wood, wood substitute, stone and wrought iron, wrought iron, or other suitable materials excluding chain link materials.
- *Privacy fencing.* This fence type would consist of 72-inch high concrete fencing with metal posts, and would provide some level of trespass prevention, security, and privacy for adjacent landowners. This fence type also provides an opportunity for screening with vine plantings. This fence type is recommended in urban and industrial areas, in residential areas, and where safety and security are a concern.

Utilities and Lighting. Existing surface and subsurface utilities within the railroad right-of-way include active and abandoned railroad communications cable, signal and communication boxes, fiber-optic cables, water and sewer lines, and telephone lines. The MBSST Network would be

designed to avoid having to move most active surface utilities, although utility poles no longer in use may be removed. The trail may be located directly over existing subsurface utilities assuming (a) adequate depth exists between the trail surface and utility to prevent damage, and (b) agreements can be reached with the utility owner regarding access for repairs and potential impact to the trail.

Portions of the trail may include lighting, especially where there is considerable evening pedestrian and bicycle commuter traffic. There would be some lighting benefit from existing light sources along adjacent roadways and crossings. Dark sky compliant lighting, which projects light downward without releasing lighting upwards into the atmosphere or outward past the intended projected path, would be used to illuminate the trail.

Trail Access/Staging Areas. Twenty-two existing trail access and staging areas are located in close proximity to the trail alignment (for example, at Depot Park and the Wilder Ranch State Park Visitor Center). Features include parking for vehicles and bicycles, drinking water, trash receptacles, kiosks with traveler information, and other amenities. As future usage increases, additional new staging areas may be constructed. A concept for future trail access/staging areas is identified in Figure 5-~~5~~8 of the proposed Master Plan. Table 2-1 shows the existing and planned trailhead and staging area amenities. Design elements generally include:

- *Paved parking (aggregate base in sensitive areas)*
- *Information kiosk with a trail directory map / trail information*
- *Picnic tables*
- *Drinking fountains*
- *Trash cans*
- *Accessible restrooms (all but one existing)*
- *Safety lighting*
- *Bike racks*
- *Shade and shelter*
- *Potential for commercial vending and service (food, bike support, equipment)*
- *Interpretive signs*
- *Food kiosk*
- *Bike shop/station rental*

Rest Areas. Facilities for comfort (benches, trash receptacles, shade and water), safety (phones and kiosks with traveler information), and interpretive information (historical, cultural, and educational information) would be developed along the trail. Rest areas would be located at places of interest and at regular intervals (approximately two to three miles apart). Design elements for rest areas would include:

- *Trash Cans*
- *Drinking water*
- *Shade element*
- *Directional signage/trail information*
- *Benches with backrest and armrest*
- *Grades that do not exceed 5 percent*

Uniform Signing and Marking. A uniform sign design and logo theme would be provided along the trail. Elements such as bollards to prevent unauthorized trail access, mile post markers to identify specific locations along the trail, directional signs to various places of

interest and user services, informational and traffic control signs and a trail logo would all provide necessary information and help to unify the design.

Signs along the trail would be designed to meet all of the required and recommended signing and marking standards developed by Caltrans in Chapter 1000 of the Highway Design Manual. In addition, all signs and markings would conform to the standards developed in the Manual on Uniform Traffic Control Devices (MUTCD).

In general, all signs would be located at least three to four feet from the ends of the paved surface, have a minimum vertical clearance of eight and a half (8.5) feet when located above the trail surface and be a minimum of four feet above the trail surface when located on the side of the trail. All signs should be oriented so as not to confuse motorists. The designs (though not the size) of signs and markings should be the same as used for motor vehicles.

Directional signing may be useful for trail users and motorists alike. For motorists, a sign reading 'Coastal Rail Trail Xing' along with a trail emblem or logo helps both warn and promote use of the trail itself. For trail users, directional signs and street names at crossings help direct people to their destinations.

Signage. A customized wayfinding signage program for the proposed MBSST Network would be further developed to orient users, provide educational opportunities, and unify the trail corridor. The design would mirror the existing MBSST sign program in terms of height, scale, and font type. However, the signs would differ from the existing MBSST in terms of colors and materials used. All trail signage would be identified with the MBSST logo. Conceptual illustrations of compatible signage types are provided in Chapter 5 of the proposed Master Plan.

In addition, a Coastal Rail Trail logo would be created to enhance the identity of the rail trail. The logo may be a variation of the MBSST logo by keeping the same orientation, font, and use of black. The colors and central design would be modified in order to reflect a rail trail theme.

Historic and Educational Themes. In addition to the exhibit locations identified by the previously prepared MBSST Standards Manual, additional historic and educational exhibits (interpretive exhibits) would be placed along the trail at strategic locations offering a variety of information. For example, information concerning the history of railroads, lumber, beaches, and farming in the area would be portrayed. Educational exhibits describing the environment and natural resources would be developed to educate visitors and residents about current issues and stewardship. All of these topics would be presented in a cohesive design to help reinforce the continuity of trail design.

Sanctuary Scenic Trail Signage. The RTC and the Santa Cruz County InterAgency Task Force secured funding from a Federal Transportation Enhancement Grant to develop conceptual designs for a trail logo, a wayfinding system to orient trail users, and an interpretation system

Table 2-1
Existing/Planned Trail Head/Staging Area Amenities

	Paved Parking Lot	Accessible Parking	Street Parking	Shelter	Overlook with Benches	Trash Cans	Bike Racks	Accessible Restrooms	Drinking Water	Benches	Picnic Area	Other/Notes
Waddell Beach	X	X						X				
Greyhound Rock Beach	X	X					X	X				
Scott Creek Beach			X		X	X	X					
Davenport Beach Landing			X		X	X	X	X				
Davenport												Unpaved parking lot
Coast Dairies, Bonny Doon	X					X						
Coast Dairies, Yellowbank												Unpaved parking lot
Wilder Ranch, 4 Mile												Unpaved parking lot
Wilder Ranch, Old Cove	X	X	X				X	X	X			Trailer parking
Natural Bridges State Park	X	X										
Neary Lagoon Park (Planned)												Existing boardwalk
Depot Park	X	X		X			X	X	X	X	X	Other amenities
Main Beach	X	X					X	X	X	X	X	Other park amenities
Santa Cruz Harbor	X	X					X	X	X	X	X	Other park amenities
Simpkins Swim Center	X	X		X			X	X	X	X	X	Other amenities
Jade Street Park at 47th St.	X	X					X	X	X	X		Other park amenities
New Brighton State Beach	X	X		X			X	X	X	X	X	Other amenities
Aptos Village	X	X					X					
Hidden Beach	X						X			X	X	Lawn area
Seascape Park	X	X			X		X	X	X	X	X	Lawn area, trails
Manresa State Beach	X	X			X		X	X	X	X	X	
Watsonville Slough Trails							X			X	X	Lawn area, trails
Walker Street, Watsonville	X											

to showcase distinct habitat areas, and illustrate themes and stories consistent with the conservation and education goals of the Monterey Bay National Marine Sanctuary. Through this process, a series of wayfinding and interpretive exhibits were designed to be distributed through a core 11-mile length of the MBSST Network. There are five types of signs and exhibits: trail markers, directional signs, orientation signs, minor interpretive exhibits and major interpretive exhibits. A handful of these signs have already been installed.

The Sanctuary Scenic Trail Standards Manual (June 2005) includes locations and design direction for trail signage and should be implemented where the proposed Monterey Bay Sanctuary Scenic Trail alignment intersects with the signage locations identified by the Standards Manual. As new trail signs are installed, they would incorporate directional information leading users to the Coastal Rail Trail and/or the California Coastal Trail, where appropriate.

Countywide Bicycle Route Signage. In an effort to further increase bike ridership and provide a viable transportation alternative, the RTC is developing a Countywide Bicycle Route Signage Program. The exact sign type has not been agreed to yet but the mock-ups proposed would fit in with existing signage, would be easily integrated into the proposed sign types and is in compliance with the MUTCD.

Multiple Trail Designations. In certain instances, the MBSST Network would include additional trail network alignments such as the California Coastal Trail, Monterey Bay Sanctuary Scenic Trail, and/or the Pacific Coast Bike Route. When this is the case, the application of the proper logo(s) would be applied to trail signage to inform the user of the multiple route status.

Landscaping. The landscaping treatment along the proposed MBSST Network would vary along the corridor as it traverses from one region to another. The landscape treatment would be limited by availability of space in the trail corridor, narrow rights-of-way, railway operational clearance, agricultural operations, sensitive coastal bluffs, and other mitigating factors, and would be determined through the design phase of each segment in coordination with the primary managing agency.

Currently there are existing segments of the MBSST corridor that follow highly urbanized areas with landscape treatments existing along street corridors, parks, adjacent open space, harbor edges, and beachfront areas. The landscape for new segments of the MBSST would vary with the setting and with the agency responsible for the design, implementation, and long-term maintenance. The landscape treatment would also vary by setting. Landscape treatment in intense urbanized areas would include both native and non-native drought tolerant plant palettes. However, areas where the trail is located in and/or adjacent to native landscape settings, or rural and agricultural lands, every effort would be taken to maintain native and indigenous plant species in the planting and restoration efforts. Plant palettes would be determined as part of the design phase for each segment in coordination with the implementing entity. Planting plans would also comply with environmental studies and recommendations concerning sensitive or critical native plant habitats. Other precautions would consist of the strict avoidance of invasive species being included in any planting plans.

Drainage and Erosion Control.

Drainage Improvements. Drainage improvements to accommodate the trail would be made in conjunction with construction of the trail. Trail design would be engineered so as not to increase any historical run off onto a property, and would be coordinated with any adjacent and regional efforts that may be underway at the time to resolve historical problems to the greatest degree feasible. A combination of culverts, channelization and improved bridge crossings would occur in conjunction with trail construction. Trail engineering would focus on methods to minimize siltation maintenance issues.

Culverts. Culverts can be used in seasonal drainage ways or seeps along gullies and swales. Culverts would be sized to handle the high flow during seasonal rains. Culverts may consist of plastic or metal corrugated pipe. Trail approaches would be designed at a straight 90-degree angle. Culvert crossing width would match the trail approach width on both sides. Culvert faces would be concealed with native stone and channels downstream of culverts with rip-rap.

Sea Level Rise. Generally, the California Coastal Commission (CCC) requires new development to be setback from bluff edges so that development would be safe from bluff retreat for at least 100 years. However, the CCC does make exceptions to the setback requirements for recreational/trail projects. The 100-year sea rise projection is unlikely to impact on-street trails. However, natural surface trails along coastal bluffs may be impacted and development of new trails should consider sea level rise impacts.

Universal Trail Design. "Accessibility" or "universal access" would be considered in the decision-making processes including planning, design, construction, and management of the MBSST Network. Universal access includes design strategies that provide trail access to those with and without disabilities including families, the elderly and mobility impaired persons. At a minimum, current state and federal regulations concerning the Americans with Disabilities Act (ADA) would be applied to provide access to a wide range of user capabilities where it is deemed appropriate and reasonable.

While trail designers would refer to the federally mandated ADA guidelines, the following five design characteristics are identified by the MBSST Network Master Plan as being typical of the types of challenges that must be overcome to ensure a universally accessible trail.

- *Trail Grade*
- *Cross Slope*
- *Width*
- *Surface Type*
- *Obstacles*

User Conflict Reduction Strategies. The MBSST Network Master Plan identifies preventative measures to anticipate heavy use and preclude user conflict in multiple-use trails, permitting use by walkers, runners, bicyclists, etc. These include the following:

1. *Involve all potential user groups in the planning process to raise issues and help address them*

2. *Design to minimize conflicts with separate trails or shoulders for pedestrian and equestrian use, where possible, and provide adequate width and sight lines, furnish turnouts at stopping points, etc.*
3. *Use clear signage or pavement markings to define etiquette and yielding protocol*
4. *Set expectations for multi-use*
5. *Enforcement of rules by volunteer trail patrols and/or a uniformed presence – especially when a trail is new to establish precedent and expectations*

The proposed Master Plan emphasizes trail etiquette through both informal and formal means. The proposed Master Plan recommends visual and simple displays of expectations, including the following potential courtesy advisories:

- *Wheels yield to heels*
- *Be courteous to all trail users*
- *Travel at a reasonable speed in a consistent and predictable manner*
- *Always look ahead and behind before passing*
- *Pass slower traffic on their left; yield to oncoming traffic when passing*
- *Give a clear warning signal before passing – use voice signal, not horn or bell, when passing horses*
- *Keep all pets on a short leash*
- *Respect the rights of adjacent property owners*
- *Don't be a litterbug*
- *Please clean up after your pets*
- *Move off the trail when stopped to allow others to pass*
- *Yield to other users when entering and crossing the trail*
- *Motorized vehicles are prohibited (except electric wheelchairs)*
- *Alcoholic beverages and illegal drugs are not permitted on the trail*
- *Firearms, fireworks, and fires are not permitted on the trail*
- *All trail users should use a light and reflectors after dusk and before dawn*
- *Travel no more than two abreast*
- *Be aware and courteous to others while using a cellular phone*

Dogs On Trails. The approximately 50-mile MBSST Network passes through several different city, county, and state properties, all with varying rules and regulations addressing dogs in the park lands and on trails. The proposed Master Plan encourages implementing entities to provide dog waste bag dispensers at trailheads. More remote sites or neighborhood access areas may include a simple regulation sign requiring pet owners to collect their pet waste both as a courtesy to other users and a management tool for habitat preservation. Dogs may be restricted adjacent to agricultural lands where sensitivity relating to contamination exists.

The waste removal restrictions do not apply to service animals, as defined by the Federal Americans with Disabilities Act (ADA). The ADA defines a service animal as any guide dog, signal dog, or other animal individually trained to provide assistance to an individual with a disability.

Currently the California State Parks rules and regulations require dogs be on a leash within the park boundaries. California State Beach regulations require dogs be on a leash and allowed on paved trails only. Other regulations for dogs on trails may include requests to have the pet up-

to-date with all applicable vaccinations and a current license with the County Department of Animal Services. Some implementing entities may have their own animal care services or licensing.

Equestrians on Trails. Equestrian use on the MBSST Network would be limited to the north coast area extending from Wilder Ranch to Davenport, i.e. along segments 5.1, 5.2, 5.3 and 6. Equestrians would utilize the existing facilities located in Wilder Ranch. The proposed Master Plan suggests specific design considerations when planning for equestrian use on multi-use paths, including trail width of at least 8 feet with a vertical clearance of at least 10 feet, separated a minimum of three feet from the paved multi-use path.

2.6 TRAIL IMPLEMENTATION AND ADMINISTRATION

2.6.1 Project Prioritization

The proposed MBSST Master Plan prioritizes projects based on the following criteria:

- *Proximity to activity centers*
- *Population Density*
- *Coastal access connectivity*
- *Trail segment cost*
- *Trail s~~S~~egment length*
- *Minimal or no ~~Number of~~ bridge crossings*
- *Limited right-of-way constraints*
- *Gap closures (and connections to existing and planned non-motorized facilities)*
- *Public input*

The specific methodology for project prioritization, including the points awarded to each of the above criteria, is described in ~~Chapter 6~~ Appendix E of the MBSST Network Master Plan.

All phases of the MBSST design and implementation may require various outside agency sources to match local funding. Outside funding sources may include, but would not be limited to: the Federal Highway Administration (FHWA) (including Federal Lands Highway Funds, Recreational Trails Program, and Transportation, Community and System Preservation Program); California Transportation Commission (including the Transportation Alternatives Program); Caltrans (including the Highway Safety Improvement Program, Bicycle Transportation Account, and Community-Based Transportation Planning Program, and Environmental Enhancement Program); the National Park Service (NPS) (including the Land and Conservation Fund, and the Rivers, Trails, and Conservation Assistance); the California Coastal Conservancy; the California Department of Parks and Recreation (Habitat Conservation Funds); California State Parks (Statewide Park and Community Revitalization Program); the Wildlife Conservation Board (Public Access Program); and the Resources Agency (River Parkways Program).
It should be noted that actual implementation may differ from what is outlined in the Master Plan as a result of funding opportunities, community support, and other criteria. However, the intent is to use the prioritization in the Master Plan as a mechanism by which to fund and implement each segment.

2.6.2 Administration

Administration of the proposed MBSST would involve the RTC and the implementing entities (City of Santa Cruz, County of Santa Cruz, City of Capitola, City of Watsonville, and/or State Parks). The RTC, as the owner of the Santa Cruz Branch Rail Line, would continue to provide regional policy oversight for the corridor and coordination with the rail operator. RTC staff would provide a forum for public input throughout the trail development process, augmenting public input in the local planning and design process.

In regards to trail network improvements, the main role of the RTC is to provide ongoing coordination services and funding for implementation of the Trail. The RTC would take the lead in preparing a memorandum of understanding (MOU) between itself and implementing entities to clarify roles, responsibilities for design, development, construction, monitoring, and maintenance of the Trail. The RTC may itself act as a project manager. The following describes the RTC's implementation responsibilities in greater detail:

- ~~*Phasing - Using the Master Plan-identified phasing as a guide, the RTC would coordinate with implementing entities to identify segments that are to be implemented.*~~
- *Funding - Upon identification of a segment, the RTC would organize a funding strategy to design, construct, and maintain the segment. RTC staff would assist implementing entities in developing fundable projects, matching projects with funding sources, and helping to complete competitive funding applications. In some cases, RTC may act as the project sponsor or cosponsor.*
- *Progress - Through board presentations, website notifications, and other venues, the RTC would provide regular updates to the public regarding the status of the trail development.*
- *Oversight - The RTC would work closely with implementing entities, planning, parks, and public works staff to implement trail segments.*
- *Coordination - Finally, should the RTC incur additional operating expenses to coordinate implementation, maintenance, operation and liability of the trail through agreements with implementing entities, funding would need to be identified.*

The following describes implementing entities' responsibilities in greater detail

- *Once the segment has been identified and funded, the RTC and/or implementing entities may employ in-house staff or retain a qualified bicycle and pedestrian trail planning consultant to design the trail construction documents. After review by the RTC's advisory committees and implementing entities, boards and committees, the RTC would review and approve all trail designs submitted by the implementing entities.*
- *In conjunction with implementing entities and/or trail planning consultant, a series of workshops would be conducted to introduce the project to the public and to identify any new information not included in the Master Plan.*
- *Implementing entities would be responsible for overseeing any necessary environmental clearance. The implementing entities would obtain the necessary planning, environmental, and development permits.*
- *The RTC may oversee project construction in consultation with the implementing entity and/or trail planning consultant.*

2.6.3 Operation and Maintenance

The proposed MBSST Network Master Plan contains an operations and maintenance plan (O&M Plan) to ensure that the MBSST Network is operated in an efficient and safe manner for all trail users and adjacent uses. The O&M Plan identifies the responsibilities, tasks, procedures, estimated operations and trail maintenance costs and other aspects related to the management of the trail.

Operations. Operational activities associated with the MBSST facilities would consist primarily of developing regulatory information to define the rules and regulations of the facilities, methods for documenting and monitoring trail accidents, and establishing security measures aimed at reducing any negative activities along the trail facilities.

Developing specific rules and regulations for the multi-use MBSST facilities are an important consideration in reducing potential conflicts along the trail. In addition, the need to monitor collisions, including the collision type, and identification of primary causes of collisions and then following through and rectifying any physical deficiencies associated with conflict points must be the responsibility of the implementing entities. Law enforcement and/or fire would be responsible for collecting collision information and identifying causes that may have contributed to the collision and documenting this information appropriately.

Implementing entities would be responsible for identifying and improving physical or operational conditions that may have contributed to any conflict along the trail. In addition, the implementing entity would be responsible for warning users of any problems and obstructions as well as to close the trail when conditions warrant. Educational materials, trailhead kiosks, signage, and promotional events are also considered tools to inform trail users and reduce the potential for collisions.

Maintenance. The MBSST Network Master Plain identifies several maintenance activities that should be considered. Each activity has an estimated frequency schedule that would be initiated and refined and a primary agency that is charged with leading the maintenance activity. Many of the maintenance activities are dependent on the final design and implementation of the trail amenities, materials, degree of landscape improvements, and amount of support infrastructure that is developed along the trail.

The following list indicates general maintenance activities anticipated for the MBSST:

- *Shoulder and grass mowing*
- *Prune and remove fallen trees*
- *Trash disposal*
- *Pavement sealing, repaving and pothole repairs*
- *Bollard replacement*
- *Irrigate plants*
- *Graffiti removal*
- *Fountain and restroom cleaning and repair*
- *Pavement sweeping and marking replacement*
- *Weed control*
- *Tree, shrub and grass trimming and fertilization*

- *Sign replacement and repair*
- *Fence and barrier repair and replacement*
- *Clean drainage system*
- *Maintain irrigation lines and replace sprinklers*
- *Lighting replacement and repair*
- *Maintain furniture*
- *Maintain emergency telephones*
- *Bridge inspection*

Trail Manager. A primary contact point (the Trail Manager) would be identified and be made available to the general public within their jurisdictions for general inquiries and management. The RTC board would work to identify the agency most appropriate to house a Trail Management Program and how to fund a Trail Manager, Trail Ranger, and/or an Adopt-A-Trail Coordinator position. The Trail Manager would ensure that each element described in the operations and maintenance is completed.

The following list represents the major tasks that may be the responsibility of the Trail Manager:

- *Coordinate development of the MBSST*
- *Organize, coordinate, and implement trail operations plan*
- *Implement maintenance plan and assure adequate funding*
- *Obtain bids and manage contracts for maintenance and improvements*
- *Monitor security and safety of the trail through routine inspections*
- *Oversee maintenance and rehabilitation efforts*
- *Manage and respond to issues and incidents*
- *Act as the local trail spokesperson with the public, including elected officials, and respond to the issues and concerns raised by trail users*
- *Develop and manage an emergency response system in coordination with local fire and police*
- *Respond to direction regarding development and construction of the project and ongoing maintenance*
- *Maintain records*
- *Manage an operation and maintenance budget*
- *Pursue outside funding sources*

The following list represents the major tasks that may be the responsibility of the Trail Ranger:

- *Trail patrol*
- *Ensure temporary trail closure gates are open or closed, should they be needed*
- *Ensure temporary trail closure signage is in place*
- *Ensure maintenance needs are addressed*

For additional information related to liability and indemnification, insurance, government tort claims, and risk management, as well as additional detail regarding the Trail Manager responsibilities, please refer to Chapter 7 of the proposed Master Plan.

Emergency Vehicle Access. The Trail Manager would be responsible for observing trail operations to ensure the trail can accommodate all emergency (police and fire) vehicles that

might need to access the trail. Where removable bollards are installed, the Trail Manager would ensure that all appropriate agencies have ~~the keys for~~ direct access. The MBSST itself is generally accessible from adjacent public rights-of-way. However, where it is not, a minimum 10 feet of pathway clearance and 12 feet of vertical clearance would be provided.

Trail and Rail Operation Interface. There are few universally accepted national standards or guidelines to dictate trails facility design adjacent to active railroad tracks, therefore trail designers would work closely with the railroad operator and maintenance staff to achieve a suitable design. Well-designed trails can meet the operational requirements of railroads, often providing benefits in the form of reduced trespassing and dumping. ~~However, a poorly designed trail would compromise safety and function for both trail users and the railroad.~~

The term "setback" refers to the distance between the edge of a paved multi-use path and the centerline of the closest active railroad track. Although paved multi-use paths currently are operating throughout the United States along train corridors of varying types, speeds, and frequencies, there is no consensus on an appropriate setback recommendation. Therefore, it is up to the rail operator and trail designer to come to an agreement based on the following factors:

- *Type, speed, and frequency of trains in the corridor*
- *Separation technique*
- *Topography*
- *Sight distance*
- *Maintenance requirements*
- *Historical problems*

The setback distance along individual segments of the MBSST Network would be determined on a case-by-case basis. The minimum setback distance ranges from eight feet and six inches to 25 feet, depending on the circumstances. In many cases, additional setback distance may be recommended. The lower setback distances may be acceptable to the railroad operator or agency and design team in such cases as constrained areas, along relatively low speed and low frequency lines, and in areas with a history of trespassing where a trail might help alleviate a current problem. The presence of vertical separation or techniques such as fencing or walls also may allow for a narrower setback.

Trail and Agricultural Operation Interface. Several methods of information collection and issue resolution relating to agricultural operations were employed during the trail planning process. Adjacency issues faced by the agricultural community are addressed through preventative design measures presented below. Some of the proposed measures are design related and others are operational in nature (a function of the ongoing management of the trail).

Notices Posted

- *Trail entrances would be posted with notices of on-going agricultural activities stating that the trail user agrees to using the trail at his/her own risk*
- *Trail users would be advised that agricultural operations will be occurring and may include pesticide spraying, agricultural dust and debris, and burning activities in accordance with State and local laws and ordinances*

- *Notices would state that the trail may be subject to closure without notice to accommodate such activities*
- *Signage would direct trail users to nearby restroom facilities*

Ability for Trail Closures

- *The trail would be designed with the ability for its physical closure (of isolated segments) in the event it becomes necessary to facilitate permitted spraying*
- ~~*Notification to the Trail Manager of impending spraying activity would be the responsibility of the agricultural operators*~~
- *Agricultural operators are responsible for notifying the Agricultural Commissioner of any impending spraying activity*

The Santa Cruz County Agricultural Commissioner's office is responsible for issuing pesticide spraying permits and regulating the use of pesticides and other agricultural chemicals. The implementing entity would work with the Agricultural Commission's office to minimize impacts to agricultural operators due to development of the adjacent trail as long as pesticides and other agricultural chemicals are applied in compliance with the label, worker safety requirements, weather conditions, drift restrictions, and all other safety requirements as required by federal, state and local laws.

Trail and Residential Interface. The Trail Manager would be required to facilitate communication with adjacent property owners by providing them with contact information for each jurisdiction and the departments that handle routine trail maintenance. Adjacent property owners would also be informed of any changes in trail operations and any major trail rehabilitation or expansion projects.

The Trail Manager would also be required to ensure that the trail is well-maintained. Particular emphasis would be paid to the operation of driveways that cross the trail to access property and ensuring that landscaping in those areas is well maintained. Graffiti would also be removed as quickly as possible.

2.7 PROJECT GOALS

The proposed MBSST Network project includes the following goals that guide the trail's implementation. A complete list of goals, objectives, and policies is provided in the proposed MBSST Network Master Plan.

- *Define a continuous trail alignment that maximizes opportunities for a multi-use bicycle and pedestrian trail separate from roadway vehicle traffic spanning the length of Santa Cruz County.*
- *Develop public trail access along the Monterey Bay National Marine Sanctuary to enhance appreciation, understanding, and protection of this special resource.*
- *Promote awareness of the trail, trail opportunities, and trail user responsibilities.*
- *Develop a long- and short-term program to achieve the policies set forth in this plan through a combination of public and private funding, regulatory methods, and other strategies.*
- *Develop the necessary organizational, staffing, and funding mechanisms to ensure that all trail segments, trailheads, and accessory features are safe, well-maintained, and well-managed.*

2.8 REQUIRED APPROVALS and PERMITS

The proposed project requires the certification of this EIR and approval of the Master Plan by the RTC prior to the initiation of the project. In addition, the following discretionary approvals from other agencies may be required prior to construction of individual segments:

- *Local jurisdiction adoption and amendment of existing planning documents (including by the County of Santa Cruz, County of Monterey [for segment 20] and cities of Santa Cruz, Capitola, and Watsonville);*
- *Coastal Development Permit(s) from the County of Santa Cruz, cities of Santa Cruz, Capitola and Watsonville, County of Monterey [for segment 20] or California Coastal Commission;*
- *Section 404 Permit(s) from the U.S. Army Corps of Engineers;*
- *Section 1600 Permit(s) from the California Department of Fish and ~~Game~~ Wildlife;*
- *Section 401 Water Quality Certification from the Regional Water Quality Control Board;*
- *Approval by the U.S. Fish and Wildlife Service;*
- *Approval by the California Public Utilities Commission Rail Crossing Engineering Section;*
- *Caltrans Encroachment Permit(s); and/or*
- *Approval by Federal Railroad Administration.*

In addition, if individual segments proposed for implementation encroach onto properties managed by other agencies, approvals may also be required by these agencies. Agencies that may have discretionary approval authority include, but are not limited to: the California Department of Parks and Recreation, the California State Lands Commission, Bureau of Land Management, Caltrans, and/or United States Fish and Wildlife Service (who manages the Ellicott Slough National Refuge Reserve).

Subsequent environmental review may also be required, particularly if an individual trail segment differs from what is analyzed herein. In such instances, this Program EIR may be used as a tiering document, as described in Section 15152 of the *CEQA Guidelines*. Subsequent review, if required, may include a Negative Declaration, Mitigated Negative Declaration, EIR Addendum, or site-specific Project EIR.

Review under the National Environmental Policy Act (NEPA) may also be required for individual segments~~, if the segment is funded whole or in part by federal funds~~. NEPA review could be as simple as a Categorical Exclusion, unless certain criteria are met. For example: (1) significant environmental impacts; (2) substantial controversy on environmental grounds; (3) significant impact on properties protected by section 4(f) of the DOT Act or section 106 of the National Historic Preservation Act; or (4) inconsistencies with any federal, state, or local law.