

# 6 Wildland Fire Pre-Plan/Resource Advisor Maps

## 6.1 Overview and Background

Wildland Fire Pre-Plans and Resource Advisor Maps are map-based documents that can aid CAL FIRE and other firefighting agencies in their firefighting efforts in the event of a wildland fire. Midpen employees may serve as liaisons or Resource Advisors, working with fire managers during an incident. These plans and maps include the following elements:

- Existing locations for infrastructure, including roads, fuelbreaks, structures, and water sources (hydrants, water tanks, ponds, creeks, and springs);
- Known sensitive natural and cultural resources for fire personnel to avoid if possible, during fire suppression activities;
- Structures that are inhabited or are historically significant (inhabited or uninhabited) that should have resources committed to their defense during a wildland fire;
- Potential locations for fire suppression activities and equipment staging for Midpen lands in the event of a wildland fire;
- Suggested BMPs for wildland fire response and suppression activities;
- Areas where suppression activities should be limited (if feasible); and
- Circulation and emergency access roads, including designated evacuation routes.

The plan presented here also identifies potential BMPs to be implemented during and post fire activity and provides the general guidelines for appropriate rehabilitation measures to address erosion, revegetation, invasive species, trail and road stability, security, public safety, and natural and cultural resources following fires.

## 6.2 Pre-Plans and Maps

### 6.2.1 Purpose

The purpose of the Wildland Fire Pre-Plans and Resource Advisor Maps is to provide an appropriately scaled representation of the various access points and resources in all managed lands for use by firefighters and resource managers in the event of a wildland fire. The maps help firefighters better understand the operational environment, including where different types of apparatus can access (e.g., Wildland Type 3 fire engines); potential fire management locations; where firefighting resources are located, such as hydrants, water tanks, and ponds; specific buildings or structures needing protection; and where sensitive resources are located that should be avoided, if possible. Another purpose of the plans and mapping efforts is to

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identify where additional infrastructure may be needed to support firefighting efforts. The plans will identify critical site-specific information regarding escape routes and emergency access routes, including the location of stable bridges, passable roads, gates, and water sources as well as potential fire management locations. The pre-plans and maps will identify areas where bulldozer lines could be created that may reduce environmental impacts in the event of an emergency, recognizing that firefighting agencies, in consultation with Midpen as landowner, will need to take the actions they deem necessary to protect human life and property.

### 6.2.2 Methods for Preparation of Pre-Plans and Maps, Including Outreach Efforts

The process for preparing each pre-plan and map entails both a field mapping effort and an outreach effort to understand the existing resources and resource needs for each OSP and other managed land. Data for each OSP is prepared and stored in GIS format and includes collected field data, as well as digitized data.

Each managed land's pre-plan includes a detailed map over an aerial image of the area, with a legend. The map is accompanied by a short document that describes the roads and trails, the other resources for firefighters, the natural resource protection, the sensitive resources in the managed land, and who maintains the plan. Midpen employees serve as liaisons or Resource Advisors, working with fire managers during an incident.

### 6.2.3 Schedule for Preparation and Map Management

#### Tentative Schedule by Managed Land to Prepare Maps

Midpen plans to prepare and complete all maps for current Midpen properties by 2022. The managed lands covered and the target schedule for preparation is presented below. As each pre-plan and map is prepared, it will be appended to this Program in Appendix E. Pre-plans and maps will be updated as needed for newly acquired properties.

**Table 6-1 Target Calendar Year of Preparation of Pre-Plans and Maps**

Managed Land	Target Field Work Year of Completion	Target Year to Complete Pre-Plans and Maps
Bear Creek Redwoods OSP	2020-2021	2021-2022
Coal Creek OSP	2019-2020	2020
El Corte de Madera Creek OSP	2020-2021	2021-2022
El Sereno OSP <sup>a</sup>	2019-2020	2020
Foothills OSP	2019-2020	2020
Fremont Older OSP	2019-2020	2020
La Honda Creek OSP	2017-2018	2018
Long Ridge OSP	2020-2021	2021-2022

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Managed Land	Target Field Work Year of Completion	Target Year to Complete Pre-Plans and Maps
Los Trancos OSP	2019-2020	2020
Miramontes Ridge OSP	2020-2021	2021-2022
Monte Bello OSP	2019-2020	2020
Picchetti Ranch OSP	2019-2020	2020
Pulgas Ridge OSP	2019-2020	2020
Purisima Creek Redwoods OSP	2020-2021	2021-2022
Rancho San Antonio OSP and County Park	2019	2019
Ravenswood OSP	2020	2021-2022
Russian Ridge OSP	2019-2020	2020
Saratoga Gap OSP	2020-2021	2021-2022
Sierra Azul OSP and Easements	2020-2021	2021-2022
Skyline Ridge OSP	2019-2020	2020
St. Joseph's Hill OSP	2020-2021	2021-2022
Stevens Creek Shoreline Nature Study Area	2020	2021-2022
Teague Hill OSP	2020-2021	2021-2022
Thornewood OSP	2019-2020	2020
Tunitas Creek OSP	2020-2021	2021-2022
Windy Hill OSP	2019-2020	2020

Note:

<sup>a</sup> Felton Station will be added to the approved El Sereno OSP pre-plan and map. Field work will be completed in 2020-2021.

### Map Management and Frequency of Updates

The pre-plans and maps are maintained by Midpen's GIS staff in digital format. Each plan is also provided to the Midpen employees for each managed area and provided to the local fire department. A copy of all plans is also kept on-site at each field office.

Updates would be performed as needed to ensure the accuracy of the mapping. As additional managed lands or acreages are added and as infrastructure to managed lands is added, maps and the pre-fire plans will be updated.

### 6.3 Pre-Plan and Resource Advisor Map Template

Each Wildland Fire Pre-Plan includes the following elements:

- **Wildland Fire Management Goal:** “Manage District [Midpen] land to reduce the severity of wildland fire and to reduce the impact of fire suppression activities within District [Midpen] Preserves and adjacent residential areas; manage habitats to support fire as a natural occurrence on the landscape; and promote District [Midpen] and regional fire management objectives.” – Midpen RM Policies, December 2014.
- **Fire Management Planning:** Identifies the purpose of the map and pre-plan, which is primarily focused on fire management and swift response to wildland fire.
  - **Roads and Trails:** Identifies the roads and trails that can be accessed by firefighters and the size of fire engine that can access the roads in the managed land.
  - **Other Resources for Firefighters**
    - **Water Sources:** Includes water tanks, ponds, and pipelines and their capacities.
    - **Potential Fire Management Locations:** Areas where staging can occur.
    - **Landing Zones:** Maintained landing zones in the managed land.
  - **Natural Resource Protection**
    - **Ponds:** Ponds that may have special-status species that should be avoided, if possible, and surrounding areas for avoidance.
    - **Streams:** Streams that support listed species, such as amphibians or fish that should be avoided, if possible.
    - **Protected Habitat:** Areas with sensitive habitat or habitat that supports a special-status species that should be avoided, if possible.
- **Suggested Best Management Practices During Firefighting Activities:** Describes best management practices that may be applied to protect resources during a fire, but only if practical and feasible. Examples of BMPs are provided in the next section.

### 6.4 Potential Best Management Practices for Firefighting During Wildland Fire

Firefighting activities have the potential to cause environmental impacts, particularly to soils and water quality. While in an emergency, firefighters must do what is necessary to protect life and property, there may be instances where precautions can be taken to protect the environment and reduce post-fire resource damage due to fire suppression activities. Ultimately the Incident Commander and firefighting staff on scene have the authority to decide how to manage the incident to best protect life and property, and safely contain the fire. Midpen

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employees may serve as liaisons or Resource Advisors, working with fire managers during an incident. The following are examples of BMPs that Midpen can recommend and encourage firefighters to implement during emergency firefighting activities to reduce environmental damage from firefighting:

- **Discharges Associated with Emergency Firefighting Activities:** To the extent allowed by the circumstances at the scene and without compromising the health and safety of personnel or the public, emergency firefighting activities should be performed in a manner that avoids or minimizes discharges to the stormwater facilities and waterways. BMPs that may be considered during emergency firefighting activities include the following: avoid directing firefighting foams and retardant directly on erodible surfaces where runoff will enter receiving waters or stormwater facilities
- **Discharges Associated with Hazardous Materials Spills:** Each fire department operates under a Hazardous Materials Area Plan that describes procedures for the allocation of resources and assigns tasks during hazardous materials emergencies. Fire department and safety personnel are trained to respond to hazardous material spills according to response protocols established for hazardous materials emergencies.
- **Minimizing Drafting of Water from Ponds or Streams with Sensitive Resources:** To protect sensitive amphibian and fish species, if possible, water should not be drafted from facilities that support listed populations. If water must be drawn, it should be done in a way to minimize sedimentation and without drying the facility.
- **Operation of Heavy Equipment:** Heavy equipment (tractors, large trucks, bulldozers, skidders) should be used for fireline construction and other suppression-related activities in a manner that limits disturbance to sensitive habitats, near riparian areas, or open water, where safe and feasible.
- **Staging of Equipment and Storage of Chemicals.** Staging of equipment and supplies, including chemicals, should be in areas that have appropriate buffers of protection from fire, good access, and appropriate drainage, as feasible.
- **Construction of Firelines.** When firelines are required, sensitive habitats as shown in the Resource Advisor Maps, should be avoided. Use natural firebreaks, where possible. Minimize plowing and blading, particularly in sloped areas. Use pre-existing features for fireline (roads, streams, lakes, wetland features, utility rights-of-way) to protect soil and water, and to avoid unnecessary ground disturbance.
- **Mitigating Spread of Weeds:** Provide weed washing stations for vehicles and equipment as well as for boot cleaning to limit the introduction and spread of noxious weeds, where possible.

### 6.5 Post-Fire Rehabilitation Plan Development

If a fire starts within an OSP or other managed land, several measures should be taken once the fire has been contained to reduce environmental impacts, including off-site impacts and to repair infrastructure. A Post-Fire Rehabilitation Plan should be prepared that assesses the potential short- and long-term impacts (and benefits) of a wildland fire and identifies the BMPs to effectively mitigate those impacts. BMPs can be implemented to reduce erosion and water quality impacts, to clean up any residual chemicals or materials from firefighting activities, to potentially remove trees damaged by fire with concurrence of a Midpen biologist, and to rehabilitate the area's habitat and vegetation, as appropriate.

Examples of potential BMPs that can be included in the Post-Fire Rehabilitation Plan include, but are not limited to (Diagneault, 2014):

- Reclaim and stabilize disturbed areas with vegetation with a focus on stabilization of areas with increased erosion potential or altered drainage patterns from activities, such as fireline construction, and minimize runoff, erosion and sediment delivery to water bodies.
- Install suitable drainage features (wing ditches, broad-based dip, rolling dip, rock berms), as well as sediment traps and sediment basins to promote dispersal of runoff, reduce erosion, and control, collect, or detain stormwater runoff from disturbed or burned areas.
- Mitigate soil compaction from firefighting activities by loosening soils to improve infiltration and promote revegetation.
- Repair and clear debris from water conveyance structures to reduce potential for failures and subsequent erosion.
- Apply groundcover treatments, such as chip or mulch, to promote soil biological activity and stabilize steep or excavated slopes.
- Remove heavily and moderately damaged trees near structures and roads. Remove these trees as soon as possible after a fire to avoid impacts to seedlings and other regenerating vegetation.
- Ensure that any landing areas created to remove dead and/or compromised trees are surrounded by temporary erosion and sediment control practices, such as silt fencing, when conditions may result in soil movement off the site. Maintain erosion control in good working condition.
- Ensure that debris piles and collection areas are at least 200 feet away from water bodies, riparian habitat, and sensitive habitats. Surround debris collection areas with silt fencing to prevent movement of small animals into or runoff of contaminants out of the site.
- Separate man-made debris from woody debris and place man-made debris on a base material that prevents any contaminants or other hazardous materials from penetrating into the soil.
- Dispose of debris in accordance with waste management guidelines and laws.

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- Implement infrastructure and structural repairs during the appropriate construction season to avoid impacts to sensitive species such as spotted owl, marbled murrelet, California red-legged frog, San Francisco garter snake, and other species.
- Monitor disturbed areas for potential new noxious weed infestations or existing weed spread.

### **6.6 Identification, Improvement, and Installation of Infrastructure to Improve Firefighting Capabilities of Local and State Firefighting Agencies**

#### **6.6.1 Overview**

During the preparation of each Pre-Fire Plan and Resource Advisor Map, and during the subsequent reviews of existing plans and maps, additional infrastructure to improve firefighter response may be identified.

#### **6.6.2 Infrastructure Improvements**

##### **Types of New Infrastructure Improvements**

##### **Roads and Access**

These types of facilities include improvements on existing road rights-of-way or potentially new access roads in areas where adequate access is lacking. Existing access roads may be widened to allow for larger firetrucks, turnarounds created, and road extensions built for improved access. Road surfaces may also be graded, and material placed on the surface, to create a safer surface for travel by emergency vehicles.

##### **Water Storage Tanks**

Water storage tanks may be built in areas where needed and where construction is feasible. Water storage tanks should be sized to store adequate water for firefighting, be accessible, easily connected to the equipment that will use them. Water tanks may be filled from existing water supply sources, wells, pumps, or water tender trucks, as appropriate for the local conditions. Stored water may be treated to limit growth of mold and algae with tank systems sealed to exclude entry of insects and animals. Water storage tanks may also be filled by trucking in water, where access to existing water infrastructure is not available.

##### **Water Supply Pipelines, Hydrants, and Pumps**

Water supply infrastructure includes underground pipelines that supply water storage tanks or hydrants. All permanent pipelines should be approved for use in fire service systems and designed for the expected water pressures. Where needed, new hydrants on new or existing pipelines may be added as well as permanent or temporary pumping stations to ensure flow from hydrants or pipelines during firefighting activities, where appropriate. Aboveground

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temporary pipelines or fire hoses may be used to fill water tanks that are not readily accessible by a water tender or water supply lines. Typically, the water would need to be chlorinated to avoid mold and clogging of pumps.

### **Staging and Landing Areas**

Additional staging/fire management locations and landing areas may be needed in some OSPs or other managed lands. Where possible, these areas should be level, and away from water bodies, sensitive habitats, and riparian corridors. They should be constructed to the size needed for expected staging or landing needs, and the appropriate surface treatment (such as mulch or chip) should be applied. Erosion and drainage control should also be installed as needed.

### **Planning and Installation of New Infrastructure**

The process for planning and installing new infrastructure involves the identification of infrastructure needs, development of detailed design plans, compliance with CEQA, contracting, and implementation. Design plans should include architectural or engineering design drawings and specifications that identify the location, sizing, materials, specifications, and construction methods of the infrastructure. Environmental review may include a Notice of Exemption, or an Initial Study and Mitigated Negative Declaration tiered off the Wildland Fire Resiliency Program EIR. Environmental review will most likely require some additional technical studies for biological and cultural resources. Permits may also be required, depending on the location of the infrastructure. Likewise, monitoring may be required during construction.

### **6.6.3 Equipment, Personnel, and Schedule**

Equipment needed to install new or improved infrastructure could include the following:

- Pickups
- Backhoe/loader
- Bobcat
- Brush hog
- Dump/haul truck
- Water truck
- Tractor-harrow disc
- Concrete truck
- Crane
- Boom truck
- Forklift
- Air compressor
- Portable generators
- Semi-truck with trailer
- Hand tools (shovels, picks)

Workforces and personnel needed will vary by project and likely involve crews of 10 or less members. Additional crew may include biological or cultural resource monitors. The schedule for the work would depend on the jurisdiction within which the work is located and any timing constraints to protect natural resources, such as working outside the nesting season.