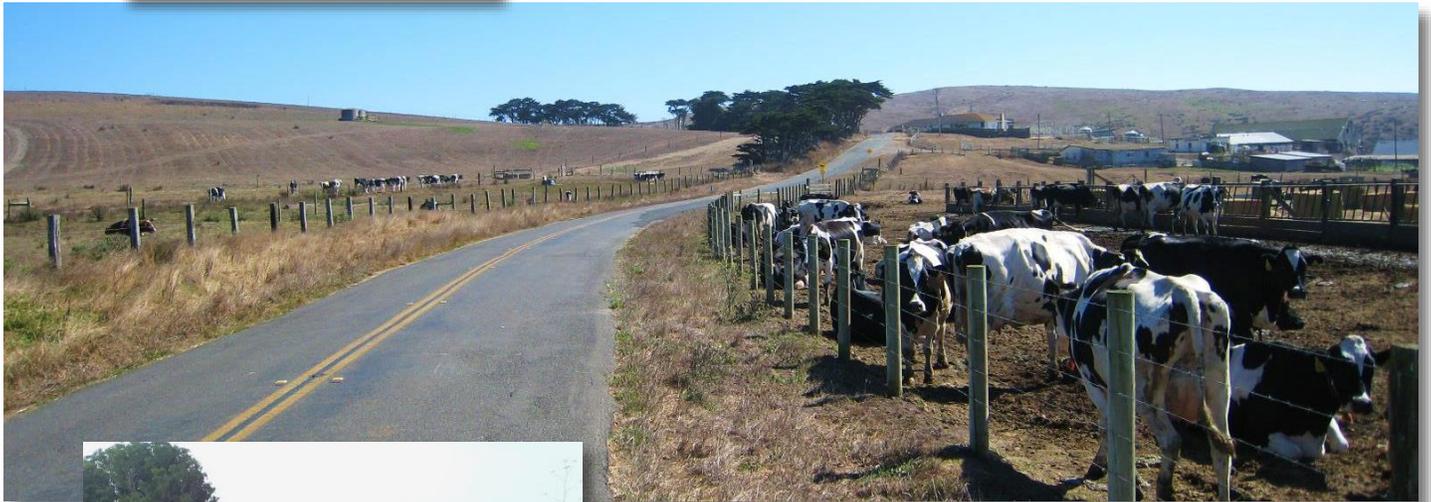


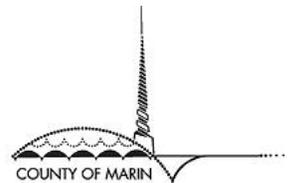
Sir Francis Drake Boulevard Improvement Project

POINT REYES NATIONAL SEASHORE
CA FLAP CR 109(1)
MARIN COUNTY, CA

DRAFT SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT / SUBSEQUENT INITIAL STUDY



Prepared For:



June 2018

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U.S. Department of Transportation
Federal Highway Administration
Central Federal Lands Highway Division

In Cooperation with
Marin County, California
and
The National Park Service

SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT AND
SUBSEQUENT INITIAL STUDY/PROPOSED MITIGATED NEGATIVE
DECLARATION

State Clearinghouse No. 2015072028

Submitted Pursuant to:
(Federal) 42 U.S.C. 4332(2)(c)
(State) Division 13, California Public Resources Code
for
Sir Francis Drake Boulevard Improvement Project
CA FLAP CR 109(1)
Marin County, CA

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6/14/2018
Date



Eric Miller
Marin County Principal Civil Engineer

6.14.18
Date

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PROPOSED SUBSEQUENT MITIGATED NEGATIVE DECLARATION

Marin County

Environmental Coordination and Review

Pursuant to Section 21000 et. seq. of the Public Resources Code and Marin County Environmental Impact Review Guidelines and Procedures, a Subsequent Negative Declaration is hereby granted for the following project.

1. Project Name:

Sir Francis Drake Boulevard Improvement Project

2. Location and Description:

The Federal Highway Administration (FHWA) Central Federal Lands Highway Division (CFLHD), in cooperation with Marin County and the National Park Service (NPS), is proposing improvements to Sir Francis Drake Boulevard (SFDB) in Point Reyes National Seashore (PRNS). The project includes improvements to approximately 12 miles of SFDB. The project begins at the intersection with Pierce Point Road and continues south and west to the intersection with Chimney Rock Road.

Proposed improvements, initially evaluated in an Environmental Assessment (EA)/Initial Study (IS) finalized in 2015, consist of resurfacing, restoring, and rehabilitating SFDB in a manner that will closely follow the existing roadway in order to minimize impacts to the natural terrain. In general, the project would widen the roadway 1 to 6 feet to maintain a consistent 24-foot width with two 11-foot travel lanes and 1-foot shoulders. Due to the sensitive environment of PRNS, the total pavement width would be 4 to 8 feet less than published NPS and American Association of State Highway and Transportation Officials (AASHTO) guidelines for the designated roadway classification. The proposed width is intended to allow much of the construction to occur within the existing roadway bench and the existing Marin County easement while providing a rehabilitated pavement section.

Roadway widening would include pulverizing the existing asphalt pavement, overlaying with 4 inches of asphalt pavement, striping, and ditch reconditioning (regrading with dense vegetation removal as needed). Paved ditches between 2 and 4 feet wide with asphalt curbs are proposed in specific areas to minimize cut slopes, which would minimize overall ground disturbance. Existing 15- and 18-inch culverts within the project area would generally be replaced with 24-inch culverts where feasible. At existing pullouts along the project corridor, a 5-foot asphalt apron (edge) would be added over the existing aggregate surface, and some pullouts would be resurfaced with aggregate. The clear zone, which is the area available for safe use by errant vehicles, would be improved through removal of obstructions, as feasible. The clear zone would vary between 3 feet wide and the AASHTO minimum design standard width of 12 feet in order to minimize ground disturbance.

Additional improvements evaluated under this Subsequent IS/Mitigated Negative Declaration (MND) include replacing the existing culverts under SFDB at Schooner Creek with a single-span bridge, and restoring and stabilizing approximately 710 feet of SFDB that has severely eroded. To compensate for permanent wetland impacts as a result of roadway improvements, part of the parking lot at the Drakes Beach would be restored to a wetland, and two ponds would be constructed within Home Ranch to provide California red-legged

frog aquatic breeding habitat. Actions at Drakes Beach and Home Ranch extend beyond the original study area analyzed in 2015.

This SEA/SIS was prepared to evaluate modifications to the improvements to SFDB that were not covered in the FONSI/MND. In accordance with FHWA's implementing regulations (23 Code of Federal Regulations [CFR] 771.130(c)), CFLHD evaluated the changes to the Action Alternative and determined that the preparation of a Supplemental EA is appropriate based on new impacts within PRNS and new project information. Similarly, California Environmental Quality Act Guidelines require the completion of either a Subsequent IS/MND or an Addendum to an IS/MND when changes outside the scope of the original project are proposed and were not covered in the original IS/MND (State CEQA Guidelines §§ 15162, 15164). See Section 1.3, Justification for Supplemental EA/Subsequent IS, for additional information.

3. Project Sponsor:

Marin County is the lead agency for compliance with the California Environmental Quality Act (CEQA).

4. Finding:

Based on the attached Subsequent Initial Study and without a public hearing, it is my judgment that:

- The project will not have a significant effect on the environment.
- The significant effects of the project noted in the Subsequent Initial Study attached have been mitigated by modifications to the project so that the potential adverse effects are reduced to a point where no significant effects would occur.

_____ Date: _____

Environmental Planning Manager

Based on the attached Subsequent Initial Study and the testimony received at a duly noticed public hearing, a Negative Declaration is granted.

_____ Date: _____

Chairperson, Planning Commission

_____ Date: _____

Hearing Officer

_____ Date: _____

President, Board of Supervisors

1. Mitigation Measures:

- No potential adverse impacts were identified; therefore, no mitigation measures are required.
- Please refer to mitigation measures in the attached Supplemental Environmental Assessment/Subsequent Initial Study.
- The potential adverse impacts have been found to be mitigable as noted under the following factors in the Subsequent Initial Study attached.

All of the mitigation measures for the above effects have been incorporated into the project and are embodied in conditions of approval recommended by the Marin County Department of Public Works.

Other conditions of approval in support of these measures may also be advanced.

2. Preparation:

This Subsequent Negative Declaration was prepared by Jacobs Engineering, Inc., under the supervision of Eric Miller, Principal Civil Engineer of the Marin County Department of Public Works. Copies may be obtained at the address listed below.

Marin County Department Public Works
3501 Civic Center Drive, Suite 404
San Rafael, CA 94903
(415) 473-4399
Monday-Friday, 8:00 a.m. to 5:00 p.m.

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ACRONYM LIST

AASHTO	American Association of State Highway and Transportation Officials
APE	Area of Potential Effect
BAAQMD	Bay Area Air Quality Management District
CCC	Central California Coast
CEQA	California Environmental Quality Act
CFLHD	Central Federal Lands Highway Division
CFP	Climate Friendly Parks
CFR	Code of Federal Regulations
CNPS	California Native Plant Society
COE	Construction Oversight Engineer
CRHP	California Register of Historic Places
CRLF	California red-legged frog
EA	Environmental Assessment
ESA	Endangered Species Act
FHWA	Federal Highway Administration
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
GHG	Greenhouse gas
GIS	Geographic Informational System
GMP	General Management Plan
IS	Initial Study
LCP	Local Coastal Program
LU	Landscape Unit
MM	Mitigation Measure
MND	Mitigated Negative Declaration
n.d.	no date
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NPS	National Park Service
NRCS	National Resources Conservation Service
NRHP	National Register of Historic Places
PAH	Polycyclic aromatic hydrocarbon
PM	Project Mile
PRNS	Point Reyes National Seashore
SEA	Supplemental Environmental Assessment
SFDB	Sir Francis Drake Boulevard
SHPO	State Historic Preservation Office
SIS	Subsequent Initial Study
SLR	Sea Level Rise
USACE	United States Army Corps of Engineers
USDOT	United States Department of Transportation
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Society

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CHAPTER 1: INTRODUCTION

1.1 Introduction

The purpose of this Supplemental Environmental Assessment/Subsequent Initial Study (SEA/SIS) is to identify the potential environmental impacts associated with the modifications to the improvements proposed by the Federal Highway Administration (FHWA) Central Federal Lands Highway Division (CFLHD), in cooperation with Marin County and the National Park Service (NPS), to Sir Francis Drake Boulevard (SFDB) in Point Reyes National Seashore (PRNS), which is a unit of the NPS within Marin County, California. Proposed improvements, initially evaluated in an EA/IS to meet the requirements of the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA), consist of improvements to approximately 12 miles of SFDB within PRNS. The project begins at the intersection with Pierce Point Road and continues south and west to the intersection with Chimney Rock Road (see Figure 1).

1.2 Background

A combined EA/IS was completed in 2015 analyzing impacts from improvements to 12 miles of SFDB. The proposed improvements primarily consist of resurfacing, restoring, and rehabilitating the 12-mile segment of SFDB in a manner that will closely follow the existing roadway in order to minimize impacts to the natural terrain. In general, the roadway would be widened 1 to 6 feet to maintain a consistent 24-foot width with two 11-foot travel lanes and 1-foot shoulders. These improvements also include replacing up to 70 existing 15- and 18-inch culverts with 24-inch culverts, where feasible; clear zone improvements; adding paved aprons at pullouts; and adding/replacing traffic control and advanced warning signs, where appropriate. The Action Alternative also included localized reconstruction and safety improvements in certain areas.

The EA/IS was distributed for public review in July 2015. Following public review, CFLHD issued a Finding of No Significant Impact (FONSI) in August 2015 and Marin County adopted the Mitigated Negative Declaration (MND) in September 2015. These documents are available online at: <https://parkplanning.nps.gov/projectHome.cfm?projectID=53489>

Figure 1: Project Location



1.3 Justification for Supplemental EA/Subsequent IS

This SEA/SIS was prepared to evaluate modifications to the improvements to SFDB that were not covered in the 2015 FONSI/MND. Section 2.3, Proposed Project Modifications, describes the changes to the proposed project that necessitated this SEA/SIS. In accordance with FHWA's implementing regulations (23 Code of Federal Regulations [CFR] 771.130(c)), CFLHD evaluated the changes to the Action Alternative and determined that the preparation of an SEA is appropriate based on new impacts within PRNS and new project information. Similarly, State CEQA Guidelines require the completion of either a Subsequent IS/MND or an Addendum to an IS/MND when changes outside the scope of the original project are proposed and were not covered in the original IS/MND (State CEQA Guidelines §§ 15162, 15164). Table 1-1 describes the conditions under which these additional documents are required for CEQA.

Table 1-1: Subsequent Environmental Review Requirements

Document	Description of When Supplemental Review is Required
Subsequent IS/MND	<ul style="list-style-type: none"> ▪ Substantial changes are proposed that would involve new, significant environmental effects or increase the severity of previously identified effects ▪ Substantial changes to the circumstances under which the project is undertaken arise ▪ New information of substantial importance is presented that reveals (1) new significant environmental impacts (2) more severe effects of identified impacts, (3) mitigation measures or alternatives that are found to be feasible that would reduce impacts but the proponent declines to adopt, or (4) new mitigation measures that would reduce impact but the proponent declines to adopt
Addendum to an IS/MND	<ul style="list-style-type: none"> ▪ Only minor technical changes or additions are necessary ▪ Changes are required that would not trigger new or more severe environmental effects

Source: State CEQA Guidelines Section 15132, 15164

CFLHD, in cooperation with Marin County and the NPS, prepared this SEA/SIS in accordance with NEPA and CEQA requirements because of substantial changes to the original project and to allow for public review. This SEA/SIS evaluates the project's potential to result in significant impacts to the environment in light of the changes to the project. Based on the information contained in this document, CFLHD and Marin County have determined that an SEA/SIS is the appropriate document for the proposed project modifications.

As identified in this document, all potential project-related environmental impacts can be reduced to less than significant levels with the incorporation of mitigation measures. Mitigation measures that were previously incorporated into the project are included in Appendix A and referred to where appropriate. New mitigation measures and any revisions to those included in the 2015 FONSI/MND are identified where relevant, and are incorporated into the mitigation and monitoring reporting program located in Appendix A.

1.4 Public and Agency Review

1.4.1 Scoping

Consistent with the NEPA process, agency and public scoping efforts for this SEA/SIS were initiated on September 20, 2017 through distribution of a scoping letter (see Appendix G). This letter was sent to regulatory agencies and stakeholders who may have an interest in the project, or who provided comments during the EA/IS public review period in 2015. The purpose of this letter was notify agencies and the public of modifications to the Action Alternative analyzed in the 2015 EA/IS. Comments were requested by October 20, 2017; however, this comment period was extended to November 6, 2017, to allow additional time to respond.

During this time, 11 scoping comments were received (see Appendix G). In summary, agency comments generally requested additional information. Comments from professional organizations and individuals included support for the project overall, as well as for reducing the

size of the Drakes Beach parking lot, improving the flooded section of roadway near East Schooner Creek, avoiding and mitigating impacts to special-status plant species, and relocating/replacing cattle guards. Two comments expressed concern about potential increased speeding along SFDB, one of which also requested incorporating pullouts.

1.4.2 SEA/SIS Review

An SEA and SIS are subject to the same notice and public review as the original document. This SEA/SIS is available for review at the following locations:

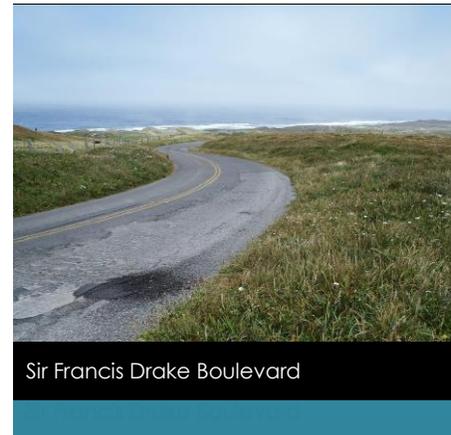
- Point Reyes Public Library
11435 CA-1
Point Reyes Station, CA
- Civic Center Library
3501 Civic Center Drive Room 427
San Rafael, CA

The draft document is also available for review online at:

<https://parkplanning.nps.gov/projectHome.cfm?projectID=53489>

CHAPTER 2: PROJECT DESCRIPTION

SFDB extends from Route 101 in Greenbrae, north of San Francisco, westward approximately 43 miles to the Y-intersection with Chimney Rock Road and Lighthouse Road. SFDB is the primary north-south roadway within PRNS, which is located on the Point Reyes Peninsula. The peninsula is edged by beaches, sea cliffs, and intertidal zones that gradually transition into the Pacific Ocean, Drakes Bay, and Drakes Estero. The roadway traverses a number of waterways and drainages, including East Schooner Creek, Schooner Creek, and their tributaries. Within the project area, SFDB is primarily surrounded by agricultural lands used for cattle grazing, and passes through numerous ranches that are scattered across the peninsula (NPS 2009). SFDB provides primary access to both ranching facilities and PRNS destinations, and is therefore used by a variety of travelers. Typical SFDB users include park visitors in personal vehicles, park shuttle buses, tourist buses, school buses, milk trucks, hay trucks, recreational vehicles, and bicyclists.



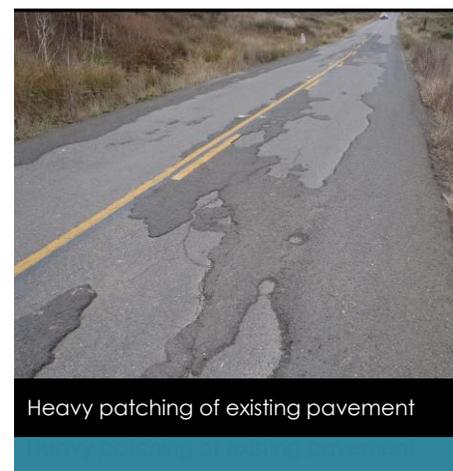
2.1 Project Purpose and Need

The purpose of the project is to restore the structural integrity of SFDB and enhance safety for all users while reducing ongoing maintenance requirements.

Within the project area, SFDB is narrow and deteriorating at an accelerated pace. The declining condition may necessitate vehicle restrictions or closures if not rehabilitated in the near future. Between project mile (PM) 9 and PM 10, a 0.5-mile section of the roadway also floods seasonally, which restricts access because the road becomes impassible. SFDB was originally an unimproved dirt road that was chip sealed and has never undergone major rehabilitation. The existing pavement was not designed to handle the current traffic loads. Marin County has carried out partial and temporary repair projects over the years to keep the road operational and to meet the needs of the traveling public. SFDB is now at an age where a comprehensive repair project is needed to ensure continued service. The specific elements driving the need for the project are described in the subsections below.

2.1.1 Pavement Deterioration

The existing pavement was not designed for the current traffic loads. Pavement along SFDB is badly oxidized, heavily patched, lacks shoulder support, and demonstrates significant cracking and edge damage in some sections. Potholes, edge raveling, and rutting in the wheel paths also exist. Standing water in shallow ditches has contributed to pavement failures between the Schooner Creek crossing and Rogers Ranch (approximately PM 10). The current deteriorating state of the roadway requires maintenance beyond normal pavement preservation, including frequent patching of potholes, patching of edge failures, and installing tubular traffic marker posts on the edge of the road to mark unsafe pavement edges undercut by water erosion. Maintenance can no longer keep the road open to vehicles at all times. One section of road is currently limited to two-way alternating



traffic due to an edge failure and standing water on the road. The lack of a stable road shoulder is routinely causing vehicles to drop tires into roadside ditches (pers. comm. Mills 2015).

2.1.2 Substandard Roadway Width

Existing pavement widths on SFDB generally vary from 18 feet to 24 feet, with isolated areas as wide as 27 feet along switchbacks. The existing roadway has no shoulders in many areas.

These narrow conditions provide little or no room for errant vehicles to correct without running off the edge of the road. Switchbacks on hills and flood-prone areas show evidence of tires dropping off pavement edges.

The road width does not provide sufficient clearance for vehicles and bicycles to safely pass each other without traveling into opposing lanes. Larger vehicles, such as recreational vehicles, school buses, park shuttles, and milk trucks, frequently encroach into the opposing travel lane due to the narrow width of the road. This scenario not only creates safety concerns, but puts stress on the pavement edges, requiring additional maintenance.

Drivers typically expect uniform or consistent roadway design, which can improve their ability to respond to situations on the roadway. The inconsistent widths along the project route present safety concerns because the roadway lacks the predictability users expect, particularly users who are not familiar with the roadway, such as tourists.

2.1.3 Flooding

Seasonal flooding along a 0.5-mile section of the roadway between PM 9 and PM 10 restricts access to various destinations and affects staff, visitors, and ranchers. Because of the existing narrow roadway width, vehicles are susceptible to running off the road and into ditches during flooding. In addition, East Schooner Creek crosses this section of SFDB through a culvert and flows through heavy brush and trees on the north side of the roadway until it flows into Schooner Creek. As a result of sediment deposits, the elevation of the creek channel has increased and is now nearly the same level as the roadway, resulting in standing water that has damaged pavement. Dredging the channel regularly as a maintenance measure is not feasible due to the presence of wetlands and potential for California red-legged frog (*Rana draytonii*), which is a species listed as threatened under the federal Endangered Species Act.



Heavy truck occupying both travel lanes



Large rut caused by vehicle running off the road in flood-prone area

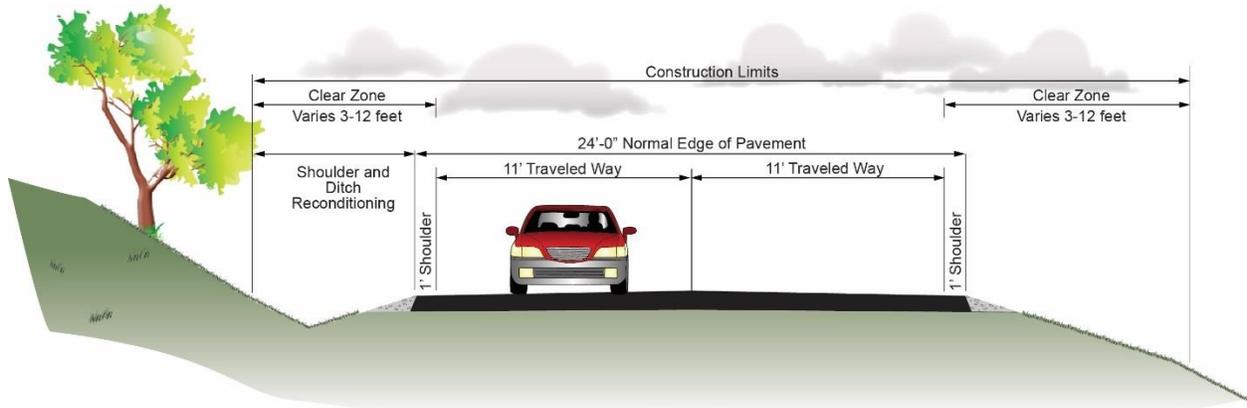
2.2 Project Description Summary

The project proposed and analyzed in the 2015 EA/IS has largely remain unchanged. As such, the proposed project still primarily consists of resurfacing, restoring, and rehabilitating a 12-mile segment of SFDB in a manner that will closely follow the existing roadway in order to minimize impacts to the natural terrain. In general, the proposed project (also referred to as the Action Alternative) would widen the roadway 1 to 6 feet to maintain a consistent 24-foot width with two 11-foot travel lanes, 1-foot shoulders, and 1-foot wide graveled areas on each side of the paved surface of the road (see Figure 2). The total pavement width would be 4 to 8 feet less than

published guidelines¹ (AASHTO 2011, NPS 1984). Given the sensitive environment, the proposed width is intended to allow much of the construction to occur within the existing roadway bench and the existing Marin County easement while providing a rehabilitated pavement section.

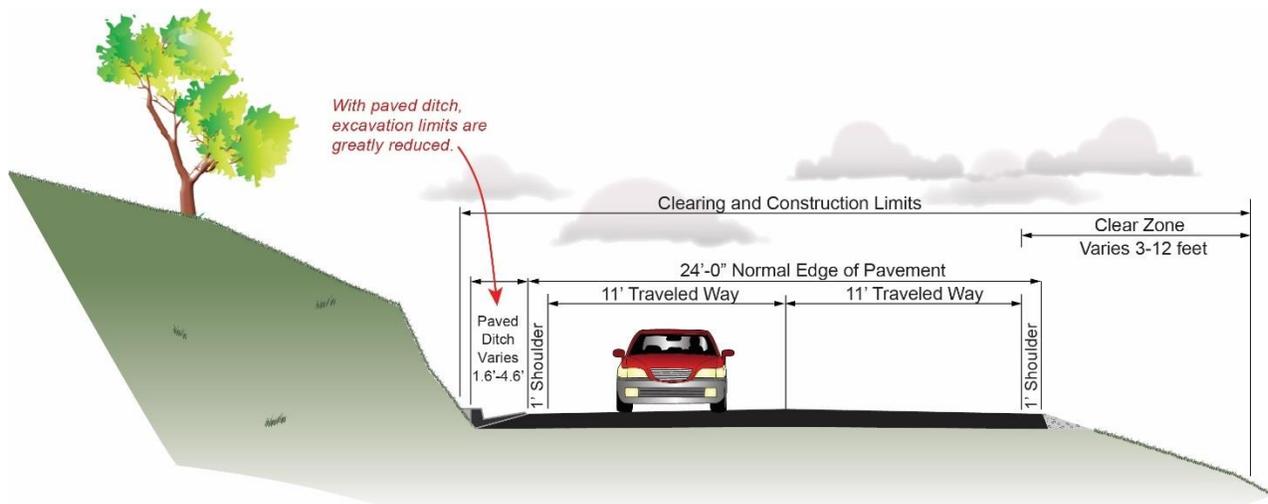
Roadway widening would include pulverizing the existing asphalt pavement, overlaying with 4 inches of asphalt pavement, striping, and ditch reconditioning (regrading with dense vegetation removal as needed). Paved ditches between 2 and 4 feet wide with asphalt curbs are proposed in specific areas to minimize cut slopes, which would minimize overall ground disturbance as shown in Figure 2 and Figure 3.

Figure 2: Proposed Typical Section



Note: Typical section may vary in areas of localized improvements.

Figure 3: Typical Section at Steep Slopes with Paved Ditch (Proposed)



¹ Referenced guidelines are based on AASHTO and NPS classifications for SFDB. The AASHTO classification is minor collector. The NPS classification is public use park road with a class I principal park road/rural parkway with topography classification of rolling terrain

Existing 15- and 18-inch culverts within the project area would generally be replaced with 24-inch culverts where feasible. Approximately 70 culverts would be replaced, most of which would not require armoring because they are located in relatively flat areas where anticipated flows and thick vegetation would preclude the need for riprap.

At existing pullouts along the project corridor, a 5-foot asphalt apron (edge) would be added over the existing aggregate surface, and some pullouts would be resurfaced with aggregate. One pull-out may be paved.

The clear zone, which is the area available for safe use by errant vehicles, would be improved through removal of obstructions, including clearing vegetation adjacent to the roadway as feasible. The clear zone would vary between 3 feet wide and the American Association of State Highway and Transportation Officials (AASHTO) minimum design standard width of 12 feet in order to minimize ground disturbance.

All traffic control signs within the study area would be reviewed and replaced, if needed, to meet current standards. Advanced warning signs would also be considered and may be included at approaches to areas where speed limits would be reduced, such as ranches and sharp turns.

However, the easement may be shifted or expanded to accommodate some of the localized improvements. The areas of localized reconstruction and safety improvements have largely remained the same as disclosed in the 2015 EA/IS. The proposed improvements, including construction-related activities and staging areas, would generally occur within the existing 60-foot Marin County roadway easement. Modifications to the design of a number of localized improvements, as well as further detail on the mitigation approach for roadway-related impacts, are described in the discussion below.

2.3 Proposed Project Modifications

The proposed project analyzed in the 2015 EA/IS was based on 15 percent project design. Following issuance of the FONSI and adoption of the MND, design progressed and two additional modifications were identified to further support the project's purpose. These include:

- Replacement of the twin culverts at Schooner Creek with a bridge rather than an open-bottom arch structure
- Embankment stabilization along portions of East Schooner Creek to re-establish the roadway embankment and improve water quality along areas of severe erosion

In addition, the following actions were identified to compensate for permanent wetland impacts as a result of roadway improvements identified in the 2015 EA/IS. These actions extend beyond the original study area analyzed in the 2015 EA/IS.

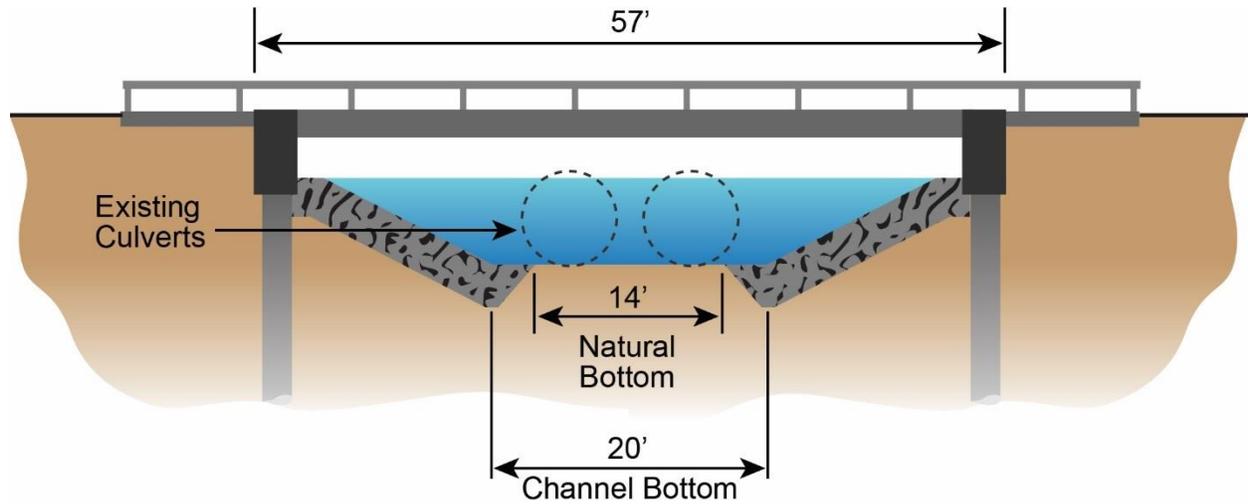
- Wetland mitigation at Drakes Beach parking lot
- California red-legged frog mitigation

2.3.1 Schooner Creek Culvert Replacement

The two existing 84-inch diameter corrugated metal culverts at Schooner Creek (PM 9.2) would be replaced with an approximately 57-foot-long, single-span bridge rather than an open-bottom arch structure that was originally proposed in the 2015 EA/IS (see Figure 4). Between PM 9.1 and PM 9.3, approximately 750 feet of the roadway would be re-aligned by up to 12 feet to improve safety along the horizontal curves approaching the bridge, and the grade of the roadway would be raised by up to 3 feet (highest point over Schooner Creek). The estuarine channel width at high tide would be roughly 50 feet wide after bridge construction, approximately 36 feet wider than its current dimension. The Schooner Creek channel within that width would have a natural flat bottom for approximately 14 feet, with an additional 6 feet of channel bottom consisting of buried

riprap. The channel bottom width would total 20 feet before sloping up for a bankfull width of approximately 36 feet at mean tide.

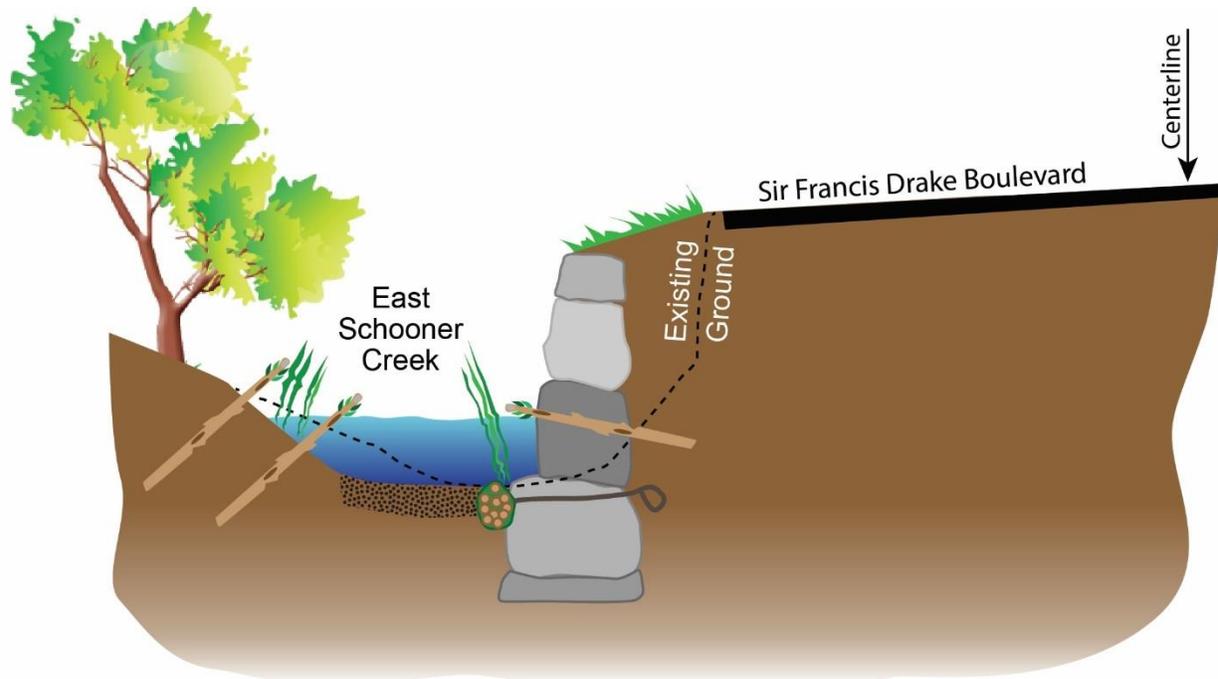
Figure 4: Schooner Creek Culvert Replacement



2.3.2 East Schooner Creek Embankment Stabilization

Between approximately PM 10.3 and PM 10.8, East Schooner Creek has eroded away portions of the SFDB roadway embankment. The channel in this area varies between 4 and 12 feet wide and is approximately 18–24 inches in depth. Presently, the eroding roadfill is degrading aquatic habitat and water quality conditions through deposition of eroded sediment, and there is a risk of road failure. To restore and stabilize the roadway, approximately 710 feet of biotechnical bank stabilization would be installed to re-establish the roadway embankment in this area and function like a natural, densely vegetated streambank. Embankment stabilization would occur between approximately PM 10.3 and PM 10.4 and PM 10.7 and PM 10.8. Figure 5 shows a conceptual approach.



Figure 5: East Schooner Creek Embankment Stabilization

The intent of the design is to maintain the channel in its current location. However, the design is dependent on hydraulic and geotechnical analyses, and it is possible that the design may be unable to achieve a 1.5:1 or steeper slope face while also ensuring integrity of the roadway. For this reason, it is possible that approximately 710 feet of the East Schooner Creek channel may be shifted 6–8 feet east-southeast away from the roadway. This design would maintain the existing lineal feet, width, and depth of the channel.

2.3.3 Wetland Mitigation at Drakes Beach Parking Lot

To compensate for permanent wetland impacts as a result of roadway improvements, a wetland mitigation site would be constructed at the Drakes Beach parking lot (see Figure 6). The parking lot is located on Drakes Bay at the end of Drakes Beach Road, which is accessed via SFDB. The parking lot provides access to Drakes Beach, the Kenneth C. Patrick Visitor Center, and the Peter Behr Overlook Trail. Construction of the parking lot in the 1950s and 1960s resulted in filling a large wetland adjacent to Drakes Beach. The Action Alternative would remove approximately half of the existing parking lot (approximately 2 acres) in an effort to re-establish the historic wetland. The parking lot would be reconfigured from 399 spaces to 314 spaces.

Surrounding upland areas would also be excavated to expand the mitigation site. Based on conceptual design, total wetland creation is anticipated to be approximately 2 acres of freshwater wetland with brackish components.

Approximately 250 feet of a 4,400-foot sanitary sewer line, which is currently located below the asphalt segment of the Peter Behr Overlook Trail between Drakes Beach and the parking lot, would be lowered in place to facilitate restoration activities. The footpath, which leads to the scenic overlook trailhead, would be maintained for access to the overlook but the asphalt between the visitor center and the trailhead would be removed to facilitate restoration to a more natural dune. Fencing, consisting of pins and poles, may be placed along the trail alignment to guide visitors to the trailhead. In addition, there are three existing 24-inch corrugated metal pipe culverts located at the southern tip of the parking lot through which an unnamed intermittent stream flows into Drakes Bay. These culverts may either be (1) replaced with a pipe culvert that would maintain the desired hydroperiod for the wetland site or (2) the culverts would be removed and the beach head lowered to an elevation that achieves desired wetland mitigation acreage and function while allowing for tidal influence and interaction upon the wetland over time.

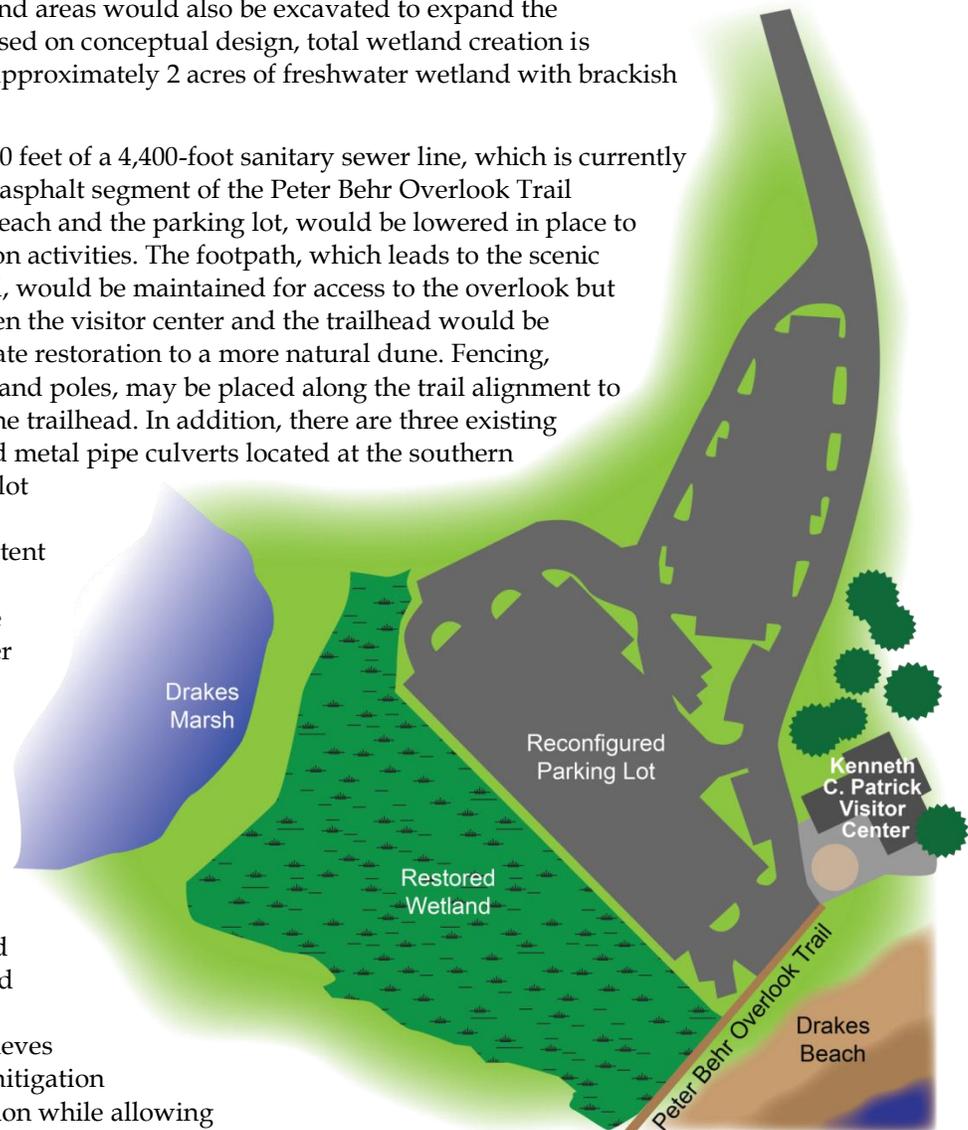
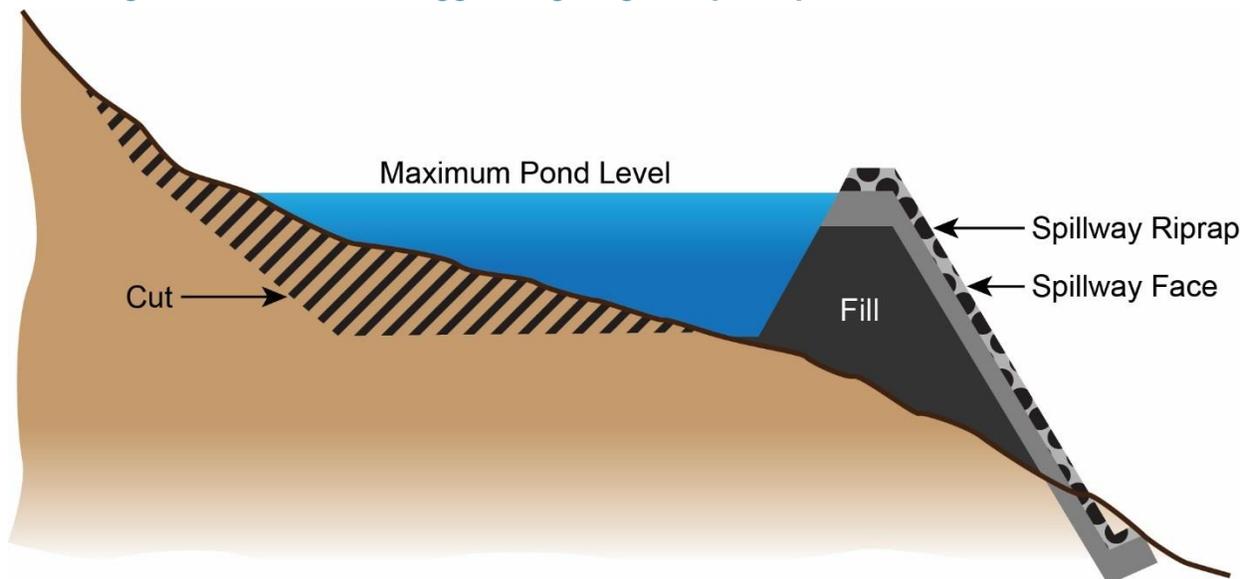


Figure 6: Wetland Mitigation at Drakes Beach Parking Lot

2.3.4 California Red-legged Frog Mitigation

As disclosed in the 2015 EA/IS, the roadway and drainage improvements proposed along SFDB would result in permanent impacts to California red-legged frog (CRLF) aquatic breeding habitat, as well as permanent impacts to wetlands. To compensate for these impacts, two ponds would be constructed within Home Ranch on PRNS to provide CRLF aquatic breeding habitat. These ponds may also be used to achieve wetland mitigation requirements. Home Ranch is one of several historic ranching properties within PRNS that is actively ranched by lessees. The ranch is located east of Drakes Estero and south of SFDB, accessed via Home Ranch Road, which leads to the Estero Trailhead (see Figure 1). The ponds would be constructed by excavating a pond bottom and side slopes, constructing a small dam and emergency spillway, and revegetating with native plants (see Figure 7). The first pond, referred to as Pond 9, would be located approximately 1.3 miles south of the intersection of SFDB and Home Ranch Road. Pond 9 would total approximately 0.53 acres. The second pond, referred to as Pond 2, would be located approximately 3.5 miles south of the intersection of SFDB and Home Ranch Road. Pond 2 would total approximately 0.35 acres. Equipment access routes would be designated for construction use, but no formal access roads would be constructed.

Figure 7: California Red-legged Frog Mitigation (Profile)



2.4 Permits and Approvals Needed

Table 2-1 summarizes the permits and approvals required prior to construction.

Table 2-1: Permits and Approvals

Agency	Permit/Approval	Status
U.S. Army Corps of Engineers, San Francisco District	Individual Section 404 Permit for filling or dredging waters of the United States Section 10 permit for construction in or over a navigable water of the United States	Permits addressing both the roadway project and mitigation sites will be submitted in spring/summer 2018
U.S. Fish & Wildlife Service and National Marine Fisheries Service	Formal Endangered Species Act Section 7 consultation for adverse effects to threatened and endangered species	Non-jeopardy Biological Opinions anticipated summer 2018
National Park Service	U.S. Department of Transportation (USDOT) Highway Easement Deed for expansion or alteration of existing easement	Modifications to the existing easement deed would be needed to accommodate temporary construction impacts and permanent improvements outside of the existing Marin County easement. A USDOT Highway Easement Deed application will be submitted following NEPA and CEQA decision documents. Existing utilities impacted by construction within the easement may need to be relocated but will remain within the easement.
California Coastal Commission	Consistency determination with the federally approved California Coastal Management Program, including the Coastal Act (Public Resource Code 30330, and 30400)	A determination that the project is conceptually consistent with the California Coastal Act was received in August 2015. Concurrence regarding the Consistency Determination will be obtained following NEPA and CEQA decision documents.
California Office of Historic Preservation	Section 106 consultation for potential effects to historic resources	State Historic Preservation Office concurrence was received in September 2015. Consultation was re-initiated in January 2018 and concurrence was received February 23, 2018.
San Francisco Bay Regional Water Quality Control Board	Section 401 Water Quality Certification for discharge of dredged or fill materials into waters of the United States National Pollutant Discharge Elimination System Permit for discharge of materials from a point source Construction General Permit/Stormwater Pollution Prevention Plan for discharge of stormwater related to construction activities Construction Dewatering Permit	Permit submittals will be completed in spring/summer 2018. Construction dewatering permit will be the responsibility of the contractor.

2.5 Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this project and involve at least one "Less than Significant Impact with Mitigation." See the environmental analysis in the following chapter for supporting information.

<input checked="" type="checkbox"/>	Aesthetics	<input type="checkbox"/>	Agriculture and Forestry	<input checked="" type="checkbox"/>	Air Quality
<input checked="" type="checkbox"/>	Biological Resources	<input checked="" type="checkbox"/>	Cultural Resources	<input checked="" type="checkbox"/>	Geology/Soils
<input type="checkbox"/>	Greenhouse Gas Emissions	<input checked="" type="checkbox"/>	Hazards and Hazardous Materials	<input checked="" type="checkbox"/>	Hydrology/Water Quality
<input type="checkbox"/>	Land Use/Planning	<input type="checkbox"/>	Mineral Resources	<input checked="" type="checkbox"/>	Noise
<input type="checkbox"/>	Population/Housing	<input type="checkbox"/>	Public Services	<input type="checkbox"/>	Recreation
<input type="checkbox"/>	Transportation/Traffic	<input type="checkbox"/>	Utilities/Service Systems	<input checked="" type="checkbox"/>	Mandatory Findings of Significance

CHAPTER 3: AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This chapter discloses changes to the affected environment, as originally described in the 2015 EA/IS, and contains an analysis of the impacts that may result from construction and implementation of the project modifications.

Significance criteria provided in the tables presented for each resource topic are based on the checklist presented in Appendix G of the State CEQA Guidelines and with consideration of Marin County Environmental Impact Review Guidelines. While CEQA requires a determination of impact significance for each impact discussed based on significance criteria, NEPA does not require this for an EA. Under NEPA, preparation of an Environmental Impact Statement is triggered if a federal action has the potential to “significantly affect the quality of the human environment,” which is based on the context and intensity for each potential impact. The factors that are taken into account under NEPA to determine the significance of an action in terms of the intensity of its effects are encompassed by the CEQA criteria used for this analysis. Therefore, the significance determination made for each impact discussed for each resource topic applies to both NEPA and CEQA, with one exception: Visitor Experience.

The NPS operates under a unique mission to conserve park resources in such a manner as to “leave them unimpaired for the enjoyment of future generations,” and is “committed to providing appropriate, high-quality opportunities for visitors to enjoy the parks,” as defined by the NPS Organic Act and Management Policies. Therefore, the NPS typically evaluates impacts to Recreation and Visitor Experience when undertaking a NEPA decision-making process, as was done during the EA/IS originally completed for this project in 2015. No equivalent resource exists per Appendix G of the State CEQA Guidelines; the Recreation topic addresses recreation facilities only. For this reason, Visitor Experience is evaluated as part of the NEPA process for this project and is described below. All remaining affected resources are adequately addressed under the CEQA criteria and serve to satisfy both NEPA and CEQA requirements.

The impacts associated with the No Action Alternative, as described in the original 2015 EA/IS, are still valid and therefore the No Action Alternative is not discussed further in this chapter. For a comprehensive list of mitigation measures, please refer to the Mitigation and Monitoring Reporting Program in Appendix A.

3.1 Visitor Experience

As shown on Figure 8, SFDB provides access to numerous popular recreation destinations within PRNS. Section 3.16, Recreation, below, further describes the recreational facilities that would be affected and impacts to them. Therefore, this section focuses on Visitor Experience and/or how changes to recreational facilities would affect that experience.

Figure 8: Recreation Destinations Served by SFDB



3.1.1 Affected Environment

As noted in the 2015 EA/IS, visitors travel to PRNS to experience hiking, bird watching, observing marine mammals, picnicking, photography, visiting visitor centers, and engaging in other outdoor activities and interpretive programs in an unspoiled natural setting (Nelson/Nygaard 2009). SFDB provides access to many of these experiences, and is the only access to destinations on the Point Reyes Peninsula. In addition, roads within PRNS are often “an end in themselves, rather than just a means to an end,” providing unique driving experiences for visitors (NPS 1984).

Since publication of the EA/IS in 2015, visitation increased 0.2 percent between 2014 (the most recent year used in the EA/IS) to 2016 (visitation statistics for 2017 were unavailable as of this writing). The 2015 EA/IS states that “SFDB experiences the highest traffic counts of all park roads based on average annual data from 2003 through 2013.” Based on recent traffic count data, that statement remains true (NPS 2018).

3.1.1.1 Schooner Creek Culvert Replacement

Kayakers currently paddle Schooner Creek, including through the culverts that pass under SFDB. Although the number of recreationists who participate in this activity is unknown, the creek is not promoted on the PRNS web site as a kayaking destination. However, Schooner Creek leads to Drakes Estero, which is one of only two marine wilderness areas in the continental U.S. The NPS allows kayaking on Drakes Estero from July 1 through February 28. A kayak launch site is located at the south end of the Drakes Estero Access Road (NPS 2017c).

3.1.1.2 East Schooner Creek Embankment Stabilization

As mentioned under Section 2.3, Proposed Project Modifications, East Schooner Creek has eroded away portions of the SFDB roadway embankment between PM 10.3 and PM 10.8. This condition presents risk of road failure.

3.1.1.3 Wetland Mitigation at Drakes Beach Parking Lot

Visitors use the Drakes Beach parking lot, which is accessed via SFDB, to visit the Kenneth C. Patrick Visitor Center, Drakes Beach, and the 0.1-mile trail to the Peter Behr Overlook, which offers views to Drakes Beach and Drakes Bay. The visitor center draws visitors with an aquarium, whale fossils, and a cross-section of a sixteenth century cargo ship. Drakes Beach Café, located next to the visitor center, is now indefinitely closed (NPS 2017a).

Drakes Beach is very popular for its wide stretch of beach backed by dramatic white sandstone cliffs (NPS 2014). Although the NPS notes that the best spot to view gray whales in the park is at the Point Reyes Lighthouse and Chimney Rock areas at the southern end of the peninsula, Drakes Beach also provides good vantage points for viewing whales (NPS 2017b).

During the popular winter whale migration season, SFDB is closed south of Drakes Beach Road to reduce traffic congestion. The NPS operates its Winter Shuttle Bus System from Drakes Beach parking lot, which is configured for 399 spaces, from the end of December through late March or early April on weekends and federal holidays (NPS n.d.g, n.d.h). Parking demand at Drakes Beach exceeds the existing space fewer than 10 days per year (NPS 2015).

3.1.1.4 California Red-legged Frog Mitigation

Home Ranch Pond 2 would be constructed fairly close to the 9.4-mile “lightly trafficked” (AllTrails n.d.) Drakes Head Trail and access to the site crosses both Estero and Drakes Head Trails. No visitation data is available for these trails. No visitor access or use occurs within the area of the proposed mitigation ponds.

3.1.2 Environmental Consequences

Short-term, adverse impacts would occur during construction, as described in the original EA/IS. Long-term impacts are described below.

3.1.2.1 Schooner Creek Culvert Replacement

Constructing a bridge at Schooner Creek would benefit kayakers by replacing the existing culverts and better facilitating passage under SFDB, thereby enhancing kayakers' experience of the Drakes Estero marine wilderness. Modifying the curves on SFDB at this location would also slightly improve visitor experience by enhancing safety of the roadway.

3.1.2.2 East Schooner Creek Embankment Stabilization

The 2015 EA/IS states that the roadway improvements proposed to SFDB would have long-term beneficial impacts for park visitors accessing the destinations served by the road. Those beneficial impacts would be further enhanced by restoring and stabilizing the roadway at East Schooner Creek. These improvements would increase safety and reduce potential delays due to road failure, thus improving the experience for travelers and enhancing their driving experience.

3.1.2.3 Wetland Mitigation at Drakes Beach Parking Lot

Visitor experience would be affected by reconfiguring the Drakes Beach parking lot from 399 spaces to 314 spaces, a reduction of about 21 percent. During peak whale watching season, which typically occurs five to six weekends per year, any overflow would be directed to South Beach. Visitors directed to the South Beach parking lot would be required to ride the shuttle to visit the Kenneth C. Patrick Visitor Center, Drakes Beach, or the Peter Behr Overlook Trail. Visitors wishing to visit the Drakes Beach Café would not be affected by the Action Alternative, as the café is already indefinitely closed.

Because SFDB is closed south of Drakes Beach Road during the peak season, no other visitors would be parking at South Beach. Therefore, the spaces at South Beach are expected to be sufficient for overflow parking.

Removing a short segment of asphalt path associated with the Peter Behr Overlook Trail with a more natural dune system would slightly benefit visitor experience by providing a more natural beach setting. Access to the overlook would only be interrupted during construction, resulting in a temporary impact.

Visitors place value on simply knowing that the lands and waters protected by the NPS exist and will be available for future generations (Haefele et al. 2016). Partially restoring the historic wetland at the Drakes Beach parking lot would support that value, the knowledge of which would potentially enhance the experience of PRNS visitors and non-visitors who appreciate the seashore's resources. Visitors would also benefit from removal of approximately 2 acres of existing pavement and restoration of the wetland, which would provide a more natural beach setting and may enhance aesthetics for visitors.

3.1.2.4 California Red-legged Frog Mitigation

The equipment access route to Home Ranch Pond 2 would cross both the Estero and Drakes Head Trails. Construction impacts would consist of equipment driving over the existing two-track trails. Use of the trails would not be restricted during construction. Impacts to visitors hiking Estero and Drakes Head Trails would be negligible to beneficial, as few visitors would be affected by temporary construction impacts due to the remoteness of the area. The pond would have no adverse effect on visitors. The pond may enhance visitor experience through addition of new water features, resulting in a slight beneficial effect.

Creating the CRLF mitigation ponds would support the value visitors place on knowing that lands and waters are protected by the NPS, potentially enhancing their experience, as described above.

3.1.2.5 Conclusion

Long-term impacts to visitor use would be primarily beneficial, although visitors who use the South Beach overflow parking lot would need to use the Winter Shuttle program to access Drakes

Beach. Short-term, adverse impacts that would occur during construction would be minimized with implementation of the measures identified in the original EA/IS and included in Appendix A.

3.2 Aesthetics

The EA/IS prepared for this project based the aesthetics analysis on FHWA's *Visual Impact Assessment for Highway Projects* (FHWA 1981). This guidance was used to establish existing visual conditions within the project study area and evaluate the project's potential effects to the study corridor's overall visual quality. Although FHWA updated this guidance in 2015, the 1981 guidance was applied to this analysis in order to maintain consistency. Per the 1981 FHWA guidance, the 2015 EA/IS identified viewer groups (which remain applicable to this analysis), landscape units (LUs), visual landmarks (including the marshland associated with Schooner Bay), and visual quality of the roadway corridor by specific viewpoints associated with LUs.

3.2.1 Affected Environment

3.2.1.1 Schooner Creek Culvert Replacement

The two large, 84-inch diameter corrugated metal culverts transporting Schooner Creek under SFDB were identified in the 2015 EA/IS as within the Marshlands LU. This LU is characterized as having open, flatter areas with marshes, short grasses, and wetland vegetation associated with Schooner Bay in the foreground and middleground. The marshland associated with Schooner Bay is a notable visual element within the study area. A graveled visitor pull-out area with picnic table is located in this area that provides views of the marsh, rolling grassy hills, and SFDB as it crosses over Schooner Creek (Jacobs 2015a) (see Figure 9).

Figure 9: SFDB Crossing of Schooner Creek



The double culverts can be seen heading northeast on SFDB approximately 0.1 mile southwest of Schooner Creek (see Figure 10). They can also be seen for approximately 0.3 mile heading north on Schooner Bay Road, which intersects SFDB just east of the pull-out (see Figure 11). The culverts are not readily visible from the road heading north from SFDB to G Ranch on the north side of SFDB.

The culverts are very large and rusted, protruding into Schooner Bay from under SFDB. Their imposing size and metal construction lend an industrial look to an otherwise predominantly natural marshland setting.

Figure 10: View of Double Culverts Looking Northeast from Sir Francis Drake Boulevard

Existing culverts indicated by red circle
Source: Google Maps, June 2016

Figure 11: View of Double Culverts Looking North from Ranch N Road

Existing culverts indicated by red circle
Source: Google Maps, June 2016

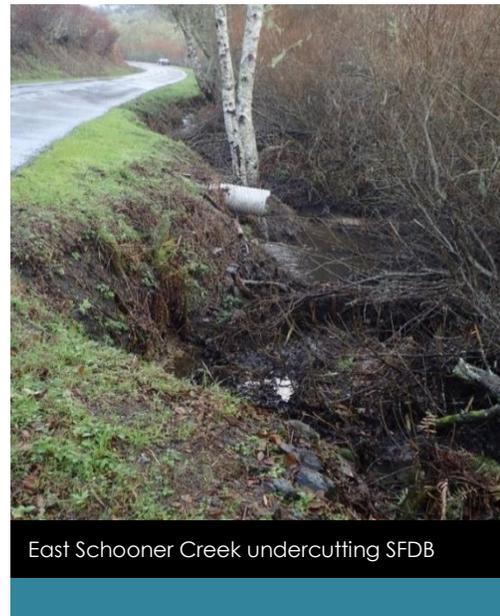
3.2.1.2 East Schooner Creek Embankment Stabilization

The sections of SFDB roadway embankment that would be stabilized due to erosion from East Schooner Creek are located in the Inverness Ridge LU identified in the 2015 EA/IS. This LU is characterized by heavily wooded steep hills and ravines with dense tree and shrub vegetation. Views of a tree canopy over the roadway occur in some areas. Because of the hilly topography and dense vegetation in this area, views from the roadway are largely constrained to the foreground and middleground. The channel has undercut the roadway embankment, exposing roots and pipes in some areas (see Figure 12). The embankment is deeply incised, with an unsteady appearance threatening to fail. Although a rockery wall already exists in some locations along East Schooner Creek, it is obscured from view or has failed.

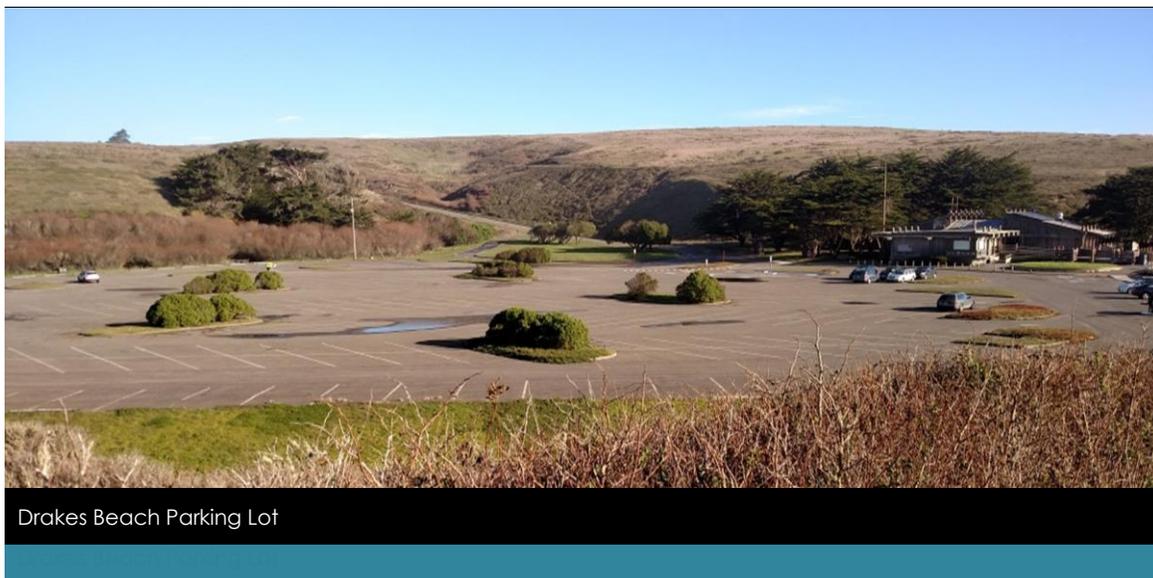
3.2.1.3 Wetland Mitigation at Drakes Beach Parking Lot

The 2015 EA/IS identified a Pastoral Lands LU that encompasses the SFDB corridor between Schooner Bay and Chimney Rock Road. Although the visual setting of the Drakes Beach parking lot was not described in the original EA/IS, it is similar to the Pastoral Lands LU, which specifies “open views of large expanses of flat and rolling pastureland, historic dairy and ranch buildings, grazing livestock, and views of the Pacific Ocean and open sky.” The southern side of the parking lot fronts Drakes Bay, with the Kenneth C. Patrick Visitor Center immediately adjacent to the north (see Figure 13). The remainder of the parking lot is surrounded by low, grass-covered hills. Trees are sparse, with a few located around, and directly opposite, the visitor center. Small islands of landscaping consisting of grasses and low shrubs punctuate the parking area’s pavement. Human-made elements include the visitor center — an inconspicuous one-story weathered, wooden building — the parking lot, and motor vehicles, the number of which vary by season and time of week, with winter whale watching season and weekends being more frequented. The parking lot can accommodate up to 399 vehicles, and is a prominent visual feature. During the peak winter whale watching season, visitors are required to park at the visitor center and take a shuttle to reach whale watching destinations at the southern end of the peninsula (see Section 3.12, Noise and Section 3.15, Recreation).

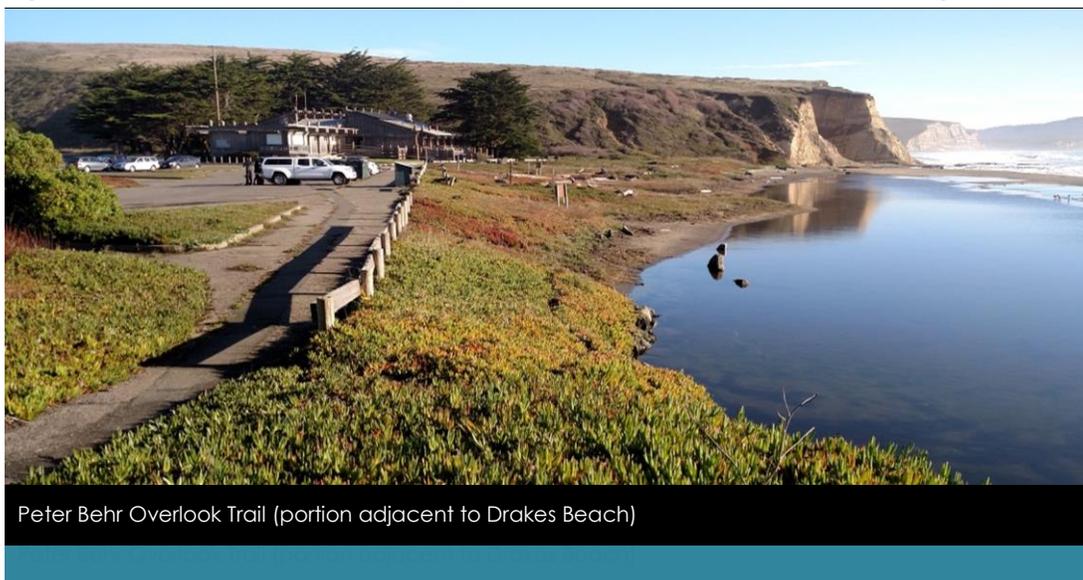
Figure 12: Erosion along SFDB



East Schooner Creek undercutting SFDB

Figure 13: Drakes Beach Parking Lot

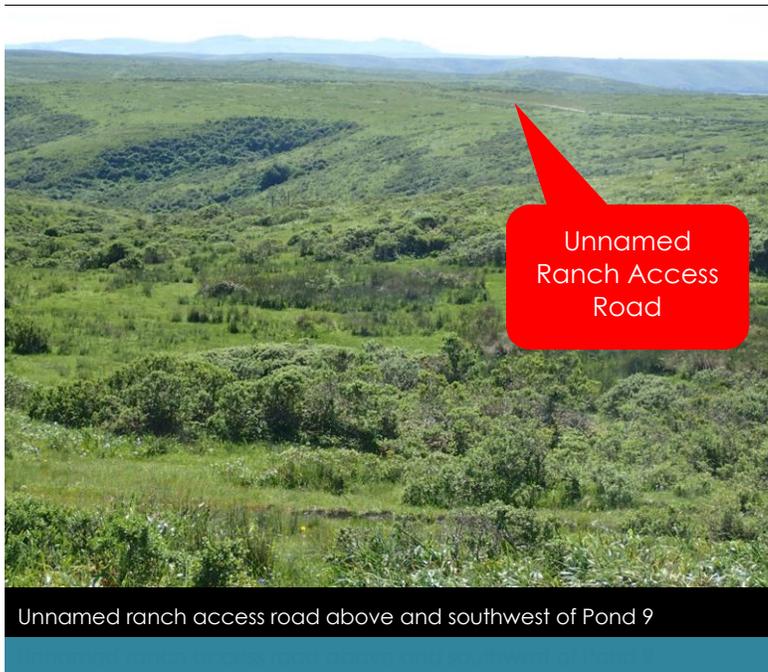
A short segment of asphalt footpath at the southern end of the parking lot connects to the Peter Behr Overlook Trail, which leads to an overlook of Drakes Bay (see Figure 14).

Figure 14: Peter Behr Overlook Trail (Southern End of Drakes Beach Parking Lot)

3.2.1.4 California Red-Legged Frog Mitigation

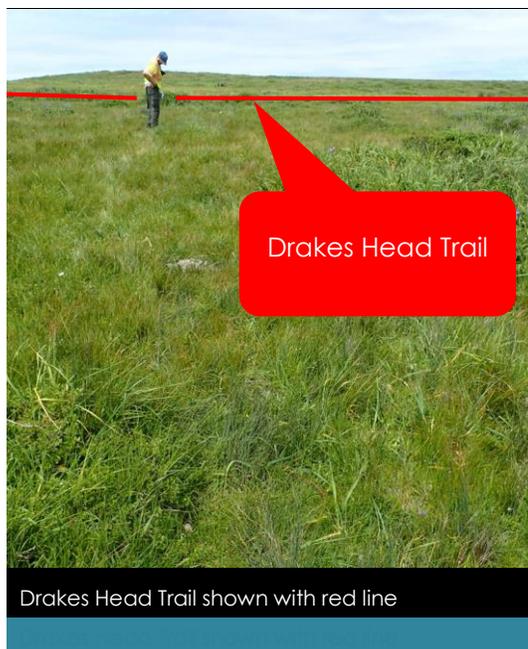
Two ponds would be constructed within Home Ranch to provide CRLF aquatic breeding habitat. The ranch is bisected by Home Ranch Road, which is closed to public traffic except for the southern portion, which is a hiking trail, and the northern portion, which provides access to the Estero Trailhead (Livingston 1993).

- Home Ranch Pond 9 would be located approximately 1.25 miles south of the intersection of SFDB and Home Ranch Road, which heads southeast to White Gate Trail. The “little known” (Hiking Project 2017) White Gate Trail is approximately 0.25 mile east of the proposed pond. The pond would be located in a depression east of an unnamed ranch access trail (see Figure 15).

Figure 15: Location of Home Ranch Pond 9, Looking Southwest

- Home Ranch Pond 2 would be located approximately 3.5 miles south of the intersection of SFDB and Home Ranch Road, just east of the “lightly trafficked” (AllTrails n.d.) Drakes Head Trail. The pond would be located in a depression below the trail (see Figure 16).

No LU was designated in the 2015 EA/IS for this area. However, the landscape, comprised of “open views of large expanses of flat and rolling pastureland, historic dairy and ranch buildings, grazing livestock, and views of the ... open sky” is indicative of the Pastoral Lands LU described above.

Figure 16: Location of Home Ranch Pond 2 Looking West toward Drakes Head Trail

3.2.2 Environmental Consequences

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
AESTHETICS: Would the project:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

New, but less than significant impacts, would occur to aesthetics. Therefore, there are no substantial changes to the project or new information of substantial importance since the 2015 FONSI/MND that would result in any new significant environmental effects or a substantial increase in the severity of previously identified impacts to aesthetics.

- a. **Less than Significant Impact.** The original EA/IS proposed replacing the culverts at Schooner Creek with an open-bottom arch structure with an approximately 32-foot-wide opening. Slightly realigning SFDB and replacing the culverts with an approximately 57-foot-long, single-span bridge would result in a wider opening for Schooner Creek, allowing the creek to flow more naturally under the bridge and adapt to flood and tidal events. No measureable impact would result from raising the roadway grade approximately 3 feet and re-aligning approximately 750 feet of SFDB by up to 12 feet, as the change would be barely perceptible. The guardrails, riprap embankments, and bridge posts on each side of the creek would similarly constitute a barely perceptible change. Installing a low-profile bridge with a substantially wider opening that permits a more natural flow of water would be more consistent with the Pastoral Lands LU than the open-bottom arch structure. An overall beneficial impact to scenic vistas would result.

Removing part of the Drakes Beach parking lot and restoring the historic wetland would be a beneficial visual impact to scenic vistas. The restored wetland would provide a more natural setting in keeping with its original condition and expectations of a unit of the NPS. The reduction in the number of motor vehicles parked at this location would also help open views of the Pacific Ocean and sky, consistent with the area's LU.

Creation of the Home Ranch ponds would enhance scenic vistas through addition of new water features. Given the remoteness of the area, few sensitive viewers would be affected by introduction of the new ponds, which would likely be viewed as a beneficial impact, as the "presence and/or amount of surface water are associated with higher visual quality" (Churchward 2013). No formal access roads would be constructed, resulting in only temporary construction impacts. For these reasons, impacts would be less than significant.

- b. **Less than Significant Impact with Mitigation.** Stabilizing the embankment along portions of East Schooner Creek would introduce a new manmade element that would be designed to restore the stream bank, potentially resulting in a more natural appearance than the deeply incised, eroded banks. Although a manmade rockery wall already exists

in this area, it is primarily obscured from view and has failed in some locations. The new manmade biotechnical bank stabilization would include vegetated soils and woody vegetation, such as willows, enabling it to blend in with the natural surroundings. Exposed roots and pipes would no longer be visible, and the embankment would not appear as unstable. Some scenic resources (trees) would be removed to re-establish the embankment. However, the long-term effect would be to protect, rather than damage, trees whose roots are currently exposed, which are potentially prone to collapse. The Action Alternative would help retain the dense tree and shrub vegetation that characterizes the hills of the Inverness Ridge LU in this area.

Creation of the Home Ranch ponds would introduce a new scenic resource onto the landscape, which is comprised of flat and rolling pastureland, historic dairy and ranch buildings, and grazing livestock. Stock ponds are a common feature of ranching operations, and would be consistent with the ranch setting. FHWA visual guidance notes, "Although natural resources may have been altered or imported by people, resources which are primarily geological or biological in origin are considered natural" (FHWA 2016).

As described in the 2015 EA/IS, the implementation of mitigation measures, such as revegetating temporarily disturbed areas, impacts to scenic resources would be less than significant. See Appendix A for detailed mitigation measures.

- c. **No Impact.** Existing visual character and quality that define the LUs would be beneficially affected by the Action Alternative as described under items "a" and "b" above. No formal access roads would be constructed to reach the ponds during construction, thereby retaining the existing visual character. Removing the asphalt footpath portion of the Peter Behr Overlook Trail at Drakes Beach, and replacing or removing the existing pipe culverts at the southern end of the parking lot would benefit visual quality and character by restoring the natural interface between the wetland and tidal waters at this location. A pin and pole fence would be installed only along the length of trail where asphalt would be removed in order to help guide visitors to the trailhead. The fence would also employ an open design (i.e., not a solid wall), resulting in a very slight visual addition to the LU and therefore no impact.
- d. **Less than Significant Impact.** Fewer parked vehicles at Drakes Beach parking lot would reduce the amount of glare from windshields. As described under Section 3.12, Noise and Section 3.15, Recreation, overflow parking would be directed to the South Beach parking lot during the peak winter whale-watching season, increasing glare at that location. However, SFDB is closed south of Drakes Beach Road during this time, so only overflow vehicles would be parked there, limiting the number of viewers affected. In addition, the only viewers who would be affected would be those waiting for the shuttle bus, resulting in a short-term effect. This new source of glare would not be substantial and would not adversely affect day or nighttime views in the area, resulting in a less than significant impact.

3.3 Agriculture and Forestry Resources

The Farmland Protection Policy Act (FPPA) was enacted to minimize the impact of Federal programs on conversion of farmland to nonagricultural uses. Under the FPPA, farmland includes prime farmland, unique farmland, and land of statewide or local importance. Farmland subject to the FPPA does not have to be currently used for cropland; it can also be forest land, pastureland, or other land, but not water or urban built-up land (NRCS n.d.).

PRNS' enabling legislation allows for ranching operations to be conducted on NPS lands. Specifically, the legislation states that the owner of agricultural property may retain a right of use and occupancy for a definite term "except for property which the Secretary specifically determines is needed for ... resources management purposes of the seashore" (USC Title 16, Chapter 1, Subchapter LXIII, Sec. 459c). Only the Home Ranch has potential to be affected by the Action Alternative, as described below.

3.3.1 Affected Environment

When the seashore was established in 1962, the NPS purchased the existing dairy farms and cattle ranches, then leased the land back to the farmers and ranchers in a designated pastoral zone. Ranchers signed 25 to 30 year reservations of use and occupancy leases, and special use permits for cattle grazing (Leach-Palm et al. 2015, NPS n.d.k). After the lease terms lapsed, the NPS continued to renew leases for 5- and 10-year periods (Rogers 2016). Many of the descendants of these families continue to live in the park at favorable rates (Cart 2014).

The NPS conducted public scoping in 2014 to develop a comprehensive ranch management plan to manage existing ranch lands under agricultural lease and special use permits for up to 20 years (NPS n.d.b). However, in February 2016, environmental groups filed a lawsuit to halt the process of granting long-term leases to the cattle ranchers at the seashore (Rogers 2016). Marin County has provided legal fees to some ranchers to fight the lawsuit, as "any decrease in ranching in the seashore goes against policies in the *Countywide Plan*² and the Local Coastal Program (LCP)³ that support the continuation of agriculture" (Point Reyes Light 2017).

Both ponds that would be created to provide habitat for CRLF would be created on Home Ranch. Home Ranch is located south of SFDB and east of Drakes Estero (see Figure 1); it is the oldest and one of the largest ranches on the peninsula. The Home Ranch complex is located in a small valley that drains into nearby Home Bay, an arm of Drakes Estero. The NPS purchased the ranch in 1968. The previous owners signed a reservation of use occupancy on 20 acres around the ranch complex; current occupants also use an additional 3,000 acres under a special use permit, primarily for grazing. The ranch is bisected by Home Ranch Road, which is closed to public traffic except for the southern portion, which is a hiking trail (White Gate Trail), and the northern portion, which provides access to the Estero Trailhead (Livingston 1993). A custom soil resource report generated by the Natural Resources Conservation Service (NRCS) indicates that the location of the proposed ponds is not on prime farmland, unique farmland, or land of statewide or local importance (NRCS 2017).

No Williamson Act contract lands are located within the study area because the Action Alternative is located on federal land, and no forestry resources exist on the peninsula that would be affected.

² Marin County's 2007 *Countywide Plan* includes a goal to "protect agricultural land by maintaining parcels large enough to sustain agricultural production, preventing conversion to non-agricultural uses, and prohibiting uses that are incompatible with long-term agricultural production" (Marin County 2007).

³ The Marin County LCP advocates preserving "the maximum amount of agricultural land" (Marin County 1980).

3.3.2 Environmental Consequences

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
AGRICULTURE AND FORESTRY RESOURCES: Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

New, but less than significant impacts, would occur to agriculture. Therefore, there are no substantial changes to the project or new information of substantial importance since the 2015 FONSI/MND that would result in any new significant environmental effects or a substantial increase in the severity of previously identified impacts to agriculture resources.

- a. **Less than Significant Impact.** Creation of the ponds on Home Ranch would remove a total of 0.88 acre, or 0.03 percent, from the total 3,000 acres currently used for grazing purposes. This number represents an insignificant amount of land, which is also not identified as prime, unique, or of statewide importance. As mentioned above, PRNS may retain property needed for resource management purposes, which the proposed ponds demonstrate. Equipment access routes would be designated for construction, but no formal access roads would be constructed; therefore, no additional acreage would be removed for construction purposes. The access routes would be re-seeded to restore them to pre-construction conditions. For these reasons, impacts would be less than significant.
- b. **No Impact.** The project would not conflict with the PRNS pastoral zone designation because the small amount of land that would be used would not affect the ability of dairy and beef cattle to graze in these areas or affect ranchers’ permits or leases from the NPS. In addition, no Williamson Act contract lands are located within the study area because the Action Alternative is located on federal land. Because no conflicts with existing zoning for agricultural use, or a Williamson Act contract, are expected, there would be no impact.
- c., d., e. **No Impact.** No land within the study area is zoned as forest land, timberland, or Timberland Production. No conversion of forest land to non-forest use would occur, and no other proposed changes would indirectly result in the conversion of farmland to non-agricultural use or forest land to non-forest use. Therefore, no impact would occur.

3.4 Air Quality

As noted in the 2015 EA/IS, this project is exempt from conformity with established air quality goals per the transportation conformity rule (40 CFR 93.126 exempt projects) because the Action Alternative would not increase the overall capacity of SFDB and would not significantly alter its vertical and horizontal alignment. This remains true for the proposed project modifications.

3.4.1 Affected Environment

The description of the affected environment in the 2015 EA/IS remains accurate and pertinent to the actions proposed under this SEA/SIS. As stated in the 2015 EA/IS, PRNS is a Mandatory Class I Federal Area, where visibility is an important value. During the winter rainy periods, inversions are strong while winds are light, resulting in high potential for air pollution.

3.4.2 Environmental Consequences

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
AIR QUALITY: Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

New, but less than significant impacts, would occur to air quality. Therefore, there are no substantial changes to the project or new information of substantial importance since the 2015 FONSI/MND that would result in any new significant environmental effects or a substantial increase in the severity of previously identified impacts to air quality.

- a. **No Impact.** Per the transportation conformity rule, this project is exempt from conformity with established air quality goals because only safety improvements are proposed and no additional travel lanes or increase in capacity are anticipated. Therefore, the project would not conflict with any air quality plans.
- b. **Less than Significant Impact with Mitigation.** Construction-related emissions were calculated for the project using the Sacramento Metropolitan Air Quality Management District Roadway Construction Emission Model to estimate the levels of criteria pollutants that would be associated with project construction (see Appendix B). Based on the results of this model, emissions associated with construction of the Action Alternative are not anticipated to exceed the Bay Area Air Quality Management District (BAAQMD) thresholds of significance for construction-related criteria air pollutants and precursors.

Since the 2015 FONSI/MND, Marin County adopted measures to reduce construction-related emissions in Marin County Development Code section 22.20.040. With the implementation of these measures, as outlined below in Mitigation Measure (MM) AQ-1

and MM AQ-3 through MM AQ-8, and mitigation measures originally proposed in 2015 (see MM AQ-2 in Appendix A), the project would have a less than significant impact on air quality standards.

- MM AQ-1: Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California Airborne Toxics Control Measure Title 13, Section 2485 of California Regulations). Clear signage shall be provided for construction workers at all access points.
 - MM AQ-3: All unpaved exposed surfaces (e.g., parking areas, staging areas, soil piles, and graded areas, and unpaved access roads) shall be watered two times a day.
 - MM AQ-4: All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
 - MM AQ-5: All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
 - MM AQ-6: All vehicle speeds on unpaved roads shall be limited to a maximum of 15 miles per hour.
 - MM AQ-7: All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
 - MM AQ-8: All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running proper condition prior to operation.
- c. **No Impact.** Per the transportation conformity rule, this project is exempt from conformity with established air quality goals as stated above. Therefore, the project would not result in a net increase of any criteria pollutants.
- d. **Less than Significant Impact.** Emissions associated with construction would be short-term and are not anticipated to exceed the BAAQMD thresholds of significance for construction-related criteria air pollutants and precursors. Asbestos-containing materials are not expected to be encountered. However, per the requirements of Regulation 11, Rule 2 (Asbestos Demolition, Renovation, and Manufacturing), a written plan or notification of intent will be provided to the BAAQMD's Enforcement Division and Air Pollution Control Officer prior to commencing demolition of any structures (e.g., culverts at Schooner Creek and sewer line under the Kenneth C. Patrick visitor center).
- e. **Less than Significant Impact.** During construction, objectionable odors could be temporarily created through the use of diesel equipment. However, construction would be temporary and spatially dispersed; therefore, the impact would be less than significant.

3.5 Biological Resources

The 2015 EA/IS prepared for this project identified four sensitive natural communities and 35 special status species, consisting of 13 birds, two fish, one amphibian, one reptile, one invertebrate, six mammals, and 11 plant species, that occur or have the potential to occur within the study area identified for the original EA/IS. Wetland delineations performed in support of the EA/IS also identified nearly 16 acres of wetlands – primarily freshwater – and approximately 0.6 acre of perennial, intermittent, and ephemeral drainages. Additional species and wetlands and other waters of the U.S. that may be affected by the Action Alternative, or that may

experience additional impacts due to the proposed project changes, are described below. The study area for biological resources was expanded from the original EA/IS, which focused on the 60-foot roadway easement and select areas of localized improvements, to include the Drakes Beach parking lot and the proposed Home Ranch ponds and equipment access routes.

For more information, refer to Appendix C regarding terrestrial species and Appendix D regarding aquatic species. Addenda to the Biological Assessments (Jacobs 2018a, 2018b) and Biological Evaluation (Jacobs 2018c) prepared for the project are on file at CFLHD.

3.5.1 Affected environment

General vegetation communities within the expanded study area include a mix of coastal scrub, coastal prairie, sand dunes, freshwater emergent wetlands, annual grasslands, and pasture lands. The plant palette is relatively diverse and evenly dispersed throughout the wetland and upland areas. Grasslands are disturbed and have a history of manipulation due to farming and ranching practices, such as at Home Ranch. The Home Ranch complex is located in a small valley that drains into nearby Home Bay, an arm of Drakes Estero. The two ponds proposed on Home Ranch (Ponds 2 and 9) are both actively grazed cattle pastures.

Non-vegetated areas include access roads, parking and picnic areas, and disturbed land associated with farming and ranching practices. The Drakes Beach parking lot is located on top of what was once a large wetland complex, which was filled in the 1960s. An unnamed intermittent stream flows into Drakes Bay through three 24-inch metal pipe culverts at the southern tip of the parking lot. A sanitary sewer line that leads south from the visitor center is currently located below the footpath between Drakes Beach and the parking lot.



Existing culverts at Drakes Beach obscured by dense ice plant

3.5.1.1 Special Status Species

For purposes of this document, special status species includes:

- State Species of Special Concern
- State Rare, Endangered, or Watch List Species
- State native plants, as designated and ranked by the California Native Plant Society (CNPS)
- State Fully Protected Species
- Migratory birds
- Bald and golden eagles
- Marine mammals
- Species listed, proposed for listing, or candidates for listing under state or federal Endangered Species Acts

Information on special status species within the study area was obtained through literature review, geographic information system (GIS) data review, field surveys, and coordination with

the U.S. Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NMFS), and NPS. In 2016, biologists conducted general habitat assessments and botanical surveys within an expanded study area that included the three proposed mitigation sites. No additional botanical surveys were completed along SFDB because the roadway design changes, specifically at Schooner Creek and East Schooner Creek, are located within the boundaries of the 2014 survey area. Therefore, only additional database searches and impact analyses were completed for areas affected by the roadway design changes. Special status species database searches were repeated to identify any species that may have been recorded subsequent to the original 2014 list.

Based on this review, an additional six special status species were identified that were not included in the original analysis. This could be a result of the species being recently added to a database, recently given a protected status, or having been observed in the region since 2014. These species and their habitat requirements are summarized in Table 3-1.

Table 3-1. Additional Special Status Species with Potential to Occur in Study Area

Species Name	Status	Habitat Requirements	Habitat Present
San Bruno Elfin Butterfly (<i>Callophrys mossii bayensis</i>)	Federally-listed Endangered	Coastal, mountainous areas with grassy ground cover, mainly in the vicinity of San Bruno Mountain, San Mateo County. Located on steep, north-facing slopes within the fog belt. Host plant is stonecrop (<i>Sedum spathulifolium</i>).	No. Suitable habitat is not present along the study area and the species has not been reported on the PRNS peninsula. There are only two observations from Marin County, and both observation dates are unknown.
Yellow-billed Cuckoo (<i>Coccyzus americanus</i>)	Federally-listed Threatened, State-listed Endangered	Riparian forests along broad lower flood-bottoms of larger river systems. Nests in willow with cottonwoods, blackberry, and nettles.	Yes. Marginal suitable habitat may be present along SFDB at intersection with Estero Trailhead Road. However, the area lacks the typical habitat characteristics (broad floodplains, cottonwoods and larger overstory trees) of the species. One individual was observed in 2003 near Kehoe Ranch, approximately 4 miles from the northern terminus of the project area (Press 2017).
California Giant Salamander (<i>Dicamptodon ensatus</i>)	State Species of Special Concern	Wet coastal forests near streams and seeps; larvae found in cold, clear streams. Adults found in wet forests under rocks and logs near streams and lakes.	Yes. Suitable habitat is present in the project area. Twenty-seven species were observed in 2007 in East Schooner Creek at the intersection of Muddy Hollow Road during a culvert replacement.
Santa Cruz Microseris (<i>Stebbinsoseris decipiens</i>)	CNPS 1B.2	Open areas in loose or disturbed soil on seaward slopes in coastal prairie, coastal scrub, grasslands, and broadleaved upland forests. Blooms April–May.	Yes. Suitable habitat may be present in the project area; however, species has not been identified in the Drakes Bay U.S. Geological Survey (USGS) quadrangle or reported within the PRNS peninsula, where the project is located. Species was not found during protocol botanical surveys.

Species Name	Status	Habitat Requirements	Habitat Present
Elongate Copper Moss (<i>Mielichhoferia elongate</i>)	CNPS 4.3	Metamorphic rock, usually acidic, usually vernal mesic, often roadsides, sometimes carbonate.	Yes. Suitable habitat may be present in the project area; however, the species has not been identified in the Drakes Bay USGS quadrangle where the project is located.
Whiteworm Lichen (<i>Thamnolia vermicularis</i>)	CNPS 2B.1	On rocks derived from sandstone (i.e., Wilson Ranch formation) in chaparral and grasslands.	No. Species has not been identified in the Drakes Bay USGS quadrangle where the project is located. Suitable sandstone derived soils are not present in the project area.

In addition to the species listed in the table above, the 2016 botanical surveys identified one special status plant species – Harlequin lotus (*Hosackia gracilis*) – near the Drakes Beach parking lot and at the Home Ranch ponds. Harlequin lotus is a California Rare Plant Rank 4.2. The expanded study area also contains designated critical habitat for the CRLF (*Rana draytonii*). The CRLF is listed as threatened under the federal Endangered Species Act (ESA) and is a California Species of Special Concern.

Northern elephant seals, which are protected under the Marine Mammal Protection Act, are also known to occur within the expanded study area. Specifically, habitat for northern elephant seal is present along Drakes Beach in proximity to the wetland mitigation site at the Drakes Beach parking lot. While the species may be observed along PRNS throughout the year, they congregate yearly at the southwest end of Drakes Beach. This typically starts in December when the males first arrive and goes through March, during the pupping and mating season.

3.5.1.2 Riparian Habitat or Other Sensitive Natural Community

No additional riparian habitat or other sensitive natural communities were identified in the expanded study area.

3.5.1.3 Wetlands and Other Waters of the U.S.

Wetland scientists delineated aquatic features within the expanded study area in January, April, and May 2016, in accordance with the 1987 U.S. Army Corps of Engineers (USACE) *Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008). During the delineation, six freshwater wetlands (two located at each Home Ranch Pond) and one intermittent drainage were identified, totaling almost 2 acres. The intermittent drainage outflows onto Drakes Beach from a concrete culvert underneath the Peter Behr Overlook Trail. It flows parallel to the southwestern edge of the parking lot at the toe of the slope, and is obscured by the palustrine scrub shrub wetland at the Drakes Beach parking lot most of its length. The channel is fed from a culvert upstream that connects it to a large pond outside the survey area known as Drakes Marsh (Ryan 2009).

In June and December 2017, localized delineations were also conducted within the roadway corridor along East Schooner Creek in areas of severe erosion. Delineation maps for the expanded study area, as well as for the roadway corridor, are located in Appendix E. More detailed information is available in the Addendum to the Wetlands, Other Waters of the U.S., and Riparian Area Delineation Report (Jacobs 2018d).

3.5.2 Environmental Consequences

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
BIOLOGICAL RESOURCES: Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

New, but less than significant impacts with mitigation, would occur to biological resources. Therefore, there are no substantial changes to the project or new information of substantial importance since the 2015 FONSI/MND that would result in any new significant environmental effects or a substantial increase in the severity of previously identified impacts to biological resources. See Appendix A for a complete list of all mitigation proposed for this project, including relevant actions identified in the 2015 FONSI/MND, and new actions identified under this SEA/SIS.

- a. **Less than Significant Impact with Mitigation.** Effects from the Action Alternative could be caused by the installation, repair, and cleaning of culverts, road widening and realignment activities, bridge installation at Schooner Creek, and embankment stabilization along East Schooner Creek. Construction activities could cause direct effects to special status wildlife species, which may include displacement from the loss or degradation of habitat, temporal loss of habitat suitability during construction, and harassment due to increased noise, vibration, and visual disturbances. An increased presence of personnel and construction equipment may increase the likelihood that special status species, if present in the area, could be temporarily displaced.

The greatest threats to plants are ground-disturbing activities, including soil removal, grading, paving, trampling by equipment and personnel, and overall removal of habitat. Direct disturbances to soil can remove sensitive plants. Grading and contouring the mitigation sites and submerging plants would directly impact individual plants. Increased sediment from disturbed soils and the potential release of pollutants from construction equipment can also damage or kill plants, or degrade habitats. Indirect

impacts typically include the introduction of invasive weeds, surface and subsurface hydrologic alterations, erosion, and removal or reduction of a vegetation buffer between human and natural activities.

Those species not discussed in detail, but were analyzed in the 2015 EA/IS, would incur the same effects as originally described. Further detailed analysis is provided below for special status species that were not analyzed in the original EA/IS or, as a result of modifications to the Action Alternative, the impacts to the species have changed from what was originally disclosed in the 2015 EA/IS.

There would be no effect or impacts to the San Bruno elfin butterfly or whiteworm lichen because suitable habitat is not located in the study area, and the species is not known to occur in the study area. In addition, Santa Cruz microseris and elongate copper moss would not be impacted by the Action Alternative because the species are not anticipated to be within the study area. For these reasons, neither of these species are discussed further.

Based on this analysis, and the implementation of the mitigation measures included in Appendix A, and the analysis summarized below, the Action Alternative would have a less than significant impact to special status species.

California Red-legged Frog

No impacts to CRLF are anticipated as a result of replacing the existing culverts at Schooner Creek with a bridge, because this work would occur in an estuarine habitat that is not suitable for CRLF. At East Schooner Creek and the Drakes Beach and Home Ranch mitigation sites, construction would result in ground disturbance, increased noise, vibration, and visual disturbance due to the presence of construction equipment and personnel. These disturbances could encourage CRLFs to disperse to other habitats outside the work area. Additionally, CRLFs could potentially be harmed by construction. During construction, any CRLF that may be present would likely disperse and would avoid the area until construction is completed. As detailed in Appendix A, mitigation measures, such as biological monitoring, would be implemented to reduce potential impacts.

The modifications to the Action Alternative all occur within designated CRLF critical habitat, and would result in additional direct impacts to critical habitat. Table 3-2 summarizes these new impacts to critical habitat. Work within and adjacent to East Schooner Creek to place rockery and willows or other native plants for the purpose of bank stabilization would temporarily impact aquatic non-breeding habitat. At Drakes Beach, the construction of the wetland and reconfiguration of the parking lot would temporarily impact CRLF upland habitat through excavation, grading, and equipment movement. Minor permanent impacts to non-breeding aquatic habitat would also result from reconfiguration of the parking lot. At the Home Ranch ponds, riprap installation for spillway construction would permanently impact upland habitat. In addition, grading and excavation to create the bottom and bank of the ponds, and movement of equipment around the construction site and along equipment access routes, would temporarily impact upland habitat through removal of vegetation and trampling by personnel and equipment.

Table 3-2. New Impacts to CRLF Critical Habitat

<i>Habitat Type</i>	<i>Impact Type</i>	<i>East Schooner Creek Embankment Stabilization</i>	<i>Drakes Beach Wetland Mitigation</i>	<i>Home Ranch Pond 2 and Pond 9</i>
Aquatic Breeding	Permanent	--	--	--
	Temporary	0.01 acre	--	--
Non-Breeding Aquatic	Permanent	--	--	--
	Temporary	--	0.01 acre	--
Upland wintering and dispersal	Permanent	--	0.02 acre	0.04 acre
	Temporary	--	0.87 acre	6.4 acres

Table 3-3 summarizes the total direct impacts to critical habitat for the project and reflects the differences between the 2015 EA/IS and current design. Anticipated impacts to CRLF habitat have changed because modifications to project design include embankment stabilization along East Schooner Creek and construction of mitigation sites, and project design has progressed substantially since issuance and adoption of the FONSI/MND in 2015.

Table 3-3. Total Project CRLF Critical Habitat Impacts

<i>Habitat Type</i>	<i>Impact Type</i>	<i>2015 EA/IS</i>	<i>Current Impacts</i>
Aquatic Breeding	Permanent	0.3 acres	0.3 acre
	Temporary	0.2 acres	0.2 acre
Non-Breeding Aquatic	Permanent	6.0 acres	2.2 acres
	Temporary	4.6 acres	1.2 acres
Upland wintering and dispersal	Permanent	27.5 acres	9.6 acres
	Temporary	19.9 acres	19.2 acres

In the long term, the improvements at East Schooner Creek, at Drakes Beach, and on Home Ranch are expected to benefit the CRLF. Stabilizing the East Schooner Creek bank to halt on-going erosion would help improve water quality by reducing the amount of sediment within this section of the channel, as well as downstream. It is also projected to restore vegetated cover along the embankment that has been lost due to the continued undercutting, thereby enhancing available habitat. At Drakes Beach, the removal of nearly 2 acres of pavement to restore a former wetland would benefit the species by increasing aquatic breeding habitat and non-breeding habitat, and providing similar habitat to the adjacent Drakes Marsh. In addition, the proposed Home Ranch ponds have been designed specifically to create aquatic breeding habitat for CRLF. Therefore, creation of Home Ranch Pond 2 and Pond 9 would provide an on-site benefit to CRLFs while also improving the quality of the surrounding upland and dispersal habitat.

Based on the modifications to the Action Alternative, the nature of effects to the CRLF and designated critical habitat associated with the construction activity would be similar to those disclosed in the 2015 EA/IS. Therefore, it is anticipated that the project may affect, and is likely to adversely affect, the CRLF and designated critical habitat. However, implementation of the mitigation measures, as described in Appendix A, is anticipated to reduce adverse effects to less than significant.

Yellow-billed Cuckoo

Potential Yellow-billed Cuckoo habitat within the study area is located between approximately PM 10 and PM 12. This area of potential habitat is mainly confined to the southeastern side of SFDB, and the quality of the habitat is marginal due to the absence of typical habitat characteristics. The riparian habitat adjacent to SFDB along East Schooner Creek does not contain an overstory of large cottonwood trees within a broad, lower floodplain. As such, it is considered unlikely the species occurs within the study area.

However, if the species does occur, construction-related impacts to the Yellow-billed Cuckoo may include displacement from the loss or degradation of habitat, temporal loss of habitat suitability during construction, and harassment due to increased noise, vibration, and visual disturbances. An increased presence of personnel and construction equipment may increase the likelihood that Yellow-billed Cuckoos, if present, could be temporarily displaced from people or equipment.

Because the species is unlikely to occur in the study area, and construction timing restrictions for tree removal between PM 10 and PM 12 would reduce impacts to the species if present (MM BIO-13 in Appendix A), it is anticipated that the project may affect, but is not likely to adversely affect, the Yellow-billed Cuckoo.

California Giant Salamander

Direct effects to California giant salamanders may occur due to work within or directly adjacent to East Schooner Creek, including roadway widening, embankment stabilization, and culvert replacement. Direct effects include ground-disturbing activities; dewatering; construction equipment; runoff and sediment introduction; displacement from the loss or degradation of habitat; and increased noise, vibrations, and visual disturbances. These disturbances could result in mortality or cause salamanders to leave their habitat within the project area during construction. Due to its similar habitat requirements to the CRLF, the same avoidance, minimization, and mitigation measures implemented to protect the CRLF will also protect the salamander (see Appendix A). For these reasons, the Action Alternative may impact individuals, but is not likely to result in a loss of viability of the species, nor cause a trend toward state or federal listing.

Central California Coast Steelhead⁴

The proposed culvert replacements at Schooner Creek and East Schooner Creek, as well as the embankment stabilization along SFDB and East Schooner Creek, have the most potential to affect Central California Coast (CCC) steelhead and their habitats. However, effects to CCC steelhead resulting from the new project components are anticipated to be similar to those outlined in the 2015 EA/IS.

Construction activities at both Schooner Creek and East Schooner Creek would likely result in a short-term increase in turbidity to the waterways, which could directly affect CCC steelhead if present. These effects could lead to behavioral changes, avoidance, and dispersal from affected habitats. Overall, potential direct effects to CCC steelhead associated with increased turbidity and water quality impacts are anticipated to be minimal and short-term. It is assumed that water quality would improve after completion of the project, specifically within and downstream of the section of East Schooner Creek where the embankment work would take place. Stabilization of this

⁴ As disclosed in the 2015 EA/IS, Central California Coast coho salmon are not likely to be present in the study area and there is no recent documentation of coho salmon in Schooner Creek or East Schooner Creek. Therefore, this species is not discussed further in the SEA/SIS.

embankment is expected to alleviate the on-going erosion and undercutting that has been occurring; thereby reducing the amount of sediment transportation. Therefore, the embankment stabilization would improve downstream stream habitat and yield net benefits. Furthermore, the replacement of the twin culverts at Schooner Creek with a clear-span bridge would improve natural hydrologic and geomorphic processes, watershed function, ecological functionality, and fish passage at the site. The wider channel at Schooner Creek would benefit water quality and ecological function by improving the natural functioning of the saltwater and freshwater interface.

During construction, noise and vibration could temporarily affect fish that use the area by causing them to avoid potential habitat. In terms of the bridge construction at Schooner Creek, drill shafts would be installed at the bridge abutments for foundations, which would be constructed using an auger with temporary casing to support the drill-shaft during drilling and concrete placement. The use of temporary shoring is not expected because of the anticipated plan for bridge construction phasing. This plan includes removing half of the twin culverts and constructing half of the bridge while maintaining traffic on the existing roadway alignment. Once the first half of the bridge is completed, traffic would be shifted to the completed half of the bridge, and construction of the second half would be conducted in a similar manner. Placement of riprap along abutment slopes would act as a temporary dam and isolate the work zone from flowing water to reduce turbidity. Armoring would also be placed to protect the slope to protect from tidal scour below the roadway.

The Action Alternative may result in indirect effects to water quality and stream habitat due to chemical runoff, an increase in impervious surfaces, erosion and sedimentation from the temporal loss of vegetation, soil disturbance, and in-channel work, all of which could degrade aquatic habitat. None of the proposed design changes or mitigation sites are anticipated to result in additional indirect effects than what was disclosed in the 2015 EA/IS.

Even though CCC steelhead would not likely be present between July 1 and October 15 when in-channel work would be conducted, the species is known to occur within the Action Area in Schooner Creek and East Schooner Creek and individuals may be encountered during construction. For this reason, the Action Alternative may affect, and is likely to adversely affect, CCC steelhead. With regard to designated critical habitat for the species, which is located at both Schooner Creek and East Schooner Creek, project activities may result in short-term effects to critical habitat. However, the water in Schooner Creek and East Schooner Creek would flow more freely towards Schooner Bay, resulting in long-term benefits. Therefore, the Action Alternative may effect, but is not likely to adversely affect, critical habitat for CCC steelhead. Overall, the proposed project would help restore the function of critical habitat within the study area. Furthermore, to help lessen the likelihood of direct and indirect effects to CCC steelhead, numerous avoidance and minimization measures as detailed in the 2015 EA/IS, and included in Appendix A, will be followed.

Northern Elephant Seal

Elevated noise levels and an increase in construction personnel at the Drakes Beach parking lot could disrupt typical northern elephant seal behaviors during project construction. Construction would be limited to the period outside of the established pupping and breeding season, when the NPS establishes temporary seasonal closures along Drakes Beach south of the Kenneth C. Patrick Visitor Center. Therefore, no incidental take of northern elephant seals is anticipated, and an incidental take permit

through the Marine Mammal Protection Act is not required. The following mitigation measure will be implemented to reduce impacts to the northern elephant seal.

- **MM BIO-44:** Construction at Drakes Beach parking lot will not occur during the seasonal beach closures (typically January–March) along Drakes Beach as established yearly by the NPS. The Contracting Officer’s Engineer will coordinate with NPS and notify the contractor when construction may begin.

Point Reyes Bird’s-beak

A population of Point Reyes bird’s-beak is located adjacent to the SFDB crossing of Schooner Creek. At this location, the roadway grade would be raised and the alignment of SFDB adjusted slightly to accommodate the bridge and improve roadway geometry. Permanent impacts would result from grading and ground-disturbing activity from bridge construction, while trampling from equipment would temporarily impact the species. While construction of the bridge would result in slightly different impacts to this population compared to the former proposal of an on-alignment open-bottom arch, permanent and temporary impacts to the population at Schooner Creek would still result in less than 0.01 acre as disclosed in the 2015 EA/IS. Additionally, the mitigation measures described in the original EA/IS, and included in Appendix A, would minimize impacts to the species.

Harlequin Lotus

Grading and contouring the two ponds on Home Ranch, and submerging plants, would directly impact Harlequin lotus. At both ponds, approximately 0.02 acre of the population would be permanently impacted and approximately 0.01 acre of the population would be temporarily impacted by trampling from equipment; totaling 0.04 acre of permanent impact and 0.02 acre of temporary impact. The mitigation measures described in the original EA/IS, and included in Appendix A, would minimize impacts to the species.

- b. **Less than Significant Impact with Mitigation.** The modifications to the Action Alternative would not result in new, adverse impacts to riparian habitat or other sensitive natural communities because none were identified in the expanded study area.
- c. **Less than Significant Impact with Mitigation.** Using conceptual project design, the original EA/IS concluded that the Action Alternative would result in approximately 4.8 acre of permanent impacts and approximately 5.2 acre of temporary impacts to wetlands and other waters of the U.S. Since issuance of the EA/IS, the anticipated impacts to wetlands and other waters of the U.S. have changed because: (1) the project area has expanded to include mitigation sites at Drakes Beach and on Home Ranch, (2) modifications to project design include a bridge at Schooner Creek and embankment stabilization along East Schooner Creek, and (3) project design has progressed substantially and total impacts along the roadway corridor have been reduced. Table 3-4 summarizes the current impacts to wetlands and other waters of the U.S. in comparison to those reported in the 2015 EA/IS.

Table 3-4. Summary of Wetland and Other Waters of the U.S. Impacts

Type ¹	2015 EA/IS Impacts		Current Impacts	
	Permanent Impacts (acres)	Temporary Impacts (acres)	Permanent Impacts (acres)	Temporary Impacts (acres)
Wetlands				
Palustrine Forested	0.704	1.202	0.286	0.283
Palustrine Scrub-shrub	1.088	0.953	0.580	0.531
Palustrine Emergent	2.265	2.192	1.389	1.210
Riparian Emergent	0.106	0.153	0.075	0.042
Riparian Forested	0.026	0.058	0.004	0.007
Riparian Scrub-shrub	0.179	0.239	0.090	0.049
Estuarine Emergent	0.045	0.140	0.060	0.018
Total	4.413	4.937	2.458	2.140
Other Waters of the U.S.				
Ephemeral	0.060	0.016	0.031	0.021
Intermittent	0.291	0.100	0.289	0.037
Perennial	0.018	0.104	0.148	0.066
Total	0.369	0.220	0.468	0.124

¹Wetland types are based on the Cowardin Classification system (Cowardin et al. 1979) and hydrogeomorphic classifications (Brinson et al. 1993).

The following discussion describes the primary changes to the Action Alternative that result in new or changed impacts to wetlands and other waters of the U.S. These include the Schooner Creek culvert replacement, East Schooner Creek embankment stabilization, wetland mitigation at Drakes Beach, and CRLF mitigation.

Schooner Creek Culvert Replacement

The method of construction for the replacement of the existing culverts with a bridge would be similar to the method described in the 2015 EA/IS for the open-bottom arch structure. Construction would occur in two phases – one upstream and one downstream – to allow traffic to continue across SFDB. Both the upstream and downstream phases include the same actions. Shallow trenches would be excavated within existing road fill at the bridge abutment locations to drill the caissons and pour the abutment cap. The existing roadway fill would serve as berms for this construction to provide dry working areas at each abutment, with a small manmade berm required at the southwest corner of the bridge where the bridge abutment is higher than the existing fill.

Minimal excavation in the middle of the Schooner Creek channel would be required in order to remove the existing road fill and half of the culverts during each phase. Some in-channel work would occur on the upstream and downstream sides of the creek for minor channel shaping and to install riprap for bridge abutment scour protection prior to placing bridge beams and decking during each phase.

Approximately 750 feet of the roadway would be re-aligned up to 12 feet to improve the horizontal curves approaching the bridge. In addition, the grade of the roadway would be raised by up to 3 feet. In total, these improvements would result in less than 0.1 acre of permanent impact and less than 0.01 acre of temporary impact to Schooner Creek. The

wetlands abutting Schooner Creek would incur less than 0.1 acre of permanent and temporary impacts.

East Schooner Creek Embankment Stabilization

Between approximately PM 10.3 and PM 10.8, approximately 710 feet of biotechnical bank stabilization (likely a rockery wall with a vegetated face) would be installed along the creek channel. The rockery wall would extend up to 8 feet below the existing road surface and 2 to 3 feet below the existing streambed. Re-establishing the embankment would result in approximately 0.1 acre of permanent impact to the channel, and approximately 0.1 acre of temporary impact. The base of the rockery would be embedded below the existing streambed and would maintain the gravelly substrate. The channel slope would be vegetated with vegetation native to the site and willows or other woody vegetation would be placed in the voids within the rockery wall.

Wetland Mitigation at Drakes Beach Parking Lot

As previously discussed, the Action Alternative would remove approximately half of the existing parking lot (approximately 2 acres) at Drakes Beach to re-establish a former wetland. The restored wetland would be connected to an existing wetland located on the southwest edge of the existing parking lot. In order to connect the restored wetland to the existing wetland, approximately 0.2 acre of the existing wetland would be temporarily impacted. Approximately 0.1 acre of wetland would also be temporarily impacted as a result of reconfiguring the parking lot and culvert replacement along Drakes Beach Road, which would improve drainage into the parking lot. Although new impacts are anticipated, the restoration of the former wetland would be a long-term benefit by restoring a diminishing and highly valued resource on the peninsula – coastal wetlands.

California Red-legged Frog Mitigation

As a result of excavation and grading to construct the pond bottoms, a total of approximately 0.4 acre of wetland would be temporarily impacted (0.2 acre at each pond). Construction of the dam and riprap spillway at each pond would result in a total of approximately 0.1 acre of permanent wetland impacts (0.1 acre at Pond 2 and less than 0.1 acre at Pond 9). The equipment access routes and construction staging would avoid wetlands and other waters of the U.S. As designed, the creation of each pond would mitigate onsite for the permanent wetland impacts by expanding existing wetlands onsite.

- d. **Less than Significant Impact with Mitigation.** Wildlife are likely to move along drainage and riparian corridors within the study area; however, no distinct native resident or migratory wildlife corridors have been identified within the study area with the exception of CCC steelhead and coho salmon. There are no native wildlife nursery sites within the study area.

While short-term disruption of wildlife movement may occur during construction activities, the Action Alternative would not substantially alter species movement along potential wildlife corridors, such as riparian areas. However, the Action Alternative could temporarily alter the movement and migration corridors of aquatic species – specifically central California coast coho salmon and central California coast steelhead.

The study area contains critical habitat for CCC coho salmon and CCC steelhead. This critical habitat is related to movement of aquatic species as it provides for fish passage and supports migratory patterns. CCC coho salmon are not likely present in the study area because there are no known occurrences within Drakes Estero or its tributaries (NMFS 2006), which includes Schooner Creek and East Schooner Creek. It is expected

that critical habitat would only be impacted during construction activities and that long-term habitat impacts would be beneficial, as CCC coho salmon (if present) and steelhead would have access to more spawning and rearing habitat. Additionally, the hydrologic function would improve and benefit the estuary within the Schooner Creek area. The embankment stabilization at East Schooner Creek would also improve downstream stream habitat and result in net benefits to fish passage.

The incorporation of the mitigation measures included in Appendix A would reduce potential short-term, adverse impacts to be less than significant levels. In the long-term, the Action Alternative is expected to benefit fish passage.

- e., f. **No Impact.** No local policies or ordinances apply to the study area, and no Habitat Conservation Plans or Natural Community Conservation Plans were identified within the study area.

3.6 Cultural Resources

The EA/IS originally prepared for this project describes the historic context and current setting along SFDB, and defined an area of potential effect (APE) that was used for analysis. The APE is the geographic area within which actions may change the character or use of historic properties, and also serves as the study area for historic resources. The APE originally analyzed is generally a 60-foot wide corridor following the SFDB centerline with expanded areas that include pull-outs and parking areas, as well as easements in which construction would occur. Based on work at Drakes Beach parking lot and within Home Ranch, the APE has been expanded to include new work activities incorporated into the Action Alternative; specifically, wetland and CRLF mitigation.

3.6.1 Affected Environment

Based on correspondence with NPS, the NPS implemented a phased approach to identifying historic properties associated with history and development of dairy ranching on the Point Reyes peninsula. This approach has resulted in three separate district evaluations with variation in terms of applicable significance criterion, contributing resources, and period of significance among other things. The APE is encompassed by the three historic districts that are eligible for listing on the NRHP: the Point Reyes Dairy District, Point Reyes Historic Ranches District, and the Shafter/Howard Tenant Ranches Historic District. Although evaluated separately, these districts are commonly referred to as the Point Reyes Ranches Historic District, whose boundaries are the same as PRNS.

A records search, field inventory, assessment of the potential for buried archaeological deposits, and an Extended Phase I subsurface survey was conducted for the expanded APE (Ruby and Murphy 2017). The records search demonstrated that no previously recorded sites had been identified in the expanded APE. During the intensive archaeological pedestrian survey, only a single isolate – a historic-era partially collapsed livestock watering trough – was identified. The trough appears to be related to ranching activities associated with the Home Ranch, but is undated and similar to other troughs located in the vicinity. The trough is likely not eligible for listing to either the National Register of Historic Places (NRHP) or California Register of Historic Places (CRHP) (Ruby and Murphy 2017).

Home Ranch is one of several ranches that have been identified as retaining historic integrity within the Point Reyes Ranches Historic District and is a contributing feature of that district. No historic-age built environment resources were identified within the APE other than the aforementioned livestock trough on Home Ranch.

With regard to archaeological resources, the Drakes Beach parking lot contains Holocene-era sediments that have a high potential of covering sites more than 600 years old. An Extended

Phase I subsurface study was conducted at this location. No buried soils or materials consistent with human habitation were identified (Ruby and Murphy 2017).

3.6.2 Environmental Consequences

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
CULTURAL RESOURCES: Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

New, but less than significant impacts, would occur to cultural resources. Therefore, there are no substantial changes to the project or new information of substantial importance since the 2015 FONSI/MND that would result in any new significant environmental effects or a substantial increase in the severity of previously identified impacts to cultural resources.

- a. **Less than Significant with Mitigation.** The livestock watering trough is likely not eligible for listing to either the NRHP or CRHP, and would be avoided by the Action Alternative. Although Home Ranch is a contributing feature of the Point Reyes Ranches Historic District, the creation of the two CRLF ponds on Home Ranch would have minimal ground disturbance and would be in keeping with the overall setting of the ranch.

The design changes along SFDB are in keeping with the original analysis and conclusion that the project would have no adverse effect to historic properties. With the incorporation of the new mitigation measure identified below and the existing measures identified in the 2015 EA/IS (see Appendix A), the finding of no adverse effect for the Action Alternative is still valid. The State Historic Preservation Officer (SHPO) concurred with this recommendation of effect on February 23, 2018 (see Appendix F). During re-initiation of agency and public scoping on September 20, 2017, the Federated Indians of Graton Rancheria were also notified of the project modifications (see Appendix G). Following completion of the cultural resources report, the Tribal Historic Preservation Office was provided a copy of the report on January 25, 2018 for their review and comment (see Appendix F). No response was received.

- MM HR-4: Project design will avoid the historic-era watering trough on Home Ranch.

- b. **No Impact.** No archaeological resources have been identified within the APE. An assessment of buried site sensitivity identified the APE as having very low potential for buried sites with the exception of the Drakes Beach parking lot, which contains “Holocene-era sediments that have a high potential of covering sites more than 600 years old” (Ruby and Murphy 2017). However, during the Extended Phase I subsurface investigation, no buried soils or materials consistent with human habitation were identified. Because the subsurface investigation examined deposits that were well below the expected depth associated with the impacts, improvements at Drakes Beach are

unlikely to impact potentially buried resources. For these reasons, the project is expected to have no impact to archaeological resources.

- c. **No Impact.** There are no known unique paleontological resources, sites, or unique geologic features within the APE. Although the cliffs at Drakes Beach are known to have yielded vertebrate fossils, the Action Alternative would not impact the cliffs. In addition, the portion of the project located along Drakes Beach (i.e., removal of existing culverts and asphalt removal along the Peter Behr Overlook Trail) is currently subject to wave erosion, which has likely removed any existing resources. For these reasons, the Action Alternative would have no impact to unique paleontological resources, sites, or unique geologic features.
- d. **No Impact.** No materials consistent with human habitation were identified at the wetland mitigation site at Drakes Beach, and human remains are not likely to exist in this area, as it was historically a wetland. In addition, studies of the Miwok indicate that cremation was their general practice, further diminishing the likelihood of uncovering human remains at any of the proposed construction locations, including the Home Ranch ponds.

3.7 Geology and Soils

The 2015 EA/IS describes various soil types on the Point Reyes Peninsula, as well as geologic hazards, including earthquake fault zones, liquefaction, and landslides. Specific geologic conditions are described in more detail, below, relative to the Action Alternative.

3.7.1 Affected Environment

3.7.1.1 Schooner Creek Culvert Replacement

NRCS Soil Survey data indicates that the majority of soil units in the study area are hydric soils (Jacobs 2014b). Hydric soils are permanently or seasonally saturated by water and occur in areas with a high water table for a portion or the majority of the year (NRCS 2014).

SFDB crosses Schooner Creek in an area containing surficial deposits⁵ with a high probability of liquefaction extending approximately 0.25 mile west and 300 feet east along SFDB. Liquefaction is a process by which water-saturated sediment temporarily loses strength and acts as a fluid during an earthquake. The soil type most susceptible to liquefaction is loose, granular soil below the water table within approximately 50 feet of the ground surface. Liquefaction can cause buildings to sink or tilt, buried materials to rise to the ground surface, slopes to fail, surfaces to crack or cave, and ground to shift laterally. Two conditions must exist for liquefaction to occur: (1) the soil must be susceptible to liquefaction, and (2) ground shaking must be strong enough to cause susceptible soils to liquefy (Utah Geological Survey 2013). As noted in the EA/IS, the probability of an earthquake defined on the Richter scale as “strong” to occur in the greater Marin County area in the next 30 years is between 40 and 50 percent (USGS 2009).

Soils on the east side of Schooner Creek have a very high erodibility factor; soils west of the creek have a low erodibility factor (NRCS 2016). The Marin County USGS landslide map identifies the creek crossing area as “flat land” that is “defined by the distribution of surficial deposits” with “little or no potential for the formation of slumps, translational slides, or earth flows except along stream banks and terrace margins” (USGS 1997). Soils in this area have no to low expansion potential. However, soil borings taken along the project corridor during a geotechnical analysis showed no swell potential, with the exception of only one sample near PM 2, where no work is proposed under this SEA/SIS (YEH 2014).

⁵ Surficial deposits consist of unconsolidated sediments, such as stream channel and floodplain deposits, and can be susceptible to slope movement or failure (US DOI 1977).

3.7.1.2 East Schooner Creek Embankment Stabilization

A narrow sliver of land identified as having very low levels of liquefaction exists directly east of SFDB where East Schooner Creek is eroding part of the road. Data from Marin County used in the EA/IS shows this location has a high occurrence of expansive soils. As mentioned above, the EA/IS notes that samples taken along the project corridor showed no swell potential (YEH 2014). In addition, the soils in this area have a fairly low erodibility factor (0.28 on a scale of 0.02 to 0.69) (NRCS 2016).

Per the EA/IS, the area immediately adjacent to the narrow sliver of land described above is prone to landslides. Liquefaction probability in this area increases from very low to low, with a low occurrence of expansive soils.

3.7.1.3 Wetland Mitigation at Drakes Beach Parking Lot

A narrow drainage that trends to the southeast toward the Kenneth C. Patrick Visitor Center is identified as containing surficial deposits with a high probability of liquefaction, increasing to very high in the vicinity of the visitor center. This drainage includes a large pond that collects runoff. This pond, which is lower than the visitor center parking lot, overflows during storm events into a wetland that parallels the southwestern side of the parking lot, draining into the ocean. The area is identified as “flat land” that is “defined by the distribution of surficial deposits” with “little or no potential for the formation of slumps, translational slides, or earth flows except along stream banks and terrace margins” (USGS 1997). Marin County GIS data shows no expansive soils in the drainage, including the parking area. Outside of this area, liquefaction probability and the occurrence of expansive soils, as well as landslides, are low (Marin County 2005).

3.7.1.4 California Red-Legged Frog Mitigation

Home Ranch Pond 2 and Pond 9 would be located in areas with very low liquefaction probability, high potential for swelling soils, and primarily few landslides (Marin County 2005).

3.7.2 Environmental Consequences

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
GEOLOGY AND SOILS: Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

New, but less than significant impacts, would occur to geology and soils. Therefore, there are no substantial changes to the project or new information of substantial importance since the 2015 FONSI/MND that would result in any new significant environmental effects or a substantial increase in the severity of previously identified impacts to geology and soils.

a.i. **No Impact.** The Action Alternative would not cross or be located in proximity to Alquist-Priolo Earthquake Fault Zones, and would not expose people or structures to adverse effects from fault rupture.

a.ii. **Less than Significant Impact.** The open-bottom arch structure originally proposed at Schooner Creek would be replaced with a short, single-span bridge. The bridge would be designed to prevent the horizontal deck from sliding off the supporting columns; the structure would shift as one integrated “frame.” The stiffness of a single-span bridge during a seismic event limits the amount of movement that would occur, thereby greatly reducing the risk of failure, loss, injury, or death. Any resulting structural damage would be minimal and easily repaired, with no major damage to the bridge expected.

Ground shaking has potential to rupture the existing sewer line underneath the Drakes Beach parking lot. However, ground failure, rather than ground shaking, is the principal cause of damage to water and sewer lines (USGS 2013). Replacing part of the existing line would potentially repair any cracks or holes in that segment, and the pipe replacement would be designed and constructed of a material to withstand ground shaking. Potential impacts would not be substantially adverse, and would not result in the risk of loss, injury, or death.

a.iii. **Less than Significant Impact.** The bridge proposed at Schooner Creek would be located in an area with a high probability of liquefaction. However, as mentioned under item “a.ii,” above, the bridge would be designed to prevent failure.

The Drakes Beach parking lot is located in an area of very high liquefaction. Restoring part of the parking lot to a wetland that existed there historically would result in a beneficial impact regarding seismic-related ground failure, including liquefaction.

Because buried materials may rise to the ground surface during liquefaction, replacing a short segment of the sewer line underneath the Drakes Beach parking lot might expose the structure to potential adverse effects. In addition, ground failure is the principal cause of damage to water and sewer lines (USGS 2013). If the ground surrounding a sewer liquefies, it may collapse. However, sewer collapse is unusual except when significant ground movement occurs (Gould 2005). Additionally, only a short segment of

pipe would be replaced, and the replacement would be designed and constructed of a material to help withstand ground failure. Therefore, these impacts are not expected to be substantial, and would not result in the risk of loss, injury, or death.

- a.iv. **Less than Significant Impact.** Land at the SFDB crossing of Schooner Creek is primarily flat, with low potential for landslides. Land at the Kenneth C. Patrick Visitor Center is similar; negligible impacts from landslides are expected from replacing the sewer line segment. Stabilizing the embankment adjacent to the East Schooner Creek channel would help the area better resist landslides that occur between PM 10 and 11. Therefore, impacts are expected to be less than significant.
- b. **Less than Significant Impact with Mitigation.** Replacing the open-bottom arch structure originally proposed at Schooner Creek with a bridge would further alleviate the bottlenecked water flows in this area and reduce the peak flow velocity created by the existing culverts, as described in the 2015 EA/IS. The result would be reduced erosion potential, particularly of the very highly erodible soils identified on the east side of Schooner Creek. Shifting approximately 750 feet of SFDB 12 feet may impact soils on the east side of Schooner Creek, which have a very high erodibility factor. However, topsoil would be stockpiled and replaced following construction (i.e., topsoil would be conserved). As mentioned in the 2015 EA/IS, recommendations from the geotechnical report (YEH 2014) have been incorporated into project design to avoid or minimize impacts.

Stabilizing the embankment along East Schooner Creek would substantially reduce erosion, as the creek is currently undercutting the road and exposing vegetation roots. Revegetating this area and preventing vegetation loss would further stabilize the bank and minimize erosion.

Restoring part of the Drakes Beach parking lot to a wetland would reduce erosion potential in that area, as wetlands hold soils in place with their roots. Although 2 to 4 feet of soil underlying the pavement would be removed, doing so would help eliminate any toxins that have leached into the ground, resulting in a beneficial impact to soils.

Topsoil would be conserved by stockpiling and replacing any that would be removed during construction, including construction of the Home Ranch ponds. Therefore, there would be no substantial loss of topsoil, and topsoil replacement would help prevent erosion.

Construction activities have the potential to cause soil erosion. However, these short-term impacts would be temporary, and the avoidance, minimization, and/or mitigation measures identified in the 2015 EA/IS and listed in Appendix A (MM VA-1) would be applied, resulting in less than significant impacts.

- c. **Less than Significant Impact.** With the exception of the impacts described above, no other unstable geologic or soil unit was identified in the study area, and none would become unstable as a result of the project. The modifications to the Action Alternative would not increase the risk of on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse. For these reasons, impacts are expected to be less than significant.
- d. **No impact.** As mentioned above, samples taken along the SFDB project corridor during a geotechnical analysis showed no swell potential where actions are proposed (YEH 2014). Although the two ponds on Home Ranch would be located in areas with high potential

for swelling soils, no structures would be associated with the ponds that would be affected. In addition, the Uniform Building Code does not apply to this project.

- e. **No impact.** No septic tanks would be constructed. Impacts regarding replacement of a segment of sewer line at the Kenneth C. Patrick Visitor Center are discussed above.

3.8 Greenhouse Gas Emissions

Because climate change has the potential to affect multiple resources within PRNS, it was retained for analysis under the Cumulative Impacts discussion in the 2015 EA/IS rather than as a separate resource. That section describes the effects of climate change and greenhouse gas emissions (GHG) relative to sea level rise (SLR). As noted in the 2015 EA/IS, the NPS started a planning process to adapt the parking and visitor access facilities at Drakes Beach to accommodate potential impacts of SLR (NPS 2014). The original EA/IS also identified flood potential related to projected SLR affecting Schooner Creek where it is crossed by SFDB. For purposes of this analysis, only the proposed actions at Drakes Beach and the culvert replacement at Schooner Creek are discussed, as no other locations would be affected.

3.8.1 Affected Environment

3.8.1.1 Schooner Creek Culvert Replacement

In 2005, the USGS identified PRNS as particularly at risk among American shorelines. The NPS notes that SLR will flood low-lying roads, including sections of SFDB at the head of Schooner Bay, which already floods during winter storms (NPS n.d.c).

PRNS became a Climate Friendly Parks (CFP) member in 2008. The CFP Network is a collaboration between the Environmental Protection Agency and the NPS (NPS n.d.j.). The CFP program provides parks with the tools and resources to address climate change and ensure implementation of the most sustainable operations across the agency. Under the CFP program, the NPS has conducted an emission inventory, set an emission reduction goal, developed an action plan, and committed to educate park staff, visitors, and community members about climate change.

As stated in the EA/IS, the SLR Task Force of the Coastal and Ocean Working Group adopted statewide SLR projections. The council adopted statewide SLR values for the predicted average SLR and potential range of SLR for the years 2030 and 2050, shown in Table 3-5 (Caltrans 2011).

Table 3-5: Projected Sea Level Rise in California

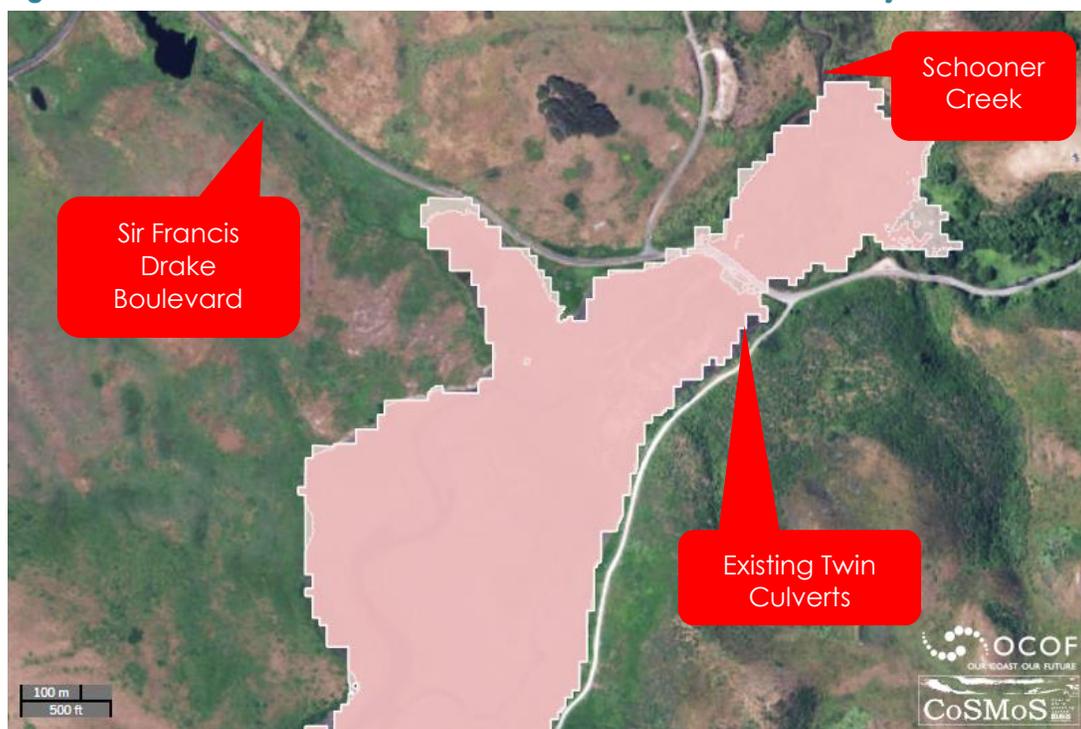
Year	Average SLR	SLR Range
2030	7 inches	5-8 inches
2050	14 inches	10-17 inches

Note: Based on year 2000 as baseline.

Source: Caltrans 2011

Based on these predictions, Figure 17 shows the minimum flooding inundation possible (pink shaded areas) related to projected SLR in the area of Schooner Creek using an estimated SLR of 25 centimeters (approximately 10 inches) and a 100-year storm event (OCOF 2017).

Figure 17: Flood Potential at Schooner Creek and SFDB Related to Projected SLR



Source: OCOF 2017

3.8.1.2 Wetland Mitigation at Drakes Beach Parking Lot

The footprint of the Drakes Beach parking lot is greater than 5 acres and impinges on coastal shoreline and coastal marsh habitat. The parking lot is used seasonally (during whale watching season) for the Point Reyes Headlands Transit Program. Parking demand exceeds the existing space fewer than 10 days per year. The parking lot elevation ranges from 12 to 14 feet generally above sea level⁶, and approximately 6 feet above predicted high tides; it is regularly flooded in winter due to inadequate drainage. Wave erosion on the southwest corner of the parking lot has required regular maintenance and installation of riprap to protect the area (NPS 2015).

Based on the predictions shown in Table 3-5, above, Figure 18 shows the minimum flooding inundation possible (pink shaded areas) related to projected SLR in the area of Drakes Beach using an estimated SLR of 25 centimeters (approximately 10 inches) and a 100-year storm event. Darker shaded areas indicate a zero-year storm event (OCO 2017).

⁶ This range was measured using the North American Vertical Datum of 1988, a leveling network on the North American Continent affixed to a single origin point. It held fixed the height of the primary tidal bench mark, referenced to the new International Great Lakes Datum of 1985 local mean sea level height value. Additional tidal bench mark elevations were not used due to variations in sea surface topography, i.e., mean sea level is not the same at all tidal bench marks.

Figure 18: Flood Potential at Drakes Beach Related to Projected SLR



Source: OCOF 2017

Under the NPS’s planning process to address SLR at Drakes Beach, the NPS intended to evaluate alternatives to adapt the footprint, elevation, and operation of the parking area to the anticipated changes in sea level in the coming decades. As part of this planning process, reducing the footprint of the parking area was a component identified for consideration in the alternatives. (NPS 2015).

3.8.2 Environmental Consequences

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
GREENHOUSE GAS EMISSIONS: Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No new significant impacts would occur to GHGs. Therefore, there are no substantial changes to the project or new information of substantial importance since the 2015 FONSI/MND that would result in any new significant environmental effects or a substantial increase in the severity of previously identified impacts to GHGs.

- a. **Less than Significant Impact.** As described under Section 3.4, Air Quality, short-term construction-related emissions would occur as a result of the project, but are not expected to be significant since estimates do not exceed BAAQMD thresholds of significance for

construction-related criteria air pollutants and precursors. In addition, because the Action Alternative would not increase the overall capacity of SFDB, long-term effects are anticipated to remain unchanged from existing conditions.

Modifications to the Action Alternative would also help accommodate SLR resulting from climate change. As mentioned under Section 3.1, Aesthetics, replacing the originally proposed 32-foot-wide open-bottom arch structure at Schooner Creek with an approximately 57-foot-long, single-span bridge would result in a wider opening and additional clearance between higher water levels and the bridge. The higher elevation and wider bridge would therefore allow the creek to flow more naturally under the structure and adapt to SLR, resulting in a beneficial impact.

Similarly, restoring part of the historic wetland at Drakes Beach would help reduce impacts from floods that occur regularly in winter. Removing the southwest corner of the parking lot and restoring it to a wetland would also better absorb impacts from SLR in this area, as would removing and/or replacing the existing culverts which would restore the natural interface between the wetland and tidal waters.

For these reasons, impacts related to GHG emissions are expected to be less than significant.

- b. **No Impact.** The Action Alternative would not conflict with the GHG reduction goals set forth in California Assembly Bill 32, or with PRNS's standing as a CFP member or its emission reduction goals. Although the Action Alternative was not specifically designed to address SLR, it would contribute to the NPS's SLR planning process for Drakes Beach by reducing the footprint of the parking area. For these reasons, there would be no impact.

3.9 Hazardous Materials

The 2015 EA/IS identifies locations of known regulated materials within the original study area. None of the actions proposed under this SEA/SIS are located in areas identified in the 2015 EA/IS as containing potential recognized environmental conditions. A review of the California Department of Toxic Substances Control's data management system for tracking hazardous waste sites (EnviroStor) identified no hazardous material sites where actions are currently proposed (EnviroStor 2018). Hazardous materials could be potentially affected by wetland mitigation at the Drakes Beach parking lot.

3.9.1 Affected Environment

Historical photos indicate the Drakes Beach parking lot was formerly a wetland. Because the Point Reyes peninsula has been under the protective jurisdiction of the NPS since 1962, it is likely no development has occurred in the area other than the Kenneth C. Patrick Visitor Center facilities, including the asphalt parking lot. Therefore, the Drakes Beach parking lot is not located on a list of hazardous materials sites. It is also not located within 2.0 miles of a public airport or in the vicinity of a private airstrip, or identified within an airport land use plan.

Asphalt is a complex mixture of many chemical compounds, the exact composition of which depends upon the individual source. Asphalt is used on roads in a manner that binds most of the harmful compounds as part of a tough, cement-like solid. However, asphalt typically contains polycyclic aromatic hydrocarbon (PAHs) and alkyl PAHs, which are environmental pollutants that can move into the ecosystem when asphalt is broken down (NPS 1997).

A sewer pipeline travels south from the visitor center under the parking lot. This pipeline was abandoned in place and replaced with a high density polyethylene pipeline in 2004 or 2005. The abandoned pipeline may contain asbestos. Due to its light weight, relatively low installation cost,

superior corrosion resistance, asbestos cement pipe was very popular during the 1950s, 1960s, and early 1970s, after which production ceased (Williams and Von Aspern n.d.).

As noted in the 2015 EA/IS, the project is located within an area designated by the California Department of Forestry and Fire Protection as a high fire hazard severity zone.

3.9.2 Environmental Consequences

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
HAZARDOUS MATERIALS: Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

New, but less than significant impacts, would occur to hazardous materials. Therefore, there are no substantial changes to the project or new information of substantial importance since the 2015 FONSI/MND that would result in any new significant environmental effects or a substantial increase in the severity of previously identified impacts related to hazardous materials.

- a. **Less than Significant Impact with Mitigation.** Asphalt and the abandoned sewer pipeline removed from the Drakes Beach parking lot would be transported and disposed of per requirements established by standard federal specifications. With the implementation of these requirements, impacts would be less than significant.
- b. **Less than Significant Impact.** Two to four feet of soil underlying the pavement at the Drakes Beach parking lot would be removed to help eliminate any toxins that have leached into the ground. Removing the short asphalt footpath at the southern end of the parking lot would also remove a potentially toxic surface (asphalt). Removing the abandoned sewer line would only minimally disturb the possible asbestos coating and would be located outdoors, with no concentrated exposure (Pipeline Gas & Journal 2011).

Asphalt removal and replacement of the sewer pipeline segment underneath the visitor center would be done in accordance with standard federal specifications. Adhering to these protocols would reduce the chance for upset and accident conditions that could release hazardous materials. The abandoned pipeline would remain in place. For these reasons, the risk of public or environmental hazards would be less than significant.

- c., d. **No Impact.** No schools exist within 0.25 mile of the study area, and no sites included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 are within the study area.
- e., f. **No Impact.** No airport or private airstrip exists within 2.0 miles of the study area, and thus no airport land use plan applies.
- g. **Less than Significant Impact.** Replacing the culverts at Schooner Creek and installing embankment stabilization along East Schooner Creek would result in one lane of the road being closed during construction, which could affect emergency vehicle response times. However, as described in the 2015 EA/IS, emergency vehicles would be permitted to pass through the project and road closures would be limited to 30 minutes. Therefore, impacts would be less than significant.
- h. **Less than Significant Impact.** Construction-related activities could increase the risk of wildfires where ranches are intermixed with wild lands, such as during creation of Ponds 2 and 9. However, the project would adhere to the PRNS *Fire Management Plan*; therefore, impacts would be less than significant.

3.10 Hydrology and Water Quality

The description of water features provided in the original EA/IS prepared for this project (Section 3.14, Water Quality), remains primarily valid for this SEA/SIS. The EA/IS notes that the 2013 *San Francisco Bay Basin Water Quality Control Plan* identified Schooner Creek as East Schooner Creek. The EA/IS listed Schooner Creek's existing beneficial uses, and stated that no existing or proposed beneficial uses had been identified for East Schooner Creek in the 2013 plan. However, the 2017 update to the plan (*San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)*) specifically identifies East Schooner Creek, with the same existing beneficial uses identified for Schooner Creek in the 2015 EA/IS. No proposed beneficial uses were noted in the 2017 *Basin Plan* for East Schooner Creek, and Schooner Creek is no longer identified.

3.10.1 Affected Environment

Prior to the construction of the Drakes Beach parking lot in 1965 and 1967, the site was a natural coastal wetland driven by groundwater and potentially supplemented by adjacent spring flow draining into the wetland basin. The existing wetlands and pond northwest of the wetland mitigation site at this location are a source of groundwater discharging into the proposed site. Groundwater also flows through the mitigation site from the natural upland aquifer, and may be influenced by tidal effects. Groundwater below the existing parking lot may be confined by the clayey fill materials placed over the previous estuary (Jacobs 2017).

3.10.2 Environmental Consequences

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
HYDROLOGY AND WATER QUALITY: Would the project:				
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

New, but less than significant impacts with mitigation, would occur to hydrology and water quality. Therefore, there are no substantial changes to the project or new information of substantial importance since the 2015 FONSI/MND that would result in any new significant environmental effects or a substantial increase in the severity of previously identified impacts related to hydrology and water quality.

a. **Less than Significant Impact with Mitigation.** Consistent with the 2015 EA/IS, none of the waters within the study area are located on California’s 303(d) list of impaired waters. The only waterbody within the study area that is identified in the 2017 *San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)* as having a beneficial use is East Schooner Creek; however, no water quality standards are identified for the waterbody, so none would be violated. Implementation of the Action Alternative would be consistent with the 2017 *Basin Plan*. In addition, the Action Alternative does not include waste discharge.

While existing beneficial uses of East Schooner Creek may be temporarily impacted during construction, these uses would be improved or maintained in the long term. Stabilizing the bank of East Schooner Creek would halt on-going erosion and improve water quality by reducing the amount of sediment within this section of the channel, as well as downstream. Implementation of the mitigation measures identified in the original EA/IS (see Appendix A) would result in less than significant impacts on water quality, and would comply with the water quality objectives defined in the 2017 *Basin Plan*.

b. **Less than Significant Impact.** Removing part of the Drakes Beach parking lot would partially restore a wetland that had previously existed at this location. Groundwater is expected to be a consistent source of water for the wetland throughout the year,

particularly during the dry season from April to October. It is assumed that using groundwater as the consistent water source for the wetland would reflect pre-existing conditions. In addition, the proposed wetland site would also receive non-channelized flow in the form of stormwater runoff, which would supplement the wetland's water supply. Because a substantial amount of rainfall is absorbed into soils, removing some of the impermeable parking lot material would provide more area for rainwater infiltration and groundwater recharge, resulting in a beneficial effect. The Action Alternative would also comply with Section 3.4, Objectives for Groundwater identified in the 2017 *Basin Plan*. For these reasons, the Action Alternative would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge; there would be no net deficit in aquifer volume or a lowering of the local groundwater table level.

- c. **Less than Significant Impact.** Surface water storage and water depths in the proposed wetland at Drakes Beach would be controlled by the elevation of the walkway during the rainy season. Therefore, wetland restoration at Drakes Beach would not increase the rate or amount of surface runoff in a manner that would result in substantial erosion or siltation on- or off-site.

Replacing the culverts at Schooner Creek would improve stream flow at this location, helping to restore the natural course of this creek and resulting in beneficial impacts to the existing drainage pattern at this location.

It is possible that approximately 710 feet of the East Schooner Creek channel may be shifted 6 to 8 feet east-southeast away from the roadway in order to stabilize the bank. Because this design would maintain the existing lineal feet, width, and depth of the channel, there would be no increase in the rate or amount of surface runoff. In addition, the intent of the embankment stabilization is to reduce the amount of erosion or siltation that is currently occurring at this location, resulting in a beneficial impact.

Creation of Pond 2 and Pond 9 at Home Ranch would introduce new waterbodies at that location. However, the total acreage of these ponds (0.88 acre) would be small, with minimal effect on overall drainage patterns and no substantial increase in the rate or amount of surface runoff.

For these reasons, impacts to drainage patterns would result in less than significant impacts to erosion and sedimentation within the project area.

- d. **Less than Significant Impact.** The Action Alternative would not substantially alter the existing drainage pattern of the site or area, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site for the reasons described under item "c" above. Consistent with the original EA/IS, the project is also not within a Federal Emergency Management Agency-regulated floodplain, although seasonal flooding occurs each year in a portion of the project corridor adjacent to East Schooner Creek. In addition, as noted in the 2015 EA/IS, the watershed contains ample pervious surface given the limited development, which would help control flooding. Replacing the culverts at Schooner Creek would also restore hydrology and reduce the potential for flooding in this area. For these reasons, impacts to drainage patterns would result in less than significant impacts to flooding within the project area.
- e. **Less than Significant Impact with Mitigation.** The Action Alternative would increase impervious surface by approximately 5.5 acres (a 17 percent increase within the project area, not including the removal of pavement at Drakes Beach). This additional road surface may increase the amount of surface runoff, potentially increasing stormwater velocity and volume. Therefore, the Action Alternative would create or contribute to runoff. However, this additional amount would not be sufficient to exceed the capacity of

existing or planned stormwater drainage systems, or provide substantial additional sources of polluted runoff.

Construction activities, particularly work within Schooner Creek and East Schooner Creek, would temporarily increase stormwater runoff and sedimentation in surface waters. Short-term increases in turbidity would likely occur during proposed dewatering activities and soil disturbance adjacent to the roadway and waterways. Obtaining a 401 water quality certification, which would include post-construction stormwater treatment measures such as bio-swales and bio-strips, and a National Pollutant Discharge Elimination System Permit would minimize potential adverse water quality impacts to less than significant.

- f. **Less than Significant Impact with Mitigation.** As previously discussed, the increase in impervious surface could permanently affect water quality within the study area by increasing the velocity and amount of stormwater runoff in the study area watershed. In addition, construction activities, particularly work within Schooner Creek and East Schooner Creek, would temporarily increase stormwater runoff and sedimentation. However, degradation of water quality would be less than significant due to implementation of construction mitigation measures identified in Appendix A, including post-construction stormwater treatment such as bio-swales and bio-strips. Overall, the Action Alternative would provide long-term improvements to water quality. This includes removing a portion of the pavement at Drakes Beach parking lot to restore the wetland at that location which would be a beneficial impact to the existing drainage pattern. In addition, stabilizing the bank of East Schooner Creek would halt on-going erosion and improve water quality by reducing the amount of sediment within this section of the channel, as well as downstream.

3.11 Land Use and Planning

The original EA/IS prepared for this project identified no impacts to Land Use and Planning because no change to land use and no induced growth were expected.

The actions proposed under this study are discussed below in relation to the PRNS *General Management Plan (GMP)*.

3.11.1 Affected Environment

The majority of the proposed improvements would occur within Marin County's existing easement. Although Marin County maintains an approximately 60-foot-wide easement that includes SFDB, the land in the project area is owned by the NPS. Similarly, because land within the seashore is managed by the NPS, county plans do not apply.

The PRNS 1980 *GMP* identifies the majority of the project area as "Pastoral Landscape Management," with a small section identified as "Special Use" for private lands "over which the NPS does not have complete jurisdiction." Pastoral Lands are defined as a subzone under the Special Use zone to permit the continued use of existing ranchlands for ranching and dairying purposes. These areas are discussed under Section 3.2, Agricultural and Forestry Resources. As noted in the 2015 EA/IS prepared for this project, the *GMP* also calls for improved auto access and transit service (NPS 1980).

The Action Alternative is not located in an area covered under a habitat conservation plan or natural community conservation plan.

3.11.2 Environmental Consequences

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
LAND USE AND PLANNING: Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

New, but less than significant impacts, would occur to land use and planning. Therefore, there are no substantial changes to the project or new information of substantial importance since the 2015 FONSI/MND that would result in any new significant environmental effects or a substantial increase in the severity of previously identified impacts related to land use and planning.

- a. **No Impact.** The Action Alternative would not physically divide any of the existing ranching operations. No established communities exist in the study area that would be affected.
- b. **Less than Significant Impact.** Slightly more NPS land (approximately 0.2 acre) would be acquired for a permanent easement for SFDB than anticipated under the 2015 EA/IS. As disclosed in the original EA/IS, short sections of roadway may be realigned, converting existing NPS land to transportation use. However, this conversion would be consistent with the *GMP* to improve auto access and transit service. In addition, the Action Alternative would improve access to ranchlands, and would therefore be consistent with the *GMP*.
- c. **No Impact.** No habitat conservation plans or natural community conservation plans exist for lands within the study area.

3.12 Mineral Resources

The California State Mining and Reclamation Act of 1975 requires counties to adopt policies to protect certain state-designated mineral resource sites from land uses that preclude or inhibit mineral extraction needed to satisfy local market demand on a timely basis. The purpose of the act is to ensure that construction materials will be available to all areas of the state at a reasonable cost (Marin County 2005).

The original EA/IS concluded that no impacts would occur to mineral resources because none are known to exist within the project area.

3.12.1 Affected Environment

The California State Department of Conservation Division of Mines and Geology designated eight sites in Marin County as having significant mineral resources. The closest such site to the Action Alternative is Sector L, 3.5 miles north of Point Reyes Station and outside the study area (Marin County 2005). In addition, as a unit of the NPS, PRNS was established "to save and preserve . . . a portion of the diminishing seashore of the United States that remains undeveloped" (Public Law 87-657). Per NPS regulations, all objects, including minerals, within

PRNS are protected (NPS n.d.d), and therefore are not subject to extraction for commercial purposes.

3.12.2 Environmental Consequences

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
MINERAL RESOURCES: Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No significant impacts would occur to mineral resources. Therefore, there are no substantial changes to the project or new information of substantial importance since the 2015 FONSI/MND that would result in any new significant environmental effects or a substantial increase in the severity of previously identified impacts related to mineral resources.

- a., b. **No Impact.** No known mineral resource that would be of value to the region and the residents of the state, and no locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan exists within the project area. Therefore, no impacts to mineral resources would occur.

3.13 Noise

Regulations that govern highway traffic noise for Federal-aid and Federal action projects are contained in Part 772 of Title 23 of the Code of Federal Regulations (23 CFR 772), which is the Federal highway noise standard. The regulations define three levels of projects “types” as they relate to noise. The actions proposed in the original EA/IS were considered a Type III project under 23 CFR 772.5 because they would not significantly alter the vertical or horizontal alignment of the existing roadway, and no additional traffic lanes would be provided. Therefore, no long-term traffic noise impacts were expected, and no long-term operational noise abatement was considered. However, construction activities were identified that would temporarily elevate noise. These impacts as described in the 2015 EA/IS remain valid and applicable to the proposed construction activities on or adjacent to SFDB; specifically, the Schooner Creek culvert replacement and the East Schooner Creek embankment stabilization. The remaining actions proposed under this SEA/SIS are described and evaluated below.

3.13.1 Affected Environment

The Action Alternative is not located within 2.0 miles of a public airport or in the vicinity of a private airstrip, or identified within an airport land use plan.

3.13.1.1 Wetland Mitigation at Drakes Beach Parking Lot

The Kenneth C. Patrick Visitor Center and Drakes Beach are visitor attractions, which can therefore be a source of noise. No visitation statistics are available for the visitor center. However, the NPS notes that “more than 300,000 people per year visit this area of the park, with heavier use in the summer and during operation of the Point Reyes Headlands Transit Program” (NPS 2015). Although the visitor center’s operating hours vary by year, it is usually open during winter and summer, typically on weekends only, and is usually closed completely during late spring and fall. During the popular winter whale migration season, SFDB is closed south of Drakes Beach Road to reduce traffic congestion in the Point Reyes Headlands. The NPS operates the Winter

Shuttle Bus System from the Drakes Beach parking lot from the end of December through late March or early April on weekends and federal holidays (NPS n.d.g, n.d.h.).

Noise levels around the visitor center are expected to be highest on weekends during the winter whale migration season and summer for the reasons described above, and because most local visitors⁷ likely work on weekdays.

3.13.1.2 California Red-Legged Frog Mitigation

Affected sensitive receptors would be limited to Drakes Head Trail which could be considered an area of frequent human use (e.g., hikers).

3.13.2 Environmental Consequences

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
NOISE: Would the project:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

New, but less than significant impacts, would occur to noise. Therefore, there are no substantial changes to the project or new information of substantial importance since the 2015 FONSI/MND that would result in any new significant environmental effects or a substantial increase in the severity of previously identified impacts related to noise.

- a. **Less than Significant Impact.** The Action Alternative would not increase the overall capacity of SFBD and would not substantially alter the vertical or horizontal alignment. Therefore, no long-term noise impacts are anticipated. As noted in the EA/IS, ambient noise levels would increase during construction, which would temporarily affect residents and visitors. The Kenneth C. Patrick Visitor Center is closed on weekdays, which are typically low visitation days because most people are at work. Therefore, fewer people would be exposed to construction noise at this location, as construction activities would generally occur during weekdays, unless prior approval is obtained. Visitors parking at this location would be expected to ride the winter shuttle, hike to the nearby overlook, or walk to Drakes Beach, where they would be able to avoid construction noise.

⁷ Seventy percent of Point Reyes National Seashore visitors are from the San Francisco Bay Area (NPS 2007).

Similarly, few visitors are expected to be hiking in close enough proximity to the proposed locations of the Home Ranch ponds to be affected by construction activities, particularly given that the nearby trails are not heavily used (see Section 3.1, Aesthetics and 3.15, Recreation). In addition, Home Ranch Pond 9 would be located approximately 0.25 mile from the nearest trail and 0.8 mile south of the Home Ranch complex, resulting in few impacts to visitors or residents. As noted in the 2015 EA/IS, impacts would not be significant due to their short-term and intermittent nature.

- b. **Less than Significant Impact.** As described in the 2015 EA/IS, groundborne vibration and groundborne noise levels are generally caused by impact devices such as pile driving. Pile driving activities might be conducted to replace the culverts at Schooner Creek with a bridge. As mentioned above, construction would primarily occur on weekdays, when visitation is lowest. Visitors would also likely be participating in activities that would remove them from the effects of the vibration and noise. Therefore, groundborne vibration and groundborne noise levels would be less than significant.
- c. **No Impact.** The Action Alternative would not result in a long-term noise impact. Directing some visitors from the Drakes Beach parking lot to the South Beach parking lot during peak winter season on weekends would not affect sensitive receptors, as none are located in that area. The visitors themselves would expect vehicle-related noise at a parking lot.
- d. **Less than Significant Impact with Mitigation.** Construction noise would result in a temporary or periodic increase in ambient noise levels above existing noise levels. Noise resulting from construction activities would depend on the different types of equipment used, the distance between construction noise sources and sensitive noise receptors, and timing and duration of noise-generating activities. However, the mitigation measures identified in the 2015 EA/IS (see Appendix A) would be implemented to reduce these levels to a less than significant impact.
- e., f. **No Impact.** The Action Alternative is not located within 2.0 miles of a public airport or within the vicinity of a private airstrip, and therefore would not expose people residing or working in the study area to excessive noise levels.

3.14 Population and Housing

The EA/IS prepared for this project identified no impacts to population and housing.

3.14.1 Affected Environment

As noted under Section 3.11, Mineral Resources, PRNS was established “to save and preserve, for purposes of public recreation, benefit, and inspiration, a portion of the diminishing seashore of the United States that remains undeveloped” (Public Law 87-657). Housing development within the study area would contradict the purpose for establishing the seashore.

Other than the leaseholders who have agreements with the NPS to work the historic ranches throughout the Point Reyes peninsula, housing and other types of non-NPS development is prohibited within the seashore.

3.14.2 Environmental Consequences

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
POPULATION AND HOUSING: Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No significant impacts would occur to population and housing. Therefore, there are no substantial changes to the project or new information of substantial importance since the 2015 FONSI/MND that would result in any new significant environmental effects or a substantial increase in the severity of previously identified impacts related to population and housing.

a., b., c. **No Impact.** As stated in the 2015 EA/IS, the project area is in a unit of the NPS system, where new home or business development is not permitted. The Action Alternative would not displace any of the ranch housing within the study area, as none would be affected, and no replacement housing would be required.

3.15 Public Services

The Drakes Beach parking lot is the only governmental facility that would be affected by the actions proposed under this study.

3.15.1 Affected Environment

The Drakes Beach parking lot provides access to the Kenneth C. Patrick Visitor Center and the Peter Behr Overlook trailhead, both of which are NPS facilities, as well as Drakes Beach, which is under NPS jurisdiction. The parking lot, which itself is an NPS facility, is configured for 399 spaces.

3.15.2 Environmental Consequences

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
PUBLIC SERVICES: Would the project:				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
PUBLIC SERVICES: Would the project:				
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

New, but less than significant impacts, would occur for some public services. Therefore, there are no substantial changes to the project or new information of substantial importance since the 2015 FONSI/MND that would result in any new significant environmental effects or a substantial increase in the severity of previously identified impacts related to public services.

a. **No Impact.** There would be no impacts to schools or other public facilities.

Less than Significant Impact. The Drakes Beach parking lot would be reconfigured from 399 spaces to 314 spaces, a reduction of about 21 percent. However, the purpose of this alteration is not to maintain any acceptable service ratios, response times, or other performance objectives for public services. In addition, directing potential overflow traffic during the winter whale watching season from the Drakes Beach parking lot to the South Beach parking lot would not result in any indirect, physical impacts to maintain service ratios, response times, or other performance objectives. For these reasons, the Action Alternative would have a less than significant impact to public services within PRNS and would have no impact to public services such as fire protection, police protection, schools, or other public facilities.

3.16 Recreation

The EA/IS prepared for this project in 2015 describes various recreational sites and facilities served by SFDB, and visitation trends. Overall long-term beneficial impacts were identified, with short-term effects during construction.

3.16.1 Affected Environment

As shown on Figure 8 in Section 3.1, SFDB provides access to numerous popular recreation destinations within PRNS. Recreational sites and facilities located within the expanded study area include:

- Drakes Beach and associated picnic tables
- Drakes Head Trail
- Estero Trail
- Kenneth C. Patrick Visitor Center
- Peter Behr Overlook Trail
- Sir Francis Drake Memorial Cross

3.16.1.1 Schooner Creek Culvert Replacement

As mentioned under Section 3.1, Visitor Experience, a kayak launch site is located at the south end of the Drakes Estero Access Road (NPS n.d.f). In addition, a graveled visitor pull-out area

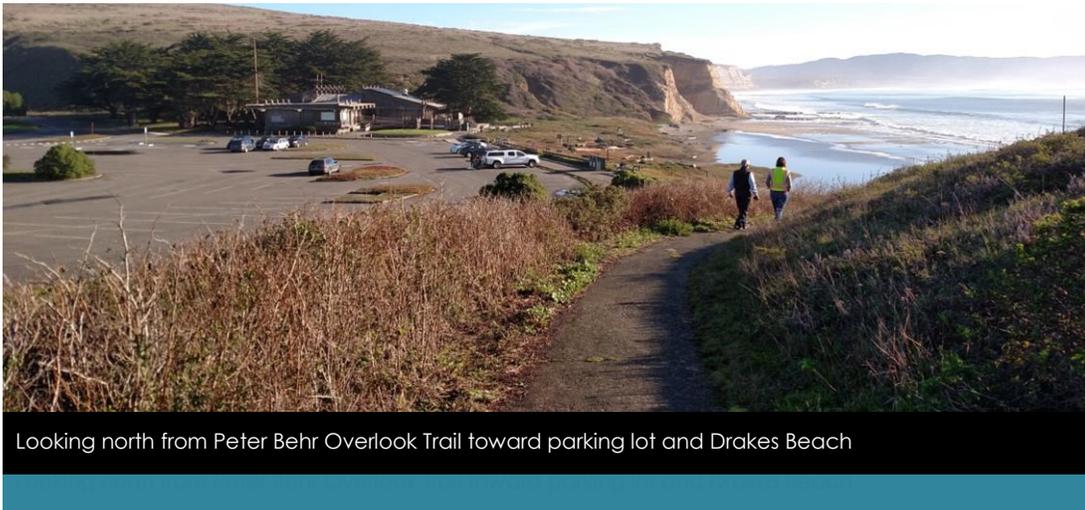
with a picnic table is located off SFDB adjacent to Schooner Creek (see Figure 9 under Section 3.1, Aesthetics).

3.16.1.2 Wetland Mitigation at Drakes Beach Parking Lot

No visitation statistics are available for the Kenneth C. Patrick Visitor Center. However, the NPS notes that “more than 300,000 people per year visit this area of the park, with heavier use in the summer and during operation of the Point Reyes Headlands Transit Program” (i.e., the Winter Shuttle Bus System) (NPS 2015). As mentioned under Section 3.12, Noise, although the visitor center’s operating hours vary by year, the facility is usually open during winter and summer, typically on weekends only, and is usually closed completely during late spring and fall.

Drakes Beach parking lot is configured for 399 spaces (NPS n.d.g, n.d.h). The Drakes Beach parking lot provides parking for visitors to Drakes Beach, the Peter Behr Overlook trailhead, and Sir Francis Drake Memorial Cross (see Figure 19). Visitors also park at Drakes Beach parking lot to use the Winter Shuttle Bus System during the winter whale migration season when SFDB is closed south of Drakes Beach Road (NPS n.d.g, n.d.h). Parking demand at Drakes Beach exceeds the existing space fewer than 10 days per year (NPS 2015). A handful of picnic tables are located around the west and northwest sides of the parking lot.

Figure 19: Peter Behr Overlook Trail, Parking Lot, Drakes Beach, and Kenneth C. Patrick Visitor Center



Looking north from Peter Behr Overlook Trail toward parking lot and Drakes Beach

3.16.1.3 California Red-legged Frog Mitigation

Home Ranch Pond 2 would be constructed fairly close to the 9.4-mile “lightly trafficked” (AllTrails n.d.) Drakes Head Trail and access to the site crosses both Estero and Drakes Head Trails.

3.16.2 Environmental Consequences

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
RECREATION: Would the project:				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

New but less than significant impacts would occur to recreational facilities. Therefore, there are no substantial changes to the project or new information of substantial importance since the 2015 FONSI/MND that would result in any new significant environmental effects or a substantial increase in the severity of previously identified impacts related to recreational facilities.

- a. **Less than Significant Impact.** Although constructing a bridge at Schooner Creek would benefit kayakers, this change is not expected to substantially increase kayaking along the creek, as it is not actively promoted as a kayaking destination. There would be no associated physical deterioration of any recreational facilities, including the kayak launch site at the south end of the Drakes Estero Access Road or the picnic area adjacent to the pullout. No impacts are expected to Drakes Head Trail from construction. Directing potential overflow traffic during the winter whale watching season from the Drakes Beach parking lot to the South Beach parking lot would not substantially deteriorate, or accelerate the deterioration of, the South Beach facility because this activity would occur only five to six weekends per year. For these reasons, impacts to recreational facilities would be less than significant.
- b. **No Impact.** The Drakes Beach parking lot would be reconfigured from 399 spaces to 314 spaces, a reduction of about 21 percent. Any overflow parking would be directed to South Beach during peak whale watching season, which is expected to occur five to six weekends per year. No change would occur at the South Beach parking lot under the Action Alternative. Because SFDB is closed south of Drakes Beach Road during the peak season, no other visitors would be parking at South Beach. Therefore, the spaces at South Beach are expected to be sufficient for overflow parking. No additional parking would be developed. Therefore, no new facilities are proposed that would adversely impact the environment and there is no impact.

3.17 Transportation/Traffic

Visitation to PRNS has remained generally steady since 2012 with just minor fluctuations. Therefore, the transportation and traffic descriptions in the EA/IS originally prepared for this project remain valid for this analysis.

3.17.1 Affected Environment

The NPS is in the process of updating the PRNS 1980 *GMP*, which will include transportation studies. No formal transportation plan; congestion management plan; or policies, plans, or programs addressing multimodal transportation exists for PRNS. However, the current 1980 *GMP* calls for implementation of shuttle bus services to the Point Reyes Lighthouse and Drakes Beach, as well as up to 500 additional formal parking spaces “if it is demonstrated that they are needed.” New parking spaces “will be grassy or graveled areas rather than pavement to allow for relocation or removal as appropriate....” The 1980 *GMP* also includes a management objective to

“provide access to and circulation within the seashore which is compatible with other park objectives and considers a full range of alternative means of transportation” (NPS 1980).

As described under Section 3.15, Recreation, during the popular winter whale migration season, SFDB is closed south of Drakes Beach Road, and the NPS operates the Winter Shuttle Bus System from Drakes Beach parking lot. Currently, parking demand at Drakes Beach exceeds the existing space on fewer than 10 days per year (NPS n.d.a).

3.17.2 Environmental Consequences

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
TRANSPORTATION/TRAFFIC: Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No significant impacts would occur to transportation and traffic. Therefore, there are no substantial changes to the project or new information of substantial importance since the 2015 FONSI/MND that would result in any new significant environmental effects or a substantial increase in the severity of previously identified impacts related to transportation and traffic.

- a. **No Impact.** No impact would occur as described in Chapter 4 of the 2015 EA/IS. Per the NPS *Management Policies 2006* for park roads, improvements to SFDB would be sensitive to natural and cultural resources, particularly the replacement of culverts that would restore fish passage. The improved road would “enhance the quality of a visit while providing for safe and efficient travel with minimal or no impacts on natural and cultural resources” (NPS 2006). In addition, the Action Alternative would support NPS road standards, as they would “adequately support the planned volume and weights of vehicles [including the mandatory seasonal shuttle] without failure” (NPS 1984), and would address deficiencies that may be contributing to accidents. Removing a portion of the Drakes Beach parking lot would also be consistent with the NPS alternatives that consider reducing the parking area footprint and operating a local shuttle.

- b., c. **No Impact.** No congestion management program exists for the study area, and the Action Alternative does not include measures that would change air traffic patterns.
- d. **No Impact.** The Action Alternative would decrease hazards, particularly by slightly flattening curves at Schooner Creek and restoring the SFDB embankment where there is current risk of road failure.
- e. **No Impact.** As stated in the 2015 EA/IS, at least one lane of traffic will remain open on SFDB during construction, with a maximum 30-minute delay. However, emergency vehicles would be permitted to pass through the study area during construction without delay.
- f. **No Impact.** Beneficial impacts to cyclists and pedestrians would result from restoring SFDB where the road is currently failing adjacent to East Schooner Creek. Directing overflow parking to South Beach for winter visitors to take the mandatory shuttle would be consistent with the NPS alternatives that consider reducing the parking area footprint and operating a local shuttle.

3.18 Utilities

All visible utilities within approximately 500 feet of the SFDB easement were identified and documented under the EA/IS originally prepared for this project, which notes that utilities such as sewer lines may be buried in the vicinity of the study area. Utilities located within the clearing and construction limits as disclosed in the 2015 EA/IS would be removed and relocated or protected in place. For changes proposed in this SEA/SIS, utilities were identified from original design plans and visual surveys.

3.18.1 Affected Environment

A water line crosses, and in some places is adjacent to, SFDB, but is not located within the county easement. A separate water line is believed to roughly follow the east side of the Drakes Beach access road but does not cross the parking lot. The source of this water is believed to be a well or tank; the water line does not connect to the line adjacent to SFDB. At Drakes Beach, the survey conducted for this SEA/SIS identified overhead electric and telephone poles, buried telephone markers, water valves, sanitary sewer valves, and the location of a sewer line replacement. The approximate 4,400-foot long sewer pipeline travels south from the Kenneth C. Patrick Visitor Center under the Drakes Beach parking lot. The pipeline then heads uphill and to sewage ponds.

3.18.2 Environmental Consequences

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
UTILITIES: Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
UTILITIES: Would the project:				
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No significant impacts would occur to utilities. Therefore, there are no substantial changes to the project or new information of substantial importance since the Final MND that would result in any new significant environmental effects or a substantial increase in the severity of previously identified impacts related to utilities.

- a., b., e. **No Impact.** The Action Alternative would not produce wastewater, and therefore would not exceed wastewater treatment requirements of the San Francisco Regional Water Quality Control Board.
- c. **Less than Significant Impact.** Stormwater drainage improvements include replacing the culverts with a single-span bridge at Schooner Creek and removing or replacing culverts at the south end of the Drakes Beach parking lot. Other stormwater improvements, such as upsizing culverts, as originally discussed in the 2015 EA/IS are still proposed. These actions would maintain or restore drainage patterns, restore hydrology, and improve drainage and tidal dynamics, resulting in beneficial impacts. Therefore, impacts would be less than significant.
- d. **No Impact.** As stated in the 2015 EA/IS, water may be required for dust suppression during construction. The contractor would be responsible for acquiring water for the project and no new or expanded entitlements are required.
- f., g. **No Impact.** As stated in the 2015 EA/IS, the project would be served by a landfill, identified by the contractor, with sufficient permitted capacity to accommodate the project's solid waste disposal needs. Disposal would comply with federal, state, and local statutes and regulations related to solid waste. Waste generated during construction would comply with federal, state and local statues and regulations related to soil waste disposal.

3.19 Mandatory Findings of Significance

This section requires analysis of cumulative impacts. The EA/IS originally prepared for this project analyzed cumulative impacts to CRLF, wetlands and other waters of the U.S., and transportation, as these resources were expected to experience long-term adverse impacts as a result of the No Action or Action Alternative. No adverse cumulative impacts are expected to the frog under this SEA/SIS; therefore, wetlands and other waters of the U.S. and transportation were retained for cumulative impact analysis for this SEA/SIS.

Since issuance and adoption of the FONSI/MND in 2015, the following changes have been identified that affect the cumulative analysis and are considered for the mandatory findings of significance.

3.19.1 Current Health and Historical Context

PRNS discontinued the Drakes Bay Oyster Company’s permit to harvest shellfish in Drakes Estero. The permit expired on December 31, 2014, at which point the company permanently closed all operations. By May 2017, PRNS had completed removal of oyster racks and aquaculture debris, including 95 wooden, dock-like racks that weighed nearly 500 tons and totaled 5 miles in length, and nearly 1,300 tons of plastic, metal, and shell debris on the estero floor. The restoration is expected to restore a native estuary, reduce invasive species, and increase eelgrass cover (NPS 2017d).

Visitation to PRNS increased in 2015, but decreased in 2016 to essentially the same number as 2014, representing an increase of 0.2 percent from 2014 (visitation statistics for 2017 were unavailable as of this writing).

3.19.2 Present and Other Reasonably Foreseeable Future Actions

In July 2017, a settlement agreement was reached that calls for the NPS to prepare a GMP Amendment and environmental impact statement that allows the NPS to issue leases or permits to ranchers for terms not to exceed five years from the date the agreement is approved. These interim leases provide greater certainty to ranchers than the 1-year authorizations the NPS issued during the Ranch Comprehensive Management Plan process (NPS 2017e), which was described in the original EA/IS. The GMP process began in October 2017. The NPS presented six alternatives for consideration under the GMP, ranging from 20-year agricultural lease/permits, to reduced ranching, no dairy ranching, and no ranching alternatives. Visitor experience improvements, management strategies to protect park resources, and visitor carrying capacities in the planning area will also be addressed (NPS 2017f).

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
MANDATORY FINDINGS OF SIGNIFICANCE: Would the project:				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a. **Less than Significant with Mitigation.** As discussed in the original EA/IS, and reiterated throughout this chapter, potentially significant impacts were identified for biological resources and cultural resources. However, all potential impacts from the Action Alternative would be mitigated to less than significant levels through implementation of the mitigation measures detailed in Appendix A. In addition, this SEA/SIS analyzed the changes to the Action Alternative both with regard to direct and indirect impacts to the human and natural environmental, and the mitigation measures

provided in the 2015 FONSI/MND to reduce impacts. Based on this analysis, no new potentially significant impacts were identified. While new impacts were identified, the modifications to the Action Alternative are ultimately expected to provide a benefit to the human and natural environment.

b. **Less than Significant Impact.**

Wetlands and other Waters of the U.S.

The 2015 EA/IS identified adverse cumulative impacts to wetlands and other waters of the U.S. primarily related to past and continued ranching operations. Adverse impacts under the Action Alternative would be temporary, with long-term beneficial impacts, as defined under Section 3.5. These impacts would combine with the restoration of Drakes Estero and the potential for new beneficial effects or continuing adverse effects as a result of the GMP Amendment. As stated in the 2015 EA/IS, this project would not contribute to an overall reduction of wetlands and waters of the U.S., and overall significant cumulative impacts would not result.

Transportation

The slight change in visitation at PRNS (0.2 percent increase between 2014 and 2016) would not be sufficient to affect transportation within the project area. Removing some parking at the Drakes Beach parking lot would be a slight adverse impact to transportation, as visitors would potentially be directed to overflow parking during the winter whale watching season. However, the Action Alternative would still result in overall beneficial impacts to transportation, and would combine with the other actions described in the 2015 EA/IS to result in beneficial cumulative impacts.

c. **No Impact.** The Action Alternative would result in beneficial impacts to ranchers who live and work within the study area, as well as park visitors and employees by creating a safer transportation route.

CHAPTER 4: SECTION 4(F) PROPERTIES

4.1 Introduction

This chapter provides an evaluation of the SFDB project relative to Section 4(f) of the Department of Transportation Act of 1966 (49 U.S.C. 303) and its implementing regulations, jointly codified by FHWA and the Federal Transit Administration in March 2008 as a Final Rule at 23 C.F.R. Part 744.

Section 4(f) states that it is the policy of the federal government "that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites" (49 USC 303). FHWA may not approve the use of a Section 4(f) property unless there is no feasible or prudent avoidance alternative and all possible planning to minimize harm has been included in the project.

As defined in 23 CFR 774.17 and 774.15, where applicable and not excepted, the "use" of a protected Section 4(f) property can be classified as a direct use, a temporary occupancy, or a constructive use. In addition, a finding of *de minimis* impact can be made if the impact to a Section 4(f) property is determined to be minimal. These uses, including *de minimis* finding, are defined below.

- **Direct Use.** A direct use of a Section 4(f) property takes place when land from a Section 4(f) property is permanently incorporated into a transportation facility.
- **Temporary Occupancy.** A temporary occupancy results in a use of a Section 4(f) property when there is a temporary occupancy of a Section 4(f) property that is considered adverse in terms of the preservationist purposes of the Section 4(f) statute.
- **Constructive Use.** Constructive use occurs when the transportation project does not incorporate land from a Section 4(f) property, but the project's proximity impacts are so severe that the protected activities, features, or attributes that qualify a resource for protection under Section 4(f) are substantially impaired. Substantial impairment occurs only when the protected activities, features, or attributes of the resource are substantially diminished.
- ***De minimis.*** A finding of *de minimis* impact may be made for historic sites when no historic property is affected by the project or the project will have "no adverse effect" on the historic property in question. For parks, recreation areas, and wildlife and waterfowl refuges, a finding of *de minimis* impact may be made when impacts will not adversely affect the activities, features, and attributes that qualify the resource for protection under Section 4(f). A *de minimis* impact finding may be made without the evaluation of avoidance alternatives typically required in a Section 4(f) evaluation.

The No Action Alternative does not have the potential to use any Section 4(f) properties and, therefore, is not discussed in this chapter.

4.2 Proposed Project

4.2.1 Project Purpose and Need

The purpose of the project is to restore the structural integrity of SFDB and enhance safety for all users while reducing ongoing maintenance requirements. The need of the project is driven by pavement deterioration, substandard roadway width, and flooding along SFDB. The need of the project is further described in Chapter 2.

4.2.2 Action Alternative

As described in Chapter 2, the Action Alternative primarily consists of resurfacing, restoring, and rehabilitating SFDB in a manner that will closely follow the existing roadway in order to minimize impacts to the natural terrain. In general, the Action Alternative would widen the roadway 1 to 6 feet to maintain a consistent 24-foot width with two 11-foot travel lanes and delineated 1-foot shoulders. The proposed improvements along the roadway, including construction-related activities and staging areas, would generally occur within the existing 60-foot Marin County roadway easement. However, the roadway easement would be shifted or expanded to accommodate areas of localized improvements.

Since CFLHD made a *de minimis* finding for Section 4(f) properties in 2015, a number of changes have occurred that require a re-assessment of the potential use of Section 4(f) properties:

1. The Schooner Creek culverts would be replaced with a bridge rather than an arch structure.
2. Embankment stabilization is proposed along East Schooner Creek.
3. Minor amounts of permanent easement acquisition are required along the roadway to accommodate long-term maintenance.
4. Wetland mitigation is proposed at Drakes Beach parking lot, which requires reconfiguration of the parking lot and modifications to an existing trail.
5. Small ponds would be constructed on Home Ranch for the purposes of CRLF mitigation.

For further details about the Action Alternative and modifications to the Action Alternative, refer to Chapter 2.

4.3 Section 4(f) Properties

The study area used to identify Section 4(f) properties differed depending on the Section 4(f) property type. Parks and recreational resources were identified using PRNS as the boundary, while historic resources were identified using the Area of Potential Effects for historic and cultural resources. No wildlife or waterfowl refuges are located within PRNS; however, the Phillip Burton Wilderness Area is within the seashore boundaries and has functions similar to a refuge. The Action Alternative would not occur within the wilderness area boundaries and, therefore, it is not discussed further.

The Action Alternative is located entirely within PRNS. PRNS was established in 1963 by Public Law 87-657 with the purpose to “save and preserve, for purposes of public recreation, benefit, and inspiration, a portion of the diminishing seashore of the United States that remains undeveloped.” The seashore contains a rich agricultural history and several recreational resources that are directly accessible by SFDB. PRNS, along with individual historic and recreational resources, qualify for protection under Section 4(f) and are discussed further below.

4.3.1 Parks and Recreational Resources

PRNS encompasses approximately “71,046 acres of beaches, coastal cliffs and headlands, marine terraces, [and] coastal and upland forests” (Pawley and Lay 2013). It is a publically-owned park and recreational resource that is managed by the NPS. The seashore provides a wide variety of experiences, including hiking, camping, visiting the beach, bird watching, and attending interpretive programs. The park is also a prime location for observing marine mammals, including northern elephant seals and whales.

SFDB functions as the primary access to PRNS and provides direct access to numerous recreational sites, as described in Chapter 3. Within the study area for parks and recreational resources, there are six designated recreational resources that could be affected by the project:

- Drakes Beach and associated picnic tables
- Drakes Head Trail
- Estero Trail
- Kenneth C. Patrick Visitor Center
- Peter Behr Overlook Trail
- Sir Francis Drake Memorial Cross

4.3.1.1 Use of Parks and Recreational Resources

PRNS is the only park and recreational resource that may be subject to a use under Section 4(f) within the study area. While SFDB provides direct access to numerous recreational sites within PRNS, the roadway improvements would not directly impact or incorporate land from these individual sites. However, proposed mitigation sites at Drakes Beach and on Home Ranch have the potential to use individual Section 4(f) resources that are associated with PRNS—specifically, Drakes Beach, Drakes Head Trail, Kenneth C. Patrick Visitor Center, Sir Francis Drake Memorial Cross, and the Peter Behr Overlook Trail.



Sir Francis Drake Memorial Cross
(located adjacent to Drakes Beach parking lot)

SFDB Roadway Improvements

With regard to PRNS as a whole, the Action Alternative would result in minor modifications to the existing Marin County roadway easement and temporary construction easements at specific locations along SFDB. As described in the 2015 EA/IS, modifications to the existing easement, both permanent and temporary, would be required at approximately PM 0.8 to PM 1.2, PM 1.8 to PM 2.1, PM 3.2, PM 4.0 to PM 4.1, and PM 9.2 to PM 9.8. With the changes to the Action Alternative, the proposed easement modifications largely remain unchanged with the following exceptions:

- Permanent easement modifications between PM 0.8 to PM 1.2 would be extended to approximately PM 1.3
- Permanent easement modifications between PM 9.1 to PM 9.8 would be extended to PM 9.9
- Permanent easement modifications would be required at PM 11.0 to PM 11.2, PM 11.7, and PM 11.8

See Figure 20 for locations of these modifications. Additional permanent and temporary easements are anticipated along the roadway corridor at pipe culvert replacements where the proposed pipe is longer than the existing pipe. These modifications are generally less than 0.001 acre at each location and, therefore, are not reflected on the figure below.

All of the easement modifications are within functioning ranch leases and portions of the roadway that are fenced to restrict public access to ranches. With the exception of the areas between PM 9.1 to PM 11.8, these areas are generally within or near actively grazed lands, or are characterized by drier coastal grassland and open scrub vegetation. The area around PM 9.1 generally consists of tidal mudflats associated with Schooner Creek. The remainder of the corridor (PM 9.3 to PM 12.0) is largely associated with East Schooner Creek and consists of dense scrub-shrub vegetation. Although located within PRNS, none of the lands proposed for permanent or temporary easement acquisition contain designated recreational sites or associated recreational structures, such as scenic overlooks or shuttle bus stops.

Figure 20: Approximate Permanent Easement Modifications



As described in the 2015 EA/IS, permanent modification of the existing easement would total approximately 1.0 acres of land that would be newly incorporated into the Marin County easement. Modifications are required in areas of localized improvements that include small alignment shifts to soften curves and/or improve sight distance, replace the Schooner Creek twin culverts, and shift the roadway away from the East Schooner Creek channel. As originally proposed, these easement modifications would result in no net increase of the County easement, which would remain a 60-foot-wide corridor, and areas beyond the 60-foot easement would be abandoned by the County. However, since issuance and adoption of the FONSI/MND in 2015, an additional 0.2 acres have been identified for permanent easement acquisition. These areas would result in the permanent incorporation of a minor amount (totaling less than 0.001 percent of PRNS) into a transportation facility. The purpose of this easement acquisition is for long-term maintenance of select culverts and to accommodate shifts in the roadway alignment.

In addition, small, temporary construction easements totaling approximately 1.0 acre would be required at all of the aforementioned locations, as well as at additional minor culvert replacement locations along the corridor, to facilitate grading of the roadway, culvert replacement, and allow for incidental impacts from foot traffic and equipment during construction. These easements would remain for the duration of construction to allow reclamation and revegetation of temporarily disturbed areas.

Wetland Mitigation at Drakes Beach Parking Lot

At Drakes Beach, the parking lot would be reconfigured from 399 spaces to 314 spaces to accommodate the restoration of approximately 2 acres of wetland. During peak whale watching season, which typically occurs five to six weekends per year, any overflow would be directed to South Beach parking lot. The picnic and grill areas (five sites) located between Drakes Marsh and the existing parking lot would be relocated closer to the visitor center. In addition, approximately 290 feet of asphalt footpath associated with the Peter Behr Overlook Trail (located between the existing parking lot and Drakes Beach) would be removed to create a more natural dune interface. The path to the trailhead may be delineated with pin and pole fencing. Access to the overlook would only be interrupted during construction.

During construction, access to the parking lot and associated recreational facilities would be temporarily restricted. With regard to the visitor center, this is not expected to disrupt the overall access or operation of the facility, since it is currently only open on weekends and federal holidays during the winter bus shuttle season (December 30 to late March or early April). Outside of whale watching season, the visitor center is closed seven days a week. The whale watching season overlaps seasonal Drakes Beach closures (typically January–March), which are intended to protect pupping elephant seals. As discussed in Chapter 3, no construction would occur at Drakes Beach during these seasonal beach closures. In addition, access to the Sir Francis Drake Memorial Cross, located adjacent to the north end of the parking lot, would only be restricted during construction at the parking lot.

None of these recreational resources would be permanently incorporated into a transportation facility. The intent of the wetland mitigation at this location is to restore part of a former wetland, and to create a more natural wetland-dune interface. These improvements are expected to benefit the park resources at this location. Temporary restrictions during construction will not adversely affect these recreational resources due to the timing of construction, notice to the public, and redirecting to South Beach parking lot when necessary.

California Red-legged Frog Mitigation Sites

The equipment access route to Home Ranch Pond 2 would cross both the Estero and Drakes Head Trails. Construction impacts would consist of equipment driving over the existing two-track trails. Recreational use of the trails would not be restricted during construction and no permanent easements on the trails are proposed. In addition, no physical construction of the

Home Ranch Pond 2 would occur on either of the trails. Temporary easements may be required for the duration of pond construction at both Home Ranch Ponds 2 and 9, but would be relinquished after construction is completed.

Parks and Recreational Resources Conclusion

The permanent easement modifications and temporary easements resulting from changes in project scope would be minor and would not adversely affect the activities, features, or attributes of PRNS. PRNS and its associated recreational activities, including its scenic landscape, would continue to function during construction and throughout the life of the roadway, the CRLF ponds and the wetland mitigation site. Therefore, CFLHD anticipates making a finding of *de minimis* impact. The *de minimis* finding is subject to public review and, following this review, CFLHD will make a final impact determination. In addition, written concurrence from the NPS regarding the *de minimis* impact finding will be obtained prior to issuance of the NEPA and CEQA decision documents.

4.3.2 Historic Resources

The NPS implemented a phased approach to identifying historic properties associated with history and development of dairy ranching on the Point Reyes peninsula. This approach has resulted in three separate district evaluations with variation in terms of applicable significance criterion, contributing resources, and period of significance among other things. The APE is encompassed by three historic districts that are eligible for listing on the NRHP: the Point Reyes Dairy District, Point Reyes Historic Ranches District, and the Shafter/Howard Tenant Ranches Historic District. Although evaluated separately, these districts are commonly referred to as the Point Reyes Ranches Historic District, whose boundaries are the same as PRNS. Aside from the historic districts, no other individually eligible resources were identified within the APE – only resources that contribute to the eligibility of the historic districts.

Contributors to the eligibility of one or more of the historic districts include SFDB, cattle under-crossings, ranch and other roads that intersect SFDB, fences and corrals, windbreaks, and ranch buildings (Leach-Palm et al. 2015).

4.3.2.1 Use of Historic Resources

None of the impacts or modifications to contributors to the historic districts would result in an adverse effect to any of the districts. While the Action Alternative would result in modifications to SFDB and associated intersections, and would construct CRLF mitigation ponds within ranch boundaries, it would not alter the characteristics of these features or diminish their historic integrity. In addition, through implementation of avoidance and minimization measures during construction, no impacts are expected to fences, corrals, windbreaks, troughs, or ranch buildings.

The Action Alternative would not introduce new visual elements to the landscape and would maintain the characteristics and features that qualify the historic districts for listing on the NRHP. Therefore, the Action Alternative would have no adverse effect to any of the historic districts, and each district would maintain the characteristics and attributes that make them eligible for NRHP listing. For these reasons, CFLHD intends on making a *de minimis* impact finding. Consultation with the SHPO was re-initiated on January 25, 2018 and included notification of CFLHD's intent to make a *de minimis* impact finding. On February 23, 2018, SHPO concurred with the finding of no adverse effect for the project (see Appendix F).

4.4 Avoidance, Minimization, and Mitigation Measures

The following measures have been incorporated into project design and construction specifications to reduce potential impacts to Section 4(f) properties:

- At least one lane of traffic shall remain open during construction with a maximum 30-minute delay. If any delay longer than 30 minutes is anticipated to accomplish specific construction

activities, then notice shall be provided to the public, relevant local agencies, school districts, and emergency service providers.

- All construction shall occur on weekdays during daylight hours (1/2 hour after sunrise to 1/2 hour before sunset).
- Access to ranches and designated recreational sites shall be maintained throughout construction.
- Alignment of corrals to barns, pastures, and other features of the ranch complexes will be maintained.
- If fences within the existing SFDB easement need to be removed to accommodate construction, they shall be replaced in-kind at the edge of the road right-of-way. If distinctive fencing materials, such as wood rail fencing, are affected during construction, they shall be replaced in-kind and positioned to maintain the alignment of ranch cattle and human circulation patterns.
- The Historic E Ranch corral, Historic A Ranch main house, Historic B Ranch main house, and Historic B Ranch hay barn shall be protected from inadvertent damage by placement of fencing or concrete barriers.
- The contractor shall avoid disturbing trees and their roots within the Historic B Ranch windbreak.
- No construction staging shall occur at Historic E Ranch corral, Historic B Ranch windbreak, Historic A Ranch main house, Historic B Ranch main house, or Historic B Ranch hay barn.
- The area beyond the construction limits shall not be disturbed. Abandoned segments of roadway and temporary impact areas along SFDB within the project limits that would no longer be in use shall be reclaimed and revegetated. Degraded areas impacted from construction-related activity shall be replanted or reseeded with native plants from the watershed or nearby watershed under guidance from PRNS biologists. Shrubs, trees, and herbaceous perennials and annuals shall be seeded and planted along riparian corridors where impacts and vegetation removal occur. Riparian vegetation shall be replanted with shrubs or live-stakes along the banks of East Schooner Creek. CFLHD shall prepare a restoration plan for the project in consultation with PRNS for appropriate seed mixes and plants. Revegetated areas shall be protected and cared for, including watering when needed, until restoration criteria have been met under USACE permits, the USFWS Biological Opinion, and/or NPDES standards. Revegetated areas shall be monitored in accordance with the approved restoration plan to ensure success criteria are met.
- Construction at Drakes Beach parking lot will not occur during seasonal beach closures (typically January–March) along Drakes Beach as established yearly by the NPS. The Contracting Officer’s Engineer will coordinate with NPS and notify the contractor when construction may begin.
- Project design will avoid the historic-era water trough on Home Ranch.

4.5 Agency and Public Coordination

A Section 4(f) *de minimis* impact finding requires agency coordination with the officials having jurisdiction over the Section 4(f) property and opportunities for public involvement. This project has been developed in coordination with NPS, the official with jurisdiction over the PRNS, during scoping efforts and review of project design and environmental compliance. In addition, as official with jurisdiction for the historic properties on PRNS, the SHPO has been consulted per Section 106 of the National Historic Preservation Act and also notified of CFLHD’s intent to make a *de minimis* impact finding (see Appendix F). Written concurrence from the NPS regarding the *de*

minimis impact finding will be obtained prior to issuance of the NEPA and CEQA decision documents.

Public review and comment of the *de minimis* impact finding will be solicited through the SEA/SIS public review. Following the public comment period, CFLHD will review public comments and make a final determination, which will be included in the final NEPA and CEQA decision document.

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