Midpeninsula Regional Open Space District

Wildland Fire Resiliency Program
Final Environmental Impact Report
SCH # 2020049059

April 2021

717 Market Street, Suite 650
San Francisco, CA 94103
650-373-1200
www.panoramaenv.com

PANORAMA ENVIRONMENTAL, INC.

Midpeninsula Regional Open Space District
Wildland Fire Resiliency Program
Final Environmental Impact Report

April 2021

Prepared for:

Midpeninsula Regional Open Space District
330 Distel Circle
Los Altos, CA
650-691-1200
Coty Sifuentes-Winter, Senior Resource Management Specialist
csifuentes@openspace.org

Prepared by:

Panorama Environmental, Inc.
717 Market Street, Suite 650
San Francisco, CA 94103
650-373-1200
Tania Treis, Principal
tania.treis@panoramaenv.com

PANORAMA ENVIRONMENTAL, INC.

Table of Contents

List of Tables

List of Appendices

Acronyms and Abbreviations

BAAQMD	Bay Area Air Quality Management District
C.E.G.	California Engineering Geologist
CAL FIRE	California Department of Forestry and Fire Protection
CalTrans	California Department of Transportation
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CNPS	California Native Plant Society
CNRA	California Natural Resources Agency
CPUC	California Public Utilities Commission
CZU	San Mateo–Santa Cruz Unit
EIR	Environmental Impact Report
FRA	fuel reduction area
GHG	greenhouse gas
GIS	geographic information system
IPMP	Integrated Pest Management Program
LiDAR	Light Detection and Ranging
MBARD	Monterey Bay Air Resources District
Midpen	Midpeninsula Regional Open Space District
NOP	Notice of Preparation
OSP	open space preserves
P.G.	Professional Geologist

ACRONYMS AND ABBREVIATIONS

PFP	Prescribed Fire Plan
PG&E	Pacific Gas and Electric
PRC	Public Resources Code
QSD	qualified SWPPP developer
QSP	qualified SWPPP practitioner
RM Policies	Resource Management Policies
ROW	right-of-way
RPF	Registered Professional Forester
SRA	state responsibility area
SWPPP	Stormwater Pollution Prevention Plan
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VMA	vegetation management area
VMP	Vegetation Management Plan
WFRP or Program	Wildland Fire Resiliency Program

1 Introduction

1.1 Purpose of the Final EIR

Midpeninsula Regional Open Space District (Midpen) proposes to implement a Wildland Fire Resiliency Program (WFRP or Program), which would serve as a planning and implementation document to manage vegetation and infrastructure on Midpen lands as well as guide the planning, response, and monitoring efforts needed to reduce wildland fire risks. This Program Environmental Impact Report (EIR) has been prepared in accordance with the California Environmental Quality Act (CEQA) (Public Resources Code [PRC] § 21000 *et seq.*) and the amended Guidelines for the Implementation of CEQA (CEQA Guidelines) (14 California Code of Regulations [CCR] § 15000 *et seq.*) and provides an assessment of the potentially significant environmental effects of the Program.

Midpen is the "lead agency" for the Program evaluated in this Final Program EIR and the Board of Directors is responsible for the certification of this Final Program EIR as adequate and complete. Midpen has prepared this Final Program EIR to:

- Inform the general public and decision makers about the:
    - Nature of the WFRP,
    - Potentially significant environmental effects,
    - Feasible mitigation measures to avoid or mitigate those effects, and
    - Reasonable and feasible alternatives to the proposed project;
- Enable Midpen to consider the environmental consequences of approving the Program; and
- Satisfy CEQA requirements.

In accordance with the CEQA Guidelines, after completion of the Draft Program EIR, Midpen is required to consult with and obtain comments from affected public agencies, and to provide the public with an opportunity to comment on the Draft Program EIR. Midpen is then required to respond to significant environmental issues raised in the review and consultation process (CEQA Section 15132).

As described in CEQA and the CEQA Guidelines, public agencies are charged with the duty to avoid or substantially lessen significant environmental effects of proposed projects, where feasible. A public agency is obligated to balance a proposed project's significant effects on the environment with its benefits, including economic, social, technological, legal, and others. The Program EIR is an informational document that, as required by CEQA, (1) assesses the potentially significant environmental effects of the WFRP, including cumulative impacts, (2) identifies feasible mitigation measures to avoid or substantially reduce significant impacts, (3)

identifies any significant and unavoidable adverse impacts that cannot be mitigated to less than significant levels, and (4) evaluates a range of reasonable alternatives to the Program, including the No Program Alternative, that would eliminate or substantially reduce any significant adverse environmental effects of the Program.

The CEQA lead agency is required to consider the information in the Program EIR, along with any other relevant information in the administrative record, in making its decision on a proposed project. Although the Program EIR does not determine the ultimate decision that will be made regarding implementation of the WFRP, CEQA requires Midpen to consider the information in the EIR and make findings regarding each significant effect identified in the Program EIR before it can approve the WFRP. The Board of Directors would need to certify this Final Program EIR prior to adopting the WFRP. The Board of Directors is required to consider the information in the Program EIR, along with any other relevant information in the administrative record, in making its decision on the WFRP.

1.2 Summary of the Proposed Program

The Program is a comprehensive document that includes the following components:

- **Introduction:** Provides an overview of Midpen lands, management, and purpose of the Program;
- **Background and Environmental Setting:** Describes the open space preserves (OSPs) and managed land system, resources, landscape, and other current environmental conditions;
- **Wildland Fire Resiliency Program Policies:** Identifies Midpen's Resource Management Policies (RM Policies) that would be updated to support the Program;
- **Vegetation Management Plan (VMP):** Addresses creation and maintenance of fuelbreaks, fuel management zones, and defensible space zones using ecologically sensitive vegetation management techniques addressed in Midpen's existing Integrated Pest Management Program (IPMP);
- **Prescribed Fire Plan (PFP):** Addresses the methods and implementation of prescribed fire to manage fuel and improve ecosystem health at the programmatic level;
- **Wildland Fire Pre-Plans/Resource Advisor Maps:** Describes the creation of Resource Advisor maps for each OSP and other managed land (or groups of managed lands) that would include information on existing conditions, infrastructure, and resources constraints to aid fire suppression activities and locate sensitive resource areas that merit protection from potential damage due to fire or fire suppression activities;
- **Monitoring Plan:** Provides a framework for recording pre-project conditions, vegetation treatment response, and fuels inventories to inform future adaptive management techniques; and

- **Maximum Acreage of Annual Treatment:** Describes the maximum treatment acreages by activity per year.

The Program would guide a comprehensive approach to vegetation management, including pre- and post- response activities to wildland fire on Midpen lands that integrates the four plans summarized above. The VMP and the PFP are the primary plans within the Program that could result in physical effects on the environment. In addition, the Wildland Fire Pre-Plan includes potential new infrastructure to support wildland fire response that also could result in physical effects on the environment. The Program EIR focuses on the elements of the Program that may result in physical effects on the environment.

1.3 Environmental Review Process

1.3.1 Draft EIR Program Review

The Draft Program EIR was prepared to analyze the environmental impacts of the WFRP. The Draft Program EIR considered the Program and alternatives that would reduce or avoid significant environmental impacts. The Draft Program EIR was circulated to affected public agencies and interested parties for a 45-day review period beginning January 15, 2021 and ending March 1, 2021. Comments on the Draft Program EIR were to be submitted in writing by no later than 5:00 pm on March 1, 2021. A public information meeting on the Draft Program EIR was held during the review period via teleconference and videoconference on February 25, 2021 at 5:00pm (as allowable by Executive Order N-25-20).

1.3.2 Final EIR Program Review

The Final Program EIR will be available for review at the following locations:

- District's main Administration Office (330 Distel Circle, Los Alto),
- Foothills Field Office (222500 Cristo Rey Dr, Cupertino), and
- Skyline Field Office (21150 Skyline Ranch Road, La Honda).

The District requests that the public call ahead of time to review the documents in person due to the ongoing pandemic.

In accordance with the CEQA guidelines, the Final Program EIR will be made available to the public and commenting agencies a minimum of 10 days prior to the Program EIR certification hearing. A public hearing to consider the Final Program EIR has been scheduled for May 12, 2021. The meeting will be held via teleconference and videoconference. Notices of the upcoming meeting will be sent to all interested parties. Information about the Final Program EIR public hearing will be available online at openspace.org/board-meetings.

1.4 Report Organization

This document is organized as follows:

- **Chapter 1: Introduction**. This chapter includes a discussion of the purpose and organization of the Final Program EIR.
- **Chapter 2: Responses to Comments**. This chapter contains copies of comments received during the public review period and responses to those comments. Each comment letter is coded. Each comment within each letter is bracketed in the margin of the letter and assigned a secondary, comment-specific number. For example, the first comment in the letter from the California Department of Fish and Wildlife is A1-1. Each comment letter is followed by a response corresponding to the bracketed comment.
- **Chapter 3: Revisions to Text of Draft EIR**. This chapter presents corrections or clarifications to the Draft Program EIR based on comments received. The text changes do not present any significant new information with respect to the proposed project, including any new potentially significant environmental impacts that cannot be mitigated to less than significant, or in any new mitigation measures. Corrections to the text and tables of the Draft Program EIR are contained in this chapter. Underlined text represents language that has been added to the Draft Program EIR; text with ~~strikethrough~~ has been deleted from the Draft Program EIR.
- **Chapter 4: Mitigation, Monitoring, and Reporting Program.** This chapter identifies each significant impact and mitigation measure. The implementation responsibility, monitoring responsibility, and timing and performance standards are detailed for each specific mitigation measure.
- **Chapter 5: Document Preparation.** Identifies the preparers of the Program EIR and the public agencies, organizations, and tribes consulted during the preparation of the Program EIR.
- **Chapter 6: References.** Provides the references for each chapter.

2 Responses to Comments

2.1 Introduction

This section contains the comments received during the public review period on the Draft Program EIR prepared for the WFRP and the responses to those comments. Written and verbal comments on the Draft Program EIR were received from the agencies, organizations, and private individuals identified in Table 2.1-1. A public meeting was held during the public review period via teleconference and videoconference on February 25, 2021 at 5:00 pm (as allowable by Executive Order N-25-20), to receive public comments. Five members of the public submitted written questions and comments that were read into the record during the public meeting.

The comments are organized into three categories (agency/organization, individual, public meeting) and are listed with the name of the commenter and the date their letter was received or verbal comment taken, in Table 2.1-1. Each comment letter has been assigned a code as shown in the table. Each specific comment within a particular letter has been bracketed and assigned a number. For example, the third comment in letter "A3" is identified as "Comment A3-3." The corresponding response uses the same coding system. In this fashion, the reader will be able to identify the comment to which a response refers.

Any text edits to the EIR made in response to a comment are provided in Chapter 3: Revisions to Text of Draft EIR.

Table 2.1-1 Commenters on the Draft EIR and Corresponding Comment and Response Numbers

Commenter		Comment Code	Date of Comment
Agency/Organization			
Robynn Swan	California Department of Fish and Wildlife (CDFW)	A1	2/22/2021
Yunsheng Luo	California Department of Transportation (CalTrans)	A2	2/23/2021
Susan Lessin	Sierra Club – Loma Prieta Chapter	A3	2/25/2021
Susan Lessin	Sierra Club – Loma Prieta Chapter	A4	2/25/2021
Steve Padovan	Town of Los Altos Hills	A5	2/26/2021
Matthew Mosher	California Department of Forestry and Fire Protection (CAL FIRE)	A6	2/28/2021
Patrick Brand	California Geological Survey	A7	3/1/2021

Commenter		Comment Code	Date of Comment
Albert Salvador	City of Cupertino	A8	3/1/2021
Karen Maki	Sierra Club – Loma Prieta Chapter, Forest Protection Committee	A9	3/1/2021
Daniel Krug	County of San Mateo, Planning and Building Department	A10	3/2/2021[a]
Individuals			
Von Tersch, Tom		B1	1/20/2021
Pittsinger, Jane		B2	1/22/2021
Chris, Chris		B3	1/27/2021
Fisher, Glenn		B4	2/11/2021
Vahtra, Karen		B5	2/19/2021
Brandt, Adam		B6	2/22/2021
Evans, Peter		B7	2/25/2021
Liebes, Sid		B8	2/27/2021
Epstein, Allan		B9	3/1/2021
Public Meeting on February 25, 2021			
DePeau, Norm		C1	2/20/2021
Liston, Janssen		C2	2/22/2021
Kelley, Peter		C3	2/25/2021
Maki, Karen		C4	2/25/2021
Morley, Matt		C5	2/25/2021

Note:

[a] The letter from San Mateo County was received outside the comment period but was incorporated into the record as this agency is a permitting agency.

2.2 Agency/Organization Comments and Responses

2.2.1 Letter A1: Robynn Swan, CDFW

State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Bay Delta Region
2825 Cordelia Road, Suite 100
Fairfield, CA 94534
(707) 428-2002
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director

Letter A1

February 22, 2021

Coty Sifuentes-Winter, Senior Resource Management Specialist
Midpeninsula Regional Open Space District
330 Distel Circle
Los Altos, CA 94022
csifuentes@openspace.org

Subject: Wildland Fire Resiliency Program, Draft Environmental Impact Report, SCH No. 2020049059, San Mateo, Santa Clara, and Santa Cruz Counties

Dear Coty Sifuentes-Winter:

The California Department of Fish and Wildlife (CDFW) has reviewed the draft Program Environmental Impact Report (EIR) prepared by the Midpeninsula Regional Open Space District (MidPen) for the Wildland Fire Resiliency Program (Project) located in San Mateo, Santa Clara, and Santa Cruz Counties.

CDFW provided comments on the Notice of Preparation (NOP) for the subsequent draft EIR in a letter dated May 20, 2020. CDFW is submitting comments on the draft EIR to inform MidPen, as the Lead Agency, of our concerns regarding potentially significant impacts to sensitive resources associated with the proposed Project.

CDFW is providing these comments and recommendations regarding activities involved in the Project that are within CDFW's area of expertise and relevant to its statutory responsibilities (Fish and Game Code, § 1802), and/or which are required to be approved by CDFW (California Environmental Quality Act) CEQA Guidelines, §§ 15086, 15096 and 15204).

CDFW ROLE

CDFW is a Trustee Agency with responsibility under CEQA (Pub. Resources Code, § 21000 et seq.) pursuant to CEQA Guidelines section 15386 for commenting on projects that could impact fish, plant, and wildlife resources. CDFW is also considered a Responsible Agency if a project would require discretionary approval, such as a California Endangered Species Act (CESA) Permit, a Lake and Streambed Alteration (LSA) Agreement, or other provisions of the Fish and Game Code that afford protection to the state's fish and wildlife trust resources.

REGULATORY REQUIREMENTS

California Endangered Species Act

Please be advised that a CESA Permit must be obtained if the Project has the potential to result in "take" of plants or animals listed under CESA, either during construction or

A1-1

over the life of the Project. Issuance of a CESA Incidental Take Permit (ITP) is subject to CEQA documentation; the CEQA document must specify impacts, mitigation measures, and a mitigation monitoring and reporting program. If the Project will impact CESA listed species, early consultation is encouraged, as significant modification to the Project and mitigation measures may be required in order to obtain a CESA Permit.

CEQA requires a Mandatory Finding of Significance if a project is likely to substantially restrict the range or reduce the population of a threatened or endangered species. (Pub. Resources Code, §§ 21001, subd. (c), 21083; CEQA Guidelines, §§ 15380, 15064, and 15065). Impacts must be avoided or mitigated to less-than-significant levels unless the CEQA Lead Agency makes and supports Findings of Overriding Consideration (FOC). The CEQA Lead Agency's FOC does not eliminate the Project proponent's obligation to comply with Fish and Game Code section 2080.

Lake and Streambed Alteration

CDFW requires an LSA Notification, pursuant to Fish and Game Code section1600 et. seq., for Project activities affecting lakes or streams and associated riparian habitat. Notification is required for any activity that may substantially divert or obstruct the natural flow; change or use material from the bed, channel, or bank including associated riparian or wetland resources; or deposit or dispose of material where it may pass into a river, lake, or stream. Work within ephemeral streams, washes, watercourses with a subsurface flow, and floodplains are subject to notification requirements. CDFW will consider the CEQA document for the Project and may issue an LSA Agreement. CDFW may not execute the final LSA Agreement (or ITP) until it has complied with CEQA as a Responsible Agency.

A1-2

PROJECT DESCRIPTION SUMMARY

Proponent: Midpeninsula Regional Open Space District

Project Location: The proposed activities under the Project would be applied on all lands managed by Midpen, which covers nearly 60,000 acres in portions of San Mateo, Santa Clara, and Santa Cruz counties with other land within the jurisdiction of 17 cities (Atherton, Cupertino, East Palo Alto, Half Moon Bay, Los Altos, Los Altos Hills, Los Gatos, Menlo Park, Monte Sereno, Mountain View, Palo Alto, Portola Valley, Redwood City, San Carlos, Saratoga, Sunnyvale, and Woodside).

Project Description: The Midpeninsula Regional Open Space District Wildland Fire Resiliency Program is a planning and implementation document to manage vegetation and infrastructure on Midpen lands as well as planning, response, and monitoring to reduce wildland fire risks. The primary objectives of the Project include: 1) managing vegetation to establish healthy, resilient, fire-adapted ecosystems; 2) managing vegetation and infrastructure to reduce wildland fire risks; 3) integrating prescribed fire

for vegetation management; and 4) providing an adaptive framework for periodic review and adjustments of the Project based on a changing climate, improved knowledge, and improved technology over time.

The Program would guide a comprehensive approach to management activities and integrate a Vegetation Management Plan (VMP), Prescribed Fire Plan, Wildland Fire Pre-Plan/Resource Advisor Maps, and a Monitoring Plan. The Project's vegetation management activities include fuel load reduction, shaded and nonshaded fuel breaks, ingress/egress route fuel breaks, defensible space, invasive plant species removal and prescribed fire activities.

Project Duration: Project activities would occur year-round with certain tools and techniques confined to specific months due to limitations such as the wet season, species protection requirements, permitting restrictions, and official fire seasons.

ENVIRONMENTAL SETTING

MidPen lands encompass portions of San Mateo, Santa Clara, and Santa Cruz counties. These lands, comprised of separate open space preserves (OSPs), are primarily managed to preserve a regional greenbelt of open space land. The OSPs support tidal salt marshes in the east along the San Francisco Bay shoreline. At higher elevations in the Santa Cruz Mountains, these lands are covered in a diverse mix of oak woodland, grassland, chaparral, coastal scrub, and both evergreen and coniferous forests.

COMMENTS AND RECOMMENDATIONS

CDFW offers the below comments and recommendations to assist MidPen in adequately identifying and/or mitigating the Project's significant, or potentially significant, direct, and indirect impacts on fish and wildlife (biological) resources.

4.4 Biological Resources

MM Biology -2: Special-Status Plants

The draft EIR discloses that a total of 42 special-status plant species are present or have the potential to occur within the Project areas, with three of these species being state or federally listed as endangered, threatened, and/or rare, and the other 37 species being considered rare by the California Native Plant Society (CNPS).

The Project has the potential to impact special-status plant species from various proposed vegetation management activities, including the removal of vegetation using manual and mechanical methods, prescribed fires, pile burning, grazing, and herbicide use. To mitigate for these potential impacts, the draft EIR proposes mitigation measure *MM Biology -2: Special-Status Plants* which states that prior to Project activity, a

biological monitor or qualified biologist shall survey the work site to determine the potential presence of special-status plants and document any observations.

CDFW Comment 1: The draft EIR does not disclose information on special-status plant survey protocols and methodology to be used during pre-project surveys. The purpose of establishing a specific protocol is to facilitate a consistent and systematic approach to field surveys and assessments of special-status plants and sensitive natural communities so that reliable information is produced and the potential for locating special-status plants and sensitive natural communities is maximized. A1-3

Recommended Mitigation 1: To further reduce impacts to special-status plants to less-than-significant, CDFW recommends the draft EIR be revised to specify that surveys for special-status plant species will be conducted during the blooming period for all sensitive plant species potentially occurring within the Project area and survey protocols be conducted following CDFW's *Protocols for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Natural Communities*, dated March 20, 2018. The protocol can be found online at https://wildlife.ca.gov/Conservation/Survey-Protocols#377281280-plants. A1-4

MM Biology-12: Marbled Murrelet Nest Protection Measures

The draft EIR discloses the potential for marbled murrelets (*Brachyramphus marmoratus*) to occur within the Project areas, identifies critical habitat locations, and describes potentially suitable nesting habitat requirements that support breeding murrelets. The Project has potential to impact breeding marbled murrelets from auditory and visual disturbance generated during Project activities in proximity to suitable murrelet nesting habitat. To mitigate for these potential impacts, the draft EIR proposes mitigation measure *MM Biology-12: Marbled Murrelet Nest Protection Measures*, which provides comprehensive measures to protect murrelets by avoiding Project activities during the breeding season, implementing seasonal disturbance buffers, and initiating protocol level audio/visual surveys.

CDFW Comment 2: In the draft EIR, mitigation measure *MM Biology-12: Marbled Murrelet Nest Protection Measures d(ii)* references seasonal noise disturbance buffers provided by the U.S. Fish and Wildlife Service (USFWS) July 26, 2006 document titled, *Estimation of the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northwestern California*. As of October 1, 2020, this USFWS document has been revised to provide updated guidance on the effects of disturbance to marbled murrelets and incorporates the most recent published scientific literature on auditory and visual disturbance. Although the cover letter indicates that the guidance is valid only to the limits of the Russian River watershed, CDFW recommends use of the revised guidance document throughout the murrelet's range. A1-5

Recommended Mitigation 2: To further reduce impacts to marbled murrelets to less-than-significant, CDFW recommends the draft EIR reference the revised USFWS *Estimating the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northwestern California*, dated October 1, 2020. The revised guidance document can be found online at https://www.fws.gov/arcata/es/birds/mm/m_murrelet.html. A1-5

MM Biology-15: Monarch Butterfly Overwintering Aggregation Protection

The draft EIR discloses several invasive plant species found within the Project areas, including approximately 200 acres of blue gum eucalyptus (*Eucalyptus globulus*), which has the potential to increase the intensity and severity of wildland fires on MidPen lands. The Project proposes to remove eucalyptus from locations where they could pose a fire hazard by using manual and mechanical methods, and herbicide applications to control re-sprouting.

Monarch butterflies (*Danaus plexippus*) are known to utilize eucalyptus trees for overwintering habitat. This species is currently experiencing a rapid decline in population abundance at these overwintering sites in California (USFWS 2020). The removal and thinning of eucalyptus trees within the Project areas has the potential to impact monarchs by eliminating or altering the habitat if overwintering aggregations are present.

To mitigate for potential impacts to monarch overwintering aggregations, the draft EIR proposes mitigation measure *MM Biology-15: Monarch Butterfly Overwintering Aggregation Protection* which provides pre-project surveys for and avoidance of monarch aggregations during the overwintering season, and a long-term tree planting strategy for native tree species suitable for monarchs.

CDFW Comment 3: On December 15, 2020, the USFWS determined that listing the monarch butterfly as endangered or threatened under the Endangered Species Act (ESA) is warranted. The monarch is now a candidate under ESA and during the candidacy period, is afforded the same protections as a federally listed species. A1-6

Recommended Mitigation 3: CDFW recommends the draft EIR be revised to reflect the new status of the monarch butterfly as federally proposed for listing as Endangered. Information on monarchs, including the Special-Status Assessment Report, can be found online at https://www.fws.gov/savethemonarch/SSA.html.

CDFW Comment 4: The draft EIR indicates that the removal of eucalyptus, and other invasive plant species, may include the use of herbicide applications to control re-sprouting. One of the primary drivers affecting the health of the migratory monarch populations is exposure to the widespread use of herbicides (USFWS 2020). To reduce impacts, the draft EIR proposes herbicide application be conducted according to Midpen's Integrated Pest Management Program (IPMP) Best Management Practices A1-7

(BMP), which would prevent overspray and drift of herbicides onto special-status butterfly and moth species.

Recommended Mitigation 4: To further reduce impacts to monarchs from widespread herbicide use within the Project areas, CDFW recommends the draft EIR review and incorporate BMPs from the USFWS *Monarch Pesticide Supplemental Materials* (Revised July 2020) that are not already incorporated into the MidPen IPMP. The USFWS *Supplemental Materials for the Monarch (Danaus plexippus plexippus) Species Status Assessment Report* can be found online at https://www.fws.gov/savethemonarch/SSA.html.

A1-7

ENVIRONMENTAL DATA

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database which may be used to make subsequent or supplemental environmental determinations. [Pub. Resources Code, § 21003, subd. (e)]. Accordingly, please report any special-status species and natural communities detected during Project surveys to the California Natural Diversity Database (CNDDB). The CNNDB field survey form, online field survey form, and contact information for CNDDB staff can be found at the following link: https://wildlife.ca.gov/data/CNDDB/submitting-data. The types of information reported to CNDDB can be found at the following link: https://wildlife.ca.gov/Data/CNDDB/Plants-and-Animals.

A1-8

FILING FEES

CDFW anticipates that the Project will have an impact on fish and/or wildlife, and assessment of filing fees is necessary (Fish and Game Code section 711.4; Pub. Resources Code, section 21089). Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW.

Thank you for the opportunity to comment on the Project's draft EIR. If you have any questions regarding this letter or for further coordination with CDFW, please contact Ms. Robynn Swan, Senior Environmental Scientist (Specialist), at (707) 576-2898 or robynn.swan@wildlife.ca.gov; or Ms. Randi Adair, Senior Environmental Scientist (Supervisory), at (707) 576-2786 or randi.adair@wildlife.ca.gov.

Sincerely,

DocuSigned by:
Gregg Erickson
BE74D4C93C604EA...

Gregg Erickson
Regional Manager
Bay Delta Region

DocuSign Envelope ID: 9242BD8A-E17F-448D-9993-7F596D4D1432

Coty Sifuentes-Winter
Midpeninsula Regional Open Space District
February 22, 2021
Page 7 of 7

cc: State Clearinghouse #2020049059

REFERENCES

U.S. Fish and Wildlife Service. 2020. Monarch (*Danaus plexippus*) Species Status Assessment Report. V2.1 96 pp + appendices.

Response to Comment A1-1

The commenter advises that if the program could result in "take" of plants or animals listed under the California Endangered Species Act that an Incidental Take Permit is required. Section 4.4.4: Regulatory Setting acknowledges that CDFW administers the Act and authorizes take through §2081 agreements, §2080.1 consistency determinations (for species that are also listed under the federal ESA), or Natural Communities Conservation Plan (NCCP). The analysis in Section 4.4: Biological Resources of the Draft Program EIR found that the Program had the potential to significantly impact several special-status plants and animals but with the mitigation measures identified (Mitigation Measure [MM] Biology-1 through MM Biology-20, MM Geology-1 through MM Geology-3) all impacts were reduced to less than significant. As mentioned in Section 4.4.4: Regulatory Setting, Midpen currently has a Memorandum of Understanding (MOU) with CDFW describing measures that when implemented will avoid take of San Francisco garter snake and California tiger salamander for activities that are performed on their lands. This agreement is currently being revisited as part of Midpen's programmatic permitting effort.

Response to Comment A1-2

The commenter provides information on the Lake and Streambed Alteration notification for activities affecting lakes or streams and associated riparian habitat. The regulatory settings in Section 4.4: Biological Resources and Section 4.9: Hydrology and Water Quality discuss the Section 1602 Lake and Streambed Alteration Agreement that may be required for Program activities. The analyses under Impact Biological Resources-2 addresses the program impacts on riparian habitat and Impact Hydrology-1 addresses the program impacts on streams from erosion and sedimentation. As discussed, Midpen currently holds a Routine Maintenance Agreement under the California Fish and Game Code Section 1602, Lake or Streambed Alteration Agreement, which is valid through 2024. Midpen is revisiting this permit to expand the definitions of "routine" and to clearly address activities under the IPMP and WFRP. A new permit may be required for some activities per MM Hydrology-1. No new permits can be issued until CEQA compliance is completed. Midpen will complete the WFRP Program EIR in

May 2021. Separate CEQA efforts are underway to address the Routine Maintenance Agreements.

Response to Comment A1-3

The commenter indicates that the specific special-status plant survey protocols and methodology required for pre-project surveys are not identified in the Draft Program EIR. As part of ongoing operations and implementation of other programs, Midpen conducts pre-activity special-status plant surveys using appropriate protocols. Midpen currently uses the *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* as well as California Native Plant Society survey protocols when surveying a new area that has not been surveyed previously, or for cyclical reassessments in areas where rare plants were found (CDFW, 2018). The same or newer, standard protocols would be employed for surveys conducted prior to Program activities. A reference has been added to MM Biology-2 that surveys must be conducted using a standard protocol such as the one identified by the commenter.

Response to Comment A1-4

The commenter requested that the Program EIR specify the survey protocol used for special-status plant species as the *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* (CDFW, 2018) and that surveys be conducted during blooming periods. The Program will be implemented over the foreseeable future and it is feasible that a new survey protocol will be released throughout the life of the Program. The current CDFW protocol requires entities to "Conduct botanical field surveys in the field at the times of year when plants will be both evident and identifiable. Usually this is during flowering or fruiting." This time period varies from species to species. MM Biology-2 has been revised to specify that surveys will be conducted at the time of year when plants will be both evident and identifiable and utilize a standard protocol, relevant at the time of implementation, which at this time is known as the *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities*(CDFW, 2018).

Response to Comment A1-5

The commenter noted that MM Biology-12 references the United States Fish and Wildlife Service (USFWS) 2006 document and recommends use of the updated guidance *Revised Transmittal of Guidance: Estimating the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northwestern California* (USFWS, 2020) even for projects outside the Russian River watershed. MM Biology-12 has been revised to reflect the recommended 2020 guidance document, or the appropriate document at the time of activity implementation, should it change.

Response to Comment A1-6

The commenter recommended that the Program EIR be revised to reflect the federal candidate status of the monarch butterfly under which the species receives the same protections as a federally listed species. Appendix 4.4 has been revised to reflect the change in federal status. Federal candidate species, however, do not receive "take" protection under the federal

Endangered Species Act conversely to species listed as a candidate under the California Endangered Species Act, which are given full protection (CDFW, 2021).

Response to Comment A1-7

The commenter described that widespread use of herbicides is a significant factor affecting health of migratory monarchs and recommended incorporation of the BMPs from the *Monarch Pesticide Supplemental Materials (Danaus plexippus plexippus) Species Status Assessment Report* into the Program EIR (USFWS, Revised 2020). As analyzed, herbicide application under the Program would be by spot treatment or cut stump, not broadcast spray. The Draft Program EIR acknowledges that herbicide overspray or drift could remove host milkweed plants and may kill individual monarchs if present. MM Biology-13 requires surveys for host plant species, including milkweeds, to determine if special-status butterflies or moths, including monarchs, are present. Any occupied milkweed species will be avoided and protected with an appropriately sized buffer as determined by a qualified biologist[1]. The methods employed by Midpen to apply herbicides, with adherence to MM Biology-13, would ensure that monarch individuals on milkweed are not harmed by herbicide activities.

MM Biology-15 requires surveys for monarchs prior to any Program activities in tree groves comprised primarily or entirely of pine, cypress, fir, or eucalyptus that are within 2 miles of the Pacific Coast. Additional language has been added to the mitigation measure requiring a desktop record review to determine if the grove was historically occupied by monarchs. Groves with historical occupation would not be altered without further consultation with USFWS and/or CDFW.

Response to Comment A1-8

The commenter requested that any special-status species and natural communities detected during surveys be reported to the California Natural Diversity Database (CNDDB). Midpen conducts reporting as part of ongoing operations and implementation of other programs. MM Biology-1 specifically requires that all information on new localities or sightings for special-status species shall be reported to the Sacramento USFWS Office and the CNDDB annually.

[1] As defined in MM Biology-1 of the Program EIR, a qualified biologist/botanist is an individual who has a minimum of a 4-year academic degree in biological sciences or related resource management activities, with a minimum of two survey seasons years (e.g., two seasons during the blooming season of sensitive plants) conducting surveys for each species that may be present within the work area.

2.2.2 Letter A2: Yunsheng Luo, CalTrans

STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY GAVIN NEWSOM, Governor

DEPARTMENT OF TRANSPORTATION
DISTRICT 4
OFFICE OF TRANSIT AND COMMUNITY PLANNING
P.O. BOX 23660, MS-10D
OAKLAND, CA 94623-0660
PHONE (510) 286-5528
TTY 711
www.dot.ca.gov

Letter A2

Making Conservation a California Way of Life.

February 23, 2021

SCH #: 2020049059
GTS #: 04-SCL-2020-00852
GTS ID: 20671
Co/Rt/Pm: SCL/VAR/VAR

Coty Sifuentes-Winter, Senior Resource Management Specialist
Midpeninsula Regional Open Space District
330 Distel Circle
Los Altos, CA 94022

Re: Wildland Fire Resiliency Program – Draft Environmental Impact Report (DEIR)

Dear Coty Sifuentes-Winter:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the Project. We are committed to ensuring that impacts to the State's multimodal transportation system and to our natural environment are identified and mitigated to support a safe, sustainable, integrated and efficient transportation system. The following comments are based on our review of the January 2022 Draft DEIR.

Project Understanding
The Midpeninsula Regional Open Space District proposes to implement a Wildland Fire Resiliency Program to comprehensively direct management prior to, during, and after a wildland fire event. The proposed Program would provide guidance for ecological-sensitive management of vegetation to reduce fire intensity and severity. The project area passes through multiple State highway facilities.

Landscape Architecture
Eligible and officially designated State Scenic Highways are within and adjacent to the project area. Please ensure activities implemented are compatible with scenic resource protection when possible. The project may result in unavoidable impacts to scenic areas and public views, as well as potential damage to scenic resources within or adjacent to the State Right-of-Way (ROW). Please consider the visual impacts of proposed improvements and mitigations relative to highway users.

A2-1

"Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability"

Tree removal within the State ROW will require approval from the District Landscape Architect through the encroachment permit process. Trees within the State ROW damaged or removed during construction are required to be replaced per Caltrans Replacement Highway Planting Policy. A2-2

In addition, proposed work included in the Wildland Fire Resiliency Program appears to be adjacent to the State ROW. It is recommended to show the ROW symbol on project plans. A2-3

Construction-Related Impacts
Project work that requires movement of oversized or excessive load vehicles on state roadways requires a transportation permit that is issued by Caltrans. To apply, visit: https://dot.ca.gov/programs/traffic-operations/transportation-permits. A2-4 Prior to construction, coordination may be required with Caltrans to develop a Transportation Management Plan (TMP) to reduce construction traffic impacts to the State Transportation Network (STN).

Lead Agency
As the Lead Agency, the Midpeninsula Regional Open Space is responsible for all project mitigation, including any needed improvements to the STN. The project's fair share contribution, financing, scheduling, implementation responsibilities and lead agency monitoring should be fully discussed for all proposed mitigation measures. A2-5

Encroachment Permit
Please be advised that any permanent work or temporary traffic control that encroaches onto the State ROW requires a Caltrans-issued encroachment permit. If any Caltrans facilities are impacted by the project, those facilities must meet American Disabilities Act (ADA) Standards after project completion. As part of the encroachment permit submittal process, you may be asked by the Office of Encroachment Permits to submit a completed encroachment permit application package, digital set of plans clearly delineating the State ROW, digital copy of signed, dated and stamped (include stamp expiration date) traffic control plans, this comment letter, your response to the comment letter, and where applicable, the following items: new or amended Maintenance Agreement (MA), approved Design Standard Decision Document (DSDD), approved encroachment exception request, and/or airspace lease agreement. Your application package may be emailed to D4Permits@dot.ca.gov. A2-6

Coty Sifuentes-Winter, Senior Resource Management Specialist
February 23, 2021
Page 3

To download the permit application and to obtain more information on all required documentation, visit https://dot.ca.gov/programs/traffic-operations/ep/applications.

Thank you again for including Caltrans in the environmental review process. Should you have any questions regarding this letter, please contact Yunsheng Luo at Yunsheng.Luo@dot.ca.gov. Additionally, for future notifications and requests for review of new projects, please contact LDIGR-D4@dot.ca.gov.

Sincerely,

Mark Leong

MARK LEONG
District Branch Chief
Local Development - Intergovernmental Review

c: State Clearinghouse

"Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability"

Response to Comment A2-1
The commenter noted that eligible and officially designated State scenic highways are within and adjacent to the Program area and significant and unavoidable impacts on scenic views and resources may result. The commenter requested consideration of visual impacts on highway users. Scenic highways, corridors, and trails are discussed and shown in Figure 4.2-2 in Section 4.2.2: Existing Setting of the Draft Program EIR. Officially designated State Scenic Highways bisecting or adjacent to Midpen lands include SR-1, SR-9, SR-35, and I-280. Impact Aesthetics-2 analyzes impacts on scenic resources within a State scenic highway. The visibility from scenic roads, including State scenic highways, and a summary of impacts associated with proposed activities in each OSP is detailed in Table 4.2.2 of the Draft Program EIR. For example, a potential fuelbreak around Highway (SR-) 35 may be visible from a scenic viewpoint resulting in a potentially significant impact. MM Aesthetics-1 requires planning of treatments and avoiding changes within scenic views while ensuring that the intended wildland fire risk reduction can still be achieved. MM Aesthetics-2 requires new roads, helicopter landing areas, and staging areas to be located in areas that minimize visibility from scenic trails or viewpoints, and to minimize recontouring and cuts into hillsides. Impacts on scenic resources and viewpoints from Program activities conducted within State scenic highways were found to be significant and unavoidable even after implementation of mitigation, although the intent of the mitigation is to consider and reduce impacts to scenic resources as viewed from scenic highways, where possible, as recommended by the commenter.

Response to Comment A2-2
The commenter noted that tree removal within the State right-of-way (ROW) requires approval through an encroachment permit and trees damaged or removed within the State ROW must be replaced per CalTrans Replacement Highway Planting Policy. The potential need for CalTrans encroachment permits is acknowledged in Table 3.8-1 of the Draft Program EIR. While encroachment permits cover tree trimming and removal, greater specificity has been added to the table to address this nuance. Where needed, Midpen will seek the appropriate permit, and for the removal of healthy trees, such as eucalyptus, will coordinate with CalTrans (and their District Landscape Architect). As noted in the CalTrans Encroachment Permits Manual, planting of new trees may be required as mitigation on a case-by-case basis (CalTrans, 2018).

Response to Comment A2-3
The commenter requested the Program mapsets show the State ROW symbol. The mapsets in Appendix B of the WFRP have been updated to use the State symbol for roads under State jurisdiction. The comment does not raise environmental issues or issues related to the adequacy of the Draft Program EIR. No further response is needed.

Response to Comment A2-4
The commenter noted that movement of oversized and excessive load vehicles on State roadways requires a transportation permit. The potential need for CalTrans transportation permits is acknowledged in Table 3.8-1 of the Draft Program EIR. The comment does not raise environmental issues or issues related to the adequacy of the Draft EIR. No further response is needed.

Response to Comment A2-5

The commenter stated that Midpen may need to coordinate with CalTrans to develop a Transportation Management Plan to reduce construction traffic impacts to the State Transportation Network, which may involve mitigation and improvements to the network. All transportation impacts from the program implementation are expected to be temporary and short in duration, and thus, improvements to the State Transportation Network are not anticipated.

It is acknowledged that lane or road closures along State roads will require CalTrans coordination through which Midpen must adhere to any regulatory requirements and acquire appropriate transportation permits. Impacts Transportation-1 and Transportation-3 analyze effects from short-term lane or full public road closures from Program activities on the public and emergency responders. Appropriate Midpen BMPs and adherence to regulatory requirements would ensure that impacts to workers along or near roadways and motorists or bicyclists on public roads would be less than significant. Effects from a prescribed fire (e.g., staging of equipment, smoke) could significantly impact traffic or pose a traffic hazard on public and private roads. As analyzed in Section 4.12: Transportation, a Traffic Control Plan would be developed and implemented to ensure the safety of drivers on public roads during a prescribed burn, in accordance with MM Hazards-3.

Response to Comment A2-6

The commenter noted that activities within the State ROW require approval through an encroachment permit. The potential need for CalTrans encroachment permits is acknowledged in Table 3.8-1 of the Draft Program EIR. The comment does not raise environmental issues or issues related to the adequacy of the Draft EIR. No further response is needed.

2.2.3 Letter A3: Susan Lessin, Sierra Club – Loma Prieta Chapter

Letter A3

Fwd: FW: Mid Pen EIR
1 message

From: L SCHATTNER <susanlessin@comcast.net>
Sent: Thursday, February 25, 2021 6:01 PM
To: Coty Sifuentes-Winter <csifuentes@openspace.org>
Subject: Mid Pen EIR

EXTERNAL

To whom it may concern,

Are there any plans to harden Mid Pen's buildings? A3-1

Hardening these buildings would reduce fire risk and set an example to the public.
Susan Lessin

Sierra Club

Loma Prieta Chapter

Forest Protection Committee

Response to Comment A3-1

The commenter questioned whether Midpen has plans to harden existing buildings. Midpen conducts ongoing hardening, as appropriate, during maintenance of Midpen-owned occupied residences. This work, while on-going, is not part of the WFRP addressed in the Program EIR. The comment does not raise environmental issues or issues related to the adequacy of the Draft EIR. No further response is needed.

2.2.4 Letter A4: Susan Lessin, Sierra Club – Loma Prieta Chapter

Letter A4

From: L SCHATTNER <susanlessin@comcast.net>
Sent: Thursday, February 25, 2021 5:54 PM
To: Coty Sifuentes-Winter
Subject: Mid Pen EIR

EXTERNAL

Cody-public comment email is broken-here is my comment
To whom it may concern,
With regards to decrease of fire risk, could Mid-Pen encourage PG and E to inspect its wires within Mid -Pen's lands and get PG and E to repair deficiencies? A4-1
Susan Lessin
Sierra Club Loma Prieta Chapter
Forest Protection Committee

Response to Comment A4-1

The commenter questioned whether Midpen could encourage Pacific Gas and Electric (PG&E) to inspect the power lines within Midpen lands and repair deficiencies. Midpen does not have jurisdiction to mandate PG&E to perform vegetation management within their ROW, as this is PG&E responsibility in accordance with the California Public Utilities Commission (CPUC) General Order 95, Rule 35. Midpen regularly coordinates with PG&E regarding vegetation management activities in PG&E's right-of-way on Midpen lands but does not have authority to oversee or enforce vegetation management by PG&E. That authority lies with the CPUC. The comment does not raise environmental issues or issues related to the adequacy of the Draft EIR. No further response is needed.

2.2.5 Letter A5: Steve Padovan, Town of Los Altos Hills

Letter A5

LOS ALTOS HILLS
CALIFORNIA

February 26, 2021

Midpeninsula Regional Open Space District
330 Distel Circle
Los Altos, CA 94022
Attn: Cody Sifuentes-Winter

RE: Town of Los Altos Hills Comments on the Draft Program EIR for the Wildland Fire Resiliency Program

Dear Mr. Sifuentes-Winter:

Thank you for the opportunity to provide public comments on the Midpeninsula Regional Open Space District's Draft Program EIR for the Wildland Fire Resiliency Program. Overall, the Town is very supportive of the District's effort to prepare and implement a wildland fire resiliency program. As a community that is in a wildland urban interface and adjacent to several of the District's preserves, taking steps to reduce wildfire risk and improve resiliency is a very high priority for the Town. With that in mind, please accept and consider the following list of comments from the Town related to the Draft EIR:

1. There are several figures in the document (e.g.: Figure 3.2-1 Program Location) that are missing the Town's name and location on the graphic. Please identify Los Altos Hills, which is a different jurisdiction than Los Altos, on all appropriate area maps/figures. A5-1

2. As stated throughout the document, one of the primary purposes of the Wildland Fire Resiliency Program is to reduce wildland fire risk to lives and private property. With that in mind, the plan and mitigation measures should prioritize the thinning and clearing of brush, pruning up of trees, and the removal of eucalyptus, acacia, small conifers and dead wood within 2,500 feet of all abutting residential areas. A5-2

3. Include a mitigation measure requiring the Open Space District to notify all local jurisdictions at least 48 hours in advance of a prescribed burn adjacent to their boundaries. The goal should be advanced notification and coordination with a jurisdiction to ensure adequate public notification can be provided in advance of such an activity. A5-3

4. Impact Air Quality - 2 MM and Mitigation Measures for wildland fire hazard should state that prescribed burns will not be done within one mile of any abutting residential land uses. Only mechanical removal, cutting and thinning of vegetation shall be done in these areas. A5-4

5. On Page 4-5, in the first paragraph under Impacts Dismissed, the document states that there are only 75 acres of residential lands adjacent to the open space preserves. That amount seems to A5-5

26379 Fremont Road Los Altos Hills California 94022 Phone (650) 941-7222 Fax: (650) 941-3160

drastically understate the amount of residential properties that surround OSPs. In Los Altos Hills alone, there are at least 70 low density residential properties, all of which are at least one acre in size, directly abutting the Rancho San Antonio Open Space Preserve. There are additional homes and senior facilities in Los Altos and Cupertino abutting the preserve and numerous homes surrounding Fremont Older OSP. Therefore, the amount of residential land abutting OSPs needs to be reviewed. A5-5

6. Table 4.3-4 should include the residences in Los Altos Hills (under the heading **Nearest residential areas outside OSPs**) that border Rancho San Antonio OSP. A5-6

7. Under Air Quality mitigation measures, prescribed burns shall only be done on days when winds are minimal (under 5 mph) or blowing in a direction away from primary residential areas that abut the OSP where the prescribed burn is taking place. A5-7

8. Under Impact Air Quality-2, please clarify how vegetation with a higher moisture content (green or wet fuel) produces less smoke than dry fuels? Based on practical experience, wet wood creates much more smoke than dry wood. A5-8

9. In the Executive Summary, mitigation measures of different sections are mixed in throughout which becomes very confusing and difficult to navigate. A5-9

10. Under Geology and Soils, the discussion partially addresses concerns with prescribed burns on steep slopes and the potential impacts from the denuded slopes. However, there should be more discussion related to burns on steep slopes above residential land uses. A5-10

11. Mitigation Measure Geology-2 "Steep Slope Control Measures" – we would recommend that no prescribed burns be done on slopes over 35% that are above residential or other sensitive land uses. A5-11

12. Add a mitigation measure under Hazards, Hazardous Materials and Wildland Fire that also recommends that no prescribed burns be done on slopes over 35% that are above residential or other sensitive land uses. A5-12

13. Add to Impact Hazards-7 and include a related mitigation measure to recommend that no new overhead powerlines be constructed and that existing powerlines in very high and high fire hazard areas be placed underground or that the facilities be placed off-grid to eliminate the need for overhead power lines. A5-13

If you have any questions or would like to further discuss these comments, please contact me at (650) 947-2509 or spadovan@losaltoshills.ca.gov.

Sincerely,

Steve Padovan
Principal Planner

CC: Carl Cahill, City Manager
Zachary Dahl, Planning and Building Director

Response to Comment A5-1
The commenter requested that Figure 3.2-1 of the Draft Program EIR, as well as any other relevant figures, identify Los Altos Hills. The requested figure as well as Figure 3.3-3 and Figure 3.5-4 have been revised to label Los Altos Hills. The comment does not raise environmental issues or issues related to the adequacy of the Draft Program EIR. No further response is needed.

Response to Comment A5-2
The comment noted that the primary purpose of the Program is to reduce wildland fire risk to lives and private property. The commenter has requested that the Program prioritize fuel reduction within 2,500 feet of adjacent residential areas. The overall purpose of the Program is to allow for increased and environmentally sensitive vegetation management to reduce the potential for severe wildland fire, as stated in Section 1.2 of the WFRP. The Program's objectives include managing vegetation and infrastructure on Midpen lands to reduce wildland fire risks, improving wildland fire fighting capabilities and coordination, and improving overall safety to reduce the harmful effects of wildland fire on people, property, and natural resources. The methods for prioritizing treatments are identified in Section 4.4.3 of the WFRP and consider more than just proximity to residential areas. The activities proposed as part of the Program are intended to achieve the outlined results, which includes reducing wildland fire risk, thereby also benefiting neighboring residences. While not part of the Program, Midpen encourages neighboring private property owners to apply for a free Neighbor Defensible Space Permit to conduct defensible space treatments on Midpen lands within 100 feet of occupied structures.

Response to Comment A5-3
The commenter requested that mitigation require Midpen to notify all local jurisdictions at least 48 hours in advance of a prescribed burn. MM Air Quality-2 has been revised to require public notification at least 48 hours prior to a prescribed burn less than 50 acres in size to not only individuals within 1 mile, but to the overlying jurisdictions as well and for larger burns, noticing would extend to a larger region as determined appropriate by Midpen.

Response to Comment A5-4
The commenter requested that mitigation require a buffer of 1 mile between prescribed burns and residential land uses. Use of such a wide buffer would preclude the use of prescribed fire in most OSPs. Prescribed fire is included in the Program to achieve the objectives and would be implemented to help restore ecosystems closer to pre-fire suppression conditions through the removal of dead and accumulated vegetation and treatment of forest disease and invasive species. As discussed under Section 3.4.1: Program Purpose and Need in the Draft Program EIR, one of the challenges that Midpen and other surrounding jurisdictions are facing is high wildland fire risk in conjunction with extensive development in the wildland-urban interface (WUI) that leads to increased wildfire risks to communities as well as increased potential for anthropogenic (human-caused) ignition sources. Prescribed fire is one of the tools proposed by Midpen to reduce fuel loads and consequently wildland fire risk in the WUI and other portions of Midpen lands.

Compared to wildland fires, prescribed burns are planned for and conducted under optimal weather conditions (e.g., cool temperatures, high humidity, low wind) to limit air quality and smoke impacts on neighboring communities and to ensure fire fighters can maintain control, which means prescribed fire can be safely implemented within 1 mile of residences. The Burn Plan prepared for each individual prescribed fire under the guidance of the approving entity, including CAL FIRE, local fire department, Bay Area Air Quality Management District (BAAQMD), and/or Monterey Bay Air Resources District (MBARD), identifies these considerations and optimal conditions under which to burn. A Smoke Management Plan must also be prepared and implemented for prescribed burns. Per regulations and MM Air Quality-2, Midpen would conduct noticing and outreach prior to burning. Implementation of a prescribed burn may be the best method to reduce fuel loads in the WUI. Midpen will be refining and conducting more prescribed fire planning under the PFP in the coming year. While the Program EIR analyzed prescribed fire programmatically, additional environmental documentation will be prepared. Implementation of the PFP will not commence until additional environmental review is completed (expected in spring of 2022).

Response to Comment A5-5

The commenter indicated that the text stating 75 acres of residential land abuts the OSPs appears to drastically understate the quantity of residential properties adjacent to Midpen lands. The language specified by the commenter has been updated according to the latest geographic information system (GIS) data that residential areas comprise 11 percent of the land uses adjacent to OSP preserve boundaries. The reference to 75 acres has been removed.

Response to Comment A5-6

The commenter requested inclusion of the Los Altos Hills residences adjacent to Rancho San Antonio OSP in Table 4.3-4. The table has been updated as requested. The comment does not raise environmental issues or issues related to the adequacy of the Draft EIR. No further response is needed.

Response to Comment A5-7

The commenter stated that prescribed burns shall only be performed when winds are minimal or blowing in a direction away from residential areas. Prescribed burns are typically conducted in low winds, as higher winds can increase fire behavior and fuel consumption. Preferred wind speeds vary depending on topography, vegetation type, and other factors but the minimum 20-foot[2] windspeed for burning is about 6 mph with a maximum of 20 mph (USDA, 1989). Midpen is required to adhere to all appropriate regulations including BAAQMD Regulation 5 regarding open burning. Section 5-111.3 (of Regulation 5) requires that, "No material or fuel shall be ignited, nor shall any material or fuel be added to any fire when the wind velocity is

[2] Is defined as sustained winds averaged over a 10-minute period and measured 20 feet above the average height of nearby vegetation.

less than five (5) miles per hour except for crossfiring[3], or when the wind direction at the site shall be such that the direction of smoke drift is toward a populated area in order to minimize local nuisances caused by smoke and particulate fallouts." Midpen would adhere to this stipulation, which is generally consistent with the recommendations of the commenter.

Response to Comment A5-8

The commenter questioned how vegetation with higher moisture content produces less smoke than dry fuels. The reference to burning when fuels have higher moisture content in MM Air Quality-2 is due to studies that have found smoke exposure levels appeared to be higher during burns conducted at the high and low ends of the fuel moisture range (less than 9 percent or greater than 16 percent moisture content) (Reinhardt, Ottmar, & Hanneman, 2000). To minimize further potential for confusion, MM Air Quality-2 has been revised to schedule burning when fuels have appropriate moisture content to minimize smoke, as determined by an appropriate expert preparing the Smoke Management Plan.

Response to Comment A5-9

The commenter expressed confusion regarding the intermixing of mitigation measures across different sections in the Executive Summary. Table 2.1-1 in Chapter 2: Executive Summary provides a summary of the impact analysis and mitigation measures detailed throughout the Draft Program EIR. The mitigation measures include all those that are described in the analysis text to reduce or avoid impacts. For example, in addition to biological-specific mitigation measures, MM Geology-1 through MM Geology-3 are required to minimize impacts on candidate, sensitive, or special-status species as analyzed under Impact Biological Resources-1.

Chapter 4: Mitigation, Monitoring, and Reporting Program of the Final Program EIR provides a table of mitigation measures by resource topic, which may be easier to follow.

Response to Comment A5-10

The commenter requested that Section 4.6: Geology and Soils include more analysis related to prescribed burns on steep slopes and above residential land uses. Impact Geology and Soils-3 addresses the potential for slope failure as a result of landslide or other ground failure to impact or damage infrastructure throughout or directly adjacent to Midpen lands. The term "infrastructure" is used to describe a variety of features including residential structures. This term has been clarified in the analysis and MM Geology-2 to include structures potentially occupied by people.

---

[3] A burn ignition technique where the fire is ignited in two semi-circle arch patterns that almost intersect in the middle of the burn area (often used for field crop burning). The first fire is lit by walking into the wind from the downwind side. The second fire is lit by walking with the wind from the headwind side of the field. This technique is used during light (less than five miles per hour) and variable winds only.

The analysis of prescribed burning indicates that potentially significant impacts would occur were landslides to affect infrastructure. As analyzed in the Draft Program EIR, landslides could occur from burns on steep slopes. The impact analysis has since been clarified to indicate that other factors may result in landsliding from Program activities, including prescribed burning. Other indicators of landslide potential include considering areas of historic landsliding. The Santa Cruz Mountain region geology also has a well-documented naturally-occurring high background rate of erosion and landslide activity not triggered by human activity, as discussed in Section 4.6: Geology and Soils, which would be taken into account during implementation of Program activities.

MM Geology-2 provides a suite of erosion and slope stability measures to reduce the potential for erosion, loss of topsoil, or slope instability in areas where vegetation management work could expose bare soils or create loss of root-soil matrix strength. The intent of the mitigation is to have qualified personnel make the decision regarding which measures should be applied, based on site conditions and the project/activities proposed to be implemented, including prescribed burning projects. More clarity has also been added to MM Geology-2 regarding when and what types of qualified personnel must conduct a site assessment and identify the appropriate control measures to be applied from the BMPs and mitigation for Program activities, including burning.

Note that Midpen will be refining and conducting additional prescribed fire planning under the PFP in the coming year. While the Program EIR analyzed prescribed fire programmatically, additional environmental documentation will be forthcoming. Implementation of the PFP will not commence until this additional environmental review is completed (expected in spring of 2022).

Response to Comment A5-11

The commenter recommended that MM Geology-2 require no prescribed burns be performed on slopes over 35 percent that are above residential or other sensitive land uses. Prescribed burns are low severity and are intended to reduce surface fuels, leaving trees and shrubs alive. Burning in an area with steeper slopes does not necessarily increase landslide risk as stabilizing vegetation remains in the burn unit. Many factors contribute to the potential for destabilization, including evidence of historic landsliding and presence of weaker or very active geologic formations. Section 4.6: Geology and Soils provides information on the naturally occurring landsliding and susceptibility on Midpen lands.

As analyzed in the Draft Program EIR, a burned area on a slope may be subject to increased landslide potential, depending upon site conditions. As discussed in Response to Comment A5-10, MM Geology-2 includes a variety of erosion and slope stability measures for qualified personnel to evaluate and implement case-by-case, based on site conditions and the project/activities proposed to minimize slope destabilization.

Burn units are developed by qualified personnel with knowledge of prescribed burning and fire behavior. These personnel consider adjacent sensitive land uses and slopes. Refinement of burn units and prioritization within the PFP will be conducted in the coming year.

Response to Comment A5-12

The commenter recommended the addition of a hazards mitigation that requires no prescribed burns be performed on slopes over 35 percent that are above residential or other sensitive land uses. As analyzed in Impact Hazards-8 of the Draft Program EIR: "…Prescribed burns have the potential to change the soil profile, resulting in the top layer eroding in the short-term before new growth comes back, which could help increase slope instability. MM Geology-2 requires installation of erosion-control measures to stabilize the soils and reduce potential for landslides, which would reduce impacts to less than significant levels." Refer to Response to Comment A5-11 for a discussion on why a strict requirement to avoid prescribed burning on slopes over 35 percent has not been added. Additional definition of the PFP is underway, which will provide more information on when and where prescribed burns can be implemented. Additional environmental review may be required for the PFP adoption.

Response to Comment A5-13

The commenter requested that the hazards analysis be revised and a new mitigation added that requires no new overhead powerlines and undergrounding of existing powerlines in high fire hazard areas. The Program would not involve installation of new overhead powerlines. Alteration of existing powerlines is not within the scope of the Program. Midpen does not have jurisdiction to alter existing powerlines that cross Midpen lands or to require PG&E to conduct vegetation management within the PG&E ROW, as this is PG&E's responsibility in accordance with the CPUC General Order 95, Rule 35. The comment does not raise environmental issues or issues related to the adequacy of the Draft EIR. No further response is needed.

2.2.6 Letter A6: Matthew Mosher, CAL FIRE

Letter A6

STATE OF CALIFORNIA—NATURAL RESOURCES AGENCY Gavin Newsom, Governor

DEPARTMENT OF FORESTRY AND FIRE PROTECTION
P.O. Box 944246
SACRAMENTO, CA 94244-2460
(916) 653-7772
Website: www.fire.ca.gov

Date: February 28, 2021
Wildland Fire Resiliency Program DEIR

Midpeninsula Regional Open Space District
Attention: Coty Sifuentes-Winter, Senior Resource Management Specialist
330 Distel Circle
Los Altos, CA 94022
csifuentes@openspace.org

Dear Coty Sifuentes-Winter,

Thank you for the opportunity to review the Wildland Fire Resiliency Program Draft Environmental Impact Report (DEIR). Please see CAL FIRE's comments below.

Background and History of Fuel Management on Midpen Lands Overview, 3-7: This section should acknowledge the impact of development in the wildland urban interface (WUI) as an important factor with regards to the history of fire suppression in the state responsibility area (SRA). A6-1

Vegetation Management Plan Overview, 3-19: *"The need for vegetation management is primarily to reduce the presence of unnaturally high fuel loads and secondarily to manage vegetation near ignition sources (e.g., WUI, roads), thus reducing the intensity and harmful impacts of fires."* A6-2

This sentence should mention that vegetation management also allows for quick and effective suppression of ignitions and reduction in the rate of fire spread, in addition to reducing the intensity and harmful impact of fires.

Table 3.5-1, 3-21: The table lists the maximum treatment size of shaded fuel breaks as 100 feet. This maximum treatment size should be increased to 300 feet in areas of dense fuel accumulations where a wider fuel break width would increase the chances of successful containment of a wildfire, while lowering fire intensity and decreasing deleterious ecological effects along a wider swath of the landscape. A6-3

Tree Removal, 3-39: *"The IPMP allows for 50 to 100 hazard trees to be removed per year. The VMP would allow up to 50 additional trees to be limbed or removed entirely per year for fire hazard reduction as well as the eucalyptus and acacia tree removal described above."*

It is unclear if this limit applies to work performed in fuel breaks or is only intended to cover isolated removal of hazard trees. If this limit applies to work in fuel breaks, it is far too low and would be met quickly and severely constrain the amount of work which could be conducted each year. One interpretation of this would be 50 to 100 trees of any size. The general public frequently considers a 1" diameter stem a tree. This limit could arguably be obtained before one acre of these smaller stem sizes is treated. A definition of "hazard tree" would need to specify size. If it only applies to isolated larger hazard trees, CAL FIRE still believes this limit is too low considering the acreage under Midpen management. A6-4

"The Department of Forestry and Fire Protection serves and safeguards the people and protects the property and resources of California."

Prescribed Burn Units, 3-40: "*Considerations for prioritization of prescribed burns would be defined in the future, but may include: condition of area or burn unit in terms of forest health, amount of invasive species invasion, and extent of fuel loads; location and ability to manage the burn; and type of vegetation with consideration for improvement of ecosystem function through prescribed burning.*"

Locations of homes and infrastructure should also be taken into consideration when prioritizing prescribed burns. A6-5

Prescribed Fire Process Overview, 3-40: Midpen will also need to confirm that a CAL FIRE Unit Burn Ban is not in effect for projects that occur in Santa Clara, Santa Cruz and San Mateo counties. Additionally, Midpen will need the acquire the appropriate burn permit from CAL FIRE if the burn is to take place in SRA without CAL FIRE involvement. A6-6

Planning and Pretreatment, 3-41: This section should clarify that control lines may need to exceed 6 feet in certain circumstances, depending on fuel types and fuel loading. A6-7

Table 3.6-1, 3-46: CAL FIRE believes that the annual acreage limits of 1,737 acres for new projects and 1,400 acres for maintenance is too low for a landscape scale vegetation management program encompassing approximately 65,000 acres of Midpen managed land. These limits should be increased significantly. A6-8

Wildland Fire History, 4.8-8: This section should be updated to acknowledge the historic 2020 CZU Lightning Complex despite it occurring after the release of the NOP.

Figure 4.8-2, 4.8-11: This figure should be updated to show the 2020 CZU Lightning Complex. A6-9

Pile Burning, 4.8-36: For pile burning within SRA in Santa Clara, Santa Cruz and San Mateo counties, Midpen will need to ensure that a CAL FIRE Unit Burn Ban is not in effect, and that the proper CAL FIRE permit is issued for burns that will take place in SRA without CAL FIRE involvement.

Prescribed Burning, 4.8-38: As above, Midpen will need to ensure that a CAL FIRE Unit Burn Ban is not in effect in Santa Clara, Santa Cruz and San Mateo Counties, and that the proper CAL FIRE permit is issued for burns that will take place in SRA without CAL FIRE involvement. A6-10

Mitigation Measures, 4.8-42: MM Hazards-2 should specify the no burning will be conducted in San Mateo or Santa Cruz County during a CAL FIRE Unit Burn Ban, unless CAL FIRE issues a burn permit which allows for burning during the Burn Ban. A6-11

Please contact me if you have any questions

Sincerely,

Signed Original, on File

Richard Sampson
Forester II – Unit Forester
Unit Environmental Coordinator
RPF #2422
(831) 335-6742
Richard.sampson@fire.ca.gov

By:
Matthew Mosher
Environmental Scientist

Response to Comment A6-1
The commenter suggested acknowledgement of the impact of development in the WUI as a factor for fire suppression in the state responsibility area (SRA) under Section 3.3.1: Overview on page 3-7 of the Draft Program EIR. This concept is acknowledged under Section 3.4.1: Program Purpose and Need of the Draft Program EIR. The section specified by the commenter pertains to the reasoning for high fuel loads and what actions Midpen is currently implementing.

Response to Comment A6-2
The commenter requested that the need for the VMP be expanded to include a statement that vegetation management allows for quick and effective suppression of ignitions and reduction in the rate of fire spread. This sentiment is noted in the WFRP, which is incorporated by reference into the Program EIR. Additional text from the WFRP has been added to Section 3.5.2: Vegetation Management Plan, in line with the commenter's request.

Response to Comment A6-3
The commenter requested that the shaded fuelbreak treatment size be expanded to 300 feet, as Table 3.5-1 indicates that shaded fuelbreaks would be under 100 feet. Fuelbreaks of varying types proposed under the Program range in size from 15 feet to up to 300 feet, depending upon several factors including habitat type and type of resource (e.g., target hazard, evacuation route). The two broad categories of fuelbreak are shaded fuelbreaks and non-shaded fuelbreaks; however, for the purposes of the Program, these terms are applied to fuelbreaks that are not proposed around a specific resource such as an evacuation route or target hazard. The method of fuelbreak treatment around specific resources, such as a target hazard, would include shaded and non-shaded fuelbreak treatments. Potential fuelbreaks up to 300 feet wide are proposed around target hazards (school, hospital, nursing home) and up to 200 feet wide around evacuation routes, critical infrastructure, and fire management logistics areas, as noted in Table 3.5-1 of the Draft Program EIR. The 100-foot fuelbreak is specific to a shaded fuelbreak around roads or trails and structures (not including evacuation routes, emergency egress routes, etc.).

Note that the Program is intended to be a "living document". The VMP treatments proposed are based on the methodology for locating potential vegetation management areas (VMAs) and fuel reduction areas (FRAs), as outlined under Section 4.4.3 of the WFRP. Midpen, in conjunction with forestry and ecology specialists, identified treatments based on current risks, priorities, and ability to implement treatments. As described under Section 8.4 of the WFRP, Midpen will identify and implement recommended changes based on monitoring and changing

conditions. The Program may be updated accordingly, and as necessary, supplemental CEQA or other environmental analysis prepared.

Response to Comment A6-4

The commenter suggested that the allowable number of hazard trees removed under the Program is too low considering the size of Midpen lands. To clarify, per the commenter's request, the 50 additional trees allowed to be removed are individual hazard trees, regardless of size, and do not include the eucalyptus and acacia tree removal or tree removal to support other VMA treatments, such as fuelbreak creation. Minor revisions have been made to the text to clarify, including language specifying that a hazard tree is a tree that has a structural defect that makes it likely to fail in whole or in part within an area of higher human residence time (e.g., parking lots, trailheads) and are generally over 10 inches diameter at breast height. As discussed under Response to Comment A6-3, the treatments proposed are based on current risks, priorities, and ability to implement treatments. The Program may be updated as needed in the future.

Response to Comment A6-5

The commenter recommended consideration for locations of homes and infrastructure for burn prioritization. The list of considerations is in Section 3.5.3 of the Draft Program EIR but has not been solidified as of preparation of the Draft Program EIR. Midpen will be refining and conducting more prescribed fire planning under the PFP in the coming year. While the Program EIR analyzed prescribed fire programmatically, additional environmental documentation will be conducted at that time as well, where this concern will be addressed. Implementation of the PFP will not commence until additional environmental review is completed (expected in spring of 2022).

Response to Comment A6-6

The commenter noted that Midpen will need to confirm that a CAL FIRE Unit Burn Ban is not in effect and will need to acquire a burn permit from CAL FIRE for burns in the SRA that are conducted without CAL FIRE involvement. The specified language has been clarified and broadened to include seeking burn permits and verifying a permissive burn day according to the appropriate agency, including CAL FIRE. The requirement for a Burn Permit from CAL FIRE for prescribed burns is listed in Table 3.8-1 and it has been clarified that this permit is needed for prescribed burns in the SRA.

Response to Comment A6-7

The commenter recommended that the discussion of control lines be clarified that width may exceed 6 feet in certain circumstances. The text notes that typical widths are 1 to 6 feet, but has been revised to note control lines may be wider. Refinement of the PFP will be conducted in the coming year.

Response to Comment A6-8

The commenter recommended increasing the annual acreage limits of VMP treatments significantly. The comment is acknowledged. As discussed under Response to Comment A6-3,

the treatments proposed are based on current risks, priorities, and ability to implement treatments. The Program may be updated as needed in the future.

Response to Comment A6-9

The commenter requested that Section 4.8: Hazards, Hazardous Materials, and Wildland Fire be updated to include and show the 2020 San Mateo–Santa Cruz Unit (CZU) Lightning Complex. The CZU Lightning Complex was ignited and burned after the Notice of Preparation for the Draft Program EIR was circulated. The physical environmental conditions at the time the Notice of Preparation was published is used by an agency to determine whether an impact of a project is significant (CEQA Guidelines Section 15125). While some deviation may be permissible to more accurately allow assessment of a project's impacts, the impact analysis contained within the Draft Program EIR would not be altered by inclusion of the CZU Lightning Complex.

As noted in other responses, Midpen will be refining and conducting more prescribed fire planning under the PFP in the coming year. While the Program EIR analyzed prescribed fire programmatically, additional environmental documentation will be prepared at that time as well, which will include the CZU Lightning Complex as part of the baseline conditions (CEQA Guidelines Section 15125(a)). Implementation of the PFP will not commence until additional environmental review is completed (expected in spring of 2022).

Response to Comment A6-10

The commenter provided information regarding the regulatory requirements for pile and prescribed burning including ensuring a CAL FIRE Unit Burn Ban is not in effect and a permit has been acquired. Midpen must adhere to any regulatory requirements and acquire appropriate permits. The requirement for a Burn Permit from CAL FIRE for pile and prescribed burns has been clarified in Table 3.8-1. The regulatory requirements identified in the analysis under Impact Hazards-5 are those regulations that reduce the potential for escape or ignition of a wildland fire. Mention of the requirement to burn on a permissive burn day has been added as days with a burn ban in place are typically red flag days with high fire danger.

Response to Comment A6-11

The commenter requested that MM Hazards-2 specify that no burning will be conducted during a CAL FIRE Unit Burn Ban unless CAL FIRE issues a burn permit allowing for burning during a Burn Ban. Midpen is required to adhere to all pertinent regulations including any relevant CAL FIRE requirements noted by the commenter. Mitigation measures identified in the Program EIR identify additional requirements above and beyond regulatory requirements. MM Hazards-2 has been updated to specify CAL FIRE requirements must be met in addition to BAAQMD and MBARD.

2.2.7 Letter A7: Patrick Brand, California Geological Survey

California
Department of Conservation
California Geological Survey

Gavin Newsom, Governor
David Shabazian, Director

Letter A7

Memorandum

To: Midpeninsula Regional Open Space District
Attention: Coty Sifuentes-Winter, Senior Resource Management Specialist
330 Distel Circle
Los Altos, CA 94022

From: Patrick Brand
Department of Conservation
California Geological Survey
135 Ridgway Avenue
Santa Rosa, CA 95401

DATE: March 1, 2021

SUBJECT: Review of Draft Program Environmental Impact Report for the Proposed Wildland Fire Resiliency Program (SCH# 2020049059)

Dear Mr. Sifuentes-Winter,

The Department of Conservation, California Geological Survey (CGS) is pleased to provide you with this review of the Draft Program Environmental Impact Report for the Proposed Wildland Fire Resiliency Program (SCH# 2020049059). We understand that the Midpeninsula Regional Open Space District (Midpen) proposes to implement a Wildland Fire Resiliency Program (WFRP) to comprehensively direct management to reduce wildland fire severity and risk, and that the proposed WFRP is intended to help guide Midpen's vegetation and fuel management activities. The actions of the WFRP may be applied on all Midpen's Open Space Preserves (OSPs) and other areas under Midpen management. The project area covers about 60,000 acres in portions of San Mateo, Santa Clara, and Santa Cruz Counties.

Project documents describe that the WFRP will include 1) a vegetation management plan that focuses on "non-fire" vegetation management, 2) a prescribed fire plan to also reduce wildland fire risks, 3) a wildland fire pre-plan program to help firefighting efforts in the event of a wildland fire, and 4) a monitoring plan to monitor site conditions before, during, and after treatments or fire events. It is reported that the wildland fire pre-plan program could involve improvements to existing road rights-of-way (i.e. widening, grading) or potential construction of new access roads in areas where adequate access is lacking.

The majority of the Midpen holdings are within the wildland-urban interface and it is reported that many of the OSPs abut small areas of low-density residential development. Additionally, it appears that numerous public roads and highways are located within or near the project area. Project documents indicate that a known concern is "addressing how fire management actions could impact slope stability and induce landslides and mitigating for any associated effects". Based on these observations, it appears that, in addition to environmental concerns such as impacts to aquatic resources, there are potential for impacts to public safety and infrastructure.

State of California Natural Resources Agency | Department of Conservation
CGS c/o CA Department of Forestry, 135 Ridgway Ave., CA 95401
conservation.ca.gov

We reviewed the draft EIR, with focus on "Section 4.6 – Geology and Soils" and associated mitigations. Section 4.6 provides a generalized geologic overview of the project area that utilizes regional scale, generalized geologic data to present the basic geology and soils framework for the Midpen lands. The overview presented in Site 4.6 does not provide site-specific information at a level appropriate to evaluate specific projects that will be performed under the Proposed WFRP. A7-1

Our comments, provided below, are roughly grouped into four categorical subjects;

- Geology and Slope Stability,
- Roads and Erosion,
- Public Safety,
- Qualified Licensed Professionals.

Comments regarding Geology and Slope Stability:

- References listed in Section 4.6 are incomplete. For example, "Ellen, Mark, Wieczorek, Ramsey, & May, 1997" does not describe that this document is USGS Open-File Report 97-745-E, nor the scale of the source mapping. Another example is "USGS, 1997", which is simply listed as "Landslides, USGS GIS dataset", but appears to be from USGS Open-File Report 97-745-C. A7-2
- Section 4.6 presents an incomplete assessment of landslides and slope stability in the project area. We have the following comments:
  - Landslide mapping used for Figure 4.6.3 does not show "historic and projected landslides" as described in the figure title, but instead utilizes mapping that summarizes slopes into areas as "mostly", "many", and "few" landslides. The legend of Figure 4.6.3 indicates that areas of "many landslides" are depicted in a darker shade. The source map (Wentworth and others, 1997) indicates that these areas are "mostly landslides". A7-3
  - Section 4.6, "Slope Failures and Landslides" describes that "the most common landslide type encountered in the Midpen lands is a debris flow", and then primarily only discusses this type of landslide and the associated hazards. The referenced map (Ellen and others, 1997) that supports this conclusion is a predictive map that depicts source areas that are likely to produce debris flows during a future storm (though debris flow sources from the January 1982 storm are depicted as well). It is unclear how this conclusion was reached as other maps (i.e. Cooper-Clark and Associates, 1975; Brabb and Pampeyan, 1972), data (such as CGS Seismic Hazard Zone Maps and Reports; i.e. CGS, 2002), and information in county safety plans that identify additional landslide features are not referenced in this section and do not appear to have been evaluated or discussed. A7-4
  - Section 4.6, "Slope Failures and Landslides" references McClelland et al, 1998 to describes a correlation between slope steepness and overall potential for slope instability, and Figure 4.6.4 seems to use slope steepness as a direct proxy for potential for slope instability. The referenced article appears to focus on smaller, historic landslide features (excluding larger scale features such as rockslides and earthflows), and the referenced article does not draw A7-5

any conclusions about correlations between slope stability and slope steepness. This information is apparently interpreted from Table 4 of the referenced article by the draft EIR author. This data is drawn from different geologic setting in Idaho with little similarity to the current project area. Table 1 in McClelland et al (1998) shows that the Idaho study area is predominantly underlain by granitic and high-grade metamorphic parent material, neither of which are present in the Midpen project area. While there is certainly correlation between slope steepness and shallow-seated landslides, many other factors need to be considered in evaluating potential for slope instability (i.e. geological conditions, drainage characteristics, slope configuration, vegetation, climate, removal of underlying support, etc.). Additionally, it has been our experience that this correlation between slope steepness and potential for slope instability is less applicable to larger scale landslide types such as rockslides and earthflows. For example, observations in the San Francisco Bay Region show that earthflows occur on slopes as gentle as 25 to 30 percent (Keefer and Johnson, 1983).

- Table 4.6-2 describes that alluvium deposits "are typically those that are most susceptible to landslides and slope instability". This statement is overly simplistic. It is our experience that areas of alluvial fans suggest locations of a repeated debris flow process. Where alluvial fans are recognized the proposed vegetation treatment upslope of the fan should include geologic evaluation of the potential for possible reactivation or formation of debris flows and resultant downslope impacts. Colluvial filled hollows (concave slopes) also pose a potential for debris flows and shallow-seated landsliding depending on the type of anthropogenic disturbance. Alluvium located in low lying and relatively flat areas (for example a flood plain) is less likely to be susceptible to landsliding processes.

A7-6

- Table 4.6-2 seems to describe that "bedrock in the Franciscan Complex generally exhibits high stability on natural slopes". The Franciscan Complex bedrock is considered high sheared and inherently weak, and as such is prone to landsliding.

A7-7

- "Mitigation Measure Geology-2" intermingles erosion control and slope stability measures, and it seems that erosion control measures are also often intended to mitigate slope stability concerns. It is our opinion that slope stability concerns are not adequately addressed by the proposed mitigation. It seems that the mitigation measures identified only apply to areas where post operation ground cover will be less than 70 percent or where slope gradients exceed 35 percent. As discussed previously, landslides may still be present on slopes less than 35 percent slope. Additionally, slope gradients are often variable across a given landscape and it is unclear how slope gradient for a project area is to be determined. For example, will mitigation measures only apply to portions of a project area that exceed 35 percent slopes, or is an average slope gradient used to apply the mitigations measures to an entire project site?

A7-8

- "Impact Geology and Soils-3, Manual and Mechanical Techniques and Chemical Application" describes that "most landslides that occur after tree removal can be attributed to reduced soil cohesion from root decay". The section goes on to discuss

A7-9

loss of root strength after tree removal and seems to describe that leaving roots intact after vegetation removal will act to minimize the potential for slope failure and landslides. This is not true for non-sprouting species. While root strength is significant, this analysis does not also consider decreases in evapotranspiration after vegetation removal. This decrease reduces the amount of water intercepted and transpired by the canopy and can result in increased ground saturation, which could contribute to a decrease in slope stability in areas that are sensitive to groundwater changes or underlain by landslide features.

- "Mitigation Measure Geology-4" recommends to "consult GIS data to determine if expansive soils may be present within the proposed construction site". The specific GIS data that can be utilized for this purpose is unclear and not defined in the draft EIR.

A7-10

Comments regarding Roads and Erosion:

- Existing Roads and Skid Trails. The draft EIR (including, but not limited to, "Impact Geology and Soils-2, Access and Vehicle Travel") does not appear to completely evaluate or address the potential impacts of using of existing roads and associated watercourse crossings, potential improvements to roads, and potential use of skid trails on soil erosion and land sliding. For example, poorly constructed, drained, and/or maintained roads and watercourse crossings commonly result in significant erosion and sediment delivery to aquatic resources. Erosion and sediment delivery at non-functioning or poorly functioning crossings can be exacerbated by vehicle use. The draft EIR does not discuss watercourse crossings. Evaluating watercourse crossings prior to use and upgrading them to modern standards as necessary would minimize the potential for erosion and sediment delivery. The draft EIR describes that skid trails may be cleared of vegetation for use to access forest treatment areas. Installing waterbreaks on skid trails following use would disperse runoff and minimize concentrated flows that can lead to erosion and sediment delivery. These concepts are presented in many documents and manuals, including Keller and Sherar (2003), McClelland and others (1998), the "Handbook for Forest, Ranch & Rural Roads" (Weaver, Weppner, and Hagans, 2015), and the California Forest Practice Rules (CAL FIRE, 2020) which presents guidelines for planning, designing, constructing, reconstructing, upgrading, maintaining, and closing roads. Registered Professional Foresters (RPF) should be utilized to conduct such evaluations.

A7-11

- Proposed Roads. The draft EIR (including, but not limited to, "Impact Geology and Soils-2, Wildland Fire Pre-Plan") does not appear to completely evaluate or address the potential impacts of the potential construction of roads. , Poorly designed and located and/or constructed roads (i.e. located on steep slopes, built across unstable areas, etc.) can possibly lead to erosion, sediment delivery and landsliding. These concepts are presented in many documents and manuals, including Keller and Sherar (2003), McClelland and others (1998), the "Handbook for Forest, Ranch & Rural Roads" (Weaver, Weppner, and Hagans, 2015), and the California Forest Practice Rules (CAL FIRE, 2020) which presents guidelines for planning, designing, constructing, reconstructing, upgrading, maintaining, and closing roads. Registered Professional Foresters (RPF) should be utilized to conduct such evaluations.

A7-12

- "Mitigation Measure Geology-2, Steep Slopes Control Measures" describes that heavy equipment use on slopes greater than 35 percent will be avoided "unless specialized equipment is used that does not impact slope stability". Please describe or provide of examples of such specialized equipment. It is unclear what personnel can make such a determination that the equipment will not impact slope stability. A7-13
- "Mitigation Measure Geology-2, Steep Slopes Control Measures" recommends avoiding installation of spur roads or staging areas "on steep slopes, particularly over 50 percent slope, where feasible". If avoiding steep slopes is not feasible, then "appropriate design and control measures" such as those in Keller and Sherar (2003) are to be implemented; however, road construction techniques on steep slopes exceeding 50 percent should be specifically addressed in the draft EIR. Sidecast road fills on steep slopes are commonly prone to failures and instability. Based on this observation, McClelland (1998) recommends avoiding fills on slopes steeper than 55 percent or full-bench and endhaul if it is necessary to have the road located on a slope steeper than 55 percent; and similarly, Keller and Sherar (2003) recommend avoiding sidecasting fills on slopes steeper than 50 to 60 percent. The 2020 California Forest Practice Rules (CAL FIRE, 2020) also provides guidance on road construction on steep slopes. Cal Fire should be consulted prior to operations. A7-14

Comments regarding Public Safety:

- PUBLIC SAFETY. "Impact Geology and Soils-1" does not acknowledge the potential for direct or indirect substantial adverse effects, including the risk of loss, injury, or death, involving landslides, but instead defers to "Impact Geology and Soils-3" for analysis. As described in the introduction, there does appear to be potential public safety concerns related to landsliding given the potential proximity to public roads and infrastructure. Acknowledging this hazard here would likely raise the significance level determination. The 2021 California GEOLOGIST AND GEOPHYSICIST ACT (California Department of Consumer Affairs, 2021) describes laws intended to have qualified geologists and/or engineers evaluate slope stability conditions and the process for enforcement actions. A7-15

Comments regarding Qualified Licensed Professionals:

- Under "Mitigation Measure Geology-2", paragraph two (page 4.6-33) describes that prior to operations, "the area shall be inspected for signs of erosion or slope instability". The mitigation does not describe what qualified personnel are necessary to inspect the area or provide criteria for what constitutes signs of slope stability issues other than "slumped soil". The mitigation does not describe standard practices such as reviewing available geologic and landslide mapping of the specific project area or reviewing recent, high quality topographic date derived from LiDAR data to assess the presence of previously unmapped landslides. LiDAR data is available for all of San Mateo, Santa Clara, and Santa Cruz counties. A7-16
- Paragraph two (page 4.6-33) also states that appropriate measures to prevent slope instability shall be made by qualified personnel that are described as a SWPPP developer or practitioner. These personnel are not qualified to evaluate landslides and potential impacts to slope stability or develop recommended mitigations to minimize impacts to slope stability. The California 2021 GEOLOGIST AND GEOPHYSICIST ACT (California Department of Consumer Affairs, 2021) describes laws A7-17

intended to have qualified geologists evaluate slope stability conditions and the process for enforcement actions.

- "Mitigation Measure Geology-2, Steep Slopes Control Measures" describes that a geologist shall perform an assessment only in cases of steep slopes (greater than 35 percent) that are located above infrastructure or sensitive habitat, if "intensive tree removal" is proposed. California law (the 2021 GEOLOGIST AND GEOPHYSICIST ACT) indicates a California licensed certified engineering geologist and/or a professional engineer with experience in evaluating slope stability should provide this type of evaluation where public safety is a concern. Additionally, as discussed previously, landslides and potential slope stability issues may be present on slopes less than 35 percent. As well, it is unclear what criteria are used to determine if tree removal is "intensive". A7-18
- Based on these observations regarding "Mitigation Measure Geology-2", we recommend that a focused, site-specific evaluation of geology and slope stability by a California licensed Professional Geologist (PG) with experience in evaluating slope stability may be necessary for specific projects. In areas where possible impacts to public safety are a concern a California licensed certified engineering geologist (CEG) and/or a professional engineer with experience in evaluating slope stability should provide this type of evaluation. A preliminary screening of specific projects by qualified personnel (e.g. a PG or CEG) could determine if this type of additional geologic evaluation with additional mitigations is necessary. For reference, CGS Note 45 (CGS, 2003a) presents guidelines for geologic reports prepared for similar types of environments and operations (Timber Harvest Plans), and CGS Note 50 (CGS, 2003b) presents a discussion of factors affecting landslides in forested terrain. A7-19
- Regarding the practice of forestry, we reiterate the California Forest Practice Rules (CAL FIRE, 2020) presents rules, laws and guidelines for planning, designing, constructing, reconstructing, upgrading, maintaining, and closing roads, vegetation management plans, and timber operations. Registered Professional Foresters (RPF) should be utilized to conduct such evaluations. CAL FIRE should be consulted prior to operations. A7-20

We hope this information is helpful. Please call us with any questions.

original signed by
Patrick K. Brand, CEG # 2542
Engineering Geologist

original signed by
David Longstreth, CEG # 2068
Senior Engineering Geologist

References:

Brabb, E. E. and Pampeyan, E.H., 1972, Preliminary Map of Landslide Deposits in San Mateo County, California; USGS Miscellaneous Field Studies MF-344, map scale 1:62,500.

California Department of Consumer Affairs, 2021, Geologist and Geophysicity Act (Business and Professions Code §§ 7800 – 7887), available at: https://www.bpelsg.ca.gov/laws/gg_act.pdf

CAL FIRE, 2020, California Forest Practice Rules 2020; available at https://bof.fire.ca.gov/media/9478/2020-forest-practice-rules-and-act_final_ada.pdf

California Geological Survey (CGS), 2013a, Note 45, Guidelines For Engineering Geologic Reports For Timber Harvesting Plans, California Department of Conservation, California Geological Survey; dated January.

California Geological Survey (CGS), 2013b, Note 50 – Factors Affecting Landslides in Forested Terrain; dated January. Available at: http://www.conservation.ca.gov/cgs/information/publications/cgs_notes/note_50/Documents/note50.pdf

California Geological Survey, 2002, Seismic Hazard Zone Map and Seismic Hazard Zone Report 069, Los Gatos quadrangle: map scale 1:24,000.

Cooper-Clark and Associates, 1975, Preliminary Map of Landslide Deposits in Santa Cruz County, in a Digital Database by Roberts, S., and Baron, D., USGS Open File Report OFR-98-792, web page: http://pubs.usgs.gov/of/1998/of98-792, map scale 1:62,500.

Ellen, S.D., Mark, R.K., Wieczorek, G.F., Wentworth, C.M., Ramsey, D.W., and May, T.E., 1997, Map showing principal debris-flow source areas in the San Francisco Bay Region, California: U.S. Geological Survey Open-File Report 97-745E, 8 p., 11 maps at scales of 1:275,000 and 1:125,000.

Keefer, D.K. and Johnson, A.M., 1983, Earth flows; morphology, mobilization, and movement; USGS Professional Paper 1264. 56pp, 3 plates. Available at: https://pubs.er.usgs.gov/publication/pp1264

Keller, G. and Sherar, J. 2003, Low-Volume Roads Engineering – Best Management Practices Field Guide, Office of International Programs and U.S. Agency for International Development, USDA Forest Service, Washington, DC, 158 p.

McClelland, D. E., Foltz, R. B., Falter, C. M., Wilson, W. D., Cundy, T., Schuster, R. L., Heinemann, R. (1998). The Relative Effects of Landslides Resulting From Episodic Storms on a Low-Volume Road System in Northern Idaho. In USDA, Engineering Field Notes Volume 30 May-June 1998: Engineering Technical Information System (pp. 7-22).

Panorama Environmental, Inc., 2021, Midpeninsula Regional Open Space District, Wildland Fire Resiliency Program, Draft Environmental Impact Report, SCH# 2020049059; dated January 2021.

Weaver, Weppner, and Hagans, 2015, Handbook for Forest, Ranch and Rural Roads, Revised First Edition April 2015, Pacific Watershed Associates, accessible at: http://www.pacificwatershed.com/sites/default/files/roadsenglishbookapril2015b_0.pdf

Wentworth, C.M., Graham, S.E., Pike, R.J., Beukelman, G.S., Ramsey, D.W., and Barron, A.D., 1997, Summary distribution of slides and earth flows in the San Francisco Bay region, CA: U.S. Geol. Survey, Open-file Report 97-745C, 10 p. plus 11 maps at scales of 1:275,000 and 1:125,000.

Response to Comment A7-1
The commenter indicated that the analysis in Section 4.6: Geology and Soils does not provide enough site-specific information at a level to be able to evaluate projects that will be performed under the WFRP. The specific work areas for each year of Program implementation over the life of the Program will be identified on an annual basis by Midpen staff. The intent of the Program EIR is to broadly cover the extent of the impacts that could occur from the Program activities to allow Midpen to implement projects under the Program with minimal to no additional environmental review, through application of appropriate mitigation from the EIR. Appendix A provides a Project-Specific Review document to determine if specific projects proposed by Midpen fall within the scope of the Program EIR and which mitigation measures identified in the Program EIR apply. The Program's overall assessment of potential impacts is adequate. Mitigation is used to specify the actions that must be taken before a project is implemented to more specifically characterize the impacts covered generally in the Program EIR and to apply the appropriate protection measures identified in the Program EIR to reduce effects.

Response to Comment A7-2
The commenter mentioned that the references for Section 4.6: Geology and Soils are not complete. The identified references have been updated to refer to the United States Geological Survey (USGS) Open-File Report as requested by the commenter.

Response to Comment A7-3
The commenter noted that Figure 4.6-3 is labeled differently than the source material, for example the figure uses the term "many" while the source uses the term "mostly." Figure 4.6-3 has been revised to distinguish between "mostly", "many", and "few" landslides. The data is intended to be used to depict where future landslides could occur based on evidence of historic slides and earth flows. The title has been revised, as well as the description of the figure in the Existing Environment of Section 4.6: Geology and Soils, to clarify that the map only shows historic landslide activity, but this information is indicative of where problem landslide areas are more likely to occur in the future.

Response to Comment A7-4
The commenter provided some examples of literature regarding landslides in the Program area to review and reference. The intent of the Existing Environment section is to provide an overview of the conditions present on Midpen lands at the time of the analysis. A literature review of all landslide data is not necessarily required to present an understanding of the geologic conditions and hazards on Midpen lands. As described in the Existing Environment section as well as the analysis, landslides and debris flows are hazards that are present on Midpen lands. These hazards include seismically induced landslides and those triggered by intense rainfall events.

The suggested documents were reviewed and the section has been revised to briefly mention the sources in the Existing Environment section and to incorporate them into the references cited. As a note, several jurisdictions use the data prepared by USGS (Wentworth et al., 1997) for planning, as cited in the Draft Program EIR, such as the County of San Mateo. As such,

adding references to the local jurisdiction's planning documents showing landslide hazard would not necessarily add value to the discussion. It is likely the references come from the same sources cited. Local hazard mapping and safety plans have been added to the list of documents that may be considered during a desktop review, as required by MM Geology-2.

Response to Comment A7-5

The commenter indicated that other factors contribute to slope instability aside from steepness. A study referenced (McClelland, et al. 1998) by the commentor was conducted in an environment with different conditions compared to the San Francisco Bay Area. The commenter also referred to another study by Keefer and Johnson (1983) that indicates earth flows can occur on more gentle slopes (25 to 30 percent) in the San Francisco Bay Area.

Landslide risk is associated with a variety of factors as described on page 4.6-3 of the Draft Program EIR. Slope is one factor with increases in slope generally correlated with an increased risk of landslide. The Program EIR used slope as a metric for providing the reader with the general magnitude of potential landslide risk across Midpen lands. Slopes under 35 percent were a proxy for the lowest potential for landslides and slopes over 50 percent as the highest potential for landslides based on the McClelland, et al. 1998 study. While it is acknowledged that the area studied is not identical to conditions in the San Francisco Bay Area and some landslide types are less correlated with slope, slopes are generally considered unstable by general industry practice and landslide studies when the slopes are anywhere between 30 to 35 percent or greater. Santa Clara County considers slopes greater than 33 percent to be a characteristic of a landslide hazard area (County of Santa Clara, 2017). A slope of 30 percent was used in association with a metric accounting for terrain hardness in Marin County to categorize the level of landslides (Wentworth, 1997). To provide the reader more data and understanding of the factors that contribute to instability and landslide risk on Midpen lands, the Wills, et al. 2011 study and modeling was consulted and a figure and table added to show areas that are susceptible to deep-seated landslides. The model accounts for rock strength and slopes. The description of factors that contribute to landslides in addition to slope has been revised and expanded for clarity.

Slopes and landslide susceptibility can be some of many factors that Midpen evaluates during a review of site conditions when determining risk of instability and when deciding which measures from the Program EIR to implement. MM Geology-2 has been expanded to specify the types of data that can be consulted during a desktop site review.

Response to Comment A7-6

The commenter indicated that the statement in Table 4.6-2 regarding instability of alluvium was overly simplified. The description has been expanded to also discuss the potential instability in upland areas, particularly where thick colluvium is present. Additional information has been added to describe that alluvium in areas of flat slopes are less susceptible to land instability.

Response to Comment A7-7
The commenter indicated that the Franciscan Complex is susceptible to land instability due to the highly sheared and inherently weak bedrock. The statements by the commenter are consistent with the information presented in Table 4.6-2. Additional information has been added to further indicate that this formation is susceptible to land instability. The sentence regarding high stability is accurate as written because the characterization specifically refers to other minor components of the formation, such as massive sandstones, versus the highly sheared mélange.

Response to Comment A7-8
The commenter indicated that MM Geology-2 provides erosion control and slope stability measures, but, in their opinion, does not adequately address slope stability impacts. MM Geology-2 provides a suite of erosion and slope stability measures that can be applied to ensure vegetation management does not result in erosion, loss of topsoil, or slope instability in areas where work could expose bare soils or create loss of root-soil matrix strength. The intent of the measure is to have qualified personnel make the decision regarding which measures should be applied, based on site conditions and the project proposed to be implemented. Revisions have been made to the measure to clearly indicate that the qualified personnel may apply these measures for any site, even if the site is on slopes less than 35 percent or the project could result in exposure of soils on slopes that are less than 70 percent. The qualified personnel may identify other control measures not specifically listed, particularly for sites and projects that require a licensed geologist/engineer.

Response to Comment A7-9
The commenter noted that the analyses oversimplified residual root strength after tree removal. The analysis in the Draft Program EIR indicates that the level of root strength retention is dependent upon soil type, slope, climate, health of the tree, and tree species. As such, it is acknowledged that root strength after death would vary depending upon many factors.

The commenter also described that the analysis under Impact Geology and Soils-3 does not account for decreased evapotranspiration after vegetation removal that could result in increased ground saturation and decreased slope stability. The analysis has been enhanced to clearly describe this other mechanism by which vegetation and trees affect slope stability.

Response to Comment A7-10
The commenter noted that MM Geology-4 does not identify the specific GIS data that can be used to determine if expansive soil is present. The measure has been revised to indicate that appropriate GIS data will be used, such as soil data prepared by USDA. A specific reference is not provided as the Program could span a decade or longer, during which time, any cited data in the measure could become outdated.

Response to Comment A7-11
The commenter indicated that the Program EIR does not address potential erosion and destabilization impacts associated with use of new roads and associated water crossings, potential improvements to roads, or potential use of old (unused) skid trails. The commenter

indicated that a Registered Professional Forester (RPF) should conduct evaluations of new or reopened roads.

Vehicles and equipment can access most types of VMAs entirely on existing roads and trails with existing waterway crossings (i.e., bridges or culverts) as discussed in the Program EIR. Impacts Hydrology-1, Hydrology-3, and Hydrology-5 analyze the rare potential for vehicles to need to access project sites across streams or other waterways where an existing crossing does not occur. The Draft Program EIR adequately identifies potential impacts that could occur, including erosion and sedimentation of waterways. Appropriate Midpen BMPs and MM Hydrology-1 are identified to address these impacts.

Existing roads are currently in use, and erosion or other impacts from that use are part of the baseline condition. Should increased usage of existing roads and water crossing associated with the Program be substantial enough to increase erosion and sedimentation, mitigation can include upgrading and/or re-engineering the road or water crossing structure, per revisions to MM Hydrology-1. Other upgrades to existing roads and water crossings to address existing erosion and sedimentation concerns is, generally, not part of this Program.

The analysis in Section 4.6: Geology and Soils assessed the potential for erosion control from the clearing of former skid trails as well as installation of spur roads. Additional specificity in MM Geology-2 has been added to more clearly address substantial vegetation removal and grading that may be necessary when clearing former trails or installing firefighting infrastructure. More clarity has also been added to MM Geology-2 regarding when and what types of qualified personnel must conduct a site assessment and must identify the appropriate control measures to be applied from the BMPs and mitigation. An RPF has been identified as one of the appropriate types of qualified personnel. References to MM Geology-2 have been added to the analysis.

Response to Comment A7-12

The commenter expressed concern that the analysis did not completely evaluate the potential erosion, sedimentation, and destabilization impacts of constructing roads. The potential for sedimentation impacts is analyzed in Section 4.9: Hydrology and Water Quality. Installation of new spur roads is identified as an erosion and landsliding risk in Section 4.6: Geology and Soils. The analysis has been enhanced to clearly indicate that sedimentation could occur in areas of not just steep slopes but also landsliding or weak geologic units. MM Geology-2 has been expanded to also refer to the *Handbook for Forest, Ranch, and Rural Roads* (Weaver, 2015) and the latest *California Forest Practice Rules*, as the commenter recommended these other guidance documents in addition to the *Low-Volume Roads Engineering* (Keller & Sherar, 2003). As discussed in Response to Comment A7-11, additional specificity has been added to MM Geology-2 regarding when and what types of qualified personnel, which can include RPFs, must conduct a site assessment and must identify control measures.

Response to Comment A7-13

The commenter questioned the types of specialized equipment that would not affect slope stability and which personnel would make this determination. Specialized, self-leveling motorized equipment is available to be used on slopes up to 50 percent. The description of specialists that can serve as "qualified personnel" has been clarified and expanded in MM Geology-2 to include a licensed geologist (Professional Geologist [P.G.] or California Engineering Geologist [C.E.G.]), licensed engineer, and an RPF in addition to the qualified Stormwater Pollution Prevention Plan (SWPPP) developer (QSD) or a qualified SWPPP practitioner (QSP) already mentioned. For some types of projects and locations, a licensed geologist/engineer or RPF are the required qualifications. Qualified personnel will make the determination regarding the equipment that could be used and would not affect slope stability, which may include small mulching machines.

Response to Comment A7-14

The commenter requested that the Program EIR address road construction techniques on steep slopes over 50 percent as these roads are commonly prone to instability. The commenter also notes that CAL FIRE should be consulted prior to operations.

MM Geology-2 has been expanded to require licensed geologist/engineer or RPF to conduct site inspections for areas of substantial grading in specified areas as well as for extension of roads by 600 feet or more. The existing requirement to implement design and control measures is not narrowly focused only on clearing of areas on slopes over 50 percent, but also includes more moderate slopes and on slopes where it is determined to be needed by qualified personnel. MM Geology-2 has been expanded to refer to the latest *California Forest Practice Rules*, as the commenter recommended, in addition to the *Low-Volume Roads Engineering* (Keller & Sherar, 2003). New firefighting infrastructure, such as a spur road or landing zone, would be proposed under the Wildland Fire Pre-Plan/Resource Advisor Maps, which are intended to aid CAL FIRE and other firefighting agencies in their efforts. Midpen would consult CAL FIRE during this process. No additional revisions have been made.

Response to Comment A7-15

The commenter discussed that Impact Geology and Soils-1 does not acknowledge the potential for direct or indirect substantial adverse effects from seismic-induced landslides. The analysis analyzes the potential for direct seismic impacts on human life from the Program, which could only occur if the Program increases the presence of persons in a seismic hazard zone, whether workers or residences. The Program would not involve creating new permanent housing or places of work. The analysis adequately discusses the increase in workers in the Program area. As the commenter notes, the Program has the potential to increase landsliding and destabilization under some conditions, as analyzed in Impact Geology and Soils-3. As such, there is a potential for the Program to indirectly increase substantial adverse effects due to increasing the risk of landsliding during a seismic event. This analysis is addressed in Impact Geology and Soils-3. Some minor edits to the impact statements and text of the analyses have been made to clearly encompass this concern.

Midpen is required to adhere to all pertinent regulations including any relevant requirements in the Geologist and Geophysicist Act noted by the commenter. The referenced California Geologist and Geophysicist Act (Business and Professions Code §§ 7800 – 7887) provides the legal qualifications for a licensed geologist/engineer and that protection of the public shall be the highest priority for the Board for Professional Engineers, Land Surveyors, and Geologists in exercising its licensing, regulatory, and disciplinary functions. Mitigation measures identified in the Program EIR are additional requirements above and beyond regulatory requirements.

Response to Comment A7-16

The commenter asked for the specific qualifications of personnel that would conduct site inspections and the commenter noted that the mitigation does not indicate what the review of site conditions would entail. The description of specialists that can serve as "qualified personnel" has been clarified and expanded in MM Geology-2 to include a licensed geologist/engineer and RPF in addition to the QSD or QSP already mentioned. For some types of projects and locations, a licensed geologist/engineer or RPF are required. MM Geology-2 has also been enhanced to stipulate that a review of site conditions may include but is not limited to a desktop review of slope, Light Detection and Ranging (LiDAR), historic evidence of landslides (e.g., Wentworth et al. 1997), and modeling of landslide susceptibility GIS data (e.g., Wills et al. 2011) as well as a site visit.

Refer to Response to Comment A7-15 for a discussion on regulatory compliance.

Response to Comment A7-17

The commenter indicates that a QSD or QSP are not qualified to evaluate landslides and potential impacts to slope stability or recommend control measures. MM Geology-2 has been expanded to clarify the specialists that can serve as "qualified personnel" and under what conditions specific qualifications are required.

Refer to Response to Comment A7-15 for a discussion on regulatory compliance.

Response to Comment A7-18

The commenter notes that a licensed geologist/engineer should evaluate potential slope stability where public safety is a concern and that instability may occur on slopes less than 35 percent. The comment asked for the criteria that would be used to determine intensive tree removal. MM Geology-2 has been expanded to clarify the specialists that can serve as "qualified personnel" and under what conditions specific specialists are required. The conditions under which a licensed geologist/engineer or RPF are specifically required include projects that would involve substantial grading or vegetation removal on active slide areas, unstable areas, or unstable soils in previously undisturbed soils and above or below infrastructure including structures potentially occupied by people. Substantial vegetation removal is defined in MM Geology-2. This definition as well as further descriptions in the measure clarify what constitutes "intensive tree removal".

Refer to Response to Comment A7-15 for a discussion on regulatory compliance.

Response to Comment A7-19

The commenter recommends that a focused, site-specific evaluation of geology and slope stability by a licensed geologist may be needed for some projects. The commenter provides some resources for geologic reports and factors affecting landslides. MM Geology-2 has been expanded to identify the conditions under which a licensed geologist/engineer or RPF are specifically required, including projects that would involve substantial grading or vegetation removal on active slide areas, unstable areas, or unstable soils in previously undisturbed soils and above or below infrastructure or other structures potentially occupied by people. Additional language regarding factors contributing to landsliding according to Note 50, referenced by the commenter, has been added to the Existing Environment section of Section 4.6: Geology and Soils.

Response to Comment A7-20

The commenter notes that (1) the California Forest Practices Rules present forestry guidance and requirements, (2) an RPF should be used for certain evaluations, and (3) CAL FIRE should be consulted prior to operations. Refer to Responses to Comments A7-11 and A7-12 for the changes to MM Geology-2 and the planned, continued CAL FIRE consultation.

2.2.8 Letter A8: Albert Salvador, City of Cupertino

Letter A8

CITY OF CUPERTINO

COMMUNITY DEVELOPMENT DEPARTMENT
PLANNING DIVISION

CITY HALL
10300 TORRE AVENUE • CUPERTINO, CA 95014-3255
TELEPHONE: (408) 777-3308 • FAX: (408) 777-3333
CUPERTINO.ORG

SENT VIA E-MAIL

March 1, 2021

Midpeninsula Regional Open Space
Attn: Coty Sifuentes-Winter, Senior Resource Management Specialist
330 Distel Circle
Los Altos, CA 94022

Re: WFRP EIR Comment – City of Cupertino

Dear Coty Sifuentes-Winter,

Thank you for the opportunity to review the Draft Program Environmental Impact Report for the proposed Wildland Fire Resiliency Program. Upon a review of the Draft EIR, the City of Cupertino has the following comments and requests that they be addressed in MidPeninsula's response to comments.

1. **Chapter 3.4 Program Purpose, Need, and Objects**: Section 3.4.2 Program Objectives. The proposed activity mentioned in the objectives section of the Draft EIR and WFR Program may have a significant effect on the environment as, a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the Program including land, air, water, minerals, flora fauna, ambient noise, and objects of historic and aesthetic significance.

   Upon discussion with Midpeninsula Regional Open Space District staff, it appears that additional outreach and notification procedures would be conducted for the proposed prescribed controlled burn activity, but not for the use of potential heavy equipment or noise activity. Any activity that is not in compliance with the noise limits established under the City's Community Noise Control Ordinance (Chapter 10.48 of the Municipal Code), would have an environmental effect. It is recommended that for any activity that will involve heavy equipment or has the potential to generate loud noises, that agency staff provide a minimum of seven day advance notice to property owners directly affected or within 300 feet of any proposed program activity and/or work being conducted (i.e. removal of brush, pesticide sprays, etc.), as outlined in the objectives per the Wildland Fire Resiliency Program.

A8-1

If you have any questions, please feel free to contact me at alberts@cupertino.org.

Sincerely,

Albert Salvador

Albert Salvador, P.E.
Assistant Director of Community Development Department/Building Official
City of Cupertino

Response to Comment A8-1

The commenter noted that additional outreach and notification would occur for prescribed burning but not for noise generating activities. The commenter recommended that 7-day advance notice be given to property owners within 300 feet of any Program activity, including noise generating activities and herbicide application.

As the commenter noted, Midpen will be refining and conducting more prescribed fire planning under the PFP in the coming year. While the Program EIR analyzed prescribed fire programmatically, additional outreach and environmental documentation will be prepared. Implementation of the PFP will not commence until additional environmental review is completed (expected in spring of 2022).

Under CEQA, generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Program in excess of standards established by local jurisdictions would constitute a significant impact. As discussed under Section 4.10.5, the noise analysis focuses on local county policies and regulations as most of Midpen land (90 percent) falls within the counties rather than cities, but Midpen is required to adhere to all local regulations. Impact Noise-1 analyzes the noise levels generated by Program implementation and associated impacts. Table 4.10-4 provides an indication of the noise levels at 50 feet that could be generated by each Program activity. Herbicide application would be conducted according to the existing IPMP. As shown in Table 4.10-4, the loudest piece of equipment associated with herbicide application could be a chainsaw. The chipper is the loudest piece of equipment proposed for use under the Program as identified in the analysis. As noted, Midpen is required to adhere to local noise standards, including the City of Cupertino Municipal Code Section 10.48.053. MM Noise-1 has been revised to explicitly state this requirement. Through the planning process as individual projects and activities are implemented under the Program, Midpen will be required to identify the appropriate noise standard and, as needed, identify buffers between noise-generating activities and the land uses with a noise standard. Even the loudest piece of equipment, the chipper, would not exceed 87 dBA at 25 feet and would not exceed the noise standard identified in the Municipal Code (Section 10.48.053 A.). MM Noise-1 requires notifying residents within one week of an activity if noise restrictions are not implementable. The measure also requires that a disturbance coordinator be designated to address noise complaints.

2.2.9 Letter A9: Karen Maki, Sierra Club – Loma Prieta Chapter, Forest Protection Committee

Letter A9

March 1, 2021

To: Cody Fuentes, Midpeninsula Regional Open Space Board of Directors

From: Sierra Club, Loma Prieta Chapter, Forest Protection Committee

Re: Wildland Fire Resiliency Program Draft Environmental Impact Report

This is to congratulate Mid-Pen on a well-written, thorough, and lucid Draft Environmental Impact Report (DEIR) in anticipation of unrolling its expansive Wildland Fire Resiliency Program. The pain-staking attention to detail in the report is greatly appreciated. After review, members of the Forest Protection Committee do, however, request further elaboration on the following:

Greenhouse Gas Emissions and Carbon Sequestration

The increase in wildfires has been caused by anthropogenic climate change, and the way the state is addressing wildfire will exacerbate climate change thus increasing wildfires.

The DEIR acknowledges that the Program will have a significant impact on the Midpen's ability to sequester carbon as a means of addressing climate change. With regard to greenhouse gas (GHG) emissions caused by the Program, the DEIR accounts for GHG from vehicles, equipment, and waste pile burns but ignores GHG emissions from vegetation removal. In addition, the Program makes no attempt to mitigate the loss of carbon or the release of GHG caused by fuel reduction. The Program must do more to quantify and mitigate changes to the carbon and greenhouse gases released. A9-1

According to the Intergovernmental Panel on Climate Change (IPPC), "the best path to limiting warming to an increase of 1.5 C by 2100 involves cutting net human carbon dioxide (CO_2) emissions 45% by 2030 and then cutting emissions further to net zero by 2050." California has set a goal of reducing emissions 40% below 1990 levels by 2030. California will not reach this goal unless all sectors of the economy do their part. The Program must follow IPPC guidance and support California's goals. A9-2

The DEIR states that the amount of carbon lost is unknowable because the exact location and timing of fuel reduction are not known. However, approximate numbers are knowable and represent losses that the Program will definitely produce unless mitigated. The Program plan provides exact acreage and exact locations where fuel reduction will occur as well as the type of vegetation. This information could be used to estimate the current carbon level and post treatment carbon levels and the amount of GHG released through treatment. These numbers will enable Midpen to know exactly how much they are impacting California's goals. Adjustments should be made if the numbers are too high. A9-3

The carbon losses can be mitigated by ensuring that forests store more carbon in less than ten years after treatment. All fuel reduction protocols are not equal. They can be aggressive or A9-4

1

moderate or mild. They can be destructive or restorative. Sempervirens Fund has experienced that some of their thinning methods resulted in more carbon and some did not. The Forest Carbon Plan modeled two fuel reduction plans: a moderate plan that will take 10 years to recoup pretreatment carbon levels and an aggressive plan that would take 34 years. California and the world cannot afford aggressive fuel reduction. Per section 3.6.8, "Adaptive management strategies would be included in the annual planning and monitoring process." These should include assessing the amount of sequestered carbon before and after treatment. Midpen will only know their Program increases carbon levels if they monitor carbon.

A9-4

California government agencies and officials mistakenly emphasize fuel reduction as almost the only means of reducing wildfire risk. This year over $1 billion dollars is slated to be spent by the state government on fuel reduction, and $100 million on making homes less flammable. Human communities will be safer if we prioritize making our homes and infrastructures less flammable and surrounding them with 100-feet of defensible space, refraining from building near wild areas that periodically burn, improving ability to site wildfire ignitions early, improve ability to communicate with the public, and providing evacuation routes. It is also important to get a safe modern utility infrastructure that doesn't start fires. Bottom line -- we need to find a way to live safely in a world where fire is more common and address climate change quickly.

A9-5

Partnerships

It is our fervent hope that Midpen looks beyond the scope of the DEIR to prioritize partnerships with PG&E and surrounding communities to further reduce the risks of destruction of wildlands, property loss and loss of lives from wildfires in the Open Space lands.

Increasing pressure on PG&E to insulate or underground transmission lines in the properties under the aegis of Midpen could result in a substantial decrease in wildfire risk should the utility comply. Some of the most destructive recent wildfires in California have been directly attributed to vulnerable power lines, including the 2018 Camp Fire and the 2020 Zogg Fire. To address the issue, PG&E has focused its attention largely on vegetation management and the felling of trees around power lines, thus contributing to carbon loss in the ground and the acceleration of climate breakdown. Undergrounding or, at least, insulating power lines is a far more rational solution in the long run that helps to prevent wildfires while avoiding a negative impact on the environment [4].

A9-6

Providing education, resources and an ongoing conversation with surrounding communities on the importance of home hardening is the single most important contribution that Midpen can make to prevent destruction of property from wildfires. Even if all the vegetation management laid out in the Wildfire Resiliency Program were to be accomplished, there is no way to ensure that wildfires won't occur, especially given that drought conditions and increased summer and fall temperatures are likely going to continue, if not worsen, in our state. The single most important driver of property destruction from wildfires is fire embers, especially when high winds are present [5,6]. Examples of such fire behavior include that seen with the 1991 Oakland

A9-7

2

Hills Fire and the 2018 Woolsey Fire. While defensible space creation reduces direct fire damage, it does nothing to prevent destruction from embers. Hardening all structures within Midpen protects those structures and role models appropriate fire preparedness. Equally important, those in the Midpen WUI potentially impacted by a fire must understand and accept their own personal responsibility for protecting themselves and their homes [7].

A9-7

In closing, we would, again like to recognize the effort put into constructing a holistic program, the goals of which are to establish healthy, resilient fire-adapted or fire-adapted ecosystems, restore their diversity and integrity, reduce wildfire destruction both of wildlands and buildings, as well as provide an adaptive framework for periodic review that considers the importance of carbon sequestration. We would like to add, as an additional goal, that the Midpen Program in no way contribute to anthropogenic climate change.

A9-8

Thank you for the opportunity to comment and we hope that ours are deemed valuable. We look forward to being a continuing part of the conversation about how best to manage Midpen properties in an optimal way that accomplishes the goals set out for its Wildland Resiliency Program and mitigates climate change.

Respectfully submitted,

Karen Maki, Chair
Jennifer Normoyle and Susan Lessin, Members
Forest Protection Committee, Loma Prieta Chapter, Sierra Club

---

[1] https://www.livescience.com/58203-how-carbon-dioxide-is-warming-earth.html
[2] https://www.livescience.com/12-years-to-stop-climate-change.html
[3] https://energyinnovation.org/wp-content/uploads/2020/01/Insights-from-the-California-Energy-Policy-Simulator.pdf
[4] Chinn, et al. 2020. The Harmful Effects of PG&E's Tree Removal Practices and Recommended Alternatives to Prevent Utility Wildfires. 20201123 PG&E UTIL WHITE PAPER FINAL - Google Docs
[5] Koo et al. 2010. Firebrands and spotting ignition in large-scale fires. International Journal of Wildland Fire 2010, 19, 818–843
[6] Keeley, J.E., and A.D. Syphard. 2019. Twenty-first century California, USA, wildfires: fuel-dominated vs. wind-dominated fires. Fire Ecology 15:24 doi.org/10.1186/s42408-019-0041-0.
[7] Syphard and Keeley. 2019, Fire. Factors Associated with Structure Loss in the 2013–2018 California Wildfires

Response to Comment A9-1

The commenter requested that further quantification of and mitigation for carbon loss and release of greenhouse gas (GHG) emissions caused by fuel reduction be conducted. Many California vegetation communities that are found on Midpen lands are fire adapted. Fire suppression has altered the composition of California vegetation communities. Grasslands and oak woodlands are decreasing in extent due to invading brush and forest species. Stands of coastal scrub and chaparral have aged and are not renewing. Dense brush and young trees have largely replaced the historically sparse understory beneath redwood and Douglas fir forests and mature oak woodlands. Competition in dense forests can lead to stunted tree growth rates and associated reduced sequestration in some forest types (CAL FIRE, 2018). These changes have led to and continue to lead to a loss of biodiversity as well as an increase in carbon stocks that historically were not present and are not ecologically beneficial in these communities. One of the factors leading to intense, catastrophic wildland fires in California and in the San Francisco Bay Area is the presence of higher fuel loads than pre-fire suppression conditions in the dense undergrowth and small trees that historically would have burned in cyclical, natural wildland fires. It is true that carbon stocks are affected by resiliency activities that remove vegetation, but maintaining the high carbon stock in its current form is not necessarily a benefit due to the risks it poses for intense and large wildfires, where all that carbon is lost at once. Climate change is expected to lead to increased frequency and intensity of large wildland fires and greater fire risk if fuel management activities are not expanded across the state (CNRA, 2018).

The fuel reduction treatments proposed under the Program are intended to both reduce wildland fire risk, thus enhancing public safety, and to restore ecological function and resiliency in communities on Midpen lands. The relationship and tradeoffs between fuel management activities and wildland fires in regard to carbon stocks are complex. California forests store some of the highest densities of carbon in the world. Type conversion due to fire suppression and the increased risk of catastrophic wildland fire are increasing the probability that California forests will become a net emitter of carbon (Moghaddas, et al., 2018). Fuel treatments have been shown to reduce fire intensity and severity and the associated intense loss of carbon stocks in catastrophic wildfires (Moghaddas, et al., 2018). One of the primary methods to reduce wildland fire risk is to transfer carbon stocks from many small, fire-vulnerable shrubs and trees into resilient large trees. Thinning can result in greater sequestration rates by reducing competition for the larger, more resilient trees (CAL FIRE, 2018). Another consideration is that fuel treatments reduce the risk of type conversion from forest to lower carbon density vegetation types such as grassland or shrubland that has a potential to occur after high severity wildland fire (Hurteau & Brooks, 2011). In the event of a wildland fire, vegetation thinning has been studied and found to reduce the quantity of carbon released and increase live tree carbon compared to unmanaged stands (Hurteau, Koch, & Hungate, 2008).

As quantified in the Draft Program EIR, the proposed fuel treatments would generate and release carbon emissions from equipment use and burning activities. Quantifying the ebb and flow of carbon stocks associated with fuel reductions is extremely variable depending upon type of vegetation and method of biomass removal (e.g., chipping vs. burning). Quantification

of changes in carbon stock would need to factor in reduced carbon stock uptake from vegetation removal, carbon intake from increased sequestration of mature vegetation, and the slow carbon release from decomposition of removed vegetation (and/or immediate carbon release from burning, which was quantified in the Draft Program EIR). Conducting these additional calculations is technically feasible but extremely variable and uncertain as the calculation depends upon many factors as noted in Section 4.7: Greenhouse Gas Emissions. Quantifying the full scope of the changes in carbon directly associated with Program activities would not contribute to a greater understanding of the types of Program effects on global GHG emissions in the context of CEQA. As analyzed, the Program would generate and emit GHG emissions many magnitudes greater than existing conditions due to prescribed burning and could significantly impact the environment. Emissions from a wildfire, however, could be much greater than those from implementation of the Program, but comparing the Program emissions to that of a wildfire is not appropriate under CEQA.

A direct carbon calculation, which would involve extensive assumptions of vegetation types and quantities per acre to the point of speculation, would also not provide the public an understanding of the unnaturally high fuel loads present under baseline conditions, nor that a wildland fire would release far greater carbon per acre than the proposed fuel reduction treatments. As such, the analysis qualitatively discusses studies and data available regarding effects on fuel treatments on carbon stock in relation to immediate effects as well as to wildland fires. The potential benefits of the proposed activities in the context of wildland fire risk reduction outweigh the impacts on carbon stock, as discussed further the Draft Program EIR, Section 4.7.

The fundamental goals of the Program are to reduce wildland fire risk and restore ecological function. As such, identifying mitigation that substantially alters the core activities proposed under the Program, such as reducing fuel treatments or eliminated prescribed burning, would not allow achievement of Program objectives. Refer to Chapter 6: Alternatives to the Program, in the Draft Program EIR, for an analysis of alternatives that involve a reduced level of vegetation management and no prescribed fire. These alternatives were developed to reduce air quality and GHG emissions. As summarized in Section 6.6 of the Draft Program EIR, the No Prescribed Fire Plan Alternative is environmentally superior to the Program as proposed by eliminating the significant and unavoidable impacts on air quality and GHG emissions, although the significant and unavoidable impact on scenic resources would remain. The emissions and carbon released from prescribed burning in natural areas under controlled conditions would be considerably less than the emissions released if the area were subject to a wildland fire. The benefits of prescribed burning outweigh the drawback of unavoidable emissions during the burn.

Some minor additions to the methodology and analysis in Section 4.7: Greenhouse Gas Emissions and Chapter 6: Alternatives to the Program have been made to clarify the various changes in carbon stock associated with the Program and alternatives.

Response to Comment A9-2

The commenter referenced that the Intergovernmental Panel on Climate Change recommended GHG emission targets and indicated the Program must follow these recommendations and comply with California reduction goals. The analysis under Impact GHG-2 addresses conformance with California's GHG reduction goals as identified in the 2017 Scoping Plan. As analyzed, the 2017 Scoping Plan's GHG reduction goal (40 percent below 1990 levels in 2030) and objectives will be achieved through several methods depending upon sector. The relevant sector to the Program is natural and working lands. The broad methods to achieve the State's goal for this sector are to maintain lands as a net carbon sink through increased carbon sequestration and a reduction in wildland fires. The State acknowledges that currently, natural and working lands are a net source of GHG emissions primarily due to wildfire (CARB, 2018). Land management, which can include forest fuel reduction treatments and use of prescribed burning to reduce wildland-fire risks and increase forest resilience, are recommended in the 2017 Scoping Plan to establish the forests as reliable carbon sinks instead of emission sources due to ongoing fires. The Program objectives and activities include managing vegetation and infrastructure on Midpen lands to reduce wildland fire risks and improve wildland fire-fighting capabilities and coordination, which supports the 2017 Scoping Plan's goals and objectives of minimizing wildland fire and associated emissions. The Program supports the target goal and objectives identified for natural and working lands in the 2017 Scoping Plan for the State. Quantification of carbon sequestration would be variable and uncertain for the reasons provided in Response to Comment A9-1 and is not necessary given Midpen's Program supports the State's objectives by focusing on forest health and ecosystem resiliency. Response to Comment A9-1 provides further justification for the types of methods through which land management can increase forest resiliency, including increasing sequestration in larger, mature trees as well as reducing the risk of vegetation type conversion from those that store more carbon to communities that store less as can occur after catastrophic fires. The 2017 Scoping Plan, as well as the Final California Forest Carbon Plan (CALFIRE, 2018) recognize that some actions taken to address ecosystem health may result in temporary, short-term reductions in carbon sequestration but are necessary to maintain forest health and reduce massive carbon storage losses due to wildfire. One of the stated goals of the California Forest Carbon Plan is also to increase the rate of forest reforestation and fuel reduction treatments on non-federally managed lands with a target of achieving 60,000 acres a year by 2030 with an intent to align with the State's 2030 GHG reduction goal. The Forest Carbon Plan clearly states that transfer of carbon stocks from numerous small, fire-vulnerable trees to a smaller number of larger and more resilient trees is key to achieving the goals. Treatment methods to achieve this transfer of carbon include prescribed fire and mechanical thinning, which are proposed in the Program. The Program supports these goals by increasing forest resiliency and fuel treatments on Midpen lands with the intent of decreasing wildland fire risk and increasing ecosystem health.

Response to Comment A9-3

The commenter requested quantification of carbon loss associated with fuel treatments to determine conformance with California's GHG reduction goal and to include appropriate mitigation. Refer to Response to Comment A9-1 for a detailed justification for the validity of the

analysis and why providing further quantification of emission sources would be extremely variable and uncertain, why current carbon loads are not necessarily purely a benefit, and why quantification of carbon does not contribute to a greater understanding of the Program's GHG emissions impact. Per Response to Comment A9-2, quantification to determine consistency with the State's GHG reduction goals is not merited because the objectives and treatments proposed under the Program conforms with those identified in the 2017 Scoping Plan and the California Forest Carbon Plan to achieve a net carbon sink in natural and working lands. Treatments designed to meet the Program objectives of a resilient forest and reduced forest fire would not result in excessive forest carbon removal in the long term.

The Monitoring Plan is a part of the WFRP, which identifies various monitoring parameters to assess Program effectiveness and overall ecosystem management and health. Monitoring requirements will vary depending on the activity undertaken and the conditions in the area where the activity is to occur. One of the parameters to monitor is fuel loads (refer to Section 7.3.8). As part of the Program, Midpen would review activities undertaken the previous year and the associated monitoring parameters to make recommended modifications to the Program, as needed, using adaptive management strategies.

Response to Comment A9-4

The commenter provided information indicating that different fuel reduction protocols can increase or decrease carbon storage. The commenter requested that Midpen monitor and assess carbon stocks before and after treatments as part of the proposed monitoring. Refer to Response to Comment A9-1 for a discussion regarding the complex relationship and tradeoffs between fuel management activities and wildland fires in regards to carbon stocks. Long-term monitoring (likely decades) for carbon sequestration and storage is required to demonstrate lasting changes in carbon stocks. Carbon sequestration and storage must be monitored over the long-term for meaningful results, as short-term fluctuations often occur independent of fuel treatment or fire. The timescale for monitoring may also depend on the ecosystem type, vegetation growth rates, and amount of biomass removed during treatment. Refer to Response to Comment A9-3 for a discussion of the proposed monitoring and adaptive management Midpen would conduct as part of the Program.

Response to Comment A9-5

The commenter stated that communities will be safer by prioritizing home and infrastructure hardening, refraining from building in the wild areas, improving ignition detection and public communication, and providing evacuation routes. As the commenter mentions and as further discussed in Response to Comment A9-1, higher fuel loads and climate change are leading to wildland fires at greater frequency and of higher intensity. The overall purpose of the Program is to allow for increased and environmentally sensitive vegetation management, including reinstating fire in a controlled manner to reduce excessive fuel loads and thus reduce the potential for severe wildland fire. Many of the fuel treatments proposed under the VMP are around evacuation routes that traverse through or adjacent to Midpen lands.

The Program does not involve any new facilities except potential new firefighting infrastructure under the Wildland Pre-Plan (e.g., landing area, water tank). Midpen conducts ongoing hardening, as appropriate, during maintenance of Midpen-owned occupied residences. Midpen in conjunction with other agencies, has conducted outreach, including during the public outreach meetings conducted for the Program, to educate property owners regarding home hardening and defensible space. While not part of the Program, Midpen encourages neighboring private property owners to apply for a free Neighbor Defensible Space Permit to conduct defensible space treatments within 100 feet of occupied structures.

Response to Comment A9-6

The commenter requested that Midpen prioritize partnerships with PG&E and surrounding communities to reduce the risks of wildland fires. As noted in Response to Comment A9-5, Midpen in conjunction with other agencies, has conducted outreach, including during the public outreach meetings conducted for the Program, to educate property owners regarding home hardening and defensible space. Midpen does not have jurisdiction to regulate vegetation management within the PG&E ROW, as this is PG&E responsibility in accordance with the CPUC General Order 95, Rule 35. Midpen nonetheless regularly coordinates with PG&E.

Response to Comment A9-7

The commenter emphasized that public education regarding home and infrastructure hardening is a priority as wildland fires will ignite regardless of vegetation management implemented under the Program. Refer to Response to Comment A9-5 for a discussion of non-Program related outreach and education Midpen conducts.

Response to Comment A9-8

The commenter requested that an additional Program goal be added regarding not contributing to anthropogenic climate change. This goal is acknowledged but has not been added since the Program is focused on vegetation management for ecosystem resiliency and fire safety. By itself, the goal would be too broad and out of context since some of the Program activities result in some GHG emissions. The stated goals of the Program, however, all support actions aimed at reducing wildland fire risks, which implicitly are climate driven.

2.2.10 Letter A10: Daniel Krug, County of San Mateo, Planning and Building Department

Letter A10

COUNTY OF SAN MATEO
PLANNING AND BUILDING

County Government Center
455 County Center, 2nd Floor
Redwood City, CA 94063
650-363-4161 T
planning.smcgov.org

March 1, 2021

Midpeninsula Regional Open Space District
Attention: Coty Sifuentes-Winters
Senior Resource Management Specialist
330 Distel Circle
Los Altos, CA 94022

To Coty Sifuentes-Winters:

I am writing to inform you that the County of San Mateo has reviewed and supports the Midpeninsula Regional Open Space District's (District) Wildland Fire Resiliency Draft Environmental Impact Report (EIR). The EIR assesses the District's proposed Wildland Fire Resiliency Program.

The County understands the needs of the District to perform fuels reduction work across its lands which include varying terrain and vegetation types. The County has identified that the Draft EIR appears to conform with the policy direction of the County's General Plan and would provide several community and ecosystem benefits. First and foremost, it would benefit the public health and safety of County residents though reduction of wildfire fuels within high fire severity zones at the Wildland Urban Interface and improve the quality of evacuation routes along state and local roads adjacent District lands. Further, placement of strategic fuel breaks may help break up the intensity and rate of spread for the average wildfire occurrences. The proposed Wildfire Fire Resiliency Program provides guidance on vegetation management techniques which are likely to improve overall health and function of forest and non-forest ecosystems. A10-1

Please note the EIR does not excuse the District from needing to obtain use permits when applicable through County Planning and Building and the Department of Public Works, and comply with all applicable County policies. A10-2

Respectfully,

Daniel Krug, Arborist
San Mateo County
Planning and Building Department

Response to Comment A10-1
The commenter described that the Program and Draft Program EIR conforms with the San Mateo County General Plan policies and would benefit public health and safety as well as the ecosystem. The support for the Program is noted. The comment does not raise environmental issues or issues related to the adequacy of the Draft EIR. No further response is needed.

Response to Comment A10-2
The commenter noted that Midpen must obtain use permits and comply with County policies. Table 3.8-1 in the Draft Program EIR acknowledges the types of permits Midpen may need to acquire from local jurisdictions. The Draft Program EIR describes and analyzes conformance with local regulations, including the County of San Mateo's.

2.3 Individual Comments and Responses

2.3.1 Letter B1: von Tersch, Tom

Letter B1

WFRP Comment: Tunitas Eucalyptus

-----Original Message-----
From: tom@megbeeler.com <tom@megbeeler.com>
Sent: Wednesday, January 20, 2021 10:29 AM
To: Coty Sifuentes-Winter <csifuentes@openspace.org>
Subject: Tunitas Eucalyptus

EXTERNAL

As the owner of 3029 Tunitas Creek Road, just wishing that the removal of the large eucalyptus grove, across from my property, was a higher priority. B1-1
Thanks, Tom von Tersch

Response to Comment B1-1
The comment regarding the priority of eucalyptus grove removal has been noted. The methodology for prioritization of treatment areas is detailed under Section 4.4.3 of the WFRP. Note that annual priorities may change depending upon changing environmental factors.

2.3.2 Letter B2: Pittsinger, Jane

Letter B2

From: Rosemary Pittsinger <rjanepittsinger@icloud.com>
Sent: Friday, January 22, 2021 4:58 PM
To: Coty Sifuentes-Winter
Subject: Wildfire Resiliency Program

EXTERNAL

To Whom it may concern,

Thank you for this opportunity for public comment prior to the public hearing on Feb. 25th 2021.
While I understand the current focus is on the environmental impact of measures taken to minimize fire hazards in the MidPen OSPs I have some comments which relate to this subject.

I am a private resident who lives close to the entrance to Purisima Creek Redwood preserve on its West or Half Moon Bay side.
The Draft proposals and information you provide is extremely thorough. I have read a great deal of the documents provided, though not every section.
However, there is one item which I do not see addressed in terms of protection from fire and lessening the possibility of fire in the first place. That is: the public who use the parks.
I walk almost daily into the park and since the more intense visitation of the park with COVID-19 travel regulations, I have noticed the following:
cigarette butts on the ground
general trash
visitors pick up the 'no parking' signs and move them or toss them aside
cars park right up close to the bank of Purisima Creek which runs through the park and hosts amphibians such as frogs and newts or salamanders.
(We are grateful for the No Parking signs along the edge of Purisima Creek Rd which have lessened the impact of crowding and left more access for large vehicles to pass through but they have also forced more cars to park further West including along the creek bank where there are no signs. I note that 'protection of streams' is one of the E.I. measures of MidPen. Maybe this part of the stream is not within the Space preserve boundary but the creek does flow right through the redwood park so the downstream so close to the park affects further upstream.) B2-1

Our biggest concern is that there are people who throw cigarette butts onto the ground or from the window of their car without any recognition of the danger in such a dry environment.
The leaving of trash indicates a lack of respect for the surroundings and the same kind of carelessness which can lead to damage to the environment.

There is nothing in your proposal about educating the public.
Is there any education in place such as workshops, instruction as to how use a park without leaving your traces, some kind of responsibility that users should take?
There are some parks which require you as a visitor to 'leave no trace'.
I advocate public education as one of the chief mitigating factors in reducing fires.

Thank you again for the in-depth work that is being done to protect our open preserves in this beautiful area in which we live.
I look forward to hearing your response.

1

And just to add, I really applaud and support the plan for prescribed burning in conjunction with CalFire. Especially after summer 2020. B2-2

Kind regards,

Jane Pittsinger

Response to Comment B2-1

The comment regarding advocating for public education to minimize fire ignition has been noted. Midpen has a trash policy of "pack it in, pack it out" and smoking is prohibited within OSPs. Midpen staff work cooperatively with neighbors, fire agencies, and regional fire safe councils on fire prevention and preparedness efforts. Midpen has a protocol for closing OSPs on the coastside during periods of high wildfire danger as well as when a fire agency requests closure. Midpen also performs regular community outreach during times of high wildfire danger and Red Flag Warnings. The comment does not raise environmental issues or issues related to the adequacy of the Draft EIR. No further response is needed.

Response to Comment B2-2

The support for the prescribed burning activities proposed within the WFRP is noted. The comment does not raise environmental issues or issues related to the adequacy of the Draft EIR. No further response is needed.

2.3.3 Letter B3: Chris, Chris

Letter B3

Fwd: FW: Mid-Pen Wildland Fire Resiliency Program Draft EIR Feedback
2 messages

From: chris chris <siliconvalleygreetings@yahoo.com>
Sent: Wednesday, January 27, 2021 5:17 PM
To: Coty Sifuentes-Winter <csifuentes@openspace.org>
Subject: Mid-Pen Wildland Fire Resiliency Program Draft EIR Feedback

EXTERNAL

Dear Mid-Pen,

Thank you for mailing me notice of your Wildland Fire Resiliency Program. I went to your site to look over the materials. I am a property owner interfacing with your Miramontes Ridge property. I'm really glad you will be taking action relating to Eucalyptus and Acacia trees. They are a huge fire hazard and I can see them taking over parts of Miramontes Ridge. I don't mind you using prescribed burns as I see so many Eucalyptus trees that I'm not sure how else they would be removed. I'm extremely concerned about a fire reaching up to my home on Skyline Boulevard from your lands (in a chimney like manner racing up the hill towards Skyline Boulevard) adjacent to my home and would be grateful if you could accomplish the following before the upcoming fire season 2021 on an urgent basis: B3-1

1. Create walkable evacuation routes/paths from Skyline Boulevard through Miramontes Ridge (maybe grazing would help); B3-2

2. Remove Eucalyptus and Acacia trees from Miramontes Ridge. B3-3

3. Maintain at least 200 ft. of defensible space between Miramontes Ridge and property owners, particularly on sloped land. B3-4

As feedback, allowing property owners to work on defensible space within 30ft of a structure is really not useful at all at Miramontes Ridge. I think very few homes have a structure within 30 feet of your open space. What would be more useful is if you could for some homes allow property owners to work on defensible space within 200ft of the property line of the property owners, particularly on a slope. The minimum lot size in the area used to be about 40 acres, so a one size fits all for a 30 ft from a structure doesn't work on such rural lands. Portola Valley is working on some defensible space guidelines that suggest 200ft of defensible space on sloped land. B3-5

I'm very grateful that you are working on Wildland Fire Resiliency. Many property owners have been at the homes for generations, before Mid-Pen purchased the open space and many of us purchased because buying closer to town was not "affordable". So, we are not trying to be "difficult" in living near Wildland - its our only option and we'd prefer not to lose our life and home from a fast moving fire from say a Eucalyptus grove on your lands moving up the slope at one acre a minute! We do our best on defensible space and I appreciate your efforts. We are terrified at what this summer will bring and so a couple of prescribed burns before then might be the fastest way to make an impact and could save lives. Maybe also you could help with an outreach program to let property owners know of the danger of certain trees. I see Eucalyptus groves overtaking the property of some property owners adjacent to your lands and that would make your job more difficult because such trees could easily seed onto your lands - so an education campaign to teach property owners about flammable trees would help too. B3-6

Thanks for your efforts and please could you confirm that you received this email?

Response to Comment B3-1

The support for eucalyptus and acacia removal has been noted. As described under Section 4.3.2 of the WFRP, these trees would be removed under the VMP using manual and mechanical methods, as well as limited herbicide use to control re-sprouting from cut stumps. Prescribed burning would be conducted under the PFP. The comment does not raise environmental issues or issues related to the adequacy of the Draft EIR. No further response is needed.

Response to Comment B3-2

The comment regarding creation of walkable evacuation routes through Miramontes Ridge OSP in 2021 has been noted. The general purpose of the WFRP is to reduce wildland fire risks. While vegetation management is proposed along evacuation routes, the Program is not an emergency evacuation plan. The comment does not raise environmental issues or issues related to the adequacy of the Draft EIR. No further response is needed.

Response to Comment B3-3
The comment regarding removing eucalyptus and acacia trees from Miramontes Ridge in 2021 has been noted. The methodology for prioritization of treatment areas is detailed under Section 4.4.3 of the WFRP. Note that annual priorities may change year to year depending upon changing conditions and ability to complete more treatment.

Response to Comment B3-4
The comment calls out maintenance of 200 feet of defensible space around adjacent property owners to Midpen. While not part of the Program, Midpen encourages neighboring private property owners to apply for a free Neighbor Defensible Space Permit to conduct defensible space treatments on Midpen lands within 100 feet of occupied structures to allow private property owners to achieve their defensible space requirements for their adjacent private property. A prioritization criterion under Section 4.4.3 of the WFRP is to locate VMAs within 300 feet of specific target hazards[4] (school, hospital, nursing home).

Response to Comment B3-5
The comment requesting the Neighbor Defensible Space Permit apply to a 200-foot buffer zone has been noted. Defensible space according to California Public Resource Code 4921 shall be maintained "100 feet from each side and from the front and rear of the structure, but not beyond the property line". As noted in Response to Comment B3-4, Midpen provides adjacent private property owners the opportunity to maintain defensible space extending beyond private property lines up to 100 feet on Midpen lands.

Response to Comment B3-6
The comment requesting outreach to neighboring properties about tree species and fire risk has been noted. The comment does not raise environmental issues or issues related to the adequacy of the Draft EIR. No further response is needed.

[4] According to the Federal Emergency Management Agency, target hazards are "facilities in either the public or private sector that provide essential products and services to the general public, are otherwise necessary to preserve the welfare and quality of life in the community, or fulfill important public safety, emergency response, and/or disaster recovery functions."

2.3.4 Letter B4: Fisher, Glenn

Letter B4

Fwd: FW: Draft EIR comments
1 message

From: Glenn Fisher <gfisher@mac.com>
Sent: Thursday, February 11, 2021 12:06 PM
To: Coty Sifuentes-Winter <csifuentes@openspace.org>
Subject: Draft EIR comments

EXTERNAL

Hello,

Here are my comments on the Draft EIR.

Wildland Fire Resiliency Program

Comments on EIR
My comments focus on prescribed burning as the primary way to achieve fuel reduction. As a frequent hiker in MidPen lands, I am dismayed to see how much dead and downed trees and brush there are in the parks. I know this represents a major threat to the ecosystem in event of a wildfire, and as last summer showed, wildfires are to be expected in our coast range.

In general, I want to commend you on an exceptionally thorough and well-documented EIR.

However, I'm very concerned that although fuel reduction thru vegetation removal and prescribed burning are listed in the report, in practice there seems to be very little plan to actually do prescribed burning. The maps show approximately 75% of MidPen lands to be considered for fuel reduction activities - that's about 45,000 acres, but the report indicates that a maximum of 500 acres will be prescribe burned per year - just over 1%. And none of it is in Tier 1 or 2, so it won't start for a few years. At that rate, it will take more than 100 years to reduce the fuel in MidPen spaces. And of course, the report indicates that all activities are dependent upon funding and priorities, so prescribed burning may never happen at all. B4-1

Given last summer and the risk climate change presents, it is amazing to me that fuel reduction is not a higher priority. I also had a number of questions, indicated below by section of the report, that I could not find answers to as I tried to understand the scope and intent of prescribed burning. B4-2

I also thought that you did not adequately represent the environmental damage caused by wildfire in absence of fuel reduction. We got a good taste of that last summer on the west side of MidPen lands, which are much less adjacent to habitation and where the smoke plume more generally was out to sea. **What would the environmental impact be of a major fire on the east side of the coastal ridge?** How many homes likely would burn? This can be modeled, and was not touched on at all in your report. B4-3

I have put my questions **in bold** to make them easier to identify.

Specific comments:

Alternatives (p. 2-3) Section 2-4

You do not mention that all of these alternatives run the risk of major fire, which would severely impact aesthetics, air, water, and land quality as well as potentially adversely affecting adjacent habitations. B4-4

Steep Slopes Control Measures, section 4.8 Geology & Soils, Impact-2 soil erosion or loss of topsoil

P 2-36 burns adjacent to streams/riparian will maintain a 50-foot buffer when upslope if more than 35% - that covers a great deal of many of the east-side parks, which tend to have very steep slopes. And it is precisely these stream areas where trees have fallen down the hillside and choked the bottom of the valley that require controlled burns to clear out dead and downed wood that can ladder fire into the canopy and lead to catastrophic fires. **So is this saying that prescribed burning will not happen in areas with steep slopes and adjacent to stream beds and waterways?** B4-5

3.6 Program Implementation

3.6.1 Annual Implementation

page 3-45

Would the burns during the first 5 years be 1-2 per year or 1-2 TOTAL?

"Midpen anticipates conducting one to two prescribed burns during the first three to five years after establishment of the detailed PFP, anticipated to be completed in 2022" B4-6

Table 3.6-1 Maximum Annual Treatments

Prescribed FirePlan indicates a maximum of 500 acres annually. This represents 0.8% of the MidPen holdings. **How many acres are designated for prescribed fire** — I can't find that amount anywhere in the report? **How long will it take to treat all the areas requiring prescribed fire?** Even assuming that 10% of MidPen lands are forested and best treated by prescribed burn, it will take more than 10 years to do all the burning (and the maps show more like 75% of MidPen lands are indicated for fuel reduction). **I also can't find any indication of how often controlled burns will be required to maintain fuel at a reasonable level. Is it every 10 years? Every 25? Every 50?** These are critical for understanding how much land and how frequently prescribed burns should be conducted, but they are nowhere referenced in the report. B4-7

Table 3.6-5 Summary of Typical Timing

Burning is indicated as June - November. Many jurisdictions do controlled burning during the wet season, which would be December - April in most of the Bay Area. **It's not clear why summer and early fall, which are hot and dry, are preferred controlled burning times for this report.** B4-8

Section 6, Alternatives

Table 6.4-1 "No Prescribed Fire Plan Alternative"

You do not mention that should a wildfire occur, the impact would be much greater and would likely exceed any impacts from controlled burns (although some mention of this is made in the second paragraph on page 6-12 and it is covered extensively in the "no treatment" option). B4-9

Section 8 References - Description of Proposed Program, Page 9

"Although prescribed burns would likely focus initially on grasslands, all habitat types that occur within Midpen OSPs would be evaluated and prioritized." **Why is grassland the focus of prescribed burning?** This ignores that the heaviest fuel concentrations are in woodlands where fire is harder to contain and will burn hotter, doing more lasting environment and ecosystem damage, than in grasslands. In general, woodlands are also more likely to be adjacent to local communities and housing, and therefore are a higher risk of spreading fire to local communities than are grasslands.

(note in Appendix 4.3b, it indicates 60% grassland, 30% woodlands, and 10% shrubland for prescribed burning) B4-10

--

Response to Comment B4-1

The commenter requested a greater use of prescribed burning for fuel reduction. The WFRP does include prescribed fire in the PFP to restore the ecosystem by removing dead and accumulative vegetation. Midpen will be refining and conducting more prescribed fire planning under the PFP in the coming year. While the Program EIR analyzed prescribed fire programmatically, additional environmental documentation will be conducted at that time as well. Implementation of the PFP will not commence until additional environmental review is completed (expected in spring of 2022). The annual treatment areas were developed with consideration for realistic attainment given resources. The WFRP is a living document and

Midpen can revisit the annual treatment sizes based on changing conditions and ability to complete more treatments.

Response to Comment B4-2
The commenter questioned why fuel reduction has not been a higher priority due to climate change. Refer to Section 1.2.1 of the WFRP for a description of the purpose, need, and objectives of the Program. The objectives include management of vegetation for ecosystem resiliency as well as to reduce wildland fire risks. The treatments proposed under the Program are intended to reduce and restore fuel loads closer to pre-fire suppression conditions while also preserving biodiversity and minimizing the environmental effects. The purpose of the WFRP is to increase the pace and scale of fuel treatments and make it a higher priority.

Response to Comment B4-3
The commenter questioned what environmental impacts would be associated with a major fire on the east side of the coastal ridge in the absence of fuel reduction, and requested modeling. Modeling of existing fuel risks was not conducted because any work conducted under the Program would serve to reduce and not increase risks. CEQA requires an analysis of project impacts as compared with the baseline conditions. The baseline conditions on Midpen lands pose a high wildland fire risk due to the presence of vegetation structures that could lead to spread of wildland fire. The Program would reduce, not increase risks and thus, wildfire modeling of existing conditions was not deemed necessary for compliance with CEQA.

Where appropriate, information regarding the potential effects of a wildland fire is provided in the Program EIR to give the public an understanding of what could occur under the baseline conditions of high wildland fire risk. Refer to the discussion of the No Program Alternative under Section 6.4.1 of the Draft Program EIR for impacts from the comparatively larger potential for more severe wildland fire activity should the Program not be adopted. Sections 4.3.5, 4.7.5, and 4.8.5 of the Draft Program EIR provide a discussion of effects associated with wildfires. It should be noted that even with implementation of the Program, future wildland fire location, timing, extent, and impacts are unknown. Well-performed management of excess fuels on the landscape, however, should lessen the severity of a wildland fire, if it were to occur in a treated area.

Response to Comment B4-4
The commenter noted that the alternatives do not mention the risk of major fire and associated impacts. Refer to Chapter 6: Alternatives to the Program in the Program EIR for an in depth discussion of each alternative. No alternative would increase risk of wildland fire in excess of baseline conditions. Refer to Response to Comment B4-3 for references to where potential effects of a wildland fire are discussed in the Program EIR, in the event a fire is ignited.

Response to Comment B4-5
The commenter questioned whether the analysis in Section 4.8: Geology and Soils indicates that prescribed burning will not occur in areas with steep slopes and adjacent to waterways. MM Geology-2 would prevent use of prescribed burns and pile burns upslope and within a 50-foot buffer to perennial and intermittent streams where slopes are greater than 35 percent. This

measure is designed to minimize the potential to denude soils, which could result in erosion and sedimentation of streams. The commenters concern for streams choked with dead and downed wood has been noted. Woody debris can be beneficial. Species that live in streams may benefit from large woody debris, which can form pools that serve as refugia. Treatments conducted within riparian habitat would be conducted primarily by hand at the scale of intensity described under FRAs, as discussed under Section 4.3.2 of the WFRP.

Response to Comment B4-6

The commenter questioned whether the language is indicating that one to two burns would occur annually or one to two burns total during the first 5 years. The text in the WFRP and Chapter 3: Project Description of the Program EIR has been revised to clearly indicate one to two prescribed burns annually during the first three to five years.

Response to Comment B4-7

The commenter requested specific information regarding the prescribed burning areas, treatment time, and frequency. Refer to Response to Comment B4-1 for a discussion of the refinement of the PFP and prescribed burning on Midpen lands in the coming year. Prescribed burning is not intended as a treatment for the entirety of Midpen lands. Treatments proposed under the VMP would be implemented in isolation or in tandem with prescribed burning. Section 5.2.2 of the WFRP and the analysis in the Program EIR describe the potential benefits and impacts on resources associated with prescribed burning (e.g., fire adapted special-status plants versus species that do not readily transmit fire to other plants). Burn units will be identified and prioritized as described under Section 5.4 of the WFRP. Considerations for (but not limited to) the vegetation communities, wildlife species, fuels reduction value, potential for successful implementation, will be reviewed during burn unit prioritization. Prescribed fire intervals vary and are dependent upon many factors.

Response to Comment B4-8

The commenter questioned the specified timing for burning shown in Table 3.6-5 of the Draft Program EIR. BAAQMD allows prescribed burning throughout the year on any permissive burn day (Regulation 5; Section 401.15), whereas pile burning is only allowed from November 1 to April 30 (Regulation 5; Section 401.12). The Program does not prohibit prescribed burns outside of June to November, and indicates that other times of the year may also be considered. Prescribed burning is typically conducted during late spring when the ground is still wet, or during the fall or winter when precipitation is imminent, and vegetation has ceased growing with the appropriate moisture content.

Response to Comment B4-9

The commenter noted that the analysis of the No Prescribed Fire Plan Alternatives does not discuss that if a wildland fire occurred, the impacts would be much greater and exceed any impacts of a prescribed burn. The No Program Alternative analysis in Section 6.4.1 of the Draft Program EIR provides an understanding of the types of effects associated with increased potential for more severe wildland fire activity. Implementation of the Program may result in potentially significant and unavoidable aesthetic, air quality, and GHG impacts; however,

impacts from a large and intense wildland fire ignited in untreated areas under the No Program Alternative could potentially be far greater than any Program impacts. Various analyses throughout the Draft Program EIR also discuss the effects of wildland fires in the context of the reduced risk associated with Program implementation, including Section 4.3: Air Quality and Section 4.7: Greenhouse Gas Emissions.

Response to Comment B4-10

The commenter questioned why prescribed burning would focus on grasslands initially and noted that the emissions calculations included a mix of other vegetation communities. Refer to Response to Comment B4-1 for a discussion of the refinement of the PFP and prescribed burning on Midpen lands in the coming year. Burn units will be identified and prioritized as described under Section 5.4 of the WFRP. Initial burns may focus on re-establishing prescribed fire training areas, such as by burning in grasslands.

The Program EIR analyzed a mixture of vegetation types to provide a more realistic expectation of prescribed burning, particularly emissions generated during a maximum year of WFRP implementation as emissions per acre associated with grasslands are the lowest of the general vegetation types.

2.3.5 Letter B5: Vahtra, Karen

Letter B5

From: Karen Vahtra <karen@allaboutimages.com>
Sent: Friday, February 19, 2021 2:12 PM
To: Coty Sifuentes-Winter
Subject: Wildfire Resiliency Project

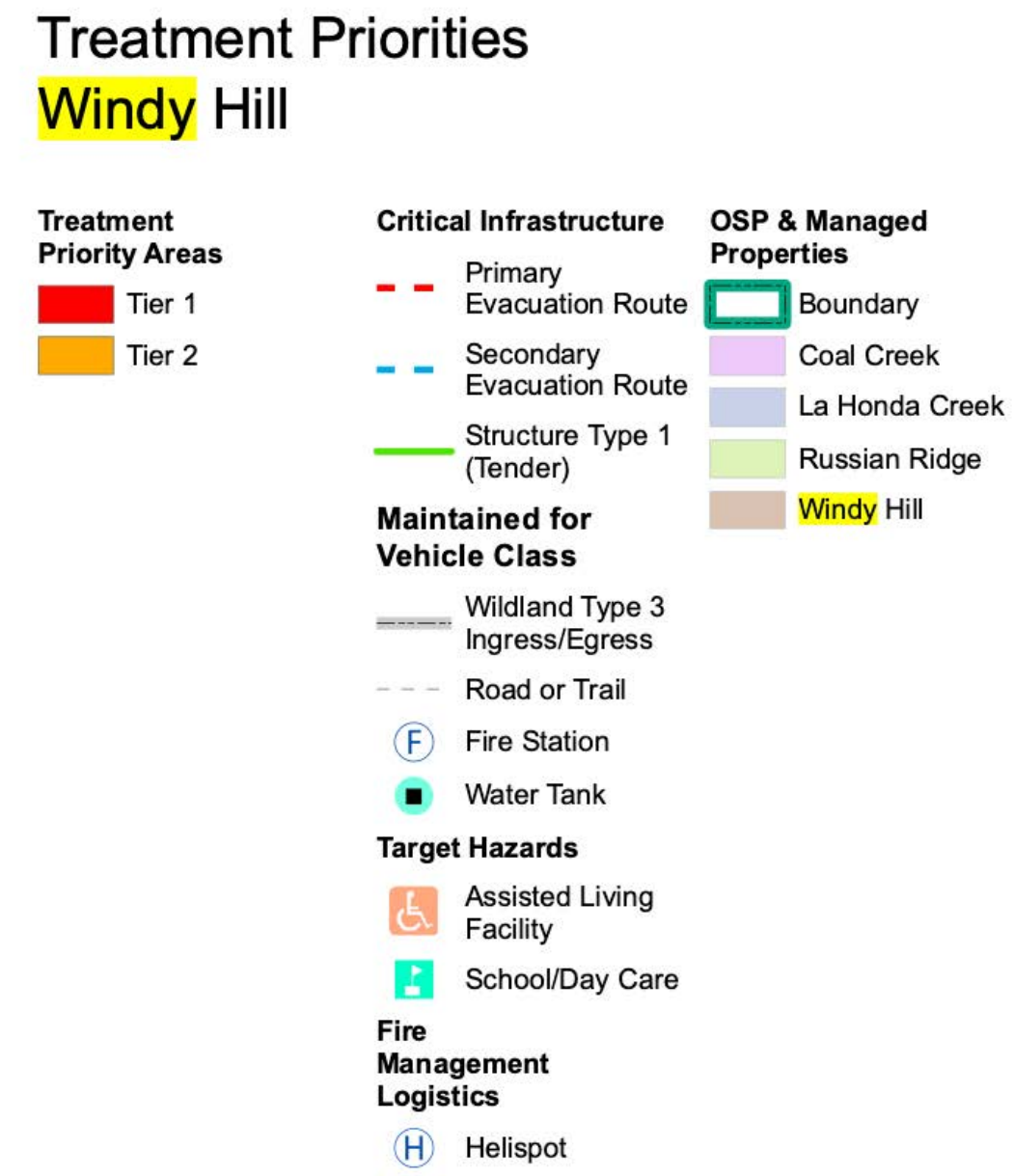
EXTERNAL

Hello Coty,

I have a comment for this project and its priorities. I live in Portola Valley and I think it is crucial that the fuel breaks near existing homes are the highest priority. We have a lot of open space, but only a handful preserves are located near a significant number homes. Windy Hill is right next to a senior home, so keeping the western part of Windy Hill very clean is of the highest priority. B5-1

In the report, the western part of Windy Hill is not listed as a treatment priority. Please add it in as the highest priority. B5-2

Karen Vahtra


Treatment Priorities
Windy Hill
Treatment Priority Areas
Tier 1
Tier 2
Critical Infrastructure
Primary Evacuation Route
Secondary Evacuation Route
Structure Type 1 (Tender)
Maintained for Vehicle Class
Wildland Type 3 Ingress/Egress
Road or Trail
Fire Station
Water Tank
Target Hazards
Assisted Living Facility
School/Day Care
Fire Management Logistics
Helispot
OSP & Managed Properties
Boundary
Coal Creek
La Honda Creek
Russian Ridge
Windy Hill
2

Response to Comment B5-1

The commenter requested creation of fuelbreaks around adjacent private properties, including a senior facility at Windy Hill OSP. One of the prioritization criteria under Section 4.4.3 of the WFRP is to locate VMAs within 300 feet of critical structures (school, hospital, nursing home). A 300-foot fuelbreak has been identified as a potential, higher priority treatment on Midpen lands around the assisted living facility adjacent to Windy Hill OSP, the Sequoias-Portola Valley (Refer to Appendix B of the WFRP). As noted, a 300-foot-wide fuelbreak around this target is identified as a potential treatment at Windy Hill OSP. The implementation of the identified fuelbreak would be conducted in an ecologically sensitive manner, which would involve leaving a vegetated buffer around Sausal Pond. The majority of the work to protect the Sequoias has been completed and the vegetative buffer around the pond would not be removed under the Program. Treatment in the future would largely be focused on maintaining the fuel reduction work that has already been completed. There may be some additional work to enhance the fuel reduction zone while protecting ecological resources, and this work would appear very similar to the work Midpen has already conducted within the Windy Hill OSP near the Sequoias-Portola Valley.

While not part of the Program, Midpen encourages neighboring private property owners to apply for a free Neighbor Defensible Space Permit to conduct defensible space treatments on Midpen lands within 100 feet of their private property structures.

Response to Comment B5-2

The commenter requested designation of the western part of Windy Hill OSP as highest priority. The methodology for prioritization of treatment areas is detailed under Section 4.4.3 of the WFRP. Note that annual priorities may change depending upon changing environmental factors. Refer to Appendix B of the WFRP for the mapsets of the current prioritized treatment areas.

2.3.6 Letter B6: Brandt, Adam

Letter B6

Fwd: FW: Comment on Wildland Fire Resiliency Program EIR
1 message

From: Adam Brandt <abrandt@stanford.edu>
Sent: Monday, February 22, 2021 9:56 AM
To: Coty Sifuentes-Winter <csifuentes@openspace.org>
Subject: Comment on Wildland Fire Resiliency Program EIR

EXTERNAL

Hello,

I would like to voice my support for the Wildland Fire Resiliency Program as proposed by Midpen. Fire is a natural part of the California landscape, and efforts to suppress fire end up counterproductive in the end. The fires that inevitably result (see summer and fall of 2020) end up much worse and more damaging to ecosystems. B6-1

I am happy that Midpen is interested in taking an approach allowing or encouraging natural burning to help re-establish the natural fire pattern in California. Please let me know how I can help to make this a reality. B6-2

My own interests for full disclosure: 20 years of enjoying mid-pen open space and I live near bear creek redwoods park.

Adam

Adam R. Brandt
Associate Professor
Department of Energy Resources Engineering
Stanford University

1-650-724-8251
https://earth.stanford.edu/people/adam-brandt
https://pangea.stanford.edu/researchgroups/eao/

--

Response to Comment B6-1

The support for the WFRP as proposed is noted. The comment does not raise environmental issues or issues related to the adequacy of the Draft EIR. No further response is needed.

Response to Comment B6-2

The support for the prescribed burning activities proposed within the WFRP is noted. The comment does not raise environmental issues or issues related to the adequacy of the Draft EIR. No further response is needed.

2.3.7 Letter B7: Evans, Peter

Letter B7

From: Peter Evans <peterevans.lah@evanscentral.com>
Sent: Thursday, February 25, 2021 9:47 AM
To: Coty Sifuentes-Winter
Cc: roger@spreen.com
Subject: Wildland Fire Resiliency Program Draft EIR (SCH #20200449059)

EXTERNAL

Coty,

My comments here may relate more to the Wildland Fire Resiliency Program itself than the EIR.

As a Los Altos Hills resident living within a few hundred feet of Rancho San Antonio Open Space Preserve and having anxiously completed all the prep to evacuate during the fires last year, I am really encouraged by the district's development of this Program. We should do (and I think we are doing) what we can to reduce fire risk within the town of Los Altos Hills, but the risk from the open space preserves is considerable.

My one comment is that I don't see any reference to the new Wildfire Interdisciplinary Research Center at San Jose State as a potential resource and collaborator in the Program. Here is a link:

https://www.mercurynews.com/2020/09/02/san-jose-state-university-opens-new-wildfire-research-center/

We are fortunate to have such a world-class resource for science and evidence-based wildfire risk management right here in Santa Clara County. It would be good for the Program to use them and good for the research center to be involved in the district's Program.

B7-1

Regards,

Peter Evans

Response to Comment B7-1

The commenter provided information on the San Jose State Wildfire Interdisciplinary Research Center. Midpen collaborates with many partners in the San Francisco Bay Area to conduct research and stays apprised of the latest science and technology. The comment does not raise environmental issues or issues related to the adequacy of the Draft EIR. No further response is needed.

2.3.8 Letter B8: Liebes, Sidney

Letter B8

TO: Coty Sifuentes-Winter
MROSD Senior Resource Management Specialist
csifuentes@openspace.org

FROM: Sidney Liebes
sidliebes@comcast.net
(650) 740-0180

DATE: Feb. 27, 2021

RE: Comment on MROSD Wildland Fire Resiliency Program – Draft EIR
https://www.openspace.org/our-work/projects/wfrp

My name is Sidney Liebes. I'm a 91-year-old resident of the Sequoias retirement community, Portola Valley. I have lived virtually my entire life in or adjacent to the western slope of the Peninsula foothills. Throughout my adult life, I have committed extensively to the preservation of the magnificent forested open space foothills of the Peninsula.

The decision of those who choose to live within or close to our magnificent forested foothills brings with it exposure to the possibility of forest fire. The degree of exposure has regrettably grown over the years, with the failure of humanity to arrest long foreseen global warming and its consequences.

Concern continues to grow, with the increasing prevalence of devastating state-wide wildfires. The unusual 11,000-bolt fire storm that, in August 2020, plowed up the crest of the Peninsula's coast range, precipitating the disastrous CZU fires, has heightened apprehension.

I have been advocating, within the Sequoias, pursuing with MROSD a "modified firebreak" to minimize the wildfire exposure, being sensitive to the impact of a traditional full firebreak on the value residents and MROSD place our natural surroundings. I had not previously heard of the concept of a "fuelbreak," which appears to be closely akin to what I had in mind by "modified firebreak." B8-1

The Sequoias has approximately 100 residents in its Nursing Facility, Assisted Living, and Memory Care, many of whom are physical severely limited, and none of whom any longer drive. There are an additional approximately 200 residents in Independent Living, an estimated half of whom no longer drive.

1

So, it is understandable that representatives of both the Woodside Fire Protection District and the MROSD view the Sequoias as a top priority concern, and classify the facility as a "shelter in place" institution.

It came as a great and pleasant surprise to me, just a few days ago, to learn of the MROSD Wildland Fire Resiliency Program, and draft EIR. I wish to commend MROSD leadership and staff for the stunning commitment, hard work, and accomplishment of this broad and deep docment.

B8-2

I was stunned, in scanning the document, to find, among its hundreds of pages of text and illustrations, on page 13 of Appendix B.1 the figure titled "Existing and Potential Treatments – Windy Hill– Vegetation Management Maps – Existing and Potential Treatments." The highly detailed figure includes a 300 ft. wide fuelbreak adjacent to and wrapping around the 1,000 ft. NW boundary of the Sequoias and the 2,000 ft. westerly boundary of the Sequoias. I was delighted to by the referenced figure, and the proposal to implement a mitigation plan for the precise area I have been advocating for.

The Sequoias is investing in wildfire mitigation action on its property, but is dependent upon MROSD partnership to implement mitigation measures on its immediately bordering property.

The appended references to firebreaks and fuelbreaks include the following recommendations (emphasis added):

Fire Safe San Mateo County: A modified shaded fuel break is defined as a defensible location, where fuels have been modified, that can be used by fire suppression resources to suppress oncoming wildfires ... **Any fuel break by itself will NOT stop a wildfire** ... Shaded fuel breaks act as strategic "defensible landscape" to reduce fire speed and severity, improve suppression by ground crews and air attack.

U.S. Dept. of Agriculture: The **dimensions of the fuel break** (width and length) shall be sufficient to reduce fire spread and intensity. **Width on level ground shall be** a minimum of 150 feet for cropland, rangeland, and other non-forestland sites and **a minimum of 300 feet on forest land sites**.

B8-3

* * *

Forest Fire Firebreak and Fuelbreak References

Fire Safe San Mateo -
https://www.firesafesanmateo.org/resources/shaded-fuel-breaks

A modified shaded fuel break is defined as a defensible location, where fuels have been modified, that can be used by fire suppression resources to suppress oncoming wildfires ... **Any fuel break by itself will NOT stop a wildfire** ... Shaded fuel breaks act as strategic "defensible landscape" to reduce fire speed and severity, improve suppression by ground crews and air attack.

NATURAL RESOURCES CONSERVATION SERVICE CONSERVATION PRACTICE SPECIFICATIONS FUEL BREAK (AC.) CODE 383
https://efotg.sc.egov.usda.gov/references/public/CO/CO383_Spec.pdf
The dimensions of the fuel break (**width** and length) shall be sufficient to reduce fire spread and intensity. Width on level ground shall be a minimum of 150 feet for cropland, rangeland, and other non-forestland sites and a **minimum of 300 feet on forest land sites.** Add 10 feet to the width for every 10 percent increase in slope (e.g., a width of 360 feet would be used on a 60 percent slope). Length shall match the length of the ignition source to the extent feasible.

HOW A FIREBREAK CAN HELP STOP THE SPREAD OF A FOREST FIRE
https://pevachcorp.com/tree-removal/how-a-firebreak-can-help-stop-the-spread-of-a-forest-fire

When creating a firebreak any debris, foliage, vegetative growth, kindling, and other possible sources of fuel for a wildfire are cleared in a continuous pattern to help contain a wildfire from spreading beyond it.

A literature study on fuel breaks shows that varying ranges of widths are used worldwide. Documentation shows them [worldwide] being **anywhere from 65m [70 yd] to 2800m [3,000 yd]wide**. Evidence shows that the wider a fire break is, the more effective it may be to work on fire containment and extinction.

Fire breaks are considered a crucial aspect of any wildfire prevention and preparedness strategy within the guide. They save lives and reduce possible destruction or spread of the fire to communities.

Open fuel types like grass don't require an extremely wide break such as **Boreal mixed wood fuel types**. For the first, a **width** of just 10-15 m is **recommended** while for the latter a recommendation of **up to 200m [220 yd]** is given **depending on the trees and other natural fuels in the area. The higher the**

3

conifer tree percentage is compared to hardwood, the wider the firebreak.

https://static.colostate.edu/client-files/csfs/pdfs/fuelbreak_guidellines.pdf
The minimum recommended fuelbreak width is approximately 300 feet for level ground.

https://efotg.sc.egov.usda.gov/references/public/CO/CO383_Spec.pdf
The dimensions of the fuel break (**width** and length) shall be sufficient to reduce fire spread and intensity. Width on level ground shall be a minimum of 150 feet for cropland, rangeland, and other non-forestland sites and a **minimum of 300 feet on forest land sites.** Add 10 feet to the width for every 10 percent increase in slope (e.g., a width of 360 feet would be used on a 60 percent slope). Length shall match the length of the ignition source to the extent feasible.

Response to Comment B8-1
The comment regarding the lower intensity vegetation treatments implemented to create and maintain a "modified" fuelbreak compared to a traditional firebreak has been noted. Refer to Section 4.3.2 of the WFRP for further details on how a fuelbreak is created and maintained.

Response to Comment B8-2
The support for the WFRP as proposed and the identification of the Sequoias-Portola Valley as a target is noted. As noted, a 300-foot-wide fuelbreak around this target is identified as a potential treatment at Windy Hill OSP. Refer to Response to Comment B5-1 for information on the fuelbreak treatment around the Sequoias. The comment does not raise environmental issues or issues related to the adequacy of the Draft EIR. No further response is needed.

Response to Comment B8-3
The comment providing firebreak and fuelbreak recommendations has been noted.

2.3.9 Letter B9: Epstein, Allan

Letter B9

Fwd: FW: Wildland Fire Resiliency Program Draft EIR
1 message

EXTERNAL

Hi Coty,

Thank you for providing the recording.

My comments/ questions relate primarily to the Mid Pen Open Space area in proximity to Los Altos Hills. I have looked at the vegetation maps in the appendix. Page 13 Existing and Potential Treatments Rancho San Antonio, which appears to be the one most relevant to the southern part of the Town. The map shows a large salmon color shaded area with substantial portions hash-marked with the legend reference "Potential FRAs for Ecosystem Resiliency." B9-1

The Vegetation Management Plan states, "Fuel ladders and surface fuels are greatly reduced in FRAs, and overstory and understory vegetation is spatially separated so that a ground fire will not, under normal fire conditions, burn too hot and/or climb into the canopy and turn into a crown fire."

1. How will the Fuel Reduction Areas to be treated be identified, or are all the hash-marked areas to be treated? What will be the criteria for requiring treatment? B9-1
2. Will the own, Fire District or Fire Agencies participate in the decision as to which areas will receive treatment? B9-2
3. There appears to be no special treatment along the green marked border of the open space where it meets private areas. Shouldn't there b B9-3
4. There are no areas marked for type 3 ent , none for tanks, and none for fuel breaks outside of the lower heavily used park area. Shouldn't there be some in other parts of the open space? B9-4
5. When will the vegetation management steps be completed? Will it occur before each fire season? How will priorities be determine B9-5

Note: Maps would be easier to orient if more local roads were shown. E.g. Ravensbury, Magdalena, Moody, Altamont, etc. B9-6

https://www.openspace.org/sites/default/files/ApxB.1-Vegetation_Mgmt_Maps-Existing_and_Potential_Treatments.pdf

Due to the recent SZU fire, residents adjacent to the open space areas are quite concerned that wildfires could start in the open space area or burn through it. We would like to see appropriate steps taken to mitigate the likelihood of this happening. With proper preparation such steps can greatly reduce the likelihood of wildland fires moving into adjacent populated areas. Fire season is only a few months away. Time is of the essence.

Thank you for the opportunity to comment.

Best,

Allan

Allan Epstein

650-949-3509

650-269-5290 (c)

Response to Comment B9-1

The commenter requested further information on prioritization and locations of FRAs. The potential FRA treatment areas shown in Appendix B are meant to represent the "envelope" within which the FRAs can be created. Refer to Section 4.4.3 of the WFRP for the methodology of prioritization creation of FRAs, which will be determined each year during annual planning.

Response to Comment B9-2
The commenter requested whether fire districts and agencies participated in treatment decisions. Fire Agency Recommended Fuelbreaks are identified as potential treatment areas in Table 4-5 and Appendix B of the WFRP. The methodology for locating potential VMAs includes those identified by State or local fire management agency professional staff (refer to Section 4.4.3 of the WFRP).

Response to Comment B9-3
The commenter requested treatment along the border of OSPs adjacent to private lands. While not part of the Program, Midpen encourages neighboring private property owners to apply for a free Neighbor Defensible Space Permit to conduct defensible space treatments on Midpen lands within 100 feet of occupied structures to allow private property owners to achieve their defensible space requirements for their adjacent private property.

Response to Comment B9-4
The commenter suggests that better access roads, water storage tanks, and hydrants are needed to keep perimeters of wildlands fire safe, with a focus on the Open Space areas near Los Altos Hills. The Wildland Type 3 routes and water tanks shown in Appendix B of the WFRP are based on existing infrastructure and include a major fire road that parallels the preserve boundary adjacent to Los Altos Hills. There are also numerous hydrants within the preserve and two major water tanks maintained by water districts. The commenter mentions available funds and resources from local fire agencies. Midpen continues to actively seek grants and partnerships with fire agencies, fire safe councils, and local neighborhoods.

Response to Comment B9-5
The commenter requests annual timing of the vegetation treatments and information on prioritization. As described under Section 4.6 of the WFRP, Midpen employees, with input from surrounding fire agencies, will annually prioritize areas for treatment and prepare an Annual Work Plan. The annual timing for each treatment type and method is outlined in Table 4-9 of the WFRP. Refer to Section 4.4.3 of the WFRP for the methodology of prioritization for creation of VMAs and FRAs.

Response to Comment B9-6
The commenter requested identification of more local roads on the Appendix B mapsets. The mapsets have been revised to incorporate key local road names.

2.4 Public Meeting Comments and Responses

2.4.1 Letter C1: DePeau, Norm

Letter C1

From: Midpen Public Comment Form
To: Clerk; web; Maria Soria
Subject: I want my comment to be read into the record during the board meeting. (250 word limit) - February 25 - Board of Directors - Study Session -
Date: Saturday, February 20, 2021 3:58:01 PM

EXTERNAL

Meeting Date *	February 25 – Board of Directors – Study Session
Is this a comment about a specific board item? *	Yes
Agenda Item Number or Subject *	Item # I
Subject *	Public Hearing to Receive Public Comment on theWildlandFireResiliencyProgramDraftProgram Environmental Impact Report (R-21-32)
Please check one: *	Neutral
Where did you hear about this meeting? (check all that apply) *	• Postcard notification from Midpen
Name *	Norm DePeau
City of Residence *	Los Gatos
Email *	ndepeau@cisco.com
Select a Choice *	I want my comment to be read into the record during the board meeting. (250 word limit)

Comments to be read into the record *

As a property owner on Blackberry Hill Road in Los Gatos with a home and land adjacent to Mid-Pen's Sierra Azul property, I would like to emphasize Mid-Pen's responsibility to maintain private roads which cross its land as a critical step in an effective Fire Resiliency program. The Town of Los Gatos has recently taken deliberate measures to clear vegetation beyond the edges of public roads in fire prone areas, but those measures cease where the roads transition to private responsibility. This creates a stark contrast between the foresight and care being made on public roads and that being taken where the roads become private responsibility. The lack of reasonable care by Mid-Peninsula to clear vegetation along private roads used by local residents makes it difficult for fire fighting apparatus to safely gain access to protect both Mid-Peninsula's properties as well as the homes and lives of residents who must traverse these roads to access their properties. Worse still, this creates dangerous conditions in the event of a fast-moving fire requiring emergency egress from homes in remote locations accessed by private roads.

I would like to propose specific wording describing the need to clear vegetation beyond the edge of pavement on private roads that traverse Mid-Peninsula property consistent with the level of care being applied by towns like Los Gatos. This will ensure Mid-Peninsula demonstrates the same level of foresight to protect wildland properties, homes and lives.

C1-1

Response to Comment C1-1

The commenter stated that Midpen is responsible for maintaining private roads that cross through Midpen lands for public safety and emergency egress. The Program will not increase existing hazards or otherwise impact residences that live along Blackberry Hill Road. Generally, property owners who hold access rights to a private road are the party responsible for maintenance and repair of the road. Potential fuelbreaks are proposed around State or local fire agency-designated Midpen evacuation routes as well as primary Midpen-designated emergency access roads that are accessible by a Wildland Type 3 fire engine according to the methodology for locating potential VMAs defined in Section 4.4.3 of the WFRP.

Note that the Program is intended to be a "living document". Midpen, in conjunction with forestry and ecology specialists, identified treatments based on current risks, priorities, and ability to implement treatments. As described under Section 8.4 of the WFRP, Midpen will identify and implement recommended changes based on monitoring and changing conditions. The Program may be updated accordingly, and as necessary, supplemental CEQA or other environmental analysis would be prepared.

2.4.2 Letter C2: Liston, Janssen

Letter C2

Fwd: FW: WFRP - Comment on El Sereno OSP
1 message

From: JJ Liston <jjliston@gmail.com>
Sent: Monday, February 22, 2021 7:53 PM
To: Coty Sifuentes-Winter <csifuentes@openspace.org>
Subject: WFRP - Comment on El Sereno OSP

EXTERNAL

Hello MidPen Open Space

I am a homeowner and resident of the beautiful Overlook Road community adjacent to the amazing El Sereno OSP. I have been a daily trail runner in the ESO OSP for the last five years, and know the entire preserve extremely well.

I am very concerned that MidPen is underestimating the fire hazard in my community. I know firsthand what exists well within the preserve, especially the very sensitive and life-threatening areas along our previous access road. While ESO OSP does not touch the road itself, the hazard that lies within eye distance is a significant threat. C2-1

Out of all the MidPen properties in the bay area, El Sereno has the largest contiguous area with the most financial risk. Bar none, it is the greatest in all your properties. I see almost no work planned for El Sereno. C2-2

This is very disturbing because you have recently purchased 182 acres from SJWW, and you have not yet mapped this property or done a visual "boots on the ground". You have not performed a line stake of the property lines, AND I know first hand by extensive hiking that the SJWW property is very overgrown and a hazard to our community.

What's more troublesome is that your map DOES NOT show the recent purchase, which you are taking ownership from POST during 2021. Please see my attachment showing the purchase vs. your vegetation management. C2-3

Please keep in mind the hazards that exist in ESO OSP. These hazards will have a direct impact to our one and only escape route - Overlook Road. In your vegetation report, you show Farvue Road as an exit, this is NOT true. That is a locked gate. Furthermore, Lucky Road is hazardous and non-passable.

For those of us, like myself, living at the top/end of Overlook, we will NOT be able to escape a wildfire that starts in El Sereno and immediately engulfs are one and only exit - Overlook Road. C2-4

Please amend your vegetation report to include your additional 182 acres, AND make a commitment to survey your new 182 acres, AND put more funding toward our precious OSP.

El Sereno is barren EXCEPT for the area that is adjacent to our private properties along Overlook Road. We need your help and your support. C2-5

With kind regards

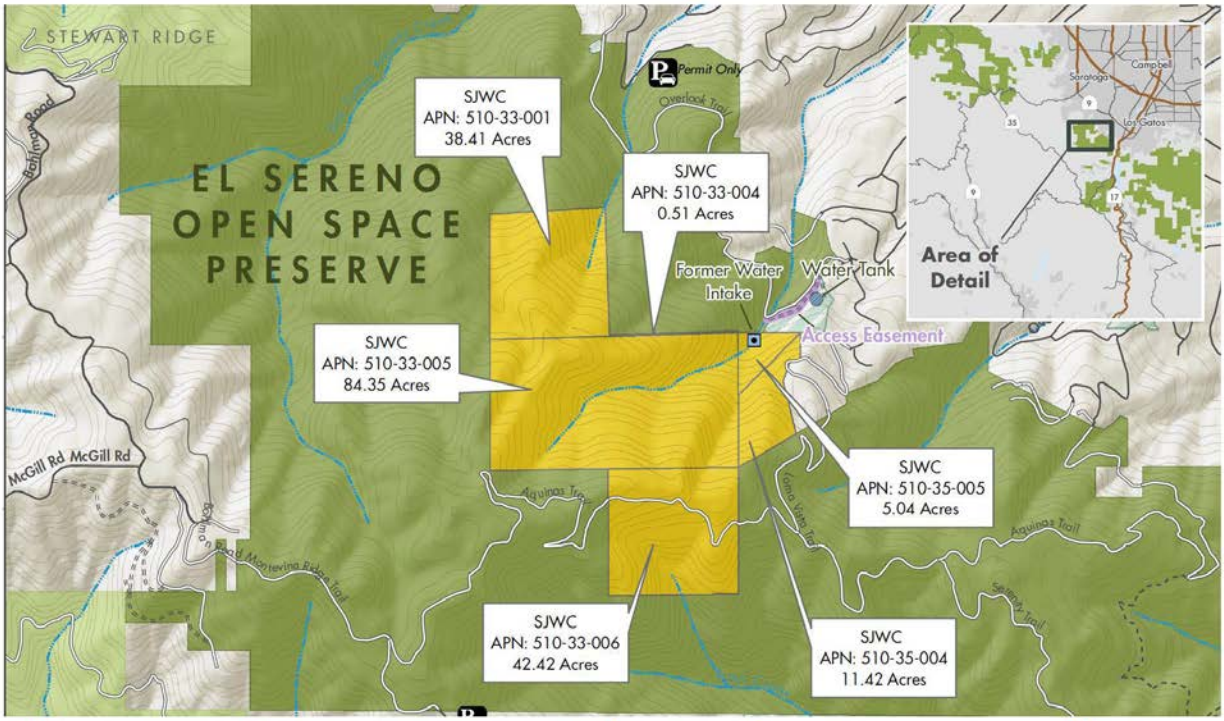
Janssen Liston

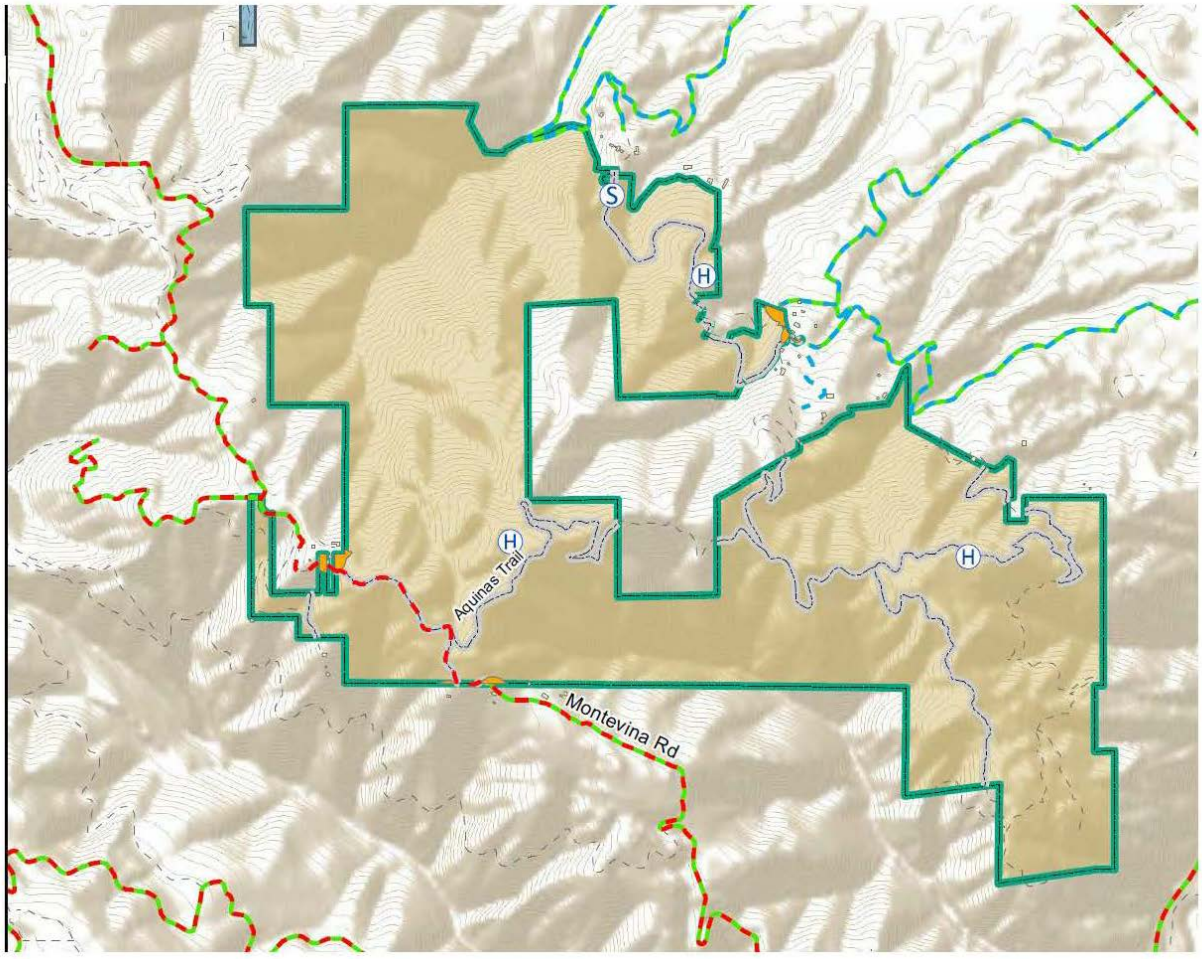
408/313-5137

19131 Linda Vista Ave

Los Gatos, CA 95030

WFRP Response_El Sereno_22Feb2021.pdf
545K


STEWART RIDGE
EL SERENO OPEN SPACE PRESERVE
Permit Only
Overlook Trail
SJWC
APN: 510-33-001
38.41 Acres
SJWC
APN: 510-33-004
0.51 Acres
Former Water Intake
Water Tank
Access Easement
Area of Detail
SJWC
APN: 510-33-005
84.35 Acres
SJWC
APN: 510-35-005
5.04 Acres
McGill Rd
Aquinas Trail
Montevina Ridge Trail
SJWC
APN: 510-33-006
42.42 Acres
SJWC
APN: 510-35-004
11.42 Acres


Aquinas Trail
Montevina Rd

Response to Comment C2-1
The commenter expressed concern regarding fire hazards in El Sereno OSP, particularly due to adjacency to residences and ingress/egress along Overlook Road. The Draft Program EIR acknowledges the high fire hazard at El Sereno OSP, as shown in Figure 4.8-4. The overall purpose of the Program is to allow for increased environmentally sensitive vegetation management to reduce the potential for severe wildland fire, as stated in Section 1.2 of the WFRP.

Response to Comment C2-2
The commenter noted that El Sereno OSP has the largest contiguous area with most financial risk and very few activities appear to be planned at El Sereno OSP. The comment regarding financial risk is noted and is outside the scope of CEQA. The comment does not raise environmental issues or issues related to the adequacy of the Draft EIR. No further response is needed.

The areas of potential treatment in El Sereno OSP are shown in Appendix B. Midpen, in conjunction with forestry and ecology specialists, identified treatments based on current risks, priorities, and ability to implement treatments. Section 4.1.3 of the WFRP identifies approximately 120 acres within El Sereno OSP where new VMAs could be established. These VMAs include evacuation routes, defensible space around critical infrastructure, and logistical fire management fuelbreaks. Refer to Section 4.4.3 of the WFRP for the methodology for locating potential VMAs and FRAs.

Response to Comment C2-3
The commenter expressed concern that the newly purchased land in El Sereno OSP has not been shown on maps nor have site visits been conducted. New land purchased or acquired after the NOP for the Draft Program EIR is not part of the baseline conditions, per CEQA. The Draft Program EIR mapsets and data is based on Midpen lands as of the NOP. The physical environmental conditions at the time the NOP was published is used by an agency to determine whether an impact of a project is significant (CEQA Guidelines Section 15125). While some deviation may be permissible to more accurately allow assessment of a project's impacts, the impact analysis contained within the Draft Program EIR would not be altered by inclusion of the specified properties.

The Draft Program EIR was prepared programmatically with the understanding that Midpen will continue to actively acquire new lands to preserve as open space in perpetuity, as detailed under Section 3.2.2 of the Draft Program EIR (refer to Section 2.1.1 of the WFRP). As discussed under Section 4.1.3 of the Draft Program EIR, "when specific activities are proposed… on lands purchased or gifted after preparation of this Program EIR, Midpen would perform project-level environmental review. Prior to approving site-specific activities under these plans or on newly acquired lands, Midpen would evaluate the selected site against the analysis provided in this Program EIR to determine whether additional environmental review is needed." The Final Program EIR includes a Project Environmental Review Checklist in Appendix A to aid Midpen in this process. Note that the WFRP tables and mapsets have been updated to incorporate newly

acquired lands and revised data. The properties identified by the commenter have not been included as they are not officially Midpen lands as of preparing the Final WFRP; these lands are planned to be transferred to Midpen at a later date.

Response to Comment C2-4

The commenter noted that the mapset shows Farvue Road as an exit, which it is not, and that Lucky Road is not passable. The maps and mapsets included in the Draft Program EIR and WFRP are for reference only. As noted on the Appendix B mapsets, although every effort has been made to ensure the accuracy of information, errors and conditions originating from physical sources used to develop the data may be reflected on the maps.

Farvue Road is not shown as contiguous or an evacuation route on the Appendix B mapsets. The evacuation routes shown to the northeast of El Sereno OSP that connects with Highway 9, are along Overlook Road and Matilija Drive. Maintenance of these roads for safe passage is outside of Midpen's jurisdiction. As shown on the potential treatment mapsets, a potential 200-foot fuelbreak on Midpen lands is proposed around evacuation routes in the area identified by the commenter according to the methodology for locating potential VMAs and FRAs defined in Section 4.4.3 of the WFRP. Vegetation management, such as for creation of fuelbreaks, is intended to decrease the risk of extreme wildland fire behavior, slow the spread of a wildland fire, aid in the suppression and control of a wildland fire, and/or reduce the impacts of wildland fire should it occur.

Response to Comment C2-5

The commenter requested the WFRP include the recently acquired 182 acres, commit to surveying the new land, and fund the activities on the OSPs. Refer to Response to Comment C2-3 for further information on the environmental process for newly acquired lands and the continual updates Midpen will be conducting as conditions change. The WFRP tables and mapsets have been updated to incorporate newly acquired lands. The properties identified by the commenter have not been included as they are not officially Midpen lands as of preparing the Final WFRP.

Refer to Section 4.6 and Chapter 8 of the WFRP for information on annual planning and maximum acres of treatments. Acreages of fuel treatment projects that are included as part of Midpen's annual capital improvement and action plan will depend on annual staffing capacity, funding availability, partnerships, and other resources and must also consider other priorities and projects that further the mission and the Board's strategic goals and objectives.

2.4.3 Letter C3: Kelley, Peter

Letter C3

From: Midpen Public Comment Form
To: Clerk; web; Maria Soria
Subject: I want my comment to be read into the record during the board meeting. (250 word limit) - March 4 - Board of Directors -
Date: Thursday, February 25, 2021 5:47:38 PM

EXTERNAL

Meeting Date *	March 4 – Board of Directors
Is this a comment about a specific board item? *	No
Subject *	Public & Private Land Owner Safety
Please check one: *	Neutral
Where did you hear about this meeting? (check all that apply) *	• E-mail notification from Midpen
Name *	Peter Kelly
Organization (if applicable)	Purisima Canyon Neighbors
City of Residence *	Half Moon Bay
Email *	fishbird@coastside.net
Select a Choice *	I want my comment to be read into the record during the board meeting. (250 word limit)
Comments to be read into the record *	MROSD has a significant problem with parking and traffic congestion and management at the Purisima Creek Redwoods OSP that has not been properly and effectively managed. This parking problem affects the safety of visitors, local landowners, and emergency responders. We hope MROSD can find a solution to this problem which is tied into this current wildland fire management program as emergency access and evacuation is impaired.

C3-1

Response to Comment C3-1

The commenter recommended that Midpen address the parking and traffic congestion at Purisima Creek Redwoods OSP as part of the Program due to the effect on emergency access and evacuation. The overall purpose of the Program is to allow for increased and environmentally sensitive vegetation management to reduce the potential for severe wildland fire as stated in Section 1.2 of the WFRP. Addressing existing parking and congestion issues is outside the scope of the WFRP and Program EIR. Midpen is working to address the commenter's concerns separate from this Program and EIR.

Parking is not a CEQA topic, but increases in traffic hazards, such as road or lane closures, associated with Program implementation are analyzed under Impact Transportation-1 of the Draft Program EIR. Program impacts related to inadequate emergency access are analyzed under Impact Transportation-3 and impairment of emergency response or emergency evacuation plans are analyzed under Impact Hazards-4.

2.4.4 Letter C4: Maki, Karen

Letter C4

From: Midpen Public Comment Form
To: Clerk; web; Maria Soria
Subject: I want my comment to be read into the record during the board meeting. (250 word limit) - March 4 - Board of Directors -
Date: Thursday, February 25, 2021 5:47:16 PM

EXTERNAL

Meeting Date *	March 4 – Board of Directors
Is this a comment about a specific board item? *	Yes
Agenda Item Number or Subject *	Wildfire Resiliency Plan
Subject *	Wildfire Resiliency Plan
Please check one: *	Neutral
Where did you hear about this meeting? (check all that apply) *	• E-mail notification from Midpen
Name *	Karen Maki
Organization (if applicable)	Loma Prieta Chapter of Sierra Club
City of Residence *	North Fair Oaks
Email *	karen@karenmaki.com
Select a Choice *	I want my comment to be read into the record during the board meeting. (250 word limit)
Comments to be read into the record *	How will you ensure that so much vegetation isn't removed that your your competing priority of increasing carbon sequestration isn't sacrificed?

C4-1

Response to Comment C4-1

The commenter questioned how Midpen is meeting the priority to increase carbon sequestration, if they are accounting for carbon loss from vegetation treatments. Refer to Response to Comment A9-1 for a discussion regarding the complex relationship and tradeoffs between fuel management activities and wildland fires in regards to carbon stocks. Refer to

Response to Comment A9-2 for information regarding how the Program supports the 2017 Scoping Plan's and the 2018 California Forest Carbon Plan's GHG emissions goals and objectives of minimizing wildland fire and associated emissions through forest treatments to improve resiliency.

Midpen currently works to reduce emissions and enhance carbon sequestration and storage where feasible. Under the 2018 Climate Action Plan, Midpen aims to reduce operational emissions (e.g., from fleet, commutes, facilities, etc.) by 20 percent by 2022, 40 percent by 2030, and 80 percent by 2040, as compared to a 2016 emissions baseline. By 2018, operational emissions had been reduced by 14 percent from the baseline and these reductions continue to be on track for the 2022 goal.

To increase carbon sequestration and storage, outside of Program-related actions, Midpen is assessing carbon farming opportunities on rangelands and enhanced forest management strategies. Midpen also continually acquires new land, protecting standing carbon stocks from loss through development, and creating the opportunity to restore compromised habitats with potential for high rates of carbon sequestration such as wetlands, ponds, floodplains, and other aquatic systems. These ecosystems support high rates of carbon production and burial, sequestering carbon and promoting positive vegetation-soil feedbacks that improve water retention, and ultimately increase carbon storage relative to pre-restoration conditions. By 2021 estimations, the carbon stored in Midpen lands is almost 20,000 times greater than the Midpen's annual operational emissions and annual sequestration approaches 200 times annual operational emissions.

2.4.5 Letter C5: Morley, Matt

Letter C5

From: Midpen Public Comment Form
To: Clerk; web; Maria Soria
Subject: I am submitting a comment to be provided to the board of directors. (no limit) - March 4 - Board of Directors -
Date: Thursday, February 25, 2021 5:45:22 PM

EXTERNAL

Meeting Date *	March 4 – Board of Directors
Is this a comment about a specific board item? *	Yes
Agenda Item Number or Subject *	1
Subject *	Vegetation Management
Please check one: *	In Favor
Where did you hear about this meeting? (check all that apply) *	• E-mail notification from Midpen
Name *	Matt Morley
Organization (if applicable)	Town of Los Gatos Parks and Public Works Director
City of Residence *	Los Gatos
Email *	mmorley@losgatosca.gov
Select a Choice *	I am submitting a comment to be provided to the board of directors. (no limit)
Comments to be provided to the board of directors *	Thank you for taking on this important effort. Vegetation management along roadways is critical for a number of reasons and should be prioritized in the workflow. A large proportion of wildfires start along the roadway. Managing that fuel proactively can significantly reduce the risk. Additionally, managing along roadways provides for a buffer for ingress (fire apparatus) and egress (resident evacuation). Thank you.

C5-1

C5-2

Response to Comment C5-1

The commenter recommended prioritization of vegetation management along roadways to reduce risk of ignitions as well as to provide a buffer for ingress and egress. The overall purpose of the Program is to allow for increased environmentally sensitive vegetation management to reduce the potential for severe wildland fire as stated in Section 1.2 of the WFRP. In line with

the commenter's suggestions or assertions, many of the potential fuelbreaks are proposed around State or local fire agency-designated Midpen evacuation routes as well as primary Midpen-designated emergency access roads that are accessible by a Wildland Type 3 fire engine according to the methodology for locating potential VMAs under Section 4.4.3 of the WFRP. Vegetation management, such as for the creation of fuelbreaks, is intended to decrease the risk of extreme wildland fire behavior, slow the spread of a wildland fire, aid in the suppression and control of a wildland fire, and/or reduce the impacts of wildland fire should it occur.

This page is intentionally left blank.

3 Revisions to Text of Draft EIR

3.1 Introduction

This chapter presents revisions that have been made to the Draft Program EIR text. These revisions provide corrections, additions, or clarifications. The text revisions are organized by resource topics. Underlined text represents language that has been added to the Draft Program EIR; ~~text with strikethrough~~ has been deleted from the Draft Program EIR. Note that the page numbers align with the Draft EIR version available online at: https://www.openspace.org/our-work/projects/wfrp.

3.2 Draft EIR Revisions

3.2.1 Chapter 2: Executive Summary

Select mitigation measures in Table 2.1-1 are revised as follows:

This page is intentionally left blank.

Impact Description	Level of Significance Before Mitigation	Mitigation Measure	Leve of Significant After Mitigation
Impact Air Quality-2: Net increase of a criteria pollutant for which the program region is in non-attainment under an applicable federal or state ambient air quality standard. Use of manual and mechanical methods, prescribed burning, prescribed herbivory, and vehicles and equipment during vegetation management activities would generate exhaust emissions. Fugitive dust would be generated from equipment and vehicle use on paved and unpaved roads, and from ground disturbing activities. Prescribed burning would emit particulate matter emissions from combustion of vegetation. Estimated emissions during implementation of the Program would exceed the numerical significance thresholds for particulate matter (PM_{10} and $PM_{2.5}$) and ozone precursors (NOx and ROG) set by BAAQMD, and exceed the numerical significance thresholds for ozone precursors (NOx and ROG) identified by MBARD (Table 4.3-7). The Program's impacts on criteria pollutants would be potentially significant. MM Air Quality-2 requires consideration and implementation of measures to minimize prescribed burn and pile burn emissions, when and where appropriate. The impact would remain potentially significant and unavoidable.	Potentially significant	**MM Air Quality-2: Burn Emission Reduction Techniques** For activities within a small portion of Long Ridge OSP and a very small portion of Sierra Azul OSP that falls within the NCCAB, Midpen shall limit pile burning to 8.8 tons (i.e., not more than nine 10-foot-wide by six-foot-high parabolic piles of shrub/hardwood vegetation or equivalent) in any one day. Midpen shall incorporate the following measures during planning and implementation of a prescribed burn~~, where feasible~~: • When considering a prescribed burn, weigh the habitat benefits of burning in a particular vegetation type against the emissions. • Reduce the total area burned through mosaic burning if the objectives of the burn can still be met. • Burn when fuels have ~~a higher~~ appropriate fuel moisture content, as determined by the expert preparing the Smoke Management Plan. • Reduce fuel loading by decreasing the density of vegetation and other fuels before ignition using mechanical treatments, manual treatments, prescribed herbivory, and pile burning when logistically appropriate. • Schedule burns before new vegetation growth~~,~~ increases ~~increasing~~ fuel loads, when logistically appropriate. • Delay planned burns when a Spare the Air Burn Ban has been declared. • Provide public notification at least 48 hours in advance of a burn less than 50 acres to individuals and jurisdictions within one mile, and at trailheads and access roads leading to an area with piles proposed for burning. For burns in excess of 50 acres, noticing shall extend to a larger region as determined appropriate by Midpen. The public notification shall include current contact numbers to the appropriate burn coordinator.	Potentially significant and unavoidable due to prescribed burn emission exceedances
Impact Biological Resources-1: Substantial adverse effect, either directly or through habitat modifications, on species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS. Vegetation management activities implemented under the Program could result in direct or indirect adverse effects to special-status plant and special-status wildlife species, and their habitats. Pre-treatment surveys would be required to identify the presence of special-status plants and their habitats under existing best management practices (BMPs) and conditions. MM Biology-1 identifies training, monitoring, and reporting requirements. MM Biology-2 addresses impacts to special-status plants through pre-activity surveys, avoidance, or implementation of minimization measures for any plants found. MM Biology-3 requires compensatory mitigation for permanent impacts on special-status plants, if impacts cannot be avoided or minimized under MM Biology-2. MM Biology-4 and MM Biology-5 require Midpen to implement techniques to minimize the spread of invasive species and forest diseases, including expansion of IPMP's Early Detection and Rapid Response (EDRR) program to VMAs. MMs Biology-6 through 15 require specific species protection avoidance and minimization measures, and, for certain species, compensatory mitigation requirements for habitat conversion. Implementation of these measures would reduce impacts on special-status plants and wildlife and their habitats to less than significant.	Potentially significant	**MM Biology-1: Training, Monitoring, and Reporting** **Monitoring** • The biological monitor(s) or qualified biologist(s) shall have the authority to stop Program activities to avoid take or impacts to special-status species or protected biological resources; in the event of unforeseen circumstances (e.g., unanticipated impacts are occurring); or if Program personnel are not complying with regulatory permit conditions and the BMPs listed herein. The biological monitor or qualified biologist shall possess the necessary agency approvals or permits required for involvement in Program activities. • A **biological monitor** is an individual who has a minimum of 2 years academic and 1 year professional experience in biological sciences and related resource management activities, is able to identify species that may be present within the work area, and is familiar with the habits and behavior of those species. • A **qualified biologist/botanist** is an individual who has a minimum of a 4-year academic degree in biological sciences or related resource management activities, with a minimum of two survey seasons years (e.g., two seasons during the blooming season of sensitive plants) conducting surveys for each species that may be present within the work area. • A **professional biologist/botanist** is an individual who has a minimum of 5 years of academic training in biological sciences or related studies and 3 or more years of professional experience conducting protocol-level wildlife and/or florist field surveys. • A **Midpen-approved biologist/botanist** is an outside consultant who has been approved by Midpen either by a professional biologist/botanist, Resource Advisor, or other appropriate individual, to conduct biological monitoring and surveying activities. This individual can be any one of the three categories of biologist/botanist described above. • A **Resource Advisor** is an individual who provides professional knowledge and expertise for the protection of resources (e.g., biological and cultural resources), within an emergency incident environment.	Less than significant

Impact Description	Level of Significance Before Mitigation	Mitigation Measure	Leve of Significant After Mitigation

- The qualified biologist or biological monitor shall conduct on-site monitoring of Program activities that have the potential to impact sensitive biological resources. The monitoring requirements (e.g., frequency and duration) shall depend on the specific activity(ies) being performed and the ecological sensitivity of the site (e.g., the potential for soil erosion or occurrence of special-status wildlife). Some activities shall warrant full-time monitoring by one or more biologists and/or biological monitors; whereas weekly site inspections may be sufficient for other activities. At a minimum, monitoring shall be conducted frequently enough to ensure compliance with permit conditions and BMPs. The monitor shall maintain a log that documents: (a) the monitoring dates, (b) areas and activities monitored, (c) compliance with permit conditions and BMPs, (d) any remedial actions that were taken (or are needed).
- Post-activity monitoring shall also occur, with the scope and timing dependent on the potential for risks to biological resources. The purpose of monitoring is to ensure that special-status plant species and sensitive communities were avoided and are not experiencing negative indirect impacts from activities. If negative impacts are observed or are potentially occurring, restoration measures shall be implemented, and modifications made to future activities to avoid similar impacts.

Pre-Activity General Survey and Flagging

A qualified biologist or biological monitor working under a qualified biologist shall survey all selected work areas shortly before work to assess general conditions and determine environmental considerations as required by IPMP BMPs 21 and 25. Prior to Program activities, the biologist or biological monitor shall use flagging (or other methods) to clearly delineate the work area and any areas that shall be avoided (e.g., sensitive communities, habitat for special-status species).

Reporting

Information on new localities or sightings for special-status species shall be reported to the Sacramento USFWS Office and the California Natural Diversity Database (CNDDB) annually. Information on any incidental capture, injury, or mortality of special-status species shall be immediately reported within 3 working days of their discovery or in accordance with the federal and State permit conditions. The data shall also be logged in Midpen's electronic inventory system identified in IPMP BMP 25.

Training

- Prior to commencing a Program activity, all personnel shall attend a worker environmental awareness training program conducted or prepared by the qualified biologist or biological monitor working under a Midpen-approved biologist as required by IPMP BMP 21.
- The worker environmental awareness training will include a brief review of the life history, field identification, and habitat requirements of each special-status species that could potentially be present on-site, their known or probable habitat types and locations, potential fines for violations, avoidance measures, and necessary actions if special-status species or sensitive natural communities are encountered, as required by IPMP BMP 21. In addition, the training shall include information on:
  - All BMPs, regulatory permit conditions, exclusion areas, and other work restrictions.
  - Color coding for flagging used to demarcate work areas, staging areas, skid trails, watercourses, and exclusion zones (e.g., around special-status plants and other sensitive biological resources).
  - The identification and reproductive biology of invasive plants and animals.
  - *Phytopthora ramorum* and other ~~plant~~ pathogen~~s~~ avoidance.

General Wildlife Protection Measures

Impact Description	Level of Significance Before Mitigation	Mitigation Measure	Leve of Significant After Mitigation

- Vehicles traveling to and from the work areas off of established roads and trails, in sensitive plant or wildlife habitat, must travel slowly (5 mph) and be preceded by a monitor to ensure that wildlife shall not be run over by the passing vehicle. Vehicle monitors do not need to be trained biologists.
- ~~Qualified biologists/biological~~ Vehicle monitors shall check for any reptiles, amphibians, or other animals under vehicles and equipment parked for more than 30 minutes.
- Some individual live, dead, or dying trees shall be retained as snags where recommended by the qualified biologist and biological monitor and where leaving the tree would not increase fire hazards or be a safety concern.
- ~~Vehicles traveling to and from the work areas off of established roads and trails, in sensitive plant or wildlife habitat, must travel slowly (5 mph) and be preceded by a monitor to ensure that wildlife shall not be run over by the passing vehicle. Vehicle monitors do not need to be trained biologists.~~
- Qualified biologists/biological monitors are required to temporarily stop any work that they believe may harm special-status species. Work shall not resume until a satisfactory method is agreed upon to minimize or avoid take of the species.
- Qualified biologists/biological monitors may require staging areas or stockpiled equipment/materials to be fenced with USFWS and/or CDFW-approved exclusion fencing if there is potential for special-status species to enter the areas and become entrapped, and routine inspection of the area is not adequate to ensure that species are not present. Fencing shall be inspected by a qualified biologist/biological monitor and maintained daily as needed to ensure its proper function in excluding wildlife. Large-scale fencing around entire vegetation management areas is discouraged due to the habitat disruption associated with fence installation and removal.

MM Biology-2: Special-Status Plants

Pre-Activity Special-Status Plant Survey

As required by IPMP BMP 25, a biological monitor or qualified biologist shall survey the work site to determine the potential presence of special-status plants (as defined under Section 4.4.2 in the Program EIR) and document any observations. Surveys shall be conducted at the time of year when plants will be both evident and identifiable and using a standard protocol relevant at the time of the survey, such as the *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* (CDFW, 2018). The abundance and spatial distribution of all special-status plants and sensitive natural communities detected during the surveys shall be recorded with a GPS unit and entered online into the CalFlora and Midpen's GIS databases. This information shall also be submitted to the CNDDB, per MM Biology-1. If any special-status plants are found to occur in the activity footprint, the biologist/botanist shall evaluate the potential level of impacts the activity could have on the plant species, either an individual or population, based on its biology and the nature of the activity (no impact, low impact, or moderate/high impact). Activities with no or low impact can proceed. If an activity could have a moderate or high impact (e.g., anticipated mortality) Midpen shall consult with CDFW and the appropriate avoidance or minimization measures would be implemented, depending on the species' rank, physiology, and habitat requirements, as described below.

Species to Avoid (Unless Population Could Benefit from Program Activity, such as Prescribed Burning)

Program activities shall avoid impacts to State or federally listed plants that are known to occur or have the potential to occur on Midpen lands:

- Ben Lomond spineflower
- Butano Ridge cypress
- California seablite
- Coyote ceanothus
- San Francisco popcornflower
- San Mateo thorn-mint
- San Mateo woolly sunflower
- Santa Clara Valley dudleya

Impact Description	Level of Significance Before Mitigation	Mitigation Measure	Leve of Significant After Mitigation

- Crystal Springs fountain thistle
- Dudley's lousewort
- Marin western flax
- Metcalf Canyon jewelflower
- Monterey spineflower
- Pacific Grove clover
- Robust spineflower
- Rock sanicle
- Santa Cruz cypress
- Santa Cruz tarplant
- Santa Cruz wallflower
- Scotts Valley polygonum
- Scotts Valley spineflower
- Two-fork clover
- White-rayed pentachaeta

In addition, Program activities shall avoid impacts to the following species that (a) have very specific habitat requirements that are hard to replicate at a mitigation site; (b) are difficult to transplant or propagate; or (c) have insufficient data on the ability to successfully transplant, relocate, or reintroduce the taxa:

- Anderson's manzanita
- Kings Mountain manzanita
- Clustered lady's-slipper
- Mountain lady's-slipper
- Loma Prieta hoita
- Arcuate bush-mallow
- Most beautiful jewelflower

Activities that could have a moderate or high impact on these species shall not occur within an appropriate buffer (as determined by a qualified biologist/botanist or biological monitor working under a qualified biologist) of any individuals or populations identified. Disclines or firefighting infrastructure shall be relocated to avoid any populations of these species.

Prescribed herbivory and prescribed burning shall be allowed in the habitats for these species if, in the professional opinion of a qualified biologist/botanist or biological monitor working under a qualified biologist, the activity shall provide a long-term benefit to the plant (e.g., by eliminating non-native plants).

Minimization of Impacts for All Other Special-Status Species

Midpen shall implement the following approach for all other special-status plant species that have been detected, or that are detected in the Program area during the pre-activity surveys conducted per MM Biology-1 (adding specificity to IPMP BMP 21, which requires developing site-specific measures):

- A qualified biologist/botanist or biological monitor working under a qualified biologist shall recommend spatial buffers or other management actions. The buffer size needed to protect a special-status plant from adverse edge effects (indirect impacts) is dependent on the specific species, threats to the species, existing disturbances, and the habitat's permeability to those threats (CBI 2000). Midpen shall implement the botanist's recommendations. Impacts to a special-status plant shall only occur if it is the botanist's professional opinion that the impact shall provide a long-term benefit to the plant (e.g., by eliminating non-native plants or another threat to the species). If Midpen is unable to implement the botanist's recommendations, or if there is uncertainty regarding the effects of a Program activity on the special-status plant population, Midpen shall assess subsequent effects on the plant population through post-activity monitoring. If the monitoring indicates the Program activity has negatively impacted the plant population, the compensatory mitigation terms of MM Biology-3 shall apply. If the monitoring indicates the effects were positive or neutral, no additional mitigation is required.
- If Program activities are proposed to be conducted in habitat for a special-status plant, the activities shall be conducted during the phenological stage least sensitive to disturbance, based on guidance from the botanist.

Impact Description	Level of Significance Before Mitigation	Mitigation Measure	Leve of Significant After Mitigation

- If Program activities are proposed to be conducted in habitat for a special-status plant, and the work must be conducted when the plant is sensitive to disturbance (e.g., during the growing season), Midpen shall assume the plant could be permanently impacted and shall either:
  - 1a. Monitor the response of the plant post-construction. If the study indicates the Program activity has negatively impacted the plant population, the terms of MM Biology-3 shall apply.
  - 1b. Attempt to salvage any special-status plants that are permanently impacted by a Program activity (e.g., plants within a proposed discline). Salvaged plants (and seeds) shall be used for the compensatory mitigation required under MM Biology-3, and comply with best management measures intended to exclude *Phytophthora* and other plant pathogens to the extent possible. Any supplemental plants (or seeds) needed for a mitigation project, site rehabilitation, or other application shall be derived from locally appropriate genetic material and nurseries that comply with best management measures intended to exclude *Phytophthora* and other plant pathogens to the extent possible; or
  - 2. Provide compensatory mitigation in accordance with the terms of MM Biology-3.

General Minimization and Avoidance Measures

Burn piles shall not be located within 50 feet of a special-status plant except those species that a qualified biologist/botanist or biological monitor working under a qualified biologist determines shall benefit from burning (e.g., Kings Mountain manzanita). Propane flaming shall not be conducted within the vicinity of special-status plants that could be accidentally damaged by the flaming activities. Vegetative debris shall not be placed on top of special-status plants, unless the biologist/botanist determines this is acceptable.

MM Biology-7: California Red-Legged Frog Protection Measures

Handling of California Red-legged Frog

Handling of California red-legged frog will be done by permitted and qualified biologists or biological monitor working under a qualified biologist in an expedient manner with minimal harm to the individuals being handled. Handling of California red-legged frog will be done with wet hands. The hands and arms of all workers handling California red-legged frog will be free of lotions, creams, sunscreen, oils, ointment, insect repellent, or any other material that may harm California red-legged frog. Larval California red-legged frog will not be handled out of the water for longer than 30 seconds unless rewetted and will not be retained for longer than 5 minutes for processing. If captured California red-legged frog exhibit signs of distress (e.g., lack of response to stimuli or erratic behavior), they will be immediately released at the point of capture. All captured California red-legged frog will be released at the point of capture unless that location puts them in imminent danger, in which case they will be placed in a nearby refugium sufficient to protect them. The number of California red-legged frog to be captured is no more than 30 adults per habitat location (defined as the area that specific work is conducted such as a pond site or OSP) per year. In the course of monitoring associated with the activities, if California red-legged frog egg masses are observed in ponds or wetted areas that are going to dry naturally before tadpoles develop (as determined by a qualified biologist or biological monitor working under a qualified biologist), emergency salvage of egg masses by the qualified biologist or biological monitor working under a qualified biologist is permitted to relocate egg masses into deeper waters that will not be affected by the proposed activities. USFWS shall be notified of the emergency salvage per the terms of the recovery permit. Amplexing pairs of California red-legged frog will not be captured, handled, or disturbed. The permittee will disinfect sampling and field gear to minimize the spread of pathogens as follows:

1. Sampling and field gear will be disinfected after exiting one aquatic habitat and before entering the next aquatic habitat, unless the waters are hydrologically connected to one another.

Impact Description	Level of Significance Before Mitigation	Mitigation Measure	Leve of Significant After Mitigation

2. All organic matter will be removed from nets, traps, boots, vehicle tires and all other surfaces that have come into contact with water or potentially contaminated sediments. These items will then be rinsed with clean water before leaving each study site.
3. Boots, nets, traps, hands, etc., will be scrubbed with a bleach solution (0.5 to 1.0 cup per 1.0 gallon of water), Quat-128™ (1:60), or a 3 to 6 percent sodium hypochlorite solution and thoroughly rinsed clean with water between study sites. Equipment will be rinsed clean with water between study sites. Cleaning equipment in the immediate vicinity of aquatic habitats will be avoided (e.g., clean in an area at least 100 feet from aquatic features). Care will be taken so that all traces of the disinfectant are removed before entering the next aquatic habitat.
4. Used cleaning materials (liquids, etc.) will be disposed of safely, and if necessary, taken back to the lab for proper disposal. Used disposable gloves will be retained for safe disposal in sealed bags.

California red-legged frog will not be removed from the wild and held in captivity for any reason unless prior written approval is acquired by the appropriate USFWS Office or unless the severity of an injury to the California red-legged frog obviates immediate care. Animals will be transported according to accepted methods, in moist cloth bags or in terrarium with moisture gel or non-cellulose sponge to minimize desiccation.

Protocols for California Red-legged Frog Depending Upon Location of Activity

For activities conducted within riparian habitat or Waters of the State and/or U.S. and 1 mile of a known California red-legged frog occurrence:

- Prior to and within 48 hours of the planned start of Program activities, a focused survey for California red-legged frog using an agency approved protocol will be conducted by a qualified biologist or biological monitor working under a qualified biologist to determine if they are in the area. If California red-legged frog are found, Midpen will coordinate with CDFW and USFWS immediately to determine the correct course of action and Program activities at that location will not commence until after May 30 or authorized by CDFW and USFWS.
- If California red-legged frog are found, biological monitor(s) and/or qualified biologists will be on site while Program activities are being conducted. Midpen will implement the following measures:
  a. **Inspection of Parked Vehicles:** Any vehicle parked on-site for more than 15 minutes will be inspected ~~by the biological monitor or qualified biologist~~ before it is moved to ensure that California red-legged frog has not moved under the vehicle. Any parking areas must be checked in advance by the biological monitor or qualified biologist.
  b. **Vegetation Removal by Mechanized Equipment at California Red-legged Frog Sensitive Sites (areas within or adjacent to wetted aquatic sites):** For vegetation removal on berms or other wetted sites with known California red-legged frog observations, vegetation will be cut down to 3 inches by hand tools (weedwhacker, etc.). Once the ground is visible, a visual survey for California red-legged frog will be conducted. If no sensitive species are found in the area, removal of vegetation may continue by mowing or mechanized equipment very slowly with a biological monitor walking in front of the equipment to observe. If a California red-legged frog is observed that is in harm's way, all activities shall cease and Midpen will notify CDFW and USFWS immediately or the California red-legged frog can be relocated by a person permitted by the USFWS and approved by CDFW for this project to handle California red-legged frog.
  c. **Vegetation Disposal:** Vegetation removed shall be placed directly into a disposal vehicle and removed from the site. Vegetation shall not be piled on the ground unless it is later transferred, piece by piece, under the direct supervision of the biological monitor or qualified biologist or is going to remain on-site for erosion control or slash and not be moved or disturbed.
  d. **No Stockpiled Soil:** Soil shall not be stockpiled on the ground unless it is on a paved surface or staging area where there are not burrows. Soils stockpiled for more than a single day near potential habitat should be

Impact Description	Level of Significance Before Mitigation	Mitigation Measure	Leve of Significant After Mitigation

covered or surrounded by exclusion fencing as directed by a qualified biologist to prevent burrowing animals from entering the stockpile.

e. **California Red-legged Frog Exclusion for Sediment Removal with Large Equipment:** California red-legged frog will be excluded from the project site prior to Program activities at sites involving the use of large equipment for sediment removal. USFWS and CDFW-approved exclusion fencing will be installed around the sediment removal site, staging areas, and any areas where fill may be dumped. After installation of the fence barrier, a biological monitor or qualified biologist will inspect the project work area, staging and stockpiling areas daily prior to the commencement of activities. If the biological monitor or qualified biologist determines that sensitive species are not within the work area, equipment or materials may be moved into the project site and Program activities may commence under the observation of the biological monitor.

For activities conducted in ponds:

- **Focused Surveys Prior to Work Activities.** Prior to and within 48 hours of the planned start of Program activities, a focused survey for California red-legged frog using agency approved protocol will be conducted by a qualified biologist or biological monitor working under a qualified biologist to determine if California red-legged frog is in the area. The pond will be sampled by a qualified biologist to ensure that all California red-legged frog from that pond are in the post metamorphic stage and will be minimally affected by draining the pond. If a California red-legged frog is located during the pre-treatment surveys but escapes capture, the area where the frog was lost will be marked by flag and a 50-foot (15 meter) radius will be actively patrolled during the work. If California red-legged frog are found, Midpen will coordinate with CDFW and USFWS immediately to determine the correct course of action and Program activities at that location will not commence until after May 30 or <u>as</u> authorized by CDFW and USFWS. After the pre-project survey, an avoidance strategy will be devised and presented to all individuals involved in the pond enhancement prior to starting any activities. The number of California red-legged frog encountered and transferred to safe areas or held in captivity by a permitted and qualified biologist during treatment will be reported to the Sacramento USFWS Office and CDFW.
- **Number of On-Site Biologists.** The minimum number of qualified biological monitors required at each pond site will be determined in advance by <u>the qualified project biologist</u> ~~either the ranch manager or a permitted biological consultant~~ based on pond size, the amount and complexity of work to be performed, and the equipment to be used. ~~This number of monitors will be approved by USFWS prior to the start of any work.~~
- **Travel Corridors.** Corridors for travel of vehicles and heavy machinery to the pond site will be established at least 24 hours in advance of the proposed work. Corridors that are not established, marked, and improved roads (paved or unpaved) require special consideration for use by any vehicle. During the use of these off-road corridors by vehicles and machinery, a monitor shall proceed directly before the vehicle or machinery to ensure all California red-legged frog and observable wildlife is cleared from the pathway of the oncoming vehicle. Monitors shall signal vehicles to stop if a California red-legged frog is on the pathway, and shall allow the animal to clear the pathway by its own direction. Any handling of the red-legged frog must only be done by a qualified permitted individual. Measures shall be taken to minimize the number of vehicles allowed on the property. All vehicles involved with the site-specific work that are not transported to the work site will be retained in a prearranged, marked parking area in a clearing as close to the main road as possible. At least one monitor will ensure wildlife is clear from the parking area while vehicles are arriving and leaving. All vehicles must stay on designated roads.
- **Seasonal Work Period in Ponds**. If California red-legged frog are found in the pond and water is present in the pond, sediment removal and berm or outfall repair activities shall be performed from August 15 to November 1. Midpen will coordinate with CDFW and USFWS prior to dredging or de-watering activities. Sediment will be removed from ponds by hand to the extent feasible. Sediment removal from ponds will occur as soon as the ponds are dry (if prior to August 15).

Impact Description	Level of Significance Before Mitigation	Mitigation Measure	Leve of Significant After Mitigation

- **Vegetation Removal at Ponds**. If California red-legged frog is found, tule and emergent vegetation will be removed by hand when feasible. If mechanized equipment is used, one or more biological monitors or qualified biologists will be onsite monitoring the scoop bucket while scooping and watching each load unload. Midpen will coordinate with CDFW and USFWS during the annual project notification process regarding anticipated mechanized equipment use for vegetation removal at ponds. In areas where egg masses are known, Midpen and contractor personnel will not enter the channel/pond to avoid dislodging egg masses. Trimming activities shall be performed from the banks, if possible.
- **Inspection for Egg Masses**. In work areas containing emergent vegetation (e.g., tules, cattails), vegetation will be inspected for California red-legged frog eggs masses prior to Program activities. If work cannot be postponed, a buffer of vegetation at least 10 feet in diameter shall be left around any egg masses found. Midpen will keep a record of sites where egg masses are found and conduct vegetation removal at these sites prior to November 1 in subsequent years.

If California red-legged frog is not found during the focused survey, or for activities conducted in suitable habitat where California red-legged frog has not been documented:

- The biological monitor shall remain on-site if sensitive areas are identified during the presurvey. A biological awareness training shall be provided to all persons prior to beginning work. If at any time a California red-legged frog is observed, work shall stop immediately until a biological monitor is contacted. Biological monitor(s) and/or qualified biologists shall then remain be on the project site while Program activities are being conducted. If California red-legged frog is observed, the applicable California red-legged frog measures procedures described above will be followed.

General California Red-legged Frog Avoidance Measures

- If California red-legged frog enters the project area, all work shall stop until the animal leaves on its own. If a person is permitted by the USFWS and approved by CDFW for this specific project to handle California red-legged frog, they can handle and relocate California red-legged frog. Midpen will coordinate with CDFW and USFWS to develop site appropriate avoidance measures utilized for relocation. Prior to the start of work, areas will be identified by the biological monitor-in-charge ~~and approved by the USFWS and CDFW~~ as acceptable locations to which California red-legged frog may be relocated if these species are encountered within a work area. Relocation areas will be a minimum of 500 feet from the boundary of any work area and will not include staging areas or roads. No California red-legged frog will be removed from the site or maintained in captivity overnight without prior notification and written approval by the USFWS and CDFW unless the animal is in need of emergency medical assistance. Medical assistance will be provided to injured animals by a certified wildlife veterinarian familiar with amphibian and reptile care. When transporting individual California red-legged frog, safe handling precautions will be taken to ensure that the animals are not over-stressed. Safe handling measures include: keeping animals in a cool, dark, and safe location (terrarium for California red-legged frog), providing adequate hydration, maintaining a stable cool temperature to avoid over-heating, keeping animals isolated to prevent them from harming one another, and ensuring holding tanks or bags are kept clean to prevent the spread of any diseases.
- All practicable measures shall be taken to avoid killing or injuring any life stage of California red-legged frog during habitat enhancement activities.
- The biological monitor and/or qualified biologist shall have the authority to halt work activities that may affect California red-legged frog adults, tadpoles or egg masses until they can be moved out of harm's way.
- Any project-related, human caused injuries to California red-legged frog will be immediately reported to CDFW and USFWS.

MM Biology-12: Marbled Murrelet Nest Protection Measures

Impact Description	Level of Significance Before Mitigation	Mitigation Measure	Leve of Significant After Mitigation

a. Implement IPMP BMP 22 with the additional provisions listed here.

b. In areas within the range of marbled murrelet habitat as identified in the latest maps (e.g., Midpen 2007 maps), Midpen shall conduct a survey of habitats within 0.25-mile of the work area for trees that meet the Pacific Seabird Group definition of potential marbled murrelet nesting trees. If such trees are present within 300 feet of the work area or if a marbled murrelet nest is detected, Midpen shall coordinate with CDFW and USFWS before proceeding. If habitat trees are present within 0.25-mile of the work area but are greater than 300 feet from the work area, Midpen shall implement the following conditions:

c. Work within the work area shall be confined to the period of September 15 to November 1 when possible.

d. If activities cannot be conducted outside the breeding season, and must occur during the marbled murrelet breeding season (March 24 to September 15) Midpen shall:

   i. Coordinate with CDFW and USFWS.

   ii. Implement seasonal disturbance minimization buffers as listed in the table below and in the ~~July 26, 2006 document, Estimation of the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northwestern California~~ October 2020 document *Revised Transmittal of Guidance: Estimating the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northwestern California* (table below) (or the appropriate, CDFW-recommended or approved guidance at the time of implementation). The thresholds shown apply to noise-generating activities occurring during the midday period, when the risk of disturbance is lower and do not apply to activities within 2 hours of sunrise or sunset. Activities conducted during the dawn and dusk periods have special considerations for ambient sound level. If proposed activities will occur within 2 hours of sunrise or sunset, and if the ambient sound environment during the dawn and dusk period can reasonably be expected to be 5 dB or more quieter than the midday sound environment, then the estimated disturbance distance threshold should be calculated based on an ambient level 10 dB lower (i.e., one row up in the table) compared to the normal ambient rating in the table below.

Existing Pre-Program (Ambient) Sound Level[a]	Anticipated Action Generated Sound Level[b]			
	Moderate (71-80 dB)	High (81-90 dB)	Very High (91-100 dB)	Extreme (101-110 dB)
Natural Ambient (<=50 dB)[c]	165 feet	500 feet	1,320 feet	1,320 feet
Very Low (51-60 dB)	~~40~~ 0 feet	330 feet	825 feet	1,320 feet
Low (61-70 dB)	~~40~~ 0 feet	165 feet	825 feet	1,320 feet
Moderate (71-80 dB)	~~40~~ 0 feet	165 feet	330 feet	1,320 feet
High (81-90 dB)	~~40~~ 0 feet	165 feet	165 feet	500 feet

Notes:

Impact Description	Level of Significance Before Mitigation	Mitigation Measure	Leve of Significant After Mitigation

[a] Existing (ambient) sound level includes all natural and human-induced sounds occurring at the work area prior to the proposed action, and are not causally related to the proposed action.

[b] Action-generated sound levels are given in decibels (dB) experienced by a receiver, when measured at 15.2 m from the sound source.

[c] "Natural Ambient" refers to sound levels generally experienced in habitats not substantially influenced by human activities.

iii. Conduct a sound level monitoring study to determine the level of ambient and construction activity noise anticipated during construction activities to calculate seasonal disturbance minimization buffer widths. Midpen shall provide a description of methods and results of the study to USFWS and CDFW to coordinate site-specific avoidance measures 30 days prior to commencement of Program activities at the applicable location(s). In order to alert work crews to their presence, marbled murrelet seasonal disturbance buffers, as determined by the sound study and table above, shall be flagged in the field where they enter the work area. If Midpen chooses not to conduct the sound study, no Program activities shall occur within 0.25-mile of potential nest trees during the marbled murrelet breeding season (March 24 to September 15).

iv. If noise generating construction activity takes place during the breeding season (March 24 to September 15) within suitable Redwood and Redwood/Douglas-fir forests, construction activities shall be restricted to 2 hours after sunrise to 2 hours before sunset to minimize disturbance of potential nesting marbled murrelet using forest habitat as a travel corridor between inland nesting and coastal habitat.

v. Midpen or its contractor shall not conduct Program activities within a visual line-of-sight distance of ~~40~~ 100 meters or less from a suitable nest tree as designated by a qualified biologist or biological monitor, or the appropriate distance per the latest, appropriate, CDFW-recommended guidance at the time of implementation.

e. If marbled murrelet protocol level surveys are conducted and do not indicate that the habitat is occupied by marbled murrelet, the seasonal and distance work restrictions may be lifted with approval from CDFW and USFWS. Protocol level survey procedures and information can be found at: http://www.pacificseabirdgroup.org/publications/PSG_TechPub2_MAMU_ISP.pdf or the appropriate, CDFW-recommended or approved guidance at the time of implementation may be used. If Midpen chooses to conduct marbled murrelet protocol level surveys, Midpen shall coordinate with CDFW and USFWS regarding the survey stations to ensure all contiguous suitable habitat is covered and good visuals of the sky and nearby flyways, if present, are provided. If marbled murrelet protocol level surveys are conducted, Midpen shall submit the report consistent with *Methods for Surveying Marbled Murrelets in Forests: A Revised Protocol for Land Management and Research* or the appropriate, CDFW-recommended or approved guidance at the time of implementation may be used.

MM Biology-15: Monarch Butterfly Overwintering Aggregation Protection

Prior to any Program activities in tree groves comprised primarily or entirely of pine, cypress, fir, or eucalyptus that are within 2 miles of the Pacific Coast, a desktop record review shall be conducted to determine if the grove historically was occupied by monarchs. For all other tree groves comprised primarily or entirely of pine, cypress, fir, or eucalyptus that are within 2 miles of the Pacific Coast, a qualified biologist or biological monitor working under a qualified biologist shall survey the grove for aggregations of monarch butterflies during the overwintering season according to the Xerces Society's Western Monarch Count Protocol (Xerces Society 2019), available at https://www.westernmonarchcount.org or the latest protocol available at the time of implementation may be used.

Impact Description	Level of Significance Before Mitigation	Mitigation Measure	Leve of Significant After Mitigation
		Two surveys shall be conducted during the overwintering season, one during the Western Monarch Thanksgiving Count period (the three-week period centered on the Thanksgiving holiday), and a second during the New Year's Count period (the two-week period beginning the weekend prior to New Year's Day). • Each survey shall be conducted by two surveyors to provide multiple independent estimates of monarch numbers. • Surveys shall be conducted in the morning while temperatures are below 55˚ F (13˚ C) and monarchs are more likely to be clustered. • Surveys shall not be conducted during rain or strong winds due to poor visibility and the chance that individual monarchs shall be scattered on the ground. • If no monarch overwintering aggregations are observed, Program activities may proceed pursuant as long as they occur prior to November 1. If Program activities are delayed beyond November 1, then the grove shall be re-surveyed. • If a monarch overwintering aggregation of any size is detected or a historical occupation is identified according to record reviews, then no Program activities may take place inside the tree canopy within 200 feet of the aggregation, when present. Activities outside of the canopy line but within 200 feet may proceed (i.e., treatment of low-growing vegetation outside of the tree grove) if a qualified biologist or monitor determines that the activity does not pose a threat to the monarch aggregation. • Groves with historical occupation shall not be altered without further consultation with USFWS and/or CDFW. • Once the aggregation disperses (typically by March), treatment of vegetation within 200 feet of tree(s) where monarch aggregations were observed may proceed if, as determined by a qualified biologist or monitor, it shall not result in significant alteration to wind and sunlight patterns within the grove. • If monarch overwintering aggregations are detected in eucalyptus removal areas, then a long-term tree planting strategy is necessary (see *Protecting California's Butterfly Groves* [Xerces Society 2017]). • Native tree species suitable for monarchs must be planted many years prior to eucalyptus removal with the understanding that they may not reach functional heights to provide wind protection and suitable dappled lighting for 15-30 years. Transplanting saplings from a local source may speed this process. Planting of eucalyptus shall be prohibited. Removal of eucalyptus may proceed once native replacement trees have reached sufficient size to provide wind protection within the grove. • Standing dead trees generally do not contribute to monarch overwintering habitat (Xerces Society 2017) and may be removed within the grove between April 1 and August 31, outside of the overwintering period, as determined appropriate by a qualified biologist or monitor. Sites where invasive dead trees have been removed may create opportunities for native tree planting within the interior of the grove. • If a eucalyptus grove where a monarch overwintering aggregation was previously detected is re-surveyed using the Western Monarch Count Protocol (Xerces Society 2019) and found to be unoccupied for 5 consecutive years, then the grove may be removed before native replacement trees have reached full size.	
Impact Biological Resources-4: Conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance, or adopted HCP, Natural Community Conservation Plan (NCCP), or other approved local, regional, or State HCP. The proposed Program activities have the potential to adversely impact several species, including those covered by the Santa Clara Valley Habitat Plan. Implementation of MM Biology-1 through MM Biology-17 would ensure that impacts on special-status wildlife and plants as well as nesting birds are reduced to less than significant. The proposed Program activities could conflict with local tree ordinances if trees were removed in violation of those ordinances. MM Biology-20 would be implemented to require a survey of trees in removal areas to identify if any trees meet the requirements of the local jurisdiction's significant or heritage tree ordinances. With implementation of the mitigation, impacts would be less than significant.	Potentially significant	**MM Biology-20: Significant and Heritage Tree Ordinances** Prior to conducting any work that involves tree removal, biologist or other personnel qualified in tree identification shall identify if any County or local protected and heritage tree ordinances are relevant to the area of work. If an ordinance would apply to the area of work, the area of work shall be investigated by the biologist or personnel qualified in tree identification to identify if any trees subject to the ordinance are found in the project area. If a tree subject to the ordinance is in the area of work, the tree shall be clearly marked as a "Leave Tree" so that it is not accidentally damaged or removed during work. If a tree that qualifies as a protected or heritage tree must be removed, the appropriate steps shall be implemented to obtain the appropriate permits for tree removal. If trees within the CalTrans right-of-way must be removed, the tree removal must be part of the Encroachment Permit, to be reviewed by CalTrans, which may require tree replacement in its permit terms.	Less than significant

Impact Description	Level of Significance Before Mitigation	Mitigation Measure	Leve of Significant After Mitigation
Impact Geology and Soils-2: Substantial soil erosion or the loss of topsoil. Manual and mechanical methods, prescribed herbivory, and prescribed burning could result in erosion and loss of topsoil. BMP IPMP 28 requires that erosion-control measures be implemented before or after vegetation treatment near sites with loose or unstable soils, on steep slopes (greater than 30 percent), where a large percentage of the groundcover would be removed, or near aquatic features that could be adversely affected by an influx of sediment. MM Geology-1 requires implementation of design features to minimize creation of livestock trails and congregation of livestock in any one location. MM Geology-2 requires that prescribed burns are performed outside of perennial streams and intermittent streams, riparian forest, and woodlands and requires a 50-foot buffer be maintained around perennial and intermittent streams when the prescribed burn is proposed upslope on slopes greater than 35 percent to reduce impacts from erosion contaminating nearby riparian areas or waterbodies. MM Geology-3 requires use of existing facilities for fire lines where they occur, implementation of erosion-control measures during and after prescribed burns, follow-up inspections, and restoration actions for new fire lines. Implementation of these measures would minimize the potential adverse impacts to less than significant.	Potentially significant	**MM Geology-2: Erosion Control and Slope Stability Measures** In addition to Midpen's erosion-control measures (IPMP BMP 28), control measures shall be implemented to ensure vegetation management does not result in erosion, loss of topsoil, or slope instability in areas where work could expose bare soils or create loss of root-soil matrix strength. General erosion-control measures are identified that apply to all projects. ~~If~~ Generally, if groundcover or native mulch/organic matter is determined to be less than 70 percent following work or if work is proposed to occur on steep slopes (over 35 percent slope), then specific control measures, as identified here, shall be implemented as determined appropriate by the qualified personnel. Other site conditions, such as unconsolidated soils or evidence of landslides, or the scale of project proposed may trigger the need for the qualified personnel to determine that the control measures shall apply. Prior to conducting work in any given area under any management action that could result in erosion or slope instability (e.g., prescribed burns, tree removal, weed removal, or forest treatments that could reduce the groundcover and expose soil, or for infrastructure creation such as new roads, pipelines, or water storage tanks) a review of site conditions shall be conducted ~~the area shall be inspected for existing signs of erosion or slope instability (e.g., rills, slumped soil)~~. The review of site conditions may include but is not limited to a desktop review of slope, LiDAR, historic evidence of landslides (e.g., Wentworth et al. 1997), local hazard mapping and safety plans, proximity to infrastructure, and modeling of landslide susceptibility GIS data (e.g., Wills et al. 2011) as well as a site visit for existing signs of erosion or slope instability (e.g., rills, slumped soil). Depending on the slope and the downslope resources that could be impacted by slope failure (e.g., roads ~~that could be impacted if a slope failed~~, waterbodies, or habitat ~~that could be impacted from erosion, important habitat, etc.~~), erosion-control and slope-stabilization measures shall be determined prior to implementation of work, based on the list below. Generally, if an action would expose soils (leaving groundcover or native mulch/organic matter less than 70 percent), then measures to protect soils, minimize erosion, and prevent slope instability shall be implemented. In addition, management actions may be adjusted to achieve similar results. The measures to be implemented shall depend on the site's specific characteristics and the type and extent of vegetation management work to be performed. The inspection and determination of appropriate measures shall be made by qualified personnel with knowledge and experience (~~a person with~~ a qualified SWPPP developer [QSD] or a qualified SWPPP practitioner [QSP]; licensed geologist [P.G. or C.E.G.]; licensed engineer; Registered Professional Forester [RPF]; etc.) in the application of erosion-control and slope-stabilization ~~control~~ measures through training or field experience with control-measure installation. The qualified personnel shall memorialize in writing their field observations and corresponding recommendations regarding installation of control measures. A licensed geologist or RPF shall conduct the site inspection for projects that would involve substantial grading or vegetation removal[a] on active slide areas, unstable areas, or unstable soils (as defined in the California Forest Practice Rules) if the following applies: • in previously undisturbed soils; or • up to 0.5-mile above or 0.25-mile below infrastructure, including potentially occupied structures. A licensed geologist or RPF shall conduct site inspections for new road additions that are greater than 600 feet, regardless of the proximity to active slide areas, unstable areas, or unstable soils. The licensed geologist shall identify specific control measures that must be implemented, which may include but are not limited to the control measures identified in this mitigation measure. In areas that were previously analyzed by an RPF or qualified geologist, the District shall review the prior recommendations for consistency with the proposed activity and determine if a new review is warranted. **General Control Measures**	Less than significant

Impact Description	Level of Significance Before Mitigation	Mitigation Measure	Leve of Significant After Mitigation

The following measures shall be considered for implementation and required as determined appropriate by the qualified personnel during work as applicable:

- Minimize areas to be disturbed to the greatest extent feasible.
- Shut down use of heavy equipment, skidding, and truck traffic when soils become saturated and unable to support the machines.
- No substantial ground disturbing work (e.g., use of heavy equipment, pulling large vegetation) shall occur during rain events and 48 hours after a rain event, defined as 0.5 inch of rain within a 48-hour or greater period, using the NOAA website as the official record for rain events.

Reduced Groundcover Control Measures

The following measures shall be considered for implementation and required as determined appropriate by the qualified personnel during work if the activity may leave less than 70 percent of groundcover or native mulch/organic material ~~and~~ as determined to be applicable by qualified personnel:

- Sow native grasses and other herbs on denuded areas where natural colonization or other replanting will not occur rapidly; use slash or chips to prevent erosion on such areas.
- Use surface mounds, depressions, logs, rocks, trees and stumps, slash and brush, the litter layer, and native herbaceous vegetation downslope of denuded areas to reduce sedimentation and erosion, as necessary to prevent erosion or slope destabilization.
- Install approved, biodegradable erosion-control measures and non-filament-based geotextiles (e.g., coir, jute) when:
  - Conducting substantial ground-disturbing work (e.g., use of heavy equipment, pulling large vegetation) within 100 feet and upslope of currently flowing or wet wetlands, streams, lakes, and riparian areas;
  - Causing soil disturbance on moderate to steep (10 percent slope and greater) slopes; and
  - ~~Following the removal of~~ Removing invasive plants from stream banks to prevent sediment movement into watercourses and to protect bank stability.
- Sediment-control devices, if installed, shall be certified weed-free, as appropriate. Sediment-control devices shall be inspected daily during active construction to ensure that they are ~~in good~~ repaired and working as needed to prevent sediment transport into the waterbodies ~~(and repaired as needed)~~.

Once work is completed, the areas shall be inspected at least annually if ~~as needed and as~~ accessible, ~~but at least annually~~ until groundcover exceeds 70 percent and slopes have stabilized ~~it is clear that significant erosion and slope instability are not occurring~~. At that time, erosion-control and slope-stability devices may be removed at the discretion of District staff.

Steep Slopes Control Measures

The following measures, in addition to the ones described above, shall be considered for implementation and required as determined appropriate by the qualified personnel during work conducted on steep slopes (greater than 35 percent) and as determined to be applicable by qualified personnel:

- Avoid use of heavy equipment on slopes greater than 35 percent unless qualified personnel determine that the specialized equipment ~~is used that~~ does not impact slope stability.
- Prescribed and pile burns shall be performed outside of perennial and intermittent streams and of riparian forest/woodland. A 50-foot buffer around perennial and intermittent streams shall be maintained when the burn is proposed upslope of the stream on slopes greater than 35 percent.
- Avoid installation of cleared areas, including spur roads or staging areas, on steep slopes, particularly over 50-percent slope, where feasible. Where not feasible, a licensed geologist/engineer or RPF shall be consulted, as required above. The licensed geologist/engineer shall identify and require implementation of ~~implement~~

Impact Description	Level of Significance Before Mitigation	Mitigation Measure	Leve of Significant After Mitigation
		appropriate design and control measures including but not limited to those identified in *Low-Volume Roads Engineering* (Keller & Sherar, 2003); *Handbook for Forest, Ranch, and Rural Roads* (Weaver, 2015); latest *California Forest Practice Rules;* or other suitable engineering guidance, such as: - Locate roads on well-drained soils and slopes where drainage moves away from the road - Provide adequate surface drainage - Avoid wet and unstable areas (seeps, springs, etc.) - Use the natural topography to control or dictate the ideal location of road or cleared area (e.g., staging area); use saddles, follow ridges, use bench areas, etc. Recommendations provided in the assessment shall be implemented as needed to ensure that slope instability does not occur. When a desktop review or site visit reveals that ~~In areas of~~ steep slopes (greater than 35 percent), active slides, unstable areas, or unstable soils (as defined in the California Forest Practice Rules) ~~that~~ are located above infrastructure, ~~or~~ sensitive habitat, or structures potentially occupied by people, a licensed geologist/engineer shall perform an assessment to evaluate whether the proposed ~~if~~ intensive tree removal (e.g., removal of eucalyptus grove/cluster rather than isolated trees), ~~removal is proposed to evaluate whether~~ could cause erosion, ~~and/or~~ further slope instability or a public safety concern ~~could occur from tree removal. Recommendations provided in the assessment shall be implemented as needed to ensure that slope instability does not occur.~~ ~~R~~ Other recommendations could include measures such as stabilizing slopes with mats or natural materials after tree removal and replanting to bind soils. Note: [a] Substantial grading is defined as cuts above 3 feet and fill above 1.5 feet with lengths greater than 20 feet or removal of greater than 20 linear feet of shrubs and trees on an abandoned/little-used road on cross slopes greater than 55 percent. Substantial vegetation removal is defined as removal of all vegetative cover (both aboveground and belowground root structure for shrubs; aboveground for trees) for an area with a cross slope greater than 55 percent and in excess of 20 linear feet in any direction.	
Impact Geology and Soils-4: Impacts from expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), or corrosive soil, creating substantial direct or indirect risks to life or property. Expansive soils may be present in Ravenswood OSP and Stevens Creek Shoreline Nature Area where saturated bay mud ~~occurs~~ is found. New infrastructure may be constructed in these areas, which could ~~create~~ put at risk ~~to~~ infrastructure or property if located on an expansive soil. Implementation of MM Geology-4 would reduce the impact to a less than significant level through conducting soils assessments prior to construction of new infrastructure and incorporating design standards to reduce the potential risk associated with soil expansion. Implementation of mitigation would minimize the impacts to less than significant.	Potentially significant	**MM Geology-4: Soil Assessment for Construction of New Water-Supply Pipelines** The following soil-assessment measures shall be implemented to ensure significant risks to life or property do not occur as a result of water-supply pipeline construction in an expansive soil in Ravenswood OSP or Stevens Creek Shoreline Nature Area: 1. Consult appropriate GIS data (e.g., USDA, 1991; USDA, 2015) to determine if expansive soils may be present within the proposed construction site. 2. Conduct a field assessment using a proven scientific test or method, such as a soil expansion index test, to verify presence of expansive soils on the site. 3. If verified to be present, determine if the expansive soils can be avoided through design specifications. If appropriate design measures cannot be utilized to avoid expansive soils, no excavated soil shall be used for fill during construction; instead, clean fill soils with a low expansion potential shall be used.	Less than significant
Impacts Hazards-5: Exposure of people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires. Some vegetation management activities could increase some risks of wildland fire ignition and spread during the actual performance of work, which requires the use of vehicles and equipment that could ignite a fire through generation of sparks or heat. Certain parts of Midpen lands could be more susceptible to fire ignition and spread, such as areas on steep slopes, south-facing slopes, and areas where significant fuel is found (e.g., dead trees and thick understories of weeds). Pile and prescribed burns also have a higher potential for starting a wildland fire, if the burns were to become uncontrolled, although this risk is very low and happens extremely rarely in practice. Midpen would implement several fuel spill prevention BMPs	Potentially significant	**MM Hazards-2: Fire Risk Reduction for Stockpiling and Pile Burning** The following measures shall be implemented to reduce hazards associated with pile burning: • Pile burning shall only be allowed on days when fire is less likely to spread (e.g., wind speeds are less than 15 mph). • Piles shall not be constructed in areas where burning cannot be safely controlled, such as bottoms of steep, vegetated hills.	Less than significant

Impact Description	Level of Significance Before Mitigation	Mitigation Measure	Leve of Significant After Mitigation
(Maintenance Operations Manual Sections 14.005 and 13.010; Safety Manual Sections 1.6.5 and 1.6.6). Workers would not be permitted to smoke on Midpen lands, except in certain designated areas (LU Regulations 404.2). Midpen implements strict practices for operation of equipment and ensures that staff and contractors are trained in fire prevention and suppression techniques in the event operation of equipment ignites a fire (MO Manual Section 13.005; Safety Manual Chapter 1.7.0.0). Activities that could cause sparks within Midpen lands are required to cease during extreme fire weather (RM Policy WF-1). MM Hazards-2 and MM Hazards-3 require implementation of several measures to reduce risk of wildland fires associated with pile burning and prescribed burning. Impacts of exposing people or structures to a significant risk of loss, injury, or death involving wildland fires would be less than significant with implementation of BMPs and mitigation measures.		• Piles shall be set back from roads and trails at a distance specified by Midpen to minimize risk to recreationalists and other users. • All requirements of CAL FIRE or the BAAQMD or MBARD shall be met, including any permit, notification, burn bans, and reporting requirements. • Public notification shall be provided at least 24 hours in advance of ~~a~~ less than 10 pile burns (defined as 10-foot-wide by six-foot-high) to immediately adjacent residents (within 1,000 feet) ~~individuals within one mile,~~ and at trailheads and access roads leading to the area with piles proposed for burning. For 10 or more piles (defined as 10-foot-wide by six-foot-high), noticing shall extend to residents within 1 mile. The public notification shall include current contact numbers to the appropriate burn coordinator.	
Impact Hydrology-1: Violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality, or substantially alter the existing drainage pattern of the area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on or off site. Vegetation management activities would result in some minor modification to the hydrologic conditions in the Program area. Water quality impacts from sedimentation and siltation of waterbodies or waterways would occur primarily from the actions associated with vegetation treatments and non-native shrub and understory removal. Sedimentation can increase downstream turbidity, which is considered a water quality impact. Sediment runoff can carry heavy metals (e.g., mercury, arsenic and copper) and nutrients (e.g., phosphorus and nitrogen), and biological pathogens (e.g., coliform, cryptosporidium, and giardia). Several waterways and waterbodies that currently do not meet water quality objectives under Section 303(d) are located within and surrounding Midpen lands. The impaired waterbodies and waterways are included in Table 4.8-3. MM Geology-1 requires that prescribed herbivory not be located within 100 feet of a waterbody or waterway. MM Geology-2 and MM Geology-3 require implementation of additional erosion control measures to avoid or minimize erosion associated with sedimentation of waterways or waterbodies specifically where groundcover would be reduced to less than 70 percent. MM Hydrology-1 includes measures that pertain to stream or other waterway crossings that could be needed on a rare occasion when working on FRAs. Implementation of these measures would reduce impacts on water quality to less than significant.	Potentially significant	**MM Geology-1: Prescribed Herbivory Land and Trail Control (see Section 4.6: Geology and Soils above)** **MM Geology-2: Erosion Control and Slope Stability Measures (see Section 4.6: Geology and Soils above)** **MM Geology-3: Fire Lines During Prescribed Burns (see Section 4.6: Geology and Soils above)** **MM Hydrology-1: Water Quality Protection During Waterway Crossing or Work Near Waterbodies** Vehicles and heavy equipment shall avoid new instream crossings. On rare occasions, such as to perform work to create or maintain FRAs, equipment may need to access off an existing road into a treatment area through a waterbody. If instream (waterway) crossings must occur because no other options for access are reasonably available, the crossing shall be performed when the stream is dry and soils are not saturated. The crossing shall be performed in a way that does not result in any permanent alteration of the stream bank or bed (e.g., choosing areas with stable soils and the least slope or with vegetation to protect the bed and bank). If water is flowing or the stream has flow or saturation, temporary plates or the equivalent shall be installed from bank to bank for equipment access across the waterway. Increased use of existing stream crossings may require upgrades and/or re-engineering of the existing road or water crossing structure. If a new ~~an~~ instream crossing or refurbishment of an existing crossing that could impact the bank or bed or riparian vegetation is needed, the crossing shall only be performed after and in accordance with the appropriate 1602 Streambed Alteration Agreement from CDFW and Section 404 and 401 Clean Water Act permits. All soils shall be restored after the instream crossing and banks revegetated, as needed, after the work is completed, in accordance with permits.	Less than significant
Impact Noise-1: Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the program in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. Use of mechanical tools, chemical application and prescribed burning equipment, generators, and other heavy equipment could generate daytime noise that exceeds general acceptable noise levels established by the counties where Midpen lands are located. If unnecessarily excessive noise is generated near sensitive receptors, it has the potential to conflict with local noise standards. MM Air Quality-3, MM Air Quality-4, MM Hazards-3, and MM Noise-1 require that the appropriate buffer distances are established when implementing prescribed burning and operating certain types of equipment near sensitive receptors. Noise can also have impacts on biological resources. Refer to Section 4.4 for a discussion of noise impacts on sensitive species, particularly marbled murrelet and nesting birds. These impacts are mitigated through MM Biology-11 and -12. Noise impacts would be reduced to less than significant with implementation of these measures.	Potentially significant	**MM Air Quality-3: Asbestos Management (see Section 4.3: Air Quality above)** **MM Air Quality-4: Midpen Employee Protection from Prescribed and Pile Burn Air Pollutants (see Section 4.3: Air Quality above)** **MM Biology-11: Nesting Bird Protection Measures (With the Exception of Marbled Murrelet) (see Section 4.4: Biological Resources above)** **MM Biology-12: Marbled Murrelet Nest Protection Measures (see Section 4.4: Biological Resources above)** **MM Hazards-3: Safety Around Prescribed Burns (see Section 4.8: Hazards, Hazardous Materials, and Wildland Fire above)** **MM Noise-1: Noise Restrictions** **Construction Noise Standards** Midpen shall determine the jurisdiction(s) within which an activity is proposed and identify the applicable noise standards. For activities in unincorporated areas, the specific buffers identified in this measure shall apply. For	Less than significant

Impact Description	Level of Significance Before Mitigation	Mitigation Measure	Leve of Significant After Mitigation

activities in incorporated areas, Midpen shall determine if the standards have a numeric limit and calculate adequate buffers between noise-generating activities and specified land uses (e.g., residential) as appropriate.

Construction Hours

All construction hours identified in the local noise ordinances shall be followed.

Buffer Zones (Santa Clara and Santa Cruz counties)
Buffer zones shall be established to reduce noise at sensitive receptors to the maximum extent feasible to reduce noise to the conditional limits identified by Santa Clara and Santa Cruz counties' noise ordinances.

The buffer zone distances are shown below that identify the distances needed for noise levels to remain below 75 dBA L_{eq} for work occurring less than 10 days, and below 60 dBA L_{eq} for work occurring for 10 days or longer in Santa Clara County and below 75 dBA Leq for Santa Cruz County. These distances do not need to be implemented where it is not technically feasible to implement them per the applicable noise ordinances that requires that noise must only be reduced where it is possible to do so (i.e., Santa Clara County Noise Ordinance, or considering the necessity of the work in Santa Cruz County).

A violation of the noise ordinances would only occur where the noise exceeded the conditional limits set by the jurisdiction, but there is a feasible way to reduce that noise (e.g., placing a chipper within 50 feet of a receptor when it could feasibly be placed 100 feet away is a violation, but using a chainsaw to cut a large hazard tree within 50 feet of a sensitive receptor would not be a violation assuming no other feasible methods to remove that tree are available).

Equipment	Approximate Buffer Between Equipment and Sensitive Receptors (feet) – for Work Occurring in One Location for Less Than 10 Days (Not to Exceed 75 dBA L_{eq}) in Santa Clara County or for any work duration in Santa Cruz County	Approximate Buffer Between Equipment and Sensitive Receptors (feet) – for Work Occurring in One Location for 10 Days or Longer (Not to Exceed 60 dBA L_{eq}) in Santa Clara County
Chipper	100	568
Tractor	90	506
Generator/ water pump	71	402
Chainsaw/ excavator	64	358
Skid steer	--	284
Backhoe/ brushcutter	--	254
Fire engine/ crane	--	226
Leaf blower	--	201
Pickup truck	--	179
Power pole saw	--	80

Impact Description	Level of Significance Before Mitigation	Mitigation Measure	Leve of Significant After Mitigation
		Minimization Measures and Disturbance Coordinator If these restrictions are not implementable between the receptors and a given location, Midpen shall notify the resident or contact at the sensitive receptor within one week of conducting the activity to schedule the activity. Activities shall be coordinated to minimize disturbance to the receptor, such as conducting the work when no one is there. Engineering controls could also be used, if feasible, to keep noise levels below 75 dBA L_{eq} for work occurring in one location for less than 10 days or 60 dBA L_{eq} for work occurring in one location for 10 days or longer. Midpen shall designate a disturbance coordinator to address any noise complaints under these circumstances. The noise coordinator can be the person performing the work.	

3.2.2 Chapter 3: Project Description

Figure 3.2-1 on page 3-3 is revised to include a label for Los Altos Hills:

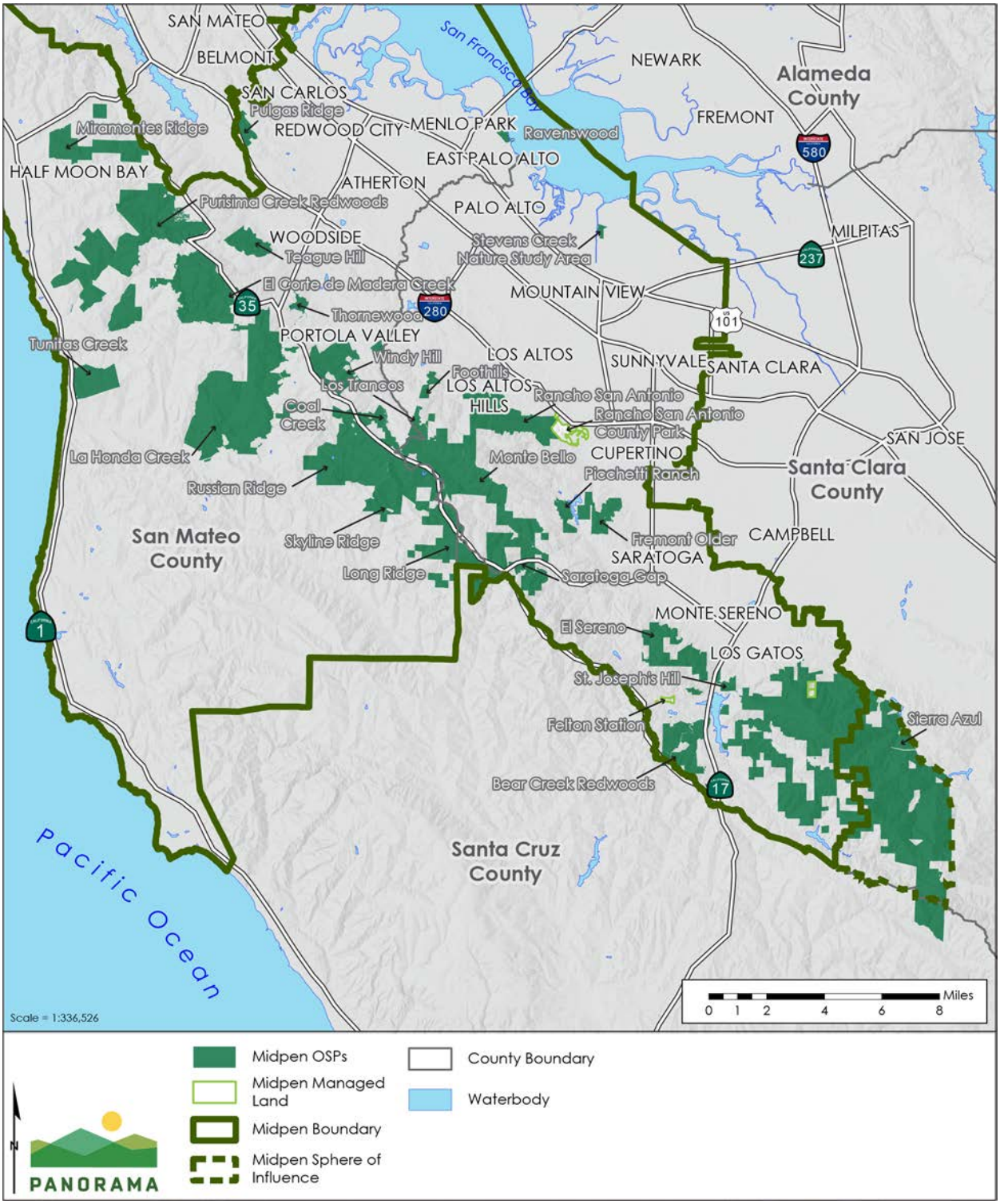


Figure 3.3-3 on page 3-10 is revised to include a label for Los Altos Hills:

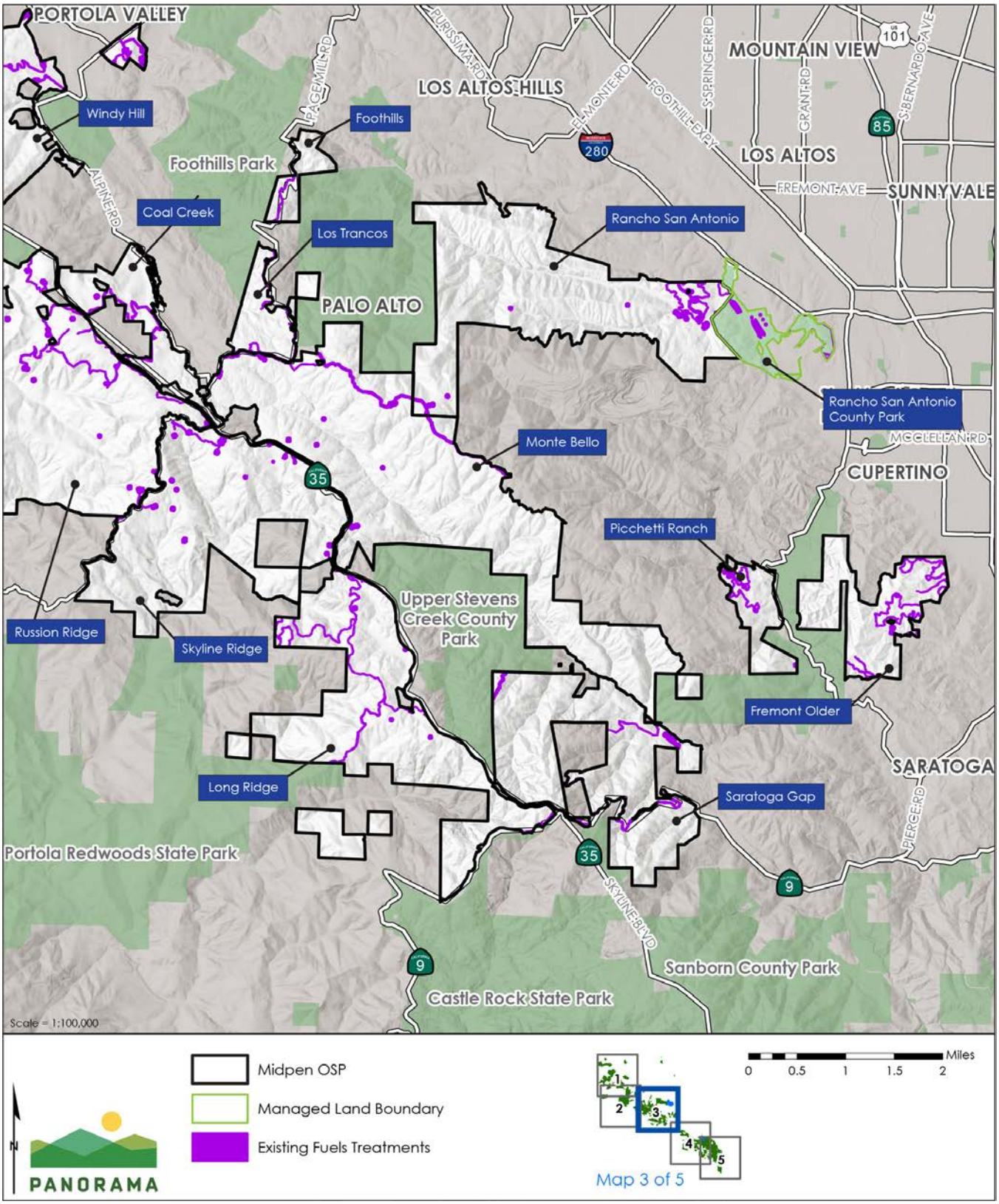


Table 3.3-1 on page 3-14 is revised as follows:

Table 3.3-1 Existing Treatment Areas on Midpen Lands Under the IPMP (Acres)

Managed Land	Shaded Fuelbreaks	Non-Shaded Fuelbreaks	Ingress/Egress Route Fuelbreaks	Disclines	Defensible Space 100-foot	Defensible Space 30-foot	Fire Management Logistics Areas [a]	Grand Total
Bear Creek Redwoods OSP	1.6	1.0	--	~~7.0~~ 6.4	8.1	2.8	0.8	~~21.2~~ 20.6
Coal Creek OSP	16.9	0.1	--	--	1.0	0.2	--	18.2
El Corte de Madera Creek OSP	~~2.4~~ 1.5	0.1	--	--	1.0	0.2	0.6	~~4.3~~ 3.4
El Sereno OSP	1.5	0.2	--	--	--	--	2.2	3.9
Felton Station	--	--	--	--	--	--	--	--
Foothills OSP	2.4	--	--	0.1	--	--	--	2.5
Fremont Older OSP	--	0.1	--	14.1	2.3	0.6	1.0	~~18.1~~ 18.0
La Honda Creek OSP	7.0	1.1	--	--	13.1	3.4	~~1.7~~ 3.1	27.8
Long Ridge OSP	~~19.1~~ 20.3	1.7	--	--	0.9	0.2	2.7	~~24.6~~ 25.8
Los Trancos OSP	0.8	--	--	4.9	--	--	--	5.6
Miramontes Ridge OSP	--	1.3	--	--	1.8	0.3	--	3.4
Monte Bello OSP	28.5	0.5	--	4.4	2.9	0.6	2.8	39.6
Picchetti Ranch OSP	0.1	--	--	~~5.4~~ 5.3	2.1	0.8	1.9	~~10.3~~ 10.2

Managed Land	Shaded Fuelbreaks	Non-Shaded Fuelbreaks	Ingress/Egress Route Fuelbreaks	Disclines	Defensible Space 100-foot	Defensible Space 30-foot	Fire Management Logistics Areas [a]	Grand Total
Pulgas Ridge OSP	--	0.1	--	--	--	--	0.7	0.8
Purisima Creek Redwoods OSP	19.8	0.5	--	--	6.8	1.9	0.3	29.3
Rancho San Antonio OSP	2.9	0.1	--	10.1	11.5	2.8	2.8	30.2
Ravenswood OSP	--	--	--	--	--	--	--	--
Russian Ridge OSP	~~22.5~~ 19.2	0.3	--	5.8	10.6	2.4	~~2.8~~ 3.4	~~45.0~~ 41.6
Saratoga Gap OSP	17.7	4.8	--	--	1.0	0.2	--	23.7
Sierra Azul OSP	38.4	14.4	~~9.1~~ 9.0	4.6	5.3	1.4	7.2	~~80.4~~ 80.3
Skyline Ridge OSP	~~5.6~~ 5.5	1.6	--	~~0.1~~ 0.2	10.7	2.8	0.9	21.6
Saint Joseph's Hill OSP	--	--	--	--	--	--	1.4	1.4
Teague Hill OSP	~~7.8~~ 5.8	--	--	--	--	--	--	~~7.8~~ 5.8
Thornewood OSP	~~13.8~~ 13.6	0.2	--	--	3.1	0.8	--	~~17.8~~ 17.7
Tunitas Creek OSP	--	5.2	--	--	~~5.2~~ 6.8	~~1.2~~ 1.8	--	~~11.6~~ 13.8
Windy Hill OSP	1.3	~~30.7~~ 30.4	--	3.4	4.4	1.2	1.5	~~42.5~~ 42.1

Managed Land	Shaded Fuelbreaks	Non-Shaded Fuelbreaks	Ingress/Egress Route Fuelbreaks	Disclines	Defensible Space 100-foot	Defensible Space 30-foot	Fire Management Logistics Areas [a]	Grand Total
Other Areas Managed by Midpen	--	~~11.5~~ 11.3	--	1.5	--	--	--	~~13.0~~ 12.8
Grand Total	~~**210.0**~~ **204.7**	~~**75.2**~~ **74.7**	~~**9.1**~~ **9.0**	~~**61.5**~~ **60.7**	~~**91.8**~~ **93.4**	~~**23.8**~~ **24.4**	~~**31.2**~~ **33.3**	~~**504.6**~~ **500.1**

Notes:

[a] Currently maintained emergency staging areas, landing zones, and other fire management logistics areas and associated fuelbreaks are accounted for in this category.

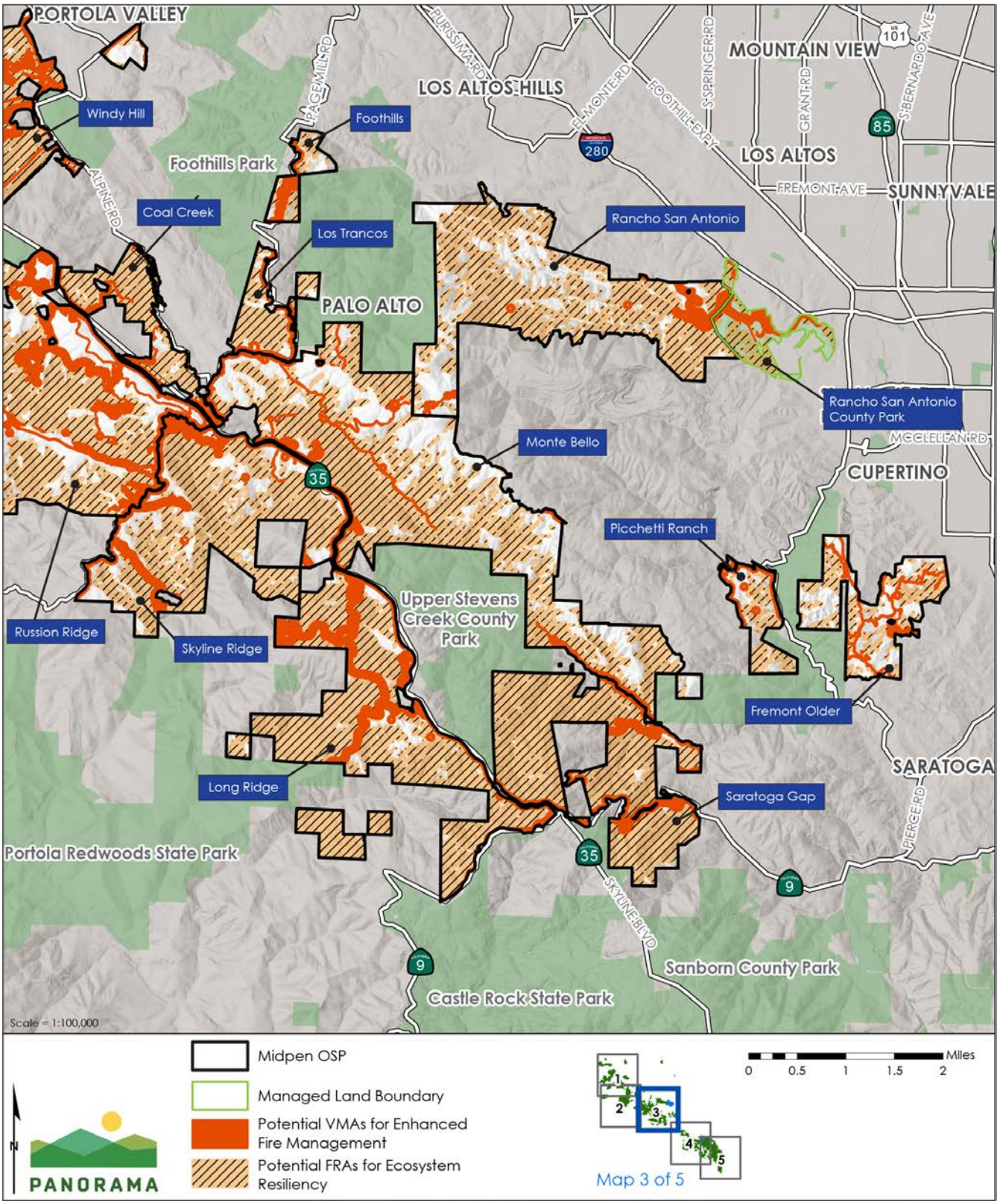
Depending on habitat type, maintenance of existing treatment areas is typically completed on a 3- to 5-year rotation. Annual treatments of up to 215 acres occurs a year within these treatment areas.

Numbers may not add up to the total due to rounding.

Page 3-19 is revised as follows:

> The need for vegetation management is primarily to reduce the presence of unnaturally high fuel loads and secondarily to manage vegetation near ignition sources (e.g., WUI, roads), thus reducing the intensity and harmful impacts of fires. Vegetation management may help to restore ecosystem fuel loads closer to pre-fire suppression conditions through the removal of dead and accumulated vegetation and treatment of forest disease and invasive species. Vegetation management is also intended to decrease the risk of extreme wildland fire behavior, slow the spread of a wildland fire, aid in the suppression and control of a wildland fire, and/or reduce the impacts of wildland fire, should it occur.

Figure 3.5-4 on page 3-29 is revised to include a label for Los Altos Hills:



Page 3-39 is revised as follows:

> The VMP would allow up to 50 additional hazard trees to be limbed or removed entirely per year for fire hazard reduction ~~as well as~~ in addition to the eucalyptus and acacia tree removal and tree removal to support other VMA treatments described above. Hazard trees are trees that have a structural defect that makes them likely to fail in whole or in part within an area of higher human residence time (e.g., parking lots, trailheads) and are generally greater than 10 inches dbh. For example, scattered live trees (~~<~~ (≥10 inches DBH) or SOD-killed trees may be removed at ridgetop locations that are vegetated mainly with grass or chaparral.

Page 3-40 is revised as follows:

> Before burning is allowed, Midpen must complete the following planning steps:
>
> - Notify BAAQMD or MBARD of the proposed prescribed burn by submitting the Prescribed Burning Smoke Management Plan (SMP; Form Rx-1) form at least 30 days prior to burning.
> - Develop Burn Plan in conjunction with CAL FIRE and local fire agency.
> - Ensure both the smoke management plan and burn permit are issued and approved by the appropriate agency.
> - Ensure burn is conducted on a permissive burn day as determined by the appropriate agency including CAL FIRE and BAAQMD or MBARD.

Page 3-41 is revised as follows:

> New firelines would be constructed to standards described in the Burn Plan, but typically would be 1-foot to 6-foot wide but may be wider, depending on location, vegetation type, and type of equipment used to construct the line.

Page 3-45 is revised as follows:

> Midpen anticipates conducting one to two prescribed burns annually during the first three to five years after establishment of the detailed PFP, anticipated to be completed in 2022. After year five of the detailed PFP implementation, Midpen could implement as much as three burns a year.

Table 3.8-1 on page 3-54 is revised as follows:

Table 3.8-1 Potential Permits or Approvals Needed for the Program

Agency	Approval or Notification	Component of Program
U.S. Army Corps of Engineers	Clean Water Act, Section 404, Nationwide Permit 14	Impacts to jurisdictional waters of the U.S., such as for stream crossings for equipment or infrastructure.

Agency	Approval or Notification	Component of Program
U.S. Fish and Wildlife Service	Endangered Species Act Biological Opinion and Take Authorization	If any activities could result in take of a threatened, endangered, or candidate species.
California Department of Fish and Wildlife	Trustee agency for CEQA review	During CEQA compliance process.
	1602 Streambed Alteration Agreement	For impacts to riparian areas or any stream crossings.
	2081 Incidental Take Permit or Consistency Determination	If any activities could result in the death of a state listed species.
California Department of Transportation	Encroachment permits	For trimming or removal of trees within and encroachment on Caltrans right-of-way.
	Transportation permits	For oversize or overweight vehicles traveling on Caltrans right-of-way.
California Coastal Commission (sought through applicable county planning and building department)	Coastal Development Permit or an exemption	For vegetation management or other development in the Coastal Zone.
California Department of Forestry and Fire Protection	Burn Permit	For any prescribed or pile burn activities in the State Responsibility Area.
Bay Area Air Quality Management District	Prescribed Burning Smoke Management Plan (Form Rx-1)	For any prescribed burn activities.
	Open Burning Regulation 5 Notification Form	For any pile burn activities.
Monterey Bay Air Resources District	Smoke Management Plan and Smoke Management Permit	For any prescribed burn activities over 10 acres.
	Prescribed Burn Permit	For any prescribed or pile burn activities.
San Francisco Regional Water Quality Control Board or Monterrey Regional Water Quality Control Board	Section 401 Water Quality Certification	If a Section 404 permit is needed.
	National Pollutant Discharge Elimination System (NPDES) General Permit	For ground disturbing impacts over 1 acre in size.
	Waste Discharge Requirement	For impacts to waters of the state that are not waters of the U.S.
Local Public Works Departments, Building Departments (San Mateo County, Santa Clara County, Santa Cruz County, and local cities)	Various types of encroachment, building, planning, or grading permits	For encroachment into roadways to perform work, for any new fire protection infrastructure that may be needed.

Agency	Approval or Notification	Component of Program
	Local tree protection and brush removal permits based on local ordinances of various counties and cities	For impacts on trees and brush.
	Transportation/ oversize or overweight permits	For oversize or overweight vehicles traveling on local rights-of-way.

Page 3-58 is revised as follows:

Section 3.9 Updates and Modifications to the Program

This Program is intended to be a "living document," in which minor changes that do not trigger additional environmental effects can be made without additional environmental analysis. The Program may be updated, and if necessary, supplemental CEQA prepared.

When changes to the Program are required, the appropriate Vegetation Management Coordinator or staff Coordinator will determine whether the proposed additions or changes are minor or substantial (as defined under the CEQA for a project, as not resulting in substantial new information or new significant environmental impacts). If the Program changes are confirmed to be minor, these changes can be addressed through the Vegetation Management Coordinator or staff Coordinator review and approval process. The Final Program EIR will include a Project Environmental Review Checklist to aid Midpen in this process.

3.2.3 Chapter 4: Environmental Setting, Impacts, and Mitigation Measures

Section 4.1

Page 4-5 is revised as follows:

Residential land uses adjacent to all OSPs comprises 11 percent of the OSP boundaries, as of preparation of this EIR ~~total approximately 75 acres of land, which comprises less than 0.2 percent of the total Program area (Midpen, 2011)~~.

Section 4.2: Aesthetics

Impact Aesthetics-2 on page 4.2-42 is revised as follows:

State scenic highways are designated under the California State Scenic Highway Program managed by Caltrans. Scenic resources, including historic structures, unique rock outcroppings, and trees, are located throughout Midpen lands and in many cases are viewable from State scenic highways (predominantly, Highway 35).

Vegetation Management Plan

Several fuelbreaks are proposed adjacent to State scenic highways. The locations and impacts of construction of fuelbreaks and other VMAs in the vicinity of State scenic highways are identified in Table 4.2-2. In summary, impacts on scenic resources from potential fuel treatments conducted within State scenic highways would be significant and unavoidable even with mitigation.

Impact Aesthetics-2 on page 4.2-44 is revised as follows:

Wildland Fire Pre-Plan

Firefighting infrastructure (new or expanded roads, water infrastructure, and staging and helicopter landing areas) generally would not be installed within the viewshed of a State scenic highway. Where new infrastructure may be constructed in a scenic area viewable from a State scenic highway, the impact could be significant. MM Aesthetics-2 would be applicable. The measure reduces aesthetic impacts by requiring new roads, helicopter landing areas, and staging areas to be located in areas that minimize visibility from scenic trails or viewpoints, and to minimize recontouring and cuts into hillsides. Mitigation would likely reduce impacts to less than significant in the majority of cases, but occasionally, it may not be possible to avoid placing an important new road, staging, or helicopter landing area adjacent to a scenic trail or viewpoint where it could degrade visual quality. Impacts, in those rare instances, may be significant and unavoidable.

Program

Impacts described here would similarly apply to any new land purchased or gifted to Midpen and added to the Program, where the new areas would include VMAs, areas of prescribed burning under the PFP, and/or new firefighting infrastructure that could be visible from scenic roads, corridors, trails, and viewpoints.

Section 4.3: Air Quality

Table 4.3-4 on page 4.3-11 is revised as follows:

Sensitive Receptor	Approximate Distance to Midpen Lands Boundary	
Residential		
Residences internal to OSPs	El Corte de Madera Creek OSP	Rancho San Antonio OSP
	Fremont Older OSP	Russian Ridge OSP
	La Honda Creek OSP	Saratoga Gap OSP
	Long Ridge OSP	Sierra Azul OSP
	Miramontes OSP	Skyline Ridge OSP
	Monte Bello OSP	Thornewood OSP
	Picchetti Ranch OSP	Tunitas Creek OSP
	Purisima Creek Redwoods OSP	Windy Hill OSP

Sensitive Receptor	Approximate Distance to Midpen Lands Boundary
Nearest residential areas outside OSPs	30 feet from Rancho San Antonio OSP 45 feet from Miramontes Ridge OSP 60 feet from Sierra Azul OSP 120 feet from Monte Bello OSP 130 feet from Los Trancos OSP 280 feet from Windy Hill OSP 330 feet from El Corte de Madera OSP

Page 4.3-35 is revised as follows:

The impact on worker health from high CO concentrations would be potentially significant as carbon monoxide is very dangerous if inhaled. Respiratory equipment will be procured and provided when appropriate in accordance with Midpen's safety manual (Safety Manual Section 2.3). To ensure that substantial CO exposure from prescribed burning is minimized, MM Air Quality-4 requires use of real-time CO monitors and rotation of personnel out of heavy smoke. The exposure impacts would be reduced to less than significant with mitigation.

Page 4.3-38 is revised as follows:

Respiratory equipment will be procured and provided when appropriate in accordance with Midpen's safety manual (Safety Manual Section 2.3). To ensure that smoke exposure from prescribed burning is minimized, MM Air Quality-4 requires Midpen employees to adhere to procedures to minimize acrolein, formaldehyde, and respirable particulate matter exposure, including avoidance of or rotating personnel through high-smoke areas, hazardous awareness training, and the voluntary use of N95 or N100 dust masks and bandanas, as determined appropriate by the Burn Boss.

Page 4.3-40 is revised as follows:

The effect on Midpen employees from vegetation management activities could be significant. MM Air Quality-3 would be implemented to reduce the asbestos-exposure risk by requiring watering of disturbed soils in serpentine soils or bedrock areas and requiring that mowing heads are set high enough above the soil so as not to generate asbestos-containing dust. Respiratory equipment will be procured and provided when appropriate in accordance with Midpen's safety manual (Safety Manual Section 2.3). To ensure that smoke exposure from prescribed burning is minimized, MM Air Quality-4 requires use of CO monitors, training Midpen employees, availability of masks and bandannas, and rotations of Midpen employees through areas with heavy smoke. The impact from pile burning and other vegetation management activities would be reduced to less than significant with mitigation.

Page 4.3-41 is revised as follows:

The effect on Midpen employees and sensitive receptors from prescribed burning activities could be significant. MM Air Quality-3 would be implemented to reduce the asbestos-exposure

risk by requiring watering of disturbed soils in serpentine soils or bedrock areas and requiring that mowing heads are set high enough above the soil so as not to generate asbestos-containing dust. Respiratory equipment will be procured and provided when appropriate in accordance with Midpen's safety manual (Safety Manual Section 2.3). To ensure that smoke exposure from prescribed burning is minimized, MM Air Quality-4 requires use of CO monitors, training Midpen employees, availability of masks and bandannas, and rotations of workers through areas with heavy smoke. MM Hazards-3 requires closure of trails and Midpen-owned roads within at least 500 feet of the edges of a prescribed-burn area. Due to the unpredictability of smoke, even on days with optimal conditions, the impact from prescribed burning would be potentially significant and unavoidable with mitigation.

MM Air Quality-2 is revised as follows:

MM Air Quality-2: Burn Emission Reduction Techniques
For activities within a small portion of Long Ridge OSP and a very small portion of Sierra Azul OSP that falls within the NCCAB, Midpen shall limit pile burning to 8.8 tons (i.e., not more than nine 10-foot-wide by six-foot-high parabolic piles of shrub/hardwood vegetation or equivalent) in any one day. Midpen shall incorporate the following measures during planning and implementation of a prescribed burn~~, where feasible~~: • When considering a prescribed burn, weigh the habitat benefits of burning in a particular vegetation type against the emissions. • Reduce the total area burned through mosaic burning if the objectives of the burn can still be met. • Burn when fuels have ~~a higher~~ appropriate fuel moisture content, as determined by the expert preparing the Smoke Management Plan. • Reduce fuel loading by decreasing the density of vegetation and other fuels before ignition using mechanical treatments, manual treatments, prescribed herbivory, and pile burning when logistically appropriate. • Schedule burns before new vegetation growth~~,~~ increases ~~increasing~~ fuel loads, when logistically appropriate. • Delay planned burns when a Spare the Air Burn Ban has been declared. • Provide public notification at least 48 hours in advance of a burn less than 50 acres to individuals and jurisdictions within one mile, and at trailheads and access roads leading to an area with piles proposed for burning. For burns in excess of 50 acres, noticing shall extend to a larger region as determined appropriate by Midpen. The public notification shall include current contact numbers to the appropriate burn coordinator.
Applicable Location(s): Prescribed burn projects in the NCCAB and SFBAAB; Pile burning in NCCAB.
Performance Standards and Timing: • **Before Activity:** (1) Choose vegetation types with fewer emissions when other considerations are equal, (2) reduce the fuel loads, ~~and~~ (3) schedule burn prior to new vegetation growth, and (4) conducting noticing. • **During Activity:** (1) Mosaic burn, (2) burn when fuels have ~~higher~~ appropriate moisture content, and (3) limit pile burns conducted in any one day in NCCAB. • **After Activity:** N/A

Section 4.4: Biological Resources

Table 4.4-5 on page 4.4-53 is revised as follows:

Species	Typical Habitat on Midpen Lands	Mitigation and Conclusion
Monarch butterfly - California overwintering population	Groves of trees on Midpen lands that are ~~near~~ within 2 miles of the Pacific Coast, including eucalyptus and milkweed host plants.	IPMP BMP 21 requires implementation of a training program that would describe special-status species and how to avoid harming the species. Herbicide application would be conducted according to Midpen's IPMP BMPs and regulations, which would prevent overspray and drift (IPMP BMPs 1 through 10). Impacts on special-status monarchs could remain significant. MM Biology-1 requires a qualified biologist or biological monitor working under a qualified biologist to conduct pre-activity surveys to flag the work area, as appropriate, to designate host plants in the area. MM Biology-13 requires surveys for host plants in areas of suitable habitat prior to any activity and designation of a buffer around host plants containing eggs, larvae, or pupae, if present at the time of the activity, ensuring avoidance. MM Biology-15 requires surveys and avoidance of monarch overwintering aggregations. If overwintering aggregations are located in eucalyptus removal areas, replacement of the grove with native trees such as Monterey pine or Monterey cypress are required over a long-term process to maintain habitat integrity. Further minimization may be achieved through implementing BMPs identified in the *Monarch Pesticide Supplemental Materials (Danaus plexippus plexippus) Species Status Assessment Report* (USFWS, Revised 2020). **Less than Significant with Mitigation.**

Page 4.4-78 is revised as follows:

Midpen implements invasive species and forest disease BMPs to minimize spread and proliferation (IPMP BMPs 11 through 18). Impacts on sensitive communities from spread of invasive species, forest diseases, and direct loss could remain significant. MM Biology-4 requires Midpen to implement techniques to minimize the spread of invasive species and forest diseases. MM Biology-5 identifies specific baseline data collection and monitoring frequency for Midpen's EDRR program and success criteria to be met. MM Biology-17 includes additional avoidance and minimization measures to ensure that Program activities minimize impacts to sensitive communities, including riparian communities. Implementation of mitigation would reduce these impacts ~~to less than significant levels~~. Alteration of riparian vegetation may require a Section 1602 permit. Various activities may involve riparian vegetation removal or alteration including fuel reduction projects or, as analyzed in depth in Section 4.9: Hydrology and Water Quality, new or improved stream crossings. Midpen currently holds a Routine Maintenance Agreement under the California Fish and Game Code Section 1602, Lake or Streambed Alteration Agreement, which is valid through 2024. Midpen is revisiting this permit to expand the definitions of "routine" and to clearly address activities under the IPMP and

WFRP. Any fuel reduction work within riparian corridors and that would impact riparian communities would fall under this permit. Impacts from alteration to riparian habitat caused by upgrades or new stream crossings must adhere to MM Hydrology-1. The implementation of the terms of the permit would ~~further~~ ensure that impacts to riparian communities are less than significant.

MM Biology-1 is revised as follows:

MM Biology-1: Training, Monitoring, and Reporting

Monitoring

- The biological monitor(s) or qualified biologist(s) shall have the authority to stop Program activities to avoid take or impacts to special-status species or protected biological resources; in the event of unforeseen circumstances (e.g., unanticipated impacts are occurring); or if Program personnel are not complying with regulatory permit conditions and the BMPs listed herein. The biological monitor or qualified biologist shall possess the necessary agency approvals or permits required for involvement in Program activities.
  - A **biological monitor** is an individual who has a minimum of 2 years academic and 1 year professional experience in biological sciences and related resource management activities, is able to identify species that may be present within the work area, and is familiar with the habits and behavior of those species.
  - A **qualified biologist/botanist** is an individual who has a minimum of a 4-year academic degree in biological sciences or related resource management activities, with a minimum of two survey seasons years (e.g., two seasons during the blooming season of sensitive plants) conducting surveys for each species that may be present within the work area.
  - A **professional biologist/botanist** is an individual who has a minimum of 5 years of academic training in biological sciences or related studies and 3 or more years of professional experience conducting protocol-level wildlife and/or florist field surveys.
  - A **Midpen-approved biologist/botanist** is an outside consultant who has been approved by Midpen either by a professional biologist/botanist, Resource Advisor or other appropriate individual, to conduct biological monitoring and surveying activities. This individual can be any one of the three categories of biologist/botanist described above.
  - A **Resource Advisor** is an individual who provides professional knowledge and expertise for the protection of resources (e.g., biological and cultural resources), within an emergency incident environment.
- The qualified biologist or biological monitor shall conduct on-site monitoring of Program activities that have the potential to impact sensitive biological resources. The monitoring requirements (e.g., frequency and duration) shall depend on the specific activity(ies) being performed and the ecological sensitivity of the site (e.g., the potential for soil erosion or occurrence of special-status wildlife). Some activities shall warrant full-time monitoring by one or more biologists and/or biological monitors; whereas weekly site inspections may be sufficient for other activities. At a minimum, monitoring shall be conducted frequently enough to ensure compliance with permit conditions and BMPs. The monitor shall maintain a log that documents: (a) the monitoring dates, (b) areas and activities monitored, (c) compliance with permit conditions and BMPs, (d) any remedial actions that were taken (or are needed).
- Post-activity monitoring shall also occur, with the scope and timing dependent on the potential for risks to biological resources. The purpose of monitoring is to ensure that special-status plant species and sensitive communities were avoided and are not experiencing negative indirect impacts from activities. If negative impacts are observed or are potentially occurring, restoration measures shall be implemented, and modifications made to future activities to avoid similar impacts.

Pre-Activity General Survey and Flagging

MM Biology-1: Training, Monitoring, and Reporting

A qualified biologist or biological monitor working under a qualified biologist shall survey all selected work areas shortly before work to assess general conditions and determine environmental considerations as required by IPMP BMPs 21 and 25. Prior to Program activities, the biologist or biological monitor shall use flagging (or other methods) to clearly delineate the work area and any areas that shall be avoided (e.g., sensitive communities, habitat for special-status species).

Reporting

Information on new localities or sightings for special-status species shall be reported to the Sacramento USFWS Office and the California Natural Diversity Database (CNDDB) annually. Information on any incidental capture, injury, or mortality of special-status species shall be immediately reported within 3 working days of their discovery or in accordance with the federal and State permit conditions. The data shall also be logged in Midpen's electronic inventory system identified in IPMP BMP 25.

Training

- Prior to commencing a Program activity, all personnel shall attend a worker environmental awareness training program conducted or prepared by the qualified biologist or biological monitor working under a Midpen-approved biologist as required by IPMP BMP 21.
- The worker environmental awareness training will include a brief review of the life history, field identification, and habitat requirements of each special-status species that could potentially be present on-site, their known or probable habitat types and locations, potential fines for violations, avoidance measures, and necessary actions if special-status species or sensitive natural communities are encountered, as required by IPMP BMP 21. In addition, the training shall include information on:
  - All BMPs, regulatory permit conditions, exclusion areas, and other work restrictions.
  - Color coding for flagging used to demarcate work areas, staging areas, skid trails, watercourses, and exclusion zones (e.g., around special-status plants and other sensitive biological resources).
  - The identification and reproductive biology of invasive plants and animals.
  - *Phytopthora ramorum* and other ~~plant~~ pathogen~~s~~ avoidance.

General Wildlife Protection Measures

- Vehicles traveling to and from the work areas off of established roads and trails, in sensitive plant or wildlife habitat, must travel slowly (5 mph) and be preceded by a monitor to ensure that wildlife shall not be run over by the passing vehicle. Vehicle monitors do not need to be trained biologists.
- ~~Qualified biologists/biological~~ Vehicle monitors shall check for any reptiles, amphibians, or other animals under vehicles and equipment parked for more than 30 minutes.
- Some individual live, dead, or dying trees shall be retained as snags where recommended by the qualified biologist and biological monitor and where leaving the tree would not increase fire hazards or be a safety concern.
- ~~Vehicles traveling to and from the work areas off of established roads and trails, in sensitive plant or wildlife habitat, must travel slowly (5 mph) and be preceded by a monitor to ensure that wildlife shall not be run over by the passing vehicle. Vehicle monitors do not need to be trained biologists.~~
- Qualified biologists/biological monitors are required to temporarily stop any work that they believe may harm special-status species. Work shall not resume until a satisfactory method is agreed upon to minimize or avoid take of the species.
- Qualified biologists/biological monitors may require staging areas or stockpiled equipment/materials to be fenced with USFWS and/or CDFW-approved exclusion fencing if there is potential for special-status species to enter the areas and become entrapped, and routine inspection of the area is not adequate to ensure that species are not present. Fencing shall be inspected by a qualified biologist/biological monitor and maintained daily as needed to ensure its proper function in excluding wildlife. Large-scale fencing around entire

MM Biology-1: Training, Monitoring, and Reporting

vegetation management areas is discouraged due to the habitat disruption associated with fence installation and removal.

Applicable Location(s): All Midpen lands.

Performance Standards and Timing:

- **Before Activity:** (1) Survey all selected work areas and (2) conduct worker environmental awareness training program.
- **During Activity:** (1) Conduct on-site monitoring, (2) ~~immediately~~ report information on any incidental capture, injury, or mortality of special-status species, (3) temporarily stop any work that may harm special-status species, and (4) inspect vehicles, equipment, and fencing daily.
- **After Activity:** Conduct post-activity monitoring.

MM Biology-2 is revised as follows:

MM Biology -2: Special-Status Plants

Pre-Activity Special-Status Plant Survey

As required by IPMP BMP 25, a biological monitor or qualified biologist shall survey the work site to determine the potential presence of special-status plants (as defined under Section 4.4.2 in the Program EIR) and document any observations. Surveys shall be conducted at the time of year when plants will be both evident and identifiable and using a standard protocol relevant at the time of the survey, such as the *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* (CDFW, 2018). The abundance and spatial distribution of all special-status plants and sensitive natural communities detected during the surveys shall be recorded with a GPS unit and entered online into the CalFlora and Midpen's GIS databases. This information shall also be submitted to the CNDDB, per MM Biology-1. If any special-status plants are found to occur in the activity footprint, the biologist/botanist shall evaluate the potential level of impacts the activity could have on the plant species, either an individual or population, based on its biology and the nature of the activity (no impact, low impact, or moderate/high impact). Activities with no or low impact can proceed. If an activity could have a moderate or high impact (e.g., anticipated mortality) Midpen shall consult with CDFW and the appropriate avoidance or minimization measures would be implemented, depending on the species' rank, physiology, and habitat requirements, as described below.

Species to Avoid (Unless Population Could Benefit from Program Activity, such as Prescribed Burning)

Program activities shall avoid impacts to State or federally listed plants that are known to occur or have the potential to occur on Midpen lands:

- Ben Lomond spineflower
- Butano Ridge cypress
- California seablite
- Coyote ceanothus
- Crystal Springs fountain thistle
- Dudley's lousewort
- Marin western flax
- Metcalf Canyon jewelflower
- Monterey spineflower
- Pacific Grove clover
- San Francisco popcornflower
- San Mateo thorn-mint
- San Mateo woolly sunflower
- Santa Clara Valley dudleya
- Santa Cruz cypress
- Santa Cruz tarplant
- Santa Cruz wallflower
- Scotts Valley polygonum
- Scotts Valley spineflower
- Two-fork clover

MM Biology -2: Special-Status Plants

- Robust spineflower
- Rock sanicle
- White-rayed pentachaeta

In addition, Program activities shall avoid impacts to the following species that (a) have very specific habitat requirements that are hard to replicate at a mitigation site; (b) are difficult to transplant or propagate; or (c) have insufficient data on the ability to successfully transplant, relocate, or reintroduce the taxa:

- Anderson's manzanita
- Kings Mountain manzanita
- Clustered lady's-slipper
- Mountain lady's-slipper
- Loma Prieta hoita
- Arcuate bush-mallow
- Most beautiful jewelflower

Activities that could have a moderate or high impact on these species shall not occur within an appropriate buffer (as determined by a qualified biologist/botanist or biological monitor working under a qualified biologist) of any individuals or populations identified. Disclines or firefighting infrastructure shall be relocated to avoid any populations of these species.

Prescribed herbivory and prescribed burning shall be allowed in the habitats for these species if, in the professional opinion of a qualified biologist/botanist or biological monitor working under a qualified biologist, the activity shall provide a long-term benefit to the plant (e.g., by eliminating non-native plants).

Minimization of Impacts for All Other Special-Status Species

Midpen shall implement the following approach for all other special-status plant species that have been detected, or that are detected in the Program area during the pre-activity surveys conducted per MM Biology-1 (adding specificity to IPMP BMP 21, which requires developing site-specific measures):

- A qualified biologist/botanist or biological monitor working under a qualified biologist shall recommend spatial buffers or other management actions. The buffer size needed to protect a special-status plant from adverse edge effects (indirect impacts) is dependent on the specific species, threats to the species, existing disturbances, and the habitat's permeability to those threats (CBI 2000). Midpen shall implement the botanist's recommendations. Impacts to a special-status plant shall only occur if it is the botanist's professional opinion that the impact shall provide a long-term benefit to the plant (e.g., by eliminating non-native plants or another threat to the species). If Midpen is unable to implement the botanist's recommendations, or if there is uncertainty regarding the effects of a Program activity on the special-status plant population, Midpen shall assess subsequent effects on the plant population through post-activity monitoring. If the monitoring indicates the Program activity has negatively impacted the plant population, the compensatory mitigation terms of MM Biology-3 shall apply. If the monitoring indicates the effects were positive or neutral, no additional mitigation is required.
- If Program activities are proposed to be conducted in habitat for a special-status plant, the activities shall be conducted during the phenological stage least sensitive to disturbance, based on guidance from the botanist.
- If Program activities are proposed to be conducted in habitat for a special-status plant, and the work must be conducted when the plant is sensitive to disturbance (e.g., during the growing season), Midpen shall assume the plant could be permanently impacted and shall either:
  - 1a. Monitor the response of the plant post-construction. If the study indicates the Program activity has negatively impacted the plant population, the terms of MM Biology-3 shall apply.
  - 1b. Attempt to salvage any special-status plants that are permanently impacted by a Program activity (e.g., plants within a proposed discline). Salvaged plants (and seeds) shall be used for the compensatory mitigation required under MM Biology-3, and comply with best management measures intended to exclude *Phytophthora* and other plant pathogens to the extent possible. Any supplemental plants (or seeds) needed for a mitigation project, site rehabilitation, or other application shall be derived from locally appropriate genetic

MM Biology -2: Special-Status Plants

material and nurseries that comply with best management measures intended to exclude *Phytophthora* and other plant pathogens to the extent possible; or

- 2. Provide compensatory mitigation in accordance with the terms of MM Biology-3.

General Minimization and Avoidance Measures

Burn piles shall not be located within 50 feet of a special-status plant except those species that a qualified biologist/botanist or biological monitor working under a qualified biologist determines shall benefit from burning (e.g., Kings Mountain manzanita). Propane flaming shall not be conducted within the vicinity of special-status plants that could be accidentally damaged by the flaming activities. Vegetative debris shall not be placed on top of special-status plants, unless the biologist/botanist determines this is acceptable.

MM Biology-7 is revised as follows:

MM Biology-7: California Red-Legged Frog Protection Measures

Handling of California Red-legged Frog

Handling of California red-legged frog will be done by permitted and qualified biologists or biological monitor working under a qualified biologist in an expedient manner with minimal harm to the individuals being handled. Handling of California red-legged frog will be done with wet hands. The hands and arms of all workers handling California red-legged frog will be free of lotions, creams, sunscreen, oils, ointment, insect repellent, or any other material that may harm California red-legged frog. Larval California red-legged frog will not be handled out of the water for longer than 30 seconds unless rewetted and will not be retained for longer than 5 minutes for processing. If captured California red-legged frog exhibit signs of distress (e.g., lack of response to stimuli or erratic behavior), they will be immediately released at the point of capture. All captured California red-legged frog will be released at the point of capture unless that location puts them in imminent danger, in which case they will be placed in a nearby refugium sufficient to protect them. The number of California red-legged frog to be captured is no more than 30 adults per habitat location (defined as the area that specific work is conducted such as a pond site or OSP) per year. In the course of monitoring associated with the activities, if California red-legged frog egg masses are observed in ponds or wetted areas that are going to dry naturally before tadpoles develop (as determined by a qualified biologist or biological monitor working under a qualified biologist), emergency salvage of egg masses by the qualified biologist or biological monitor working under a qualified biologist is permitted to relocate egg masses into deeper waters that will not be affected by the proposed activities. USFWS shall be notified of the emergency salvage per the terms of the recovery permit. Amplexing pairs of California red-legged frog will not be captured, handled, or disturbed. The permittee will disinfect sampling and field gear to minimize the spread of pathogens as follows:

1. Sampling and field gear will be disinfected after exiting one aquatic habitat and before entering the next aquatic habitat, unless the waters are hydrologically connected to one another.
2. All organic matter will be removed from nets, traps, boots, vehicle tires and all other surfaces that have come into contact with water or potentially contaminated sediments. These items will then be rinsed with clean water before leaving each study site.
3. Boots, nets, traps, hands, etc., will be scrubbed with a bleach solution (0.5 to 1.0 cup per 1.0 gallon of water), Quat-128™ (1:60), or a 3 to 6 percent sodium hypochlorite solution and thoroughly rinsed clean with water between study sites. Equipment will be rinsed clean with water between study sites. Cleaning equipment in the immediate vicinity of aquatic habitats will be avoided (e.g., clean in an area at least 100 feet from aquatic features). Care will be taken so that all traces of the disinfectant are removed before entering the next aquatic habitat.
4. Used cleaning materials (liquids, etc.) will be disposed of safely, and if necessary, taken back to the lab for proper disposal. Used disposable gloves will be retained for safe disposal in sealed bags.

MM Biology-7: California Red-Legged Frog Protection Measures

California red-legged frog will not be removed from the wild and held in captivity for any reason unless prior written approval is acquired by the appropriate USFWS Office or unless the severity of an injury to the California red-legged frog obviates immediate care. Animals will be transported according to accepted methods, in moist cloth bags or in terrarium with moisture gel or non-cellulose sponge to minimize desiccation.

Protocols for California Red-legged Frog Depending Upon Location of Activity

For activities conducted within riparian habitat or Waters of the State and/or U.S. and 1 mile of a known California red-legged frog occurrence:

- Prior to and within 48 hours of the planned start of Program activities, a focused survey for California red-legged frog using an agency approved protocol will be conducted by a qualified biologist or biological monitor working under a qualified biologist to determine if they are in the area. If California red-legged frog are found, Midpen will coordinate with CDFW and USFWS immediately to determine the correct course of action and Program activities at that location will not commence until after May 30 or authorized by CDFW and USFWS.
- If California red-legged frog are found, biological monitor(s) and/or qualified biologists will be on site while Program activities are being conducted. Midpen will implement the following measures:
  a. **Inspection of Parked Vehicles:** Any vehicle parked on-site for more than 15 minutes will be inspected ~~by the biological monitor or qualified biologist~~ before it is moved to ensure that California red-legged frog has not moved under the vehicle. Any parking areas must be checked in advance by the biological monitor or qualified biologist.
  b. **Vegetation Removal by Mechanized Equipment at California Red-legged Frog Sensitive Sites (areas within or adjacent to wetted aquatic sites):** For vegetation removal on berms or other wetted sites with known California red-legged frog observations, vegetation will be cut down to 3 inches by hand tools (weedwhacker, etc.). Once the ground is visible, a visual survey for California red-legged frog will be conducted. If no sensitive species are found in the area, removal of vegetation may continue by mowing or mechanized equipment very slowly with a biological monitor walking in front of the equipment to observe. If a California red-legged frog is observed that is in harm's way, all activities shall cease and Midpen will notify CDFW and USFWS immediately or the California red-legged frog can be relocated by a person permitted by the USFWS and approved by CDFW for this project to handle California red-legged frog.
  c. **Vegetation Disposal:** Vegetation removed shall be placed directly into a disposal vehicle and removed from the site. Vegetation shall not be piled on the ground unless it is later transferred, piece by piece, under the direct supervision of the biological monitor or qualified biologist or is going to remain on-site for erosion control or slash and not be moved or disturbed.
  d. **No Stockpiled Soil:** Soil shall not be stockpiled on the ground unless it is on a paved surface or staging area where there are not burrows. Soils stockpiled for more than a single day near potential habitat should be covered or surrounded by exclusion fencing as directed by a qualified biologist to prevent burrowing animals from entering the stockpile.
  e. **California Red-legged Frog Exclusion for Sediment Removal with Large Equipment:** California red-legged frog will be excluded from the project site prior to Program activities at sites involving the use of large equipment for sediment removal. USFWS and CDFW-approved exclusion fencing will be installed around the sediment removal site, staging areas, and any areas where fill may be dumped. After installation of the fence barrier, a biological monitor or qualified biologist will inspect the project work area, staging and stockpiling areas daily prior to the commencement of activities. If the biological monitor or qualified biologist determines that sensitive species are not within the work area, equipment or materials may be moved into the project site and Program activities may commence under the observation of the biological monitor.

For activities conducted in ponds:

- **Focused Surveys Prior to Work Activities.** Prior to and within 48 hours of the planned start of Program activities, a focused survey for California red-legged frog using agency approved protocol will be conducted by

MM Biology-7: California Red-Legged Frog Protection Measures

a qualified biologist or biological monitor working under a qualified biologist to determine if California red-legged frog is in the area. The pond will be sampled by a qualified biologist to ensure that all California red-legged frog from that pond are in the post metamorphic stage and will be minimally affected by draining the pond. If a California red-legged frog is located during the pre-treatment surveys but escapes capture, the area where the frog was lost will be marked by flag and a 50-foot (15 meter) radius will be actively patrolled during the work. If California red-legged frog are found, Midpen will coordinate with CDFW and USFWS immediately to determine the correct course of action and Program activities at that location will not commence until after May 30 as or authorized by CDFW and USFWS. After the pre-project survey, an avoidance strategy will be devised and presented to all individuals involved in the pond enhancement prior to starting any activities. The number of California red-legged frog encountered and transferred to safe areas or held in captivity by a permitted and qualified biologist during treatment will be reported to the Sacramento USFWS Office and CDFW.

- **Number of On-Site Biologists.** The minimum number of qualified biological monitors required at each pond site will be determined in advance by the qualified project biologist ~~either the ranch manager or a permitted biological consultant~~ based on pond size, the amount and complexity of work to be performed, and the equipment to be used. ~~This number of monitors will be approved by USFWS prior to the start of any work.~~
- **Travel Corridors.** Corridors for travel of vehicles and heavy machinery to the pond site will be established at least 24 hours in advance of the proposed work. Corridors that are not established, marked, and improved roads (paved or unpaved) require special consideration for use by any vehicle. During the use of these off-road corridors by vehicles and machinery, a monitor shall proceed directly before the vehicle or machinery to ensure all California red-legged frog and observable wildlife is cleared from the pathway of the oncoming vehicle. Monitors shall signal vehicles to stop if a California red-legged frog is on the pathway, and shall allow the animal to clear the pathway by its own direction. Any handling of the red-legged frog must only be done by a qualified permitted individual. Measures shall be taken to minimize the number of vehicles allowed on the property. All vehicles involved with the site-specific work that are not transported to the work site will be retained in a prearranged, marked parking area in a clearing as close to the main road as possible. At least one monitor will ensure wildlife is clear from the parking area while vehicles are arriving and leaving. All vehicles must stay on designated roads.
- **Seasonal Work Period in Ponds**. If California red-legged frog are found in the pond and water is present in the pond, sediment removal and berm or outfall repair activities shall be performed from August 15 to November 1. Midpen will coordinate with CDFW and USFWS prior to dredging or de-watering activities. Sediment will be removed from ponds by hand to the extent feasible. Sediment removal from ponds will occur as soon as the ponds are dry (if prior to August 15).
- **Vegetation Removal at Ponds**. If California red-legged frog is found, tule and emergent vegetation will be removed by hand when feasible. If mechanized equipment is used, one or more biological monitors or qualified biologists will be onsite monitoring the scoop bucket while scooping and watching each load unload. Midpen will coordinate with CDFW and USFWS during the annual project notification process regarding anticipated mechanized equipment use for vegetation removal at ponds. In areas where egg masses are known, Midpen and contractor personnel will not enter the channel/pond to avoid dislodging egg masses. Trimming activities shall be performed from the banks, if possible.
- **Inspection for Egg Masses**. In work areas containing emergent vegetation (e.g., tules, cattails), vegetation will be inspected for California red-legged frog eggs masses prior to Program activities. If work cannot be postponed, a buffer of vegetation at least 10 feet in diameter shall be left around any egg masses found. Midpen will keep a record of sites where egg masses are found and conduct vegetation removal at these sites prior to November 1 in subsequent years.

If California red-legged frog is not found during the focused survey, or for activities conducted in suitable habitat where California red-legged frog has not been documented:

MM Biology-7: California Red-Legged Frog Protection Measures

- The biological monitor shall remain on-site if sensitive areas are identified during the presurvey. A biological awareness training shall be provided to all persons prior to beginning work. If at any time a California red-legged frog is observed, work shall stop immediately until a biological monitor is contacted. Biological monitor(s) and/or qualified biologists shall then remain be on the project site while Program activities are being conducted. If California red-legged frog is observed, the applicable California red-legged frog measures procedures described above will be followed.

General California Red-legged Frog Avoidance Measures

- If California red-legged frog enters the project area, all work shall stop until the animal leaves on its own. If a person is permitted by the USFWS and approved by CDFW for this specific project to handle California red-legged frog, they can handle and relocate California red-legged frog. Midpen will coordinate with CDFW and USFWS to develop site appropriate avoidance measures utilized for relocation. Prior to the start of work, areas will be identified by the biological monitor-in-charge ~~and approved by the USFWS and CDFW~~ as acceptable locations to which California red-legged frog may be relocated if these species are encountered within a work area. Relocation areas will be a minimum of 500 feet from the boundary of any work area and will not include staging areas or roads. No California red-legged frog will be removed from the site or maintained in captivity overnight without prior notification and written approval by the USFWS and CDFW unless the animal is in need of emergency medical assistance. Medical assistance will be provided to injured animals by a certified wildlife veterinarian familiar with amphibian and reptile care. When transporting individual California red-legged frog, safe handling precautions will be taken to ensure that the animals are not over-stressed. Safe handling measures include: keeping animals in a cool, dark, and safe location (terrarium for California red-legged frog), providing adequate hydration, maintaining a stable cool temperature to avoid over-heating, keeping animals isolated to prevent them from harming one another, and ensuring holding tanks or bags are kept clean to prevent the spread of any diseases.
- All practicable measures shall be taken to avoid killing or injuring any life stage of California red-legged frog during habitat enhancement activities.
- The biological monitor and/or qualified biologist shall have the authority to halt work activities that may affect California red-legged frog adults, tadpoles or egg masses until they can be moved out of harm's way.
- Any project-related, human caused injuries to California red-legged frog will be immediately reported to CDFW and USFWS.

Applicable Location(s): Where Program activities are proposed within riparian habitat or Waters of the State and/or U.S. and 1 mile of a known California red-legged frog occurrence.

Performance Standards and Timing:

- **Before Activity:** (1) Provide a biological awareness training in accordance with MM Biology-1, (2) identify acceptable locations where California red-legged frog may be relocated if encountered within a work area, (3) conduct a focused survey for California red-legged frog using an agency approved protocol prior to and within 48 hours of the planned start of Program activities, (4) for all work occurring within 50 feet of ponds, streams, and wetlands suitable for California red-legged frog, conduct visual surveys by walking at least a 50-foot buffer area around the pond in an attempt to locate individual California red-legged frog no more than 24 hours prior to conducting work, (5) devise an avoidance strategy and present it to all individuals involved in Program activities prior to the start of work, and (6) inspect vegetation in work areas containing emergent vegetation for California red-legged frog eggs masses prior to Program activities and keep records.
- **During Activity:** (1) Stop work immediately if a California red-legged frog enters the work area, and (2) implement applicable measures for stop work and handling of individuals if California red-legged frog are found.
- **After Activity:** N/A

MM Biology-12 is revised as follows:

MM Biology-12: Marbled Murrelet Nest Protection Measures

a. Implement IPMP BMP 22 with the additional provisions listed here.

b. In areas within the range of marbled murrelet habitat as identified in the latest maps (e.g., Midpen 2007 maps), Midpen shall conduct a survey of habitats within 0.25-mile of the work area for trees that meet the Pacific Seabird Group definition of potential marbled murrelet nesting trees. If such trees are present within 300 feet of the work area or if a marbled murrelet nest is detected, Midpen shall coordinate with CDFW and USFWS before proceeding. If habitat trees are present within 0.25-mile of the work area but are greater than 300 feet from the work area, Midpen shall implement the following conditions:

c. Work within the work area shall be confined to the period of September 15 to November 1 when possible.

d. If activities cannot be conducted outside the breeding season, and must occur during the marbled murrelet breeding season (March 24 to September 15) Midpen shall:

i. Coordinate with CDFW and USFWS.

ii. Implement seasonal disturbance minimization buffers as listed in the table below and in the ~~July 26, 2006 document, Estimation of the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northwestern California~~ October 2020 document *Revised Transmittal of Guidance: Estimating the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northwestern California* (table below) (or the appropriate, CDFW-recommended or approved guidance at the time of implementation). The thresholds shown apply to noise-generating activities occurring during the midday period, when the risk of disturbance is lower and do not apply to activities within 2 hours of sunrise or sunset. Activities conducted during the dawn and dusk periods have special considerations for ambient sound level. If proposed activities will occur within 2 hours of sunrise or sunset, and if the ambient sound environment during the dawn and dusk period can reasonably be expected to be 5 dB or more quieter than the midday sound environment, then the estimated disturbance distance threshold should be calculated based on an ambient level 10 dB lower (i.e., one row up in the table) compared to the normal ambient rating in the table below.

Existing Pre-Program (Ambient) Sound Level[a]	Anticipated Action Generated Sound Level[b]			
	Moderate (71-80 dB)	High (81-90 dB)	Very High (91-100 dB)	Extreme (101-110 dB)
Natural Ambient (<=50 dB)[c]	165 feet	500 feet	1,320 feet	1,320 feet
Very Low (51-60 dB)	~~40~~ 0 feet	330 feet	825 feet	1,320 feet
Low (61-70 dB)	~~40~~ 0 feet	165 feet	825 feet	1,320 feet
Moderate (71-80 dB)	~~40~~ 0 feet	165 feet	330 feet	1,320 feet
High (81-90 dB)	~~40~~ 0 feet	165 feet	165 feet	500 feet

Notes:

[a] Existing (ambient) sound level includes all natural and human-induced sounds occurring at the work area prior to the proposed action, and are not causally related to the proposed action.

MM Biology-12: Marbled Murrelet Nest Protection Measures

[b] Action-generated sound levels are given in decibels (dB) experienced by a receiver, when measured at 15.2 m from the sound source.

[c] "Natural Ambient" refers to sound levels generally experienced in habitats not substantially influenced by human activities.

iii. Conduct a sound level monitoring study to determine the level of ambient and construction activity noise anticipated during construction activities to calculate seasonal disturbance minimization buffer widths. Midpen shall provide a description of methods and results of the study to USFWS and CDFW to coordinate site-specific avoidance measures 30 days prior to commencement of Program activities at the applicable location(s). In order to alert work crews to their presence, marbled murrelet seasonal disturbance buffers, as determined by the sound study and table above, shall be flagged in the field where they enter the work area. If Midpen chooses not to conduct the sound study, no Program activities shall occur within 0.25-mile of potential nest trees during the marbled murrelet breeding season (March 24 to September 15).

iv. If noise generating construction activity takes place during the breeding season (March 24 to September 15) within suitable Redwood and Redwood/Douglas-fir forests, construction activities shall be restricted to 2 hours after sunrise to 2 hours before sunset to minimize disturbance of potential nesting marbled murrelet using forest habitat as a travel corridor between inland nesting and coastal habitat.

v. Midpen or its contractor shall not conduct Program activities within a visual line-of-sight distance of ~~40~~ 100 meters or less from a suitable nest tree as designated by a qualified biologist or biological monitor, or the appropriate distance per the latest, appropriate, CDFW-recommended guidance at the time of implementation.

e. If marbled murrelet protocol level surveys are conducted and do not indicate that the habitat is occupied by marbled murrelet, the seasonal and distance work restrictions may be lifted with approval from CDFW and USFWS. Protocol level survey procedures and information can be found at: http://www.pacificseabirdgroup.org/publications/PSG_TechPub2_MAMU_ISP.pdf or the appropriate, CDFW-recommended or approved guidance at the time of implementation may be used. If Midpen chooses to conduct marbled murrelet protocol level surveys, Midpen shall coordinate with CDFW and USFWS regarding the survey stations to ensure all contiguous suitable habitat is covered and good visuals of the sky and nearby flyways, if present, are provided. If marbled murrelet protocol level surveys are conducted, Midpen shall submit the report consistent with *Methods for Surveying Marbled Murrelets in Forests: A Revised Protocol for Land Management and Research* or the appropriate, CDFW-recommended or approved guidance at the time of implementation may be used.

Applicable Location(s): Where Program activities are proposed within the range of marbled murrelet habitat.

Performance Standards and Timing:

- **Before Activity:** (1) Conduct a survey of habitats within 0.25-mile of the work area for trees that meet the Pacific Seabird Group definition of potential marbled murrelet nesting trees, and (2) implement appropriate measures based on survey results.
- **During Activity:** If activity occurs during the nesting season, conduct a sound level monitoring study, provide results to USFWS and CDFW, and comply with applicable measures based on survey results.
- **After Activity:** N/A

MM Biology-15 is revised as follows:

MM Biology-15: Monarch Butterfly Overwintering Aggregation Protection

Prior to any Program activities in tree groves comprised primarily or entirely of pine, cypress, fir, or eucalyptus that are within 2 miles of the Pacific Coast, a desktop record review shall be conducted to determine if the grove historically was occupied by monarchs. For all other tree groves comprised primarily or entirely of pine, cypress, fir, or eucalyptus that are within 2 miles of the Pacific Coast, a qualified biologist or biological monitor working under a qualified biologist shall survey the grove for aggregations of monarch butterflies during the overwintering season according to the Xerces Society's Western Monarch Count Protocol (Xerces Society 2019), available at https://www.westernmonarchcount.org or the latest protocol available at the time of implementation may be used.

Two surveys shall be conducted during the overwintering season, one during the Western Monarch Thanksgiving Count period (the three-week period centered on the Thanksgiving holiday), and a second during the New Year's Count period (the two-week period beginning the weekend prior to New Year's Day).

- Each survey shall be conducted by two surveyors to provide multiple independent estimates of monarch numbers.
- Surveys shall be conducted in the morning while temperatures are below 55˚ F (13˚ C) and monarchs are more likely to be clustered.
- Surveys shall not be conducted during rain or strong winds due to poor visibility and the chance that individual monarchs shall be scattered on the ground.
- If no monarch overwintering aggregations are observed, Program activities may proceed pursuant as long as they occur prior to November 1. If Program activities are delayed beyond November 1, then the grove shall be re-surveyed.
- If a monarch overwintering aggregation of any size is detected or historical occupation is identified according to record reviews, then no Program activities may take place inside the tree canopy within 200 feet of the aggregation, when present. Activities outside of the canopy line but within 200 feet may proceed (i.e., treatment of low-growing vegetation outside of the tree grove) if a qualified biologist or monitor determines that the activity does not pose a threat to the monarch aggregation.
- Groves with historical occupation shall not be altered without further consultation with USFWS and/or CDFW.
- Once the aggregation disperses (typically by March), treatment of vegetation within 200 feet of tree(s) where monarch aggregations were observed may proceed if, as determined by a qualified biologist or monitor, it shall not result in significant alteration to wind and sunlight patterns within the grove.
- If monarch overwintering aggregations are detected in eucalyptus removal areas, then a long-term tree planting strategy is necessary (see *Protecting California's Butterfly Groves* [Xerces Society 2017]).
- Native tree species suitable for monarchs must be planted many years prior to eucalyptus removal with the understanding that they may not reach functional heights to provide wind protection and suitable dappled lighting for 15-30 years. Transplanting saplings from a local source may speed this process. Planting of eucalyptus shall be prohibited. Removal of eucalyptus may proceed once native replacement trees have reached sufficient size to provide wind protection within the grove.
- Standing dead trees generally do not contribute to monarch overwintering habitat (Xerces Society 2017) and may be removed within the grove between April 1 and August 31, outside of the overwintering period, as determined appropriate by a qualified biologist or monitor. Sites where invasive dead trees have been removed may create opportunities for native tree planting within the interior of the grove.
- If a eucalyptus grove where a monarch overwintering aggregation was previously detected is re-surveyed using the Western Monarch Count Protocol (Xerces Society 2019) and found to be unoccupied for 5 consecutive years, then the grove may be removed before native replacement trees have reached full size.

Applicable Location(s): Where Program activities are proposed in tree groves comprised primarily or entirely of pine, cypress, fir, or eucalyptus that are within 2 miles of the Pacific Coast.

MM Biology-15: Monarch Butterfly Overwintering Aggregation Protection
Performance Standards and Timing: • **Before Activity**: (1) Survey tree groves for aggregations of monarch butterflies during the overwintering season according to the Xerces Society's Western Monarch Count Protocol and implement appropriate measures based on survey results, and (2) develop a long-term tree planting strategy if monarch overwintering aggregations are detected in eucalyptus removal areas. • **During Activity:** Implement tree planting strategy. • **After Activity:** N/A

MM Biology-20 is revised as follows:

MM Biology-20: Significant and Heritage Tree Ordinances
Prior to conducting any work that involves tree removal, biologist or other personnel qualified in tree identification shall identify if any County or local protected and heritage tree ordinances are relevant to the area of work. If an ordinance would apply to the area of work, the area of work shall be investigated by the biologist or personnel qualified in tree identification to identify if any trees subject to the ordinance are found in the project area. If a tree subject to the ordinance is in the area of work, the tree shall be clearly marked as a "Leave Tree" so that it is not accidentally damaged or removed during work. If a tree that qualifies as a protected or heritage tree must be removed, the appropriate steps shall be implemented to obtain the appropriate permits for tree removal. If trees within the CalTrans right-of-way must be removed, the tree removal must be part of the Encroachment Permit, to be reviewed by CalTrans, which may require tree replacement in its permit terms.
Applicable Location(s): Where tree removal occurs.
Performance Standards and Timing: • **Before Activity:** (1) Identify County and local protected and heritage tree ordinances, (2) identify trees that are subject to the ordinance, (3) ~~maker~~ mark trees for avoidance, and (4) obtain necessary permit to remove protected and heritage trees or trees within Caltrans right-of-way. • **During Activity:** Avoid impacts on trees that are marked for avoidance. • **After Activity:** N/A

Section 4.6: Geology and Soils

Page 4.6-3 is revised as follows:

> Due to the various factors discussed above, including the types of geologic units present, known historic failures in the geologic units present, soil conditions, and slope, portions of Midpen lands have been mapped as susceptible to landslides (Brabb E. E., Pampeyan, E. H., 1972; Cooper-Clark and Associates, 1975; CGS, 2002, 2005, and 2019). ~~The most common l~~ Landslide types encountered in Midpen lands include ~~is a~~ debris flows.~~,~~ ~~which is a~~ A debris flow can result from significant erosional processes on hillsides over time as well as from deep-seated landslides (Ellen, Mark, Wieczorek, Ramsey, & May, 1997; Wills et al, 2011). Various landslide types have different factors that affect landslide potential. Debris flows are fast-moving downslope flows of mud that may include rocks, vegetation, and other debris. These flows typically begin during intense rainfall as shallow landslides on steep slopes. Depending on the scale and location, rapid movement and sudden arrival of debris flows following a triggering rainfall can pose a

significant threat to life and property. Debris-flow initiation requires steep slopes and often concave parts of hillsides. Translational/rotational slides are relatively deep with a somewhat cohesive slide mass and occur in relatively cohesive, homogenous soils and rocks. Slides can occur in saturated and impaired drainage conditions. Comparatively large areas of tree removal or removal of toe material can induce instability (CGS, 2013).

Page 4.6-4 is revised as follows:

Figure 4.6-3 shows the portion of the landscape where evidence of historic landslides, notably slides and earth flows, within Midpen lands was identified. This data is used to predict where future landslides could occur. Some small proportion of the identified historic landslides may become active in any one year, with movements concentrated within all or part of the landslide masses or around their edges.

~~A~~ Under certain conditions, areas ~~where~~ with slopes ~~are~~ under 35 percent ~~have~~ may be associated with the lowest potential for landslides and areas with slopes greater than 50 percent ~~have~~ may be associated with the highest potential for landslides (McClelland, et al., 1998). Areas within OSPs where slopes are 35 percent to 50 percent, and 50 percent or greater, are shown in Figure 4.6-4. As discussed, slope is one of several factors that contribute to instability. The susceptibility for deep-seated landslides is shown in Figure 4.6-5, which considers rock strength and slopes on Midpen lands. Table 4.6-2 provides a breakdown of susceptibility across Midpen lands. Very high susceptibility is classed as VIII, IX, and X, which occurs in areas with very steep slopes in hard rocks and moderate to very steep slopes in weak rocks. As shown, over 50 percent of Midpen lands are highly susceptibility to landsliding.

Some areas with more moderate slopes, such as La Honda Creek OSP have a high susceptibility for landsliding due to weaker rock (as indicated by Figure 4.6-4 and Figure 4.6-5).

Table 4.6-2 Landslide Susceptibility Within Midpen Lands

Landslide Susceptibility Classes	Percent of Midpen Lands
0 (Lowest)	5.3
III	6.2
V	3.3
VI	8.9
VII	21.9
VIII	17.5
IX	24.5
X (Highest)	12.6

Note:
No class II or IV landslide susceptibility exist.

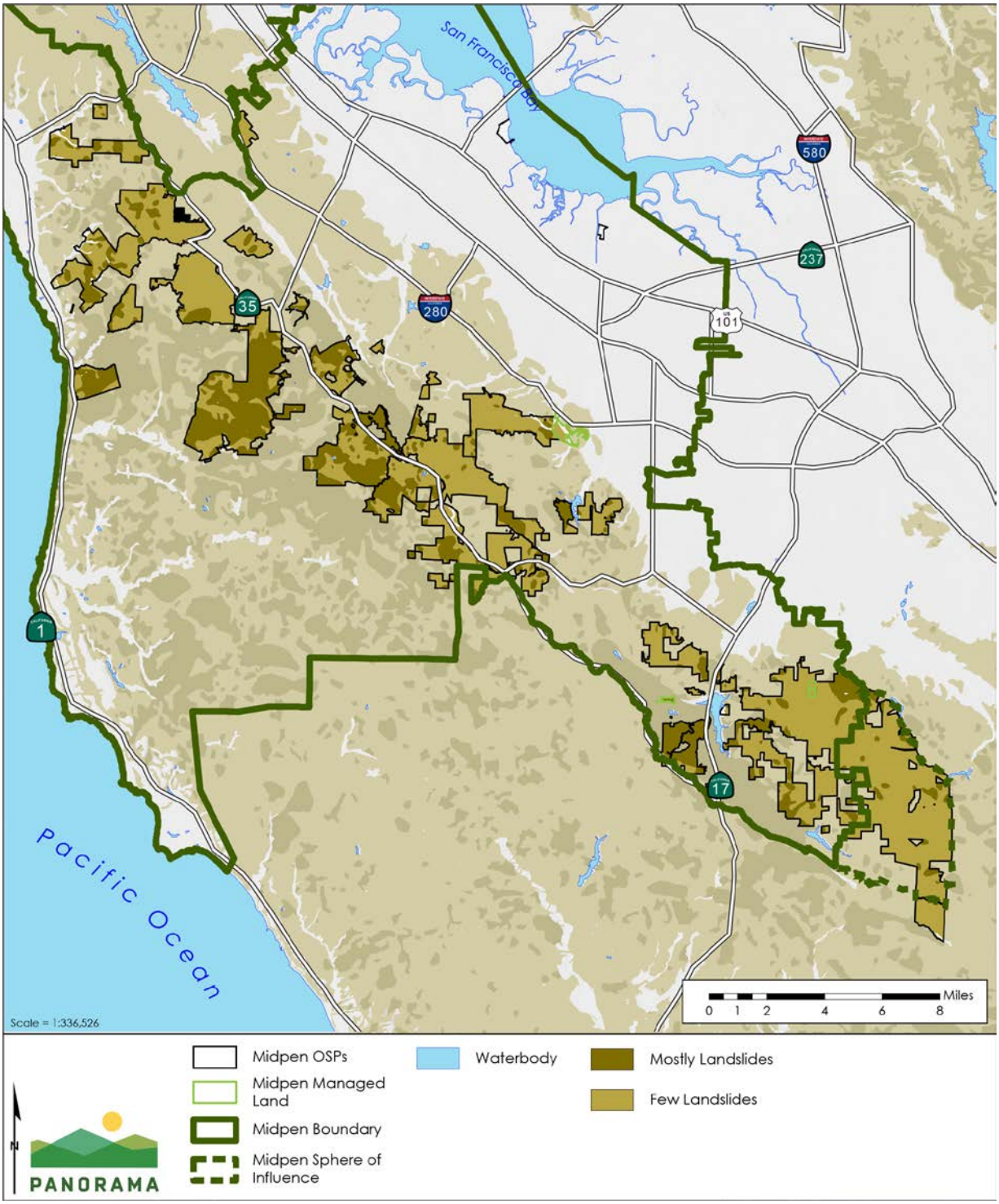
Table 4.6-2 on page 4.6-5 is revised as follows:

Geologic Unit	Geologic Time of Formation	Geologic Description	Proximity to Midpen Lands
Surficial Sediments			
Alluvium	Holocene or Pleistocene Epochs	Alluvium consists of unconsolidated deposits of clay, silt, sand, and gravel that have been transported and deposited by streams. Within the lowland areas and at the base of slopes in the Program area, bedrock is overlain by younger surficial deposits. Alluvium is found at the margins of the hillside areas. The youngest deposits are loose and soft sediments deposited within the last 10,000 years. ~~These deposits are typically those that are the most~~ Colluvium in upland areas, particularly thick colluvium, can be highly susceptible to landslides and slope instability if subjected to grading or clearing. Alluvium in areas of flat slopes is less susceptible to land instability but can be susceptible to soil collapse.	Alluvium is dispersed throughout Midpen lands east of the San Andreas Fault Zone on the bayside of San Mateo and Santa Clara Counties.
Basement Complex Rocks			
Franciscan Complex mélange, Franciscan Complex sedimentary rocks, and Franciscan Complex volcanic rocks	Eocene or Paleocene Epochs, Late Cretaceous Period, or Late Jurassic Period	The Franciscan Complex is Cretaceous- and Jurassic-age bedrock that has been broken and sheared by tectonic forces. The result is a disrupted mass of hard rock types embedded in a fine-grained matrix that has been sheared and crushed. The Franciscan Complex is characteristically inherently weak and pervasively sheared. Due to these characteristics, components of this formation are susceptible to land instability. Other minor components of the formation, including the common massive sandstone, thinly bedded sandstone, butano sandstone, and shale bedrock in the Franciscan complex generally exhibit high stability on natural slopes. However, these rocks produce sandy and/or silty soils prone to erosion. They are also highly susceptible to erosion when stripped of their vegetative cover.	The Santa Cruz Mountains are composed primarily of Franciscan assemblage. A significant amount of Franciscan Complex is found in Sierra Azul, Monte Bello, and Rancho San Antonio OSPs.

Sources: (~~Norris & Webb, 1976;~~ DWR, 2016; Brabb, E.E.; Pampeyan, E. H., 1972; Brabb & Pampeyan, 1983; Brabb, E.E., 1980; Brabb, E. E.; Graymer, R. W.; Jones, D. L., 1998; Midpen, 2012; Lajole, Helley, Nichols, & Burke, 1974; Brabb, Graymer, & Jones, 1998; Graymer, et al., 2006; Marin County, 2005)

Figure 4.6-3 on page 4.6-9 is revised as follows:

Figure 4.6-3 Historic ~~and Projected~~ Landslides and Predicted Areas of Projected Movement Within Midpen Lands

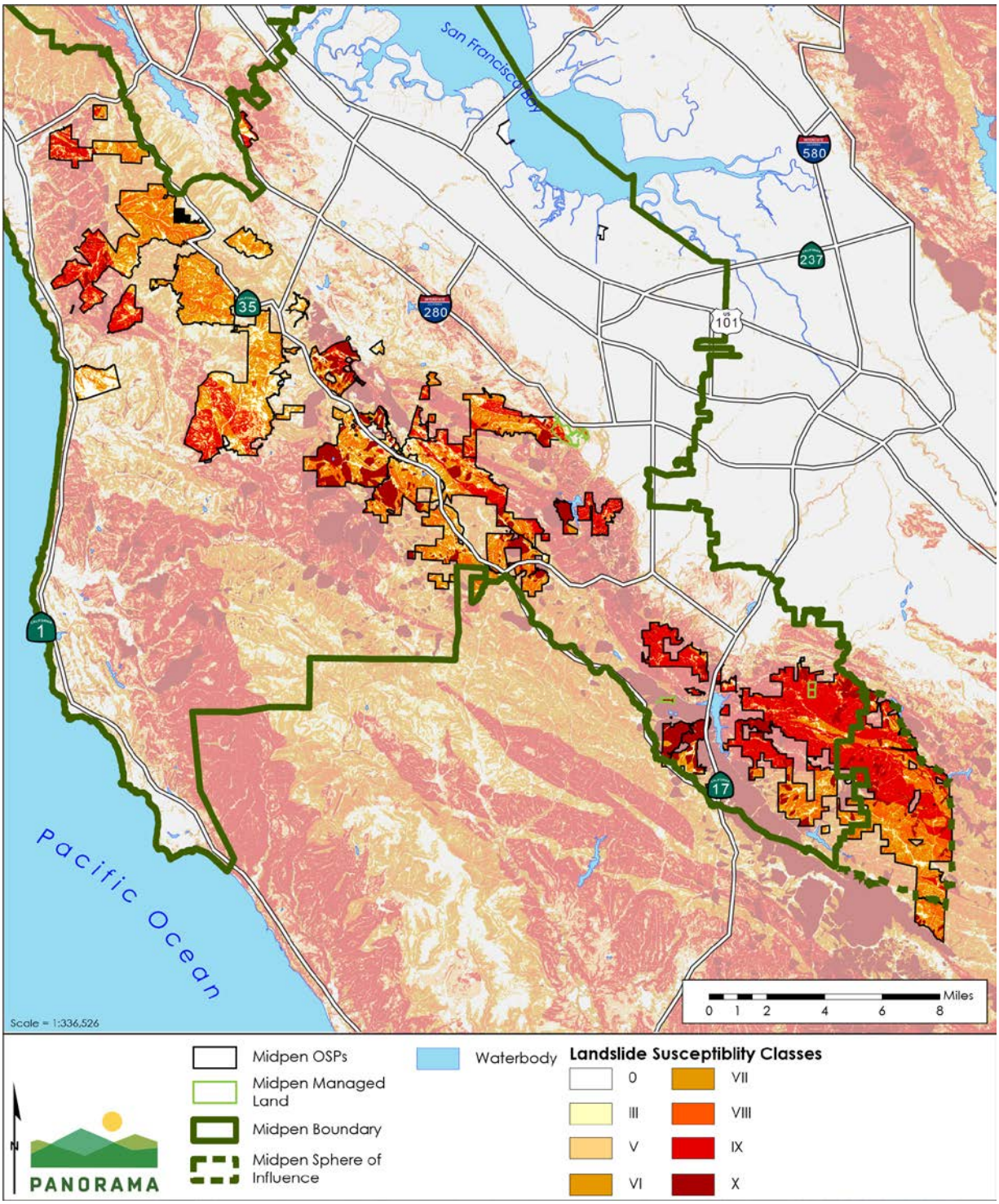


Source: (USGS, 2013; USGS, 2016; Tele Atlas North America, Inc., 2018; Midpen, 2019; Wentworth, et al. ~~USGS~~, 1997)

The title of Figure 4.6-4 on page 4.6-10 is revised and a new figure added as follows:

Figure 4.6-4 ~~Areas with Steep~~ Slopes ~~and Highest Potential for Slope Instability~~ Within Midpen Lands Associated with Potentially Higher Slope Instability

Figure 4.6-5 Landslide Susceptibility Within Midpen Lands



Source: (Wills et al, 2011)

Impact Geology and Soils-1 on page 4.6-18 is revised as follows:

Impact Geology and Soils-1: Direct~~ly or indirect~~ 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; ii) Strong seismic ground shaking; iii) Seismic-related ground failure, including liquefaction; or iv) Landslides.	**Significance Determination** **Less than significant**

Midpen lands traverse several counties and are subject to compliance with various local laws and ordinances concerning geology and soils, including the San Mateo, Santa Clara, and Santa Cruz County General Plans. Midpen adheres to these local regulations when managing its lands that fall into those respective jurisdictions and would continue to do so when implementing the Program. Midpen also has specific regulations for the management of its lands that involve Program activities, as outlined in Midpen's Resource Management Policies. The Program area features several earthquake faults susceptible to rupture and historically has experienced strong seismic ground shaking, such as during the 1989 Loma Prieta earthquake. The Alquist-Priolo Earthquake Fault Zoning Maps for the Program area indicate that Midpen lands are located within earthquake fault zones and are also designated as zones of required investigation under the Seismic Hazards Mapping Act (CGS, 2002; CGS, 2005; CGS, 2019).

An impact is only considered significant if the Program would exacerbate existing or future seismic hazards by increasing the severity or likelihood of such hazards affecting people that would exist without the project. The number of workers on Midpen lands at any one time and throughout the year would increase under the Program. Workers may be at risk of injury or death from various Program activities if activities are conducted in an area where fault rupture, seismic-related ground failure, or landslide occur; however, seismic ground shaking events are unpredictable, and the potential occurrence of such events coinciding with Program activities is minimal. Earthquake safety training pursuant to Occupational Safety and Health Administration regulations would minimize potential for impacts on workers. The Program involves implementation of various vegetation management activities and does not include any substantial new structures or operational activities that could create or exacerbate a ground-shaking risk to the surrounding population. The Program would not involve construction of habitable structures that could expose persons to adverse effects from earthquakes and strong seismic ground shaking. Implementation of Program activities would not <u>directly</u> cause an increased risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, or seismic-related ground failure, including liquefaction and landslides. The <u>direct</u> impact would be less than significant. Refer to Impact Geology and Soils-3 for an analysis of the potential for the Program to increase landslide risk and soil destabilization, <u>which could indirectly increase substantial adverse effects due to increasing the risk of landsliding during a seismic event</u>.

Impact Geology and Soils-2 on pages 4.6-21 through 4.6-22 is revised as follows:

Access and Vehicle Travel
Vehicle travel to project sites and within the Program area could result in some erosion. Most of the proposed fuelbreaks are located adjacent to and along the upslope and downslope side of roads. Defensible spaces are located near public areas, facilities, and utilities. These areas are accessed via roads. Vehicle travel and transport of equipment on established unpaved or gravel roadways and trails could result in erosion. Impacts on any one area from off-road travel would be limited because vehicle use would be dispersed throughout the Program area. The additional trips associated with implementation of the Program would not result in significant increases in erosion and loss of topsoil as most erosion occurs from the presence of the unpaved roads and trails versus the use of them. Former skid trails may be mowed and vegetation cleared for use to access areas beyond existing roads, such as to access forest treatment areas, but they would not be graded. Root systems of larger vegetation would generally be left in place, minimizing the potential for erosion from use of these roads. In some locations, more extensive vegetation clearance may be needed to utilize former trails. Substantial vegetation removal, particularly in areas of steep slopes or with evidence of former landsliding, has the potential to result in destabilization and erosion, which would be a significant impact. MM Geology-2 requires qualified personnel to assess areas of substantial vegetation removal to determine the control measures needed to avoid erosion. Impacts would be less than significant with mitigation.

Analysis of Plans

Vegetation Management Plan
The maintenance of existing and creation of new VMAs would require the use of manual and mechanical equipment for vegetation removal. Soil erosion and loss of topsoil could occur during such vegetation management activities resulting in a significant impact. IPMP BMP 28 requires implementation of erosion control measures before or after vegetation treatment near sites with loose or unstable soils, steep slopes, where a large percentage of the groundcover will be removed, or near aquatic features that could be adversely affected by an influx of sediment. Implementation of this BMP would minimize topsoil erosion. Use of prescribed herbivory as pre-treatment in some areas could result in erosion and loss of topsoil if new livestock trails are formed. MM Geology-1 would reduce impacts by requiring implementation of design features to minimize creation of livestock trails. MM Geology-2 requires qualified personnel to assess areas of substantial vegetation removal to determine the control measures needed to avoid erosion. ~~Impacts would be reduced to less than significant with mitigation.~~ Impacts associated with the VMP would be less than significant with implementation of mitigation.

Prescribed Fire Plan

Prescribed burns could result in a substantial increase in erosion and loss of topsoil due to removal of surface vegetation and alteration of soils. Prescribed burns may necessitate creation of new fire lines that could result in additional denuded areas that are more prone to erosion. IPMP BMP 28 requires the installation of erosion control measures in areas with loose soils to minimize impacts from erosion as a result of vegetation removal. MM Geology-2 requires maintenance of a 50-foot buffer around perennial and intermittent streams when a prescribed burn is proposed on a slope greater than 35 percent and upslope of the stream to minimize potential risk of erosion impacting nearby water bodies. MM Geology-2 also requires qualified personnel to assess sites prior to implementation of a project to determine appropriate erosion control measures, including when clearing a former trail for access. MM Geology-3 requires prescribed burn boundaries to be designed to avoid gullies and highly erodible soils as well as restoration of fire lines that do not use existing infrastructure (e.g., roads, trails, or other permanent infrastructure). Implementation of mitigation would reduce impacts to less than significant.

Wildland Fire Pre-Plan

Use of vehicles and equipment during construction of spur roads, water storage tanks, staging and landing areas, and other firefighting infrastructure would require ground disturbance that could result in some increased erosion. Vehicle use would be dispersed throughout the Program area, therefore reducing the impact on any one area. Construction of facilities would require ground disturbance and substantial vegetation removal that could result in erosion and loss of topsoil. IPMP BMP 28 reduces erosion by requiring installation of erosion control measures such as application of forest duff or mulches, straw bales, straw wattles, or other erosion control material, or seeding or planting of appropriate native plant species to control erosion. Creation of spur roads or other infrastructure that requires clearing of vegetation could still result in substantial erosion depending upon the location, soil types, and soil moisture. MM Geology-2 requires avoidance of steep slopes, where feasible, assessment by a qualified individual, and implementation of erosion control design measures and considerations to minimize potential risk of erosion, when constructing on steep slopes and areas of landsliding. Impacts would be less than significant with mitigation.

Impact Geology and Soils-3 on pages 4.6-22 through 4.6-30 is revised as follows (note that no changes to Table 4.6-5 are made):

Impact Geology and Soils-3: Instability of a geologic unit or soil that could potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse including indirectly causing indirect substantial adverse effects from seismic-related ground failure.	Significance Determination
	Less than significant with mitigation

Overview

As described in Section 4.6.2: Existing Environment, Midpen lands are subject to instability. The Program would not involve water extraction that could lead to subsidence. While liquefaction and lateral spread has the potential to occur on Midpen lands due to the nearby faulting and presence of water saturated areas, Program activities would not exacerbate these conditions, such as by altering soil saturation or use of vibratory equipment. Soil collapse occurs when shrink-swell soils shrink during the dry season as well as where saturated soils are loaded or compressed. Conditions that could lead to soil collapse exist on Midpen lands, however Program activities would not involve construction of large facilities that could cause soil collapse. These concerns are not addressed further.

Landslides of various kinds including seismic-induced, deep-seated, and debris flows are a significant geologic hazard found throughout the Program area. Due to the underlying topography and geology, landslides are a natural part of the landscape and are a continuous geologic process that creates unique landforms and hillside topography important to the ecological environments found on Midpen lands. Program-related alteration of the land may increase landslides, primarily through vegetation removal that can weaken soil matrix strength. Severe landslides can be devastating to the wildland environment by covering plants, knocking down or damaging trees, and upsetting habitat equilibrium. Landslides or debris flows can also damage infrastructure throughout or directly adjacent to Midpen lands, including roads, trails, and structures. Significant alteration to hydrologic and groundwater conditions in some cases may decrease slope stability and result in landslides; however, the Program is not anticipated to create such conditions. Alteration to natural drainage courses is discussed in Section 4.8: Hydrology and Water Quality.

Many proposed VMAs are most likely underlain by, or near, preexisting landslide debris and/or cross-debris flow path locations. The proposed vegetation management actions that alter vegetative cover, expose soils, and/or minimize soil-root matrix strength could pose a significant impact related to ground stability and could create landslides. These impacts are discussed in detail in this section.

Analysis of Tools and Techniques

Manual and Mechanical Techniques, and Chemical Application

Slope steepness, soil and geologic unit type (rock and soil strength), vegetation, soil water content, and human action affect slope stability. The interaction between vegetation and soil as it relates to slope stability is complex and interconnected. The two

broad categories in which vegetation affects soil stability are hydraulic (e.g., evapotranspiration) and mechanical (e.g., root anchoring). Assessments conducted of landslides found that relatively few landslides occurred on slopes less than 35 percent even where anthropogenic activities such as logging or roads were present. Whereas the likelihood of a landslide occurring increased as slope increased with the highest rates on slopes of 46 to 50 percent or greater (McClelland, et al., 1998; Megahan, Day, & Bliss, 1978). Studies of landslides and forest management practices, including tree cutting (e.g., timber harvest), have found landslide rates to be significant due to loss of root strength (McClelland, et al., 1998). Most landslides that occur after tree removal can be attributed to reduced soil cohesion from root decay. The magnitude of decrease in soil cohesion depends on the existing level of slope stability, dependence on root systems for stability and density of vegetation in the area, and intensity of root system removal (e.g., removal of weeds over a large area versus spot removal) (Rice, Smith, & Strand, 1976). Vegetation and trees also affect rainfall partition (where and how rain falls), evapotranspiration, and changes in soil hydraulics (Rodrigues Afonso Dias, 2019). Many treatment areas are located along or near roads and/or trails, and the decreased slope stability could result in a greater landslide or debris-flow risk that could affect important infrastructure and habitats.

Trees would be removed at the base, and the stumps would be ground down to below the surface. The root systems of removed trees would be left intact to the greatest extent feasible, limiting the potential for soil erosion and slope destabilization for a period of time. Loss of root strength has a direct effect on soil stability (Ziemer, 1981). The level at which retained roots reinforce soil stability is dependent upon soil type, slope, climate, health of the tree, and tree species. Landslide frequency often increases after tree removal but gradually decreases as the area revegetates. The rate at which roots lose strength after tree death has been studied in a variety of forest types. In North America, a 50-percent reduction in root reinforcement was observed to occur 14 to 66 months (just over 1 year to 5.5 years) after conifer tree removal, depending upon the species and other variables (O'Loughlin and Watson 1979). Conservatively, a loss of 50 percent root strength could be expected after a little more than a year after tree removal.

Program activities have the potential to be conducted in areas with steep slopes, historic landsliding, or other areas susceptible to destabilization. Manual and mechanical methods of vegetation removal often include cutting or scalping of vegetation at the surface, thereby leaving roots intact, which would also minimize the potential for slope failure or landslides. Pulling includes the removal of trees or other large-scale areas of brush and weeds by the roots. Herbicide use would lead to plant mortality but would typically be stump or spot spray. No broadcast spraying would occur, minimizing large swaths of dead plants that could lead to soil instability. Root systems increase the stability of slopes by acting as a cohesive force in soil and by reducing the moisture content of soils, which tends to reduce the possibility for landslides. Substantial slope failure could occur if intensive tree (e.g., eucalyptus) and understory removal or other

clearing activity (e.g., for creation of spur roads) were conducted on steep slopes, historic landsliding, or low rock strength. ~~, which~~ This impact would be ~~a~~ significant ~~impact~~ if such a slope failure resulted in damage to structures, roads, trails, infrastructure, or habitat or resulted in loss, injury, or death during a seismic-induced ground failure.

Midpen requires implementation of erosion control measures on sites with loose or unstable soils, on steep slopes, or where a large percentage of the groundcover will be removed (IPMP BMP 28). IPMP BMP 28 does not address all potential scenarios that may cause erosion leading to landslides, such as the use of heavy equipment on steep slopes. MM Geology-2 requires workers to avoid the use of heavy equipment on slopes greater than 35 percent unless specialized equipment is used that minimizes slope instability, and requires use of surface mounds, depressions, logs, rocks, trees and stumps, slash and brush, the litter layer, and native herbaceous vegetation downslope of denuded areas to reduce sedimentation and erosion, as is necessary to prevent erosion or slope destabilization. The measure also requires consideration of slope stability prior to conducting work that could result in denuded surfaces or long-term loss of roots that bind soil on slopes. Work in areas with high slope failure potential would be limited if a slope failure results in damage to roads, trails, structures, or habitat or increased risk of seismic-related landslides that could cause loss, injury, or death. Slope stabilization provisions would be implemented to minimize the likelihood of landslides during or after the work is completed. Implementation of IPMP BMP 28 as well as MM Geology-2, where applicable, would minimize the likelihood of landslides during or after Program activities are completed, reducing impacts to less than significant.

Prescribed Herbivory

Prescribed herbivory can result in the creation of livestock trails that could create bare areas of earth. Grazing animals also tend to wallow and trample, which all loosen topsoil. Overgrazing an area has the potential to cause bare soil. The impact on soil stability from prescribed herbivory would be potentially significant. MM Geology-1 requires implementation of design features to minimize creation of livestock trails, that the number of livestock in an area are controlled to prevent overgrazing, and that bare soils are remediated after work is completed. The impact would be less than significant with mitigation.

Prescribed Burning

Prescribed burning would result in the removal of vegetation on the surface. Soil instability could result through the loss of root strength as roots die and other effects from loss of vegetation from burns on steep slopes (i.e., greater than 35 percent) or historic landsliding. Temporary effects of hydrophobic soils could actually reduce the potential for landslides as it would prevent water from infiltrating the soil. In the interim between the time of a prescribed burn and new vegetative growth, a burned area on a slope or other area of possible instability may be subject to increased landslide potential. Impacts would be potentially significant were landslides to affect infrastructure or

habitat; however, IPMP BMP 28 requires erosion control measures to stabilize the soils and reduce impacts, but impacts may remain significant ~~to less-than-significant levels~~. ~~If prescribed burns are conducted near a water body, increased erosion could cause a landslide that may contaminate a water body and cause a potentially significant impact.~~ MM Geology-2 requires qualified personnel to assess sites prior to implementation of a project or activity under the Program to determine appropriate erosion control measures, including when clearing a former trail for access. ~~a 50-foot buffer around perennial and intermittent streams when a prescribed burn is proposed on a slope greater than 35 percent and upslope of the stream to minimize risk of landslides impacting water quality.~~ Fire lines, if created exclusively for the purpose of the prescribed burn, would result in denuded areas that are more prone to landslides as a result of vegetation removal. MM Geology-3 requires use of existing facilities (e.g., roads, trails, and wet lines) for fire lines where they occur or else implementing other erosion control measures, as defined in MM Geology-3, to restore fire lines that do not use existing facilities. Minimizing erosion would minimize slope stability issues. Impacts from prescribed burns would be less than significant with mitigation.

Access and Vehicle Travel

Access and vehicle travel would not have significant impacts on slope stability – primarily because the roads and access routes are already established. On-road travel from implementation of the Program would not result in significant increase in slope instability or landslides from use of the roads. Skid roads may be mowed to access areas beyond existing roads, such as to access forest treatment areas. These former logging skid roads would not be graded to bare soil; vegetation would be cut and downed trees removed~~, minimizing the potential for slope failures or landslides from these roads~~. Substantial vegetation clearance may be needed to use former trails, which has the potential to result in destabilization particularly in areas of steep slopes or areas with evidence of former landsliding. MM Geology-2 requires qualified personnel to assess areas of substantial vegetation removal to determine the control measures needed to avoid erosion. Impacts would be less than significant with mitigation.

Analysis of Plans

Vegetation Management Plan

VMAs would be created and maintained by cutting and mowing vegetation and by removing small trees, brush, and ladder fuels. The creation of new VMAs and maintenance of existing fuel reduction areas, ingress/egress routes, fuelbreaks, and disclines would result in plant root disturbance and exposed soils. New VMAs could be created in areas with steep or very steep slopes potentially increasing soil instability and landslide risk. Figure 4.6-4 identifies areas of the OSPs where slopes are greater than 35 percent and 50 percent, corresponding to areas of progressively greater risk. The following table summarizes where different types of potential VMAs could be implemented in areas of steep slopes within each OSP that pose the greatest risks of landslide and debris flow. While Table 4.6-5 indicates that new VMAs may be created in

areas within steep slopes, in any one year only a comparatively small subset of new VMAs would be created of the total potential area for VMAs. For example, up to 20 acres of eucalyptus and acacia removal would occur in any one year (refer to Table 3.6-1 of Chapter 2: Project Description) even though a total of 44 acres of Miramontes Ridge OSP of eucalyptus and acacia groves are located on steep slopes.

Impacts would include those identified for manual and mechanical methods, such as mowing and pile burning, and from access and vehicle travel. IPMP BMP 28 requires installation of erosion-control measures on unstable soils or steep slopes. Additional measures may also be needed to reduce effects. MM Geology-2 would further reduce potential impacts to less than significant by restricting the types of activities that could occur and requiring implementation of erosion controls depending on the steepness of the slopes. Impacts would be less than significant with mitigation.

Prescribed Fire Plan

Prescribed burns would remove vegetation and disrupt soils, which could lead to increased landslide risk. The installation of fire lines would create areas susceptible to increased landslides by removing vegetation and leaving soils exposed. The potential risk of landslides would be reduced with implementation of Midpen's erosion control measures (IPMP BMP 28). As previously described, MM Geology-2 requires qualified personnel to assess sites prior to implementation of a project to determine appropriate erosion control measures, including when clearing a former trail for access. ~~a 50-foot buffer around perennial and intermittent streams when a prescribed burn is proposed on a slope greater than 35 percent and upslope of the stream to minimize potential risk of a landslide impacting water quality.~~ MM Geology-3 requires the use of existing barriers such as roads, trails, or wet lines as fire lines and the restoration of fire lines upon completion of the prescribed burn if they would not be used again. Prescribed burn boundaries would be designed to avoid gullies and highly erodible soils to the fullest extent possible. Impacts would be less than significant with mitigation.

Wildland Fire Pre-Plan

Implementation of a Wildland Fire Pre-Plan could require the use of vehicles, access roads, and manual or mechanical equipment, which could increase the risk of landslides by reducing vegetation, as discussed above. A study of landslides associated with forest management, roads, or natural occurrences, found that most landslides (58 percent) were associated with roads compared to much lower occurrences associated only with forest practices (29 percent related to logging) and even lower landslides associated with natural slopes (12 percent) (McClelland, et al., 1998). Installation of spur roads could contribute to an increase in landslide risk if installed in areas of steep slopes, landsliding, or weak geologic units. While staging areas and landing zones could contribute to an increased landslide risk, these types of infrastructure would not typically be installed on steep slopes due to logistics but may still result in destabilization, depending upon other factors. These potentially significant impacts would be mitigated with implementation of IPMP 28 and MM Geology-2, where

necessary, by requiring installation of ~~installing~~ erosion control measures to reduce the potential for landslides, assessment by a qualified individual, and identification of ~~identifies~~ measures to be implemented when installing roads or other cleared areas on steep slopes. Impacts would be less than significant with mitigation.

MM Geology-2 is revised as follows:

MM Geology-2: Erosion Control and Slope Stability Measures

In addition to Midpen's erosion-control measures (IPMP BMP 28), control measures shall be implemented to ensure vegetation management does not result in erosion, loss of topsoil, or slope instability in areas where work could expose bare soils or create loss of root-soil matrix strength. General erosion-control measures are identified that apply to all projects.

~~If~~ Generally, if groundcover or native mulch/organic matter is determined to be less than 70 percent following work or if work is proposed to occur on steep slopes (over 35 percent slope), then specific control measures, as identified here, shall be implemented as determined appropriate by the qualified personnel. Other site conditions, such as unconsolidated soils or evidence of landslides, or the scale of project proposed may trigger the need for the qualified personnel to determine that the control measures shall apply.

Prior to conducting work in any given area under any management action that could result in erosion or slope instability (e.g., prescribed burns, tree removal, weed removal, or forest treatments that could reduce the groundcover and expose soil, or for infrastructure creation such as new roads, pipelines, or water storage tanks) a review of site conditions shall be conducted ~~the area shall be inspected for existing signs of erosion or slope instability (e.g., rills, slumped soil)~~. The review of site conditions may include but is not limited to a desktop review of slope, LiDAR, historic evidence of landslides (e.g., Wentworth et al. 1997), local hazard mapping and safety plans, proximity to infrastructure, and modeling of landslide susceptibility GIS data (e.g., Wills et al. 2011) as well as a site visit for existing signs of erosion or slope instability (e.g., rills, slumped soil). Depending on the slope and the downslope resources that could be impacted by slope failure (e.g., roads ~~that could be impacted if a slope failed~~, waterbodies, or habitat ~~that could be impacted from erosion, important habitat, etc.~~), erosion-control and slope-stabilization measures shall be determined prior to implementation of work, based on the list below. Generally, if an action would expose soils (leaving groundcover or native mulch/organic matter less than 70 percent), then measures to protect soils, minimize erosion, and prevent slope instability shall be implemented. In addition, management actions may be adjusted to achieve similar results.

The measures to be implemented shall depend on the site's specific characteristics and the type and extent of vegetation management work to be performed. The inspection and determination of appropriate measures shall be made by qualified personnel with knowledge and experience (~~a person with~~ a qualified SWPPP developer [QSD] or a qualified SWPPP practitioner [QSP]; licensed geologist [P.G. or C.E.G.]; licensed engineer; Registered Professional Forester [RPF]; etc.) in the application of erosion-control and slope-stabilization ~~control~~ measures through training or field experience with control-measure installation. The qualified personnel shall memorialize in writing their field observations and corresponding recommendations regarding installation of control measures.

A licensed geologist or RPF shall conduct the site inspection for projects that would involve substantial grading or vegetation removal[a] on active slide areas, unstable areas, or unstable soils (as defined in the California Forest Practice Rules) if the following applies:

- in previously undisturbed soils; or
- up to 0.5-mile above or 0.25-mile below infrastructure, including potentially occupied structures.

A licensed geologist or RPF shall conduct site inspections for new road additions that are greater than 600 feet, regardless of the proximity to active slide areas, unstable areas, or unstable soils. The licensed geologist shall identify specific control measures that must be implemented, which may include but are not limited to the control measures identified in this mitigation measure. In areas that were previously analyzed by an RPF or qualified

MM Geology-2: Erosion Control and Slope Stability Measures

geologist, the District shall review the prior recommendations for consistency with the proposed activity and determine if a new review is warranted.

General Control Measures

The following measures shall be considered for implementation and required as determined appropriate by the qualified personnel during work as applicable:

- Minimize areas to be disturbed to the greatest extent feasible.
- Shut down use of heavy equipment, skidding, and truck traffic when soils become saturated and unable to support the machines.
- No substantial ground disturbing work (e.g., use of heavy equipment, pulling large vegetation) shall occur during rain events and 48 hours after a rain event, defined as 0.5 inch of rain within a 48-hour or greater period, using the NOAA website as the official record for rain events.

Reduced Groundcover Control Measures

The following measures shall be considered for implementation and required as determined appropriate by the qualified personnel during work if the activity may leave less than 70 percent of groundcover or native mulch/organic material ~~and~~ as determined to be applicable by qualified personnel:

- Sow native grasses and other herbs on denuded areas where natural colonization or other replanting will not occur rapidly; use slash or chips to prevent erosion on such areas.
- Use surface mounds, depressions, logs, rocks, trees and stumps, slash and brush, the litter layer, and native herbaceous vegetation downslope of denuded areas to reduce sedimentation and erosion, as necessary to prevent erosion or slope destabilization.
- Install approved, biodegradable erosion-control measures and non-filament-based geotextiles (e.g., coir, jute) when:
  - Conducting substantial ground-disturbing work (e.g., use of heavy equipment, pulling large vegetation) within 100 feet and upslope of currently flowing or wet wetlands, streams, lakes, and riparian areas;
  - Causing soil disturbance on moderate to steep (10 percent slope and greater) slopes; and
  - ~~Following the removal of~~ Removing invasive plants from stream banks to prevent sediment movement into watercourses and to protect bank stability.
- Sediment-control devices, if installed, shall be certified weed-free, as appropriate. Sediment-control devices shall be inspected daily during active construction to ensure that they are ~~in good~~ repaired and working as needed to prevent sediment transport into the waterbodies ~~(and repaired as needed)~~.

Once work is completed, the areas shall be inspected at least annually if ~~as needed and as~~ accessible, ~~but at least annually~~ until groundcover exceeds 70 percent and slopes have stabilized ~~it is clear that significant erosion and slope instability are not occurring~~. At that time, erosion-control and slope-stability devices may be removed at the discretion of District staff.

Steep Slopes Control Measures

The following measures, in addition to the ones described above, shall be considered for implementation and required as determined appropriate by the qualified personnel during work conducted on steep slopes (greater than 35 percent) and as determined to be applicable by qualified personnel:

- Avoid use of heavy equipment on slopes greater than 35 percent unless qualified personnel determine that the specialized equipment ~~is used that~~ does not impact slope stability.
- Prescribed and pile burns shall be performed outside of perennial and intermittent streams and of riparian forest/ woodland. A 50-foot buffer around perennial and intermittent streams shall be maintained when the burn is proposed upslope of the stream on slopes greater than 35 percent.
- Avoid installation of cleared areas, including spur roads or staging areas, on steep slopes, particularly over 50 percent slope, where feasible. Where not feasible, a licensed geologist/engineer or RPF shall be consulted, as

MM Geology-2: Erosion Control and Slope Stability Measures

required above. The licensed geologist/engineer shall identify and require implantation of ~~implement~~ appropriate design and control measures including but not limited to those identified in *Low-Volume Roads Engineering* (Keller & Sherar, 2003); *Handbook for Forest, Ranch, and Rural Roads* (Weaver, 2015); latest *California Forest Practice Rules;* or other suitable engineering guidance, such as:

- Locate roads on well-drained soils and slopes where drainage moves away from the road
- Provide adequate surface drainage
- Avoid wet and unstable areas (seeps, springs, etc.)
- Use the natural topography to control or dictate the ideal location of road or cleared area (e.g., staging area); use saddles, follow ridges, use bench areas, etc.

Recommendations provided in the assessment shall be implemented as needed to ensure that slope instability does not occur. When a desktop review or site visit reveals that ~~In areas of~~ steep slopes (greater than 35 percent), active slides, unstable areas, or unstable soils (as defined in the California Forest Practice Rules) ~~that~~ are located above infrastructure, ~~or~~ sensitive habitat, or structures potentially occupied by people, a licensed geologist/engineer shall perform an assessment to evaluate whether the proposed ~~if~~ intensive tree removal (e.g., removal of eucalyptus grove/cluster rather than isolated trees), ~~removal is proposed to evaluate whether~~ could cause erosion, ~~and/or~~ further slope instability or a public safety concern ~~could occur from tree removal~~. ~~Recommendations provided in the assessment shall be implemented as needed to ensure that slope instability does not occur.~~ ~~R~~ Other recommendations could include measures such as stabilizing slopes with mats or natural materials after tree removal and replanting to bind soils.

Note:

[a] Substantial grading is defined as cuts above 3 feet and fill above 1.5 feet with lengths greater than 20 feet or removal of greater than 20 linear feet of shrubs and trees on an abandoned/little-used road on cross slopes greater than 55 percent. Substantial vegetation removal is defined as removal of all vegetative cover (both aboveground and belowground root structure for shrubs; aboveground for trees) for an area with a cross slope greater than 55 percent and in excess of 20 linear feet in any direction.

Applicable Location(s): Any areas where qualified personnel determine erosion and slope stability is a concern (e.g., the ground is disturbed and soils are exposed through vegetation management activities, ~~with measures specific to~~ areas on steep slopes).

Performance Standards and Timing:

- **Before Activity:** Inspect areas prior to treatment to assess the potential for erosion and soil instability.
- **During Activity:** Implement protection measures as needed to avoid or minimize erosion and slope instability.
- **After Activity:** Conduct inspections as needed, depending on the size and nature of the work and the site, to ensure that erosion is not occurring and to remove any erosion control devices once they are no longer needed.

MM Geology-4 is revised as follows:

MM Geology-4: Soil Assessment for Construction of New Water-Supply Pipelines

The following soil-assessment measures shall be implemented to ensure significant risks to life or property do not occur as a result of water-supply pipeline construction in an expansive soil in Ravenswood OSP or Stevens Creek Shoreline Nature Area:

1. Consult appropriate GIS data (e.g., USDA, 1991; USDA, 2015) to determine if expansive soils may be present within the proposed construction site.
2. Conduct a field assessment using a proven scientific test or method, such as a soil expansion index test, to verify presence of expansive soils on the site.
3. If verified to be present, determine if the expansive soils can be avoided through design specifications. If appropriate design measures cannot be utilized to avoid expansive soils, no excavated soil shall be used for fill during construction; instead, clean fill soils with a low expansion potential shall be used.

Applicable Location(s): Locations of new water-supply pipeline construction in Ravenswood OSP or Stevens Creek Shoreline Nature Area.

Performance Standards and Timing:

- **Before Activity:** (1) Obtain permits if appropriate and (2) prepare plans and design specifications according to results of soil assessment.
- **During Activity:** Monitor construction and ensure proper construction practices are implemented.
- **After Activity:** Verify appropriate soils were used during construction.

Section 4.7: Greenhouse Gas Emissions

Page 4.7-11 is revised as follows:

Carbon Sequestration Analysis

Impacts on carbon sequestration are discussed qualitatively. Proposed activities, namely the fuel reduction activities (e.g., fuelbreak creation and maintenance) could all result in the short- ~~-~~term removal ~~of some amount~~ of carbon ~~stock~~ and changes to carbon sequestration across Midpen lands. Given the adaptive nature of the ~~plan as an adaptive plan~~ Program and the ~~nature~~ inclusion of several activities where the exact area of treatment is ~~not~~ currently unknown, the quantification of carbon stock changes ~~lost~~ cannot be reliably calculated to a degree of accuracy that would improve understanding of Program impacts. Such ~~a~~ calculations ~~would~~ depend on the health, size, and type of vegetation ~~removed~~ at the time of removal, which is difficult ~~if not speculative~~ to ~~calculate~~ quantify at large scales ~~the present time~~. ~~Calculations of~~ Calculating the benefits of increased carbon sequestration ~~rates~~ over time ~~are~~ is also ~~made difficult due to the speculation involved in modeling~~ challenging because of model uncertainties when predicting the ~~future~~ regrowth of carbon stock in a healthy forest after treatments ~~or the speculation involved in modeling~~ and the net change ~~offset~~ of carbon stock ~~lost compared with the benefits gained by reduced~~ after reducing fire risks for ~~such~~ management actions. A qualitative discussion of the benefits of the Program is provided as well as an analysis of the Program's consistency with the State's 2017 Scoping Plan and the Forest Carbon Plan.

Impact GHG-1 on pages 4.7-11 and 4.6-12 is revised as follows:

Vegetation-management activities would consist of manual and mechanical vegetation removal, prescribed burning, prescribed herbivory, and revegetation and restoration activities. Use of vehicles and equipment during these activities and to reach project sites would also generate GHG emissions. Pile burning and, more substantially, prescribed burning would generate significant quantities of GHG emissions. Hand tools would not result in the emission of GHGs. The use of livestock specifically for fuel management purposes (prescribed herbivory[1]) would generate methane emissions, but these emissions were not calculated because of ~~due to the~~ limited application and, therefore, small contribution overall ~~of this vegetation management method, these emissions were not calculated and are assumed to be minimal~~.

The majority of the GHG emissions are caused by the proposed prescribed burning activities, similar to criteria air pollutants analyzed in Section 4.3: Air Quality. Quantified GHG emissions associated with Program implementation would be generated from three primary sources: emissions from mechanical equipment and vehicles, emissions from pile burning, and emissions from prescribed burning, as shown in Table 4.7-8. ~~The majority of the GHG emissions are caused by the proposed prescribed burning activities, similar to criteria air pollutants analyzed in Section 4.3: Air Quality.~~ In addition to these direct sources of GHG emissions, Program activities could indirectly change the total amount of carbon stored and released on Midpen lands. Reduced carbon uptake from vegetation removal and the slow release of carbon and carbon equivalents (e.g., methane) from decomposition of removed vegetation (e.g., chipped vegetation) would decrease carbon storage. Carbon intake by mature vegetation would increase carbon storage. These processes are not quantified but would fluctuate throughout Program implementation. Due to the current higher fuel loads than pre-fire suppression, it is anticipated that a net release of carbon from treated vegetation communities would occur, resulting in even greater total emissions attributable to the Program, at least in the near-term as the ecosystem fuel loads are restored closer to pre-fire suppression conditions and wildland fire risk is minimized.

Recommendations to minimize wildland fires and associated GHG emissions include pre-treatment by reduction of fuels and vegetation before using a prescribed fire, smoke management, and harvesting small woody biomass for energy (Thompson, 2008). A Smoke Management Plan must be prepared and implemented for prescribed burns in SFBAAB per BAAQMD's Regulation 5, and prescribed burns in MBARD (should a prescribed burn occur in the less than 3 percent of Program area within the MBARD) must adhere to smoke management requirements in accordance with Rule 438, which would minimize some GHG emissions due to adhering to seasonal and daily timing

[1] The WFRP is a separate program from conservation grazing. Conservation grazing, while it results in fuel reduction, is not a part of this program.

restrictions. The details of the PFP have not yet been established and are only presented programmatically at this time. MM Air Quality-2 requires Midpen to consider and implement measures to minimize emissions associated with a prescribed burn, as feasible, including pre-treating the proposed burn area and burning when fuels have a higher moisture content. Mitigation would minimize some GHG emissions, but GHG emissions would remain many magnitudes greater than existing conditions due to prescribed burning, and could significantly impact the environment.

Section 4.8: Hazards, Hazardous Materials, and Wildland Fire

Impact Hazards-5 on page 4.8-36 is revised as follows:

Pile Burning

Pile burning is conducted as part of current vegetation management practices. Piles of vegetation would be created following manual and mechanical vegetation removal and allowed to dry prior to burning later. The stockpiling of dry, vegetative material has the potential to increase fire risks prior to burning because it is a concentrated source of flammable fuels. This risk is an existing risk associated with current practices; however, the number and location of stockpiles would increase with implementation of the Program. Ignition would be most likely to occur where piles are located near human use or influence, such as close to trails or roads. When burning the piles, current safety practices, such as having a fire-suppression crew on site during pile burns, would continue to be implemented as part of the Program. The intensity and location of piles to be burned could increase with implementation of the Program. If a pile or burn event were to ignite a wildland fire of any size or with potential for spread, the impact would be considered significant. A Smoke Management Plan would be prepared and implemented in accordance with BAAQMD's Regulation 5 and Title 17 of the CCR for any prescribed burn (including pile burns). The Smoke Management Plan would require identification of contingency actions to reduce exposure of sensitive receptors to smoke and specifications for monitoring and verifying meteorological conditions and smoke behavior. Pile burning on Midpen lands within the State Responsibility Area would comply with CAL FIRE regulations, including acquiring a permit and only burning on permissive burn days. For Midpen lands within Santa Cruz County, prescribed burning would comply with the Santa Cruz County Fire Code that declares the open burn season for the county. The Program would coordinate with the Santa Cruz County Fire Chief to determine when pile burning would be allowed. Midpen would adhere to the restrictions and requirements of Rule 438 when conducting pile burning on lands within MBARD. Pile burning events would be registered with MBARD annually or seasonally and include a completed Smoke Management Plan and Smoke Management Permit Application Form consistent with the requirements of CCR, Title 17. Compliance with regulations would minimize the effect, but impacts could remain significant.

Impact Hazards-5 on pages 4.8-37 and 4.8-38 is revised as follows:

Prescribed Burning

Prescribed burns would typically occur over the course of one half-day, with another one-half to two days for mop up and monitoring, which is undertaken to ensure that prescribed burns have been put out completely. The locations of prescribed burns would be selected considering the ability to manage the burn, but prescribed burns would still have the potential to become uncontrolled. Uncontrolled fires could place firefighters and residents, or other sensitive receptors outside of Midpen lands, at risk of injury or death. Structures within and adjacent to Midpen lands could be placed at risk as well. The impact from an escaped prescribed burn would be significant.

A Smoke Management Plan would be prepared and implemented in accordance with BAAQMD's Regulation 5 and Title 17 of the CCR for any prescribed burn. A Burn Plan would also be prepared for each prescribed burn. The plan would include the following: parameters for a fire-risk assessment based on several conditions of the area proposed for burn, including the topography, the vegetation, the weather, and the wind speed; contingency plans; and public notification. Burns are planned for and conducted under optimal weather conditions, including low wind, high moisture, and cool temperatures, which among other reasons, allows firefighters to ensure containment. The Burn Plan would also include provisions specifying when burns could occur, as allowed by BAAQMD or MBARD and CAL FIRE, and the permits and notifications required. The Burn Plans prepared by Midpen would coordinate with CAL FIRE's 2018 Strategic Fire Plan to ensure the protection of lives, property, and natural resources from wildland fire as well as improve environmental resilience to wildland. Similar to pile burning, all prescribed burns on lands in the State Responsibility Area must comply with CAL FIRE regulations. Prescribed burning on the lands under the jurisdiction of Santa Cruz County would be required to comply with the Santa Cruz County Fire Code. Midpen would coordinate the timing of all prescribed burns with the Santa Cruz County Fire Chief to ensure the burns fall within the designated open-burn season for the county. Prescribed burns on lands under the jurisdiction of the Monterey Bay Air Resources District would adhere to the restrictions and requirements of Rule 438, as described above. Midpen Resource Management Policies require Midpen to work closely with CAL FIRE and other fire departments to implement prescribed burns, support the suppression of wildland fires, and prohibit activities that could spark fires during extreme fire hazard (RM Policies WF-1, WF-2). Adherence to the Burn Plan, Smoke Management Plan, and Midpen requirements would limit potential for escape of a prescribed fire, but may not be adequate to prevent harm to recreationalists or the public on trails and roads adjacent to prescribed burn areas.

MM Hazards-2 is revised as follows:

MM Hazards-2: Fire Risk Reduction for Stockpiling and Pile Burning

The following measures shall be implemented to reduce hazards associated with pile burning:

- Pile burning shall only be allowed on days when fire is less likely to spread (e.g., wind speeds are less than 15 mph).
- Piles shall not be constructed in areas where burning cannot be safely controlled, such as bottoms of steep, vegetated hills.
- Piles shall be set back from roads and trails at a distance specified by Midpen to minimize risk to recreationalists and other users.
- All requirements of CAL FIRE or the BAAQMD or MBARD shall be met, including any permit, notification, burn bans, and reporting requirements.
- Public notification shall be provided at least 24 hours in advance of ~~a~~ less than 10 pile burns (defined as 10-foot-wide by six-foot-high) to immediately adjacent residents (within 1,000 feet) ~~individuals within one mile,~~ and at trailheads and access roads leading to the area with piles proposed for burning. For 10 or more piles (defined as 10-foot-wide by six-foot-high), noticing shall extend to residents within 1 mile. The public notification shall include current contact numbers to the appropriate burn coordinator.

Applicable Location(s): Wherever stockpiles of slash are made and piles burned.

Performance Standards and Timing:

- **Before Activity:** Notify public and obtain all permits and make all necessary notifications as required by BAAQMD and MBARD.
- **During Activity:** (1) Ensure that piles are located appropriately and (2) ensure proper weather conditions during pile burning.
- **After Activity:** N/A

Section 4.9: Hydrology and Water Quality

Impact Hydrology-1 on page 4.9-20 is revised as follows:

Access and Vehicle Travel

Vehicle and equipment access would primarily occur on existing roads and trails, most of which are unpaved or gravel. Vehicles and equipment can access most types of VMAs entirely on existing roads and trails with existing waterway crossings (i.e., bridges or culverts). Increased use of existing road and trail crossings may result in increased degradation of these facilities that could lead to erosion and subsequent sedimentation. On very rare occasions, particularly for the creation or maintenance of FRAs that are more expansive in size and generally interior in the preserves, vehicles may need to access project sites across streams or other waterways. Vehicle access could cause rutting or deposition of soil from banks into the bed of streams, even if the stream is crossed while dry. Crossing a waterbody has the potential to disrupt the bed ~~and/or,~~ bank, and riparian corridor and can diminish water quality by introducing suspended particulate and contaminants carried by sediments. ~~contribute to sedimentation that could affect water quality. As previously described, sediments transport contaminants, which impacts water quality. Vehicle access could cause rutting or deposition of soil from banks into the bed of streams even if the stream is crossed while dry. Additional water quality impacts from vehicle access could occur if a spill of fuels or lubricants were to occur in or near waterbodies or waterways.~~ Vehicle travel to and from work areas

within Midpen lands could result in a minimal risk of accidental spills of fuels or lubricants from these vehicles, which could additionally impact water quality. Impacts would be potentially significant. Leaks and spills would be addressed by implementing Midpen's spill-prevention BMPs (MO Manual Sections 14.005 and 13.010; Safety Manual Sections 1.6.5 and 1.6.6). MM Hydrology-1 includes measures that pertain to stream or other waterway crossings, on the very rare occasion, should they be needed. Implementation of MM Hydrology-1 requires that instream crossings, in the rare event they are needed for FRA work, are only allowed during periods of no flow and no saturation and if the stream can be crossed without alteration to the bed or bank (such as through the use of temporary mats). If the waterway cannot be crossed when dry and without alteration to the bed or bank, either plates or similar structures would be used to span from bank to bank, or the instream crossing would only be performed after and in accordance with the appropriate 1602 Streambed Alteration Agreement from CDFW and Section 404 and 401 CWA permits. Upgrades to existing crossing facilities that degrade due to increased use must comply with appropriate permits as well. If a stream could be impacted through soil deposition, rutting, or loss of vegetation, MM Hydrology-1 requires that streambed and banks be restored immediately after work is completed and access is no longer needed and that ~~exposed banks or~~ disturbed vegetation is replanted with native riparian vegetation, as appropriate. The impacts from siltation and sedimentation would be less than significant after implementation of mitigation.

Impact Hydrology-5 on page 4.9-25 is revised as follows:

For most activities, waterbodies can be avoided by using existing roads and trails with the appropriate waterbody crossings. Increased use of existing crossings may result in faster degradation of the facilities that could lead to erosion and subsequent sedimentation. On a very rare occasion while working in more interior areas such as on FRAs, water bodies may need to be crossed with equipment where there is not an existing crossing. While unlikely, should vehicles need to cross a waterways, and should existing crossings degrade faster than under existing conditions, sedimentation and erosion could occur. MM Hydrology-1 requires that instream crossings be avoided to the greatest extent feasible. On the rare occasion where instream crossings cannot be avoided, MM Hydrology-1 requires that instream crossings occur when the stream is dry, with no alteration to the streambed and bank, unless a Section 1602 and potentially a Section 404 permit is obtained, with restoration of the area after work is completed to compensate for impacts. Upgrades to existing crossing facilities that degrade due to increased use must comply with appropriate permits as well. Impacts due to instream crossings would be less than significant with implementation of MM Hydrology-1.

MM Hydrology-1 is revised as follows:

MM Hydrology-1: Water Quality Protection During Waterway Crossing or Work Near Waterbodies

Vehicles and heavy equipment shall avoid new instream crossings. On rare occasions, such as to perform work to create or maintain FRAs, equipment may need to access off an existing road into a treatment area through a waterbody. If instream (waterway) crossings must occur because no other options for access are reasonably available, the crossing shall be performed when the stream is dry and soils are not saturated. The crossing shall be performed in a way that does not result in any permanent alteration of the stream bank or bed (e.g., choosing areas with stable soils and the least slope or with vegetation to protect the bed and bank). If water is flowing or the stream has flow or saturation, temporary plates or the equivalent shall be installed from bank to bank for equipment access across the waterway. Increased use of existing stream crossings may require upgrades and/or re-engineering of the existing road or water crossing structure. If a new ~~an~~ instream crossing or refurbishment of an existing crossing that could impact the bank or bed or riparian vegetation is needed, the crossing shall only be performed after and in accordance with the appropriate 1602 Streambed Alteration Agreement from CDFW and Section 404 and 401 Clean Water Act permits. All soils shall be restored after the instream crossing and banks revegetated, as needed, after the work is completed, in accordance with permits.

Applicable Location(s): Anywhere vehicles and heavy equipment must cross streams or creeks (waterways).

Performance Standards and Timing:

- **Before Activity:** (1) Obtain permits and (2) install plates or record vegetative conditions, as appropriate.
- **During Activity:** Minimize soil or vegetation disturbance, as appropriate.
- **After Activity:** Restore crossing area.

Section 4.10: Noise

MM Noise-1 is revised as follows:

MM Noise-1: Noise Restrictions

Construction Noise Standards

Midpen shall determine the jurisdiction(s) within which an activity is proposed and identify the applicable noise standards. For activities in unincorporated areas, the specific buffers identified in this measure shall apply. For activities in incorporated areas, Midpen shall determine if the standards have a numeric limit and calculate adequate buffers between noise-generating activities and specified land uses (e.g., residential) as appropriate.

Construction Hours

All construction hours identified in the local noise ordinances shall be followed.

Buffer Zones (Santa Clara and Santa Cruz counties)

Buffer zones shall be established to reduce noise at sensitive receptors to the maximum extent feasible to reduce noise to the conditional limits identified by Santa Clara and Santa Cruz counties' noise ordinances.

The buffer zone distances are shown below that identify the distances needed for noise levels to remain below 75 dBA L_{eq} for work occurring less than 10 days, and below 60 dBA L_{eq} for work occurring for 10 days or longer in Santa Clara County and below 75 dBA Leq for Santa Cruz County. These distances do not need to be implemented where it is not technically feasible to implement them per the applicable noise ordinances that requires that noise must only be reduced where it is possible to do so (i.e., Santa Clara County Noise Ordinance, or considering the necessity of the work in Santa Cruz County).

A violation of the noise ordinances would only occur where the noise exceeded the conditional limits set by the jurisdiction, but there is a feasible way to reduce that noise (e.g., placing a chipper within 50 feet of a receptor when it could feasibly be placed 100 feet away is a violation, but using a chainsaw to cut a large hazard tree within 50 feet of a sensitive receptor would not be a violation assuming no other feasible methods to remove that tree are available).

MM Noise-1: Noise Restrictions

Equipment	Approximate Buffer Between Equipment and Sensitive Receptors (feet) – for Work Occurring in One Location for Less Than 10 Days (Not to Exceed 75 dBA L_{eq}) in Santa Clara County or for any work duration in Santa Cruz County	Approximate Buffer Between Equipment and Sensitive Receptors (feet) – for Work Occurring in One Location for 10 Days or Longer (Not to Exceed 60 dBA L_{eq}) in Santa Clara County
Chipper	100	568
Tractor	90	506
Generator/ water pump	71	402
Chainsaw/ excavator	64	358
Skid steer	--	284
Backhoe/ brushcutter	--	254
Fire engine/ crane	--	226
Leaf blower	--	201
Pickup truck	--	179
Power pole saw	--	80

Minimization Measures and Disturbance Coordinator
If these restrictions are not implementable between the receptors and a given location, Midpen shall notify the resident or contact at the sensitive receptor within one week of conducting the activity to schedule the activity. Activities shall be coordinated to minimize disturbance to the receptor, such as conducting the work when no one is there. Engineering controls could also be used, if feasible, to keep noise levels below 75 dBA L_{eq} for work occurring in one location for less than 10 days or 60 dBA L_{eq} for work occurring in one location for 10 days or longer. Midpen shall designate a disturbance coordinator to address any noise complaints under these circumstances. The noise coordinator can be the person performing the work.

Applicable Location(s): Midpen lands near sensitive receptors.

Performance Standards and Timing:

- **Before Activity:** Notify affected parties one week before, if applicable.
- **During Activity:** (1) A designated coordinator shall ensure that either setbacks or other conditions are implemented or affected parties are properly notified (if setbacks are not feasible) and (2) a buffer shall be maintained between receptor and equipment, if needed and appropriate.
- **After Activity:** N/A

3.2.4 Chapter 6: Alternatives to the Program

Page 6-15 is revised as follows:

The IPMP includes up to ~~136~~ 215 acres of manual and mechanical treatments annually, combined with other ongoing fuel management ~~would total~~ within approximately ~~505~~ 500 acres of fuel management areas, as compared with up to 2,630 acres of fuel treatments annually under the WFRP's VMP.

Page 6-23 is revised as follows:

Air Quality and GHG Emissions
Air quality and GHG emissions would be similar to those described for the Program. Criteria pollutant emissions for fuelbreak work would be reduced by an amount commensurate with the reduction in activities associated with enhanced fire management VMA creation and maintenance, but these impacts were already less than significant for the Program, as shown in Section 4.3: Air Quality, Table 4.3-7 and Section 4.7: Greenhouse Gas Emissions, Table 4.7-7. Carbon stock loss would be marginally less under this alternative as the overall potential areas of treatment within which vegetation would be removed and thinned would be reduced. The potentially significant air quality and GHG impacts of the Program are primarily caused by prescribed fire, which would be performed in the same manner under this alternative. The significant unavoidable impacts from prescribed fire would be the same as for the Program.

Page 6-46 is revised as follows:

The benefits of prescribed burning may outweigh the ~~cost~~ drawback of temporary but significant and unavoidable emissions during the burn.

3.2.5 Chapter 8: References

New or revised references are as follows:

Ana Sofia Rodrigues Afonso Dias. (2019). The effect of vegetation on slope stability of shallow pyroclastic soil covers. February 22.

C. J. Wills, F. G. Perez, C. I, Gutierrez. (2011). Susceptibility to Deep-Seated Landslides in California.

CGS. (2002, 2005, 2019). Seismic Hazard Zone Reports for Various 7.5-Minute Quadrangles.

CGS. (2013). Factors Affecting Landslides in Forested Terrain. January.

Cooper-Clark and Associates. (1975). Preliminary map of landslide deposits in Santa Cruz County.

Ellen, S. D., Mark, R. K., Wieczorek, G. F., Ramsey, D. W., & May, T. E. (1997). Map Showing Principal Debris-Flow Source Areas in the San Francisco Bay Region, California. USGS Open-File Report 97-745-E. U.S. Geological Survey.

Marin County. (2005). Geology, Mineral Resources and Hazardous Materials Technical Background Report. November.

Lajoie ~~Lajole~~, K. R., Helley, E. J., Nichols, D. R., & Burke, D. B. (1974). Geologic Map of Unconsolidated and Moderately Consolidated Deposits of San Mateo County, California. *United States Geological Survey Miscellaneous Field Studies Map MF-575, scale 1:62,500*.

Weaver, et al. (2015, April). Handbook for Forest, Ranch, and Rural Roads. A Guide For Planning, Designing, Constructing, Reconstructing, Upgrading, Maintaining and Closing Wildland Roads.

Wentworth, C.M., Graham, S.E., Pike, R.J., Beukelman, G.S., Ramsey, D.W., and Barron, A.D., 1997, Summary distribution of slides and earth flows in the San Francisco Bay Region, California: U.S. Geological Survey, Open-file Report 97-745 C, map scales 1:275,000 and 1:125,000.

~~USGS. (1997). *Landslides*. USGS GIS dataset.~~

O'Loughlin, Colin and Watson, Alex (1979, October). Root-Wood Strength Deterioration in Radiate Pine after Clearfelling. Forest Research Institute, New Zealand Forest Service, Christchurch.

USFWS. (Revised 2020, July). Supplemental Materials 1a. for the Monarch (*Danaus plexippus plexippus*) Species Status Assessment Report.

3.2.6 Appendix 4.4

Table 4 in Appendix 4.4 is revised as follows:

Species Name Common Name	Listing Status [a]	Habitat Requirements and Additional Notes
Danaus plexippus pop. 1 Monarch butterfly - California overwintering population	Fed: ~~None~~ Candidate CA: SA	Along the California Coast, overwintering roosts typically occur in wind-protected groves of eucalyptus, pine, and cypress trees within ~~1 kilometer~~ 2 miles of the coast. The winter migratory lifespan reaches >9 months and adults return to northern habitats in spring.

4 Mitigation, Monitoring, and Reporting Program

4.1 Introduction

When approving projects with mitigation measures that if implemented would avoid or lessen significant impacts, CEQA requires public agencies to adopt monitoring and reporting programs or conditions of project approval to mitigate or avoid the identified significant effects (Public Resources Code Section 21081.6(a)(1)). A public agency adopting measures to mitigate or avoid the significant impacts of a proposed project is required to ensure that the measures are fully enforceable through permit conditions, agreements, or other means (Public Resources Code Section 21081.6(b)). The mitigation measures required by a public agency to reduce or avoid significant project impacts not incorporated into the design may be made conditions of project approval as set forth in a Mitigation Monitoring and Reporting Program (MMRP). The MMRP must be designed to ensure project compliance with mitigation measures during project implementation. The MMRP for the Program is detailed in Table 4.3-1.

Midpen will use the Project Environmental Review Checklist, provided in Appendix A of this Final EIR, to evaluate if impacts of individual projects are covered in the Program EIR and to identify best management practices and mitigation measures that are applicable to those individual projects. Individual projects that do not conform to the scope of the Program EIR may require additional environmental analyses under CEQA.

4.2 Format

This MMRP is organized in a table format, keyed to each significant impact and mitigation measure. Each mitigation measure is set out in full, followed by a tabular summary of monitoring requirements. The column headings in the tables are defined as follows:

- **Mitigation Measure.** This column presents the significant impact and full mitigation measure.
- **Implementation Responsibility.** This column assigns the party responsible for implementation of the measures
- **Monitoring Responsibility.** This column assigns the party responsible for monitoring implementation.
- **Timing and Performance Standards:** This column identifies at which stage of the project mitigation must be completed. Performance standards are identified that must occur during the specified stage of project implementation to determine that the objectives of the mitigation are met.

4.3 Enforcement

This MMRP will be incorporated as a condition of project approval. All mitigation measures must be carried out to fulfill the requirements of approval.

Table 4.3-1 Wildland Fire Resiliency Program Mitigation, Monitoring, and Reporting Program

Mitigation Measure	Implementation Responsibility	Monitoring Responsibility	Applicable Locations	Timing and Performance Standards	Compliance Verification
Aesthetics					
MM Aesthetics-1: Reduction of Visual Impacts from Scenic Roads, Corridors, Trails, and Viewpoints from VMAs • Midpen shall conduct a visual reconnaissance of any planned VMAs during the annual planning process, prior to implementation of the VMA. The reconnaissance shall only apply to VMAs, based on desktop review, that could have the potential to be visible from a designated scenic road, corridor, trail, or viewpoint. • If Midpen identifies that a VMA would fall within an area with lengthy views from a scenic road, corridor, trail, or viewpoint (i.e., longer than a few minutes) of a proposed treatment area, and would degrade the view by changing the existing character or opening up a less scenic view, Midpen will, before implementation, identify any change in location or design (such as avoid areas or reduce degree of thinning) of the VMA to reduce impacts to scenic areas and public views. • If no changes are available that would reduce impacts to public viewers and that could achieve the intended wildland fire risk reduction objectives of the proposed treatment, Midpen will thin and feather adjacent vegetation to break up the linear edges of treatment areas and strategically preserve vegetation at the edge of the treatment area to help screen public views and minimize the contrast between the treatment area and surrounding vegetation.	Midpen and/or Contractor	Midpen	Throughout Midpen lands.	**Before Activity:** Conduct desktop review to determine visibility of VMAs, conduct visual reconnaissance where appropriate to avoid scenic viewpoints, where feasible. Modify design and locations, where possible. **During Activity:** N/A **After Activity:** N/A	
MM Aesthetics-2: Guidelines for Design of Roads, Landing Zones, or Staging Areas New roads, landing zones, and staging areas (firefighting infrastructure) shall be designed in accordance with the following guidelines, as feasible: • Locate new firefighting infrastructure away from ridgelines. • Maximize natural conditions of the area surrounding infrastructure (e.g., mowed grass cover versus hardened surface). • Minimize recontouring of hills and natural topography. • Minimize hillside cuts that run against the contours; follow contours to the greatest extent possible. • Avoid large rocks and mature, healthy trees.	Midpen and/or Contractor	Midpen	Throughout Midpen lands.	**Before Activity:** Design firefighting infrastructure to meet the guidelines. **During Activity:** N/A **After Activity:** N/A	
Air Quality					
MM Air Quality-1: Fugitive Dust Control Measures for Infrastructure Installation At a minimum, the following control measures must be implemented during construction: • When moisture content is low enough to create dust, all exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered or treated with a non-synthetic dust palliative (e.g., organic nonpetroleum products) as often as needed to control dust emissions. • All haul trucks transporting soil, sand, or other loose material off site shall be covered. • Vehicle ingress and egress locations shall be stabilized to minimize erosion and sediment transfer. • For Program activities involving grading or excavation conducted directly off public roads, all visible mud or dirt track-out onto adjacent public roads shall be removed. The use of dry power sweeping is prohibited on public roads. • All vehicle speeds on unpaved roads shall be limited to 15 mph, in accordance with Midpen policy (LU Regulations Section 500.1; MO Manual 07.005). • All roadway, driveway, and sidewalk paving 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. • A publicly visible sign shall be posted with the telephone number and person to contact at Midpen regarding dust complaints. Midpen shall respond and take corrective action within 48 hours. The applicable air district's (e.g., BAAQMD or MBARD) phone number shall also be visible to ensure compliance with applicable regulations. • 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, § 2485 of CCR). Clear signage shall be provided for construction workers at all access points.	Contractor	Midpen	Areas with grading or blading.	**Before Activity:** Post a publicly visible sign with contact information for the public to make dust complaints. **During Activity:** (1) Water exposed surfaces twice a day, (2) cover filled haul trucks, (3) adequately manage soil track-out, (4) limit vehicle speeds, (5) limit idling to 5 consecutive minutes, and (6) have construction equipment maintained by a certified mechanic. **After Activity:** N/A	

Mitigation Measure	Implementation Responsibility	Monitoring Responsibility	Applicable Locations	Timing and Performance Standards	Compliance Verification
• Construction equipment shall be properly maintained by a certified mechanic.					
MM Air Quality-2: Burn Emission Reduction Techniques For activities within a small portion of Long Ridge OSP and a very small portion of Sierra Azul OSP that falls within the NCCAB, Midpen shall limit pile burning to 8.8 tons (i.e., not more than nine 10-foot-wide by six-foot-high parabolic piles of shrub/hardwood vegetation or equivalent) in any one day. Midpen shall incorporate the following measures during planning and implementation of a prescribed burn: • When considering a prescribed burn, weigh the habitat benefits of burning in a particular vegetation type against the emissions. • Reduce the total area burned through mosaic burning if the objectives of the burn can still be met. • Burn when fuels have appropriate fuel moisture content, as determined by the expert preparing the Smoke Management Plan. • Reduce fuel loading by decreasing the density of vegetation and other fuels before ignition using mechanical treatments, manual treatments, prescribed herbivory, and pile burning when logistically appropriate. • Schedule burns before new vegetation growth increases fuel loads, when logistically appropriate. • Delay planned burns when a Spare the Air Burn Ban has been declared. • Provide public notification at least 48 hours in advance of a burn less than 50 acres to individuals and jurisdictions within one mile, and at trailheads and access roads leading to an area with piles proposed for burning. For burns in excess of 50 acres, noticing shall extend to a larger region as determined appropriate by Midpen. The public notification shall include current contact numbers to the appropriate burn coordinator.	Midpen	Midpen	Prescribed burn projects in the NCCAB and SFBAAB; Pile burning in NCCAB.	**Before Activity:** (1) Choose vegetation types with fewer emissions when other considerations are equal, (2) reduce the fuel loads, (3) schedule burn prior to new vegetation growth, and (4) conduct noticing. **During Activity:** (1) Mosaic burn, (2) burn when fuels have appropriate moisture content, and (3) limit pile burns conducted in any one day in NCCAB. **After Activity:** N/A	
MM Air Quality-3: Asbestos Management Prior to conducting any activities requiring manual soil-disturbing activities (e.g., pulling of vegetation or trenching), use of mechanical equipment (e.g., skid steer loader or backhoe), or off-road access to a work site, consult the map created using GIS that shows where serpentine soils and rock formations are located. If the work site or temporary access route passes through an area with serpentine soils or rock formations, implement the asbestos-management measures (below), developed based on CARB Asbestos Airborne Toxic Control Measures developed for construction and grading operations. Asbestos Management Measures: • Areas known to have asbestos shall be watered during ground-disturbing activities (e.g., pulling of medium-to-large vegetation, digging large holes for planting) to ensure that the soil remains moist during the extent of the activity. • Avoid or minimize the tracking of dust into vehicles. • Do not use compressed air for cleaning your vehicles after your visit. Use a wet rag to clean the interior. • All vehicle speeds on unpaved roads shall be limited to 15 mph, in accordance with Midpen policy (LU Regulations Section 500.1; MO Manual 07.005). • When mowing in serpentine soils, the mower head shall be set at least 6 inches above the ground to minimize asbestos dust generation. If when mowing, dust is seen from the mower pluming more than 4 feet above the ground surface, the mower shall be adjusted to the minimum height needed to avoid generating dust plumes.	Midpen and/or Contractor	Midpen	Areas with serpentine soils or rock formations where activities could occur.	**Before Activity:** Water areas with serpentine soils or exposed rock formations. **During Activity:** (1) Water exposed surfaces twice a day, (2) limit vehicle speeds, and (3) raise mower head to minimize dust. **After Activity:** N/A	
MM Air Quality-4: Midpen Employee Protection from Prescribed Burn Air Pollutants Midpen shall require that prescribed burns on Midpen lands are managed to reduce Midpen employee exposure to CO concentrations and other air pollutants through implementation of the following measures: • Use real-time CO monitors. • Train workers to be aware of smoke hazards associated with prescribed and pile burns. • Rotate personnel out of heavy smoke areas and routinely monitor for smoke exposure during burn events. • Avoid burning heavy fuel loads, such as large logs, on the ground to avoid additional mop up. • Strategically place firefighters and fire lines where smoke exposure is less. • N95 or N100 dust masks, or bandanna shall be available for voluntary use and must be used when recommended by the Burn Boss.		Midpen	Prescribed burn locations.	**Before Activity:** Purchase real time CO monitors. **During Activity:** (1) Provide real-time CO monitors to firefighters, (2) rotate firefighters out of heavy smoke areas, and (3) avoid burning of areas with heavy fuel loads. **After Activity:** N/A	

Mitigation Measure	Implementation Responsibility	Monitoring Responsibility	Applicable Locations	Timing and Performance Standards	Compliance Verification
Biological Resources					
MM Biology-1: Training, Monitoring, and Reporting **Monitoring** • The biological monitor(s) or qualified biologist(s) shall have the authority to stop Program activities to avoid take or impacts to special-status species or protected biological resources; in the event of unforeseen circumstances (e.g., unanticipated impacts are occurring); or if Program personnel are not complying with regulatory permit conditions and the BMPs listed herein. The biological monitor or qualified biologist shall possess the necessary agency approvals or permits required for involvement in Program activities. - A **biological monitor** is an individual who has a minimum of 2 years academic and 1 year professional experience in biological sciences and related resource management activities, is able to identify species that may be present within the work area, and is familiar with the habits and behavior of those species. - A **qualified biologist/botanist** is an individual who has a minimum of a 4-year academic degree in biological sciences or related resource management activities, with a minimum of two survey seasons years (e.g., two seasons during the blooming season of sensitive plants) conducting surveys for each species that may be present within the work area. - A **professional biologist/botanist** is an individual who has a minimum of 5 years of academic training in biological sciences or related studies and 3 or more years of professional experience conducting protocol-level wildlife and/or florist field surveys. - A **Midpen-approved biologist/botanist** is an outside consultant who has been approved by Midpen either by a professional biologist/botanist, Resource Advisor or other appropriate individual, to conduct biological monitoring and surveying activities. This individual can be any one of the three categories of biologist/botanist described above. - A **Resource Advisor** is an individual who provides professional knowledge and expertise for the protection of resources (e.g., biological and cultural resources), within an emergency incident environment. • The qualified biologist or biological monitor shall conduct on-site monitoring of Program activities that have the potential to impact sensitive biological resources. The monitoring requirements (e.g., frequency and duration) shall depend on the specific activity(ies) being performed and the ecological sensitivity of the site (e.g., the potential for soil erosion or occurrence of special-status wildlife). Some activities shall warrant full-time monitoring by one or more biologists and/or biological monitors; whereas weekly site inspections may be sufficient for other activities. At a minimum, monitoring shall be conducted frequently enough to ensure compliance with permit conditions and BMPs. The monitor shall maintain a log that documents: (a) the monitoring dates, (b) areas and activities monitored, (c) compliance with permit conditions and BMPs, (d) any remedial actions that were taken (or are needed). • Post-activity monitoring shall also occur, with the scope and timing dependent on the potential for risks to biological resources. The purpose of monitoring is to ensure that special-status plant species and sensitive communities were avoided and are not experiencing negative indirect impacts from activities. If negative impacts are observed or are potentially occurring, restoration measures shall be implemented, and modifications made to future activities to avoid similar impacts. **Pre-Activity General Survey and Flagging** A qualified biologist or biological monitor working under a qualified biologist shall survey all selected work areas shortly before work to assess general conditions and determine environmental considerations as required by IPMP BMPs 21 and 25. Prior to Program activities, the biologist or biological monitor shall use flagging (or other methods) to clearly delineate the work area and any areas that shall be avoided (e.g., sensitive communities, habitat for special-status species). **Reporting** Information on new localities or sightings for special-status species shall be reported to the Sacramento USFWS Office and the California Natural Diversity Database (CNDDB) annually. Information on any incidental capture, injury, or mortality of special-status species shall be immediately reported within 3 working days of their discovery or in accordance with the federal and State permit conditions. The data shall also be logged in Midpen's electronic inventory system identified in IPMP BMP 25. **Training** • Prior to commencing a Program activity, all personnel shall attend a worker environmental awareness training program conducted or prepared by the qualified biologist or biological monitor working under a Midpen-approved biologist as required by IPMP BMP 21.	Midpen and Contractor	Midpen	All Midpen lands.	**Before Activity:** (1) Survey all selected work areas and (2) conduct worker environmental awareness training program. **During Activity:** (1) Conduct on-site monitoring, (2) report information on any incidental capture, injury, or mortality of special-status species, (3) temporarily stop any work that may harm special-status species, and (4) inspect vehicles, equipment, and fencing daily. **After Activity:** Conduct post-activity monitoring.	

Mitigation Measure	Implementation Responsibility	Monitoring Responsibility	Applicable Locations	Timing and Performance Standards	Compliance Verification
• The worker environmental awareness training will include a brief review of the life history, field identification, and habitat requirements of each special-status species that could potentially be present on-site, their known or probable habitat types and locations, potential fines for violations, avoidance measures, and necessary actions if special-status species or sensitive natural communities are encountered, as required by IPMP BMP 21. In addition, the training shall include information on: - All BMPs, regulatory permit conditions, exclusion areas, and other work restrictions. - Color coding for flagging used to demarcate work areas, staging areas, skid trails, watercourses, and exclusion zones (e.g., around special-status plants and other sensitive biological resources). - The identification and reproductive biology of invasive plants and animals. - *Phytopthora ramorum* and other pathogen avoidance. **General Wildlife Protection Measures** • Vehicles traveling to and from the work areas off of established roads and trails, in sensitive plant or wildlife habitat, must travel slowly (5 mph) and be preceded by a monitor to ensure that wildlife shall not be run over by the passing vehicle. Vehicle monitors do not need to be trained biologists. • Vehicle monitors shall check for any reptiles, amphibians, or other animals under vehicles and equipment parked for more than 30 minutes. • Some individual live, dead, or dying trees shall be retained as snags where recommended by the qualified biologist and biological monitor and where leaving the tree would not increase fire hazards or be a safety concern. • Qualified biologists/biological monitors are required to temporarily stop any work that they believe may harm special-status species. Work shall not resume until a satisfactory method is agreed upon to minimize or avoid take of the species. • Qualified biologists/biological monitors may require staging areas or stockpiled equipment/materials to be fenced with USFWS and/or CDFW-approved exclusion fencing if there is potential for special-status species to enter the areas and become entrapped, and routine inspection of the area is not adequate to ensure that species are not present. Fencing shall be inspected by a qualified biologist/biological monitor and maintained daily as needed to ensure its proper function in excluding wildlife. Large-scale fencing around entire vegetation management areas is discouraged due to the habitat disruption associated with fence installation and removal.					
MM Biology-2: Special-Status Plants **Pre-Activity Special-Status Plant Survey** As required by IPMP BMP 25, a biological monitor or qualified biologist shall survey the work site to determine the potential presence of special-status plants (as defined under Section 4.4.2 in the Program EIR) and document any observations. Surveys shall be conducted at the time of year when plants will be both evident and identifiable and using a standard protocol relevant at the time of the survey, such as the *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* (CDFW, 2018). The abundance and spatial distribution of all special-status plants and sensitive natural communities detected during the surveys shall be recorded with a GPS unit and entered online into the CalFlora and Midpen's GIS databases. This information shall also be submitted to the CNDDB, per MM Biology-1. If any special-status plants are found to occur in the activity footprint, the biologist/botanist shall evaluate the potential level of impacts the activity could have on the plant species, either an individual or population, based on its biology and the nature of the activity (no impact, low impact, or moderate/high impact). Activities with no or low impact can proceed. If an activity could have a moderate or high impact (e.g., anticipated mortality) Midpen shall consult with CDFW and the appropriate avoidance or minimization measures would be implemented, depending on the species' rank, physiology, and habitat requirements, as described below. **Species to Avoid (Unless Population Could Benefit from Program Activity, such as Prescribed Burning)** Program activities shall avoid impacts to State or federally listed plants that are known to occur or have the potential to occur on Midpen lands: • Ben Lomond spineflower • Butano Ridge cypress • California seablite • San Francisco popcornflower • San Mateo thorn-mint • San Mateo woolly sunflower	Midpen biological monitor or qualified biologist and Contractor	Midpen	Any area where Program activities occur near special-status plant species.	**Before Activity:** Survey the work site to determine the potential presence of special status plants and document and report accordingly. **During Activity:** (1) Avoid impacts to State or federally listed plants, (2) implement botanist's recommendations for spatial buffers or other management actions, and (3) implement general avoidance and minimization measures. **After Activity:** Attempt to salvage any special-status plants that are permanently impacted by a Program activity.	

Mitigation Measure	Implementation Responsibility	Monitoring Responsibility	Applicable Locations	Timing and Performance Standards	Compliance Verification

- Coyote ceanothus
- Crystal Springs fountain thistle
- Dudley's lousewort
- Marin western flax
- Metcalf Canyon jewelflower
- Monterey spineflower
- Pacific Grove clover
- Robust spineflower
- Rock sanicle
- Santa Clara Valley dudleya
- Santa Cruz cypress
- Santa Cruz tarplant
- Santa Cruz wallflower
- Scotts Valley polygonum
- Scotts Valley spineflower
- Two-fork clover
- White-rayed pentachaeta

In addition, Program activities shall avoid impacts to the following species that (a) have very specific habitat requirements that are hard to replicate at a mitigation site; (b) are difficult to transplant or propagate; or (c) have insufficient data on the ability to successfully transplant, relocate, or reintroduce the taxa:

- Anderson's manzanita
- Kings Mountain manzanita
- Clustered lady's-slipper
- Mountain lady's-slipper
- Loma Prieta hoita
- Arcuate bush-mallow
- Most beautiful jewelflower

Activities that could have a moderate or high impact on these species shall not occur within an appropriate buffer (as determined by a qualified biologist/botanist or biological monitor working under a qualified biologist) of any individuals or populations identified. Disclines or firefighting infrastructure shall be relocated to avoid any populations of these species.

Prescribed herbivory and prescribed burning shall be allowed in the habitats for these species if, in the professional opinion of a qualified biologist/botanist or biological monitor working under a qualified biologist, the activity shall provide a long-term benefit to the plant (e.g., by eliminating non-native plants).

Minimization of Impacts for All Other Special-Status Species

Midpen shall implement the following approach for all other special-status plant species that have been detected, or that are detected in the Program area during the pre-activity surveys conducted per MM Biology-1 (adding specificity to IPMP BMP 21, which requires developing site-specific measures):

- A qualified biologist/botanist or biological monitor working under a qualified biologist shall recommend spatial buffers or other management actions. The buffer size needed to protect a special-status plant from adverse edge effects (indirect impacts) is dependent on the specific species, threats to the species, existing disturbances, and the habitat's permeability to those threats (CBI 2000). Midpen shall implement the botanist's recommendations. Impacts to a special-status plant shall only occur if it is the botanist's professional opinion that the impact shall provide a long-term benefit to the plant (e.g., by eliminating non-native plants or another threat to the species). If Midpen is unable to implement the botanist's recommendations, or if there is uncertainty regarding the effects of a Program activity on the special-status plant population, Midpen shall assess subsequent effects on the plant population through post-activity monitoring. If the monitoring indicates the Program activity has negatively impacted the plant population, the compensatory mitigation terms of MM Biology-3 shall apply. If the monitoring indicates the effects were positive or neutral, no additional mitigation is required.
- If Program activities are proposed to be conducted in habitat for a special-status plant, the activities shall be conducted during the phenological stage least sensitive to disturbance, based on guidance from the botanist.
- If Program activities are proposed to be conducted in habitat for a special-status plant, and the work must be conducted when the plant is sensitive to disturbance (e.g., during the growing season), Midpen shall assume the plant could be permanently impacted and shall either:
  - 1a. Monitor the response of the plant post-construction. If the study indicates the Program activity has negatively impacted the plant population, the terms of MM Biology-3 shall apply.

Mitigation Measure	Implementation Responsibility	Monitoring Responsibility	Applicable Locations	Timing and Performance Standards	Compliance Verification
- 1b. Attempt to salvage any special-status plants that are permanently impacted by a Program activity (e.g., plants within a proposed discline). Salvaged plants (and seeds) shall be used for the compensatory mitigation required under MM Biology-3, and comply with best management measures intended to exclude *Phytophthora* and other plant pathogens to the extent possible. Any supplemental plants (or seeds) needed for a mitigation project, site rehabilitation, or other application shall be derived from locally appropriate genetic material and nurseries that comply with best management measures intended to exclude *Phytophthora* and other plant pathogens to the extent possible; or - 2. Provide compensatory mitigation in accordance with the terms of MM Biology-3. **General Minimization and Avoidance Measures** Burn piles shall not be located within 50 feet of a special-status plant except those species that a qualified biologist/botanist or biological monitor working under a qualified biologist determines shall benefit from burning (e.g., Kings Mountain manzanita). Propane flaming shall not be conducted within the vicinity of special-status plants that could be accidentally damaged by the flaming activities. Vegetative debris shall not be placed on top of special-status plants, unless the biologist/botanist determines this is acceptable.					
MM Biology-3: Compensatory Mitigation for Impacts to Special-Status Plants Midpen shall provide compensatory mitigation for any special-status plant population that is permanently and negatively impacted by Program activities (i.e., could not be avoided or benefited through activities and subsequent monitoring determines an adverse effect to the population where a decline in the population is attributable to the Program activities, per MM Biology-2). Compensatory mitigation may be accomplished through habitat preservation, creation, restoration, or enhancement as determined appropriate by Midpen's qualified biologist/botanist or biological monitor working under a qualified biologist, in consultation with CDFW. All compensatory mitigation projects shall include a mitigation plan outlining the strategy, and the plan must be approved by CDFW, including identification of the success thresholds established depending on the population and site conditions. The compensation ratio for planting shall be no less than 3:1 (plants at mitigation site/plants at impact site). Under some circumstances a higher ratio may be needed, which shall be determined by Midpen's qualified biologist/botanist or biological monitor working under a qualified biologist, in consultation with CDFW. If habitat enhancement is selected, the compensation ratio shall be no less than 6:1. If possible, compensatory mitigation shall occur on lands under Midpen's control. Mitigation sites on Midpen land shall include provisions for protecting them from impacts caused by other projects or programs (existing and future). Compensatory mitigation shall not be allowed on lands outside of Midpen's control unless those lands have a legally enforceable mechanism that ensures they shall be protected and managed in perpetuity for the benefit of the target species (i.e., special-status plant requiring mitigation). Midpen shall hold responsibility for the success of mitigation projects conducted on lands outside of its control, unless mitigation is accomplished through an approved program (i.e., mitigation bank or in-lieu fee program). Midpen shall apply the monitoring methods outlined in the Monitoring Plan of the Program to monitor the success of compensatory mitigation projects. To account for natural variability in the size of plant populations, Midpen shall also monitor a nearby reference population. Midpen shall prepare annual monitoring reports that document the monitoring methods and results. Monitoring reports shall be submitted to CDFW. Monitoring of compensatory planting shall be conducted for at least 5 years. If after 3 years, monitoring has determined that the planting success standards are met, the report shall make this determination and monitoring may cease. Monitoring of compensatory habitat enhancement shall be conducted for at least 1 year, after which time if the success standards are met, no further monitoring is required. A mitigation project shall be considered successful if during the monitoring period, the qualified botanist or biological monitor working under a qualified biologist, determines the success threshold has been achieved. The success threshold may be adjusted downward commensurate with any decline observed at the reference population. For example, if a special-status species is detected in a planned work area, and Midpen is unable to reconfigure the treatment or treatment method to avoid impacts to the species, Midpen shall count the number of plants in the work area and at a nearby reference population. The compensation requirement shall be based on the number of plants impacted by the treatment, whereas the number of plants at the reference site shall serve as the baseline for evaluating natural fluctuations in the population. For example, if 100 plants of a given special-status species are located in the work area, the compensation requirement is 300 plants. However, if during the final 2 years of mitigation monitoring the reference population has 20 percent less plants than the baseline value, the threshold for success at the mitigation site shall also be 20 percent less (240 plants, assuming the success threshold was set to 300 plants).	Midpen	Midpen	Any area where Program activities permanently affect any special-status plant population.	**Before Activity:** Determine appropriate compensation ratio. **During Activity:** Select habitat preservation, creation, restoration, or enhancement for compensatory mitigation project. **After Activity:** Monitor the success of compensatory mitigation projects for no less than 5 years.	

Mitigation Measure	Implementation Responsibility	Monitoring Responsibility	Applicable Locations	Timing and Performance Standards	Compliance Verification
To facilitate the likelihood of success, Midpen shall: • Ensure materials used for plant establishment (e.g., seed sources, container plantings) are sourced from genetically appropriate material and comply with best management measures intended to exclude *Phytophthora* and other plant pathogens to the extent possible. Container plants shall only be sourced from a nursery that complies with best management measures intended to exclude *Phytophthora* and other plant pathogens to the extent possible. • Maintain less than 10 percent cover of invasive plants at the mitigation site until the target species has successfully established. Thereafter, Midpen shall conduct invasive plant removal on an as-needed basis. • Implement measures (e.g., close restoration areas, install signage) to restrict public access within mitigation zones, at least until the target species has successfully established. • Conduct visual inspections of the mitigation site to identify any major problems (e.g., unauthorized trespass) requiring remedial actions. The frequency of visual inspections shall be commensurate with threats to the ecological integrity of the site. The site shall be inspected annually until the success criteria of the permitting agencies (e.g., CDFW) are met, after which the site shall be monitored in accordance with Midpen's Monitoring Plan for the WFRP.					
MM Biology-4: Invasive Plants and Soil Pathogens **General Invasive Plant Measures** In addition to Midpen's standard invasive species practices under the IPMP (i.e., IPMP BMPs 11 through 18), Midpen shall implement the following invasive plant measures: • Data on populations of invasive weed species in the work area and along access roads shall be collected and reviewed prior to implementation of the Program activity. Data shall include the distribution, abundance, and seral stage of invasive weed species. Pre-activity general surveys conducted according to MM Biology-1 shall be designed to detect all weeds on the CDFA noxious weed list, and Cal-IPC species with a rank of High and Moderate. • Invasive weed species that occur within or immediately adjacent to the boundaries of proposed treatment areas shall be removed prior to the treatment—unless the treatment has been specifically designed to control or eliminate those species. For example, yellow star thistle removal shall not be required for a grazing treatment designed to control yellow star thistle. Midpen shall identify the appropriate disposal location for weeds that are removed. In determining the disposal location, Midpen shall assess the potential for spread of plant pathogens that might be present. • Schedule activities to maximize the effectiveness of control efforts and minimize introduction and spread of invasive plants (e.g., install and maintain fuelbreaks, disclines, and other VMAs before non-native plants set seeds). • Implement vegetation methods favorable to native plants. **Prescribed Fire and Planning Invasive Plant Measures** • A qualified biologist/botanist or biological monitor working under a qualified biologist shall evaluate the likely effects of a prescribed burn on invasive species in the proposed burn area based on the species that are known to occur in the area or that are found during the pre-activity survey (MM Biology-1). If the burn might promote spread of an invasive species, Midpen shall implement measures (e.g., manual treatments) to proactively reduce the threat or invasive species spread following the burn. • A qualified biologist/botanist or biological monitor working under a qualified biologist shall assess the effects of the burn to determine whether revegetation is needed in any areas to speed recovery of the desired plant community. • A qualified biologist/botanist or biological monitor working under a qualified biologist shall monitor vegetation recruitment on control lines. If vegetation recruitment is not on a trajectory for restoration of the impacted community, Midpen shall implement remedial measures such as planting or seeding. • An interdisciplinary team shall determine when activities (including conservation grazing and public access) may resume in burned areas. The team shall include natural resource staff knowledgeable about invasive plants. **General SOD and Soil *Phytopthoras* Measures**	Midpen biological monitor or qualified biologist and Contractor	Midpen	All Midpen lands.	**Before Activity:** (1) Collect data on populations of invasive weed species in the work area and along access roads and, (2) evaluate the likely effects of a prescribed burn on invasive species in the proposed burn area. **During Activity:** (1) Remove invasive weed species that occur within or immediately adjacent to the boundaries of proposed treatment areas, (2) clean vehicles, equipment, and boots prior to entering the work area, (3) assess the effects of a prescribed burn to determine whether revegetation is needed in any areas to speed recovery of the desired plant community, (4) if a prescribed burn might promote spread of an invasive species, implement measures to proactively reduce the threat that the plant shall spread following the burn, and (5) implement the BMPs recommended by the California Oak Mortality Task Force and the Phytophthoras in Native Plant Habitats Work Group. **After Activity:** Monitor vegetation recruitment on disturbance lines	

Mitigation Measure	Implementation Responsibility	Monitoring Responsibility	Applicable Locations	Timing and Performance Standards	Compliance Verification
Midpen shall implement the latest BMPs recommended by the California Oak Mortality Task Force (2020) and the Phytophthoras in Native Plant Habitats Work Group, as determined appropriate by the qualified biologist/botanist or biological monitor working under a qualified biologist.				for adequate restoration of the impacted community, if applicable.	
MM Biology-5: Invasive Plant Detection and Response **Early Detection and Rapid Response** Midpen shall conduct routine monitoring of work areas (e.g., VMAs, prescribed burn areas) in accordance with the Early Detection Rapid Response (EDRR) Protocol and the IPMP (generally every 3 to 5 years). If invasive or potentially invasive species are detected, Midpen shall conduct rapid response dependent upon the circumstances and according to the EDRR Protocol. **Baseline Data and Reference Sites** A Midpen-approved biologist/botanist shall select a reference site for each sensitive natural community affected by the Program. The reference site shall be on Midpen lands that are not directly or indirectly affected by Program activities. Prior to Program impacts in an area, an initial assessment shall be conducted to select a reference site that possess characteristics similar to the impact sites. If a suitable reference site does not exist and when feasible, Midpen shall collect 3 years of vegetation sampling data at the proposed impact site. Quadrat sampling shall occur for up to 5 years at a reference site, if located. This pre-impact or reference site data shall serve as the baseline for comparison with post-impact data. Sampling shall be conducted within quadrats at both the impacted site and reference sites. Quadrat sizes vary depending upon habitat type and shall be determined by the qualified botanist or biological monitor working under a qualified biologist, but typical sizes are 0.5 to 1 square meter for short grassland, 2 square meters for shrublands, and up to 20 square meters for woodlands. The qualified botanist or biological monitor working under a qualified biologist shall conduct power analysis to estimate the minimum number of quadrats needed to determine a statistically significant difference between the impact site and reference sites (at a significance level of 0.05 and a power level of 0.80). Quadrat sampling locations shall be randomly selected through use of a random number generator in GIS. Within each quadrat, absolute cover of plants shall be visually estimated and recorded for the quadrat as a whole and for each individual plant species using the California Native Plant Society's (CNPS's) method for estimating cover values (CNPS 2020). The CNPS method for estimating cover values uses a "bird's eye view," looking from above and estimating cover for the living plants only. Litter and duff shall not be included in these estimates, and the porosity of the vegetation shall be taken into consideration when estimating percent cover. Percent cover diagrams shall be used to facilitate cover estimates. All invasive species that are incidentally detected during sampling (but outside of the quadrats) shall be documented. Cover data shall be entered into a spreadsheet for analysis. Total cover, percent cover contributed by natives, total cover contributed by non-natives, and cover contributed by invasive weed species shall be calculated from these data. **Success Criteria** • Eradication of invasive or potentially invasive species with a California Invasive Plant Council high rating or designated as noxious that were not detected during the baseline surveys. The target species is considered eradicated after 5 consecutive years with no observations of the target species. • Within 5 years of the impact, cover of non-native species is less than or equal to cover of non-native species at the reference sites.	Midpen biological monitor or qualified biologist	Midpen	Midpen lands.	**Before Activity:** Select pre-impact or reference site data to serve as the baseline for comparison with post-impact data. **During Activity:** Implement EDRR Protocol. **After Activity:** Conduct monitoring according to the EDRR Protocol until success criteria is achieved.	
MM Biology-6: San Francisco Garter Snake Protection Measures • All practicable measures shall be taken to avoid killing or injuring San Francisco garter snake during Program activities. Any project-related, human-caused injuries to San Francisco garter snake shall be immediately reported to CDFW and USFWS. • Within riparian habitat or Waters of the State and/or U.S. and one (1) mile of a known San Francisco garter snake occurrence, Program activities shall be conducted consistent with permit terms and conditions of the current versions of the USFWS Recovery Permit Number: TE225974-2 and CDFW Memorandum of Understanding "Research and Recovery of San Francisco Garter Snake and California Tiger Salamander". • In suitable habitat where San Francisco garter snake has not been documented: a. **Biological Awareness Training.** A biological awareness training shall be provided in accordance with MM Biology-1. A biological monitor shall remain on-site in sensitive areas identified during the pre-survey. If at any time a San Francisco garter	Midpen biological monitor or qualified biologist and Contractor	Midpen	Where Program activities are proposed within riparian habitat or Waters of the State and/or U.S. and 1 mile of a known San Francisco garter snake occurrence.	**Before Activity:** (1) Provide a biological awareness training in accordance with MM Biology-1, (2) identify acceptable locations where San Francisco garter snake may be relocated if these species are encountered within a work area, (3) for all work occurring within 50 feet of ponds, streams, and wetlands suitable for San Francisco garter snake,	

Mitigation Measure	Implementation Responsibility	Monitoring Responsibility	Applicable Locations	Timing and Performance Standards	Compliance Verification
snake is observed, work shall stop immediately until a qualified biological monitor is contacted. Biological monitor(s) and/or qualified biologist(s) shall remain on the work area while initial ground disturbing activities are being conducted, after which biological monitor(s) and/or qualified biologists shall be on-call while Program activities are being conducted at these sites. b. **Vegetation Removal by Mechanized Equipment**. Mowing in areas of San Francisco garter snake habitat shall be conducted outside the peak San Francisco garter snake activity season as determined by a qualified biologist or biological monitor working under a qualified biologist (work typically occurs late October through mid-March or mid-June to end of August). The qualified biologist or biological monitor working under a qualified biologist shall precede the mowing equipment and inspect vegetation for San Francisco garter snake individuals. The mower head shall be kept at 6 inches above ground. Prior to use of a masticator or other heavy equipment in discrete areas with San Francisco garter snake habitat, vegetation shall be cut down to 3 inches by hand tools (weedwhacker, etc.). Once the ground is visible, a visual survey for San Francisco garter snake shall be conducted. If no sensitive species are found in the area, removal of vegetation may continue by mechanized equipment very slowly with a biological monitor walking in front of the equipment to observe. If a San Francisco garter snake is observed, all activities shall cease and Midpen shall coordinate with USFWS and CDFW immediately. Prior to the start of work, areas shall be identified by the biological monitor and approved by USFWS and CDFW as acceptable locations to which San Francisco garter snake may be relocated if these species are encountered within a work area. Relocation areas shall be a minimum of 100 feet from the boundary of any work area and shall not include staging areas or roads. No San Francisco garter snake shall be removed from the site or maintained in captivity overnight without prior notification and written approval by the USFWS and CDFW unless the animal is in need of emergency medical assistance. Medical assistance shall be provided to injured animals by a certified wildlife veterinarian familiar with amphibian and reptile care. When transporting individual San Francisco garter snake, precautions shall be taken to ensure that the animals are not over-stressed and are maintained in safety. Such measures include: keeping animals in a cool, dark, and safe location (snake bag for San Francisco garter snake), providing adequate hydration, maintaining a stable cool temperature to avoid over-heating, keeping animals isolated to prevent them from harming one another, and ensuring holding tanks or bags are kept clean to prevent the spread of any diseases. c. **No Stockpiling of Vegetation.** Viable vegetation removed shall be placed directly into a disposal vehicle and removed from the site. Vegetation shall not be piled on the ground unless it is later transferred, piece by piece, under the direct supervision of the biological monitor or qualified biologist or is going to remain on-site for erosion control or slash and not be moved or disturbed. d. For all work occurring within 50 feet of ponds, streams, and wetlands suitable for San Francisco garter snake, visual surveys shall be conducted by walking at least a 50-foot buffer area around the pond in an attempt to locate individual San Francisco garter snake no more than 24 hours prior to conducting work. A trained and permitted professional biologist shall capture, transfer, and release in a safe area any San Francisco garter snake deemed to be in danger of being harmed by Program activities. If an San Francisco garter snake is located during the pre-treatment surveys but escapes capture, the area where the snake was lost shall be marked by flag and a 50-foot (15 meter) radius shall be actively patrolled during the work. If necessary, individual San Francisco garter snake may be held in captivity in a pillowcase for less than 24 hours and may later be released near the point of capture after the work has been completed. After the pre-treatment survey, an avoidance strategy shall be devised and presented to all individuals involved in Program activities prior to the start of work. The number of San Francisco garter snake encountered and transferred to safe areas or held in captivity during treatment shall be reported to USFWS, and each individual snake shall be photographed for use in identification.				conduct visual surveys by walking at least a 50-foot buffer area around the pond in an attempt to locate individual San Francisco garter snake no more than 24 hours prior to conducting work, and (4) devise an avoidance strategy and present it to all individuals involved in Program activities prior to the start of work. **During Activity:** (1) Stop work immediately if at any time a San Francisco garter snake is observed, (2) conduct mowing in areas of San Francisco garter snake habitat outside the peak San Francisco garter snake activity season, (3) conduct a visual survey for San Francisco garter snake after vegetation is cute down to 3 inches by hand tools, (4) continue vegetation removal by mechanized equipment very slowly if no sensitive species are found in the area, and (5) do not stockpile vegetation. **After Activity:** N/A	
MM Biology-7: California Red-Legged Frog Protection Measures **Handling of California Red-legged Frog** Handling of California red-legged frog will be done by permitted and qualified biologists or biological monitor working under a qualified biologist in an expedient manner with minimal harm to the individuals being handled. Handling of California red-legged frog will be done with wet hands. The hands and arms of all workers handling California red-legged frog will be free of lotions, creams, sunscreen, oils, ointment, insect repellent, or any other material that may harm California red-legged frog. Larval California red-legged frog will not be handled out of the water for longer than 30 seconds unless rewetted and will not be retained for longer than 5 minutes for processing. If	Midpen biological monitor or qualified biologist and Contractor	Midpen	Where Program activities are proposed within riparian habitat or Waters of the State and/or U.S. and 1 mile of a known	**Before Activity:** (1) Provide a biological awareness training in accordance with MM Biology-1, (2) identify acceptable locations where California red-legged frog may be relocated if encountered within a work area, (3) conduct a focused survey for California red-	

Mitigation Measure	Implementation Responsibility	Monitoring Responsibility	Applicable Locations	Timing and Performance Standards	Compliance Verification
captured California red-legged frog exhibit signs of distress (e.g., lack of response to stimuli or erratic behavior), they will be immediately released at the point of capture. All captured California red-legged frog will be released at the point of capture unless that location puts them in imminent danger, in which case they will be placed in a nearby refugium sufficient to protect them. The number of California red-legged frog to be captured is no more than 30 adults per habitat location (defined as the area that specific work is conducted such as a pond site or OSP) per year. In the course of monitoring associated with the activities, if California red-legged frog egg masses are observed in ponds or wetted areas that are going to dry naturally before tadpoles develop (as determined by a qualified biologist or biological monitor working under a qualified biologist), emergency salvage of egg masses by the qualified biologist or biological monitor working under a qualified biologist is permitted to relocate egg masses into deeper waters that will not be affected by the proposed activities. USFWS shall be notified of the emergency salvage per the terms of the recovery permit. Amplexing pairs of California red-legged frog will not be captured, handled, or disturbed. The permittee will disinfect sampling and field gear to minimize the spread of pathogens as follows: 1. Sampling and field gear will be disinfected after exiting one aquatic habitat and before entering the next aquatic habitat, unless the waters are hydrologically connected to one another. 2. All organic matter will be removed from nets, traps, boots, vehicle tires and all other surfaces that have come into contact with water or potentially contaminated sediments. These items will then be rinsed with clean water before leaving each study site. 3. Boots, nets, traps, hands, etc., will be scrubbed with a bleach solution (0.5 to 1.0 cup per 1.0 gallon of water), Quat-128™ (1:60), or a 3 to 6 percent sodium hypochlorite solution and thoroughly rinsed clean with water between study sites. Equipment will be rinsed clean with water between study sites. Cleaning equipment in the immediate vicinity of aquatic habitats will be avoided (e.g., clean in an area at least 100 feet from aquatic features). Care will be taken so that all traces of the disinfectant are removed before entering the next aquatic habitat. 4. Used cleaning materials (liquids, etc.) will be disposed of safely, and if necessary, taken back to the lab for proper disposal. Used disposable gloves will be retained for safe disposal in sealed bags. California red-legged frog will not be removed from the wild and held in captivity for any reason unless prior written approval is acquired by the appropriate USFWS Office or unless the severity of an injury to the California red-legged frog obviates immediate care. Animals will be transported according to accepted methods, in moist cloth bags or in terrarium with moisture gel or non-cellulose sponge to minimize desiccation. **Protocols for California Red-legged Frog Depending Upon Location of Activity** For activities conducted within riparian habitat or Waters of the State and/or U.S. and 1 mile of a known California red-legged frog occurrence: • Prior to and within 48 hours of the planned start of Program activities, a focused survey for California red-legged frog using an agency approved protocol will be conducted by a qualified biologist or biological monitor working under a qualified biologist to determine if they are in the area. If California red-legged frog are found, Midpen will coordinate with CDFW and USFWS immediately to determine the correct course of action and Program activities at that location will not commence until after May 30 or authorized by CDFW and USFWS. • If California red-legged frog are found, biological monitor(s) and/or qualified biologists will be on site while Program activities are being conducted. Midpen will implement the following measures: a. **Inspection of Parked Vehicles:** Any vehicle parked on-site for more than 15 minutes will be inspected before it is moved to ensure that California red-legged frog has not moved under the vehicle. Any parking areas must be checked in advance by the biological monitor or qualified biologist. b. **Vegetation Removal by Mechanized Equipment at California Red-legged Frog Sensitive Sites (areas within or adjacent to wetted aquatic sites):** For vegetation removal on berms or other wetted sites with known California red-legged frog observations, vegetation will be cut down to 3 inches by hand tools (weedwhacker, etc.). Once the ground is visible, a visual survey for California red-legged frog will be conducted. If no sensitive species are found in the area, removal of vegetation may continue by mowing or mechanized equipment very slowly with a biological monitor walking in front of the equipment to observe. If a California red-legged frog is observed that is in harm's way, all activities shall cease and Midpen will notify CDFW and USFWS immediately or the			California red-legged frog occurrence.	legged frog using an agency approved protocol prior to and within 48 hours of the planned start of Program activities, (4) for all work occurring within 50 feet of ponds, streams, and wetlands suitable for California red-legged frog, conduct visual surveys by walking at least a 50-foot buffer area around the pond in an attempt to locate individual California red-legged frog no more than 24 hours prior to conducting work, (5) devise an avoidance strategy and present it to all individuals involved in Program activities prior to the start of work, and (6) inspect vegetation in work areas containing emergent vegetation for California red-legged frog eggs masses prior to Program activities and keep records. **During Activity:** (1) Stop work immediately if a California red-legged frog enters the work area, and (2) implement applicable measures for stop work and handling of individuals if California red-legged frog are found. **After Activity:** N/A	

Mitigation Measure	Implementation Responsibility	Monitoring Responsibility	Applicable Locations	Timing and Performance Standards	Compliance Verification

California red-legged frog can be relocated by a person permitted by the USFWS and approved by CDFW for this project to handle California red-legged frog.

c. **Vegetation Disposal:** Vegetation removed shall be placed directly into a disposal vehicle and removed from the site. Vegetation shall not be piled on the ground unless it is later transferred, piece by piece, under the direct supervision of the biological monitor or qualified biologist or is going to remain on-site for erosion control or slash and not be moved or disturbed.

d. **No Stockpiled Soil:** Soil shall not be stockpiled on the ground unless it is on a paved surface or staging area where there are not burrows. Soils stockpiled for more than a single day near potential habitat should be covered or surrounded by exclusion fencing as directed by a qualified biologist to prevent burrowing animals from entering the stockpile.

e. **California Red-legged Frog Exclusion for Sediment Removal with Large Equipment:** California red-legged frog will be excluded from the project site prior to Program activities at sites involving the use of large equipment for sediment removal. USFWS and CDFW-approved exclusion fencing will be installed around the sediment removal site, staging areas, and any areas where fill may be dumped. After installation of the fence barrier, a biological monitor or qualified biologist will inspect the project work area, staging and stockpiling areas daily prior to the commencement of activities. If the biological monitor or qualified biologist determines that sensitive species are not within the work area, equipment or materials may be moved into the project site and Program activities may commence under the observation of the biological monitor.

For activities conducted in ponds:

- **Focused Surveys Prior to Work Activities.** Prior to and within 48 hours of the planned start of Program activities, a focused survey for California red-legged frog using agency approved protocol will be conducted by a qualified biologist or biological monitor working under a qualified biologist to determine if California red-legged frog is in the area. The pond will be sampled by a qualified biologist to ensure that all California red-legged frog from that pond are in the post metamorphic stage and will be minimally affected by draining the pond. If a California red-legged frog is located during the pre-treatment surveys but escapes capture, the area where the frog was lost will be marked by flag and a 50-foot (15 meter) radius will be actively patrolled during the work. If California red-legged frog are found, Midpen will coordinate with CDFW and USFWS immediately to determine the correct course of action and Program activities at that location will not commence until after May 30 or as authorized by CDFW and USFWS. After the pre-project survey, an avoidance strategy will be devised and presented to all individuals involved in the pond enhancement prior to starting any activities. The number of California red-legged frog encountered and transferred to safe areas or held in captivity by a permitted and qualified biologist during treatment will be reported to the Sacramento USFWS Office and CDFW.
- **Number of On-Site Biologists.** The minimum number of qualified biological monitors required at each pond site will be determined in advance by the qualified project biologist based on pond size, the amount and complexity of work to be performed, and the equipment to be used.
- **Travel Corridors.** Corridors for travel of vehicles and heavy machinery to the pond site will be established at least 24 hours in advance of the proposed work. Corridors that are not established, marked, and improved roads (paved or unpaved) require special consideration for use by any vehicle. During the use of these off-road corridors by vehicles and machinery, a monitor shall proceed directly before the vehicle or machinery to ensure all California red-legged frog and observable wildlife is cleared from the pathway of the oncoming vehicle. Monitors shall signal vehicles to stop if a California red-legged frog is on the pathway, and shall allow the animal to clear the pathway by its own direction. Any handling of the red-legged frog must only be done by a qualified permitted individual. Measures shall be taken to minimize the number of vehicles allowed on the property. All vehicles involved with the site-specific work that are not transported to the work site will be retained in a prearranged, marked parking area in a clearing as close to the main road as possible. At least one monitor will ensure wildlife is clear from the parking area while vehicles are arriving and leaving. All vehicles must stay on designated roads.
- **Seasonal Work Period in Ponds**. If California red-legged frog are found in the pond and water is present in the pond, sediment removal and berm or outfall repair activities shall be performed from August 15 to November 1. Midpen will coordinate with CDFW and USFWS prior to dredging or de-watering activities. Sediment will be removed from ponds by hand to the extent feasible. Sediment removal from ponds will occur as soon as the ponds are dry (if prior to August 15).
- **Vegetation Removal at Ponds**. If California red-legged frog is found, tule and emergent vegetation will be removed by hand when feasible. If mechanized equipment is used, one or more biological monitors or qualified biologists will be onsite monitoring the scoop

Mitigation Measure	Implementation Responsibility	Monitoring Responsibility	Applicable Locations	Timing and Performance Standards	Compliance Verification
bucket while scooping and watching each load unload. Midpen will coordinate with CDFW and USFWS during the annual project notification process regarding anticipated mechanized equipment use for vegetation removal at ponds. In areas where egg masses are known, Midpen and contractor personnel will not enter the channel/pond to avoid dislodging egg masses. Trimming activities shall be performed from the banks, if possible. • **Inspection for Egg Masses**. In work areas containing emergent vegetation (e.g., tules, cattails), vegetation will be inspected for California red-legged frog eggs masses prior to Program activities. If work cannot be postponed, a buffer of vegetation at least 10 feet in diameter shall be left around any egg masses found. Midpen will keep a record of sites where egg masses are found and conduct vegetation removal at these sites prior to November 1 in subsequent years. If California red-legged frog is not found during the focused survey, or for activities conducted in suitable habitat where California red-legged frog has not been documented: • The biological monitor shall remain on-site if sensitive areas are identified during the presurvey. A biological awareness training shall be provided to all persons prior to beginning work. If at any time a California red-legged frog is observed, work shall stop immediately until a biological monitor is contacted. Biological monitor(s) and/or qualified biologists shall then remain be on the project site while Program activities are being conducted. If California red-legged frog is observed, the applicable California red-legged frog measures procedures described above will be followed. **General California Red-legged Frog Avoidance Measures** • If California red-legged frog enters the project area, all work shall stop until the animal leaves on its own. If a person is permitted by the USFWS and approved by CDFW for this specific project to handle California red-legged frog, they can handle and relocate California red-legged frog. Midpen will coordinate with CDFW and USFWS to develop site appropriate avoidance measures utilized for relocation. Prior to the start of work, areas will be identified by the biological monitor-in-charge as acceptable locations to which California red-legged frog may be relocated if these species are encountered within a work area. Relocation areas will be a minimum of 500 feet from the boundary of any work area and will not include staging areas or roads. No California red-legged frog will be removed from the site or maintained in captivity overnight without prior notification and written approval by the USFWS and CDFW unless the animal is in need of emergency medical assistance. Medical assistance will be provided to injured animals by a certified wildlife veterinarian familiar with amphibian and reptile care. When transporting individual California red-legged frog, safe handling precautions will be taken to ensure that the animals are not over-stressed. Safe handling measures include: keeping animals in a cool, dark, and safe location (terrarium for California red-legged frog), providing adequate hydration, maintaining a stable cool temperature to avoid over-heating, keeping animals isolated to prevent them from harming one another, and ensuring holding tanks or bags are kept clean to prevent the spread of any diseases. • All practicable measures shall be taken to avoid killing or injuring any life stage of California red-legged frog during habitat enhancement activities. • The biological monitor and/or qualified biologist shall have the authority to halt work activities that may affect California red-legged frog adults, tadpoles or egg masses until they can be moved out of harm's way. • Any project-related, human caused injuries to California red-legged frog will be immediately reported to CDFW and USFWS.					
MM Biology-8: Foothill Yellow-Legged Frog Protection Measures If foothill yellow-legged frog are found during the general survey conducted per MM Biology-1, biological monitor(s) and/or qualified biologists shall remain in the work area while Program activities are conducted. For activities conducted within riparian habitat or Waters of the State and/or U.S. and 1 mile of a known foothill yellow-legged frog occurrence (within the last 20 years): • Information on foothill yellow-legged frog shall be included in the biological awareness training provided in accordance with MM Biology-1. • Any vehicle parked on-site for more than 15 minutes shall be inspected by the biological monitor or qualified biologist before it is moved to ensure that foothill yellow-legged frog have not moved under the vehicle. Any parking areas must be checked in advance by the biological monitor or qualified biologist. Vehicles shall not be moved if a frog is found, until the frog has moved out of harm's way as determined by the biological monitor or qualified biologist.	Midpen biological monitor or qualified biologist	Midpen	Where Program activities are proposed within riparian habitat or Waters of the State and/or U.S. and 1 mile of a known foothill yellow-legged frog.	**Before Activity:** Provide a biological awareness training in accordance with MM Biology-1. **During Activity:** (1) Stop work immediately if at any time a foothill yellow-legged frog is observed and notify CDFW, (2) conduct a visual survey for foothill yellow-legged frog after vegetation is cute down to 3 inches by hand tools, (3) continue vegetation removal by mowing or	

Mitigation Measure	Implementation Responsibility	Monitoring Responsibility	Applicable Locations	Timing and Performance Standards	Compliance Verification
• For vegetation removal at sites with known foothill yellow-legged frog observations, vegetation shall be cut down to 3 inches by hand tools (weedwhacker, etc.). Once the ground is visible, a visual survey for foothill yellow-legged frog shall be conducted. If no sensitive species are found in the area, removal of vegetation may continue by mowing or mechanized equipment very slowly with a biological monitor walking in front of the equipment to observe. If a foothill yellow-legged frog is observed, all activities shall cease and Midpen shall notify CDFW immediately. Foothill yellow-legged frog can only be relocated by an individual permitted by CDFW for this Program to handle foothill yellow-legged frog. • Vegetation that is to be removed shall be placed directly into a disposal vehicle and removed from the site. Vegetation shall not be piled on the ground unless it is later transferred, piece by piece, under the direct supervision of the biological monitor or qualified biologist or is going to remain on-site for erosion control or slash and not be moved or disturbed.				mechanized equipment very slowly if no sensitive species are found in the area, (4) do not stockpile vegetation, and (5) check all parking areas and under vehicles to ensure no presence of foothill yellow-legged frog and if any are found, do not move vehicles until the frog has moved out of harm's way. **After Activity:** N/A	
MM Biology-9: Western Pond Turtle Protection Measures Within riparian habitat or Waters of the State and/or U.S. and 1 mile of a known western pond occurrence: • Information on western pond turtle shall be included in the biological awareness training provided in accordance with MM Biology-1. • A focused survey for western pond turtle and western pond turtle nests shall be conducted prior to and within 48 hours of the planned start of Program activities by a qualified biologist or biological monitor to determine if any individuals are in the area. • In the event western pond turtle are found in the work area, Midpen shall exercise measures to avoid direct injury to western pond turtle as well as avoid areas where they are observed to occur. • If a western pond turtle is observed during the Program activity, it shall be left alone to move out of the area on its own. If it does not move on its own, it can be relocated to a safe location at least 100 feet away from the work area. Relocation areas shall be of suitable habitat, on shallow banks with slow moving water and shall be far enough away so as not to be affected by Program activities. • If a western pond turtle nest was not found during focused surveys but is observed after initiation of Program activities and its habitat is determined to be unavoidable, all activities shall cease and Midpen shall coordinate with CDFW to develop site-appropriate avoidance and minimization measures.	Midpen biological monitor or qualified biologist	Midpen	Where Program activities are proposed within riparian habitat or Waters of the State and/or U.S. and 1 mile of a known western pond turtle occurrence.	**Before Activity:** (1) Provide a biological awareness training in accordance with MM Biology-1, and (2) conduct a focused survey for western pond turtle and western pond turtle nests prior to and within 48 hours of the planned start of Program activities. **During Activity:** (1) Exercise measures to avoid direct injury to western pond turtle as well as avoid areas where they are observed to occur if western pond turtle are found in the work area, (2) leave western pond turtle alone to move out of the work area on their own if a western pond turtle is observed during activities, (3) relocate western pond turtle at least 100 feet distant from the work area if it does not move on its own, and (4) cease all activities is a western pond turtle nest is found and coordinate with CDFW to develop avoidance and minimization measures. **After Activity:** N/A	
MM Biology-10: California Giant Salamander, Santa Cruz Black Salamander, and Red-Bellied Newt Protection Measures • In primary suitable habitat where Santa Cruz black salamander, California giant salamander, or red-bellied newt were observed or are known to occur: • Information on these species shall be included in the biological awareness training provided in accordance with MM Biology-1. • A qualified biologist and biological monitor shall be available and on-call for the duration of Program activities.	Midpen biological monitor or qualified biologist and Contractor	Midpen	Where Program activities are proposed within suitable habitat for Santa Cruz black	**Before Activity:** (1) Provide a biological awareness training in accordance with MM Biology-1 and (2) conduct a pre-survey of the work area.	

Mitigation Measure	Implementation Responsibility	Monitoring Responsibility	Applicable Locations	Timing and Performance Standards	Compliance Verification
• A biological monitor shall be present on-site when working within 50 feet of wetted areas including stream channels, seeps, and springs. • For Santa Cruz black salamander only, a biological monitor is also required in areas of talus slopes or areas having human stacked rocks and other suitable materials acting as talus. • Work in wetted areas, talus slopes, or human stacked rocks or other suitable materials acting as artificial talus should be completed prior to July to avoid displacement of Santa Cruz black salamander females laying eggs and attending to clutches. • Dismantling of talus and human-stacked rocks and other suitable materials acting as artificial talus shall be avoided and minimized whenever possible. If removal is required to meet project objectives, these materials shall be dismantled by hand whenever possible. • Whenever possible, individual Santa Cruz black salamander, California giant salamander, and red-bellied newt shall be allowed to leave the area on their own. • Individual Santa Cruz black salamander, California giant salamander, or red-bellied newt (not with eggs) that are in harm's way or do not leave the work site on their own may be relocated by a qualified biologist or biological monitor to predetermined sites located outside of the work area but within the same subwatershed. • If heavy equipment is required to remove talus, human stacked rocks or other suitable materials acting as artificial talus, this shall be done in the presence of a qualified biological monitor. • If at any time, Santa Cruz black salamander, California giant salamander, or red-bellied newt eggs are found, the area shall be flagged for avoidance. If the area cannot be avoided to meet Program objectives, Midpen shall coordinate with CDFW to determine the best course of action. • In all other areas of suitable habitat for Santa Cruz black salamander, California giant salamander, and red-bellied newt: • Information on these species shall be included in the biological awareness training provided in accordance with MM Biology-1. • A qualified biologist and biological monitor shall be on-call with suitable availability to respond to calls for the duration of Program activities. • A pre-survey of the work area is required prior to starting work. If no Santa Cruz black salamander, California giant salamander, or red-bellied newt are observed, work may proceed. • If an individual Santa Cruz black salamander, California giant salamander, or red-bellied newt are observed at any time, all activities shall stop and the biologist and/or biological monitor shall be notified and the above measures shall be implemented.			salamander, California giant salamander, or red-bellied newt.	**During Activity:** (1) Ensure biological monitors are present on-site where applicable and (2) stop all activities, implement appropriate measures, and notify the biologist and/or biological monitor if an individual Santa Cruz black salamander, California giant salamander, or red-bellied newt are observed at any time. **After Activity:** N/A	
MM Biology-11: Nesting Bird Protection Measures (With the Exception of Marbled Murrelet) • Implement IPMP BMP 22 with the additional provisions listed here. • To avoid potential impacts to nesting birds, all Program activities shall be conducted between September 1 to February 14 unless a preconstruction nesting bird survey has been conducted by a qualified biologist or biological monitor. Work should be done during the non-breeding season whenever possible. The bird nesting seasons for smaller birds and raptors are defined per IPMP BMP 22 as follows: - March 15 to August 30 for smaller bird species such as passerines; and - February 15 to August 30 for raptors. - Earlier surveys may be needed for specific species such as owls, hummingbirds, herons and egrets and/or other species if nesting activity shifts due to climate change, as determined by a qualified biologist or biological monitor working under a qualified biologist. • If Program activities are scheduled during the nesting season of raptors and/or migratory birds, a focused survey for active nests of such birds shall be conducted by the qualified biologist or biological monitor within 15 days prior to the beginning of project-related activities. Surveys shall be conducted in all suitable habitat located at work areas and in staging and storage areas. The minimum survey radius for each bird type surrounding the work area shall be the following: - 250 feet for passerines; - 500 feet for other small raptors such as accipiters; - 1,000 feet for larger raptors such as buteos and eagles. - The bird survey methodology and the results of the survey shall be submitted to the CDFW prior to commencement of Program activities.	Midpen biological monitor or qualified biologist	Midpen	Where Program activities are scheduled during the nesting season of raptors and/or migratory birds.	**Before Activity:** (1) Conduct a focused survey for active nests of raptors and/or migratory birds within 15 days prior to the beginning of Program activities and submit results to CDFW, and (2) if active nests are found, designate active nest sites as "Ecologically Sensitive Areas" and comply with provisions specified. **During Activity:** (1) Complete work during the non-breeding season whenever possible, (2) conduct nest monitoring during Program activities, and (3) retain individual dead or dying trees to the maximum extent practicable. **After Activity:** N/A	

<table>
<tr><th>Mitigation Measure</th><th>Implementation Responsibility</th><th>Monitoring Responsibility</th><th>Applicable Locations</th><th>Timing and Performance Standards</th><th>Compliance Verification</th></tr>
<tr><td>
• If an active nest (i.e., a nest having eggs or chicks present, or a nest that adult birds have staked a territory and are displaying, constructing a nest, or are repairing an old nest) is found and work cannot be postponed, Midpen shall designate active nest sites as “Ecologically Sensitive Areas” and protected (while occupied) during Program activities with the establishment of flagging or a fence barrier surrounding the nest site. No trees or shrubs that contain active bird nests shall be disturbed until all eggs have hatched, and young have fully fledged (are no longer being fed by the adults, and have completely left the nest site). No habitat removal or modification shall occur within the Ecologically Sensitive Area fenced nest zone even if the nest continues to be active beyond the typical nesting season for the species, until the young have fully fledged and shall no longer be adversely affected by the Program. The minimum distances of the protective buffers surrounding each identified nest site shall be the following per IPMP BMP 22, with some considerations depending on nest location and substrate:
- 500 feet for large raptors such as buteos;
- 250 feet for small raptors such as accipiters;
- 250 feet for passerines; and
- 1,000 feet for eagles.
• A biological monitor or qualified biologist shall monitor the behavior of the birds (adults and young, when present) at the nest site to ensure that they are not disturbed by Program-related activities. Nest monitoring shall continue during Program-related construction work until the young have fully fledged, are no longer being fed by the parents and have left the nest site and surrounding area, as determined by a biological monitor. If a protective buffer must be modified, Midpen shall coordinate with the CDFW and/or the USFWS as appropriate prior to resumption of Program activities.
• If a lapse in Program-related work of 15 days or longer occurs, another focused survey shall be conducted before Program activities are reinitiated.
</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>
MM Biology-12: Marbled Murrelet Nest Protection Measures
a. Implement IPMP BMP 22 with the additional provisions listed here.
b. In areas within the range of marbled murrelet habitat as identified in the latest maps (e.g., Midpen 2007 maps), Midpen shall conduct a survey of habitats within 0.25-mile of the work area for trees that meet the Pacific Seabird Group definition of potential marbled murrelet nesting trees. If such trees are present within 300 feet of the work area or if a marbled murrelet nest is detected, Midpen shall coordinate with CDFW and USFWS before proceeding. If habitat trees are present within 0.25-mile of the work area but are greater than 300 feet from the work area, Midpen shall implement the following conditions:
c. Work within the work area shall be confined to the period of September 15 to November 1 when possible.
d. If activities cannot be conducted outside the breeding season, and must occur during the marbled murrelet breeding season (March 24 to September 15) Midpen shall:
i. Coordinate with CDFW and USFWS.
ii. Implement seasonal disturbance minimization buffers as listed in the table below and in the October 2020 document Revised Transmittal of Guidance: Estimating the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northwestern California (table below) (or the appropriate, CDFW-recommended or approved guidance at the time of implementation). The thresholds shown apply to noise-generating activities occurring during the midday period, when the risk of disturbance is lower and do not apply to activities within 2 hours of sunrise or sunset. Activities conducted during the dawn and dusk periods have special considerations for ambient sound level. If proposed activities will occur within 2 hours of sunrise or sunset, and if the ambient sound environment during the dawn and dusk period can reasonably be expected to be 5 dB or more quieter than the midday sound environment, then the estimated disturbance distance threshold should be calculated based on an ambient level 10 dB lower (i.e., one row up in the table) compared to the normal ambient rating in the table below.
<table>
<tr><th rowspan="2">Existing Pre-Program (Ambient) Sound Level[a]</th><th colspan="4">Anticipated Action Generated Sound Level[b]</th></tr>
<tr><th>Moderate (71-80 dB)</th><th>High (81-90 dB)</th><th>Very High (91-100 dB)</th><th>Extreme (101-110 dB)</th></tr>
</table>
</td><td>Midpen biological monitor or qualified biologist and Contractor</td><td>Midpen</td><td>Where Program activities are proposed within the range of marbled murrelet habitat.</td><td>Before Activity: (1) Conduct a survey of habitats within 0.25-mile of the work area for trees that meet the Pacific Seabird Group definition of potential marbled murrelet nesting trees, and (2) implement appropriate measures based on survey results.
During Activity: If activity occurs during the nesting season, conduct a sound level monitoring study, provide results to USFWS and CDFW, and comply with applicable measures based on survey results.
After Activity: N/A</td><td></td></tr>
</table>

Mitigation Measure					Implementation Responsibility	Monitoring Responsibility	Applicable Locations	Timing and Performance Standards	Compliance Verification
Natural Ambient (<=50 dB)[c]	165 feet	500 feet	1,320 feet	1,320 feet					
Very Low (51-60 dB)	40 feet	330 feet	825 feet	1,320 feet					
Low (61-70 dB)	40 feet	165 feet	825 feet	1,320 feet					
Moderate (71-80 dB)	40 feet	165 feet	330 feet	1,320 feet					
High (81-90 dB)	40 feet	165 feet	165 feet	500 feet					

Notes:

[a] Existing (ambient) sound level includes all natural and human-induced sounds occurring at the work area prior to the proposed action, and are not causally related to the proposed action.

[b] Action-generated sound levels are given in decibels (dB) experienced by a receiver, when measured at 15.2 m from the sound source.

[c] "Natural Ambient" refers to sound levels generally experienced in habitats not substantially influenced by human activities.

iii. Conduct a sound level monitoring study to determine the level of ambient and construction activity noise anticipated during construction activities to calculate seasonal disturbance minimization buffer widths. Midpen shall provide a description of methods and results of the study to USFWS and CDFW to coordinate site-specific avoidance measures 30 days prior to commencement of Program activities at the applicable location(s). In order to alert work crews to their presence, marbled murrelet seasonal disturbance buffers, as determined by the sound study and table above, shall be flagged in the field where they enter the work area. If Midpen chooses not to conduct the sound study, no Program activities shall occur within 0.25-mile of potential nest trees during the marbled murrelet breeding season (March 24 to September 15).

iv. If noise generating construction activity takes place during the breeding season (March 24 to September 15) within suitable Redwood and Redwood/Douglas-fir forests, construction activities shall be restricted to 2 hours after sunrise to 2 hours before sunset to minimize disturbance of potential nesting marbled murrelet using forest habitat as a travel corridor between inland nesting and coastal habitat.

v. Midpen or its contractor shall not conduct Program activities within a visual line-of-sight distance of 100 meters or less from a suitable nest tree as designated by a qualified biologist or biological monitor, or the appropriate distance per the latest, appropriate, CDFW-recommended guidance at the time of implementation.

e. If marbled murrelet protocol level surveys are conducted and do not indicate that the habitat is occupied by marbled murrelet, the seasonal and distance work restrictions may be lifted with approval from CDFW and USFWS. Protocol level survey procedures and information can be found at: http://www.pacificseabirdgroup.org/publications/PSG_TechPub2_MAMU_ISP.pdf or the appropriate, CDFW-recommended or approved guidance at the time of implementation may be used. If Midpen chooses to conduct marbled murrelet protocol level surveys, Midpen shall coordinate with CDFW and USFWS regarding the survey stations to ensure all contiguous suitable habitat is covered and good visuals of the sky and nearby flyways, if present, are provided. If marbled murrelet protocol level surveys are conducted, Midpen shall submit the report consistent with *Methods for Surveying Marbled Murrelets in Forests: A Revised Protocol for Land Management and Research* or the appropriate, CDFW-recommended or approved guidance at the time of implementation may be used.

Mitigation Measure	Implementation Responsibility	Monitoring Responsibility	Applicable Locations	Timing and Performance Standards	Compliance Verification
MM Biology-13: Special-Status Insect Host Plant Protection • Prior to conducting treatments in suitable habitat for special-status butterfly and moth species, surveys shall be conducted for the following host plant species during the appropriate blooming period: - Bay checkerspot butterfly: dwarf plantain (*Plantago erecta*), purple owl's clover (*Castilleja densiflora*), and exserted paintbrush (*Castilleja exserta*). - Smith's blue butterfly: coast buckwheat (*Eriogonum latifolium*) and seacliff buckwheat (*Eriogonum parvifolium*) - Monarch butterfly: all milkweeds (*Asclepias* sp.) - Unsilvered fritillary butterfly: violets (*Viola* sp.) - Opler's longhorn moth: California cream cups (*Platystemon californicus*) - Callippe silverspot butterfly (not known to be present but the host plant has potential to be present): Johnny Jump up (*Viola pedunculata*) • Host plants containing eggs, larvae, or pupae of special-status butterfly or moth species shall be avoided, and shall be protected with an appropriately-sized buffer as determined by a qualified biologist, taking into account the characteristics of the plant species and the nature of the proposed treatment. • Vegetation treatment may proceed if a qualified biologist determines that the host plants (1) are not occupied by special-status butterflies or moths, and (2) may benefit from treatment (such as if the host plants have already set seed and post-treatment conditions will favor them over non-native weed species).	Midpen biological monitor or qualified biologist	Midpen	Where Program activities are proposed within suitable habitat for special-status butterfly and moth host plants.	**Before Activity:** (1) Conduct survey for special-status butterfly and moth host plants during the appropriate blooming period, and (2) implement appropriate measures based on survey results. **During Activity:** Avoid host plants containing eggs, larvae, or pupae of special-status butterfly or moth species and protect with appropriate buffer. **After Activity:** N/A	
MM Biology-14: Salmonid Protection Measures • Vegetative debris shall not be stockpiled in areas where it could enter a stream, wetland or riparian area. • Corrective actions, such as repairs to erosion control BMPs necessary to preserve water quality and revegetation activities, are allowable year-round. • **Seasonal Work Period in Salmonid Critical Habitat:** Program activities within streams and associated riparian corridors that are designated Critical Habitat for steelhead and Coho salmon shall be limited to June 15 to October 31. • **Seasonal Work Period in Aquatic Habitats Outside of Critical Habitat.** Program activities within streams and associated riparian corridors that are not designated Critical Habitat for salmonids shall be limited to April 15 to October 31, or are permissible from November 1 to April 14 under the following conditions: a. Work shall not occur until the site has received no rainfall for a period of 10 days and there is no rain in the forecast for a period of 7 or more days, and work requires no greater than 5 days to complete. b. Work started during this period must be at least 50 percent complete within 2.5 days of beginning work. c. Winterization materials must be on hand and installed if unanticipated rainfall begins (defined as 0.5 inches of rain in a 24-hour period).	Midpen and Contractor	Midpen	Where Program activities are proposed within or adjacent to streams and associated riparian corridors that are designated Critical Habitat for steelhead and Coho salmon.	**Before Activity:** Implement and maintain corrective actions to preserve water quality. **During Activity:** (1) Do not stockpile vegetative debris where it could enter a stream, wetland, or riparian area, (2) work within streams and associated riparian corridors that are designated Critical Habitat for steelhead and Coho salmon limited to June 15 to October 31, and (3) work within streams and associated riparian corridors that are not designated Critical Habitat for steelhead and Coho salmon limited to April 15 to October 31 or permissible under additional conditions. **After Activity:** N/A	
MM Biology-15: Monarch Butterfly Overwintering Aggregation Protection Prior to any Program activities in tree groves comprised primarily or entirely of pine, cypress, fir, or eucalyptus that are within 2 miles of the Pacific Coast, a desktop record review shall be conducted to determine if the grove historically was occupied by monarchs. For all other tree groves comprised primarily or entirely of pine, cypress, fir, or eucalyptus that are within 2 miles of the Pacific Coast, a qualified biologist or biological monitor working under a qualified biologist shall survey the grove for aggregations of monarch butterflies during the overwintering season according to the Xerces Society's Western Monarch Count Protocol (Xerces Society 2019), available at https://www.westernmonarchcount.org or the latest protocol available at the time of implementation may be used.	Midpen biological monitor or qualified biologist	Midpen	Where Program activities are proposed in tree groves comprised primarily or entirely of pine, cypress, fir, or eucalyptus that are within 2 miles of the Pacific Coast.	**Before Activity:** (1) Survey tree groves for aggregations of monarch butterflies during the overwintering season according to the Xerces Society's Western Monarch Count Protocol and implement appropriate measures based on survey results, and (2) develop a long-term tree planting	

Mitigation Measure	Implementation Responsibility	Monitoring Responsibility	Applicable Locations	Timing and Performance Standards	Compliance Verification
Two surveys shall be conducted during the overwintering season, one during the Western Monarch Thanksgiving Count period (the three-week period centered on the Thanksgiving holiday), and a second during the New Year's Count period (the two-week period beginning the weekend prior to New Year's Day). • Each survey shall be conducted by two surveyors to provide multiple independent estimates of monarch numbers. • Surveys shall be conducted in the morning while temperatures are below 55˚ F (13˚ C) and monarchs are more likely to be clustered. • Surveys shall not be conducted during rain or strong winds due to poor visibility and the chance that individual monarchs shall be scattered on the ground. • If no monarch overwintering aggregations are observed, Program activities may proceed pursuant as long as they occur prior to November 1. If Program activities are delayed beyond November 1, then the grove shall be re-surveyed. • If a monarch overwintering aggregation of any size is detected or historical occupation is identified according to record reviews, then no Program activities may take place inside the tree canopy within 200 feet of the aggregation, when present. Activities outside of the canopy line but within 200 feet may proceed (i.e., treatment of low-growing vegetation outside of the tree grove) if a qualified biologist or monitor determines that the activity does not pose a threat to the monarch aggregation. • Groves with historical occupation shall not be altered without further consultation with USFWS and/or CDFW. • Once the aggregation disperses (typically by March), treatment of vegetation within 200 feet of tree(s) where monarch aggregations were observed may proceed if, as determined by a qualified biologist or monitor, it shall not result in significant alteration to wind and sunlight patterns within the grove. • If monarch overwintering aggregations are detected in eucalyptus removal areas, then a long-term tree planting strategy is necessary (see *Protecting California's Butterfly Groves* [Xerces Society 2017]). • Native tree species suitable for monarchs must be planted many years prior to eucalyptus removal with the understanding that they may not reach functional heights to provide wind protection and suitable dappled lighting for 15-30 years. Transplanting saplings from a local source may speed this process. Planting of eucalyptus shall be prohibited. Removal of eucalyptus may proceed once native replacement trees have reached sufficient size to provide wind protection within the grove. • Standing dead trees generally do not contribute to monarch overwintering habitat (Xerces Society 2017) and may be removed within the grove between April 1 and August 31, outside of the overwintering period, as determined appropriate by a qualified biologist or monitor. Sites where invasive dead trees have been removed may create opportunities for native tree planting within the interior of the grove. • If a eucalyptus grove where a monarch overwintering aggregation was previously detected is re-surveyed using the Western Monarch Count Protocol (Xerces Society 2019) and found to be unoccupied for 5 consecutive years, then the grove may be removed before native replacement trees have reached full size.				strategy if monarch overwintering aggregations are detected in eucalyptus removal areas. **During Activity:** Implement tree planting strategy. **After Activity:** N/A	
MM Biology-16: Prescribed Burns and Biological Resource Avoidance • All participants in the burn shall be briefed by a Resource Advisor on the special-status species potentially present, where they would likely be found, and who to contact if one is sighted. Resource Advisors shall (1) work with the ignition teams, (2) be a part of any ignition sequence planning, and (3) be in radio contact with either the Ignition Specialist or the Incident Commander directly to ensure quick communication and decision-making regarding the safety of sensitive wildlife. • Prescribed burns shall maintain the following buffers from various sensitive species and wildlife habitats: - Active bird nests shall be given species-appropriate buffers matching those outlined in MM Biology-11 and IPMP BMP 22: i. 250 feet for passerines ii. 500 feet for other small raptors such as accipiters iii. 1,000 feet for larger raptors such as buteos and eagles - A 10-foot buffer from San Francisco dusky-footed woodrat nests - A 20-foot buffer from occupied bat roosting trees - A 10-foot buffer from patches of special-status butterfly and moth host plants if prescribed burns occur before the plants have set seed. Patches of host plants that may benefit from fire may be burned if determined appropriate by a qualified biologist or biological monitor working under a qualified biologist.	Midpen and Contractor	Midpen	All prescribed burns.	**Before Activity:** (1) Brief all participants on special-status species present in the burn area, and (2) conduct visual surveys by walking transects throughout the proposed burn area no more than 24 hours prior to conducting a prescribed fire and implement applicable measures based on survey results. **During Activity:** (1) Maintain appropriate buffers from sensitive wildlife habitats, (2) retain all vehicles in the prearranged, marked parking area and roads, and (3) conduct	

Mitigation Measure	Implementation Responsibility	Monitoring Responsibility	Applicable Locations	Timing and Performance Standards	Compliance Verification
• The listed buffer areas may be managed using other vegetation management techniques following each burn (e.g., cattle grazing), but are to remain completely undisturbed during prescribed fire events. Every reasonable attempt shall be made to maintain 0.25 to 0.5 acre (0.1 to 0.2 hectare) of unburned habitat for every 10 acres (4 hectares) of burned habitat (e.g., 4 to 8 acres of retreat habitat are needed for a 160-acre burn, and 9 to 18 acres are needed for a 350-acre burn). Retreat areas shall be conserved randomly throughout the treatment area, especially in areas with known populations of San Francisco garter snake and California red-legged frog. These retreat areas may be naturally occurring areas such as rock formations, ponds and other wetland/riparian areas, areas with a high density of burrows, and other areas not prone to burn, or these areas may be created and maintained using hand tools or water to create fire-breaks or wet-lines. • No more than 24 hours prior to conducting prescribed fires, visual surveys shall be conducted by walking transects throughout the proposed burn area in an attempt to locate individual special-status reptile and amphibian species, including San Francisco garter snake, California red-legged frog, foothill yellow-legged frog, California tiger salamander, western pond turtle, Blainville's horned lizard, California giant salamander, Santa Cruz black salamander, and red-bellied newt. With permission from CDFW and/or USFWS, a permitted biologist or biological monitor shall capture, transfer, and release in a safe area any special-status reptiles or amphibians deemed to be in danger of being harmed by the prescribed fire activities. If individuals are located during the pre-treatment surveys but escape capture, an area approximately 50 feet (15 meters) in diameter around the individual shall be protected from the burn. If necessary, individuals may be held in captivity in a pillowcase for less than 24 hours and may later be released near the point of capture after the burn has been completed. The numbers of special-status reptiles and amphibians encountered and transferred to safe areas or held in captivity during treatment shall be reported to USFWS and CDFW. If San Francisco garter snakes are captured, each individual shall be photographed for use in identification. • All vehicles involved with the site-specific burn shall be retained in a prearranged, marked parking area in a clearing as close to the main road as possible. At least one monitor shall ensure wildlife is clear from the parking area while vehicles are arriving and leaving. All vehicles must stay on designated roads, and if it is necessary for a vehicle to travel off the designated main road, a monitor shall precede the vehicle to clear wildlife from the pathway of the vehicle. Only biological monitors specifically authorized by the USFWS and CDFW to handle San Francisco garter snake or California red-legged frog (normally these shall be individuals holding a federal recovery permit for the species) shall be allowed to handle, transport, and relocate individuals of these species. • Below ground temperature monitoring shall be conducted during the burn to monitor air temperatures in a representative subset of suitable San Francisco garter snake refugia. One or more biologists or biological monitors shall place ground temperature monitoring devices (e.g., "hobo thermocouples" in rodent burrows throughout the burn area to monitor changes in temperature in the burrows as fire moves across the landscape. The knowledge gained shall be useful in determining how to conduct future prescribed fires in San Francisco garter snake habitat in a manner that shall minimize potential effects to the species. • Immediately following each prescribed fire, the permittee shall search the affected post-treatment area to identify dead or injured individuals of all vertebrate taxa. Dead individuals of special-status species shall be collected and deposited at an approved repository. Injured individuals shall be handled only by a permittee authorized to capture and handle the species. Midpen shall ensure medical assistance is provided to injured animals by a certified wildlife veterinarian familiar with amphibian and reptile care. • Prescribed fire shall not be employed in tidal marsh habitats. • If an emergency situation necessitates the use of water from a pond occupied by California red-legged frog, a striker pump and intake hose may be used to draw water from one of the small wetland ponds in the burn area to fill engines or back pumps. The intake hose shall be screened with 0.25-inch mesh to prevent intake of California red-legged frogs. The burn plan details the use of lake and ocean water to fill helicopter buckets to aid suppression efforts. If a helicopter bucket is used, it shall draft from the center of the pond, to prevent uptake of California red-legged frogs that may potentially be present. • Within San Francisco garter snake habitat, post-burn monitoring shall be conducted as part of the Program activity and shall include (1) vegetative response to the burn, (2) wildlife response to the burn, and (3) fire behavior and burn conditions. Because the burn is intended to enhance San Francisco garter snake habitat, the monitoring emphasis for vegetation and wildlife shall be on the wildlife and habitat features that are considered to be necessary to support San Francisco garter snakes. The variables measured for San Francisco garter snake response to habitat are pre- and post-burn data on the (1) vegetation community in the burn area in order to determine vegetative response to the burn and (2) the frequency of valley pocket gopher (*Thomomys bottae*) burrows and other burrows. As part of its				below ground temperature monitoring during the burn. **After Activity:** (1) Search the affected post-treatment area immediately following each prescribed fire, (2) conduct post-burn monitoring within San Francisco garter snake habitat, and (3) measure the number of rodent burrows during the vegetation transect monitoring immediately after the burn and submit all data to USFWS.	

Mitigation Measure	Implementation Responsibility	Monitoring Responsibility	Applicable Locations	Timing and Performance Standards	Compliance Verification
standard post-fire evaluation, CAL FIRE and/or Midpen shall provide an analysis of the burn, including how the fire responded to weather and other burn conditions, and percent coverage of the burn within the boundaries of the burn unit. Beginning immediately after the burn, the frequency (number) of rodent burrows shall be measured during the vegetation transect monitoring. Vegetation monitoring shall include the establishment of four transects within and three transects outside of the burn area for comparative analysis. Transects shall be randomly established in burned and unburned areas and each transect shall measure 50 meters in length. A meter-square plot shall be established at 5-meter intervals along the transects. Vegetative composition and percent cover for all plant species shall be recorded for each plot. Transect sampling shall take place prior to the burn and at least once per year after the burn for 3 years. Response of native and non-native grasses and coyote brush to the burn shall be of particular interest. Data collected before, during, and after the burn, and the observations made during the evaluation of the burn shall be compiled into a report within 1 year following the burn. Upon completion, the report shall be submitted to USFWS.					
MM Biology-17: Sensitive Natural Communities • Before a Program activity is implemented, a Midpen approved botanist shall: (1) assess the site- and Program-specific threats to each sensitive natural community that might be impacted by the Program activity; and (2) recommend spatial buffers or other management actions that shall reduce potentially significant impacts on the sensitive natural community to less than significant levels. The botanist's recommendations shall be site-specific, and shall consider the specific Program activity being proposed, the resiliency of the community, and its susceptibility to potentially significant impacts associated with the Program activity. Midpen shall implement the botanist's recommendations, to the extent feasible. If Midpen is unable to implement the botanist's recommendations, or if there is uncertainty regarding the effects of a Program activity on the community, Midpen shall monitor the treatment areas after treatment at an interval determined appropriate by the qualified biologist or biological monitor working under a qualified biologist. If the monitoring indicates the Program activity has negatively impacted the community by resulting in substantial loss or degradation of the community, the terms of MM Biology-18 shall apply. • To the extent feasible, VMAs, fire management logistics areas, and firefighting infrastructure improvements shall be configured to minimize habitat fragmentation, especially in areas with unique structural components or habitat elements and frequency of treatment shall be carefully defined to reduce or minimize the likelihood of type conversion. If conversion is occurring, conditions of MM Biology-18 for compensatory mitigation shall be applied. • All vegetation removal within tidal marsh or in uplands within 50 feet of tidal marsh shall be conducted with hand tools only. No heavy equipment is permitted. • Vegetative debris (e.g., slash, chips) shall not be placed on top of vegetation in sensitive communities, unless prescribed in the VMP or PFP and determined by a qualified biologist or biological monitor working under a qualified biologist to not have negatively affect the community. • Personnel shall not walk through wetlands or other vegetation communities susceptible to trampling. • Prior to approving an off-road travel route, Midpen shall survey the route to ensure avoidance of sensitive biological resources, including special-status species and sensitive natural communities (or habitats). • If it is not feasible to locate staging areas in previously disturbed areas, they shall be located outside of sensitive communities (or habitats) that could suffer long-term impacts due to staging activities. Staging areas shall not be located in riparian or wetland communities, nor in any of the Group 1 sensitive communities identified for avoidance. • Burn piles shall be placed in areas away from any live vegetation that might be damaged by the burn. • Grazing shall be carefully managed, should it occur in or near a sensitive natural community, to limit the grazing duration and to ensure that erosion and sedimentation of waterways and riparian areas does not occur (in accordance with MM Geology-1).	Midpen biological monitor or qualified biologist and Contractor	Midpen	Where Program activities are proposed within sensitive natural communities.	**Before Activity:** (1) Assess site- and Program-specific threats to sensitive natural communities, (2) recommend spatial buffers or management actions to reduce potential impacts on the sensitive natural communities, and (3) survey off-road travel route. **During Activity:** Implement sensitive natural communities protection measures. **After Activity:** N/A	
MM Biology-18: Compensatory Mitigation for Impacts to Sensitive Natural Communities Midpen shall provide compensatory mitigation for Program impacts to Group 1 and Group 2 communities. The baseline ratio for impacts to Group 1 communities shall be 3:1 (e.g., 3 acres compensation for each acre impacted). The baseline ratio for impacts to Group 2 communities shall be 2:1. Several factors may dictate the need for a higher ratio (Clement et al. 2014, USACE 2015, USFWS 2016, State Water Resources Control Board 2019). They are:	Midpen	Midpen	Where Program activities permanently affect any Group 1 and Group 2 communities.	**Before Activity:** Determine the appropriate mitigation ratio for project (e.g., treatment). **During Activity:** Document compliance with the compensatory mitigation	

Mitigation Measure	Implementation Responsibility	Monitoring Responsibility	Applicable Locations	Timing and Performance Standards	Compliance Verification
1. **Mitigation Strategy:** The baseline ratio applies to mitigation projects that entail creation or restoration of the impacted community. One half point shall be added to any mitigation project that involves only enhancement of an existing community as recommended by a Midpen-approved biologist (e.g., seed within native species, removal of human-made infrastructure such as fences or hardscape, treatment of invasive species). 2. **Temporal Loss:** The baseline ratio assumes there shall be no temporal loss of the community. Therefore, the baseline ratio only applies to mitigation projects that are completed within a year after impacts occur. If the mitigation project is not initiated within a year after impacts occur, the ratio shall be increased by 0.2 for each year of lag time between the time of impacts, and the start of mitigation. For example, if mitigation for a Group 2 community is not expected to be initiated until two years after the impacts occur, the mitigation ratio shall be 2.2:1. 3. **Uncertainty:** There is inherent uncertainty in whether a mitigation project will fully replace the functions that are lost from the impact site. As a result, the mitigation ratio must be commensurate with the risk that a mitigation project will not achieve the designated goal, which is generally to replace the functions that are lost from the impact site. The baseline ratios account for the uncertainty inherent in all mitigation projects because they shall achieve "no net loss" of sensitive community functions even if some (relatively small) portions of the mitigation site fail to achieve the desired conditions. However, the baseline ratios assume a relatively high probability of success. Due to Midpen's expertise and experience with mitigation projects, Midpen assumes the mitigation project shall succeed if: (a) Midpen has successfully completed comparable mitigation projects, or (b) scientific literature supports the inference that the mitigation project is likely to be successful (e.g., due to its simplicity). If the proposed mitigation project does not satisfy either criterion, one point shall be added to the baseline ratio (e.g., the ratio for a Group 2 community shall be increased to 3:1). 4. **Distance:** Compensatory mitigation ratios are generally dependent on the distance of the mitigation site from the impact site. To the extent feasible, Midpen shall mitigate on Midpen property, and within the same watershed as the impact site. 5. **Kind:** The baseline ratios assume "in-kind" mitigation (i.e., the mitigation site replaces the same sensitive natural community or wetland type as the one impacted by the Program). In some instances, there may be ecological benefits to "out-of-kind" mitigation. There shall be no increase in the mitigation ratio for mitigation projects that restore, create, or enhance a Group 1 community as compensation for impacts to a Group 2 community. Midpen shall document the scientific justification for all proposed out-of-kind mitigation projects. No out-of-kind mitigation shall be allowed for impacts on wetland or riparian communities unless authorized by the regulatory agency(ies) with jurisdiction over the impacted resource. 6. **Other Impacts:** A mitigation ratio greater than 1:1 may be needed to account for a project's indirect impacts, and for its contribution to cumulative impacts.[1] The baseline ratios account for these impacts. To determine the appropriate mitigation ratio for a given project (e.g., treatment), Midpen shall apply the factors described above, in the order listed. Midpen shall maintain a ledger that documents: 1. Impacts on sensitive communities, including type of community impacted, acreage impacted, year(s) impacts occurred, and activity that caused the impact. 2. The mitigation ratio applied to each Program activity, and the rationale for that ratio. The rationale shall include a formula that incorporates the variables outlined above. 3. Any additional mitigation requirements imposed by the regulatory agencies (e.g., in a Streambed Alteration Agreement from CDFW) beyond what is already described above. 4. Mitigation projects, including the mitigation strategy, type, location, acreage, and date completed.				requirements and provide ledger to the regulatory agencies. **After Activity:** Monitor the site in accordance with Midpen's monitoring program.	

[1] Under CEQA, mitigation must be roughly proportional to the level of impacts.

Mitigation Measure	Implementation Responsibility	Monitoring Responsibility	Applicable Locations	Timing and Performance Standards	Compliance Verification
The ledger shall be used to document compliance with the compensatory mitigation requirements. A copy of the ledger shall be made available to the regulatory agencies. Any plants or seeds needed for a mitigation project shall be derived from sources determined appropriate by the Midpen-approved botanist. Dependent upon the species, plants or seeds shall be sourced from locally-appropriate genetic material and comply with best management measures intended to exclude *Phytophthora* and other plant pathogens to the extent possible. **Performance Standards.** Projects designed to mitigate significant impacts to sensitive natural communities shall be considered successful once they achieve the membership rules described in the most current version of the Manual of California Vegetation. A District Approved botanist shall implement the Relevé and Rapid Assessment (RA) vegetation sampling techniques (CDFW and CNPS 2019) to monitor sensitive natural community development at mitigation sites until the site achieves the membership rules (e.g., percent relative cover) described in the most current version of the Manual of California Vegetation, after which the site shall be monitored in accordance with Midpen's monitoring program.					
MM Biology-19: Wetlands and Other Potential Jurisdictional Aquatic Resources Wetlands and other potential jurisdictional waters that may be impacted by the Program shall be formally delineated by a biologist with expertise in wetland science. In addition to conducting the delineation, and in accordance with the recommendations provided by Castelle et al. (1994), the biologist shall assess the following criteria to determine the buffer size needed to protect the jurisdictional resource from indirect impacts: (1) resource functional value, (2) intensity of adjacent land use, (3) buffer characteristics, and (4) specific buffer functions required. The biologist shall document the results of this assessment and the buffer recommendations in a report to Midpen. Midpen shall not conduct any Program activities that might directly or indirectly impact jurisdictional wetlands and waters unless it possesses permits from the appropriate State and federal regulatory agencies. Midpen shall make every attempt to avoid direct and indirect impacts to wetlands and other jurisdictional waters. If complete avoidance is not possible, a biologist with expertise in wetland science shall document baseline conditions according to the California Rapid Assessment Method (CRAM) prior to any potential impacts. According to the U.S. Army Corps of Engineers (2015): • CRAM is a standardized, cost-effective tool for assessing the health of wetlands and riparian habitats. The overall goal of CRAM is to provide a rapid, scientifically defensible, and repeatable assessment method that can be used routinely for wetland monitoring and assessment. CRAM consists of assessing aquatic resources with respect to four overarching "attributes," i.e., buffer/landscape context, hydrology, physical structure, and biotic structure. A number of "metrics" address more specific aspects of aquatic resource condition within each of these attributes. Each metric is assigned a numeric score based on either narrative or schematic descriptions of condition or thresholds across continuous values. Metric descriptions are based on characteristics of aquatic resources observed across a range of conditions, such that the highest score for each metric represents the theoretical optimum condition obtainable for the aquatic resource feature being evaluated. • The baseline CRAM assessment shall be used in two ways: (1) to monitor the effectiveness of the buffer in preventing indirect impacts to the wetland community; and (2) to ensure compensatory mitigation replaces the wetland functions impacted by the Program. Compensatory mitigation for impacts to wetland and other jurisdictional waters shall be provided in accordance with USACE guidelines, including: (1) *Guidelines for Preparing a Compensatory Mitigation Plan*; (2) *Attachment 12501.6 – SPD Mitigation Ratio Checklist*; (3) *Regional Compensatory Mitigation and Monitoring Guidelines*, and (4) *2501-SPD Regulatory Program Standard Operating Procedure for Determination of Mitigation Ratios* (USACE 2010, 2012, 2015, 2017). If possible, compensatory mitigation for impacts to wetlands and other jurisdictional waters shall restore a comparable aquatic feature within the same watershed as the impact. Midpen shall adopt performance standards consistent with the USACE's *Uniform Performance Standards for Compensatory Mitigation Requirements* (USACE 2012). Mitigation monitoring shall adhere to the *Regional Compensatory Mitigation and Monitoring Guidelines* (USACE 2015).	Midpen	Midpen	Where Program activities are proposed within wetlands and other potential jurisdictional aquatic resources.	**Before Activity:** (1) Delineate wetlands and other potentially jurisdictional waters, (2) document baseline conditions of the wetland or other jurisdictional waters if complete avoidance is not possible, (3) obtain necessary permits from the appropriate agencies. **During Activity:** Avoid impacts on jurisdictional waters. **After Activity:** N/A	
MM Biology-20: Significant and Heritage Tree Ordinances Prior to conducting any work that involves tree removal, biologist or other personnel qualified in tree identification shall identify if any County or local protected and heritage tree ordinances are relevant to the area of work. If an ordinance would apply to the area of work, the area of work shall be investigated by the biologist or personnel qualified in tree identification to identify if any trees subject to the ordinance are found in the project area. If a tree subject to the ordinance is in the area of work, the tree shall be clearly marked as a	Midpen and Contractor	Midpen	Where tree removal occurs.	**Before Activity:** (1) Identify County and local protected and heritage tree ordinances, (2) identify trees that are subject to the ordinance, (3) mark trees for	

Mitigation Measure	Implementation Responsibility	Monitoring Responsibility	Applicable Locations	Timing and Performance Standards	Compliance Verification
"Leave Tree" so that it is not accidentally damaged or removed during work. If a tree that qualifies as a protected or heritage tree must be removed, the appropriate steps shall be implemented to obtain the appropriate permits for tree removal. If trees within the CalTrans right-of-way must be removed, the tree removal must be part of the Encroachment Permit, to be reviewed by CalTrans, which may require tree replacement in its permit terms.				avoidance, and (4) obtain necessary permit to remove protected and heritage trees or trees within Caltrans right-of-way. **During Activity:** Avoid impacts on trees that are marked for avoidance. **After Activity:** N/A	
Cultural and Tribal Cultural Resources					
MM Cultural-1: Pre-Activity Surveys and Avoidance of Impacts to Cultural Resources Prior to conducting any work associated with the WFRP that could disturb the ground surface or subsurface, the work areas shall be compared against Midpen's GIS data to determine if the area has been previously surveyed and, if it has been surveyed, if any historic or archaeological resources or tribal cultural resources are found in the work area. Any resources that have not been evaluated shall be assumed eligible for listing in the CRHR and assumed significant. If the GIS data shows that the proposed areas where soil disturbance below the surface via heavy equipment or burning (i.e., for VMP activities involving heavy equipment, prescribed fires under the PFP, and any work that involves grading under the Wildland Fire Pre-Plans) have not been previously surveyed, then a discretionary archival-records search at the California Historical Resources Information System, Northwest Information Center, can be completed. If the area is still not found to have been previously surveyed, a pre-activity cultural-resources survey shall be conducted by a qualified archaeologist or cultural resources specialist in accordance with industry standards prior to performing work unless vegetation is too dense, making a survey impossible. In the event vegetation is too dense, making a pre-activity survey challenging or impossible, the training conducted under IPMP BMP 26 shall be sufficient to permit work to be conducted using only manual techniques accessed on foot. New resources noted during the field survey shall be recorded and mapped on appropriate California Department of Parks and Recreation 523 forms. In the case of a previously recorded resource, an updated California Department of Parks and Recreation 523 form detailing current condition shall be completed, as appropriate. Any historical or archaeological resources (not including built-environment historic features) located in the work area (as identified in either previous surveys, in a discretionary records search, or during pre-activity surveys) plus a 50-foot buffer shall be identified on any activity plans. The boundaries around the resource/buffer shall be temporarily marked, such as with fencing or flagging. If work must commence in the sensitive area, it can only be performed using hand tools or hand- powered tools, cannot include ground disturbance below the topsoil layer, and can only be accessed on foot. Alternatively, the resource can be evaluated for eligibility under the CRHR. If found ineligible and not a tribal cultural resource, work could proceed as normal. If found eligible or to be a tribal cultural resource, impacts on the resource must be avoided (through total avoidance of the area or through use of hand methods only in the area of the resource, as described here). If not avoidable, MM Cultural-2 shall be implemented. After work is completed, all cultural resource delineators (e.g., flags or fencing) shall be removed in order to avoid potential vandalism, unauthorized excavation(s), etc. Midpen shall contact and consult with local Native American groups identified by the Native American Heritage Commission and request input on Tribal Cultural Resources within the project areas if any prehistoric resources are identified during pre-activity surveys and impacts to these resources cannot be avoided or minimized (such as through the use of hand tools). The Midpen Project Manager shall have the discretion to consult, depending on the potential impacts anticipated from the Program activity. Information on the proposed activity, the results of the information review(s) and field inventory, and any Native American input shall be reported in a Memo to the File with the implemented mitigation measures based on anticipated impacts.	Midpen and qualified archaeologist or cultural resources specialist or Native American groups	Midpen	All work areas prior to conducting Program activities.	**Before Activity:** Consult the GIS cultural-resources layer for the presence of recorded sites. **During Activity:** 1) Avoid recorded resources or impacts on resources or use only hand methods in resource areas and (2) examine area where piles are proposed for resources. **After Activity:** Remove resource delineators, add any newly discovered resources to GIS database.	
MM Cultural-2: Treatment of Unavoidable Resources For any resources either discovered during implementation of activities (per IPMP BMP 26) or found during pre-activity surveys under MM Cultural-1 and that cannot be avoided, recordation, additional archaeological testing, Native American consultation (if pre-historic), and	Midpen and qualified archaeologist or	Midpen	Any area where cultural resources	**Before Activity:** Determine if resource cannot be avoided and prepare Treatment Plan and data	

Mitigation Measure	Implementation Responsibility	Monitoring Responsibility	Applicable Locations	Timing and Performance Standards	Compliance Verification
data recovery shall be implemented. Data recovery for any significant cultural resources that cannot be avoided or preserved in place shall be guided by a Treatment Plan, to be submitted to Midpen for approval and completion. Impacts shall be assessed for the installation of new permanent infrastructure under the Wildland Fire Pre-Plans near a built-environment historic feature, landscape, or district. The new infrastructure shall either be relocated if an effect is likely or data recovery implemented in accordance with a Treatment Plan (as previously discussed). A report of the findings and resource interpretation, disposition of any recovered cultural materials, and recommendations for future resource protection shall be completed and filed with Midpen, interested Native Americans, the California Historical Resources Information System (if pre-historic), and the Northwest Information Center.	cultural resources specialist		impacts cannot be avoided.	recovery as well as consult tribes if pre-historic. **During Activity:** For resources found during work that cannot be avoided, prepare Treatment Plan and data recovery. **After Activity:** Notify appropriate parties and agencies.	
MM Cultural-3: Human Remains If human remains and associated or unassociated funerary objects are exposed during vegetation management, work within 50 feet of the discovery shall be halted and the find protected from further disturbance in accordance with Midpen protocols for resource protection. The County Coroner or Medical Examiner shall be notified immediately and, in the event of the determination that the human remains are Native American remains, notification of the Native American Heritage Commission shall be undertaken to obtain a most likely descendant (MLD) (PRC § 5097.98) for treatment recommendations. Midpen, the archaeological consultant, and the MLD shall make all reasonable efforts to develop an agreement for the treatment of human remains and associated or unassociated funerary objects with appropriate dignity (CEQA Guidelines Section 15064.5[d]). The agreement shall take into consideration the appropriate removal, recordation, analysis, custodianship, curation, and final disposition of the human remains and associated or unassociated funerary objects. Implementation of the Treatment Plan shall be undertaken by Midpen, and any findings shall be submitted in a report to the MLD and filed with the California Historical Resources Information System, NWIC.	Midpen and qualified archaeologist or cultural resources specialist or Native American groups	Midpen	All Program areas, if applicable.	**Before Activity:** N/A **During Activity:** (1) Avoid known location of human remains, (2) cease activity if human remains are uncovered, (3) appoint an MLD, (4) protect human remains until a decision is reached, and (5) if avoidance is not possible, Midpen, a professional archaeologist, and an MLD shall be consulted and human remains and associated or unassociated funerary objects shall be removed from the location and relocated to selected location in accordance to decision reached. Once remains are moved, then the activity can commence again in this area. **After Activity:** N/A	
Geology and Soils					
MM Geology-1: Prescribed Herbivory Land and Trail Control Livestock will be used for vegetation management to reduce the use of chemical herbicides, to control invasive vegetation, and to promote the growth of native vegetation. Methods shall be implemented to reduce the potential creation of prescribed herbivory trails and erosional features, including the following: • Limit or prohibit prescribed herbivory within 100 feet of lakes/reservoirs, creeks, streams, riparian corridors, and wetlands, using fencing or natural features to prevent livestock from entering streams and riparian areas, depending upon a qualified professional's assessment. The following measures would be considered by the qualified professional and implemented where appropriate: - In riparian areas, livestock shall be excluded from the top of bank of a defined channel by installing fencing on the edge of riparian canopy where topography does not naturally exclude access. - Water and feed troughs shall be installed away from natural water sources. - In wetlands, livestock shall be excluded only where the percent cover of vegetation is low. • Implement methods, which could include rotating or providing multiple feeding areas to minimize excessive congregation of animals in any one location for too long, as determined by a qualified professional. • Limit the number of animals in a particular-sized area using the stocking-rate equation taking into account days assumed to graze, slope, yield of the land, number of animals, weight of animals, and other appropriate factors.	Midpen and/or Contractor	Midpen	Prescribed herbivory areas.	**Before Activity:** Install fencing as needed. **During Activity:** (1) Limit number of animals in an area based on appropriate calculations, and minimize congregation of animals in any one location, (2) repair damaged fencing or erosion control features, and (3) conduct surveys during prescribed herbivory to identify problem areas. **After Activity:** (1) Permit appropriate rest periods after prescribed herbivory, and (2) remediate any bare areas.	

Mitigation Measure	Implementation Responsibility	Monitoring Responsibility	Applicable Locations	Timing and Performance Standards	Compliance Verification
• Conduct surveys of the prescribed herbivory area during active grazing; identify if trails or other erosion features are forming. • Ensure there are appropriate rest periods between active prescribed herbivory in any one area to allow regrowth of plants and appropriate amounts of residual dry matter (RDM) to remain on the ground to achieve desired vegetation-management objectives. • If prescribed herbivory trails or damaged areas form, the bare area shall be remediated by decompacting the soil and discontinuing prescribed herbivory in the area until the trails are revegetated, as determined by a qualified professional. • Excessive livestock grazing on steep slopes (generally slopes with more than 35 percent grade) shall be discouraged or avoided using the methods described above (e.g., water and feed trough locations, stocking-rate equation) or fencing where determined appropriate by a qualified professional. • During surveys of active prescribed herbivory, conduct ongoing surveillance of installed erosion control features around riparian areas and any fences installed. • Repair damaged fencing or erosion-control features as necessary.					
MM Geology-2: Erosion Control and Slope Stability Measures In addition to Midpen's erosion-control measures (IPMP BMP 28), control measures shall be implemented to ensure vegetation management does not result in erosion, loss of topsoil, or slope instability in areas where work could expose bare soils or create loss of root-soil matrix strength. General erosion-control measures are identified that apply to all projects. Generally, if groundcover or native mulch/organic matter is determined to be less than 70 percent following work or if work is proposed to occur on steep slopes (over 35 percent slope), then specific control measures, as identified here, shall be implemented as determined appropriate by the qualified personnel. Other site conditions, such as unconsolidated soils or evidence of landslides, or the scale of project proposed may trigger the need for the qualified personnel to determine that the control measures shall apply. Prior to conducting work in any given area under any management action that could result in erosion or slope instability (e.g., prescribed burns, tree removal, weed removal, or forest treatments that could reduce the groundcover and expose soil, or for infrastructure creation such as new roads, pipelines, or water storage tanks) a review of site conditions shall be conducted. The review of site conditions may include but is not limited to a desktop review of slope, LiDAR, historic evidence of landslides (e.g., Wentworth et al. 1997), local hazard mapping and safety plans, proximity to infrastructure, and modeling of landslide susceptibility GIS data (e.g., Wills et al. 2011) as well as a site visit for existing signs of erosion or slope instability (e.g., rills, slumped soil). Depending on the slope and the downslope resources that could be impacted by slope failure (e.g., roads, waterbodies, or habitat), erosion-control and slope-stabilization measures shall be determined prior to implementation of work, based on the list below. Generally, if an action would expose soils (leaving groundcover or native mulch/organic matter less than 70 percent), then measures to protect soils, minimize erosion, and prevent slope instability shall be implemented. In addition, management actions may be adjusted to achieve similar results. The measures to be implemented shall depend on the site's specific characteristics and the type and extent of vegetation management work to be performed. The inspection and determination of appropriate measures shall be made by qualified personnel with knowledge and experience (a qualified SWPPP developer [QSD] or a qualified SWPPP practitioner [QSP]; licensed geologist [P.G. or C.E.G.]; licensed engineer; Registered Professional Forester [RPF]; etc.) in the application of erosion-control and slope-stabilization measures through training or field experience with control-measure installation. The qualified personnel shall memorialize in writing their field observations and corresponding recommendations regarding installation of control measures. A licensed geologist or RPF shall conduct the site inspection for projects that would involve substantial grading or vegetation removal[a] on active slide areas, unstable areas, or unstable soils (as defined in the California Forest Practice Rules) if the following applies: • in previously undisturbed soils; or • up to 0.5-mile above or 0.25-mile below infrastructure, including potentially occupied structures. A licensed geologist or RPF shall conduct site inspections for new road additions that are greater than 600 feet, regardless of the proximity to active slide areas, unstable areas, or unstable soils. The licensed geologist shall identify specific control measures that must be implemented, which may include but are not limited to the control measures identified in this mitigation measure. In areas that were previously analyzed by an RPF or qualified geologist, the District shall review the prior recommendations for consistency with the proposed activity and determine if a new review is warranted. **General Control Measures**	Midpen and/or Contractor	Midpen	Any areas where qualified personnel determine erosion and slope stability is a concern (e.g., the ground is disturbed and soils are exposed through vegetation management activities areas on steep slopes).	**Before Activity:** Inspect areas prior to treatment to assess the potential for erosion and soil instability. **During Activity:** Implement protection measures as needed to avoid or minimize erosion and slope instability. **After Activity:** Conduct inspections as needed, depending on the size and nature of the work and the site, to ensure that erosion is not occurring and to remove any erosion control devices once they are no longer needed.	

Mitigation Measure	Implementation Responsibility	Monitoring Responsibility	Applicable Locations	Timing and Performance Standards	Compliance Verification
The following measures shall be considered for implementation and required as determined appropriate by the qualified personnel during work as applicable: • Minimize areas to be disturbed to the greatest extent feasible. • Shut down use of heavy equipment, skidding, and truck traffic when soils become saturated and unable to support the machines. • No substantial ground disturbing work (e.g., use of heavy equipment, pulling large vegetation) shall occur during rain events and 48 hours after a rain event, defined as 0.5 inch of rain within a 48-hour or greater period, using the NOAA website as the official record for rain events. **Reduced Groundcover Control Measures** The following measures shall be considered for implementation and required as determined appropriate by the qualified personnel during work if the activity may leave less than 70 percent of groundcover or native mulch/organic material as determined to be applicable by qualified personnel: • Sow native grasses and other herbs on denuded areas where natural colonization or other replanting will not occur rapidly; use slash or chips to prevent erosion on such areas. • Use surface mounds, depressions, logs, rocks, trees and stumps, slash and brush, the litter layer, and native herbaceous vegetation downslope of denuded areas to reduce sedimentation and erosion, as necessary to prevent erosion or slope destabilization. • Install approved, biodegradable erosion-control measures and non-filament-based geotextiles (e.g., coir, jute) when: - Conducting substantial ground-disturbing work (e.g., use of heavy equipment, pulling large vegetation) within 100 feet and upslope of currently flowing or wet wetlands, streams, lakes, and riparian areas; - Causing soil disturbance on moderate to steep (10 percent slope and greater) slopes; and - Removing invasive plants from stream banks to prevent sediment movement into watercourses and to protect bank stability. • Sediment-control devices, if installed, shall be certified weed-free, as appropriate. Sediment--control devices shall be inspected daily during active construction to ensure that they are repaired and working as needed to prevent sediment transport into the waterbodies. Once work is completed, the areas shall be inspected at least annually if accessible, until groundcover exceeds 70 percent and slopes have stabilized. At that time, erosion-control and slope-stability devices may be removed at the discretion of District staff. **Steep Slopes Control Measures** The following measures, in addition to the ones described above, shall be considered for implementation and required as determined appropriate by the qualified personnel during work conducted on steep slopes (greater than 35 percent) and as determined to be applicable by qualified personnel: • Avoid use of heavy equipment on slopes greater than 35 percent unless qualified personnel determine that the specialized equipment does not impact slope stability. • Prescribed and pile burns shall be performed outside of perennial and intermittent streams and of riparian forest/ woodland. A 50-foot buffer around perennial and intermittent streams shall be maintained when the burn is proposed upslope of the stream on slopes greater than 35 percent. • Avoid installation of cleared areas, including spur roads or staging areas, on steep slopes, particularly over 50 percent slope, where feasible. Where not feasible, a licensed geologist/engineer or RPF shall be consulted, as required above. The licensed geologist/engineer shall identify and require implantation of appropriate design and control measures including but not limited to those identified in *Low-Volume Roads Engineering* (Keller & Sherar, 2003); *Handbook for Forest, Ranch, and Rural Roads* (Weaver, 2015); latest *California Forest Practice Rules;* or other suitable engineering guidance, such as: - Locate roads on well-drained soils and slopes where drainage moves away from the road - Provide adequate surface drainage - Avoid wet and unstable areas (seeps, springs, etc.) - Use the natural topography to control or dictate the ideal location of road or cleared area (e.g., staging area); use saddles, follow ridges, use bench areas, etc.					

Mitigation Measure	Implementation Responsibility	Monitoring Responsibility	Applicable Locations	Timing and Performance Standards	Compliance Verification
Recommendations provided in the assessment shall be implemented as needed to ensure that slope instability does not occur. When a desktop review or site visit reveals that steep slopes (greater than 35 percent), active slides, unstable areas, or unstable soils (as defined in the California Forest Practice Rules) are located above infrastructure, sensitive habitat, or structures potentially occupied by people, a licensed geologist/engineer shall perform an assessment to evaluate whether the proposed intensive tree removal (e.g., removal of eucalyptus grove/cluster rather than isolated trees), could cause erosion, further slope instability, or a public safety concern. Other recommendations could include measures such as stabilizing slopes with mats or natural materials after tree removal and replanting to bind soils. Note: [a] Substantial grading is defined as cuts above 3 feet and fill above 1.5 feet with lengths greater than 20 feet or removal of greater than 20 linear feet of shrubs and trees on an abandoned/little-used road on cross slopes greater than 55 percent. Substantial vegetation removal is defined as removal of all vegetative cover (both aboveground and belowground root structure for shrubs; aboveground for trees) for an area with a cross slope greater than 55 percent and in excess of 20 linear feet in any direction.					
MM Geology-3: Fire Lines During Prescribed Burns The following measures shall be implemented during prescribed burns to reduce erosion from fire lines: • Use existing barriers such as roads, trails, or wet lines as fire lines. If new fire lines must be established for a prescribed burn, fire lines shall be restored as described below. • Restore fire lines upon completion of the burn if they are not used again (unless they are existing roads, trails, or other permanent elements). Utilize erosion-control measures, such as sediment traps, during restoration to reduce sedimentation impacts. Complete restoration activities within one month after a fire line is created unless the fire line is planned to be used during another burn within one year. Restore all fire lines that do not use existing infrastructure (i.e., roads, trails, or other permanent elements) within one year of use. Rehabilitation methods may include use of a hydromulch with locally collected, genetically appropriate, native species; pulling duff, litter, and cut material back over lines; and/or distribution of locally chipped fuels on the lines. • Design prescribed burn boundaries to avoid gullies and highly erodible soils to the fullest extent possible.	Midpen and/or Contractor	Midpen	Prescribed burn sites.	**Before Activity**: Determine fire lines. **During Activity**: Set up provisions as specified in the measure. **After Activity**: Restore fire lines that will no longer be used upon completion of work.	
MM Geology-4: Soil Assessment for Construction of New Water-Supply Pipelines The following soil-assessment measures shall be implemented to ensure significant risks to life or property do not occur as a result of water-supply pipeline construction in an expansive soil in Ravenswood OSP or Stevens Creek Shoreline Nature Area: 1. Consult appropriate GIS data (e.g., USDA, 1991; USDA, 2015) to determine if expansive soils may be present within the proposed construction site. 2. Conduct a field assessment using a proven scientific test or method, such as a soil expansion index test, to verify presence of expansive soils on the site. 3. If verified to be present, determine if the expansive soils can be avoided through design specifications. If appropriate design measures cannot be utilized to avoid expansive soils, no excavated soil shall be used for fill during construction; instead, clean fill soils with a low expansion potential shall be used.	Midpen and/or Contractor	Midpen	Locations of new water-supply pipeline construction in Ravenswood OSP or Stevens Creek Shoreline Nature Area.	**Before Activity:** (1) Obtain permits if appropriate and (2) prepare plans and design specifications according to results of soil assessment. **During Activity:** Monitor construction and ensure proper construction practices are implemented. **After Activity:** Verify appropriate soils were used during construction.	
Hazards, Hazardous Materials, and Wildland Fire					
MM Hazards-1: Avoidance of Contaminated Sites To prevent exposure of workers to hazards or release of contamination into nearby waterways or clean soils, the following shall be conducted prior to any work within the boundary of any known contaminated sites or contaminated sites listed on government databases (e.g., the former Almaden AFS, Madonna Creek Ranch): • Existing data and reports on the areas of contamination and remediation, or the SFBRWQCB, shall be consulted and a map prepared identifying any areas with residual contamination (e.g., lead paint, asbestos, petroleum) that are still present after remediation. This map shall be updated at least annually if any fire management activity is proposed in the area.	Midpen and/or Contractor	Midpen	Known contaminated sites (e.g., Former Almaden AFS within Sierra Azul OSP, Madonna Creek Ranch within Miramontes OSP).	**Before Activity:** Review data and reports and prepare or update map of contaminated areas. **During Activity:** Consult map and avoid areas of residual contamination or avoid ground disturbing activities, depending	

Mitigation Measure	Implementation Responsibility	Monitoring Responsibility	Applicable Locations	Timing and Performance Standards	Compliance Verification
• The areas identified on the map as containing residual contamination shall be avoided either entirely (e.g., no cutting or entrance into site) or ground disturbing activities avoided (e.g., vegetation cutting allowed), depending upon a determination made by qualified personnel.				on determination made by qualified personnel. **After Activity:** N/A	
MM Hazards-2: Fire Risk Reduction for Stockpiling and Pile Burning The following measures shall be implemented to reduce hazards associated with pile burning: • Pile burning shall only be allowed on days when fire is less likely to spread (e.g., wind speeds are less than 15 mph). • Piles shall not be constructed in areas where burning cannot be safely controlled, such as bottoms of steep, vegetated hills. • Piles shall be set back from roads and trails at a distance specified by Midpen to minimize risk to recreationalists and other users. • All requirements of CAL FIRE or the BAAQMD or MBARD shall be met, including any permit, notification, burn bans, and reporting requirements. • Public notification shall be provided at least 24 hours in advance of less than 10 pile burns (defined as 10-foot-wide by six-foot-high) to immediately adjacent residents (within 1,000 feet), and at trailheads and access roads leading to the area with piles proposed for burning. For 10 or more piles (defined as 10-foot-wide by six-foot-high), noticing shall extend to residents within 1 mile. The public notification shall include current contact numbers to the appropriate burn coordinator.	Midpen and Contractor	Midpen	Wherever stockpiles of slash are made and piles burned.	**Before Activity:** Notify public and obtain all permits and make all necessary notifications as required by BAAQMD and MBARD. **During Activity:** (1) Ensure that piles are located appropriately and (2) ensure proper weather conditions during pile burning. **After Activity:** N/A	
MM Hazards-3: Safety Around Prescribed Burns **Trails and Midpen-Owned or Managed Roads** Midpen-owned or managed roads and trails shall be closed to public recreational and other unaffiliated private vehicle (e.g., County or private landowner vehicles on Midpen managed but not owned land) access within at least 500 feet of the outermost edges of a prescribed burn (or less with Burn Boss and Midpen concurrence). Midpen-owned or managed roads and trails shall be posted and blockaded with temporary fencing or the like. Notices of closures shall be posted at the trail heads or road entrances and on Midpen's website. Additional measures, such as staffing trail head closures, can be implemented as needed. **Public Roads** If possible, public roads within 500 feet of the outermost edges of a prescribed burn shall be closed in coordination with the appropriate agency (e.g., Caltrans). In the event this is not feasible due to volume of traffic or lack of alternative routes, a Traffic Control Plan shall be prepared and adopted in coordination with the appropriate agency. The Traffic Control Plan shall be designed to allow safe passage along roads adjacent to a prescribed burn and shall include the following at a minimum: • Requirement to coordinate with local law enforcement (e.g., County Sheriff, California Highway Patrol). • Installation of temporary signage at intervals ahead of and adjacent to the prescribed burn indicating that a prescribed burn is in progress. • Use of flaggers to slow traffic during the burn or stop traffic if wind conditions shift, resulting in smoke crossing the road.	Midpen and Contractor	Midpen	Within 500 feet of the outer edges of a prescribed burn.	**Before Activity:** (1) Post notices of closures at trailheads and online and (2) prepare a Traffic Control Plan, if required. **During Activity:** (1) Place blockades along Midpen-owned or managed roads and trails, (2) staff closures of Midpen-owned or managed roads and trails, if needed, and (3) implement a Traffic Control Plan for public roads adjacent to prescribed burns, if needed. **After Activity:** Remove blockades and signage.	
Hydrology and Water Quality					
MM Hydrology-1: Water Quality Protection During Waterway Crossing or Work Near Waterbodies Vehicles and heavy equipment shall avoid new instream crossings. On rare occasions, such as to perform work to create or maintain FRAs, equipment may need to access off an existing road into a treatment area through a waterbody. If instream (waterway) crossings must occur because no other options for access are reasonably available, the crossing shall be performed when the stream is dry and soils are not saturated. The crossing shall be performed in a way that does not result in any permanent alteration of the stream bank or bed (e.g., choosing areas with stable soils and the least slope or with vegetation to protect the bed and bank). If water is flowing or the stream has flow or saturation, temporary plates or the equivalent shall be installed from bank to bank for equipment access across the waterway. Increased use of existing stream crossings may require upgrades and/or re-engineering of the existing road or water crossing structure. If a new instream crossing or refurbishment of an existing crossing that could impact the bank or bed or riparian vegetation is needed, the crossing shall only be performed after and in accordance with the appropriate 1602 Streambed Alteration Agreement from CDFW and	Midpen and Contractor	Midpen	Anywhere vehicles and heavy equipment must cross streams or creeks (waterways).	**Before Activity:** (1) Obtain permits and (2) install plates or record vegetative conditions, as appropriate. **During Activity:** Minimize soil or vegetation disturbance, as appropriate. **After Activity:** Restore crossing area.	

Mitigation Measure	Implementation Responsibility	Monitoring Responsibility	Applicable Locations	Timing and Performance Standards	Compliance Verification
Section 404 and 401 Clean Water Act permits. All soils shall be restored after the instream crossing and banks revegetated, as needed, after the work is completed, in accordance with permits.					
Noise					
MM Noise-1: Noise Restrictions **Construction Noise Standards** Midpen shall determine the jurisdiction(s) within which an activity is proposed and identify the applicable noise standards. For activities in unincorporated areas, the specific buffers identified in this measure shall apply. For activities in incorporated areas, Midpen shall determine if the standards have a numeric limit and calculate adequate buffers between noise-generating activities and specified land uses (e.g., residential) as appropriate. **Construction Hours** All construction hours identified in the local noise ordinances shall be followed. **Buffer Zones (Santa Clara and Santa Cruz counties)** Buffer zones shall be established to reduce noise at sensitive receptors to the maximum extent feasible to reduce noise to the conditional limits identified by Santa Clara and Santa Cruz counties' noise ordinances. The buffer zone distances are shown below that identify the distances needed for noise levels to remain below 75 dBA L_{eq} for work occurring less than 10 days, and below 60 dBA L_{eq} for work occurring for 10 days or longer in Santa Clara County and below 75 dBA Leq for Santa Cruz County. These distances do not need to be implemented where it is not technically feasible to implement them per the applicable noise ordinances that requires that noise must only be reduced where it is possible to do so (i.e., Santa Clara County Noise Ordinance, or considering the necessity of the work in Santa Cruz County). A violation of the noise ordinances would only occur where the noise exceeded the conditional limits set by the jurisdiction, but there is a feasible way to reduce that noise (e.g., placing a chipper within 50 feet of a receptor when it could feasibly be placed 100 feet away is a violation, but using a chainsaw to cut a large hazard tree within 50 feet of a sensitive receptor would not be a violation assuming no other feasible methods to remove that tree are available).	Midpen and/or Contractor	Midpen	Midpen lands near sensitive receptors.	**Before Activity:** Notify affected parties one week before, if applicable. **During Activity:** (1) A designated coordinator shall ensure that either setbacks or other conditions are implemented or affected parties are properly notified (if setbacks are not feasible) and (2) a buffer shall be maintained between receptor and equipment, if needed and appropriate. **After Activity:** N/A	

Equipment	Approximate Buffer Between Equipment and Sensitive Receptors (feet) – for Work Occurring in One Location for Less Than 10 Days (Not to Exceed 75 dBA L_{eq}) in Santa Clara County or for any work duration in Santa Cruz County	Approximate Buffer Between Equipment and Sensitive Receptors (feet) – for Work Occurring in One Location for 10 Days or Longer (Not to Exceed 60 dBA L_{eq}) in Santa Clara County
Chipper	100	568
Tractor	90	506
Generator/ water pump	71	402
Chainsaw/ excavator	64	358
Skid steer	--	284
Backhoe/ brushcutter	--	254
Fire engine/ crane	--	226
Leaf blower	--	201
Pickup truck	--	179
Power pole saw	--	80

Mitigation Measure	Implementation Responsibility	Monitoring Responsibility	Applicable Locations	Timing and Performance Standards	Compliance Verification
Minimization Measures and Disturbance Coordinator If these restrictions are not implementable between the receptors and a given location, Midpen shall notify the resident or contact at the sensitive receptor within one week of conducting the activity to schedule the activity. Activities shall be coordinated to minimize disturbance to the receptor, such as conducting the work when no one is there. Engineering controls could also be used, if feasible, to keep noise levels below 75 dBA Leq for work occurring in one location for less than 10 days or 60 dBA Leq for work occurring in one location for 10 days or longer. Midpen shall designate a disturbance coordinator to address any noise complaints under these circumstances. The noise coordinator can be the person performing the work.					
Transportation					
MM Transportation-1: Emergency Responders and Access The following measures shall be implemented to ensure emergency access is maintained: 1. At least one week prior to temporary lane or full closure of a public road, Midpen shall contact the appropriate emergency response agency/agencies with jurisdiction (e.g., CalTrans, County, City) to ensure that each agency is notified of the closure and any temporary detours in advance. 2. In the event of an emergency, roads (public roads, and Midpen-owned or managed roads) or access trails blocked or obstructed by activities shall be cleared to allow emergency vehicles to pass. 3. During temporary lane or road closures on public roads, Midpen shall use flaggers equipped with two-way radios. During an emergency, flaggers shall radio to the crew to cease operations and reopen the public road to emergency vehicles. 4. In work areas, all vehicles and equipment shall be parked so the road is not blocked or obstructed when there is no operator present to move the vehicle.	Midpen and/or Contractor	Midpen	All locations where roads or access trails may be blocked to perform activities.	**Before Activity:** Inform emergency responders of public road closures. **During Activity:** (1) Ensure flaggers and crew are equipped with two-way radios on public roads, (2) clear roads and access trails in the event of an emergency, and (3) park vehicles and equipment so as not to obstruct the roadway. **After Activity:** N/A	

5 Document Preparation

5.1 Report Preparation

This section lists those individuals who either prepared or participated in the preparation of this Program EIR.

5.1.1 Midpeninsula Regional Open Space District

Midpen was the CEQA lead agency for preparation of this Program EIR. The following individuals listed in Table 5.1-1 were involved in the preparation of this Program EIR.

Table 5.1-1 Midpeninsula Regional Open Space District Team

Contributor	Title
Coty Sifuentes-Winter	Senior Resource Management Specialist
Aaron Hebert	Senior Resource Management Specialist
Aaron Peth	Planner III
Ana Ruiz	General Manager
Brian Malon	Assistant General Manager
Craig Beckman	Area Manager
Hilary Stevenson	General Counsel
Jane Mark	Planning Manager
Julie Andersen	Senior Resource Management Specialist
Kirk Lenington	Natural Resource Manager
Leigh Ann Gessner	Public Affairs Specialist II
Meredith Manning	Senior Planner
Michael Gorman	Area Manager
Michael Jurich	Land and Facilities Manager (Retired)
Nathan Greig	Data Analyst II

5.1.2 Consultant Team

Panorama Environmental, Inc., prepared this Program EIR for and under the direction of Midpen. The following staff listed in Table 5.1-2 contributed to this Program EIR.

Table 5.1-2 Consultant Team

Contributor	Title	Role/Resource Section
Tania Treis	Project Manager	Project Management, Quality Control/Document Review and Revision of all Resource Sections, Project Description, Alternatives
Caitlin Gilleran	Deputy Project Manager	Project Description, Aesthetics, Air Quality, Biological Resources, Energy Use, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Noise, Recreation, Transportation
Rita Wilke	Senior Environmental Scientist	Hydrology and Water Quality, Geology and Soils, Other CEQA Considerations
Whitney Broeking	Senior Environmental Scientist	Cumulative Impacts, Technical Editing
Corey Fong	GIS Specialist/ Cartographer	GIS, Graphics
Madeleine Jones	Environmental Analyst	Cultural/Tribal Cultural Resources, Geology and Soils, Hydrology and Water Quality, Cumulative Impacts, Document Production, Technical Editing
Kathleen Cuschieri	Environmental Analyst	Technical Editing
Yingying Cai	Environmental Planner	Technical Editing
Carol Rice	Fire Management Specialist	Pile and Prescribed Burn Modeling

Subconsultant Authors

The following subconsultants listed in Table 5.1-3 contributed to the preparation of the Program EIR.

Table 5.1-3 Subconsultants

Contributor	Firm	Resource Section Support
Mike Ratte	RCH Group Rancho Cordova, California	Air Quality, Greenhouse Gas Emissions
Heath Bartosh	Nomad Ecology Martinez, California	Biological Resources
Scott Cashen	Nomad Ecology Martinez, California	Biological Resources
Dana Terry	Nomad Ecology Martinez, California	Biological Resources
Colin Busby	Basin Research Associates San Leandro, California	Cultural Resources, Tribal Cultural Resources

Contributor	Firm	Resource Section Support
Melody Tannam	Basin Research Associates San Leandro, California	Cultural Resources, Tribal Cultural Resources
Jared Lewis	Applied Technology & Science San Francisco, California	Geology and Soils, Hydrology and Water Quality
Paul Studemeister, PhD	Applied Technology & Science San Francisco, California	Geology and Soils, Hydrology and Water Quality

5.2 Agencies, Organizations, and Tribes Consulted

The following parties and agency representatives listed in Table 5.2-1 were contacted during preparation of this Program EIR.

Table 5.2-1 Parties Consulted During Preparation of Program EIR

Parties Consulted	
Agencies and Organizations	
• California Air Resources Board • California Coastal Commission (North Central Coast and Central Coast District) • California Department of Conservation • California Department of Fish and Wildlife Region 3 • California Department of Food and Agriculture • California Department of Forestry and Fire Protection • California Department of Parks and Recreation • California Department of Pesticide Regulation • California Department of Toxic Substances Control	• California Department of Transportation District 4 & 5 • California Highway Patrol • California Native American Heritage Commission • California Natural Resources Agency • California Regional Water Quality Control Board Regions 2 & 3 • California State Water Resources Control Board • National Oceanic and Atmospheric Administration • United States Army Corps of Engineers • United States Fish and Wildlife Service
Tribes	
• Amah Mutsun Tribal Band • Amah Mutsun Tribal Band of Mission San Juan Bautista • Costanoan Ohlone Rumsen-Mutsun Tribe • Costanoan Rumsen Carmel Tribe	• Indian Canyon Mutsun Band of Costanoan • Muwekma Ohlone Indian Tribe of the San Francisco Bay Area • North Valley Yokuts Tribe • Ohlone Indian Tribe

This page is intentionally left blank.

6 References

Chapter 2: Responses to Comments

CalTrans. (2018, July). Encroachment Permits Manual.

CDFW. (2018, March 20). Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities .

CDFW. (2021). *CESA to the Federal Endangered Species Act*. Retrieved from https://wildlife.ca.gov/Conservation/CESA/FESA

California Natural Resources Agency (CNRA). (2018). California's Fourth Climate Change Assessment. *Statewide Summary Report*.

County of Santa Clara. (2017, October 15). Santa Clara County Operational Area Hazard Mitigation Plan.

Hurteau, M. D., & Brooks, M. L. (2011). Short- and long-term effects of fire on carbon in US dry. *Bioscience*, 139-146.

Hurteau, M. D., Koch, G. W., & Hungate, B. A. (2008). Carbon protection and fire risk reduction: Toward a full accounting of forest carbon offsets. *Frontiers in Ecology and the Environment*,, 493-498.

Hyde, J., & Strand, E. K. (2019, May). Comparing Modeled Emissions from Wildfire and Prescribed Burning of Post-Thinning Fuel: A Case Study of the 2016 Pioneer Fire. Department of Forest, Rangeland, and Fire Sciences, College of Natural Resources, University of Idaho.

Moghaddas, J. J., Roller, G. B., Long, J. W., Saah, D. S., Mortiz, M. A., Stark, D. T., . . . Gunn, J. S. (2018, August). Fuel Treatment for Forest Resilient and Climate Mitigation: A Critical Review for Coniferous Forests of California. California Natural Resources Agency.

Reinhardt, T. E., Ottmar, R. D., & Hanneman, A. J. (2000, October). Smoke Exposure Among Firefighters at Prescribed Burns in the Pacific Northwest. USDA.

United States Department of Agriculture (USDA). (1989, February). A Guide for Prescribed Fire in Southern Forests.

United States Fish and Wildlife Service (USFWS). (2020, October 1). Revised Transmittal of Guidance: Estimating the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northwestern California.

USFWS. (Revised 2020, July). Supplemental Materials 1a. for the Monarch (Danaus plexippus plexippus) Species Status Assessment Report.

Wentworth, C. G. (1997). Summary distribution of slides and earth flows in the San Francisco Bay Region, California. *Open-file Report 97-745 C*. U.S. Geological Survey.

Chapter 4: Mitigation, Monitoring, and Reporting Program

Castelle A.J., Johnson A.W., Conolly, C. (1994). Wetland and Stream Buffer Size Requirements—A Review. J. Environ. Qual. 23:878-882.

CDFW. (2018, March 20). Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities .

CDFW and California Native Plant Society (CNPS). (2019). CDFW-CNPS Protocol for the Combined Vegetation Rapid Assessment and Relevé Field Form. Available at: <https://www.cnps.org/wp-content/uploads/2019/03/veg-releve-field-protocol.pdf>. (Accessed June 29, 2020).

CNPS. (2020). Field Protocols and Guidelines. Sacramento, CA. Available from http://rareplants.cnps.orghttps://www.cnps.org/plant-science/field-protocols-guidelines

Clement, J.P., Belin, A., Bean M.J., Boling, T.A., Lyons, J.R. (2014, April). A strategy for improving the mitigation policies and practices of the Department of the Interior. A report to the Secretary of the Interior from the Energy and Climate Change Task Force, Washington, D.C., 25 pp.

Keller, G., & Sherar, J. (2003). Low-Volume Roads Engineering: Best Management Practices Field Guide. USDA Forest Service.

State Water Resources Control Board. (2019). State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State. Staff Report Including the Substitute Environmental Documentation. 234 pp.

The Xerces Society. (2017). Protecting California's Butterfly Groves: Management Guidelines for Monarch Butterfly Overwintering Habitat. 32+vi pp. Portland, OR: The Xerces Society for Invertebrate Conservation.

The Xerces Society. (2019). Western Monarch Count Instructions. https://www.westernmonarchcount.org/downloads/

6 REFERENCES

United States Army Corps of Engineers (USACE). (2010). Guidelines for Preparing a Compensatory Mitigation Plan. USACE, Charleston District.

USACE. (2012). Uniform Performance Standards for Compensatory Mitigation Requirements. 12505-SP. Regulatory Program, South Pacific Division USACE.

USACE. (2015). Final 2015 Regional Compensatory Mitigation and Monitoring Guidelines for South Pacific Division USACE.

USACE. (2017). Standard Operating Procedure for Determination of Mitigation Ratios. Regulatory Program, South Pacific Division USACE.

USFWS. (2016). Endangered and Threatened Wildlife and Plants; Endangered Species Act Compensatory Mitigation Policy. 81 FR 61031.

This page is intentionally left blank.

APPENDIX A PROJECT SPECIFIC REVIEW

1 Project-Specific Review

1.1 Introduction

Midpeninsula Regional Open Space District (Midpen) proposes to implement a Wildland Fire Resiliency Program (WFRP or Program), which would serve as a planning and implementation document to manage vegetation and infrastructure on Midpen lands as well as to guide planning, response, and monitoring to reduce wildland fire risks. The Program Environmental Impact Report (EIR) evaluated the environmental impacts of the WFRP. The WFRP is described in Chapter 3: Project Description of the Program EIR and within the WFRP that is incorporated into the Program EIR by reference. The Program EIR was prepared under the direction of the CEQA Lead Agency, Midpen, in accordance with the California Environmental Quality Act (CEQA) (Public Resources Code [PRC] Section 21000 et seq.), and as a Program EIR in accordance with CEQA Guidelines Section 15168 for streamlining of CEQA review of later activities consistent with the Program EIR.

Midpen will implement vegetation management actions consistent with the WFRP. Midpen will prepare Annual Work Plans identifying the vegetation management actions proposed for each upcoming year. In accordance with the CEQA Guidelines, the lead agency must document evaluation of later activities to determine whether the environmental effects of the activities are within the scope of the Program EIR (Section 15168(4)). The vegetation management activities proposed by Midpen each year constitute "later activities" in the context of the CEQA Guidelines. This document functions to aid Midpen in determining and documenting whether the later activities proposed by Midpen are within the scope of the WFRP analyzed in the Program EIR or if additional environmental review is required. This document also serves to guide the identification of the Midpen Best Management Practices (BMPs) and Mitigation Measures (MMs) applicable to WFRP actions taken, as required under the Program EIR.

1.2 Determining Whether Annual Projects are within the Scope of the WFRP Program EIR

The following table provides a summary of maximum annual acreages of activities to be implemented under the Program, which was analyzed in the WFRP Program EIR.

Table 1 Maximum Annual Treatments

Activity	Treatment Type	Create New or Maintain Existing	Maximum Annual Treatments (Acres)
Vegetation Management Plan			
Shaded Fuelbreaks	Manual, mechanical, herbicide, pile burn, prescribed herbivory	New	50
		Maintain	100
Non-Shaded Fuelbreaks	Mechanical, herbicide, pile burn, prescribed herbivory	New	5
		Maintain	80
Evacuation Routes, Critical Infrastructure, Fire Management Logistics Fuelbreaks	Manual, mechanical, herbicide, pile burn, prescribed herbivory	New	400
		Maintain	400
Target Hazards Fuelbreaks	Manual, mechanical, herbicide, pile burn, prescribed herbivory	New	20
		Maintain	20
Fire Agency New Recommended Fuelbreaks	Manual, mechanical, herbicide, pile burn, prescribed herbivory	New	100
		Maintain	N/A[a]
Ingress/Egress Route Fuelbreaks	Mechanical, herbicide, pile burn, prescribed herbivory	New	25
		Maintain	25
Disclines	Mechanical, herbicide	New	10
		Maintain	60
Midpen Structures and Facilities Defensible Space	Manual, mechanical, herbicide, pile burn	New	As needed
		Maintain	175
Fire Management Logistics Areas	Manual, mechanical	New	100
		Maintain	30
Eucalyptus and Acacia Removal	Manual, mechanical, herbicide	New	20 [b]
		Maintain	10
Fuel Reduction Areas	Manual, mechanical, herbicide, pile burn, prescribed herbivory	New	500
		Maintain	500
Prescribed Fire Plan			
Prescribed Burn (upon completion of a detailed PFP tiered off the programmatic description provided here)	Manual, mechanical, prescribed burn	New	500
Wildland Fire Pre-Plan			
Spur Road and Access Road	Manual, mechanical, herbicide	New	1.5 [c]
Staging and Landing Areas	Manual, mechanical, herbicide	New	5

Activity	Treatment Type	Create New or Maintain Existing	Maximum Annual Treatments (Acres)
Water Storage Tanks	Manual, mechanical, herbicide	New	0.1
Water Supply Pipelines, Hydrants, and Pumps	Manual, mechanical, herbicide	New	0.1
Total		**New**	**1,737**
		Maintain	**1,400**

Notes:

[a] Fire agency recommended fuelbreaks are maintained under the applicable category.

[b] An average of 55 trees and a maximum of 105 trees over 8 inches DBH per acre could be removed.

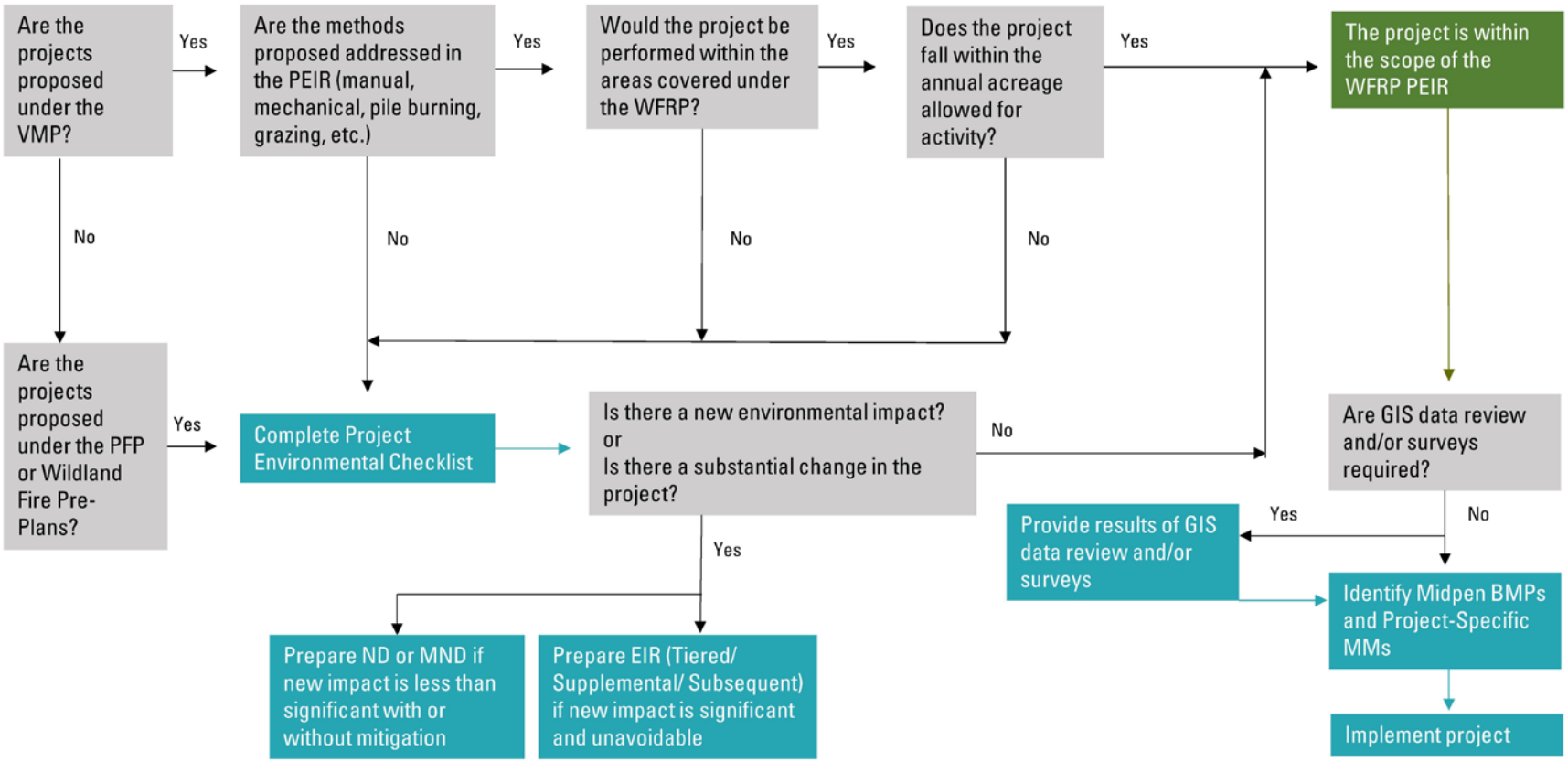
[c] Assumes up to 1 mile of 12-foot-wide roads.

An additional 50 hazard trees (generally >10 inches dbh) could be removed under the Program, outside of the fuel treatments described in this table.

In most circumstances, work can be implemented without additional CEQA review. The specific actions, including locations and extent of prescribed burns and new infrastructure, that may occur under the PFP and Wildland Pre-Fire Plans, have not been identified to the same level of detail as the VMP. Prescribed fire under the PFP and the infrastructure improvements identified in the Wildland Pre-Fire Plans are addressed at a programmatic level. Midpen continues to acquire new lands for preservation as open space. The analyses in the Program EIR of these two plans and Midpen lands was conducted using the data available at the time of preparation of the EIR. Additional environmental review may be needed in the future. When specific activities are proposed for either plan (the PFP or the Wildland Pre-Fire Plans) or on lands purchased or gifted after preparation of this Program EIR, Midpen will perform project-level environmental review. Prior to approving site-specific activities under these plans or on newly acquired lands, Midpen will evaluate the selected site against the analysis included in this Program EIR to determine whether additional environmental review is needed.

For any activities proposed under the Program, an initial screening review will be used to determine whether the environmental effects of the work were adequately analyzed in the Program EIR. Midpen will compare the proposed work against the activities, locations, and types of tools and techniques in the Program EIR. If the proposed activities do not fall within the scope of the analyzed management actions, Midpen will conduct an evaluation under a Project Environmental Checklist (PEC) (Chapter 2) to determine whether any new impacts could occur. Identification of new impacts will require further environmental review under CEQA. The type of review will be dependent upon the severity of the new impact. The flowchart in Figure 1 guides the process. The Project-Specific Screening Results Form and the Determination will be completed and saved with the Annual Work Plan. The PEC will be attached, if applicable. If the work is determined to be within the scope of the management actions proposed under the WFRP, the appropriate Midpen best management practices (BMPs) and Program-specific mitigation measures (MMs) will be identified and implemented (from Chapter 3 of the Final Program EIR).

Figure 1 Flow Chart for Determining a Within the Scope of the WFRP Finding or if Additional Environmental Review is Required



2 Project-Specific Screening Results Form

What activities (e.g., shaded fuelbreak creation) would be involved?		
List activities		
Are the methods proposed addressed in the Program EIR?	**Yes**	**No**
List methods		
Would the work be performed in areas covered under the Program EIR?	**Yes**	**No**
List locations of work		
Does the work fall within the acreage or units allowed for the year?	**Yes**	**No**
Identify units/acreages		
If the activities proposed are under the Vegetation Management Plan and the answers to all questions above are "yes" – the actions are within the scope of the WFRP Program EIR – go to the ***Determination Form***		
If the action involves activities under the Prescribed Fire Plan or Wildland Fire Pre-Plan or the answer to any of the above questions is "no" – ***Complete the PEC and then complete the Determination Form***		

Determination Form

On the basis of this initial evaluation:

	I find that all of the effects of the proposed project (a) have been analyzed adequately in the WFRP Program EIR, (b) have been avoided or mitigated pursuant to the WFRP Program EIR, and (c) all applicable mitigation measures and BMPs identified in the WFRP Program EIR will be implemented. The proposed project is therefore **WITHIN THE SCOPE** of the WFRP Program EIR. **NO ADDITIONAL CEQA DOCUMENTATION** is required.
	I find that the proposed project will have effects that were not examined in the WFRP Program EIR. These effects are less than significant without any mitigation beyond what is already required pursuant to the WFRP Program EIR. A **NEGATIVE DECLARATION** will be prepared.
	I find that the proposed project will have effects that were not examined in the WFRP Program EIR. Although these effects might be significant in the absence of additional mitigation beyond what is already required pursuant to the BFIPP Program EIR, additional mitigation measures have been identified that would avoid or reduce the effects so that clearly no significant effects would occur. A **MITIGATED NEGATIVE DECLARATION** will be prepared
	I find that the proposed project will have environmental effects that were not examined in the WFRP Program EIR. Because these effects are or may be significant and cannot be clearly mitigated, an **ENVIRONMENTAL IMPACT REPORT** will be prepared.

_____

Land and Facilities Manager Signature Date

_____

Printed Name Title

3 Applicable Environmental Protection Measures

The section identifies the surveys and GIS review and the environmental protection measures that are applicable to the proposed activities. These measures take the form of Midpen-BMPs and Program-specific MMs. Some BMPs and MMs apply to all projects, while others only apply to projects that include specific treatment types, treatment activities, or locations. Table 2, below, provides a comprehensive list of BMPs and MMs applicable to each project type. Midpen shall verify that all applicable BMPs and MMs will be implemented. Refer to the Mitigation Monitoring and Reporting Plan in the Final Program EIR for entity responsible for implementing and verifying or enforcing each measure. The applicable measures are shown with a checkmark. The form identifying the mitigation measures should be completed for each activity identified in the Annual Work Plan.

This page is intentionally left blank.

Table 2 Applicable Environmental Protection Measures Matrix

			Manual and Mechanical														
			Cutting			Pulling		Mowing and Discing	Masticating	Chipping	Pile Burning	Propane Flaming			Planting	Construction (Wildland Fire Pre-Plan)	
BMPs and MMS	Access and Vehicle Travel	Prescribed Burning (PFP)	heavy equipment	power hand tools	non-power hand Tools	heavy equipment	by hand or with non-power tools						Chemical Application	Prescribed Herbivory	Manual	Heavy Equipment	
All Midpen Lands																	
IPMP BMP 1													√				
IPMP BMP 2													√				
IPMP BMP 3													√				
IPMP BMP 4													√				
IPMP BMP 5													√				
IPMP BMP 6													√				
IPMP BMP 7													√				
IPMP BMP 8													√				
IPMP BMP 9													√				
IPMP BMP 10													√				
IPMP BMP 11																√	
IPMP BMP 12																√	
IPMP BMP 13																√	
IPMP BMP 14																√	
IPMP BMP 15																√	
IPMP BMP 16																√	
IPMP BMP 17																√	
IPMP BMP 18																√	
IPMP BMP 19		√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
IPMP BMP 21	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
IPMP BMP 25		√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
IPMP BMP 26																	
IPMP BMP 28	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√

	Manual and Mechanical															
			Cutting			Pulling		Mowing and Discing	Masticating	Chipping	Pile Burning	Propane Flaming			Planting	Construction (Wildland Fire Pre-Plan)
BMPs and MMS	Access and Vehicle Travel	Prescribed Burning (PFP)	heavy equipment	power hand tools	non-power hand Tools	heavy equipment	by hand or with non-power tools						Chemical Application	Prescribed Herbivory	Manual	Heavy Equipment
IPMP BMP 32													√			
IPMP BMP 33													√			
IPMP BMP 34													√			
IPMP BMP 35													√			
IPMP BMP 36													√			
LU Regulations Section 404.2	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
LU Regulations Section 500.1	√															
MO Manual Section 07.005	√															
MO Manual Section 08.008	√	√	√	√		√		√	√							√
MO Manual Section 08.016			√			√		√	√							√
MO Manual Section 08.017	√	√	√	√		√		√	√							√
MO Manual Section 13.005	√	√	√	√	√	√	√	√	√	√	√	√				√
MO Manual Section 13.008		√									√					
MO Manual Section 13.010	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
MO Manual Section 14.005	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
MO Manual Section 14.006	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
MO Manual Section 17.005													√			

	Manual and Mechanical															
			Cutting			Pulling		Mowing and Discing	Masticating	Chipping	Pile Burning	Propane Flaming			Planting	Construction (Wildland Fire Pre-Plan)
BMPs and MMS	Access and Vehicle Travel	Prescribed Burning (PFP)	heavy equipment	power hand tools	non-power hand Tools	heavy equipment	by hand or with non-power tools						Chemical Application	Prescribed Herbivory	Manual	Heavy Equipment
MO Manual Section 17.006													√			
RM Policy WF-1	√	√	√	√	√	√	√	√	√	√	√	√				√
Safety Manual Section 1.6.5	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Safety Manual Section 1.6.5.15			√			√		√	√							√
Safety Manual Section 1.6.5.16			√			√		√	√							√
Safety Manual Section 1.6.6	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Safety Manual Section 1.7.0.0	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Safety Manual Section 1.11.1	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Safety Manual Section 1.11.2	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
MM Air Quality-4		√								√						√
MM Biology-1	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√
MM Biology-4		√	√	√	√	√	√	√	√	√	√	√				
MM Biology-5	√	√	√	√	√	√	√	√	√	√	√	√			√	√
MM Biology-16		√														
MM Cultural-1		√	√			√		√	√	√	√					√
MM Cultural-2		√	√			√		√	√	√	√					√
MM Cultural-3		√	√			√		√	√	√	√					√
MM Geology-1														√		
MM Geology-2	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
MM Geology-3		√														

	Manual and Mechanical															
			Cutting			Pulling		Mowing and Discing	Masticating	Chipping	Pile Burning	Propane Flaming			Planting	Construction (Wildland Fire Pre-Plan)
BMPs and MMS	Access and Vehicle Travel	Prescribed Burning (PFP)	heavy equipment	power hand tools	non-power hand Tools	heavy equipment	by hand or with non-power tools						Chemical Application	Prescribed Herbivory	Manual	Heavy Equipment
MM Hazards-2											√					
MM Hydrology-1	√		√			√		√	√							√
MM Noise-1		√	√	√		√		√	√	√	√		√	√		√
SFBAAB Area																
MM Air Quality-2		√														
NCCAB Area																
MM Air Quality-2		√									√					
Construction Area																
MM Air Quality-1	√															√
MM Geology-4																√
Known Contaminated Sites																
MM Hazards-1	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Serpentine Soils and Rock Formation Area																
MM Air Quality-3	√		√	√	√	√	√	√	√	√	√	√	√			√
Sensitive Natural Communities																
MM Biology-17	√	√	√	√	√	√	√	√	√	√	√	√		√		√
MM Biology-18	√		√	√	√	√	√	√	√	√	√	√				√
Special-Status Plants Habitat																
MM Biology-2	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√
MM Biology-3	√	√	√	√	√	√	√	√	√	√	√	√	√			√
Wetlands and Other Jurisdictional Aquatic Resources																
MM Biology-19	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Steelhead and Coho Salmon Critical Habitat																
MM Biology-14	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√

	Manual and Mechanical															
			Cutting			Pulling		Mowing and Discing	Masticating	Chipping	Pile Burning	Propane Flaming			Planting	Construction (Wildland Fire Pre-Plan)
BMPs and MMS	Access and Vehicle Travel	Prescribed Burning (PFP)	heavy equipment	power hand tools	non-power hand Tools	heavy equipment	by hand or with non-power tools						Chemical Application	Prescribed Herbivory	Manual	Heavy Equipment
Special-Status Butterflies and Moths Habitat (Except Monarch)																
MM Biology-13	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√
Monarch Butterfly Habitat																
MM Biology-13	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√
MM Biology-15	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√
Special-Status Salamanders and Newts Habitat																
MM Biology-10	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√
California Red-Legged Frog Habitat																
MM Biology-7	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√
California Yellow-Legged Frog Habitat																
MM Biology-8	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√
Western Pond Turtle Habitat																
MM Biology-9	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√
San Francisco Garter Snake Habitat																
MM Biology-6	√		√	√	√	√	√	√	√	√	√	√	√	√		√
Special-Status Bird Species and Nesting Birds Habitat (Except Marbled Murrelet)																
MM Biology-11	√	√	√	√	√	√	√	√	√	√	√	√		√		√
Marbled Murrelet Habitat																
MM Biology-12	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Special-Status Bat Species																
Midpen Bat BMPs	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
San Francisco Dusky-Footed Woodrat																
Midpen Woodrat BMPs	√	√	√	√	√	√	√	√	√	√	√	√			√	√
IPMP BMP 21	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√

	Manual and Mechanical															
			Cutting			Pulling		Mowing and Discing	Masticating	Chipping	Pile Burning	Propane Flaming			Planting	Construction (Wildland Fire Pre-Plan)
BMPs and MMS	Access and Vehicle Travel	Prescribed Burning (PFP)	heavy equipment	power hand tools	non-power hand Tools	heavy equipment	by hand or with non-power tools						Chemical Application	Prescribed Herbivory	Manual	Heavy Equipment
MM Biology-16		√														
Roads and Trails																
MM Transportation-1	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
MM Hazards-3		√														

Existing Midpen BMPs

MO Manual – Maintenance Operations Manual

LU Regulations – Regulations for Use of Midpeninsula Regional Open Space District Lands

RM Policies – Resource Management Policies

IPMP – Integrated Pest Management Program

Safety Manual

Species-Specific BMPs

List of Mitigation Measures Applicable to Action or Activities

Activity to be performed
Tools/techniques to be utilized
Locations of work

List of Applicable BMPs and MMs

Results of surveys and GIS review, if applicable and location specific considerations

4 Project Environmental Checklist

If any portion of the project or activities proposed (tools and techniques, locations, and activity) is not within the scope of the Program EIR, per the flowchart in Figure 1 and as indicated on the Project-Specific Screening Results Form, Midpen will complete a PEC, the template for which is provided below.

The environmental resource areas included in the PEC are the same environmental resource areas analyzed in Chapter 4 of the Draft Program EIR. Midpen will review the environmental analysis and mitigation measures in the Draft and Final Program EIR for each corresponding resource area in the PEC. Midpen will consider whether required BMPs and MMs would be effective in reducing or mitigating environmental impacts of the project considering the specific activities and site-specific characteristics of the project area. Written explanations supporting all conclusions should be provided in the sections of the checklist available for discussion following the checklist questions presented for each resource area.

4.1 Project Information

Project Title/Year of Implementation:	
Contact Person and Phone Number: (Provide phone number and email address)	
Project Location(s):	
Total Area to be Treated (acres):	
Description of Project: (Describe the whole action involved, including but not limited to later phases (e.g., maintenance) of the project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary.)	
Treatment Tools and Techniques:	
Surrounding Land Uses and Setting: (Briefly describe the Project's surroundings)	
Other public agencies whose approval is required: (note status of any required approvals [permits])	
Native American Consultation. Pursuant to PRC Sections 21080.3.1, 21080.3.2, and 21082.3, lead agencies undertaking CEQA review must, upon written request of a California Native American tribe, begin consultation before the release of an environmental impact report, negative declaration, or mitigated negative declaration. For treatment projects that require additional CEQA review and documentation, have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts	

to tribal cultural resources, procedures regarding confidentiality, etc.? Note: For treatment projects that are within the scope of this PEIR, AB 52 consultation has been completed. The Board of Forestry and Fire Protection and CAL FIRE completed consultation pursuant to Public Resources Code section 21080.3.1 in preparation of the PEIR.	
Applicable Environmental Protection Measures. (Refer to Section 4)	

4.2 Evaluation of Environmental Impacts

1. A brief explanation is required for all answers. Answers should consider whether the proposed project would result in new or more substantial environmental effects than described in the WFRP Program EIR, after incorporation of applicable Environmental Protection Measures required by the WFRP Program EIR.
2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and short-term as well as long-term impacts.
3. Refer to the applicable resource analysis section in the WFRP Program EIR for each environmental topic. If, after considering the specific location and characteristics of the proposed project, the project proponent determines that the proposed project would not result in new or more substantial environmental effects, then the checklist should indicate "No New Impact".
4. Once the project proponent has determined that a new or more substantial environmental effect may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant without the need for mitigation. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR would be required.
5. Where a Negative Declaration, Mitigated Negative Declaration is required, the environmental review would be guided by the directions for use of the Program EIR with later activities in Section 15168. Where an EIR is required, the environmental review would be guided by Sections 15162 and 15163. When preparing any environmental document, the environmental analysis may incorporate by reference the analysis from the WFRP Program EIR and focus the environmental analysis solely on issues that were not addressed in the WFRP Program EIR.
6. Project proponents should incorporate into the environmental checklist references to information sources for potential impacts. Include a list of references cited in the environmental checklist and make copies of such references available to the public upon request.

4.3 Aesthetics

Impact Statement	New Impact that is Significant or Potentially Significant	New Impact that is Less than Significant with Mitigation Incorporated	New Impact that is Less Than Significant Impact	No New Impact
Impact Aesthetics-1: Substantial adverse effect on a scenic vista, or substantial degradation of the existing visual character or quality of public views of the site and its surroundings.	☐	☐	☐	☐
Impact Aesthetics-2: Substantial damage to scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway.	☐	☐	☐	☐
Impact Aesthetics-3: New source of substantial light or glare that would adversely affect day or nighttime views in the area.	☐	☐	☐	☐

4.3.1 Discussion

The discussion should identify which impacts from the Program EIR would occur from implementation of the proposed vegetation management project, describe the significance of each relevant impact and identify each mitigation measure from the Program EIR that is relevant to the proposed project. Additionally, this discussion should describe how each measure will address site-specific conditions and reduce impacts of the proposed vegetation management project.

4.4 Air Quality

Impact Statement	New Impact that is Significant or Potentially Significant	New Impact that is Less than Significant with Mitigation Incorporated	New Impact that is Less Than Significant Impact	No New Impact
Impact Air Quality-1: Conflict with or obstruct implementation of the applicable air-quality plan.	☐	☐	☐	☐
Impact Air Quality-2: Net increase of any criteria pollutant for which the Program region is non-attainment under an applicable federal or State ambient air-quality standard.	☐	☐	☐	☐
Impact Air Quality-3: Exposure of sensitive human receptors to substantial pollutant concentrations.	☐	☐	☐	☐
Impact Air Quality-4: Emissions (such as those leading to odors) adversely affecting a substantial number of people.	☐	☐	☐	☐

4.4.1 Discussion

The discussion should identify which impacts from the Program EIR would occur from implementation of the proposed vegetation management project, describe the significance of each relevant impact and identify each mitigation measure from the Program EIR that is relevant to the proposed project. Additionally, this discussion should describe how each measure will address site-specific conditions and reduce impacts of the proposed vegetation management project.

4.5 Biological Resources

Impact Statement	New Impact that is Significant or Potentially Significant	New Impact that is Less than Significant with Mitigation Incorporated	New Impact that is Less Than Significant Impact	No New Impact
Impact Biological Resources-1: Substantial adverse effect, either directly or through habitat modifications, on species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS.	☐	☐	☐	☐
Impact Biological Resources-2: Substantial adverse effect on riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS, or State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.	☐	☐	☐	☐
Impact Biological Resources-3: Substantial interference 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.	☐	☐	☐	☐
Impact Biological Resources-4: Conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance, or adopted HCP, Natural Community Conservation Plan (NCCP), or other approved local, regional, or State HCP.	☐	☐	☐	☐

4.5.1 Discussion

The discussion should identify which impacts from the Program EIR would occur from implementation of the proposed vegetation management project, describe the significance of each relevant impact and identify each mitigation measure from the Program EIR that is relevant to the proposed project. Additionally, this discussion should describe how each measure will address site-specific conditions and reduce impacts of the proposed vegetation management project.

4.6 Cultural and Tribal Cultural Resources

Impact Statement	New Impact that is Significant or Potentially Significant	New Impact that is Less than Significant with Mitigation Incorporated	New Impact that is Less Than Significant Impact	No New Impact
Impact Cultural Resources-1: Substantial adverse change in the significance of a historical or archaeological resource pursuant to CEQA Guidelines Section 15064.5.	☐	☐	☐	☐
Impact Cultural Resources-2: Disturbance of human remains, including those interred outside of formal cemeteries.	☐	☐	☐	☐
Impact Cultural Resources-3: Substantial adverse change in the significance of a tribal cultural resource that is listed, or eligible for listing in, the California Register of Historical Resources or in a local register of historical resources, as defined in PRC § 5020.1(k), or a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC § 5024.1.	☐	☐	☐	☐

4.6.1 Discussion

The discussion should identify which impacts from the Program EIR would occur from implementation of the proposed vegetation management project, describe the significance of each relevant impact and identify each mitigation measure from the Program EIR that is relevant to the proposed project. Additionally, this discussion should describe how each measure will address site-specific conditions and reduce impacts of the proposed vegetation management project.

4.7 Geology and Soils

Impact Statement	New Impact that is Significant or Potentially Significant	New Impact that is Less than Significant with Mitigation Incorporated	New Impact that is Less Than Significant Impact	No New Impact
Impact Geology and Soils-1: Directly or indirect 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; ii) Strong seismic ground shaking; iii) Seismic-related ground failure, including liquefaction; or iv) Landslides.	☐	☐	☐	☐
Impact Geology and Soils-2: Substantial soil erosion or the loss of topsoil.	☐	☐	☐	☐
Impact Geology and Soils-3: Instability of a geologic unit or soil that could potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.	☐	☐	☐	☐
Impact Geology and Soils-4: Impacts from expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), or corrosive soil, creating substantial direct or indirect risks to life or property.	☐	☐	☐	☐
Impact Geology and Soils-5: 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 wastewater.	☐	☐	☐	☐
Impact Geology and Soils-6: Direct or indirect impacts on a unique paleontological resource or site or unique geologic feature.	☐	☐	☐	☐

4.7.1 Discussion

The discussion should identify which impacts from the Program EIR would occur from implementation of the proposed vegetation management project, describe the significance of each relevant impact and identify each mitigation measure from the Program EIR that is relevant to the proposed project. Additionally, this discussion should describe how each measure will address site-specific conditions and reduce impacts of the proposed vegetation management project.

4.8 Greenhouse Gases

Impact Statement	New Impact that is Significant or Potentially Significant	New Impact that is Less than Significant with Mitigation Incorporated	New Impact that is Less Than Significant Impact	No New Impact
Impact GHG-1: Generation of GHG emissions, either directly or indirectly, that may have a significant impact on the environment.	☐	☐	☐	☐
Impact GHG-2: Conflict with an applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHGs.	☐	☐	☐	☐

4.8.1 Discussion

The discussion should identify which impacts from the Program EIR would occur from implementation of the proposed vegetation management project, describe the significance of each relevant impact and identify each mitigation measure from the Program EIR that is relevant to the proposed project. Additionally, this discussion should describe how each measure will address site-specific conditions and reduce impacts of the proposed vegetation management project.

4.9 Hazardous Materials and Fire Hazards

Impact Statement	New Impact that is Significant or Potentially Significant	New Impact that is Less than Significant with Mitigation Incorporated	New Impact that is Less Than Significant Impact	No New Impact
Impact Hazards-1: Significant hazard to the public or the environment through emission of or exposure to hazardous materials.	☐	☐	☐	☐
Impact Hazards-2: Hazard to the public or the environment related to project area located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5.	☐	☐	☐	☐
Impact Hazards-3: Safety hazard or noise related to project area located within an area covered by an airport land-use plan, or, where such a plan has not been adopted, within 2 miles of a public airport or public-use airport, affecting people residing or working in the project area.	☐	☐	☐	☐
Impact Hazards-4: Impairment of implementation or physically interference with an adopted emergency-response plan or emergency evacuation plan.	☐	☐	☐	☐
Impact Hazards-5: Exposure of people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.	☐	☐	☐	☐
Impact Hazards-6: Exacerbation of wildland fire risks due to slope, prevailing winds, or other factors that could expose project occupants to pollutant concentrations from a wildland fire or the uncontrolled spread of a wildland fire.	☐	☐	☐	☐
Impact Hazards-7: Installation or maintenance of roads, fuel breaks, emergency water sources, power lines, or other utilities that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.	☐	☐	☐	☐

Impact Statement	New Impact that is Significant or Potentially Significant	New Impact that is Less than Significant with Mitigation Incorporated	New Impact that is Less Than Significant Impact	No New Impact
Impact Hazards-8: Exposure of people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.	☐	☐	☐	☐

4.9.1 Discussion

The discussion should identify which impacts from the Program EIR would occur from implementation of the proposed vegetation management project, describe the significance of each relevant impact and identify each mitigation measure from the Program EIR that is relevant to the proposed project. Additionally, this discussion should describe how each measure will address site-specific conditions and reduce impacts of the proposed vegetation management project.

4.10 Hydrology and Water Quality

Impact Statement	New Impact that is Significant or Potentially Significant	New Impact that is Less than Significant with Mitigation Incorporated	New Impact that is Less Than Significant Impact	No New Impact
Impact Hydrology-1: Violate water-quality standards or waste-discharge requirements or otherwise substantially degrade surface or groundwater quality or substantially alter the existing drainage pattern of the area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would result in substantial erosion or siltation on or off site.	☐	☐	☐	☐
Impact Hydrology-2: Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Program may impede sustainable groundwater management of the basin.	☐	☐	☐	☐
Impact Hydrology-3: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: i) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; ii) Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or iii) Impede or redirect flood flows.	☐	☐	☐	☐
Impact Hydrology-4: Risk release of pollutants due to project inundation in flood hazard, tsunami, or seiche zones.	☐	☐	☐	☐

Impact Statement	New Impact that is Significant or Potentially Significant	New Impact that is Less than Significant with Mitigation Incorporated	New Impact that is Less Than Significant Impact	No New Impact
Impact Hydrology-5: Conflict with or obstruct implementation of a water-quality control plan or sustainable groundwater management plan.	☐	☐	☐	☐

4.10.1 Discussion

The discussion should identify which impacts from the Program EIR would occur from implementation of the proposed vegetation management project, describe the significance of each relevant impact and identify each mitigation measure from the Program EIR that is relevant to the proposed project. Additionally, this discussion should describe how each measure will address site-specific conditions and reduce impacts of the proposed vegetation management project.

4.11 Noise

Impact Statement	New Impact that is Significant or Potentially Significant	New Impact that is Less than Significant with Mitigation Incorporated	New Impact that is Less Than Significant Impact	No New Impact
Impact Noise-1: Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the program in excess of standards established in the local general plan or noise ordinance or in the applicable standards of other agencies.	☐	☐	☐	☐
Impact Noise-2: Generate excessive groundborne vibration or groundborne noise levels.	☐	☐	☐	☐
Impact Noise-3: For a program located within the vicinity of a private airstrip or an airport land-use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels.	☐	☐	☐	☐

4.11.1 Discussion

The discussion should identify which impacts from the Program EIR would occur from implementation of the proposed vegetation management project, describe the significance of each relevant impact and identify each mitigation measure from the Program EIR that is relevant to the proposed project. Additionally, this discussion should describe how each measure will address site-specific conditions and reduce impacts of the proposed vegetation management project.

4.12 Recreation

Impact Statement	New Impact that is Significant or Potentially Significant	New Impact that is Less than Significant with Mitigation Incorporated	New Impact that is Less Than Significant Impact	No New Impact
Impact Recreation-1: Increase the use of existing recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated or necessitate construction or expansion of recreational facilities.	☐	☐	☐	☐

4.12.1 Discussion

The discussion should identify which impacts from the Program EIR would occur from implementation of the proposed vegetation management project, describe the significance of each relevant impact and identify each mitigation measure from the Program EIR that is relevant to the proposed project. Additionally, this discussion should describe how each measure will address site-specific conditions and reduce impacts of the proposed vegetation management project.

4.13 Transportation and Traffic

Impact Statement	New Impact that is Significant or Potentially Significant	New Impact that is Less than Significant with Mitigation Incorporated	New Impact that is Less Than Significant Impact	No New Impact
Impact Transportation-1: Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment) or conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadways, or bicycle and pedestrian facilities.	☐	☐	☐	☐
Impact Transportation-2: Conflict with or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b).	☐	☐	☐	☐
Impact Transportation-3: Inadequate emergency access.	☐	☐	☐	☐

4.13.1 Discussion

The discussion should identify which impacts from the Program EIR would occur from implementation of the proposed vegetation management project, describe the significance of each relevant impact and identify each mitigation measure from the Program EIR that is relevant to the proposed project. Additionally, this discussion should describe how each measure will address site-specific conditions and reduce impacts of the proposed vegetation management project.