



BODEGA BAY BICYCLE AND PEDESTRIAN TRAILS STUDY



SonomaCountyTransit



SEPTEMBER 2005

PREPARED BY:



landscape architects and planners

**Bodega Bay Bicycle and Pedestrian Trails Study
Report #2: Conceptual Improvement Plan**

Prepared for:

Sonoma County Transit

In association with:

***Bodega Bay Bicycle and Pedestrian
Advisory Committee***

Citizens:

Theresa Borden
Maggie Briare
Jim Burchill
Clark Champion
Donna Freeman
Joel Hack
Ron Jackson
Norma Jellison
Dave Lewis
Perry Marker
Janet Moore
Richard Nichols
Kay Stage

Agencies:

Mike Reilly, Sonoma County Supervisor, 5th District
Steven Schmitz, Sonoma County Transit
Joseph Kase, Sonoma County Regional Parks
Dave Robertson, Sonoma County Public Works
Doug Zanini, Sonoma County Permit and Resource Management Department
Richard Retecki, California Coastal Conservancy
Gary Shannon, California State Parks
Julian Carroll, Caltrans

September 2005

Prepared by:



landscape planners and architects

638 ½ First Street • Benicia, CA 94510 • (707) 746-1948 • info@landpeople.net

Randy Anderson, Principal
Matt Lamborn, Associate Planner
Kara Lucca, Planning Assistant

**Bodega Bay Bicycle and Pedestrian Trails Study
Report # 2: Conceptual Improvement Plan**

Table of Contents

1.0	Introduction.....	2
1.1	Study Objectives	2
1.2	Study Process.....	2
1.3	Report Organization.....	3
2.0	Background and Setting	5
3.0	Trail Types and Standards	9
4.0	Conceptual Trail Improvement Plan	11
4.1	Trail Improvement Phases.....	11
4.2	Conceptual Improvement Plan Description	17
4.3	Other Recommended Improvements to Highway 1.....	39
4.4	Regional Trail Connection Improvement Opportunities.....	40
4.5	Sign and Map Program.....	42
4.6	Cost Estimate.....	43
4.7	Property Acquisition	54
4.8	Implementation Steps	56
4.9	Funding Opportunities.....	57

Index of Figures and Tables

Figure 1:	Bicycle and Pedestrian Plan Study Area	4
Figure 2:	Public Lands around Bodega Bay	8
Table 1:	Overview of Conceptual Trails Improvement Plan	13
Figure 3:	Trails Plan North.....	15
Figure 4:	Trails Plan South	16
Figure 5:	Bodega Bay Coastal Access County Park Site Plan	18
Figure 6:	Segment 2A-1.....	20
Figure 7:	Segment 2B.....	22
Figure 8:	Segment 3A	25
Figure 8a:	Segment 3A (detail)	26
Figure 9:	Segment 3B-1.....	28
Figure 10:	Segments 3C-1, 3C-2, 3C-3	30
Figure 11:	Segment 3D-1 (north)	33
Figure 12:	Segments 3D-1 and 3D-2 (south).....	34
Figure 13:	Segment 5B.....	36
Figure 14:	Birdwalk Coastal Access Trail and Bridge Project	38
Table 2:	Summary of Estimated Costs.....	44
Table 3:	Construction Cost Estimate – Conceptual Improvement Plan	46
Table 4:	Construction Cost Estimate – Other Recommended Highway 1 Improvements	48
Table 5:	Construction Cost Estimate – Regional Recreational Trail Connections	50
Table 6:	Unit Costs	52
Table 7:	Property Acquisition	55

Appendix A: Comments on Draft Concept Plan

Appendix B: Meeting Notes, Technical Advisory Committee and Community Workshop

Appendix C: Report # 1, Feasibility Study of alternative trail alignments

Bodega Bay Bicycle and Pedestrian Trails Study

Report # 2: Conceptual Improvement Plan

1.0 Introduction

This report presents the second and final product of the Bodega Bay Bicycle and Pedestrian Trails Study: a Conceptual Improvement Plan for a bicycle and pedestrian trail system to serve the community of Bodega Bay. This Plan is based on review and comment on Report # 1, a Feasibility Study of alternative trail alignments in the study area prepared by the Study consultant (see Appendix C), LandPeople landscape architects and planners. The Feasibility Study was based on information provided by Sonoma County Transit, Sonoma County Transportation and Public Works Department, Sonoma County Regional Parks, California Coastal Conservancy, California Department of Parks and Recreation, California Department of Transportation, and the Bodega Bay Bicycle and Pedestrian Advisory Committee.

This project is funded with California Coastal Conservancy Coastal Trail funds with matching funds from the County of Sonoma.

1.1 Study Objectives

The primary objective of the study is to find the best route for a separate paved trail to accommodate bicyclists and pedestrians traveling to and through central Bodega Bay from areas to the north and south (the Focus Study Area - see Figure 1). Providing bike lanes on Highway 1 or other roads is not the objective of this project (unless the preferred separate trail cannot be achieved in specific locations). However, needs and opportunities for bike lanes are identified for other future projects. Other routes outside the Focus Study Area are evaluated and planned at a lesser level of detail to identify the complete desirable trail system for regional and recreational connections.

1.2 Study Process

The study was formally initiated with a public Bicycle and Pedestrian Advisory Committee meeting on March 11, 2004 (see meeting notes in Appendix B). The Feasibility Study Report was based on input from this meeting, and on field research and coordination with agencies. The Focus Study area was subsequently mapped in detail by Sonoma County while the consultants conducted background research, reconnaissance of conditions along the route, and prepared the feasibility evaluation.

An important factor for trail planning was a survey and ranking of pedestrian and bikeway improvement opportunities conducted in December 2002 by the Bodega Bay Bicycle and Pedestrian Advisory Committee. This survey defined and ranked various trail alternatives, and provided specific responses regarding the alternatives. The survey results are reflected in the alternatives evaluation completed for the current study.

After review and public comment on the Feasibility Study Report at a Technical Advisory Committee meeting, held February 22, 2005, and a community meeting on April 7, 2005, the consultants prepared this Conceptual Improvement Plan. The draft products were

Bodega Bay Bicycle and Pedestrian Trails Study Report # 2: Conceptual Improvement Plan

reviewed at a Technical Advisory Committee Meeting on August 22, 2005, and comments were reflected in the final Plan.

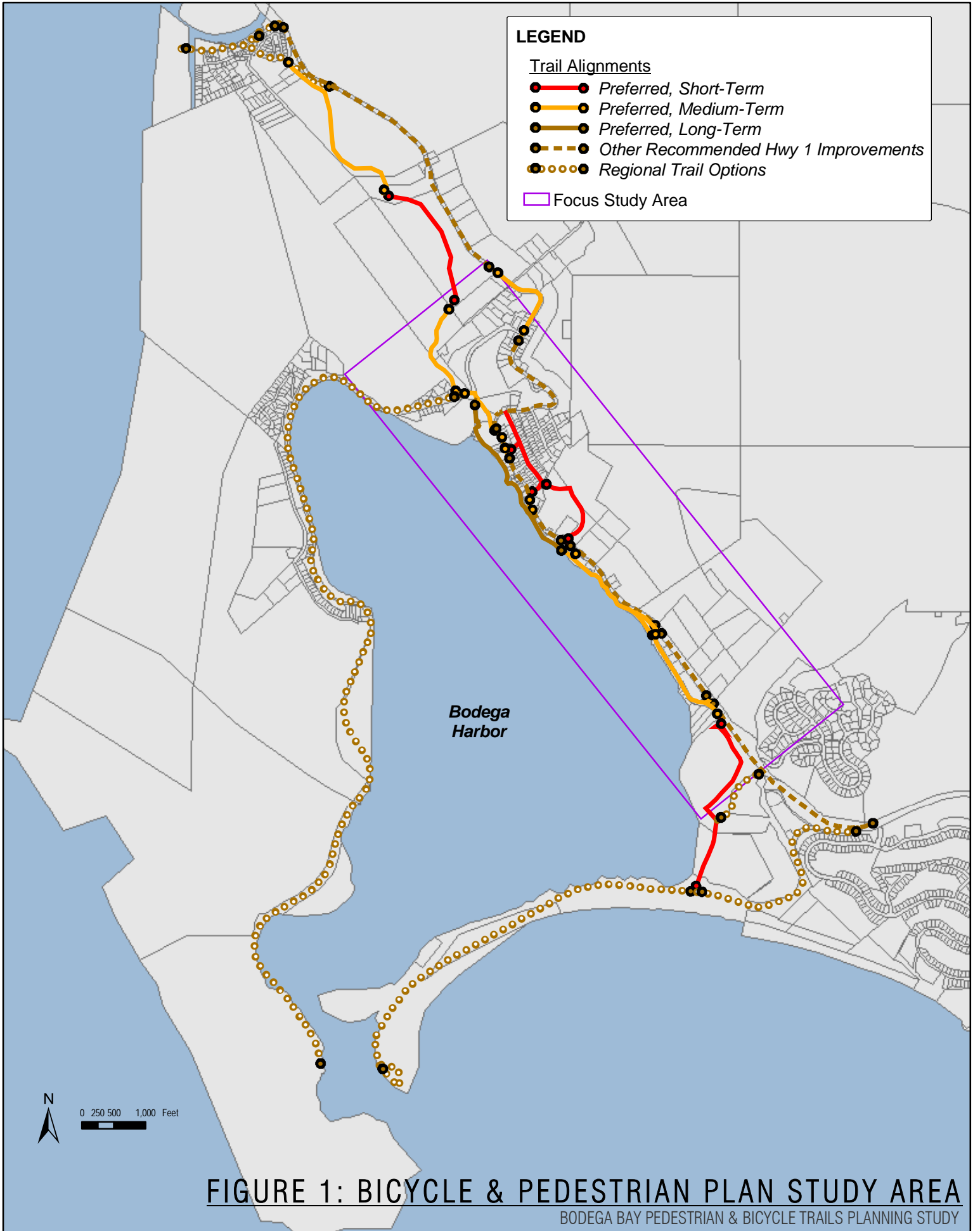
1.3 Report Organization

In addition to this introduction and overview, the report contains: a description of the trail project background and setting (Section 2.0); a review of basic trail types and standards (Section 3.0); and a description of the Bicycle and Pedestrian Trails Plan including a cost estimate, acquisition study, a signage and mapping program, implementation steps, and funding opportunities (Section 4.0).

Figures 3 and 4 (2 fold-out sheets) show the primary/Focus Study Area segments and the secondary/regional segments covered in the Feasibility Study and Conceptual Improvement Plan. The primary segments (bolder lines) have the same number and different letters (e.g. 2A, 2B) when they are alternative routes, or parts of routes, between the same points. The regional/secondary segments have lower case letter designations.

Appendix A contains comments on the draft Conceptual Improvement Plan submitted in August 2005. Appendix B contains meeting notes from Technical Advisory Committee and community meetings.

Appendix C contains descriptions and evaluations of the alternative trail routes prepared for the Report #1 Feasibility Study, with sections on the primary Focus Study Area routes through central Bodega Bay, and the secondary regional routes to outlying destinations.



Bodega Bay Bicycle and Pedestrian Trails Study

Report # 2: Conceptual Improvement Plan

2.0 Background and Setting

The town of Bodega Bay and the immediately surrounding area presents a challenging mix of serious topographic and land use/development constraints for the construction of a continuous trail. Construction of such a trail has long been a community goal. It would



benefit local residents who walk or bike to work along the highway from central Bodega Bay to marine-related or tourist commercial centers such as the Inn at the Tides. It would benefit visitors, and the tourism economy in general, to have a safer, clearer and more convenient route connecting through the center of the community, and to outlying destinations such as the numerous routes to and along the beach shown on Figures 3 and 4, and to the regional and state parks to the north, west, and south of central Bodega Bay. Finally, the route could benefit long-distance

bicyclists and pedestrians who must pass through the narrow and congested portions of Highway 1.

The California Coastal Trail. The California Coastal Trail is a major project of the California Coastal Conservancy, in partnership with other state agencies and local agencies and organizations, to ultimately complete a continuous trail the length of the California Coast. A full report on the Coastal Trail is available on the Coastal Commission web site at: <http://www.coastal.ca.gov/access/coastal-trail-report.pdf>.

The Bodega Bay Bicycle and Pedestrian Plan includes important parts of the California Coastal Trail, particularly because south of this regional study area, there is only one property on which to resolve access to close the gap between southern Sonoma County and northern Marin County.

Existing conditions. Through the entire center of town there are long stretches of Highway 1 where there is little land between the west side of the traveled way and the edge of the bluff dropping off to the Bay. In addition, there are numerous, primarily residential, structures that encroach nearly to the traveled way, so that there is virtually no room to walk or bike outside of the vehicle lanes, let alone construct a separate Class I multi-use trail facility, or a combination of sidewalks and Class II bike lanes. Where the highway winds through two gulches on the north side of town, topography and riparian vegetation combine to eliminate room for any shoulders along the highway.

Bodega Bay Bicycle and Pedestrian Trails Study Report # 2: Conceptual Improvement Plan

Yet there are stretches of Highway 1 where there is room to construct bicycle and pedestrian facilities, and in at least one case the pavement and sidewalk already exists. Within the center of town and on the periphery there are public roads that currently or potentially function as bypasses of Highway 1. There are several major county and state park facilities that are destinations for visitors and local residents, and that provide road, trail, and pathway systems that could be part of a regional system, including the north-south connection. A new pedestrian bridge is proposed to connect the Birdwalk trail at the former dredge pond site to the Doran Beach Regional Park trail system, which in turn could link to the Bodega Harbour development at the south end of town. Doran Park Road and Smith Brothers Road are public roads that currently parallel Highway 1. The latter is the location of the post office, a major activity center for local residents. Just south of the central portion of town, the stalled Harbor View/Romancia residential development project has completed public access improvements, including a sidewalk and room for a bike lane on the east side of Highway 1, and access through the development to Bodega Avenue and other streets that parallel Highway 1 through the center of town.



At the north end of town, it is currently possible to walk from the community center through the Bodega Dunes State Park campground to Bay Flat Road and, by walking in the one-way portion of that road, connect to Highway 1 near the center of town. An improved path along some version of this route would bypass both the gulches at the north end of town, in which access along Highway 1 is so constrained by topography.

Other regional routes to visitor destinations, local activity centers, and the adjacent community of Salmon Creek to the north are not so constrained by topography and development as the Focus Study Area. Some access improvements already exist, but the ultimate desirable configuration of these routes also must be resolved and documented as part of the Bicycle and Pedestrian Plan.

Bus Service. Sonoma County Transit's Route 29 provides service to Bodega Bay on Saturdays and Sundays, during the summer months only. The bus stops across from the Coast Guard Station at Doran Park/Jetty Picnic Area, at the Post Office on Smith Brothers Road, at the Tides, at Salmon Creek Park, and at Portuguese Beach. Mendocino Transit Authority's

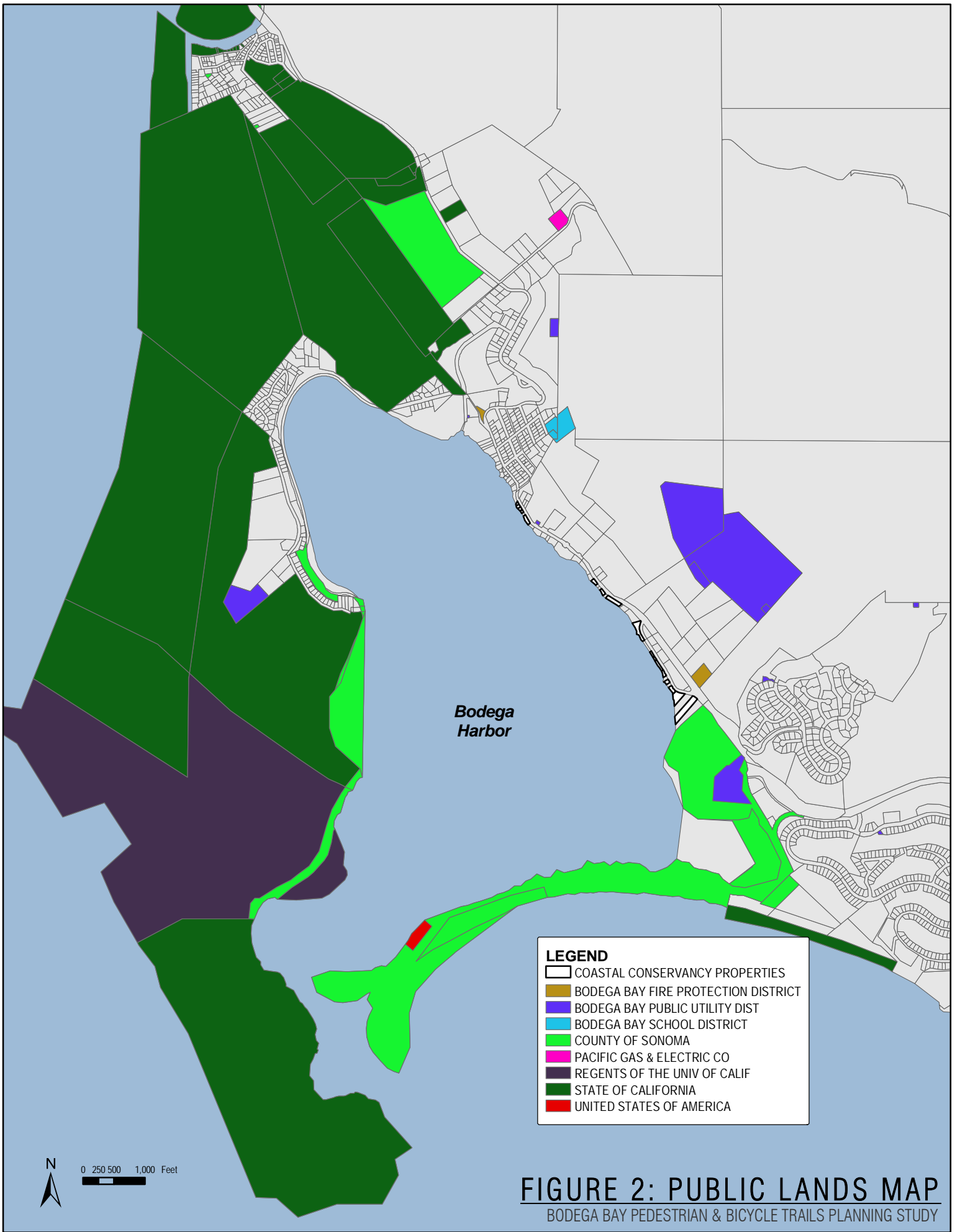
Bodega Bay Bicycle and Pedestrian Trails Study Report # 2: Conceptual Improvement Plan

Route 95 provides service 7 days a week, year-round, with bus stops in Bodega Bay at Spud Point Marina, the post office, and The Tides.

Accidents on Highway 1. From 1999 to 2004, there were 3 injury accidents involving vehicles and pedestrians, and 1 injury accident between a vehicle and a bicycle on Highway 1 from Doran Beach Road to Bean Avenue.¹ The pedestrian accidents occurred at Bodega Avenue, Doran Park Road, and Smith Brothers Road. The bicycle accident occurred at Windy Lane. According to the data, each accident had a different cause: pedestrian violation (not in crosswalk); driver under the influence of alcohol and/or drugs; vehicle traveling at unsafe speed; and vehicle driving on the wrong side of the highway. In each instance, if there had been a safe place for the pedestrians and bicyclist to travel, the accident might have been avoided.

Public Lands. Bodega Bay is fortunate to have many regional and state parks and other protected lands. Many of these lands provide destinations and potential right-of-way for trail routes. Many of these lands have been acquired by the California State Coastal Conservancy, an agency that helps preserve, protect and restore coastal resources, and improve public access to them. Figure 2 provides an overview of public lands in the Bodega Bay region.

¹ Collision data provided by Roberta Tanger, Data Coordinator for the Department of California Highway Patrol, December 31, 2004.



Bodega Bay Bicycle and Pedestrian Trails Study

Report # 2: Conceptual Improvement Plan

3.0 Trail Types and Standards

Although a separate multi-use paved path is preferred, there are several types of facilities, or parallel facilities, which may be most appropriate in various portions of the study area, and to serve various types of users. The term “trail” is used generally in this study to refer to the proposed improved route, but specific improvements are defined as “path” if they are paved, and “trail” if they are unpaved or gravel surface.

The California Department of Transportation (Caltrans) has adopted standards for bicycle facilities, and to some extent pedestrian facilities. The County can set its own standards for facilities outside of the Caltrans right-of-way, and not funded by Caltrans, however most agencies strive for a similar standard.

Bicycle Facilities. Chapter 1000 of the Caltrans Highway Design Manual contains detailed standards for bikeways. This chapter defines three types of bikeways:

- (1) Class I Bikeway (Bike Path). Provides a completely separated right of way for the exclusive use of bicycles and pedestrians with crossflow minimized.
- (2) Class II Bikeway (Bike Lane). Provides a striped lane for one-way bike travel on a street or highway.
- (3) Class III Bikeway (Bike Route). Provides for shared use with pedestrian or motor vehicle traffic.

Class I – Bike Paths must be paved and a minimum of 8 feet (2.4 meters) wide. They must be at least 1.5 meters (approximately 5 feet) from the edge of the roadway pavement. There are many other details contained in the standards, such as minimum radius of curves. The Highway Design Manual recommends a maximum gradient of 5% for new Class I paths. Class I facilities are typically shared by bicycles and pedestrians. For this reason, and because Class I paths often tend to use less direct routes, serious bicyclists often prefer Class II bike lanes. Recreational bicyclists typically prefer separated Class I paths because they are usually safer for inexperienced or younger bicyclists, and because they are often located in more scenic and quiet settings away from the roadway.

Class II – Bike Lanes are adjacent to the lanes, in the paved portion of the roadway. Class II facilities must be a minimum of 4 feet wide, or 5 feet wide where adjacent to curbside parking. Class II bike lanes must be one-way on each side of the roadway. There are many standards for marking, alignment through intersections, and other factors detailed in the Highway Design Manual.

Class III – Bike Routes are designated by route signs placed at all changes of direction and periodically along the route. In the Sonoma County Bikeway Plan, “Share the Road” caution signs are preferred along Class III bicycle routes as opposed to the traditional green “Bicycle Route” signs suggested in the Highway Design Manual.

Multi-Use Trails may include a variety of trail or pathway designs, including hardened native soil, crushed rock, and pavement. This is a general term that typically is used for facilities in recreational settings, but they may also function as part of transportation systems.

Bodega Bay Bicycle and Pedestrian Trails Study Report # 2: Conceptual Improvement Plan

“Multi-use,” including bicycles, pedestrians and often equestrians, typically requires a minimum of 5 feet of improved trail width.

Pedestrian Facilities. Caltrans standards for pedestrian sidewalks and paths are much less detailed than bikeway standards. The Highway Design Manual addresses pedestrian facilities in Topic 105.1. Sidewalks and paths must be paved and a minimum of 5 feet wide, excluding curbs. Regarding the gradient of pedestrian facilities, Caltrans’ Design Information Bulletin 82, "Pedestrian Accessibility Guidelines for Highway Projects", states:

The grade or slope of an accessible route should be as flat as possible. Any part of an accessible route with a slope greater than 1:20 (5%) shall be considered a ramp, and must comply with the standards of a ramp (Federal). All walks with continuous gradients (up to 5%) shall have level areas at least 1.5 m [5 feet] in length at intervals of at least every 122-m [400 feet] (State).

Caltrans Design Information Bulletin 82 (2001) provides design guidelines for facilities to accommodate people with disabilities, such as multi-use Class I paths. The Bulletin states:

Pedestrian facilities that are part of nonmotorized transportation facilities must be designed in accordance with the Highway Design Manual for the appropriate bikeway classification, and the (Federal) Designing Sidewalks and Trails for Access for trails and equestrian design. Designers of pedestrian-shared facilities must consider the geometric requirements that are most critical for the intended users. In some cases designing for pedestrians may govern the geometric features.

Based on state and federal trail standards, the maximum grade of paths that include pedestrian access can be as steep as 12:1 (8.33%) if 5’ by 5’ level resting areas are provided at intervals of no more than 200 feet. However, under Title 24, the state law that governs accessibility of public facilities, the maximum slope is 8.33%, but the distance between resting intervals can be no more than 30 feet. Whether this more stringent standard should be applied is a decision that must be made at the design stage. In general, this study has attempted to address the more stringent standard.

Crosswalks are recommended where the bicycle and/or pedestrian route would cross a highway or major road. On a highway, these crossings should ideally be at signalized intersections with pedestrian or bicyclist-activated signals. However, in some cases bike lanes and/or sidewalks may provide access to local areas along the highway where no through connection is feasible, or needed. In these cases, signage should be provided to indicate the continuous route across the highway, and that continuing on the present side is not a through route.

Bodega Bay Bicycle and Pedestrian Trails Study

Report # 2: Conceptual Improvement Plan

4.0 Conceptual Trail Improvement Plan

The preferred bicycle and pedestrian trail route, or Conceptual Improvement Plan, for Bodega Bay is the route on which the County would focus its implementation efforts, primarily through the Regional Parks Department, the Transportation and Public Works Department, and through partnership with the California Department of Parks and Recreation, and the California Department of Transportation.

The preferred route consists of a number of interconnecting trail segments of varying types. Combined, they provide alternative routes through central Bodega Bay from the community of Salmon Creek south to the Bodega Harbour development. These segments have been selected because they provide the greatest access benefit relative to the feasibility of construction.

4.1 Trail Improvement Phases

The preferred route segments include varying levels of planning and improvement requirements. Some segments require land or easement acquisition across private property, or encroachment permits and design approval from Caltrans. Some entail significant environmental and permitting issues, and significant design and construction challenges. Other segments require no improvement beyond signage to implement. Some segments are already being designed and submitted for potential grant funding by Sonoma County Regional Parks. One segment is being constructed as part of a development project.

The Conceptual Improvement Plan segments are divided into three phases:

Short-Term, estimated to be completed within 1 to 3 years. These are segments that are already being designed and implemented as part of another project, plus segments that basically require only signage to implement.

Medium-Term, estimated to be completed within 3 to 5 years, includes segments with significant design, permitting, right-of-way acquisition and/or construction challenges

Long-Term, estimated to be completed within 6 to 10 years, consisting of the northern portion of the proposed waterfront boardwalk.

The above timeframes are rough approximations. The actual time to complete these projects depends on determination of specific design requirements through field investigations, and the formal design, environmental review, and permitting process, as well as the availability of funding.

Other Recommended Improvements to Highway 1. The Conceptual Improvement Plan includes improvement of two relatively short segments of Highway 1. Other bicycle and pedestrian improvements along Highway 1 are recommended as part of the future trail system. These include bike lanes and sidewalks, potentially involving highway realignment

Bodega Bay Bicycle and Pedestrian Trails Study Report # 2: Conceptual Improvement Plan

or widening due to the constrained nature of many existing segments. These improvements would be completed by Caltrans through the course of planning and implementing highway improvements, and would not be the focus of the County's direct implementation efforts, except to identify them as priorities in Countywide transportation plans. The timing of these improvements ultimately depends on Caltrans' priorities and funding, and is likely to be long-term.

Regional Trail Connection Improvement Opportunities. These potential improvements connect regional recreation facilities and destinations to the core trail system provided by the Conceptual Trails Improvement Plan. Their timing depends on the responsible agencies and the overall priority for providing a comprehensive regional recreational route with corresponding maps and signs.

Trail Segment Overview Table and Maps. Table 1 provides an overview of the preferred route, other recommended improvements to Highway 1, and potential regional trail route improvements. Figures 3 and 4 provide an overview map of the segments.

Bodega Bay Bicycle and Pedestrian Trails Study

Report # 2: Conceptual Improvement Plan

Table 1: Overview of Conceptual Trails Improvement Plan

Approximate Timeframes:
 Short-term: Implemented w/in 1 - 3 years
 Medium-term: Implemented w/in 3 - 5 years
 Long-term: Implemented w/in 5 - 20 years

Preferred Route (moving north to south)					
Segment	Timeframe	Summary/Recommendations	Property Owner(s)	Length in Feet	Responsible Agencies
1B Multi-use Trail: State Park to County Park Site west Boundary					
	Medium-term	Multi-use trail through Bodega Dunes State Park.	State Parks	3,000	State Parks
1C Multi-use Trail/Boardwalk: County Park Site to State Park North Boundary					
	Short-term	Multi-use trail/boardwalk through County Property.	County	2,350	Regional Parks
2A-1 Bike Lanes: Highway 1, County Park Site to Eastshore Road					
	Medium-term	Shoulder widening for bike lanes in right-of-way.	Caltrans	1,571	Caltrans/Trans & Public Works
2B Multi-use Trail/Boardwalk: County Park site to Bay Flat / Eastshore Road					
	Medium-term	Multi-use trail/boardwalk through State Park.	State Parks	1,672	State Parks
3A Multi-use Path: Bay Flat/Eastshore Road intersection to Highway 1					
	Medium-term	Construct parallel multi-use path in conjunction with landslide repair, including ramps and platforms for ADA access.	Private/County	1,034	Trans & Public Works/Regional Parks
3B-1 Multi-Use Path Highway 1 from Bay Flat Road to Taylor Street					
	Medium-term	Construct 8' - 10' wide multi-use path on west side of Highway 1 from upper Bay Flat Road to Taylor Street.	Caltrans/Private	340	Regional Parks/Caltrans
3C-1 Bike Route and Sidewalk: Taylor Street, Bodega Avenue, Windy Lane to Highway 1					
	Short-term	Bicycle route signage along Bodega Avenue, Taylor St. and Windy Lane and construct sidewalk in right-of-way.	County	1,824	Trans & Public Works
3C-2 Bike Route and Sidewalk: Bodega Avenue through Harbor View Subdivision to Highway 1					
	Short-term	Improvements exist in partially completed subdivision; developer to complete accessible ramps along steep portion of Harbor View Drive.	Private/County	1,479	Private/Trans & Public Works
3C-3 Sidewalk: Highway 1 from Windy Lane to Harbor View Development					
	Medium-term	Widen shoulder and construct sidewalk on northeast side of Highway 1 to existing Highway 1 frontage improvements.	Caltrans/Private	334	Caltrans
3D-1 Multi-use Path/Boardwalk: Bay Flat/Eastshore Road intersection to north end of Tides Wharf Property					
	Long-term	Multi-use path/waterfront boardwalk along tidelands public right-of-way to Tides Wharf property. Total segment length 3,037 feet including 2,072 feet of boardwalk.	Tidelands right-of-way/SCC Frontage/ Private Access/County road right-of-way	3,037	Regional Parks/Trans & Public Works
3D-2 Multi-use Path/Boardwalk: Tides Restaurant to East end of Lucas Wharf Property					
	Medium-term	Multi-use path/boardwalk along Tidelands public right-of-way waterfront to Lucas Wharf property easterly boundary. Total segment length 2,676 feet including 1,006 feet of boardwalk.	Tidelands/Caltrans /SCC/Private	2,676	Regional Parks/Trans & Public Works
5B Multi-use Path: Lucas Wharf/Hwy 1 right-of-way frontage, Smith Brothers Road to Birdwalk Regional Park					
	Medium-term	Construct multi-use path on southwest side of Smith-Brothers Road, separated by curb from the roadway, and construct small staging area/overlook on north end on State Coastal Conservancy (SCC) parcel; other overlooks and resting areas on other SCC parcels.	County road/Caltrans	1,935	Regional Parks/Trans & Public Works/Caltrans
6B Multi-use Trail onto Birdwalk Levee Trail					
	Medium-term	Multi-use trail from north boundary of Birdwalk Coastal Access Park to levee trail.	Regional Parks	1,537	Regional Parks
6C Multi-use Trail/Bridge over Cheney Gulch Creek to Doran Beach Road					
	Short-term	Multi-use trail with a bridge over Cheney Creek connecting Birdwalk Levee to Doran Beach Road.	Regional Parks	1,812	Regional Parks

Bodega Bay Bicycle and Pedestrian Trails Study

Report # 2: Conceptual Improvement Plan

Table 1: Overview of Conceptual Trails Improvement Plan (cont'd)

Approximate Timeframes:
 Short-term: Implemented w/in 1 - 3 years
 Medium-term: Implemented w/in 3 - 5 years
 Long-term: Implemented w/in 5 - 20 years

Other Recommended Improvements to Highway 1 (moving north to south)

Segment	Timeframe	Summary/Recommendations	Property Owner(s)	Length in Feet	Responsible Agencies
1A Bike Lanes: Highway 1, Salmon Creek to County Park Site					
	Long-term	Bike lanes shoulder widening in Hwy. 1 right-of-way.	Caltrans	5,308	Caltrans
2A-2 Bike Lanes: Highway 1, Eastshore Road to Bodega Ave North End					
	Long-term	Shoulder widening for bike lanes in right-of-way.	Caltrans	2,695	Caltrans
3B-2 Bike Lanes: Highway 1 widening: North end Bodega Ave. to Harbor View Way					
	Long-term	Shoulder widening and widen for bike lanes in right-of-way. Acquire private property as needed for road widening.	Caltrans Private	1,746	Caltrans
4 Bike Lanes: Highway 1, Inn-of-the Tides Road to Smith Brothers Road					
	Long-term	Highway realignment/shoulder widening for bike lanes in right-of-way.	Caltrans	2,010	Caltrans
5A Bike Lanes: Highway 1, between Smith Brothers Road Intersections					
	Long-term	Shoulder widening for bike lanes in right-of-way.	Caltrans	1,370	Caltrans
6A Bike Lanes: Highway 1, Smith Brothers Road to Harbor Way South					
	Long-term	Shoulder widening for bike lanes in right-of-way.	Caltrans	3,503	Caltrans

Regional Trail Connection Improvement Opportunities (moving north to south)

a Multi-use Trail west of Highway 1 north of Salmon Creek					
	Long-term	Bridge and boardwalk across Salmon Creek.	County	1,065	State Parks/Regional Parks
b Bike/Pedestrian Route: Bean Ave., Highway 1 to Beach					
	Long-term	Bicycle/pedestrian route signage along Bean Ave.	County	1,657	Trans & Public Works
c Bike/Pedestrian Route: Keefe Ave., Bean Ave., to Highway 1					
	Long-term	Bicycle/pedestrian route signage along Keefe Ave.	County	1,818	Trans & Public Works
f Multi-use Trail along Bay Flat and Westshore Roads to Campbell Cove Beach State Park					
	Long-term	Improve multi-use trail along right-of-way of Bay Flat, Westshore Road and public Tidelands. Sign the older, residential portion of Bay Flat Road as a bike and pedestrian route.	County	15,555	Regional Parks/Trans & Public Works/State Parks
g Bike/Pedestrian Route: Westside Road to Horseshoe Cove					
	Long-term	Bicycle/pedestrian route signage.	U.C. Davis	3,920	Trans & Public Works
h Bike Route: Westshore Road to Bodega Head Parking lot					
	Long-term	Shoulder widening for bike lanes in right-of-way.	County	4,492	Trans & Public Works
i Bike Lanes: Road Widening: Doran Beach Road from Segment 6C to Highway 1					
	Long-term	Widen road to provide bike lanes on road shoulders.	County	7,346	Trans & Public Works
j Multi-use Trail: Doran Beach Road from Segment 6C to Highway 1					
	Long-term	Multi-use trail separated from the roadway along south side to accommodate bikes and pedestrians.	Regional Parks	3,700	Regional Parks
k Bike Lanes and/or Multi-use Trail doran Beach Road from end of spit to Segment 6C					
	Long-term	Shoulder widening for bike lanes in right-of-way and/or provide parallel multi-use trail to accommodate bikes and pedestrians.	County	1,140	Regional Parks

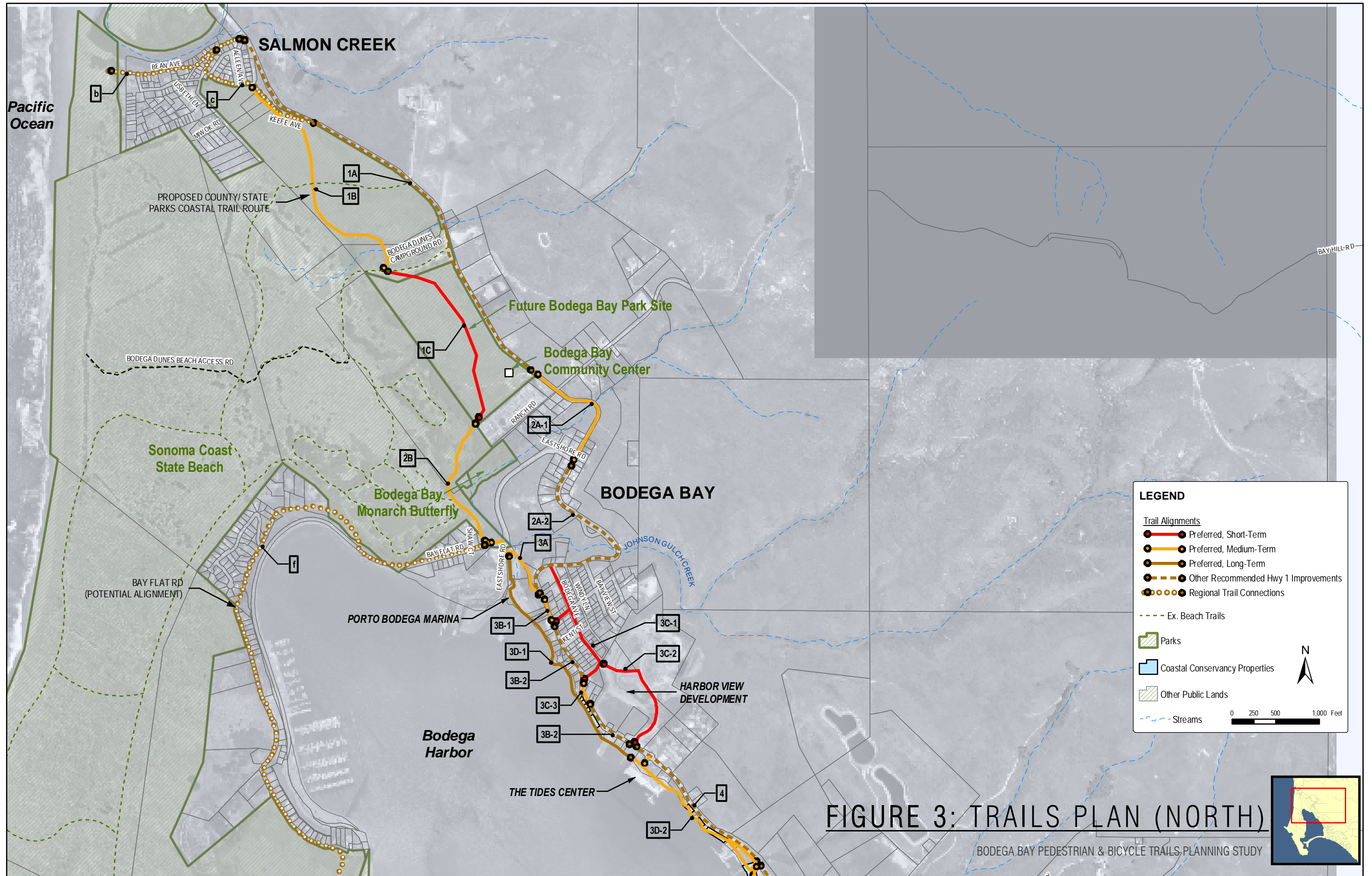


FIGURE 3: TRAILS PLAN (NORTH)

BODEGA BAY PEDESTRIAN & BICYCLE TRAILS PLANNING STUDY



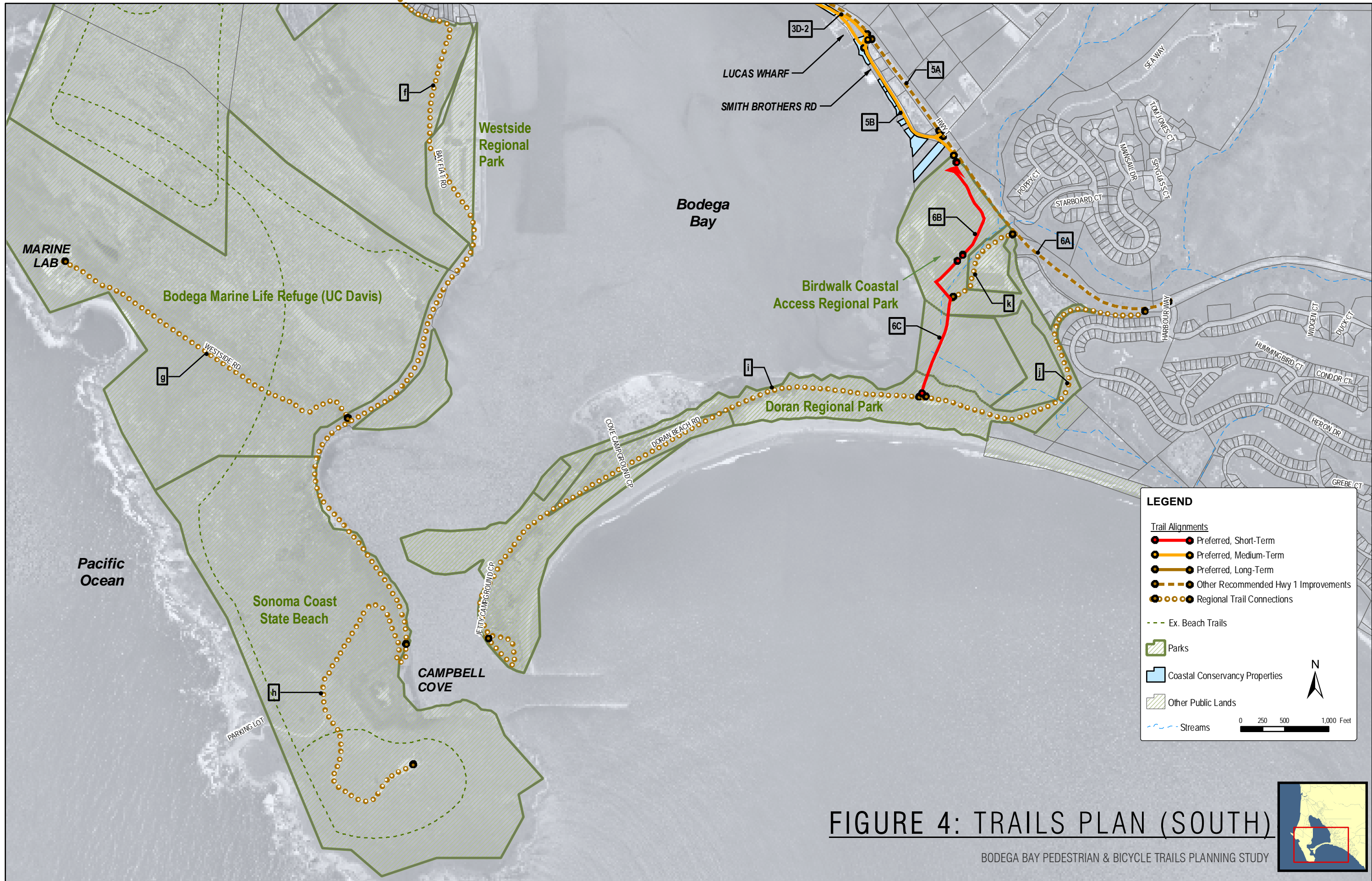


FIGURE 4: TRAILS PLAN (SOUTH)

BODEGA BAY PEDESTRIAN & BICYCLE TRAILS PLANNING STUDY



Bodega Bay Bicycle and Pedestrian Trails Study

Report # 2: Conceptual Improvement Plan

4.2 Conceptual Improvement Plan Description

Trail segments that are part of the Conceptual Improvement Plan are described and mapped below, generally moving north to south. Segment alpha-numeric designations have been retained from the Feasibility Study, but further subdivided in some cases where a segment is divided between phases. The “Other Recommended Improvements to Highway 1” and “Regional Trail Connection Improvement Opportunities” are not described or mapped in detail here, but are described and mapped in more detail in Report #1, the Feasibility Study (see Appendix C).

Segment 1B – Multi-Use Trail: State Park to County Park Site west Boundary

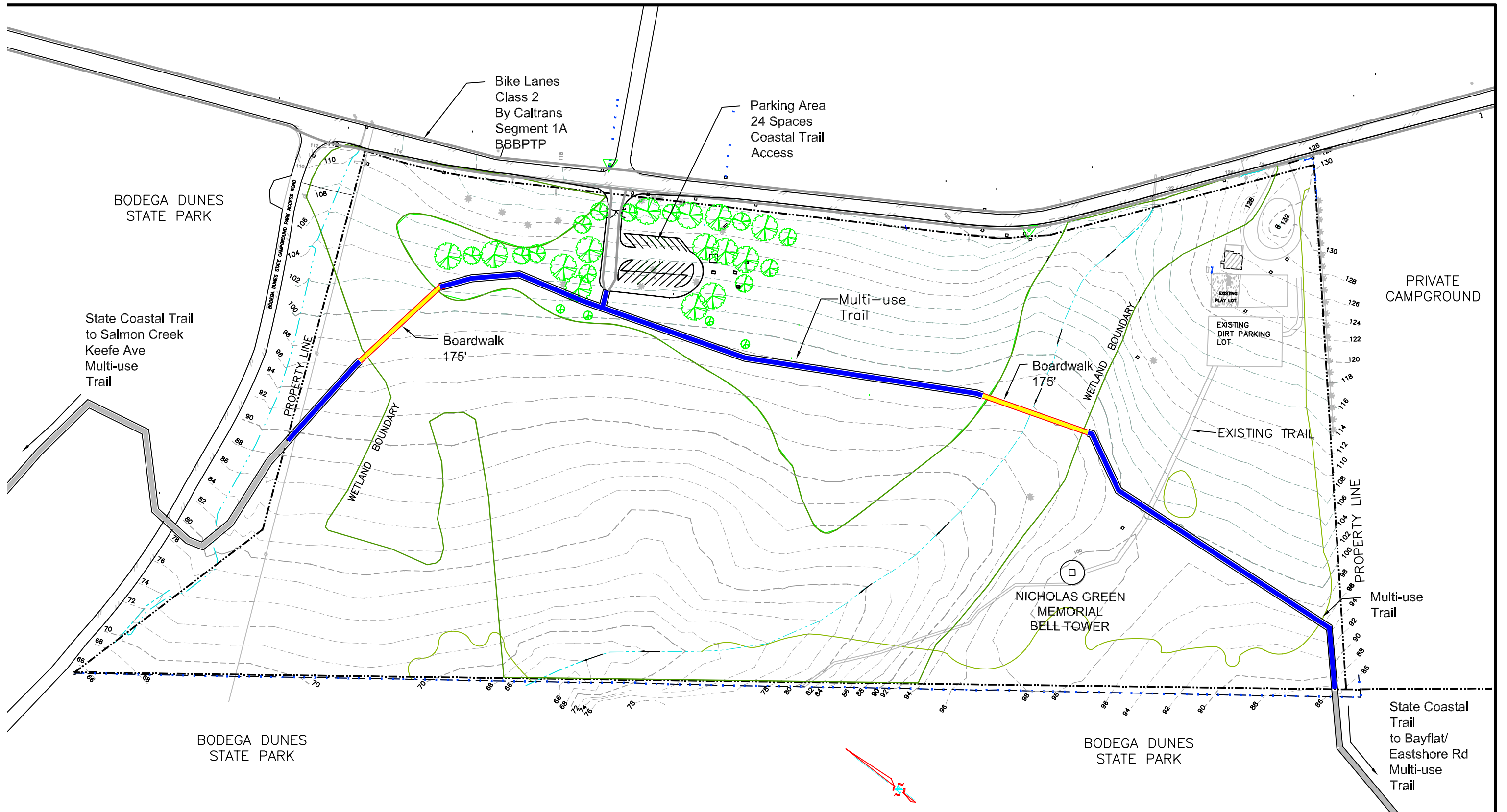
Timeframe: Medium-term
Summary/ Multi-use trail through State Park.
Recommendations:
Property Owner: State Parks
Length 3000 feet
Responsible Agencies: State Parks

This segment passes through lands that are part of Sonoma Coast State Beach (see Figure 3). It would be a project undertaken by the California Department of Parks and Recreation (DPR), and implementation would depend on DPR priorities and process. The route passes through a relatively level area of grassland and coastal scrub vegetation with some intermittent cypress trees. The trail would have a multi-use, compacted earth or gravel surface. It may ultimately be upgraded to a Caltrans Class I type paved multi-use path, which has been included in the Concept Plan cost estimate. There are no major physical constraints, but there may be wetlands along the route that would need to be avoided or mitigated, similar to Segment 1C.

Segment 1C – Multi-Use Trail/Boardwalk: County Park Site to State Park Access Road to Community Center

Timeframe: Short-term
Summary/ Multi-use trail/boardwalk through County property.
Recommendations:
Property Owner: County
Length 2350 feet
Responsible Agencies: Regional Parks

The land south of the Bodega Dunes campground entrance road is owned by Sonoma County and is planned as Bodega Bay Regional Park. The Tentative Site Plan for the park (see Figure 5) shows a multi-use (Class I) trail paralleling Highway 1, with a boardwalk and bridge over a wetland area and drainage north of the Community Center. The path would run past a 25 car parking area proposed near the center of the site. This site will be a major trail staging area, and will incorporate mapboards and interpretive displays to orient and inform visitors.



SCALE: 1" = 80'



Sonoma County
Regional Parks

**Figure 5: Bodega Bay Coastal Access
County Park Site Plan**

Bodega Bay Bicycle and Pedestrian Trails Study Report # 2: Conceptual Improvement Plan

Segment 2A-1 – Highway 1 widening: County Park site to Eastshore Road

Timeframe:	Medium-term
Summary/	Shoulder widening for bike lanes in right-of-way; connects to
Recommendations:	existing bike lanes/wide shoulders on Eastshore.
Property Owner:	Caltrans
Length	1571 feet
Responsible Agencies:	Caltrans/Public Works

This segment would primarily be a bicycle alternative to Segment 2B (see Figure 6). At the central portion of this segment there is some paved shoulder, but the curved and steeper sections have little or no shoulder, and in some locations poor visibility. Eastshore Road is a major intersection on this route. The intersection is slated to be improved in the near future by Sonoma County with left turn lanes in both directions. Six foot shoulders exist along Eastshore extending to Bay Flat Road.

The right-of-way width of this segment varies from 50 to 60 feet, and given a roadway width of less than 30 feet, there is ample room for widening the shoulders to better accommodate bicycles and pedestrians from the County Park Site to Eastshore Road. The work would entail grading back existing embankments, realigning drainage ditches, extending culverts and constructing some small retaining walls. Some private improvements in the right-of-way, such as signs, parking or landscaping, would need to be modified.

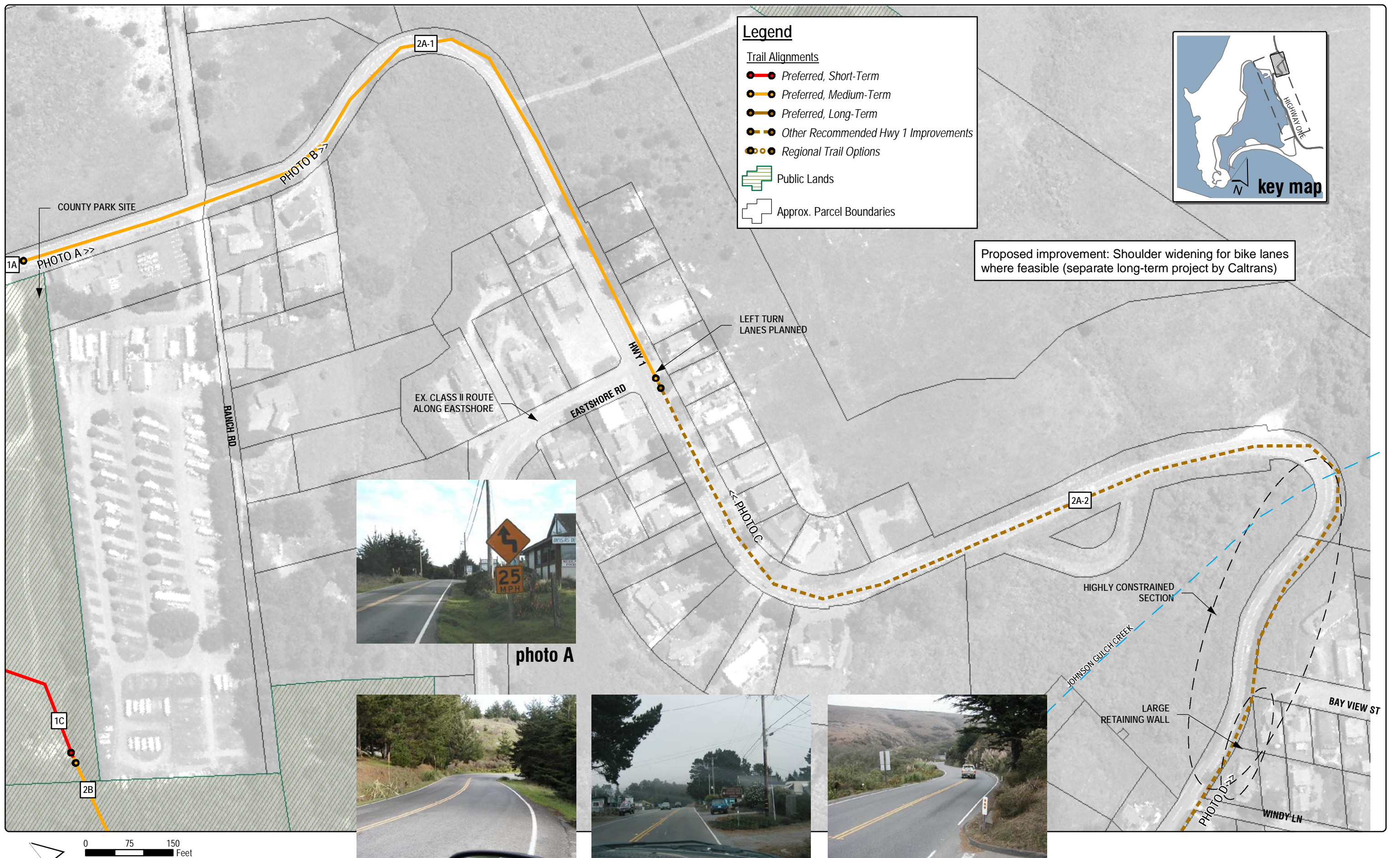


photo A



photo B



photo C



photo D

FIGURE 6: SEGMENT 2A-1
 HIGHWAY 1, COMMUNITY CENTER TO WINDY LANE
 BODEGA BAY PEDESTRIAN & BICYCLE TRAILS PLANNING STUDY

Bodega Bay Bicycle and Pedestrian Trails Study Report # 2: Conceptual Improvement Plan

Segment 2B – Multi-Use Trail/Boardwalk: County Park Site to Bay Flat/Eastshore Road

Timeframe:	Medium-term
Summary/	Multi-use path/boardwalk through State Park.
Recommendations:	
Property Owner:	State Parks
Length	1672 feet
Responsible Agencies:	State Parks

This segment begins at the southwestern corner of the County Park site, extending southwest through Sonoma Coast State Beach lands. The Tentative Site Plan for Bodega Bay Regional Park shows a new multi-use (Class I) path constructed on this approximate alignment of an existing unpaved road and informal trail that connects to the starting point (see Figure 7). The trail would continue southwest through undulating sand dunes, past an existing amphitheatre, and south toward a set of existing campgrounds (part of the Bodega Dunes Campground area) and an internal state park access road.

State Parks staff has expressed concern about maintaining separation between the general public trail and the campsites, for privacy and security reasons (although campers would want to connect to the trail for regional access). The trail would be set back a minimum of 30' from the park access road to create this separation. In addition, the trail would pass near a private residence at its south end. Fencing and/or vegetation, as well as separation, will be used to minimize potential impact on the existing home from the trail.

Most of the alignment allows relatively straightforward construction, however, because portions of this segment cross unstable and sensitive sand dunes and riparian habitat, some boardwalk construction will be required. One or two short (approximately 30' long) bridges may be required to avoid impacts and maintain accessible grades in areas with steep sand dunes.

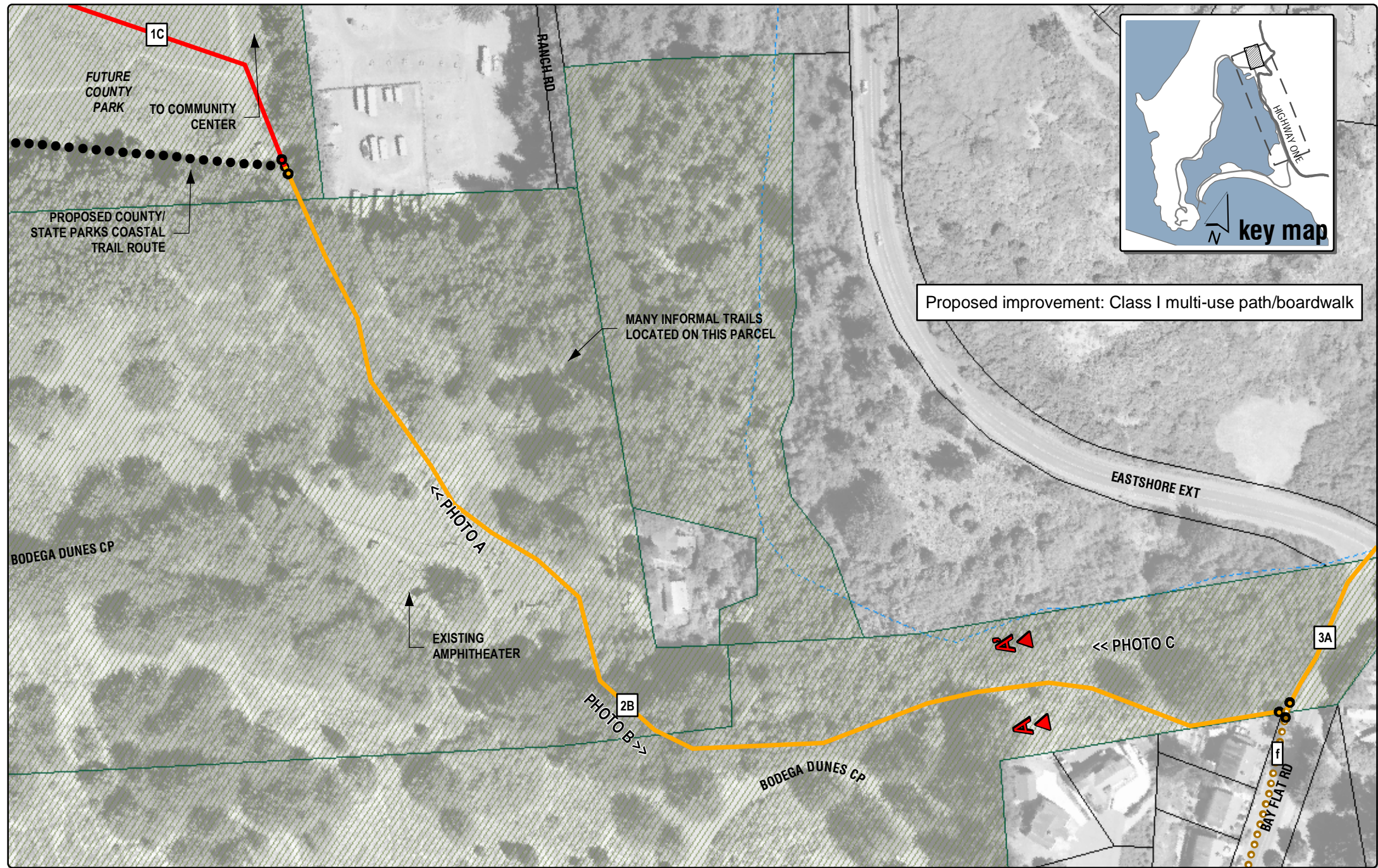


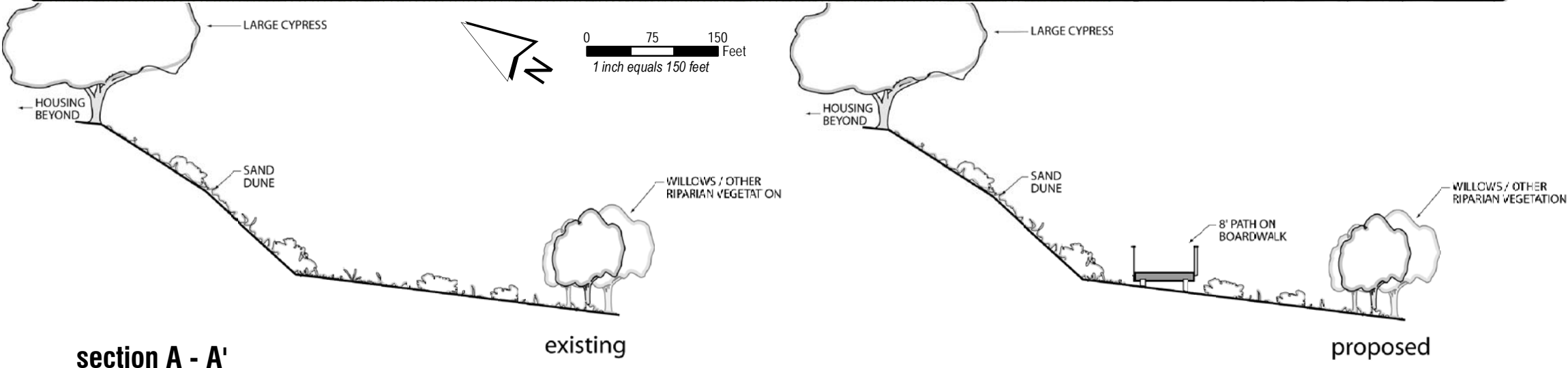
photo A



photo B



photo C



Legend

Trail Alignments

- Preferred, Short-Term
- Preferred, Medium-Term
- Preferred, Long-Term
- Other Recommended Hwy 1 Improvements
- Regional Trail Options
- Streams
- Public Lands
- Approx. Parcel Boundaries

FIGURE 7: SEGMENT 2B
 DUNES CAMPGROUND BYPASS - COMMUNITY CENTER TO BAYFLAT/EASTSHORE ROAD
 BODEGA BAY PEDESTRIAN & BICYCLE TRAILS PLANNING STUDY

Bodega Bay Bicycle and Pedestrian Trails Study Report # 2: Conceptual Improvement Plan

Segment 3A – Multi-Use Path: Bay Flat Road from Eastshore Road to Highway 1

Timeframe:	Medium-term
Summary/ Recommendations:	Construct parallel Class I path in conjunction with landslide repair, including ramps and platforms for ADA access.
Property Owner:	Private/County
Length	1034 feet
Responsible Agencies:	Public Works/Regional Parks

This segment provides a very direct connection between Segment 2B, the “Dunes Campground Bypass” of Highway 1, and central Bodega Bay (see Figure 8). It also connects directly to the Bay Flat/Westshore Road route (Regional Segment f), which in turn connects to residential, marina, and recreational destinations.

Segment 3A travels east along Eastshore Road from the terminus of Segment 2B to a wide, irregular intersection with Bay Flat Road. A Class I (8’ wide, minimum) paved trail would be created by widening the shoulder, and adding striping or curbs along the existing pavement to define the trail route. Two small streams with riparian vegetation cross underneath the intersection at the northwest and east sides. Culvert extensions will be required to cross over these streams. The proposed alignment follows the northern edge of Bay Flat Road, crossing Eastshore Road at an existing stop sign near the first small stream. A new crosswalk will be required at this point. It continues south 75’ along Bay Flat Road past the second small stream crossing, to a second crosswalk to cross to the west side of Bay Flat Road. At this point there is a good opportunity for a mapboard/sign to orient visitors to the trail route and destinations.

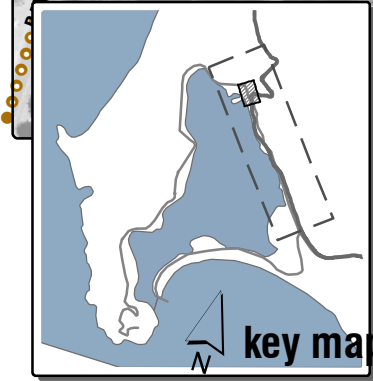
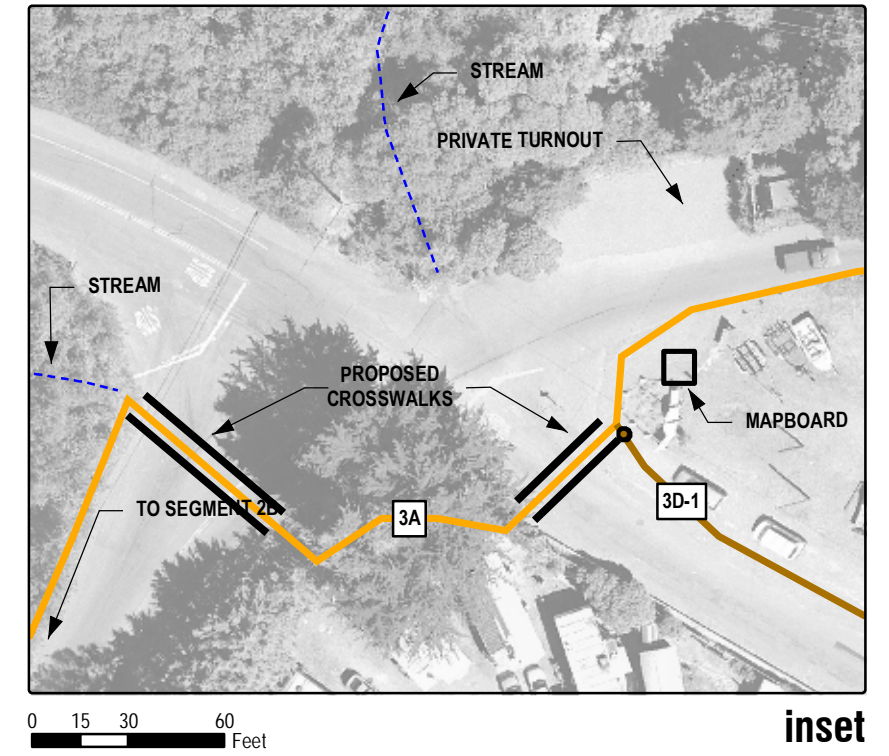
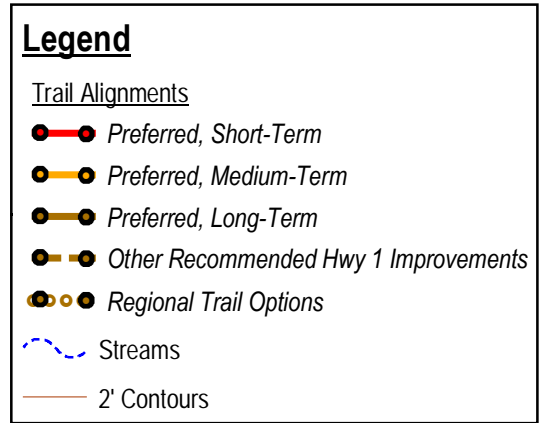
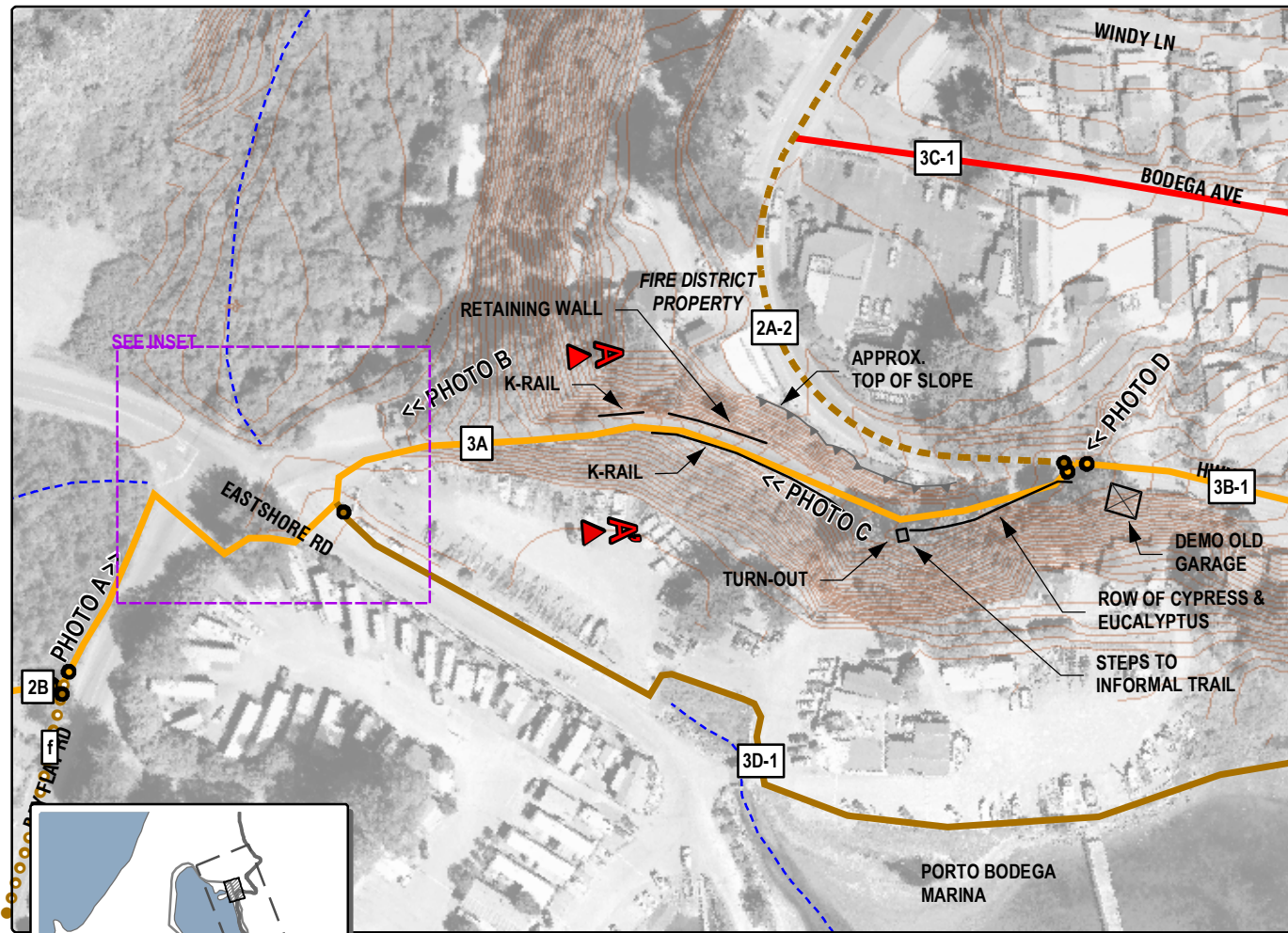
From this point, Bay Flat Road climbs steeply to connect to Highway 1 at a very acute angle. Since the west side of the road fell away in a landslide in 1984, the road has been open only to one-way traffic in the uphill (south) direction. A steel retaining wall supports the slope above the damaged section. K-rail barriers line the steep drop-off on the west side of the road, and a retaining wall lines the uphill, eastern side. A wooden crib retaining wall and a row of eucalyptus trees support the road on the west side at the upper end, near the intersection with Highway 1.

Creation of a trail connection further south would require repair of the landslide to allow construction of a Class I type minimum 8’ wide path on the slope below (west of) the road, providing a bicycle and pedestrian route at an accessible 5% grade to Highway 1. This would entail switchbacks at the south end to connect to the less steep, undamaged portion of Bay Flat Road south of the landslide. The cost of the landslide repair would be extremely high in relation to the cost of the trail, but it is assumed that the landslide repair will be considered a road repair project, and the cost will not be borne by the trail project. The trail project would require acquisition of additional right-of-way along the southern half of the segment, along the steep slope that is part of the Puerto Bodega Marina property.

The trail could be constructed across this steep slope using a viaduct-type structure supported on piers above the slope (Cross-Section A-A on Figure 8a), or by constructing retaining walls

Bodega Bay Bicycle and Pedestrian Trails Study Report # 2: Conceptual Improvement Plan

on both the uphill and downhill sides (Cross-Section B-B on Figure 8a), or by constructing a single retaining wall on the uphill side. The specific design would be resolved based on geotechnical investigations, structural design, and environmental assessment. The existing road bench above the landslide is wide enough that a Class I path can be provided on the west side by widening the pavement and realigning the lanes slightly to the east.



Proposed improvement: Construct Class I path in conjunction with landslide repair; construct Class I path connecting northwest across Bay Flat and Eastshore Roads.

1 inch equals 150 feet

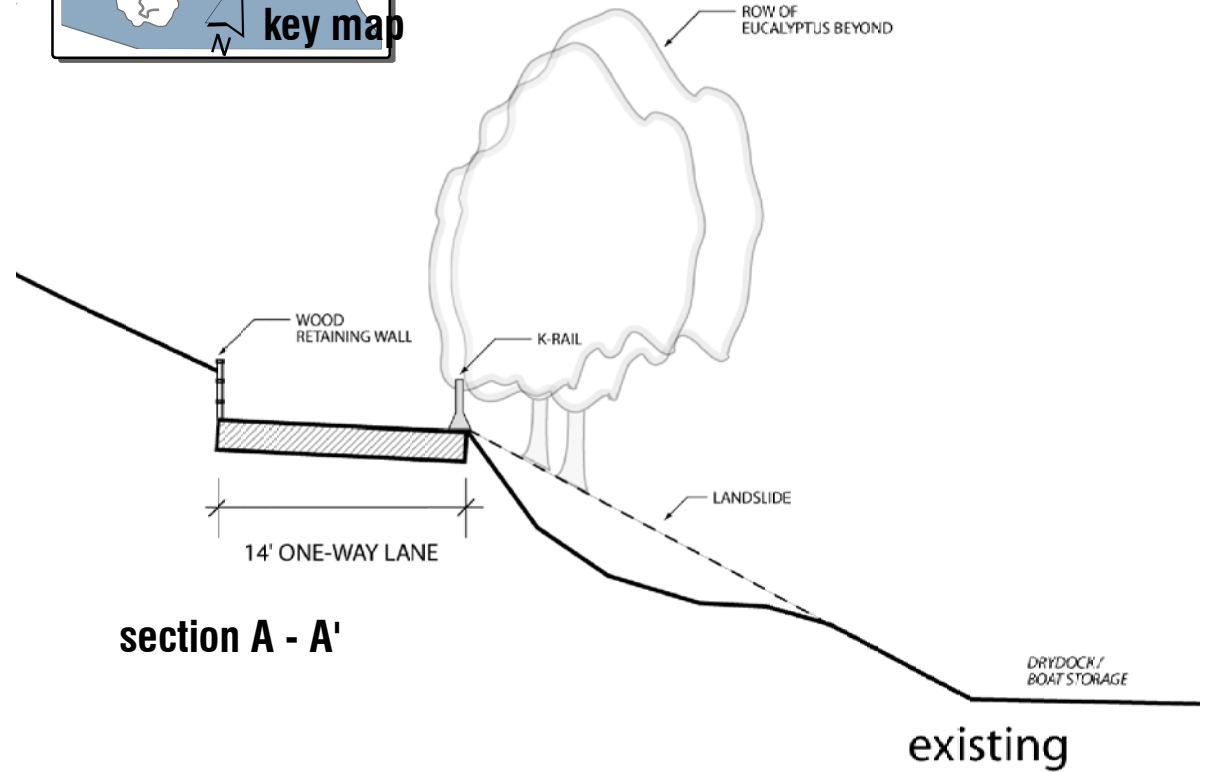


photo A



photo C

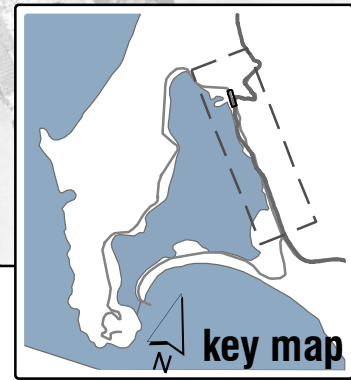
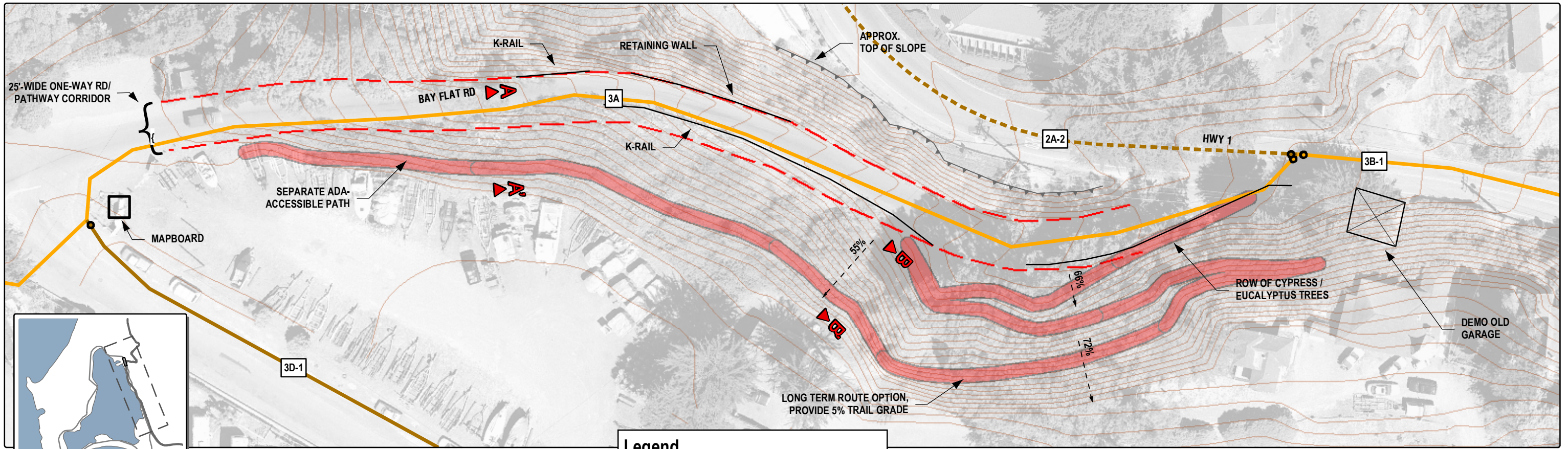


photo B



photo D

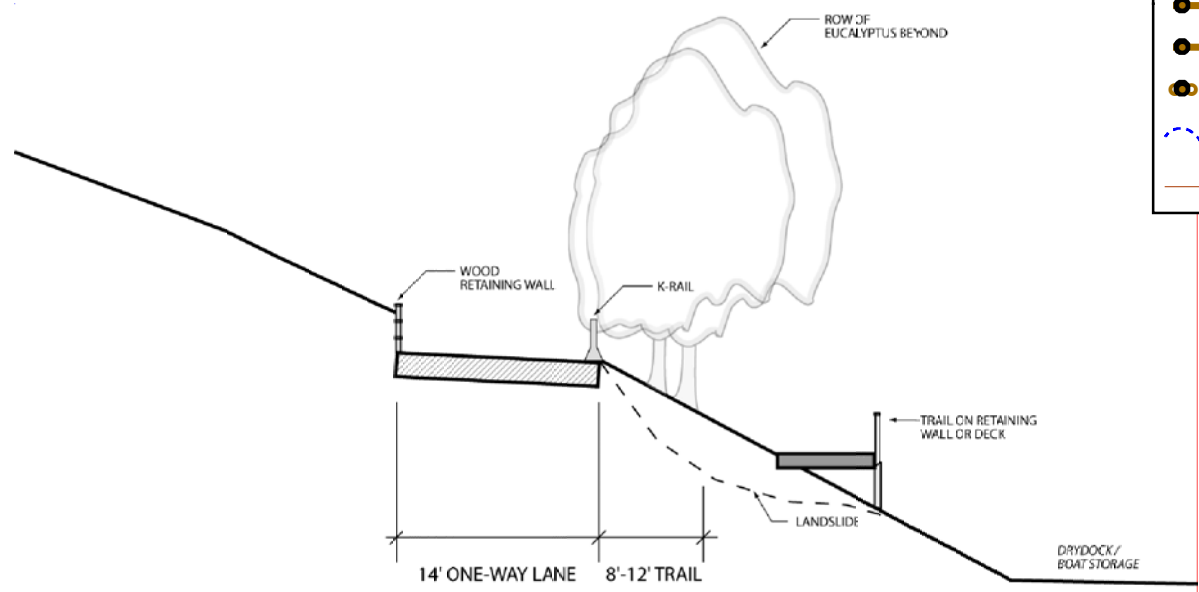
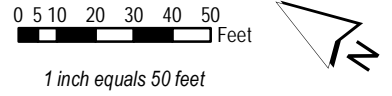
FIGURE 8: SEGMENT 3A
 BAY FLAT ROAD (ONE-WAY SECTION)
 BODEGA BAY PEDESTRIAN & BICYCLE TRAILS PLANNING STUDY



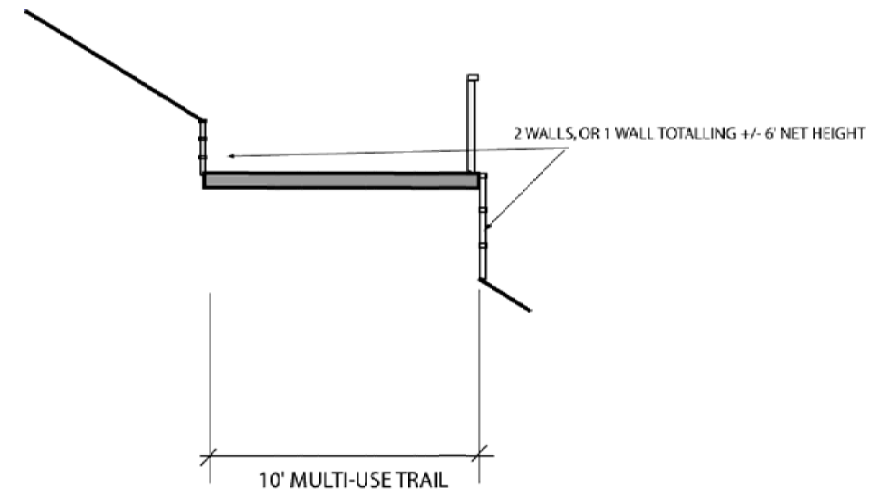
Legend

Trail Alignments

- Preferred, Short-Term
- Preferred, Medium-Term
- Preferred, Long-Term
- Other Recommended Hwy 1 Improvements
- Regional Trail Options
- Streams
- 2' Contours



section A - A'



section B - B'

FIGURE 8a: SEGMENT 3A
 BAY FLAT ROAD (ONE-WAY SECTION)
 BODEGA BAY PEDESTRIAN & BICYCLE TRAILS PLANNING STUDY

Bodega Bay Bicycle and Pedestrian Trails Study Report # 2: Conceptual Improvement Plan

Segment 3B-1 – Multi-Use Path: Highway 1 from Bay Flat Road to Taylor Street

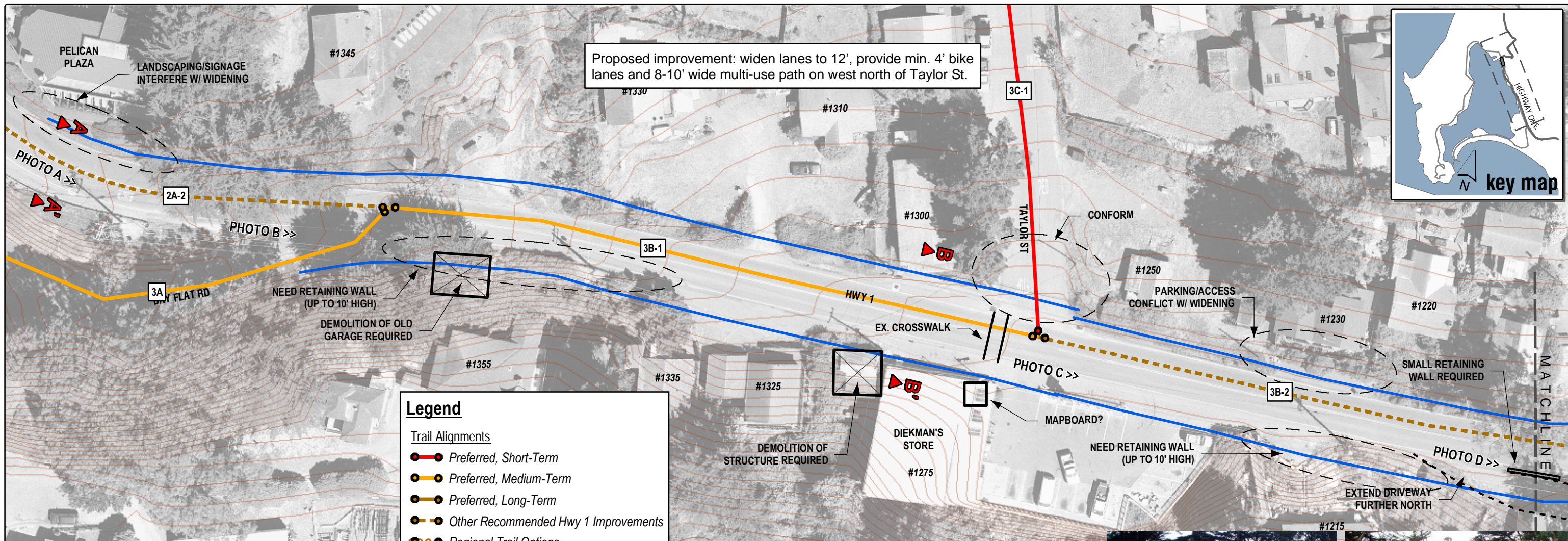
Timeframe:	Medium-term
Summary/	Construct 8-10' wide path on west; widen shoulders.
Recommendations:	
Property Owner:	Caltrans, Private
Length	340 feet
Responsible Agencies:	Regional Parks/Public Works/Caltrans

The objective of this segment is to provide an 8' to 10' wide multi-use Class I type path from the southern end of Bay Flat Road to Taylor Street, where the trail continues as a signed bike and pedestrian route. The lanes would also be widened to 12', with 4' paved shoulders (see Section B-B on Figure 9).

This segment passes through the central portion of the town of Bodega Bay following the right-of-way of Highway 1. This portion of Highway 1 was established after the development of the town, thus the width of the right-of-way is much less, at 35 to 50 feet, than Caltrans standards. The lanes, at 10 feet or slightly less, are also far narrower than standard 12 to 14 foot lanes. Many private structures are constructed immediately adjacent to the right-of-way, with parking, walkways, embankments, utility poles, etc. encroaching into the right-of-way to the edge of the lanes in many locations.

South of Bay Flat Road on the west side of this segment there is a steep bluff dropping off toward the bay, with many structures perched along the edge and extending to the foot of the bluff. Some of these structures are in poor condition and/or unoccupied, while some are well maintained. The only commercial use in this stretch is Diekman's Store at Taylor Street. There is an existing crosswalk at Taylor Street. If arranged in cooperation with Diekman's Store, a mapboard/sign would be desirable at this location to orient visitors to the trail system and destinations.

In the stretch between Bay Flat Road and Taylor Street there are two older garage structures, both in poor condition and not regularly used, that are apparently built in the right-of-way. These structures would have to be demolished in order to provide clearance to construct the proposed 8' to 10' wide path. A retaining wall up to 10' high would be required at the north end of the segment where the bluff drops off steeply directly from the edge of the lane. Careful pavement conform work and drainage provisions would be required on both sides of the highway in conjunction with widening, especially at the remaining three residential/garage structures on the west, and at Diekman's Market, where the path would be close or immediately adjacent to the structures. Construction and/or permanent easements may be required for the retaining wall and pathway construction. At least two utility poles would need to be relocated to provide clearance for the path, or ideally this portion of the lines could be undergrounded. To provide a reasonable cross-slope for the path, a small retaining wall or paved slope and curb may be required along the shoulder on the west side.



Legend

Trail Alignments

- Preferred, Short-Term
- Preferred, Medium-Term
- Preferred, Long-Term
- Other Recommended Hwy 1 Improvements
- Regional Trail Options

— Approximate ROW location

— 2' Contours

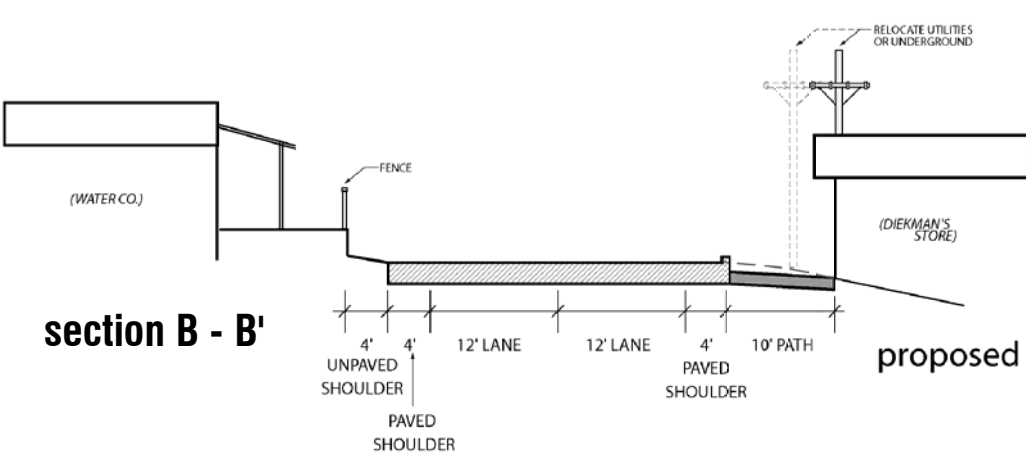
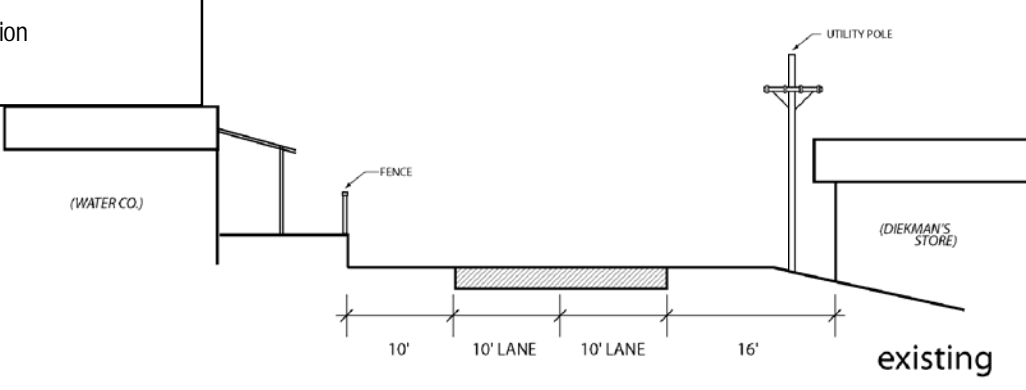
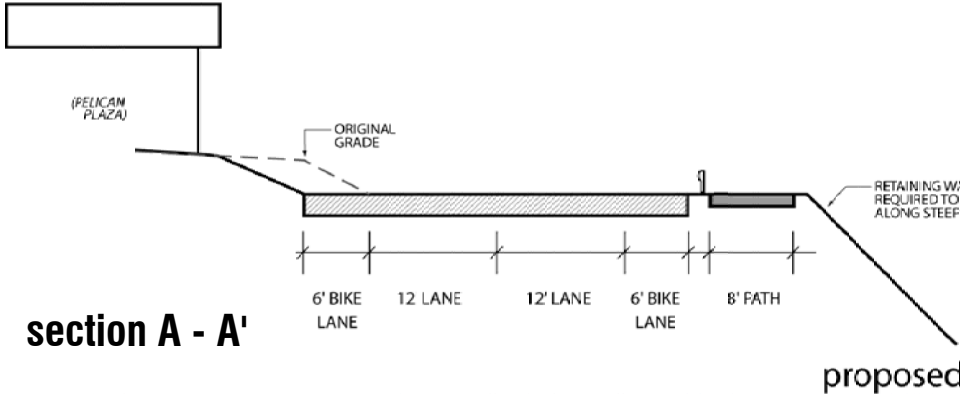
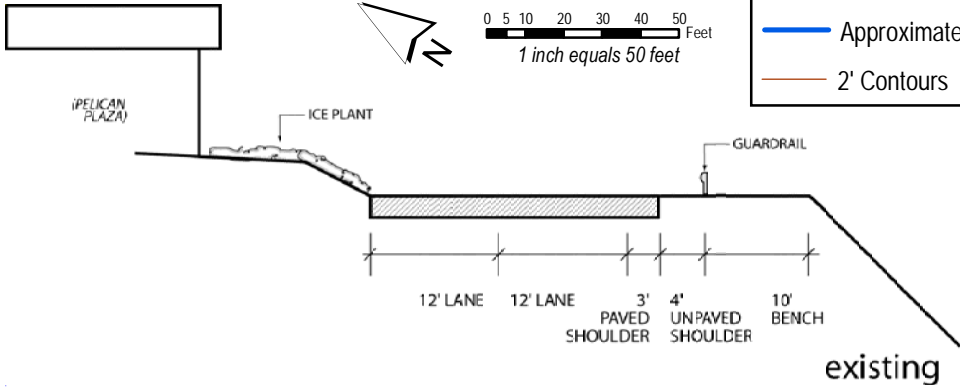
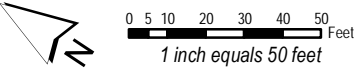


photo A



photo B



photo C



photo D

FIGURE 9: SEGMENT 3B-1
HIGHWAY 1, BAY FLAT ROAD TO TAYLOR STREET

**Bodega Bay Bicycle and Pedestrian Trails Study
Report # 2: Conceptual Improvement Plan**

Segment 3C-1 – Bike Route and Sidewalk: Taylor Street, Bodega Avenue, and Windy Lane to Highway 1

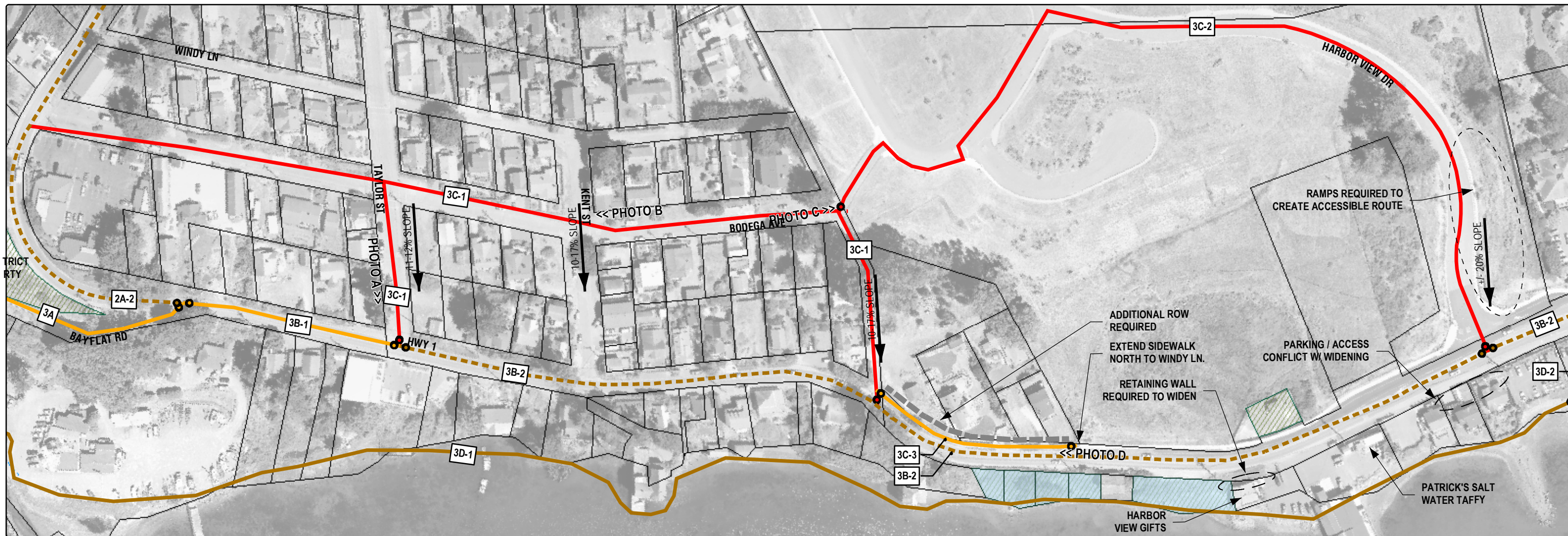
Timeframe:	Short-term
Summary/	Sign as bike/pedestrian route and add sidewalks within the
Recommendations:	right-of-way.
Property Owner:	County
Length	1824 feet
Responsible Agencies:	Public Works

Taylor Street, Bodega Avenue and Windy Lane are quiet, relatively wide, primarily residential streets (see Figure 10). Commercial uses and the Bodega Bay Grange are located at the northern end of Bodega Avenue, and residences line the remainder of the streets. Taylor Street and particularly the southern end of Windy Lane are steeper than desirable for access standards. The recommended improvement is to add sidewalks on one side of the route within the right-of-way to improve pedestrian access on Taylor Street, Bodega Avenue and Windy Lane. Route signs would be placed at intervals along the route, with directional marker signs at corners. Signs cautioning trail users about the steep grades may also be desirable.

Segment 3C-2 – Bike Route and Sidewalk: Harbor View Subdivision, Bodega Avenue to Highway 1

Timeframe:	Short-term
Summary/	Improvements exist in partially completed subdivision;
Recommendations:	developer to complete accessible ramps along steep portion of Harbor View Drive.
Property Owner:	Private (to be dedicated)/County
Length	1479 feet
Responsible Agencies:	Private developer/Public Works

This segment would pass through the partially completed Harbor View development project. This project is proceeding after a lengthy period of delay. Previously the roads and pathway improvements were completed, including a Class I path connecting from the south end of Bodega Avenue to the internal development roads. Sidewalks on one side of each internal road connect to Highway 1 via Harbor View Way at the south end of the segment. Bicycle access would be in the roadway in the form of a Class III signed route. A drawback to this route is that the outlet of Harbor View Way at Highway 1 is extremely steep at approximately 20% slope, which is unsuitable as a route for persons with disabilities. The developer has agreed to construct a series of ramps to the south of this road section to provide an accessible path. This segment could be completed and available for public use as soon as the development is completed and dedication of the public route is implemented.

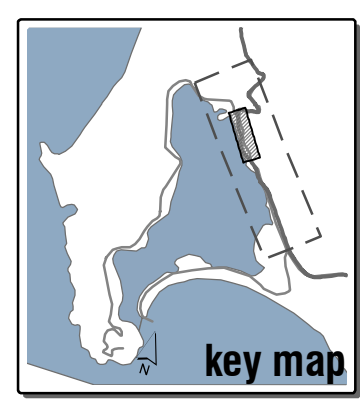


Legend

Trail Alignments

- Preferred, Short-Term
- Preferred, Medium-Term
- Preferred, Long-Term
- Other Recommended Hwy 1 Improvements
- Regional Trail Options

- Streams
- Public Lands
- Approx. Parcel Boundaries
- Coastal Conservancy Properties



Proposed improvement (3C-1): sign as bike and pedestrian route.

Proposed improvement (3C-2): Existing and planned sidewalks and bike route through Harbor View development

FIGURE 10: SEGMENTS 3C-1, 3C-2, & 3C-3
 3C-1: TAYLOR STREET, BODEGA AVENUE, & SOUTH END WINDY LANE
 3C-2: HARBOR VIEW DEVELOPMENT
 BODEGA BAY PEDESTRIAN & BICYCLE TRAILS PLANNING STUDY

**Bodega Bay Bicycle and Pedestrian Trails Study
Report # 2: Conceptual Improvement Plan**

Segment 3C-3 – Sidewalk: Highway 1 from Windy Lane to Harbor View Development

Timeframe: Medium-term
Summary/ Recommendations: Widen shoulder and construct sidewalk on northeast side of Highway 1 to existing Highway 1 frontage improvements.
Property Owner: Caltrans/Private
Length: 334 feet
Responsible Agencies: Public Works/Caltrans

This short segment provides a sidewalk connection and wider shoulder from the south end of Windy Lane to the north end of the existing sidewalk constructed on the east side of Highway 1 for the Harbor View development improvements (see Figure 10). It may be necessary to acquire a small strip of additional right-of-way along the east side of the highway in order to construct these improvements. New retaining walls will be required along two residential frontages, and two driveways will need to be re-contoured to the wider highway.

Segment 3D-1 – Multi-Use Path/Boardwalk: Bay Flat/Eastshore Road intersection to north end of Tides Wharf property

Timeframe: Long-term
Summary/ Recommendations: Waterfront multi-use path/boardwalk to Lucas Wharf, and connecting to Smith Brothers Road along Highway 1 right-of-way.
Property Owner: State Tidelands/Coastal Conservancy/County road/private property
Length: 3037 feet
Responsible Agencies: Regional Parks/Transportation & Public Works

This segment would consist partly of an 8' to 10' wide paved Class I path along the south end of Eastshore Road and the Porto Bodega Marina Property, and primarily of an 8' wide treated wood boardwalk on pilings along the shoreline of Bodega Bay within the jurisdiction of the State Lands Commission (see Figures 11 and 12). This northern portion of the proposed waterfront boardwalk is proposed to be constructed as a phase following the construction of Segment 3D-2 to the south, as the southern segment has no practical alternative route, while the northern segment is an alternative to trail Segments 3A, 3B, and 3C. The trail would begin on the east side of Eastshore Road, which has a wide right-of-way including a large storm concrete culvert that is currently used for parking. This area could easily be modified to provide a Class I path. At the south end of Eastshore Road the culvert "daylights" into an open creek channel before crossing under a one-lane bridge that serves the Sandpiper Restaurant and the Porto Bodega property. The best route for the trail would be east of these obstacles, and then along the edge of the existing parking area. This property is reportedly for sale. If it is significantly redeveloped with new uses, the opportunity may be presented to design this trail into the project and condition dedication of an easement. At the south end of this property, past an abandoned pier, the trail would continue as a boardwalk constructed along the shoreline or in the tidelands.

Bodega Bay Bicycle and Pedestrian Trails Study Report # 2: Conceptual Improvement Plan

Structures have been built extending out over the water based on leases of state land administered by Sonoma County. These are old “grandfathered” leases that are gradually being phased out. For example, the Bodega Fish Company buildings extending over the water north of the Tides have been condemned and are slated to be demolished as a County project. At this property the trail would cross as a paved path, requiring an easement from the property owner. While the buildings may be demolished, the pier could remain as a public access feature, potentially with a shoreline public parking/trail staging area.

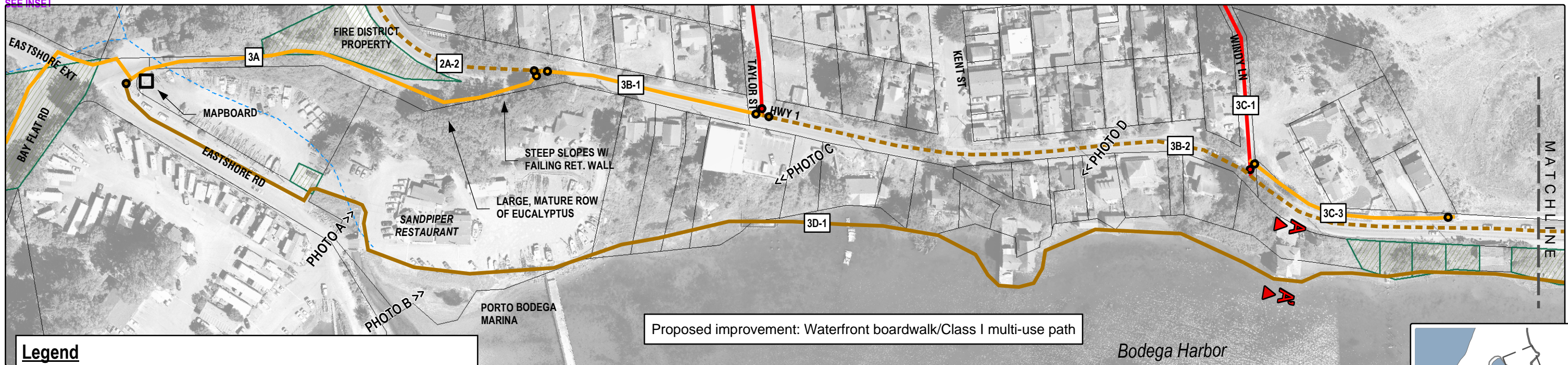
There are two residential structures that project over the water between the Porto Bodega Marina and the Tides visitor commercial center. The boardwalk would be routed outboard of the structures. Potentially, as a separate project, connecting piers could be constructed to provide small boat access to these residences. At the Tides visitor commercial center the trail would pass through private property on the shore side, requiring acquisition of an easement and some re-design of the parking area. At the former Bodega Fish Company property and at the Tides center there are opportunities to place mapboard/signs to orient visitors to the trail system and inform them about local history, the fishing industry, and the natural environment.

Segment 3D-2 – Multi-Use Path/Boardwalk: The Tides to Lucas Wharf

Timeframe:	Medium-term
Summary/ Recommendations:	Construct multi-use path through Tides parking area; construct waterfront boardwalk/multi-use path to Lucas Wharf; construct multi-use path through Lucas Wharf parking area or in Highway 1 right-of-way to Smith Brothers Road.
Property Owner:	Private/State Tidelands/Caltrans/Coastal Conservancy
Length	2676 feet
Responsible Agencies:	Regional Parks/Transportation & Public Works

This segment would consist partly of an 8’ to 10’ wide paved Class I path and primarily of an 8’ wide treated wood boardwalk on pilings along the shoreline of Bodega Bay within the jurisdiction of the State Lands Commission (see Figure 12). This southern portion of the proposed waterfront boardwalk 3D-2 is proposed to be constructed as a phase prior to the construction of Segment 3D-1 to the north, as the southern segment has no practical alternative route, while the northern segment is an alternative to trail Segments 3A, 3B, and 3C. The trail would connect to the terminus of Segment 3C-2 at a crosswalk on Highway 1 at Inn-of-the-Tides Way. From this point a sidewalk connects west to the Tides visitor commercial center, although it is too steep to meet accessibility standards. Within the Tides visitor commercial center the trail would pass through private property on the shore side requiring some re-design of the parking area to create a paved multi use trail that would be part of Segment 3D-1. A public access easement may exist to accommodate the trail. Otherwise acquisition of an easement may be required, which has been assumed in the cost estimate. South of the Tides the boardwalk-type trail would pass below a series of houses lining the bluff along the highway. At Lucas Wharf the route would again travel shoreside, either in the right-of-way of Highway 1, to connect to Smith Brothers Road, or alternatively through the parking area and climbing the slope at the south end on a parcel owned by the Coastal Conservancy.

SEE INSET



Legend

Trail Alignments

- Preferred, Short-Term
- Preferred, Medium-Term
- Preferred, Long-Term
- Other Recommended Hwy 1 Improvements
- Regional Trail Options

- Streams
- Public Lands
- Approx. Parcel Boundaries

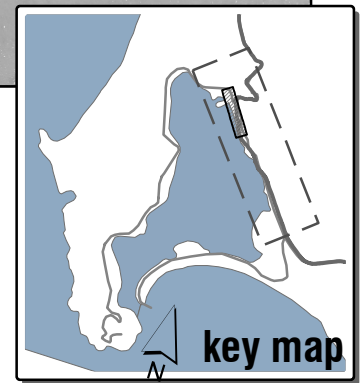
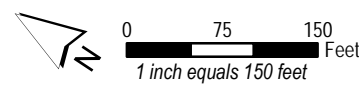


photo A



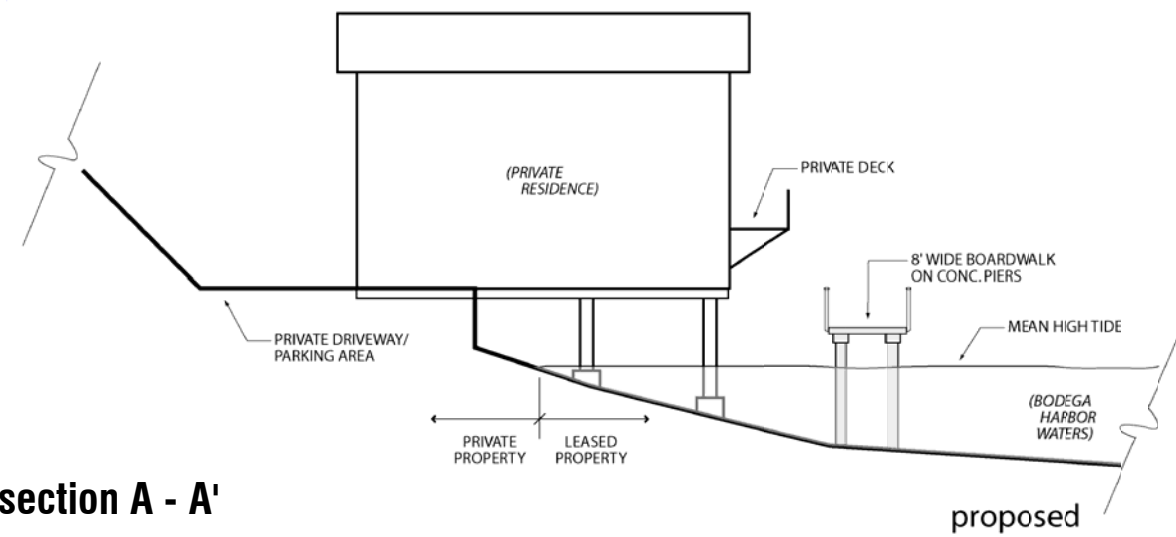
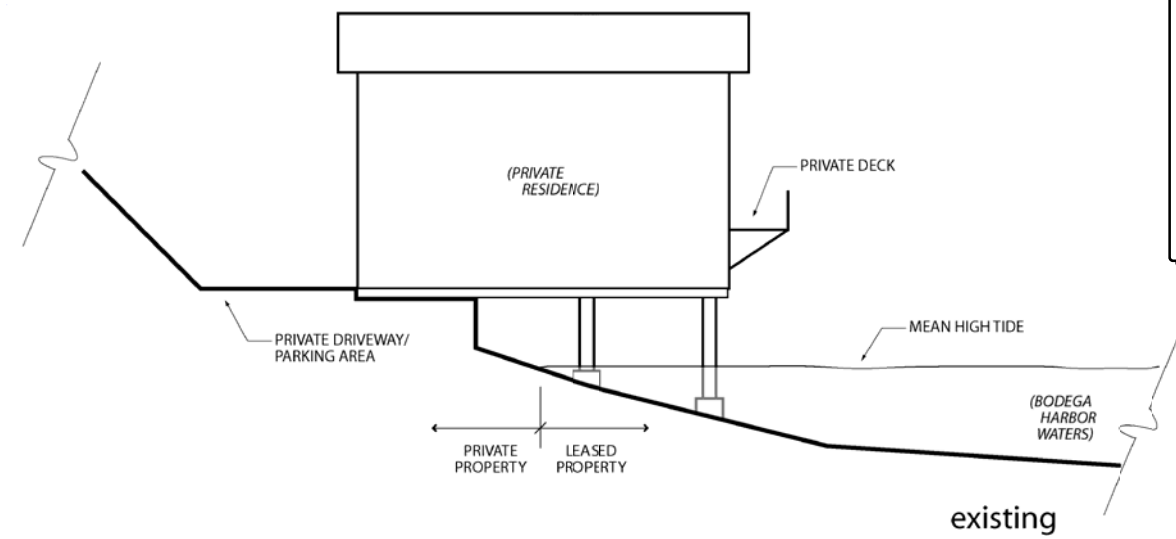
photo C



photo B



photo D



section A - A'

FIGURE 11: SEGMENT 3D-1 (NORTH)

BOARDWALK, PORTO BODEGA MARINA TO LUCAS WHARF

BODEGA BAY PEDESTRIAN & BICYCLE TRAILS PLANNING STUDY

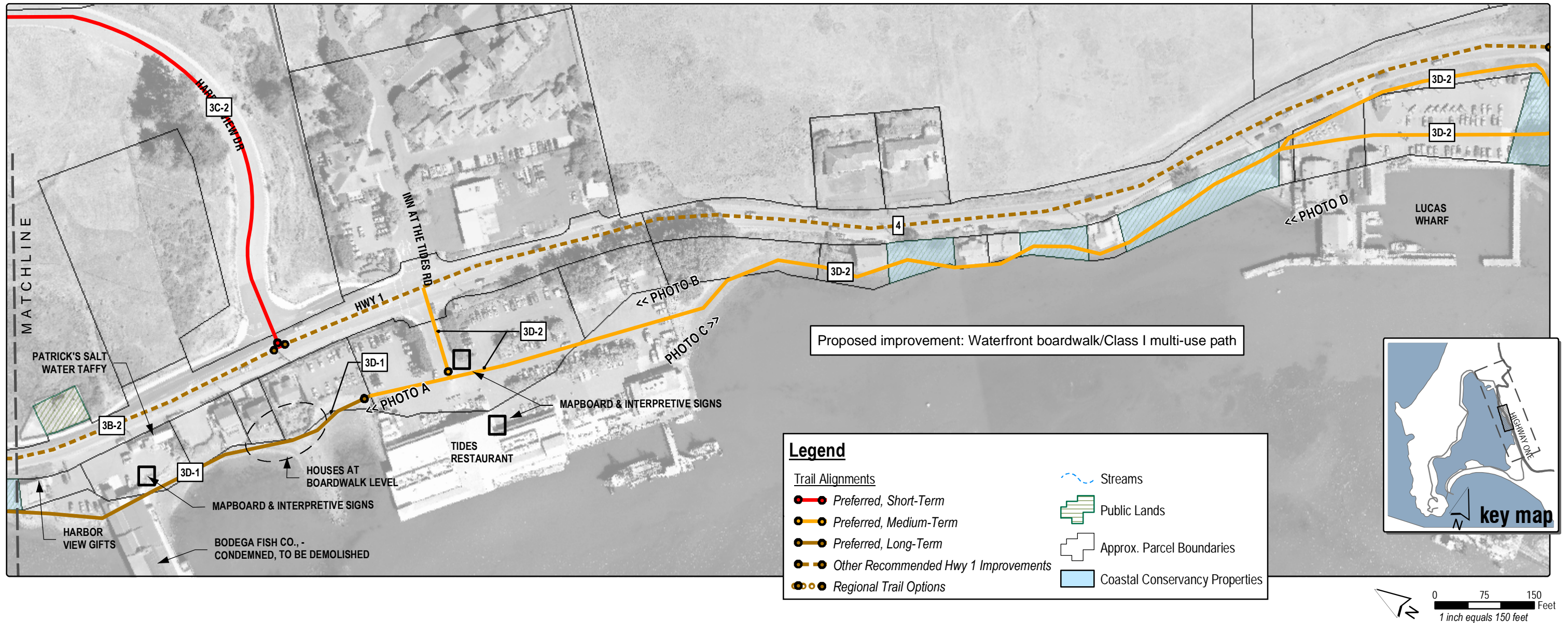


photo A



photo B



photo C



photo D

FIGURE 12: SEGMENT 3D-1 & 3D-2

BOARDWALK, PORTO BODEGA MARINA TO LUCAS WHARF

BODEGA BAY PEDESTRIAN & BICYCLE TRAILS PLANNING STUDY

Bodega Bay Bicycle and Pedestrian Trails Study Report # 2: Conceptual Improvement Plan

Segment 5B – Multi-Use Path: Smith Brothers Road and Highway 1 to Birdwalk Park

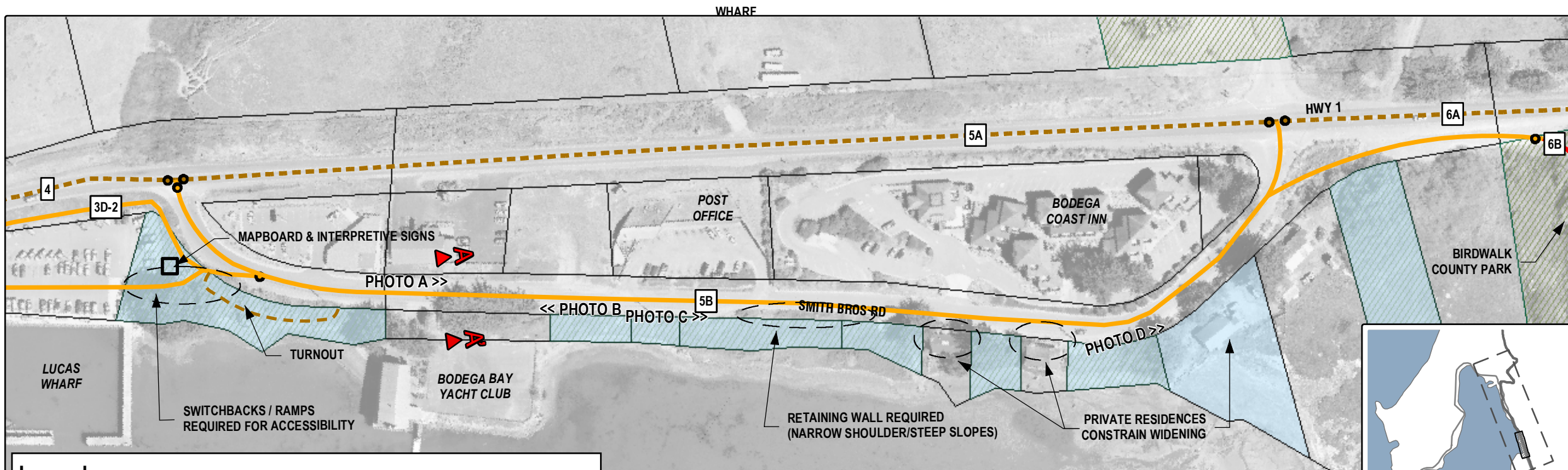
Timeframe:	Medium-term
Summary/ Recommendations:	Construct pedestrian or multi-use path on southwest side of Smith Brothers Road, separated by curb from the roadway (requires road widening, eliminating some parking); construct multi-use path along southwest shoulder of Highway 1 to north end of Birdwalk Park.
Property Owner:	County road/Caltrans
Length	1935 feet
Responsible Agencies:	Public Works, Regional Parks, Caltrans

Smith Brothers Road is a short loop road following the bluffs west of Highway 1 (see Figure 13). The proposed improvement is to utilize a portion of the western edge of the roadway as a separate multi-use pathway by eliminating some parking on one or both sides of the road, and grading embankments and modifying some existing frontage improvements in the right-of-way on the east side. The path could be delineated by placing a curb or railing in the roadway to separate the path from traffic.

The width of the right-of-way is 50 feet, while the pavement width varies from approximately 24 feet to 28 feet, allowing room for widening without additional right-of-way acquisition. Widening the roadway or adding a separate trail is constrained by the edge of the bluff and adjacent driveways, structures, power poles/utilities, and parking on the west, and by embankments and frontage improvements on the east. One advantage of this route is that most of the properties (nearly two-thirds) along the western edge of Smith Brothers Road are publicly owned by the California Coastal Conservancy. At a Coastal Conservancy-owned parcel at the north end of Smith Brothers Road there is an opportunity to construct a parking turnout with a mapboard and interpretive signs or displays to orient and inform visitors.

Because traffic speeds and volumes are relatively low on Smith Brothers Road, it may be feasible to use it as an interim route without improvements simply by providing route signage. It may not be necessary to provide a separate path or bike lanes; bicyclists could share the roadway with cars as a signed Class III route.

There is a wide paved and unpaved shoulder on the west side of Highway 1 between Smith Brothers Road and the north end of Birdwalk Park. Existing informal unpaved trails connect along this shoulder to the Birdwalk Park levee trails and to the access road to the small parking area serving the park. A further part of the proposed Segment 5A improvements is to construct a paved Class I multi-use path through this area. A project is planned by Sonoma County Public Works to add left turn lanes on Highway 1 to access the fire station to the east of this section. The left turn lane project will utilize the available right-of-way, requiring acquisition of additional right-of-way to accommodate the path. A portion of this frontage is Coastal Conservancy property. Right-of-way acquisition is estimated only for a 100 foot wide private property between the Conservancy property and Birdwalk Park.

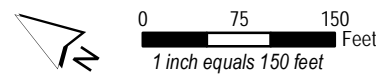


Legend

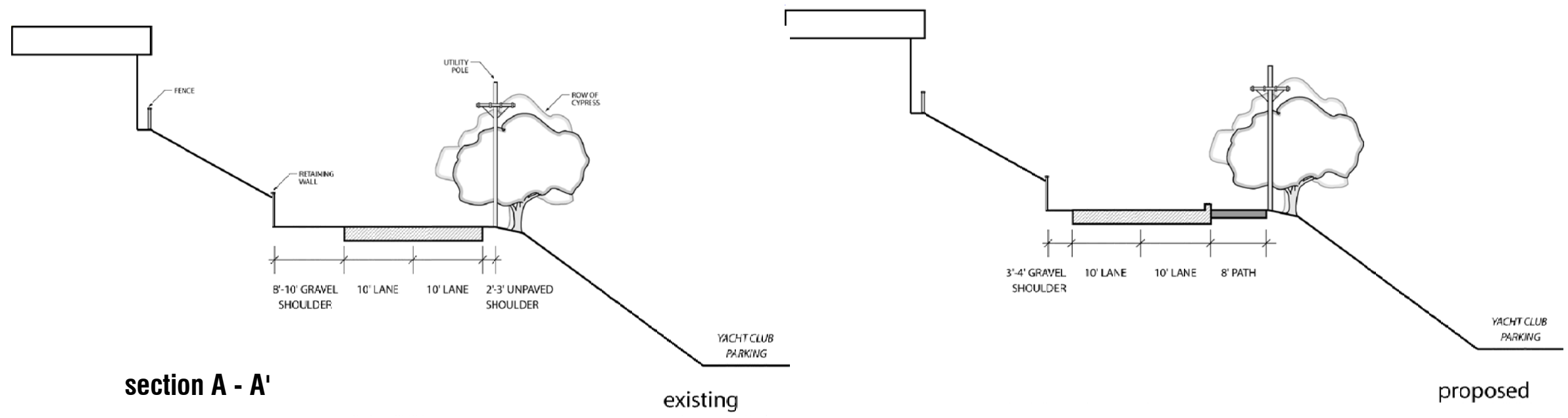
Trail Alignments

- Preferred, Short-Term
- Preferred, Medium-Term
- Preferred, Long-Term
- Other Recommended Hwy 1 Improvements
- Regional Trail Options

- ~ Streams
- ▭ Public Lands
- ▭ Approx. Parcel Boundaries
- ▭ Coastal Conservancy Properties



Proposed improvement (5A): Widen to provide bike lanes as a separate Caltrans project
 Proposed improvement (5B): Pedestrian or multi-use path in but separated from the roadway



section A - A'

existing

proposed



photo A



photo B



photo C



photo D

FIGURE 13: SEGMENT 5B
 5A: HIGHWAY 1 ADJACENT TO SMITH BROTHERS RD
 5B: SMITH BROTHERS RD

Bodega Bay Bicycle and Pedestrian Trails Study Report # 2: Conceptual Improvement Plan

Segment 6B – Multi-Use Trail onto Birdwalk Levee

Timeframe:	Medium-term
Summary/	Multi-use trail from north boundary of Birdwalk Coastal Access
Recommendations:	Park to Levee trail
Property Owner:	Regional Parks
Length	1537 feet
Responsible Agencies:	Regional Parks

Construction of a multi-use trail from the north boundary of Birdwalk Park traversing at a 5% slope up to the top of the levee trail (see Figure 14).

Segment 6C – Multi-Use Trail and Bridge over Cheney Gulch Creek to Doran Beach Road

Timeframe:	Short-term
Summary/	Multi-use trail with a bridge over Cheney Gulch Creek from
Recommendations:	existing Birdwalk levee trail to Doran Beach Road
Property Owner:	Regional Parks
Length	1812 feet
Responsible Agencies:	Regional Parks

This is a multi-use trail and bridge connection between Birdwalk Coastal Access Park and Doran Beach Road that is being planned by Sonoma County Regional Parks Department. This route, combined with Segment 6B, will allow Doran Regional Park campers and visitors convenient access to the Birdwalk Park trails, and to Smith Brothers Road. Combined with an improved route along Doran Beach Road (see description for Regional Route j) extending east, the new trail and bridge will offer an alternative connection from the Bodega Harbour development to Birdwalk Park and destinations north.

Birdwalk Park currently features interpretive and educational display signs. As a major staging area for the regional trail system, there is an opportunity to provide a mapboard and additional information and interpretive signs to orient and inform visitors.

A possible future addition, Regional Route k, would improve an existing informal trail that connects east along the south side of Cheney Gulch Creek to Doran Park Road and Highway 1.

Bodega Bay Bicycle and Pedestrian Trails Study Report # 2: Conceptual Improvement Plan

Figure 14: Birdwalk Coastal Access Trail and Bridge Project



Bodega Bay Bicycle and Pedestrian Trails Study Report # 2: Conceptual Improvement Plan

4.3 Other Recommended Improvements to Highway 1

The Conceptual Improvement Plan includes two relatively short segments of Highway 1. Other bicycle and pedestrian improvements along Highway 1 are recommended as part of the future trail system (see Figures 3 and 4). These include bike lanes and sidewalks, potentially involving highway realignment or widening due to the constrained nature of many existing segments. These improvements would be recommended to Caltrans as part of the normal course of planning and implementing highway improvements, and would not be the focus of the County's direct implementation efforts, except to identify them as priorities in Countywide transportation plans. The timing of these improvements ultimately depends on Caltrans' priorities and funding, and is likely to be long-term.

Segment 1A – Bike Lanes: Highway 1, Salmon Creek to County Park Site

Timeframe: Long-term
Summary/ Recommendations: Shoulder widening to provide bike lanes in Highway 1 right-of-way.
Property Owner: Caltrans
Length: 5308 feet
Responsible Agencies: Caltrans

Segment 2A-2 – Bike Lanes: Highway 1, Eastshore Road to Bay Flat Road

Timeframe: Long-term
Summary/ Recommendations: Shoulder widening to provide bike lanes in right-of-way.
Property Owner: Caltrans
Length: 2695 feet
Responsible Agencies: Caltrans

Segment 3B-2 – Bike Lanes: Highway 1, Taylor Street to Harbor View Development Frontage

Timeframe: Long-term
Summary/ Recommendations: Highway realignment/shoulder widening for bike lanes in right-of-way. Acquire private property as needed for road widening.
Property Owner: Caltrans/Private
Length: 1746 feet
Responsible Agencies: Caltrans

Segment 4 – Bike Lanes: Highway 1, Inn-of-the-Tides Road to Smith Brothers Road

Timeframe: Long-term
Summary/ Recommendations: Highway realignment/shoulder widening for bike lanes in right-of-way.
Property Owner: Caltrans
Length: 2010 feet
Responsible Agencies: Caltrans

Bodega Bay Bicycle and Pedestrian Trails Study Report # 2: Conceptual Improvement Plan

Segment 5A – Bike Lanes: Highway 1, parallel to Smith Brothers Road

Timeframe: Long-term
Summary/ Shoulder widening for bike lanes in right-of-way.
Recommendations:
Property Owner: Caltrans
Length 1370 feet
Responsible Agencies: Caltrans

Segment 6A – Bike Lanes: Highway 1, from Smith Brothers Road to Harbor Way South

Timeframe: Long-term
Summary/ Shoulder widening for bike lanes in right-of-way. Provide
Recommendations: crosswalk at entrance to Birdwalk parking.
Property Owner: Caltrans
Length 3503 feet
Responsible Agencies: Caltrans

4.4 Regional Trail Connection Improvement Opportunities

Several existing and potential regional trail routes were addressed in the Feasibility Study. The segments described below were determined to have the greatest benefit to the regional trail system (see Figures 3 and 4). They connect regional recreation facilities and destinations to the core trail system provided by the Conceptual Trails Improvement Plan. These segments are described in more detail in the Feasibility Study, Report #1. Their timing depends on the responsible agencies and the overall priority for providing a comprehensive regional recreational route with corresponding maps and signs.

Segment a – Multi-Use Trail west of Highway 1 north of Salmon Creek

Timeframe: Long-term
Summary/ Bridge and multi-use trail on boardwalk extending north across
Recommendations: Salmon Creek to connect to Sonoma Coast State Beach
headquarters area.
Property Owner: County Road/State Parks
Length 1065 feet
Responsible Agencies: State Parks/Regional Parks

Segment b – Bike/Pedestrian Route: Bean Ave., Highway 1 to Beach

Timeframe: Long-term
Summary/ Bicycle/pedestrian route signage along Bean Avenue.
Recommendations:
Property Owner: County Road
Length 1657 feet
Responsible Agencies: Regional Parks/Public Works

**Bodega Bay Bicycle and Pedestrian Trails Study
Report # 2: Conceptual Improvement Plan**

Segment c – Bike/Pedestrian Route: Keefe Ave., Bean Ave. to Highway 1

Timeframe: Long-term
Summary/ Sign as bike/pedestrian route. From Bean Ave. extends along
Recommendations: Ocean View, Mc Christian, and Keefe Avenues
Property Owner: County Road
Length 1818 feet
Responsible Agencies: Regional Parks/Public Works

Note: Segments d and e were eliminated from further consideration during review of Report #1.

Segment f – Multi-Use Trail: Bay Flat, Westshore, and Eastshore Roads to Campbell Cove State Beach Park

Timeframe: Long-term
Summary/ Improve multi-use trail along the right-of-way of Bay Flat
Recommendations: Road, Westshore Road, and public tidelands. Sign the older, residential portion of Bay Flat Road that parallels the busy, newer portion as a bike pedestrian route. There are existing Class II bike lanes on Bay Flat and Westshore Roads from Eastshore Road to Campbell Cove Beach.
Property Owner: County Road
Length 15,555 feet
Responsible Agencies: Regional Parks/State Parks/Public Works

Segment g – Bike/Pedestrian Route: West Side Road to Horseshoe Cove

Timeframe: Long-term
Summary/ Would sign the access road to the cove as a bike/pedestrian
Recommendations: route, potentially with time/access area limitations.
Property Owner: U.C. Davis Marine Lab
Length 3920 feet
Responsible Agencies: Regional Parks/Marine Lab

Segment h – Bike Route: Westshore Road to Bodega Head parking lot

Timeframe: Long-term
Summary/ Shoulder widening for bike lanes in right-of-way.
Recommendations:
Property Owner: County
Length 4492 feet
Responsible Agencies: Transportation & Public Works

Segment i – Bike Lanes and/or Multi-Use Trail: Doran Beach Road from end of spit to Segment 6C

Timeframe: Long-term
Summary/ Shoulder widening for bike lanes and/or provide parallel multi-
Recommendations: use trail to accommodate bikes and pedestrians.
Property Owner: Transportation and Public Works, Regional Parks

Bodega Bay Bicycle and Pedestrian Trails Study Report # 2: Conceptual Improvement Plan

Length 7346 feet
Responsible Agencies: Regional Parks

Segment j – Multi-Use Trail: Doran Beach Road from Segment 6C to Highway 1

Timeframe: Long-term
Summary/ Recommendations: Multi-use trail separated from the roadway along south side to accommodate bikes and pedestrians.
Property Owner: Regional Parks/County Road
Length 3700 feet
Responsible Agencies: Regional Parks

Segment k – Multi-Use Trail: Doran Beach Road to Doran Park Road/Highway 1

Timeframe: Long-term
Summary/ Recommendations: Multi-use trail along the south side of Cheney Creek from Segment 6B east to Doran Park Road and Highway 1.
Property Owner: Sonoma County
Length 1140 feet
Responsible Agencies: Regional Parks

4.5 Sign and Map Program

The detailed Trail Plan segment maps show conceptual locations for interpretive signs and displays. Five types of signage are required to provide complete information for the trail system:

1. Official transportation signs and markings, such as “bike lane” or “bike route” signs, and any official traffic directional signs. These would be to standard County or Caltrans specifications, and maintained by those agencies as appropriate.
2. Custom trail route signs could be developed to mark the overall route and system at regular intervals, with a unique name and style similar to the West County Trail, such as “Bodega Bay Regional Trail”. These would presumably be the responsibility of Regional Parks.
3. Smaller directional signs or markers could be used to clarify changes of direction, using the same name and design theme as #2, again placed and maintained by Regional Parks.
4. Mileage and/or directions to specific destinations could be provided on signs at intervals along the trail, presumably designed to Regional Parks’ standards and maintained by Regional Parks.
5. Interpretive signs and displays would be placed at overlooks and points of interest along the route, especially at public trail entry points and staging areas, complementing those that already exist in regional and state parks along the route.

Bodega Bay Bicycle and Pedestrian Trails Study Report # 2: Conceptual Improvement Plan

They would provide information about history, the environment, the fishing industry, and any other pertinent facts about the sites and the region.

In addition to signs, weatherproof display-sized trail route maps can be placed on mapboards or kiosks located along the route to orient visitors to the trail system, points of interest, and major destinations. The maps can also be made available to the public on the web and/or in brochures.

Signing and mapping is an opportunity to show progress and provide transportation benefits very early in the Trail Plan implementation process, as well as publicize the longer-term Plan objectives. This is possible because the only improvement required for some segments is signing, other segments will be completed in the near term (e.g. Segment 3C-2 through the Harbor View development) and can be signed as part of the route, and because other segments could be signed and used as interim routes even before the desired improvements are made (e.g. Segment 5B, Smith Brothers Road, and Segment 6B, Birdwalk Park).

4.6 Cost Estimates

A preliminary, planning-level estimate of implementation costs is provided in the following tables. Table 2 presents a summary of the total estimated costs for the Conceptual Improvement Plan (A); Other Recommended Highway 1 Improvements (B) for which the County would not take primary responsibility, but would urge Caltrans to undertake; and potential Regional Recreational Trail Connections (C) that are County responsibility but are lower priority than the segments in the Conceptual Improvement Plan. Table 3 presents the detailed estimated Conceptual Improvement Plan construction costs. Table 4 presents Other Recommended Highway 1 Improvement construction costs, and Table 5 presents construction costs for Regional Trail Improvements. Table 6 provides a summary of unit costs, including items that are included in combined cost items in the estimates, such as “Separate Class I Path”, and “4’ Shoulder Widening”. Each construction cost table has overhead and contingency cost factors added to the combined segment cost total. These cost factors (totaling 55%) must be included with the construction cost of any segment that is to be considered separately. Table 7 is a “placeholder” estimate of potential right-of-way acquisition costs.

These estimates are based on the concept-level plans in this report and are subject to significant adjustment based on establishment of more specific site conditions and more detailed design. Segments 1C and 6B are projects that are underway, for which costs were provided by Regional Parks. These cost estimates include a multi-use trail with hardened native material or crushed rock surface. This is less expensive than the paved multi-use (Class I type) path that is the long-term objective of this study. The native material/crushed rock trail may be an interim solution, with the paved path installed later (such as is proposed at Segment 1B), or it may be a permanent solution in some locations for environmental or aesthetic reasons.

Bodega Bay Bicycle and Pedestrian Trails Study Report # 2: Conceptual Improvement Plan

Table 2: Summary of Estimated Costs

(Includes 55% design, environmental, and contingency factors, and right-of-way acquisition cost where applicable, as detailed in Section 4.7.)

A: Summary of Conceptual Improvement Plan Costs

Segment	Item	Construction	Other Project Costs* (55%)	Acquisition	Total Estimated Costs
Segment 1B	Multi-use Trail: State Park to County Park Site west Boundary	\$234,750	\$129,113	\$0	\$363,863
Segment 1C	Multi-use Trail \ Boardwalk: County Park Site to State Park No. Bdry	\$364,050	\$200,228	\$0	\$564,278
Segment 2A-1	Highway 1 widening: County Park site to Eastshore Road	\$157,535	\$86,644	\$0	\$244,179
Segment 2B	Multi-use Trail\Boardwalk: Comm.Center to Bay Flat/Eastshore Rd	\$325,350	\$178,943	\$0	\$504,293
Segment 3A	Multi-Use Trail: Bay Flat Road from Eastshore Road to Highway 1	\$630,346	\$346,691	\$284,500	\$1,261,537
Segment 3B-1	Multi-Use Trail: Highway 1 Widening: North end Bodega Ave. to Harbor View Way	\$166,764	\$91,720	\$1,200	\$259,684
Segment 3C-1	Bike Route and Sidewalk: Taylor Street, Bodega Avenue, Windy Lane to Highway 1	\$64,934	\$35,714	\$0	\$100,648
Segment 3C-2	Bike Route & Sidewalk: Bodega Ave to Highway 1	\$887	\$488	\$0	\$1,375
Segment 3C-3	Sidewalk, Highway 1 from Windy Lane to Harbor View Development	\$94,925	\$52,209	\$16,750	\$163,884
Segment 3D-1	Multi-Use Trail/Boardwalk: Bay Flat/Eastshore Rd intersection to north end of Tides Wharf property	\$710,456	\$390,751	\$29,500	\$1,130,707
Segment 3D-2	Multi-Use Trail/Boardwalk: Tides Restaurant to east end of Lucas Wharf property	\$499,976	\$274,987	\$144,500	\$919,462
Segment 5B	Multi-Use Trail: Lucas Wharf/Hwy 1 ROW frontage, Smith Brothers Rd to Birdwalk Regional Park	\$160,418	\$88,230	\$10,000	\$258,648
Segment 6B	Multi-Use Trail onto Birdwalk Levee Trail	\$54,179	\$29,798	\$0	\$83,977
Segment 6C	Multi-Use Trail/Bridge: Cheney Gulch Creek to Doran Beach Road	\$312,250	\$171,738	\$0	\$483,988
TOTALS		\$3,776,821	\$2,077,251	\$486,450	\$6,340,522

* Design, Environmental, Administrative, Contingencies

B: Summary of Other Recommended Highway 1 Improvements Costs

Segment	Item	Construction	Other Project Costs* (55%)	Acquisition	Total Estimated Costs
Segment 1A	Bike Lanes: Hwy 1, County Park site to Eastshore Rd	\$242,655	\$133,460	\$0	\$376,115
Segment 2A-2	Bike Lanes: Highway 1, Eastshore Rd to Bay Flat Rd	\$323,151	\$177,733	\$37,000	\$537,884
Segment 3B-2	Bike Lanes: Hwy 1, Taylor St to Harbor View Dev. Frontage	\$3,326,014	\$1,829,307	\$3,174,500	\$8,329,821
Segment 4	Bike Lanes: Highway 1, Inn-of-the-Tides Road to Smith Brothers Road	\$1,777,063	\$977,384	\$34,750	\$2,789,197
Segment 5A	Bike Lanes: Highway 1, parallel to Smith Brothers Road	\$75,713	\$41,642	\$0	\$117,354
Segment 6A	Bike Lanes: Hwy 1, from Smith Brothers Road to Harbor Way South	\$168,499	\$92,674	\$0	\$261,173
TOTALS		\$5,913,093	\$3,252,201	\$3,246,250	\$12,411,544

* Design, Environmental, Administrative, Contingencies

Bodega Bay Bicycle and Pedestrian Trails Study Report # 2: Conceptual Improvement Plan

C: Summary of Regional Recreational Trail Connection Improvement Costs

Segment	Item	Construction	Other Project Costs* (55%)	Acquisition	Estimated Costs
Segment a	Multi-Use Trail west of Highway 1 north of Salmon Creek	\$136,258	\$74,942	\$0	\$211,200
Segment b	Bike/Pedestrian Route: Bean Ave., Highway 1 to Beach	\$994	\$547	\$0	\$1,541
Segment c	Bike/Pedestrian Route: Keefe Ave., Bean Ave. to Highway 1	\$1,091	\$600	\$0	\$1,691
Segment f	Multi-use trail along Bay Flat, Westshore & Eastshore Roads to Campbell Cove Beach State Park	\$233,325	\$128,329	\$0	\$361,654
Segment g	Bike/Pedestrian Route: West Side Road to Horseshoe Cove	\$2,352	\$1,294	\$0	\$3,646
Segment h	Bike/Pedestrian Route: Westshore Road to Bodega Head parking lot	\$95,455	\$52,500	\$0	\$147,955
Segment i	Bike Lanes &/or Multi-Use Trail: Doran Beach Rd to Segment 6C	\$348,005	\$191,402	\$0	\$539,407
Segment j	Multi-use Trail: Doran Beach Road from Segment 6C to Highway 1	\$188,900	\$103,895	\$0	\$292,795
Segment k	Multi-Use Trail Doran Beach Road to Doran Park Road/Highway 1	\$39,900	\$21,945	\$0	\$61,845
TOTALS		\$1,046,279	\$575,454	\$0	\$1,621,733

* Design, Environmental, Administrative, Contingencies

Bodega Bay Bicycle and Pedestrian Trails Study Report # 2: Conceptual Improvement Plan

Table 3: Construction Cost Estimate – Conceptual Improvement Plan

Segment	Item	Unit	Qty	Unit Price	Total
	8'W Class I Path (80% of segment length)	LF	2,400	\$ 28.35	\$ 68,040.00
	8'W Treated Wood Boardwalk on Piers (20% of segment length)	LF	600	\$ 277.85	\$ 166,710.00
	SEGMENT 1B TOTAL				\$ 234,750.00
	8'W Multi-use trail at grade	LF	1,770	\$ 15.00	\$ 26,550.00
	Boardwalk and abutments	LF	350	\$ 450.00	\$ 157,500.00
	Route Signage, driveway, parking and other park fixtures	ALLOW	1	\$ 180,000.00	\$ 180,000.00
	SEGMENT 1C TOTAL				\$ 364,050.00
	Widen Existing Shoulders by 4' (x 2 sides)	LF	3,142	\$ 42.50	\$ 133,535.00
	Driveway/roadway conforms	EA	10	\$ 2,400.00	\$ 24,000.00
	SEGMENT 2A-1 TOTAL				\$ 157,535.00
	8'W Class I Path on Grade	LF	570	\$ 28.35	\$ 16,159.50
	8'W Treated Wood Boardwalk on Piers	LF	1,102	\$ 277.85	\$ 306,190.70
	Fencing/Vegetation for Screening Along Private Residence	ALLOW	1	\$ 3,000.00	\$ 3,000.00
	SEGMENT 2B TOTAL				\$ 325,350.20
	8'W Class I Path on Shoulder (2 sides)	LF	1,340	\$ 21.25	\$ 28,475.00
	Extruded AC Curb Between Road & Class I Path	LF	670	\$ 3.50	\$ 2,345.00
	Small Culvert Extension at Creek Crossing	EA	1	\$ 2,700.00	\$ 2,700.00
	Large Conc. Culvert Extension at Creek Crossing	EA	1	\$ 6,291.00	\$ 6,291.00
	New Crosswalk	EA	2	\$ 150.00	\$ 300.00
	Cantilevered Path on Piers	LF	1,044	\$ 292.85	\$ 305,735.40
	ROW / Easement Acquisition*	ALLOW	1	\$ 284,500.00	\$ 284,500.00
	SEGMENT 3A TOTAL				\$ 630,346.40
	8'W Class I Path	LF	340	\$ 28.35	\$ 9,639.00
	Widen Travel Lanes From 10'W to 12'W (2 sides)	LF	680	\$ 10.63	\$ 7,225.00
	Construct 4'W Paved Shoulders / Bike Lanes (2 sides)	LF	680	\$ 42.50	\$ 28,900.00
	10'H Retaining Wall at North End Along Bluff	LF	150	\$ 410.00	\$ 61,500.00
	18"H Retaining Wall Along West Side	LF	340	\$ 75.00	\$ 25,500.00
	Demolish Ex. Structures Within ROW	EA	2	\$ 5,000.00	\$ 10,000.00
	Conforms	EA	7	\$ 2,400.00	\$ 16,800.00
	Relocate Utility Poles	EA	2	\$ 3,000.00	\$ 6,000.00
	ROW / Easement Acquisition*	ALLOW	1	\$ 1,200.00	\$ 1,200.00
	SEGMENT 3B-1 TOTAL				\$ 166,764.00
	Route Signage	LF	1,824	\$ 0.60	\$ 1,094.40
	Construct 4'W Sidewalk with curb and gutter	LF	1,824	\$ 35.00	\$ 63,840.00
	SEGMENT 3C-1 TOTAL				\$ 64,934.40
	Construction by Harbor View developer				\$ -
	Route Signage	LF	1,479	\$ 0.60	\$ 887.40
	SEGMENT 3C-2 TOTAL				\$ 887.40

Bodega Bay Bicycle and Pedestrian Trails Study Report # 2: Conceptual Improvement Plan

Table 3: Construction Cost Estimate – Conceptual Improvement Plan (cont'd)

Segment	Item	Unit	Qty	Unit Price	Total
Segment 3C-3	Sidewalk, Highway 1 from Windy Lane to Harbor View Development		334	length	
	Widen Shoulders (by 4') to Create Bike Lane (x 2 sides)	SF	668	\$ 21.25	\$ 14,195.00
	4'W Sidewalk w/ Curb & Gutter	LF	334	\$ 35.00	\$ 11,690.00
	Retaining Walls Along Private Frontages (36"H Avg.)	LF	334	\$ 135.00	\$ 45,090.00
	Driveway Conforms	EA	3	\$ 2,400.00	\$ 7,200.00
	ROW / Easement Acquisition*	ALLOW	1	\$ 16,750.00	\$ 16,750.00
	SEGMENT 3C-3 TOTAL				\$ 94,925.00
Segment 3D-2	Multi-Use Trail/Boardwalk: Tides Restaurant to east end of Lucas Wharf property		2,676	length	
	8'W Class I Path Through Parking Areas	LF	825	\$ 28.35	\$ 23,388.75
	8'W Boardwalk on Pilings	LF	1,015	\$ 322.85	\$ 327,692.75
	8'W Class I Path Connecting to Smith Brothers Rd.	LF	155	\$ 28.35	\$ 4,394.25
	Easement Acquisition*	ALLOW	1	\$ 144,500.00	\$ 144,500.00
	SEGMENT 3D-2 TOTAL				\$ 499,975.75
Segment 5B	Multi-Use Trail: Lucas Wharf/Hwy 1 ROW frontage, Smith Brothers Rd to Birdwalk Regional Park		1,935	length	
	Widen Road to Create Class I Trail (8'W average)	LF	1,604	\$ 42.50	\$ 68,170.00
	8'W Class I Path Along Highway 1	LF	331	\$ 28.35	\$ 9,383.85
	Retaining Walls (36"H Avg.)	LF	430	\$ 135.00	\$ 58,050.00
	Driveway Conforms	EA	8	\$ 2,400.00	\$ 19,200.00
	Extruded AC Curb	LF	1,604	\$ 3.50	\$ 5,614.00
	SEGMENT 5B TOTAL				\$ 160,417.85
Segment 6B	Multi-Use Trail onto Birdwalk Levee Trail		1,537	length	
	8'W Multi-use trail at grade	LF	1,150	\$ 15.00	\$ 17,250.00
	8'W Multi-use trail above grade	LF	400	\$ 90.00	\$ 36,000.00
	Route Signage	LF	1,548	\$ 0.60	\$ 928.80
	SEGMENT 6B TOTAL				\$ 54,178.80
Segment 6C	Multi-Use Trail/Bridge: Cheney Gulch Creek to Doran Beach Road		1,812	length	
	8'W Multi-use trail at grade	LF	1,250	\$ 15.00	\$ 18,750.00
	8'W Multi-use trail above grade	LF	550	\$ 90.00	\$ 49,500.00
	Bridge and abutments	LF	100	\$ 2,440.00	\$ 244,000.00
	SEGMENT 6C TOTAL				\$ 312,250.00
Segment 3D-1	Multi-Use Trail/Boardwalk: Bay Flat/Eastshore Rd intersection to north end of Tides Wharf property		3,037	length	
	8'W Class I Path	LF	1,050	\$ 28.35	\$ 29,767.50
	8'W Boardwalk on Pilings	LF	2,017	\$ 322.85	\$ 651,188.45
	Easement Acquisition*	ALLOW	1	\$ 29,500.00	\$ 29,500.00
	SEGMENT 3D-1 TOTAL				\$ 710,455.95
CONSTRUCTION COSTS SUBTOTAL					\$ 3,776,820.75
<i>*See Table 6: Property Acquisition</i>					
OTHER COSTS	% of Total Construction Cost				
Design Costs		15%			\$ 566,523.11
Environmental		10%			\$ 377,682.08
Administration		15%			\$ 566,523.11
Contingencies		15%			\$ 566,523.11
OTHER COSTS SUBTOTAL					\$ 2,077,251.41
TOTAL ESTIMATED PROJECT COST					\$ 5,854,072.16

**Bodega Bay Bicycle and Pedestrian Trails Study
Report # 2: Conceptual Improvement Plan**

Table 4: Construction Cost Estimate – Other Recommended Highway 1 Improvements

Segment	Item	Unit	Qty	Unit Price	Total
	Grading	LF	5,308	\$ 10.00	\$ 53,080.00
	Drainage	LF	5,308	\$ 10.00	\$ 53,080.00
	4' Shoulder Widening	LF	5,308	\$ 21.25	\$ 112,795.00
	36" H Concrete Wall	LF	100	\$ 135.00	\$ 13,500.00
	Small Culvert Extension	EA	2	\$ 2,700.00	\$ 5,400.00
	Driveway Conform	EA	2	\$ 2,400.00	\$ 4,800.00
	SEGMENT 1A TOTAL				\$ 242,655.00
	Acquire Additional ROW*	ALLOW	1	\$ 37,000.00	\$ 37,000.00
	Grading	LF	2,695	\$ 10.00	\$ 26,950.00
	Drainage	LF	2,695	\$ 10.00	\$ 26,950.00
	4' Shoulder Widening	LF	2,695	\$ 21.25	\$ 57,268.75
	36" H Concrete Wall	LF	200	\$ 135.00	\$ 27,000.00
	10' H Concrete Wall	LF	200	\$ 410.00	\$ 82,000.00
	Small Culvert Extension	EA	2	\$ 2,700.00	\$ 5,400.00
	Large Culvert Extension	EA	2	\$ 6,291.00	\$ 12,582.00
	Driveway Conform	EA	20	\$ 2,400.00	\$ 48,000.00
	SEGMENT 2A-2 TOTAL				\$ 323,150.75
	Acquire Additional ROW*	ALLOW	1	\$ 3,174,500.00	\$ 3,174,500.00
	Grading	LF	1,746	\$ 10.00	\$ 17,460.00
	Drainage	LF	1,746	\$ 10.00	\$ 17,460.00
	4' Shoulder Widening	LF	1,746	\$ 21.25	\$ 37,102.50
	Relocate Utility Poles	EA	3	\$ 3,000.00	\$ 9,000.00
	36" H Concrete Wall	LF	400	\$ 135.00	\$ 54,000.00
	Large Culvert Extension	EA	1	\$ 6,291.00	\$ 6,291.00
	Small Culvert Extension	EA	2	\$ 2,700.00	\$ 5,400.00
	Driveway Conform	EA	2	\$ 2,400.00	\$ 4,800.00
	SEGMENT 3B-2 TOTAL				\$ 3,326,013.50
	Acquire Additional ROW*	ALLOW	1	\$ 34,750.00	\$ 34,750.00
	Acquire properties	EA	3	\$ 500,000.00	\$ 1,500,000.00
	Demolish Structures	EA	3	\$ 5,000.00	\$ 15,000.00
	Grading	LF	2,010	\$ 10.00	\$ 20,100.00
	Drainage	LF	2,010	\$ 10.00	\$ 20,100.00
	4' Shoulder Widening	LF	2,010	\$ 21.25	\$ 42,712.50
	Relocate Utility Poles	EA	5	\$ 3,000.00	\$ 15,000.00
	48" H Concrete Wall	LF	200	\$ 175.00	\$ 35,000.00
	10' H Concrete Wall	LF	100	\$ 410.00	\$ 41,000.00
	Small Culvert Extension	EA	2	\$ 2,700.00	\$ 5,400.00
	Driveway Conform	EA	20	\$ 2,400.00	\$ 48,000.00
	SEGMENT 4 TOTAL				\$ 1,777,062.50
	Grading	LF	1,370	\$ 10.00	\$ 13,700.00
	Drainage	LF	1,370	\$ 10.00	\$ 13,700.00
	4' Shoulder Widening	LF	1,370	\$ 21.25	\$ 29,112.50
	Relocate Utility Poles	EA	3	\$ 3,000.00	\$ 9,000.00
	Small Culvert Extension	EA	2	\$ 2,700.00	\$ 5,400.00
	Driveway Conform	EA	2	\$ 2,400.00	\$ 4,800.00
	SEGMENT 5A TOTAL				\$ 75,712.50

**Bodega Bay Bicycle and Pedestrian Trails Study
Report # 2: Conceptual Improvement Plan**

Table 4: Construction Cost Estimate – Other Recommended Highway 1 Improvements (cont'd)

Segment	Item	Unit	Qty	Unit Price	Total
Segment 6A	Bike Lanes: Hwy 1, from Smith Brothers Road to Harbor Way South		3,503	length	
Grading		LF	3,503	\$ 10.00	\$ 35,030.00
Drainage		LF	3,503	\$ 10.00	\$ 35,030.00
4' Shoulder Widening		LF	3,503	\$ 21.25	\$ 74,438.75
Relocate Utility Poles		EA	3	\$ 3,000.00	\$ 9,000.00
Small Culvert Extension		EA	2	\$ 2,700.00	\$ 5,400.00
Driveway Conform		EA	4	\$ 2,400.00	\$ 9,600.00
	SEGMENT 6A TOTAL				\$ 168,498.75
CONSTRUCTION COSTS SUBTOTAL					\$ 5,913,093.00
OTHER COSTS	% of Total Construction Cost				
Design Costs		15%			\$ 886,963.95
Environmental		10%			\$ 591,309.30
Administration		15%			\$ 886,963.95
Contingencies		15%			\$ 886,963.95
OTHER COSTS SUBTOTAL					\$ 3,252,201.15
TOTAL ESTIMATED OTHER RECOMMENDED IMPROVEMENTS COST					\$ 9,165,294.15

Bodega Bay Bicycle and Pedestrian Trails Study Report # 2: Conceptual Improvement Plan

Table 5: Construction Cost Estimate – Regional Recreational Trail Connections

Segment	Item	Unit	Qty	Unit Price	Total
	Grading	LF	765	\$ 10.00	\$ 7,650.00
	Drainage	LF	765	\$ 10.00	\$ 7,650.00
	Separate Class I Path	LF	765	\$ 28.35	\$ 21,687.75
	8' W Wood Boardwalk on Pilings	LF	200	\$ 322.85	\$ 64,570.00
	Bridge over Salmon Creek	LF	100	\$ 500.00	\$ 50,000.00
	SEGMENT a TOTAL				\$ 136,257.75
	Route Signage	LF	1,657	\$ 0.60	\$ 994.20
	SEGMENT b TOTAL				\$ 994.20
	Route Signage	LF	1,818	\$ 0.60	\$ 1,090.80
	SEGMENT c TOTAL				\$ 1,090.80
	Route Signage	LF	15,555	\$ 0.60	\$ 9,333.00
	8' W Multi-use trail at grade	LF	15,555	\$ 15.00	\$ 233,325.00
	SEGMENT f TOTAL				\$ 233,325.00
	Route Signage	LF	3,920	\$ 0.60	\$ 2,352.00
	SEGMENT g TOTAL				\$ 2,352.00
	4' Shoulder Widening	LF	4,492	\$ 21.25	\$ 95,455.00
	SEGMENT g TOTAL				\$ 95,455.00
	Grading	LF	7,346	\$ 10.00	\$ 73,460.00
	Drainage	LF	7,346	\$ 10.00	\$ 73,460.00
	4' Shoulder Widening	LF	7,346	\$ 21.25	\$ 156,102.50
	36" H Concrete Wall	LF	200	\$ 135.00	\$ 27,000.00
	Small Culvert Extension	EA	2	\$ 2,700.00	\$ 5,400.00
	Large Culvert Extension	EA	2	\$ 6,291.00	\$ 12,582.00
	SEGMENT i TOTAL				\$ 348,004.50
	Grading	LF	3,700	\$ 10.00	\$ 37,000.00
	Drainage	LF	3,700	\$ 10.00	\$ 37,000.00
	8' W Multi-use trail at grade	LF	3,700	\$ 15.00	\$ 55,500.00
	36" H Concrete Wall	LF	400	\$ 135.00	\$ 54,000.00
	Small Culvert Extension	EA	2	\$ 2,700.00	\$ 5,400.00
	SEGMENT j TOTAL				\$ 188,900.00
	Grading	LF	1,140	\$ 10.00	\$ 11,400.00
	Drainage	LF	1,140	\$ 10.00	\$ 11,400.00
	8' W Multi-use trail at grade	LF	1,140	\$ 15.00	\$ 17,100.00
	SEGMENT k TOTAL				\$ 39,900.00

**Bodega Bay Bicycle and Pedestrian Trails Study
Report # 2: Conceptual Improvement Plan**

Table 5: Construction Cost Estimate – Regional Recreation Trail Connections (cont'd)

OTHER COSTS	% of Total Construction Cost			
Design Costs	15%			\$ 156,941.89
Environmental	10%			\$ 104,627.93
Administration	15%			\$ 156,941.89
Contingencies	15%			\$ 156,941.89

**Bodega Bay Bicycle and Pedestrian Trails Study
Report # 2: Conceptual Improvement Plan**

Table 6: Unit Costs

ITEM	UNIT	COST PER
Clearing & Grubbing	SF	\$ 0.10
Vegetation Clearing	SF	\$ 0.15
48" vinyl chain link fence	LF	\$ 18.00
Grading	LF	\$ 10.00
Drainage	LF	\$ 10.00
Sign (each)	EA	\$ 300.00
Fill Slope	CY	\$ 22.00
Engineered Fill	CY	\$ 45.00
Hydroseed, etc.	SF	\$ 0.15
18"H Conc wall	LF	\$ 75.00
24"H Conc wall	LF	\$ 100.00
36"H Conc wall	LF	\$ 135.00
48"H Conc wall	LF	\$ 175.00
10'H Conc wall	LF	\$ 410.00
Guard Rail	LF	\$ 30.00
Driveway conform ¹	EA	\$ 2,400.00
Crosswalk	EA	\$ 150.00
Small Culvert Extension (Segmt 3A)	EA	\$ 2,700.00
Erosion Control	SF	\$ 0.15
Demolish Structures	EA	\$ 5,000.00
Relocate Util Poles	EA	\$ 3,000.00
4' Sidewalk w/ Curb & Gutter	LF	\$ 35.00
6" Extruded Curb	LF	\$ 3.50
8' W Trail Bridge - pre-fabricated	LF	\$ 500.00
Asphalt or other paving added to trail surface	LF	\$ 15.00
Boardwalk and abutments	LF	\$ 450.00

¹ Assume: [20' W x 10' D] * [\$12/sqft] = \$2,400 EA

**Bodega Bay Bicycle and Pedestrian Trails Study
Report # 2: Conceptual Improvement Plan**

Table 6: Unit Costs (cont'd)

<u>Separate Class I Path (8'W)</u>	<u>Cost</u>	<u>Per</u>	<u>Total Cost</u>
Clearing (10 sq. ft. per LF)	\$ 0.15	SF	\$ 1.50
Rough/Fine Grading (10 sq. ft. per LF)	\$ 0.60	SF	\$ 6.00
AC Path (2"AC over 4"AB)	\$ 2.25	SF	\$ 18.00
Route Signage	\$ 0.60	LF	\$ 0.60
Erosion Control Measures	\$0.15	SQ	\$ 2.25
TOTAL per LF			\$ 28.35

<u>4' Shoulder Widening</u>	<u>Cost</u>	<u>Per</u>	<u>Total Cost</u>
Sawcutting	\$ 2.25	LF	\$ 2.25
AC Paving	\$ 4.50	SF	\$ 18.00
Striping	\$ 0.40	LF	\$ 0.40
Route Signage	\$ 0.60	LF	\$ 0.60
TOTAL per LF			\$ 21.25

<u>Large Culvert Extension (Segmt 3A)</u>	<u>Cost</u>	<u>Per</u>	<u>Total Cost</u>
8'W x 11'L (8' trail + 3' space)	\$ 250.00	SF	\$ 6,000.00
48" High Railing	\$ 18.00	LF	\$ 216.00
Erosion Control Measures	\$0.15	SQ	\$ 75.00
TOTAL per LF			\$ 6,291.00

<u>8'W Low Wood Boardwalk on Piers</u>	<u>Cost</u>	<u>Per</u>	<u>Total Cost</u>
Boardwalk	\$ 275.00	LF	\$ 275.00
Erosion Control Measures	\$0.15	SQ	\$ 2.25
Route Signage	\$ 0.60	LF	\$ 0.60
TOTAL per LF			\$ 277.85

<u>8'W Wood Boardwalk on Pilings</u>	<u>Cost</u>	<u>Per</u>	<u>Total Cost</u>
Boardwalk	\$ 320.00	LF	\$ 320.00
Erosion Control Measures	\$0.15	SQ	\$ 2.25
Route Signage	\$ 0.60	LF	\$ 0.60
TOTAL per LF			\$ 322.85

<u>Cantilevered Trail on Piers</u>	<u>Cost</u>	<u>Per</u>	<u>Total Cost</u>
Trail	\$ 290.00	LF	\$ 290.00
Erosion Control Measures	\$0.15	SQ	\$ 2.25
Route Signage	\$ 0.60	LF	\$ 0.60
TOTAL per LF			\$ 292.85

<u>Separate Multi-Use Trail (8'W) on Grade</u>	<u>Total Cost</u>
Surface crushed rock or hardened native material	
Balanced cut and fill	
TOTAL per LF	\$ 15.00

<u>Separate Multi-Use Trail (8'W) above Grade</u>	<u>Total Cost</u>
Surface crushed rock or hardened native material	
Imported fill to raise trail grade	
TOTAL per LF	\$ 90.00

Bodega Bay Bicycle and Pedestrian Trails Study Report # 2: Conceptual Improvement Plan

4.7 Property Acquisition

Several of the trail segments in the Conceptual Improvement Plan will require acquisition of private property, including easements, or will impact private property due to the need to demolish old, dilapidated private garage structures that are apparently partially constructed within the public right-of-way. Segments 3B-2 and 4 of the Other Recommended Highway 1 Improvements may require acquisition and demolition of several residential structures along the west side of the highway. Table 6 presents a summary of the affected properties and the type of impact or acquisition involved.

The right-of-way and property line information available for this study was GIS parcel map data from Sonoma County. This data is very general and does not allow accurate determination of the location of the property lines in relation to physical features. Assumptions have been made that the highway is located in the center of the right-of-way, and that structures are located within parcels where the parcels appear to be off-register. The estimates assume that trail corridors acquired will be 10' wide except as noted, and that acquisition of additional right-of-way for highway widening will be 5' wide typically. The assumptions of which properties will be involved in right-of-way acquisition, the form and extent of right-of-way acquisition, and the cost of acquisition, are all rough "placeholders" subject to revision during more detailed planning and design.

Accurately estimating the cost of right-of-way and property acquisition is also beyond the scope of the current study, as it will depend on many variable and technical real estate factors. For the purpose of providing a "placeholder" for acquisition costs, an allowance of \$10 per square foot has been provided in the cost estimates for acquisition of easements and additional right-of-way. Where a residential structure will need to be demolished to accommodate highway widening (only required for the Other Recommended Highway 1 Improvement Segments 3B-2 and 4) it is assumed that the entire property will be acquired at a placeholder cost of \$100 per square foot.

Bodega Bay Bicycle and Pedestrian Trails Study

Report # 2: Conceptual Improvement Plan

Table 7: Property Acquisition

Segment	Property Name/Type	Acquisition Type	APN	Address	Frontage Length	Easement Width	Acquisition (in sq. ft.)	Acquisition Cost per Sq. Ft.	Estimated Acquisition Cost
CONCEPTUAL IMPROVEMENT PLAN - PROPERTY/EASEMENT ACQUISITIONS									
3A	Porto Bodega Marina	Trail easement	100-070-029	1400 Bay Flat Rd	-	-	9400	\$ 10	\$ 94,000
	Porto Bodega Marina	Trail easement	100-080-002	1355 Highway 1	-	-	18300	\$ 10	\$ 183,000
	Porto Bodega Marina	Easement for retaining wall	100-080-002	1355 Highway 1	130	5	650	\$ 10	\$ 6,500
	Residential property	Easement for retaining wall	100-080-060	1335 Highway 1	20	5	100	\$ 10	\$ 1,000
Subtotal Segment 3A									\$ 284,500
3B-1	Porto Bodega Marina	Garage demolition*	100-080-002	1355 Highway 1	-	-			
	Residential property	Garage demolition*	100-080-063	1315 Highway 1	-	-			
	Along Diekman's Store	Easement	100-080-061	1275 Highway 1	60	2	120	\$ 10	\$ 1,200
Subtotal Segment 3B-1									\$ 1,200
3C-3	Residential property	Road widening	100-100-001	1050 Highway 1	150	5	750	\$ 10	\$ 7,500
	Residential property	Road widening	100-100-002	1040 Highway 1	95	5	475	\$ 10	\$ 4,750
	Residential property	Road widening	100-100-005	1020 Highway 1	45	5	225	\$ 10	\$ 2,250
	Residential property	Road widening	100-100-006	1010 Highway 1	45	5	225	\$ 10	\$ 2,250
Subtotal Segment 3C-3									\$ 16,750
3D-1	Bodega Fish Co.	Trail easement	100-100-025	915 Highway 1	140	10	1400	\$ 10	\$ 14,000
	The Tides	Trail easement	100-100-028	875 Highway 1	155	10	1550	\$ 10	\$ 15,500
Subtotal Segment 3D-1									\$ 29,500
3D-2	The Tides	Trail easement	100-100-029	829 Highway 1	415	10	4150	\$ 10	\$ 41,500
	The Tides	Trail easement	100-100-030	815 Highway 1	155	10	1550	\$ 10	\$ 15,500
	The Tides	Trail easement	100-100-018	755 Highway 1	100	10	1000	\$ 10	\$ 10,000
	Commercial	Trail easement	100-110-010	605 Highway 1	25	10	250	\$ 10	\$ 2,500
	Lucas Wharf	Trail easement	100-110-016	595 Highway 1	110	10	1100	\$ 10	\$ 11,000
	Lucas Wharf	Trail easement	100-110-017	595 Highway 1	225	10	2250	\$ 10	\$ 22,500
	Lucas Wharf	Trail easement	100-100-029	829 Highway 1	415	10	4150	\$ 10	\$ 41,500
Subtotal Segment 3D-2									\$ 144,500
5B	undeveloped property	ROW	100-120-012	485 Highway 1	100	10	1000	\$ 10	\$ 10,000
Subtotal Segment 5B									\$ 10,000
<i>* included for reference - no property acquisition anticipated</i>									
OTHER RECOMMENDED IMPROVEMENTS TO HWY 1 - PROPERTY/EASEMENT ACQUISITIONS									
3B-2	Residential property	Parcel	100-091-007	1165 Highway 1			2421	\$ 100	\$ 242,100
	Residential property	Parcel	100-091-010	1149 Highway 1			2165	\$ 100	\$ 216,500
	Residential property	Parcel	100-091-011	1145 Highway 1			3066	\$ 100	\$ 306,600
	Residential property	Parcel	100-091-019	1113 Highway 1			5476	\$ 100	\$ 547,600
	Residential property	Parcel	100-091-014	1125 Highway 1			7167	\$ 100	\$ 716,700
	Residential property	Parcel	100-091-017	1045 Highway 1			9553	\$ 100	\$ 955,300
	Residential property	Parcel	100-100-011	975 Highway 1			1842	\$ 100	\$ 184,200
	Residential property	Retaining wall easement	100-091-002	1215 Highway 1	85	5	425	\$ 10	\$ 4,250
	Residential property	Retaining wall easement	100-091-003	1205 Highway 1	25	5	125	\$ 10	\$ 1,250
Subtotal Segment 3B-2									\$ 3,174,500
4	Commercial	Road widening	100-100-030	815 Highway 1	75	10	750	\$ 10	\$ 7,500
	Agricultural	Road widening	100-180-002	Highway 1	175	10	1750	\$ 10	\$ 17,500
	Residential property	Road widening	100-110-014	710 Highway 1	100	5	500	\$ 10	\$ 5,000
	Residential property	Road widening	100-110-015	700 Highway 1	95	5	475	\$ 10	\$ 4,750
Subtotal Segment 4									\$ 34,750
2A-2	Agricultural	Road widening	100-080-045	Hwy 1/Windy Ln	90	5	450	\$ 10	\$ 4,500
	Residential property	Road widening	100-080-044	1260 Windy Lane	100	5	500	\$ 10	\$ 5,000
	Residential property	Road widening	100-080-066	1445 Highway 1	110	5	550	\$ 10	\$ 5,500
	Residential property	Road widening	100-080-007	1425 Highway 1	55	5	275	\$ 10	\$ 2,750
	Residential property	Road widening	100-080-006	1419 Highway 1	100	5	500	\$ 10	\$ 5,000
	Residential property	Road widening	100-080-076	Highway 1	80	5	400	\$ 10	\$ 4,000
	Fire Dept. property	Road widening	100-080-003	1405 Highway 1	205	5	1025	\$ 10	\$ 10,250
Subtotal Segment 2A-2									\$ 37,000

Bodega Bay Bicycle and Pedestrian Trails Study Report # 2: Conceptual Improvement Plan

4.8 Implementation Steps

Implementing the Trails Plan involves pursuing numerous individual projects, but they can be efficiently coordinated because there are only a few responsible agencies. The current Trails Plan provides information that should be adequate for program-level environmental review and for application for many funding programs. Further steps toward implementing the trail system are outlined below in general chronological order.

Environmental Document. A programmatic environmental document should be prepared by the County covering all the segments of the adopted Plan. This will aid in obtaining funding for the projects, and in coordination of project planning.

Funding Applications. The Regional Parks Department, and Transportation and Public Works Department should apply for grant funding to complete the improvement projects. Funding may be available for environmental documentation, more detailed planning and design, and for construction. There are a number of potential funding sources, as outlined in Section 4.9. The availability of \$1 million earmarked for Trails Plan projects from the County's Measure M transportation funds will be a tremendous benefit because it will fund basic projects, work that may not be grant fundable, and provide matching dollars for grants to complete more significant projects.

Sign and Map Program. The Trail Plan includes a conceptual sign plan, shown on the maps and described in Section 4.5. The next steps would be to develop a specific system of route and directional signs, and a corresponding route map, and to place the route signs along the trail segments that exist or are easiest to improve, or which can be used as interim routes without improvement; and to make the route map available to the public. As segments are added the signs would be placed and the maps updated.

Project Planning. In each case there will need to be a stage of more specific field study and planning. Regional Parks already has two projects in the planning stage that will implement key segments 1C (multi-use trail/boardwalk on the Community Park Site) and 6C (multi-use trail and bridge over Cheney Gulch Creek to Doran Beach Road) within the next 2-5 years. Other planning will be supported by the fact that the County has obtained a detailed aerial photo and topography of the Focused Study Area, and conducted field surveys to provide supplemental topographic information.

In addition to topographic and boundary information, project planning may require soils testing or other specialized technical studies to provide a basis for design. Right-of-way or easement studies and negotiations with private property owners will be necessary for some segments.

Design Development and Permitting. All of the segments will require Coastal Permit review and approval from either the State Coastal Commission or the County. Segments in the state right-of-way will also require Caltrans review and encroachment permits, which can be an elaborate process. The boardwalk segments and other segments that may involve

Bodega Bay Bicycle and Pedestrian Trails Study Report # 2: Conceptual Improvement Plan

wetlands will involve the several state and federal agencies with review or approval responsibility. Typically the details of the design are worked out in parallel with permit review and approval.

Construction Documents. Once permits are secured and all conditions and requirements known, construction documents for the trail segments can be completed, including plans, specifications, estimates, and documents for bidding by contactors.

Construction. The projects are put out to bid, awarded, and construction begins.

4.9 Funding Opportunities

, County Measure M transportation tax funding includes amounts specifically earmarked for the Bodega Bay Trail Project, as noted below. The following programs are potential funding and assistance sources to implement the preferred route detailed in the Bodega Bay Bicycle and Pedestrian Trails Plan. The programs are divided into the categories of Regional, State, Federal and Special Recreational Programs.

Regional Programs

- **Measure M Traffic Relief Act for Sonoma County** provides \$950,000 for an on and off road bike route along Highway 1 from Salmon Creek to Doran Beach Road to provide safe passage for locals and through-traffic (project #14 in section IV,C; page 142 of the *2005 Measure M Strategic Plan*). The Implementation Guidelines for Measure M show expenditures of \$100,000 in FY 2007, and \$150,000 in FY 2008 for this project (Exhibit 7, page 25).
- **MTC Transportation for Livable Communities.** The TLC program provides funding for planning projects, capital projects, and incentives for land use projects. Planning and capital funding are for projects that include transportation-related improvements such as streetscapes, transit villages, bicycle facilities, and pedestrian plazas.

For more information on the TLC program, visit MTC's website at http://www.mtc.ca.gov/projects/livable_communities/tlc_grants.htm, or contact the TLC Project Manager at 510.464.7809.

- **MTC Regional Bicycle and Pedestrian Program.** This program was formed to fund the construction of the Regional Bicycle Network, and regionally significant pedestrian projects.

For more information, visit MTC's website at <http://www.mtc.ca.gov/>

Bodega Bay Bicycle and Pedestrian Trails Study Report # 2: Conceptual Improvement Plan

State Programs

- **State Transportation Improvement Program (STIP).** The STIP is specifically for capital projects that improve transportation. STIP funds also can be used for project development costs. Pedestrian-related eligible projects funded by STIP can include improving local roads, public transit (including buses), pedestrian and bicycle facilities, sound walls, intermodal facilities, safety, and environmental enhancement and mitigation.

For more information, contact Caltrans District 4 at 510.286.5226.

- **Transportation Development Act (TDA) Program.** There are three types of TDA funding categories in the Bay Area: (1) TDA Article 4 & 8 - Transit operating assistance and capital projects; if there are no unmet transit needs, then local street and road maintenance and rehabilitation projects are eligible; (2) TDA Article 4.5 - Paratransit operating assistance and capital projects; (3) TDA Article 3 - Bicycle and pedestrian facilities, safety programs, and bicycle/ pedestrian planning.

For more information, contact the MTC at 510.464.7332.

- **State Transportation Enhancements Activities (TEA) Program.** Eligible projects include pedestrian and/or bicycle facilities and related signage; safety activities for pedestrians and/or bicycles; acquisition of historic sites; historic/scenic highway programs (including tourist and welcome centers); landscaping, streetscapes, and other scenic beautification; historic preservation; rehabilitation of historic transportation buildings, structures or facilities; preservation of abandoned railway corridors (including the conversion for use as bicycle and pedestrian trails); and transit shelters or amenities related to a transit village or pedestrian-oriented development.

For more information, contact Rich Monroe in the Caltrans District 4 office, at 510.286.5226 or visit <http://www.dot.ca.gov/hq/TransEnhAct/>.

- **Environmental Enhancement and Mitigation Program.** The Environmental Enhancement and Mitigation Program (EEMP) was established by the State Legislature in 1989 to be run by The Resources Agency. It offers a total of \$10 million each year for grants to local, state, and federal governmental agencies and to nonprofit organizations for projects to mitigate the environmental impacts caused by new or modified state transportation facilities.

For more information, contact the state EEMP coordinator at 916.653.5656 or visit <http://resources.ca.gov/eem/>.

Bodega Bay Bicycle and Pedestrian Trails Study Report # 2: Conceptual Improvement Plan

- **Bicycle Transportation Account (BTA).** The BTA is a Caltrans program that funds city and county projects that improve safety and convenience for bicycle commuters. To be eligible for BTA funds, cities and counties must have a Bicycle Transportation Plan (BTP).

For more information please visit
<http://www.dot.ca.gov/hq/LocalPrograms/bta/btaweb%20page.htm>.

Federal Programs

- **Congestion Mitigation and Air Quality (CMAQ) Program.** Eligible projects relevant to this study include public transit improvements; employer-based transportation management plans and incentives; traffic flow improvement programs (signal coordination); bicycle and pedestrian facilities; flexible work-hour programs; and outreach activities establishing Transportation Management Associations (TMAs).

For more information, visit
<http://www.fhwa.dot.gov/environment/cmaq/index.htm>.

- **Federal Community Development Block Grant (CDBG) Program.** Grantees may use CDBG funds for activities that include (but are not limited to): acquiring real property; reconstructing or rehabilitating housing and other property; building public facilities and improvements, such as streets, sidewalks, community and senior citizen centers and recreational facilities; paying for planning and administrative expenses, such as costs related to developing a Consolidated Plan and managing CDBG funds; provide public services for youths, seniors, or the disabled; and initiatives such as neighborhood watch programs.

The program provides annual grants on a formula basis to entitled cities and counties.

Contact the Sonoma County Community Development Commission at 707.565.7500.

Special Recreational Program

- **Coastal Conservancy Grants Program.** Since its establishment in 1976, the Conservancy has completed over 600 projects, including construction of trails and other public access facilities, restoration and enhancement of wetlands and other wildlife habitat, restoration of public piers and urban waterfronts, preservation of farmland, and other projects in line with the goals of California's Coastal Act, the San Francisco Bay Plan, and the San Francisco Bay Area Conservancy. Land trusts, non-profits and government agencies are eligible to apply.

Bodega Bay Bicycle and Pedestrian Trails Study Report # 2: Conceptual Improvement Plan

For more information, contact the Coastal Conservancy Access Program Manager at 510.286.1015 or visit <http://www.coastalconservancy.ca.gov/Programs/pandp.htm>.

- **Recreational Trails Program.** The Recreational Trails Program (RTP) is an assistance program of the Department of Transportation's Federal Highway Administration (FHWA). Federal transportation funds benefit recreation by making funds available to the States to develop and maintain recreational trails and trail-related facilities for both nonmotorized and motorized recreational trail uses. Each state administers its own program. Many recreational trails can be incorporated into this Pedestrian Plan because they also provide links to shopping, schools, civic buildings, and other pedestrian destinations.

For more information, contact California State Parks, at 916-653-8174.