

## Memorandum

**To:** Shane Larsen **Date:** 09/30/2024

Northern Region VMP Forester II

**From:** Department of Forestry and Fire Protection **Telephone:** (408) 472-1611

Santa Clara Unit

**Subject:** RM-75 Standard Agreement Package  
Project Name: **Mid Peninsula Open Space District -Cherry Springs RX burn**  
Project Number: **Rx-North-060-SCU**

The above-named agreement package for a prescribed burn project is attached. The CAL FIRE Santa Clara Unit ("Unit") will be conducting the burn with the Mid Peninsula Regional Open Space District and the Unit is assuming all responsibility/liability for the burn.

The Cherry Springs RX Burn consists of approximately 15.8 acres Annual Grass and Oak woodlands. The total project area is 15.8 acres.

This project was designed to comply with CEQA and applicable local and state regulations. An environmental review, conducted by Mid Peninsula Regional Open Space District, revealed no anticipated significant environmental effects by the project as proposed.

A Burn Plan utilizing the NWCG Template (PMS 484-1) was prepared for the burn by Qualified RXB-2 Phillip Dye. A Smoke Management Plan was also prepared by Mid Peninsula Regional Open Space District and submitted to the Bay Area Air Quality Management District (BAAQMD) and was approved. The Unit has evaluated both documents and concur with their provisions.

The total cost of the project is estimated to be \$13,343.24. The work to be performed is described in the enclosed Scope of Work, as are the project objectives and the proportionate public and private benefits to be derived. The cost-share percentage to be paid by CAL FIRE.

Alex Mikesell  
Battalion Chief  
CAL FIRE  
Santa Clara Unit  
Morgan Hill Battalion  
Cell (408) 472-1611  
[alex.mikesell@fire.ca.gov](mailto:alex.mikesell@fire.ca.gov)

Attachments:

- RM-75 with Exhibits A-D
- Cost Benefit Analysis
- Project Map
- Smoke Management Plan

Reference

- CEQA clearing house number 2020049059
- <https://ceqanet opr.ca.gov/Project/2020049059>

**STATE OF CALIFORNIA  
STANDARD AGREEMENT**

RM 75 (Rev 05/20)

AGREEMENT NUMBER

**RX-NORTH-060-SCU**

REGISTRATION NUMBER

1. This Agreement is entered between the State Agency and the Cooperator named below:

STATE AGENCY'S NAME

The California Department of Forestry and Fire Protection

COOPERATOR'S NAME

Mid-Peninsula Regional Open Space District

2. The term of this Agreement is: October 1, 2024 through Sept 30, 2034
3. The maximum amount of this Agreement is: \$ 0.00
4. The parties agree to comply with the terms and conditions of the following exhibits which are by this reference made a part of the Agreement.

Exhibit A – Scope of Work

page(s)

Exhibit B – Budget Detail and Payment Provisions

page(s)

Exhibit C – General Terms and Conditions

Check mark one item below as Exhibit D:

Exhibit - D Special Terms and Conditions (Attached hereto as part of this agreement)

page(s)

Exhibit - D\* Special Terms and Conditions

Exhibit E – Additional Provisions

page(s)

Section 1 – Project Plan, Description and Specifications

page(s)

Section 2 – Project Cost Analysis Summary

page(s)

Section 3 – Environmental Checklist

page(s)

Items shown with an Asterisk (\*), are hereby incorporated by reference and made part of this agreement as if attached hereto.

These documents can be viewed at [www.dls.dgs.ca.gov/Standard+Language](http://www.dls.dgs.ca.gov/Standard+Language)

**IN WITNESS WHEREOF**, this Agreement has been executed by the parties hereto.

**COOPERATOR**

COOPERATOR'S NAME (If other than an individual, state whether a corporation, partnership, etc.)

Mid Peninsula Regional Open Space District

BY (Authorized Signature)

Signed by:  
*Kirk Lenington*

DATE SIGNED (Do not type)

PRINTED NAME AND TITLE OF PERSON SIGNING

Brian Malone Assistant General Manager Kirk Lenington, Acting AGM

ADDRESS

5050 El Camino Real  
Los Altos CA 94022-1404

**California Department of General Services Use Only**

**STATE OF CALIFORNIA**

AGENCY NAME

The California Department of Forestry and Fire Protection

BY (Authorized Signature)



DATE SIGNED (Do not type)

PRINTED NAME AND TITLE OF PERSON SIGNING

ADDRESS

Exempt per: State Contracting Manual § 4.04(A)(2) [contract value is less than \$50,000]

**EXHIBIT A**  
**(Standard Agreement)**

**SCOPE OF WORK**

1. Cooperator and State Agency agree to provide labor, equipment, or services as described in the Prescribed Burn Plan attached as part of Exhibit E, Section 1 – Project Plan, Description and Specification.
2. The services shall be performed at the location identified in the Prescribed Burn Plan attached as part of Exhibit E, Section 1 – Project Plan, Description and Specification.
3. The services shall be provided at such times as are mutually agreeable to Cooperator and State Agency, subject to the operational needs of State Agency and compliance with all federal, state, or local restrictions as to the timing of the conduct of the work.
4. The project representatives during the term of this agreement will be:

State Agency: CAL FIRE	Cooperator: Mid Peninsula Regional Open Space District
Name: Edgar Orre	Name: Brian Malone
Phone: (408) 206-3704	Phone: (650) 691-1200
Email address: edgar.orre@fire.ca.gov	Email address: bmalone@openspace.org

Direct all inquiries to:

State Agency: CAL FIRE	Cooperator:
Section/Unit: Santa Clara Unit (SCU)	Section/Unit:
Attention: Edgar Orre	Attention:
Address: 15670 South Monterey St Morgan Hill CA 95037	Address: 5050 El Camino Real Los Altos CA 94022
Phone: (408) 206-3704	Phone: (650) 691-1200
Email address: edgar.orre@fire.ca.gov	Email address: bmalone@openspace.org

5. A detailed description of work to be performed and the duties of all parties is contained in the Prescribed Burn Plan attached as Exhibit E, Section 1 – Project Plan, Description and Specification which the Prescribed Burn Plan is incorporated into the Exhibit E as if fully set forth herein.

**EXHIBIT B**

**BUDGET DETAIL AND PAYMENT PROVISIONS**

**1. Estimated Costs**

CAL FIRE will incorporate all estimated costs within the Prescribed Burn Plan for this Project and apportion for an estimate of projected costs. The Cooperator may accept responsibility for the estimated costs of private benefits to be created concomitantly with the public benefits.

**2. Equipment**

Any equipment included in the Prescribed Burn Plan for this Project provided by the Cooperator to offset estimated pro rata costs summarized in item #1 above will include all necessary operation, repair, and maintenance expenses.

**3. Cash Deposit in Lieu of Providing Materials, Services, or Equipment**

Any Cooperator may, in lieu of providing materials, services, or equipment to offset pro rata costs for private benefits, establish a trust account or make a certificate of deposit payable to the State for funds to equal the estimated pro rata costs. Disbursement of any such funds to the State shall be made within 15 days after satisfactory completion of specified work.

**4. Budget Contingency Clause**

- A. It is mutually agreed that if the Budget Act of the current year and/or any subsequent years covered under this Agreement does not appropriate sufficient funds for the program, this Agreement shall be of no further force and effect. In this event, the State shall have no liability to pay any funds whatsoever to Contractor or to furnish any other considerations under this Agreement and Contractor shall not be obligated to perform any provisions of this Agreement.
- B. If funding for any fiscal year is reduced or deleted by the Budget Act for purposes of this program, the State shall have the option to either cancel this Agreement with no liability occurring to the State, or offer an agreement amendment to Contractor to reflect the reduced amount.

**5. Prompt Payment Clause**

If any payments are due under the Agreement, such payment will be made in accordance with, and within the time specified in, Government Code Chapter 4.5, commencing with Section 927.

## EXHIBIT C

### GENERAL TERMS AND CONDITIONS

1. **APPROVAL:** This Agreement is of no force or effect until signed by both parties and approved by the Department of General Services, if required. Cooperator may not commence performance until such approval has been obtained.
2. **AMENDMENT:** No amendment or variation of the terms of this Agreement shall be valid unless made in writing, signed by the parties and approved as required. No oral understanding or Agreement not incorporated in the Agreement is binding on any of the parties.
3. **ASSIGNMENT:** This Agreement is not assignable by the Cooperator, either in whole or in part, without the consent of the State in the form of a formal written amendment.
4. **AUDIT:** Cooperator agrees that the awarding department, the Department of General Services, the Bureau of State Audits, or their designated representative shall have the right to review and to copy any records and supporting documentation pertaining to the performance of this Agreement. Cooperator agrees to maintain such records for possible audit for a minimum of three (3) years after completion of the Prescribed Burn Plan, unless a longer period of records retention is stipulated. Cooperator agrees to allow the auditor(s) access to such records during normal business hours and to allow interviews of any employees who might reasonably have information related to such records. Further, Cooperator agrees to include a similar right of the State to audit records and interview staff in any subcontract related to performance of this Agreement. (Gov. Code §8546.7, Pub. Contract Code §10115 et seq., CCR Title 2, Section 1896).
5. **INDEMNIFICATION:** State Agency agrees to indemnify and hold harmless the person or public agency contracting with the department with respect to liability arising out of performance of the contract as allowed in Public Resources Code section 4476. In the same manner State agency agrees to indemnify any Cooperating public entity that has entered into a "Fire Protection Cooperative Agreement" with CAL FIRE pursuant with PRC 4129. Cooperator agrees to indemnify, defend and save harmless the State, its officers, agents and employees from any and all claims and losses accruing or resulting to any and all contractors, subcontractors, suppliers, laborers, and any other person, firm or corporation furnishing or supplying work services, materials, or supplies in connection with the performance of this Agreement.
6. **DISPUTES:** Cooperator shall continue with the responsibilities under this Agreement during any dispute.
7. **TERMINATION FOR CAUSE:** The State may terminate this Agreement and be relieved of any duties under this Agreement should the Cooperator fail to perform the requirements of this Agreement at the time and in the manner herein provided.

8. TERMINATION WITHOUT CAUSE: Either party may cancel this Agreement thirty days (30) days after providing written notice to the other party, provided that if Cooperator cancels this Agreement pursuant to this section, Cooperator shall be liable to the State for all planning and site preparation costs incurred by the State prior to termination of the Agreement by Cooperator.

9. INDEPENDENT CONTRACTOR: Cooperator, and the agents and employees of Cooperator, in the performance of this Agreement, shall act in an independent capacity and not as officers or employees or agents of the State.

10. RECYCLING CERTIFICATION: Cooperator shall certify in writing under penalty of perjury, the minimum, if not exact, percentage of post consumer material as defined in the Public Contract Code Section 12200, in products, materials, goods, or supplies offered or sold to the State regardless of whether the product meets the requirements of Public Contract Code Section 12209. With respect to printer or duplication cartridges that comply with the requirements of Section 12156(e), the certification required by this subdivision shall specify that the cartridges so comply (Pub. Contract Code §12205).

11. NON-DISCRIMINATION CLAUSE: During the performance of this Agreement, Cooperator and its subcontractors shall not unlawfully discriminate, harass, or allow harassment against any employee or applicant for employment because of sex, race, color, ancestry, religious creed, national origin, physical disability (including HIV and AIDS), mental disability, medical condition (e.g., cancer), age (over 40), marital status, and denial of family care leave. Cooperator and subcontractors shall insure that the evaluation and treatment of their employees and applicants for employment are free from such discrimination and harassment. Cooperator and subcontractors shall comply with the provisions of the Fair Employment and Housing Act (Gov. Code §12990 (a-f) et seq.) and the applicable regulations promulgated thereunder (California Code of Regulations, Title 2, Section 7285 et seq.). The applicable regulations of the Fair Employment and Housing Commission implementing Government Code Section 12990 (a-f), set forth in Chapter 5 of Division 4 of Title 2 of the California Code of Regulations, are incorporated into this Agreement by reference and made a part hereof as if set forth in full. Cooperator and its subcontractors shall give written notice of their obligations under this clause to labor organizations with which they have a collective bargaining or other Agreement.

Cooperator shall include the nondiscrimination and compliance provisions of this clause in all subcontracts to perform work under the Agreement.

12. CERTIFICATION CLAUSES: The CONTRACTOR CERTIFICATION CLAUSES contained in the document CCC 307 are hereby incorporated by reference and made a part of this Agreement by this reference as if attached hereto. All references to "Contractor" in document CCC 307 shall be interpreted as applying to Cooperator under this Agreement.

13. TIMELINESS: Time is of the essence in this Agreement.

**14. GOVERNING LAW:** This Agreement is governed by and shall be interpreted in accordance with the laws of the State of California.

**15. ANTITRUST CLAIMS:** The Cooperator by signing this agreement hereby certifies that if these services or goods are obtained by means of a competitive bid, the Cooperator shall comply with the requirements of the Government Codes Sections set out below.

- a. The Government Code Chapter on Antitrust claims contains the following definitions:
  - 1) "Public purchase" means a purchase by means of competitive bids of goods, services, or materials by the State or any of its political subdivisions or public agencies on whose behalf the Attorney General may bring an action pursuant to subdivision (c) of Section 16750 of the Business and Professions Code.
  - 2) "Public purchasing body" means the State or the subdivision or agency making a public purchase. Government Code Section 4550.

b. In submitting a bid to a public purchasing body, the bidder offers and agrees that if the bid is accepted, it will assign to the purchasing body all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Sec. 15) or under the Cartwright Act (Chapter 2 (commencing with Section 16700) of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, materials, or services by the bidder for sale to the purchasing body pursuant to the bid. Such assignment shall be made and become effective at the time the purchasing body tenders final payment to the bidder.  
Government Code Section 4552.

c. If an awarding body or public purchasing body receives, either through judgment or settlement, a monetary recovery for a cause of action assigned under this chapter, the assignor shall be entitled to receive reimbursement for actual legal costs incurred and may, upon demand, recover from the public body any portion of the recovery, including treble damages, attributable to overcharges that were paid by the assignor but were not paid by the public body as part of the bid price, less the expenses incurred in obtaining that portion of the recovery. Government Code Section 4553.

d. Upon demand in writing by the assignor, the assignee shall, within one year from such demand, reassign the cause of action assigned under this part if the assignor has been or may have been injured by the violation of law for which the cause of action arose and (a) the assignee has not been injured thereby, or (b) the assignee declines to file a court action for the cause of action. See Government Code Section 4554.

**16. CHILD SUPPORT COMPLIANCE ACT:** For any Agreement in excess of \$100,000, the Cooperator acknowledges in accordance with Public Contract Code 7110, that:

- a. The Cooperator recognizes the importance of child and family support obligations and shall fully comply with all applicable state and federal laws relating to child and family support enforcement, including, but not limited to, disclosure of information and compliance with

earnings assignment orders, as provided in Chapter 8 (commencing with section 5200) of Part 5 of Division 9 of the Family Code; and

b. The Cooperator, to the best of its knowledge is fully complying with the earnings assignment orders of all employees and is providing the names of all new employees to the New Hire Registry maintained by the California Employment Development Department.

17. **UNENFORCEABLE PROVISION:** In the event that any provision of this Agreement is unenforceable or held to be unenforceable, then the parties agree that all other provisions of this Agreement have force and effect and shall not be affected thereby.

18. **PRIORITY HIRING CONSIDERATIONS:** If this Agreement includes services in excess of \$200,000, the Cooperator shall give priority consideration in filling vacancies in positions funded by the Agreement to qualified recipients of aid under Welfare and Institutions Code Section 11200 in accordance with Pub. Contract Code §10353.

19. **SMALL BUSINESS PARTICIPATION AND DVBE PARTICIPATION REPORTING REQUIREMENTS:**

a. If for this Agreement Cooperator made a commitment to achieve small business participation, then Cooperator must within 60 days of receiving final payment under this Agreement (or within such other time period as may be specified elsewhere in this Agreement) report to the awarding department the actual percentage of small business participation that was achieved. (Govt. Code § 14841.)

b. If for this Agreement Cooperator made a commitment to achieve disabled veteran business enterprise (DVBE) participation, then Cooperator must within 60 days of receiving final payment under this Agreement (or within such other time period as may be specified elsewhere in this Agreement) certify in a report to the awarding department: (1) the total amount the Cooperator received under the Agreement; (2) the name and address of the DVBE(s) that participated in the performance of the Agreement; (3) the amount each DVBE received from the Cooperator; (4) that all payments under the Agreement have been made to the DVBE; and (5) the actual percentage of DVBE participation that was achieved. A person or entity that knowingly provides false information shall be subject to a civil penalty for each violation. (Mil. & Vets. Code § 999.5(d); Govt. Code § 14841.)

20. **LOSS LEADER:** If this Agreement involves the furnishing of equipment, materials, or supplies then the following statement is incorporated: It is unlawful for any person engaged in business within this state to sell or use any article or product as a "loss leader" as defined in Section 17030 of the Business and Professions Code. (PCC 10344(e).)

## EXHIBIT D

### SPECIAL TERMS AND CONDITIONS

1. **TERM OF THE AGREEMENT:** The term of this Agreement shall commence on the date identified in item 2 of this Agreement and will terminate upon satisfactory completion of the prescribed burning project, but in no event will the term of this agreement exceed ten (10) years.
2. **INCIDENT COMMANDER/FIRE BOSS:** The Unit Chief which approves the Prescribed Burn Plan for this project will designate an Incident Commander (IC) (Fire Boss in Public Resources Code [PRC] 4476). This IC shall have final authority to (a) approve, amend, and implement the Prescribed Burn Plan, (b) determine that the fuel and weather are suitable, and that all crews and equipment are ready, and (c) direct all work assignments of public employees and persons furnished by the Cooperator until the prescribed burning is completed and the fire is declared out. The Unit Chief for this project is:  

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Baraka Carter

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3. **OWNERSHIP AND CONTROL:** Cooperator certifies that Cooperator owns or controls the prescribed burn area delineated on the map incorporated within the Prescribed Burn Plan attached to this Agreement as Exhibit E, Section 1 – Project Plan, Description and Specification.
4. **POTENTIAL SUBCONTRACTORS:** Nothing contained in this Agreement or otherwise, shall create any contractual relation between the State and any subcontractors, and no subcontract shall relieve the Cooperator of his responsibilities and obligations hereunder. The Cooperator agrees to be as fully responsible to the State for the acts and omissions of its subcontractors and of persons either directly or indirectly employed by any of them as it is for the acts and omissions of persons directly employed by the Cooperator. The Cooperator's obligation to pay its subcontractors is an independent obligation from the State's obligation to make payments to the Cooperator. As a result, the State shall have no obligation to pay or to enforce the payment of any moneys to any subcontractor.
5. **REQUIRED CERTIFICATION OF STATE:** The State certifies that the Project contemplated by this Agreement, when successfully completed, will accomplish a purpose enumerated in PRC 4475 and that the State has determined that the anticipated public benefit from the proposed project will exceed the foreseeable damage that could result from the Project.
6. **WORKERS COMPENSATION:** All personnel similarly provided by the Cooperator shall be agents of the Cooperator for purposes of Worker's Compensation. Cooperator shall indemnify the State and hold harmless for any claims from the above agents. The State is likewise responsible for its equipment and personnel.
7. **DGS EXEMPTION CERTIFICATION:** I hereby certify that all conditions for exemption have been complied with and this contract is exempt from the Department of General Services' approval.

By: \_\_\_\_\_

Name: \_\_\_\_\_ Title: \_\_\_\_\_

September 30, 2024

Project Name: Sierra Azul

Ignition Unit(s) Name: Cherry Springs



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## Prometheus® Fire Consulting LLC

### Prescribed Fire Burn Plan

The following Prescribed Fire Burn Plan was written for the Agency/Client listed in Element 1 and is intended for use only by this agency on this specific unit(s). Any other use of this burn plan requires approval of the burn plan author and the Agency Administrator or Landowner.

The format of this burn plan is modeled after the *NWCG Prescribed Fire Plan Template* was developed and maintained by the Fire Use Subcommittee (FUS), under the direction of the Fuels Management Committee (FMC), an entity of the National Wildfire Coordinating Group (NWCG).

#### Note on burn plan expiration date:

The burn plan expiration date listed in Element 1 on the following page is designed to trigger the Burn Boss to consider that, if burning past the expiration date, the conditions of the burn unit(s) have been evaluated and that this burn plan is still valid for the conditions present in the burn unit(s). If conditions are still valid, then this date should be updated in consultation with the burn plan author. If conditions on the burn unit(s) have changed significantly since this plan was written, amendments to this burn plan will be necessary prior to implementation. Burning shall not take place until the burn plan accurately reflects the conditions within the burn unit(s) and a new expiration date is issued.

It is incumbent upon the Burn Boss to ensure that the burn can still be implemented within the parameters of this plan. Any significant changes that are recommended by the Burn Boss should be brought to the attention of the burn plan author.

#### Note on client ignition authorization dates:

The Agency Administrator or Landowner ignition authorization dates listed in Element 2A are the dates the Agency Administrator or Landowner has given authorization to burn provided all other conditions in the burn plan can also be met. Burning outside of these dates requires approval from the Agency Administrator or Landowner and the issuance of the new dates in Element 2A.

**Burn plan expiration date and Agency Administrator/Landowner authorization dates may be different.**



Project Name: Sierra Azul

Ignition Unit(s) Name: Cherry Springs

## Element 1: Signature Page

### PRESCRIBED FIRE PLAN

**ADMINISTRATIVE UNIT NAME(S):** Midpeninsula Open Space District

**IGNITION UNIT(S) NAME:** Cherry Springs

**PREPARED BY:**

Name (print): Phillip Dye Qualification/Currency: RXB2/Current

Signature:  Date: 06 October 2022

**TECHNICAL REVIEW AND STATE-CERTIFIED PRESCRIBED FIRE BURN BOSS (CARX) APPROVAL BY:**

Name (print): Matt Brown Qualification/Currency: CARX

Signature:  Date: 9-30-24

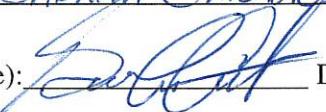
*In addition to the technical review of this burn plan, I have reviewed and I approve the written prescription for this prescribed burn pursuant to California Civil Code 3333.8, and I find that it includes adequate risk mitigation measures.*

**COMPLEXITY RATING:** Low

**MINIMUM BURN BOSS QUALIFICATION:** RXB2 or agency approved equivalent

**APPROVED BY:**

Agency Administrator/Landowner (print): BARAKAT CARTER

Agency Administrator/Landowner (signature):  Date: 10-1-24

Expiration date December 31, 2025



Project Name: Sierra Azul

Ignition Unit(s) Name: Cherry Springs

## Element 2A: Agency Administrator/Landowner Ignition Authorization

Instructions: The Agency Administrator/Landowner Authorization must be completed before a prescribed fire can be implemented. If ignition of the prescribed fire is not initiated prior to expiration date determined by the client, a new authorization will be required.

Prior to signature the Agency Administrator/Landowner should discuss the following key items with the Burn Boss. Attach any additional instructions or discussion documentation (optional) to this document.

### Key Discussion Items

A. Has anything changed since the Prescribed Fire Plan was approved or revalidated?

*Such as drought or other climate indicators of increased risk, insect activity, new subdivisions/structures, smoke requirements, Complexity Analysis Rating.*

B. Have compliance requirements and pre-burn considerations been completed?

*Such as preparation work, NEPA/CEQA mitigation requirements, cultural, threatened, and endangered species, smoke permits, state burn permits/authorizations.*

C. Can all the elements and conditions specified in Prescribed Fire Plan be met?

*Such as weather, scheduling, smoke management conditions, suitable prescription window, correct season, staffing and organization, safety considerations, etc.*

D. Are processes in place to ensure all internal and external notifications and media releases will be completed?

E. Have key stakeholders been fully briefed about the implementation of this prescribed fire?

F. Are there circumstances that could affect the successful implementation of the plan?

*Such as preparedness level restrictions, resource availability, other prescribed fire or wildfire activity*

G. Have you communicated your expectations to the Burn Boss regarding if and when you are to be notified that contingency actions are being taken?

H. Have you communicated your expectations to the Burn Boss regarding decisions to declare the prescribed fire a wildfire?

Implementation Recommended by:

Prescribed Fire Burn Boss Signature:



Date: 09/30/2024

I am authorizing ignition of this prescribed fire between the dates of 10/20/2024 and 11/30/2024. It is my expectation that the project will be implemented within this time frame and as discussed and documented and attached to this plan. If the conditions we discussed change during this time frame, it is my expectation you will brief me on the circumstances and an updated authorization will be negotiated if necessary.

Additional Instructions or Discussion Documentation attached (Optional): Yes  No

Ignition Authorized by:

Agency Administrator/Landowner (print): BARAKA BANTER Date: 10-1-24

(signature)



Project Name: Sierra Azul

Ignition Unit(s) Name: Cherry Springs

## Element 2B: Prescribed Fire Go/No-Go Checklist

Preliminary Questions	Circle YES or NO
A. Have conditions in or adjacent to the ignition unit changed, (for example: drought conditions or fuel loadings), which were not considered in the prescription development? If <u>NO</u> proceed with the Go/NO-GO Checklist below, if <u>YES</u> go to item B.	YES    NO
B. Has the prescribed fire plan been reviewed, and an amendment been approved; or has it been determined that no amendment is necessary? If <u>YES</u> , proceed with checklist below. If <u>NO</u> , STOP: Implementation is not allowed. An amendment is needed.	YES    NO
GO/NO-GO Checklist	Circle YES or NO
Have ALL permits and clearances been obtained?	YES    NO
Have ALL the required notifications been made?	YES    NO
Have ALL the pre-burn considerations and preparation work identified in the prescribed fire plan been completed or addressed and checked?	YES    NO
Have ALL required current and projected fire weather forecast been obtained and are they favorable?	YES    NO
Are ALL prescription parameters met?	YES    NO
Are ALL smoke management specifications met?	YES    NO
Are ALL planned operations personnel and equipment on-site, available and operational?	YES    NO
Has the availability of contingency resources applicable to today's implementation been checked and are they available?	YES    NO
Have ALL personnel been briefed on the project objectives, their assignment, safety hazards, escape routes, and safety zones?	YES    NO
If all the questions were answered " <u>YES</u> " proceed with a test fire. Document the current conditions, location, and results. If any questions were answered " <u>NO</u> ", DO NOT proceed with the test fire: Implementation is not allowed.	
After evaluating the test fire, in your judgment can the prescribed fire be conducted according to the prescribed fire plan, and will it meet the planned objective?	<b>Circle: YES or NO</b>

Burn Boss Signature: \_\_\_\_\_ Date: \_\_\_\_\_



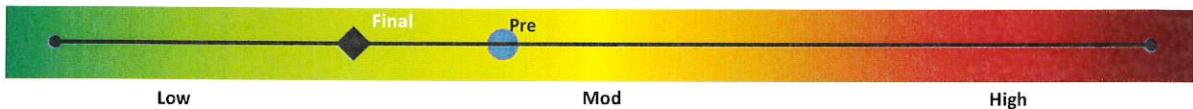
### Element 3: Complexity Analysis Summary and Final Complexity

Cherry Springs		Quantity	Significance
Values	On-Site	Few	Mod
	Off-Site	Multiple	High
	Public/Political Interest	Considerable	High



Element	Preliminary Risk	Post-Plan Risk	Technical Difficulty	Calculated Rating
Safety	Mod	Low	Low	Low
Fire Behavior	Mod	Mod	Low	Mod
Resistance to Containment	Mod	Low	Low	Low
Ignition Procedures and Methods	Mod	Mod	Low	Mod
Prescribed Fire Duration	Mod	Mod	Low	Mod
Smoke Management	Mod	Low	Low	Low
Number and Dependence of Activities	Mod	Mod	Low	Mod
Management Organization	Mod	Mod	Low	Mod
Treatment/Resource Objectives	Low	Low	Low	Low
Constraints	Mod	Mod	Low	Mod
Project Logistics	Low	Low	Low	Low

#### Calculated Summary Prescribed Fire Plan Complexity



Final Complexity Determination	Final Complexity Determination Rationale
<b>Low/Moderate</b>	The final complexity rating was determined from a thorough assessment of the factors listed above. The sum of the pre-plan risk factors was near the low of moderate complexity but after drafting of the burn plan, the risk of many of the elements could be reduced to low. Some elements, such as fire behavior and number and dependence of activities, could not be mitigated but overall, risk can be lowered by following the burn plan. The small project size and relatively straightforward implementation further reduce risk.

<b>Signatures</b>	Phillip Dye		10/6/2022
	Rx Burn Plan Preparer's Name	Preparer's Signature	Date
	Matt Brown	Matt Brown /s/	09/28/2024
	Technical Reviewer's Name	Technical Reviewer's Signature	Date
	Agency Administrator's Name	Agency Administrator's Signature	Date

Project Name: Sierra Azul

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Ignition Unit(s) Name: Cherry Springs

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## Element 4: Description of Prescribed Fire Area

### A. Physical Description

- Location:** The Cherry Spring Prescribed Fire Pilot project consists of a portion of the Sierra Azul Open Space Preserve which is owned by the Midpeninsula Open Space District (hereafter referred to as Midpen). As of this writing, only the Cherry Springs unit is slated for ignition. However, as additional burn units become available, it is anticipated that use of this burn plan can be used to expand the scope of burning at Sierra Azul.

The approximate center of the Cherry Springs unit is 37.201588, -121.911297 (WGS 84). Using the PLSS system, the unit is in T8S, R1E, Section 30 (MDBM).

- Travel to Burn Units:** To reach the Cherry Springs unit, beginning at the intersection of Camden Road and Hicks Road, in the City of San Jose, travel approximately 1.5 mi. to Pheasant Road and turn right (west) traveling another 1.5 miles to the burn unit. There is a locked gate located approximately 0.5 miles from the intersection of Hicks Road and Pheasant Road that can be accessed with a Midpen 2C10 key. This gate should be left unlocked on ignition day to facilitate travel to/from the unit and in the event that additional fire suppression or EMS personnel are needed at the burn site.

Travel to the unit is shown in the Vicinity map which is attached as part of Appendix A.

- Size:** The pilot project area encompasses approximately 15.8 acres. Actual burn unit polygons may be modified slightly with Burn Boss and Midpen concurrence to account for favorable control line placement, resource needs, or a desire to include/exclude certain areas. However, it is anticipated that these inclusions or exclusions will be no more than 1 – 2 acres.
- Topography:** Elevation and aspect are listed in the table below:

Name	Acres	Min Elev. (ft)	Max Elev. (ft)	Mean Elev. (ft)	Avg. Slope (%)	Aspect
Cherry Springs	15.8	1160	1280	1120	8	E

### 5. Ignition units:

Name	Fuel model*				
	GR2	GS2	TU1	TU5	SH5
Cherry Springs	40	12	26	7	5

\* Note – percentages may not equal 100% as only the most dominant fuel models that will affect fire behavior are shown. Estimates of fuel occurrence were obtained from LANDFIRE data. At the scale of these burn units, these figures should be considered approximations. Fuel model descriptions can be found in Scott, Joe H.; Burgan, Robert E. 2005. *Standard fire behavior fuel models: a comprehensive set for use with Rothermel's surface fire spread model*. Gen. Tech. Rep. RMRS-GTR-153. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 72 p.

### B. Vegetation/Fuels Description:

#### 1. On-site fuels data:

- See table above for approximation of fuel model dominance. The Cherry Springs unit is dominated by annual grasses, both native and non-native. Some of the more common species include California brome (*Bromus carinatus*), Yellow starthistle (*Centaurea solstitialis*), Blue wildrye (*Elymus glaucus*), and Purple needle grass (*Stipa pulchra*). Toward the west side of the burn unit, shrubs and woody species increase including Coyote brush (*Baccharis pilularis*), French broom (*Genista monspessulana*), Himalayan blackberry (*Rubus armeniacus*), Spanish broom (*Spartium junceum*) and Coast Live Oak (*Quercus agrifolia*).



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Predicted fire behavior in the unit using BEHAVE 6.0 is listed below. See Appendix E for detailed fire behavior modeling.

Flame length (ft)		Rate of Spread (ch/hr)		Fuel loading by time lag class (tons/acre)		
Average	Extreme	Average	Extreme	1-hr	10-hr	100-hr
2.0	9.0	3	80	0.2	0.9	1.5

**Adjacent fuels data:** Outside the Cherry Spring unit, fuels are dominated by Coast Live Oak and the associated leaf litter. There is a scattering of shrubs as listed above but the trees dominate. Fuels outside the unit can be best modeled as TU1 and TU5. Below is an estimate of fire behavior outside the unit.

Flame length (ft)		Rate of Spread (ch/hr)		Fuel loading by time lag class (tons/acre)		
Average	Extreme	Average	Extreme	1-hr	10-hr	100-hr
8	11	8	18	0.9	4.0	3.0

#### C. Description of Unique Features, Natural Resources, Values:

This project area contains many unique cultural, historical, and natural resource values. These are thoroughly described in documentation maintained by Midpen, most notably in the administrative draft report *Sierra Azul Open Space Preserve, Resource Inventory and Interim Resource Management Plan* (Biotic Resources Group, April 2001).

Cherry Springs Reservoir covers approximately 3.9 acres and is located on the eastern slopes of the Santa Cruz Mountains south of San Jose, CA. It is situated 1,145 feet above mean sea level approximately one mile south of the intersection of Pheasant Road and Hicks Road in unincorporated Santa Clara County. It is entirely ringed by a narrow band of dense cattails with lesser amounts of willow. The manmade reservoir is several feet deep. Water, presumably from a spring, flows year-round into the pond from the south. Willow riparian vegetation is present along the drainage that feeds the pond. A drop structure at the outlet drains the pond to the east. Topography is hilly. The surrounding uplands consist primarily of a mosaic of nonnative grassland, coastal scrub and oak woodland. There are no nearby perennial streams or other ponds. Approximately forty acres of grassland habitat is present in the immediate vicinity of Cherry Springs Reservoir. Aerial photographs indicate that aquatic and upland habitats at and surrounding the reservoir have changed little over the past 25 years.

This reservoir contains plant and animal species of interest and Midpen biologists should be consulted prior to ignition to avoid any undesired impacts. Water for holding resources should not be drawn from this pond unless critical to life safety as the above-mentioned wharf-head hydrant has sufficient water flow for refilling apparatus during project implementation.

In the 1980's a development was planned for the Cherry Springs Pond area that included low-density housing. Due to the lack of adequate water, the planned development was abandoned after an access road, water delivery system, and subdivision roads had been constructed. A working 2-1/2" wharf-head hydrant remains and will be a useful feature during ignition as a water source.

#### D. Maps-Attach in Appendix A

1. Vicinity (Required)
2. Project/Ignition Unit(s) (Required)
3. Nearby Structures (Optional):  Included  Not Included



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4. Significant or Sensitive Features (Optional):  Included  Not Included (not included as this information may contain confidential or sensitive information that should not be released to a broader audience. However, preserve staff will have this information and can be consulted on the location of these features if necessary.)
5. Dominant vegetation communities map:  Included  Not Included
6. Fuels or Fuel Model(s)(Optional):  Included  Not Included
7. Smoke Impact Area (Optional):  Included  Not Included
8. Travel map:  Included  Not Included (as part of Structures Map)

## Element 5: Objectives

### A. Project Goals:

1. Implement prescribed burns as a training and learning opportunity for preserve staff and key regional partners including local agencies and tribal partners.
2. Serve as an initial project to develop and expand use of prescribed fire as described in Midpen's Prescribed Fire Plan document.
3. Test vegetation responses to a prescribed burn as a means of better understanding the role of fire as a landscape management tool.

### B. Prescribed Fire Objectives:

1. Reduce fuel loading in 1°, 10°, 100° and 1000° size classes by 20 to 90% immediately post burn.
2. Limit mortality in Coast Live Oak (*Quercus agrifolia*) ≥18" dbh to 20% of less measured one-year post burn.

## Element 6: Funding

**A. Cost:** Target funding cost is a maximum of \$500/acre.

**B. Funding Source:** The Cherry Springs prescribed fire pilot project is funded through a grant from the California State Coastal Commission. Additional funding, if needed, will come from Midpen's operating budget.

## Element 7: Prescription

### A. Prescription Narrative:

Environmental variables are designed to allow for the broadest prescription window while maximizing opportunity to achieve objectives. The unit can be ignited using a variety of firing techniques, primarily dependent upon environmental conditions. However, under the desired prescription, achievement of backing and/or flanking fire will be the desired fire behavior.

The burn prescription is intended to be evaluated as a whole and therefore, exceeding one element will not necessarily put the burn out of prescription. The Burn Boss should consider all environmental variables when nearing the hot or cool end of the prescription and based on an analysis of all elements, determine if ignition should proceed or continue. Exceeding two or more prescription elements should be done with extreme caution and should only proceed if the Burn Boss is confident that resource objectives can be met, and the likelihood of escape is minimal. In addition to the prescription



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elements, the Burn Boss should consider the season, time of ignition, and weather forecast and trends. All decisions regarding burning near or outside prescription limits should be well documented.

#### B. Prescription Parameters:

The following pages describe the environmental and fire behavior conditions for the burn unit. Note that different units with similar fuel models may be grouped together because prescription elements are similar or identical.

### Cherry Spring Unit

**GS2 – 57%, TU1 – 33% \***

Environmental:

Parameter	Low (Cool)	Desired	High (Hot)
Temperature (°F)	40	65	90
1-hr fuel moisture (%)	11	8	5
10-hr fuel moisture (%)	13	10	7
100-hr fuel moisture (%)	14	11	9
Live herbaceous fuel moisture (%)	75	53	30
Live woody fuel moisture (%)	125	100	50
Mid-flame wind speed, sustained (mph )	0	4	8
Surface wind direction	Any	Any	Any
Mixing height (ft AGL)	≥ 500	≥ 1000 - ≤ 5000	≥ 5000
Transport wind	270° clockwise through 090° (NW preferred)	270° clockwise through 090° (NW preferred)	270° clockwise through 090° (NW preferred)

Fire Behavior:

Parameter	Low (Cool)			Desired			High (Hot)		
	H	F	B	H	F	B	H	F	B
Rate of spread (ch/hr)	0.5	0.4	0.3	16	2	1	62	4	2
Flame length (ft)	1	0.5	0.5	4	1	1	7	2	1
Probability of mortality† (%)	14	14	14	14	14	14	97	14	14
Probability of ignition (%)	22			39			67		

H = Head fire

F= Flanking fire

B= Backing fire



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\*BEHAVE 6.0 was used to model fire behavior. This software only does not allow for more than two fuel models to evaluated simultaneously. Therefore, GS2 and TU1 were chosen because they are the most prevalent and will produce the most accurate fire behavior modeling. Values may not add up to 100%

<sup>†</sup>Mortality species is Coast Live Oak (*Quercus agrifolia*), ≥ 16" dbh. Note – any value in red indicates a parameter that is out of prescription. See Appendix E for more details.

## Element 8: Scheduling

**A. Implementation Schedule:** Based on historical weather patterns in the project area, the most likely times of year for implementation will be autumn, late spring, or early summer. However, the project can be implemented anytime prescription parameters can be met and all other conditions of this burn plan can be satisfied such as staffing, unit preparation, and permitting and approvals.

**B. Projected Duration:** Ignition of the unit is expected to last one day with an additional day for burn-down, mop-up and/or patrol as needed until the Burn Boss declares the fire out.

**C. Constraints:** There are a number of concrete and potential constraining factors for this project. They include, but are not limited to,

- Environmental and fire behavior prescription – see Element 7
- Adequate resource availability – both onsite and contingency
- Local, regional, and state wildfire activity
- Approval from air quality management district
- Approval from fire authority having jurisdiction
- Landowner approval
- Community activity, such as gatherings and sporting activities
- Times of the year where burning is not desired, such as bird nesting activity or plant phenology when plants expend significant energy into new growth. Preserve staff should be consulted to determine times of the year when burning is not likely to have a significant negative impact on plant and animal species.

It is incumbent upon the Burn Boss to evaluate factors, both on and off site, when determining appropriate implementation dates and to communicate proposed dates as early as possible so as not to cause surprises to interested parties.

## Element 9: Pre-burn Considerations and Weather

### A. Considerations:

1. **On-site:** New control lines should be completed prior to the burn. These control lines should be kept to the minimum width necessary to control flanking or backing fire. Control lines should not be constructed to hold head fire as this would result in excessive resource damage and head fire will not be the primary fire behavior created. Lines can be constructed months to weeks ahead of a proposed burn date. However, regardless of when lines are constructed, the important consideration here is that lines are evaluated and determined to be adequate by the Burn Boss prior to ignition and that if not adequate, a reasonable amount of time is given to correct deficiencies so as not to delay planned implementation date(s). Any scrape to mineral soil should be kept to a minimum width and depth.

While not currently deemed necessary, non-fire fuels pre-treatments may be necessary prior to ignition. An evaluation of predicted fire behavior under current vegetation conditions compared to fire behavior after pre-treatment may help to decide if such treatment is necessary. Without pre-treatment, fire behavior may be unacceptable and threaten controllability of the fire. Pre-treatments could include mastication, lop and scatter, or pile



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and burn. The Burn Boss should consult with Midpen to determine most effective and preferred method(s) of pre-treatment.

Resource values of significance should be noted and flagged with a resource advisor prior to ignition. This infrastructure may need adequate protection prior to ignition. See Element 16 for Holding Plan.

Some values may require immediate mop up and these must be identified and communicated to holding resources. Legacy trees should also be identified and protected appropriately. Snags or suspect trees that pose a safety threat should be removed prior to burn; however, consideration should be given to retaining some snags for habitat. Falling tree hazards may exist along roadways and fire lines. Competent sawyers must be used to fell hazard trees.

2. **Off-site:** Proper notifications and permits must be obtained prior to ignition (see C below and Element 12). Contingency lines should be identified ahead of time and communicated during the pre-ignition briefing. If contingency lines are, or may be, located off the property the Burn Boss should determine if access is allowed and ensure that nothing impedes access (i.e., locked gates) on ignition day.

Signage should be placed at appropriate locations to alert community members and motorists. Daily weather forecasts must be obtained prior to ignition and expected post-ignition weather should also be gathered. Use of a PIO or similar position should be considered to manage public and media inquiries.

#### **B. Method and Frequency for Obtaining Weather and Smoke Management Forecast(s):**

On-site weather observations shall be monitored for at least five days consecutively prior to planned ignition. Several daily weather observations should be collected but if only one observation per day is made, it should be during predicted peak burning conditions, usually early afternoon. Weather may be collected using a belt weather kit or Kestrel® or from the closest RAWS station (Los Gatos, LSGC1). It should be noted that this RAWS station is about 700 feet higher than the burn unit so proper consideration is necessary to evaluate weather readings. During ignition, weather shall be monitored every hour at a minimum, or more frequently as directed by the Burn Boss. During mop-up, weather shall be collected at least twice daily. Once the unit is placed in patrol status, weather shall be collected once daily, at a minimum, until the fire is declared out.

On-site weather data should be used for obtaining spot weather forecast from the National Weather Service's Spot Weather Forecast web page, <https://www.weather.gov/spot/>.

A smoke management plan shall be submitted via the Prescribed Fire Information Reporting System (PFIRS) and approved by the Bay Area Air Quality Management District. An air pollution permit will be issued prior to ignition. Prior to ignition each day, the Burn Boss or designee will ensure that it is a permissive burn day, or a permit to burning on a no-burn day is obtained, as described on BAAQMD's website.

#### **C. Notifications:**

Community engagement should begin as soon as possible in the planning process. If necessary, public meetings could be held to address community concerns and present the plan to the community. Notifications may be made using local newspapers, electronic media (such as email and/or social media), and postings at local stores, post offices, and other areas of community gathering. Consideration should be given to directly contacting known smoke sensitive members of the community. Notifications to agencies and organizations is listed in Element 12.



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## Element 10: Briefing

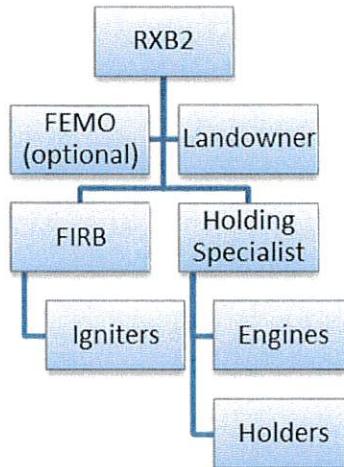
### A. Briefing Checklist - The following items must be included; additional items may be added:

- € Burn organization and assignments
- € Prescribed Fire objectives and prescription
- € Description of prescribed fire project area and burn units
- € Expected weather and fire behavior – include predicted weather after ignition
- € Communications
- € Ignition plan (including any planned aerial ignition planned) and test fire location
- € Holding plan
- € Contingency plan and assignments
- € Wildfire declaration
- € Safety and medical plan, including Covid-19 mitigation strategies
- € Smoke management techniques
- € Mop-up and patrol plan

Use of a standard briefing checklist, such as the one found in the Interagency Response Pocket Guide (IRPG), can be used to augment the briefing checklist above.

## Element 11: Organization and Equipment

**A. Positions:** Staffing will vary depending on environmental conditions and whether the burn will be conducted under “cool,” “desired,” or “hot” prescriptions. See Element 7. The organizational chart below displays the most likely organizational structure under most conditions.



The following tables are to be used by the Burn Boss as a general guideline for staffing the project based on expected environmental and fire behavior conditions. The Burn Boss may need to add additional personnel based on professional experience to ensure an adequate suppression force is in place to catch any spot fires or slopovers, particularly given the remote location of the project area. The numbers listed in the table should be considered the minimum number of personnel required.



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Minimum Resources for Low (Cool) Burn Conditions		
Item	Quantity	Comments
Firefighters (igniters and holders)	12	Holding Specialist and Firing Boss optional
Type 3 (500 gallon) or larger engine	1	
Additional Water (e.g., extra engines, water tender, trailer, or tanks)	None	

Minimum Resources for Moderate (Desired) Burn Conditions		
Item	Quantity	Comments
Firefighters (igniters and holders)	24	Holding Specialist and Firing Boss required
Type 3 (500 gallon) or larger engine	2	
Additional Water (e.g., extra engines, water tender, trailer, or tanks)	500	May include on-site hydrant

Minimum Resources for High (Hot) Burn Conditions		
Item	Quantity	Comments
Firefighters (igniters and holders)	40	Holding Specialist and Firing Boss required
Type 3 (500 gallon) or larger engine	3	
Additional Water (e.g., extra engines, water trailer, tanks)	500	May include on-site hydrant

For the table above and CONTAIN runs (see Appendix E), engines are assumed to be staffed with at least **3** personnel. Crews are assumed to be staffed with **5** personnel, each with a hand tool and at least two backpack pumps amongst the crew.

## Element 12: Communication

### A. Radio Frequencies:

- Tactical frequency(ies):** TBD. It is Midpen's intent to use partner fire agencies to implement this project, mostly likely CAL FIRE. However, other fire and non-fire agencies may be involved. The Burn Boss must ensure that whatever frequency is chosen, it must be one that is available for use to all resources or can be programmed into handheld and mobile radios.
- Command frequency(ies):** TBD as noted above.
- Contingency frequency(ies):** TBD as noted above.
- Air operations frequency(ies):** If needed, CDF A/G 3, 159.3675 MHz Rx and Tx. (Tx/Rx Tone 16 – 192.8 Hz). It is not anticipated that air resources will be used for project implementation. Rather, air resources would be limited to suppression efforts.

### B. Telephone Numbers:

Contact	Phone	Date/time contacted
CAL FIRE Morgan Hill ECC	(408) 201-0490	
Bay Area Air Quality Management District	(415) 749-4600	
Duty Meteorologist	(415) 749-4915	
National Weather Service Monterey	(831) 656-1727	
Coty Sifuentes-Winter, Senior Resource Specialist	(415) 385-4226	



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## **Element 13: Public and Personnel Safety, Medical**

**A. Safety Hazards:** Every prescribed fire comes with many safety hazards. The hazards associated with this project include, but are not limited to, personnel exposure to smoke and heat, rapid changes in fire intensity, snags, uneven and steep ground, animal encounters, dehydration, or fatigue, working with power equipment, and driving. See Appendix D, Job Hazard Analysis (JHA), for more detailed information.

**B. Mitigation: Measures Taken to Reduce the Hazards:** The JHA (see Appendix D) for this project shall be reviewed with resources prior to ignition and the mitigation that will be used shall also be reviewed. In addition, a thorough pre-ignition briefing shall address safety concerns and mitigations. Any unique hazards not identified during a standard briefing should be covered by the Burn Boss.

**C. Emergency Medical Procedures:** If a medical incident occurs, an announcement shall occur over the radio. At a minimum, the announcement should include the nature of the emergency, the location, and any additional resources needed. If not already done, the Burn Boss shall assign a person to supervise the medical event (“incident within an incident”) and this person shall be responsible for coordinating the appropriate medical care.

The Burn Boss shall be informed if medical transportation is required and shall be responsible for notifying EMS and determining most appropriate level of transport (i.e., ground ambulance versus helicopter). If practicable, ignition should cease until the medical emergency is mitigated unless the Burn Boss determines that continued ignition is needed to maintain control of the fire. Detailed emergency medical procedures will be listed in the Medical Plan (ICS 206) of the Incident Action Plan (IAP) which shall be created for each day of active ignition.

**D. Emergency Evacuation Methods:** It is imperative that, prior to ignition, the Burn Boss give careful and deliberate thought to evacuation methods. Given the remote nature of the project area, ground ambulance response and transport times may be delayed, and helicopter evacuation may be challenged by the limited number of suitable landing zones.

If an injury is minor, available personnel on the project can transport the injured person to the closest appropriate medical facility. If the injury is more serious, ground ambulance or helicopter will be required. The closest ground ambulance will be responding from the San Jose metropolitan area. A helicopter could come from several locations. The closest EMS helicopter base is in Palo Alto with an approximate 10-minute ETA once launched. CAL FIRE has short-haul rescue capability if needed.

Helicopter landing zones must be identified, and their locations given to resources during the pre-ignition briefing.

### **E. Emergency Facilities:**

1. Good Samaritan Hospital, 2425 Samaritan Dr, San Jose, CA 95124, (408) 559-2011.  
37.2300187,-121.9377625
2. Santa Clara Valley Medical Center, 751 S Bascom Ave, San Jose, CA 95128, (408) 885-5000.  
37.3126931,-121.9343509 – Burn center.



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## Element 14: Test Fire

**A. Planned Location:** To be determined by the Burn Boss. The test fire shall be conducted in a location that is representative of the fuels within the unit and along control lines with equipment standing by in the event that the test fire needs to be suppressed. Under typical conditions, this will most likely be on the uphill and/or downwind sides of the burn unit. The test fire is intended to give the Burn Boss a chance to evaluate fire behavior and to determine whether prescribed fire objectives can be achieved. If objectives are likely to be achieved and fire behavior is within acceptable limits, then ignition can proceed. However, if evaluation of the test fire determines that probability of achieving objectives is low and/or fire behavior is unacceptable, the test fire should be suppressed, and ignition delayed or postponed until more favorable conditions occur.

### B. Test Fire Documentation:

- 1. Weather conditions on-site:** Weather shall be taken and recorded before test fire ignition. Weather observations shall become part of the final burn documentation.
- 2. Test fire results:** A Go/No-Go checklist (Element 2B) shall be completed prior to initiating the test fire. Any decision to continue firing or cease firing after the test fire should include documentation of the test fire results to support the decision.

## Element 15: Ignition Plan

**A. Firing Methods:** The primary firing techniques, patterns, and sequences used will be to create backing and flanking fire behavior. Head fire may be applied to the unit once sufficient “black” is built around the burn unit and the head fire will not jeopardize achievement of resource objectives and control lines will not be challenged. Head fire may be necessary under a cooler prescription to achieve the resource objectives of the burn. Other techniques that could be used including ring, chevron, or spot firing. Ring firing around mature or legacy trees will help to reduce fire’s impact and prevent introduction of fire into the bole. The Firing Boss shall ensure that any method(s) used results in desirable fire behavior.

Igniters must coordinate with holders to ensure that they are not putting down more fire than holders can keep pace with.

**B. Devices:** Primarily drip torches. Under a cooler prescription, use of propane fired devices may be necessary to build sufficient fire intensity, especially in heavier concentrations of fuels. While unlikely to be needed, other ignition devices may be used (e.g., Firequick® flare launcher) but the Firing Boss must ensure the use of such devices does not result in undesirable fire behavior or unintentional ignition outside the burn unit. Aerial ignition with an unmanned aerial vehicle may also be acceptable. Aerial ignition with rotary wing aircraft is not planned.

**C. Minimum Ignition Staffing:** Flexible depending on conditions. Under low conditions, this may only require several lighters. Under moderate and high conditions, a Firing Boss (or equivalent) is required with an adequate number of lighters. If needed, igniters should be broken into modules or squads to maintain adequate span of control. See Element 11.

## Element 16: Holding Plan

**A. General Procedures for Holding:** Holders shall coordinate with igniters and should generally set the pace of ignition so that holders can maintain control of the fire. Holders may use any number of techniques to ensure fire stays within the burn unit boundary. This can include use of water (engines or backpack pumps), hoselines, hand tools, or fire (if coordinated with igniters). Holders are encouraged to use minimum impact suppression techniques (MIST) to avoid exposure of mineral soil which could open an avenue for invasive species to establish. Holders may also need to use water to reduce fire intensity as needed. Patrol should also occur at regular intervals to ensure that portions of the unit ignited earlier during the operational period and appearing “cold” do not become active without awareness. Appendix G provides post-ignition guidance for mop-



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up and patrol.

**B. Critical Holding Points and Actions:** Corners or sharp changes of direction in the burn unit should receive special attention as these are locations where prescribed fires typically escape. In addition, any areas of the burn unit where fire intensity may be greater, such as near slash piles, should receive additional attention. Infrastructure and legacy trees may also need greater vigilance. Holders can use a variety of actions to protect these areas such as widening control lines, use of water or dirt, or removal of fuel around assets such as fence posts and wooden structures.

**C. Minimum Organization or Capabilities Needed:** Flexible depending on conditions – see Element 11. Under moderate and high conditions, a Holding Specialist is required with an adequate number of holders. If needed, holders should be broken into modules or squads to maintain adequate span of control.

The number of fire engines, water tenders, and other water conveyance apparatus as well as onsite water requirements will depend upon burning conditions – see Element 11. It is recommended that holders on foot are paired with water delivery equipment to maximize effectiveness.

## Element 17: Contingency Plan

### A. Management Action Points or Limits:

Management Action Point– Documentation Element	Management Action Point Narrative
Designator and Description:	<b>MAP #1</b>
Condition:	<b>Injury requiring medical evacuation</b>
Management Intent:	<b>Ensure injured personnel receive prompt medical attention while keeping fire within burn unit boundary</b>
Recommended Action(s) to Consider:	<b>Request resources through Morgan Hill ECC or 911. Determine if ground or air ambulance is required. Closest EMT shall be assigned to supervise care of the injured. Burn Boss shall designate an “Incident within an Incident (IWI)” IC.</b>
Recommended Resources:	<b>EMT. IWI IC. Additional personnel as needed</b>
Time Frame:	<b>Immediately upon notification of injury</b>
Describe the consequences of not taking the recommended action(s) (Optional):	<b>The remote nature of this project may result in delay of definitive medical care if there is a serious injury. This delay may result in increased morbidity of injured personnel. Prompt action is essential.</b>
Responsibility:	<b>EMT to supervise patient care. IWI IC to manage medical event. Burn Boss to request additional resources and continue to manage prescribed fire.</b>
Date and time this MAP was initiated:	



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Management Action Point-Documentation Element	Management Action Point Narrative
Designator and Description:	<b>MAP #2</b>
Condition:	<b>Excessive smoke production</b>
Management Intent:	<b>Smoke production must be continuously monitored to ensure impacts to public are not excessive.</b>
Recommended Action(s) to Consider:	<b>Ignition can be delayed until forecasted smoke production becomes ideal. Smaller areas of burn unit could be ignited and allowed to burn down before igniting additional areas. Large woody piles can be pulled apart if safe to do so. As a last resort, suppression can be initiated.</b>
Recommended Resources:	<b>Additional personnel and/or engines. Can be requested through Morgan Hill ECC.</b>
Time Frame:	<b>Within 1 – 2 hours of excessive smoke production</b>
Describe the consequences of not taking the recommended action(s) (Optional):	<b>Excessive smoke production may produce unwanted public exposure. In addition to health concerns, impacts to roadways may occur. Public acceptance of prescribed fire may be impacted. Air quality district penalties may occur.</b>
Responsibility:	<b>Burn Boss</b>
Date and time this MAP was initiated:	

Management Action Point-Documentation Element	Management Action Point Narrative
Designator and Description:	<b>MAP #3</b>
Condition:	<b>Fire behavior and fire effects exceed prescription parameters</b>
Management Intent:	<b>For successful implementation of this project, specific fire behavior and effects are required. Effects outside of those desired may not meet project objectives.</b>
Recommended Action(s) to Consider:	<b>Constant monitoring of fire behavior and fire effects are ideal. If possible, designate a FEMO or equivalent person to monitor these. Firing and holding techniques may need to be modified to increase or decrease fire behavior. If possible, action can be delayed until fire behavior returns to desired parameters. As a last resort, ignition may need to stop, and mop-up and patrol should begin.</b>
Recommended Resources:	<b>Additional personnel and/or engines if required. Can be requested through Morgan Hill ECC.</b>
Time Frame:	<b>Within 30 minutes of determining that fire is not meeting and is not likely to meet resource objectives.</b>
Describe the consequences of not taking the recommended action(s) (Optional):	<b>Failure to meet resource objectives may cause financial hardship for the landowner. In addition, it may make meeting those objectives in the near future difficult to achieve. Fire behavior higher than desired may cause unwanted resource damage and increase risk of escape.</b>
Responsibility:	<b>Burn Boss</b>
Date and time this MAP was initiated:	



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**B. Minimum Contingency Resources and Maximum Response Time(s):**

Burn prescription	Engines	Maximum response time
Cool	None	N/A
Desired	(2) – Type 3, 4, 5, or 6	30 minutes
Hot	(3) – Type 3, 4, 5, or 6	1 hour

Note that the above table relates the terms “cool,” “desired” and “hot” to the burn prescription (Element 7) so that the Burn Boss can determine contingency resource requirement, prior to ignition, based on burning conditions. It is recognized that these terms are subjective. However, this is done deliberately so that the Burn Boss can use his/her professional judgement to determine appropriate contingency resource requirement. Any decision regarding contingency resource staffing which deviates significantly from the recommendations above should be documented in writing by the Burn Boss.

The Burn Boss is encouraged to pre-plan contingency holding lines in the event that fire leaves a burn unit. These contingency lines can include control lines in adjacent units or possibly control lines off the property. However, in the latter case, the Burn Boss must ensure that access to these areas has been approved (preferably in writing) and that nothing will impede access to these areas (i.e., locked gates). The Burn Boss must also determine if fire can be tolerated in those areas.

In addition, the Burn Boss or designee should monitor fire activity within the local and regional areas to determine if there is a significant resource commitment to other events. If local and regional fire activity is high or becomes high, then the Burn Boss should determine whether it is appropriate to continue since contingency resources may be unavailable or responding from long distances. This is especially true given the remote location of the project area. Particular attention should be paid to alarm activity for the Santa Clara County fire agencies, including CAL FIRE.

## **Element 18: Wildfire Declaration**

**A. Wildfire Declared By:** Burn Boss

**B. Conditions for Wildfire Declaration:** A wildfire declaration should be made if either of the following conditions exist:

- a. The fire leaves the project area or is likely to escape the project area and cannot be contained with contingency resources or contingency actions are likely to fail.
- b. The fire remains in the project area but needs additional resources beyond contingency resources to regain control of the fire.

It is important to note the difference between project area and burn unit. If fire escapes the burn unit but remains within the project area this will not necessarily result in a wildfire declaration. In this case, the Burn Boss will have to determine if a wildfire declaration is necessary to regain control of the fire. There may be other burn units in the project area that are slated for future ignition, some of which may have already been prepped. Prior to ignition, the Burn Boss shall determine where neighboring burn units are located and if fire can be tolerated in these areas. If any doubt exists in the Burn Boss’ mind, a wildfire declaration should be made. Any fire that leaves the project area must be declared a wildfire.



Project Name: Sierra Azul

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Ignition Unit(s) Name: Cherry Springs

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**C. IC Assignment:** The Burn Boss shall assume the IC role until and if a transfer of command is necessary.

**D. Notifications:** Notification to Morgan Hill ECC or 911 shall take place as soon as possible upon wildfire declaration. The IC should be prepared to provide the following information:

- Fire name and location
- Terrain (slope, aspect, elevation) and position of fire on the slope
- Size of fire
- Fuel type, anticipated control problems, and spread potential
- Values threatened
- Need for public evacuation
- Weather conditions (including wind speed and direction)
- Fire behavior – current and expected
- Resources on the fire and those needed

The IC should also be prepared to provide the above information to resources upon arrival.

**E. Extended Attack Actions and Opportunities to Aid in Fire Suppression:** Direct attack is the preferred method of suppression wherever possible. Indirect attack may be used if required. The Burn Boss is encouraged to develop secondary containment lines during the reconnaissance and planning of this project and locations of these secondary lines should be provided during the pre-ignition briefing. Access to adjacent lands should be agreed upon by those landowners ahead of time and may include things such as having gate codes or leaving them unlocked. In addition, as noted in (B) above, if the fire burns into a neighboring burn unit(s), the Burn Boss should determine if the fire can be tolerated in that unit(s) and held within that unit(s).

## Element 19: Smoke Management and Air Quality

**A. Compliance:** A smoke management plan for this project is required by Bay Area Air Quality Management District (BAAQMD). The plan should be submitted to the District at least 30 days in advance of planned ignition to give the District time to review the plan, ask questions, or to amend the plan if required by the District. All ignition units planned for the upcoming year should be included in the permit application to eliminate the cost of filing separate plans for each individual unit. Smoke management plans will be submitted via PFIRS, <https://ssl.arb.ca.gov/pfirs/>.

**B. Permits to be Obtained:** Once approved by BAAQMD, the district will send notification to the landowner stating that the burn has been approved subject to certain conditions, if any. Approval must be received for each day of active ignition. See Element 9 for additional details.

**C. Smoke-Sensitive Receptors:** Smoke sensitive receptors shall be identified in the smoke management plan application in PFIRS. Nearby neighbors should be notified to the extent practicable, particularly those with known smoke sensitivity due to health issues. Appendix F lists some of the receptors.



Project Name: Sierra Azul

Ignition Unit(s) Name: Cherry Springs

**D. Potential Impacted Areas:** In addition to neighboring residents, roadways and down-drainage areas may be impacted.

**E. Mitigation Strategies and Techniques to Reduce Smoke Impacts:** Ignition can be delayed or diluted over time to reduce smoke impacts. Project implementation may need to be delayed if excessive smoke impacts are anticipated. As a last resort, fire may need to be suppressed if smoke production is significant and cannot be reduced by any other means. See MAP #2 in Element 17 above.

Smoke sensitive individuals should be given ample advance warning of burn implementation to give them time to temporarily leave the area or prepare accordingly. The internet contains several videos showing how homeowners can make cheap smoke filtration units from readily available materials. These might be useful to those individuals who must or choose to shelter-in-place.

For roadways, placement of appropriate signs shall be required. In addition, if smoke drift is likely to obscure roadway visibility, flaggers and/or pilot cars may be necessary to alert motorists.

Special consideration must be given to down-drainage receptors. Smoke can travel a long way down canyons at night and the Burn Boss must plan for these impacts, particularly if ample fuels are left smoldering. In the event of possible significant overnight smoke production, it may require suppression of smoldering fuels.

## Element 20: Monitoring

**A. Fuels Information Required and Procedures:** One-hour fuel moisture will be determined before and during ignition by a weather observer using fine dead fuel moisture tables. 10-hour fuel moisture sticks may be placed in or near the unit at least two weeks before the burning and the moisture level recorded daily. Alternatively, 10-hr fuel moisture readings can be obtained from the closest RAWS (Los Gatos, LSGC1).

**B. Weather Monitoring (Forecasted and Observed) Required and Procedures:** Weather forecasts shall be obtained every day at least one week prior to planned ignition. Special attention should be paid to environmental conditions that favor smoke dispersion as well as conditions that might result in poor smoke dispersion (e.g., inversions) or weather conditions that could present control issues such as cold front passage or red flag conditions.

During the burning period, weather shall be taken at least every hour or more frequently if requested by the Burn Boss. Weather readings shall be obtained with a Kestrel® or similar weather recording device or a belt weather kit with sling psychrometer. The following weather observations are required, at a minimum, during ignition:

- Location and time of weather observation, including elevation and aspect
- Dry bulb and wet bulb temperatures
- Relative humidity and dew point
- Wind speed and direction including average and max gusts over a one-minute period
- Fine dead fuel moisture
- Probability of ignition
- Sky cover and weather conditions (percent cloud cover, rain, etc.)

**C. Fire Behavior Monitoring Required and Procedures:** Fire behavior shall be monitored continuously to ensure it remains within prescription parameters. At a minimum, rate of spread and flame length shall be noted and recorded. Scorch height on trees should also be recorded if appropriate. The fire behavior observer should establish regular communication with the Burn Boss to provide feedback on fire behavior.

If available, use of a Fire Effects Monitor (FEMO) or person with commensurate training is encouraged.



Project Name: Sierra Azul

Ignition Unit(s) Name: Cherry Springs

**D. Monitoring Required to Ensure that Prescribed Fire Plan Objectives are Met:** The Burn Boss, or designee, should continuously monitor prescription parameters and compare them to current environmental conditions and fire behavior to ensure that prescribed fire objectives are being met. The Burn Boss should use this information provided from this monitoring to adjust firing and/or holding techniques.

**E. Smoke Dispersal Monitoring Required and Procedures:** Smoke dispersal shall be monitored continuously to ensure that smoke production is within desired range. At a minimum, smoke height and direction of travel should be noted. If possible, use of a remote smoke observer who can see the smoke plume and the larger geographic area is desired. Any unwanted smoke impacts should be reported to the Burn Boss.

## Element 21: Post-burn Activities

### A. Post-Burn Activities that must be completed:

- Notify Morgan Hill ECC once active ignition is completed. Provide information if burn has been declared out or is in patrol status and if the latter, appropriate contact information in the event the ECC needs to make contact.
- Mop-up and patrol as necessary. Prior to leaving the burn unit, the Burn Boss shall ensure that the landowner is equipped and prepared to continue these tasks if necessary. A written document detailing mop-up and patrol tasks is contained in Appendix G.
- Rehabilitate fireline. This does not have to necessarily occur immediately post-ignition and in fact, should occur only after fire has been declared out.
- Rehabilitate damaged infrastructure if possible. If not, establish agreement with landowner to ensure these are completed and determine responsibilities.
- Fell any hazard trees if required. Consult with landowner prior to felling. Ensure competent fallers are used. Consideration should be given to leaving some snags in place, if safe to do, for habitat.
- Return equipment to their owners. This includes hand tools, hose, appliances, etc.
- Ensure personnel are in adequate condition for return travel to home unit. Consider having personnel remain overnight if excessive fatigue is present.
- Remove prescribed fire signs
- Gather and complete documentation including weather and fire behavior observations. If desired, collect ICS 214 from resources. It is recommended that the Burn Boss submit a post-fire report within 30 days following project completion.

### B. Post-burn Evaluation

A post-burn evaluation is recommended to determine if burn objectives were met and to provide information for adjusting the burn prescription or any other element of the burn plan. The Burn Boss should consult with the landowner to determine how evaluation is to be conducted and any specific forms or procedures to be used.

## Prescribed Fire Plan Appendices

**Appendix A:** Maps: Vicinity, Ignition Units and Fuel Models

**Appendix B:** Technical Reviewer Checklist

**Appendix C:** Complexity Analysis

**Appendix D:** Job Hazard Analysis or Risk Assessment

**Appendix E:** Fire Behavior Modeling Documentation or Empirical Documentation

**Appendix F:** Smoke Management Plan and Smoke Modeling Documentation

**Appendix G:** Mop-up and patrol guidelines

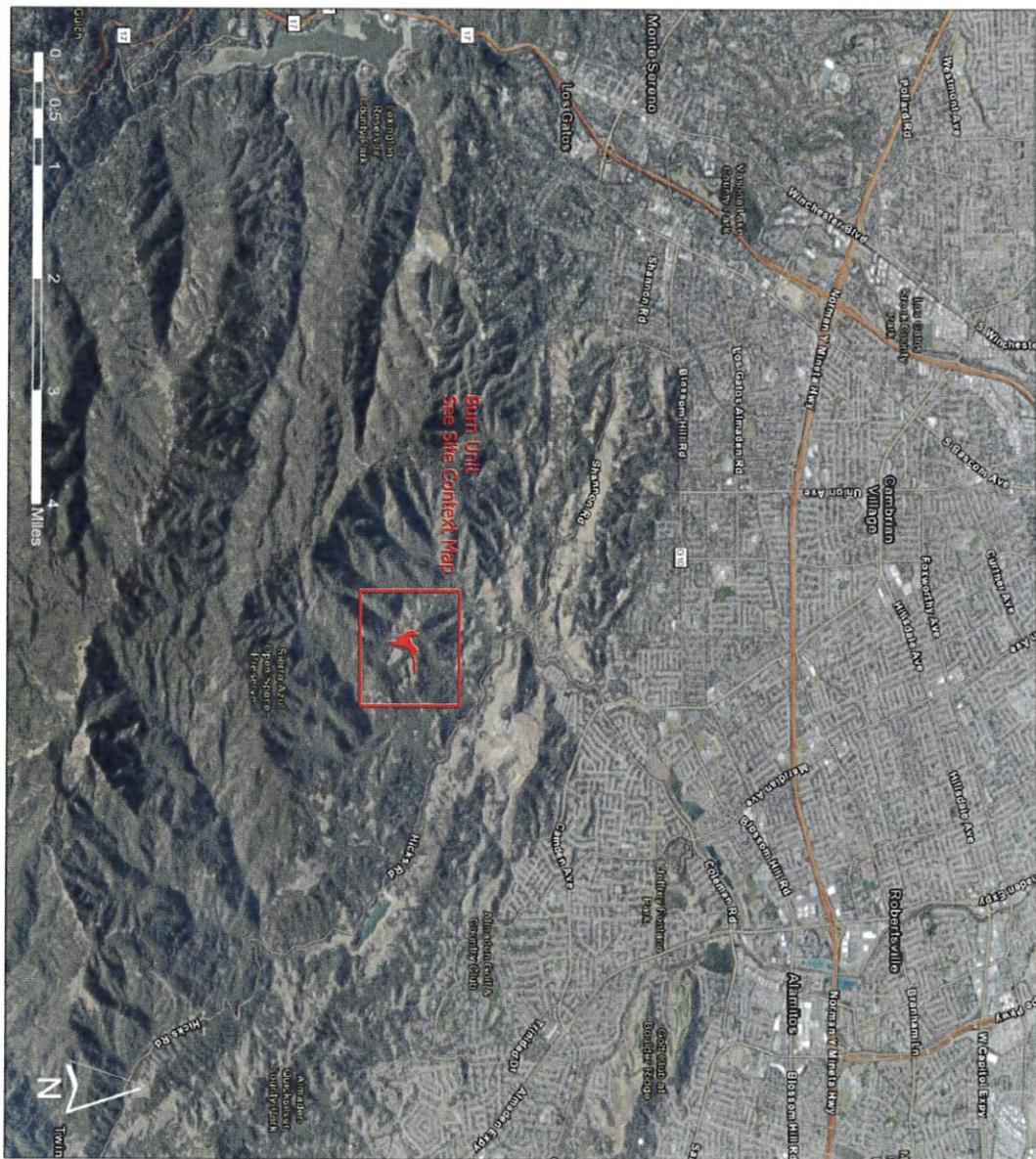


Project Name: Sierra Azul

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## Appendix A: Maps

### Cherry Springs Prescribed Burn Vicinity Map



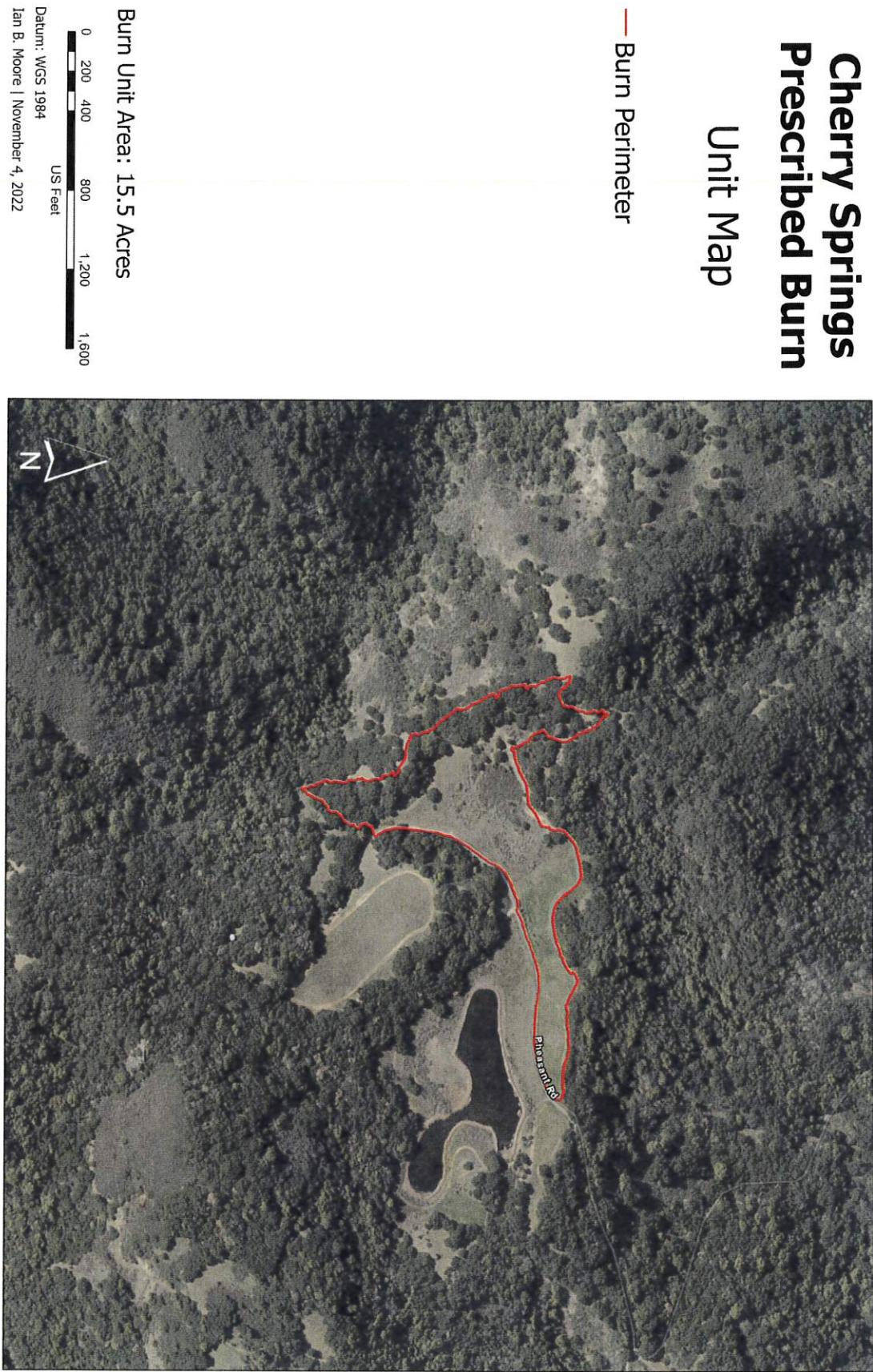
Project Name: Sierra Azul

Ignition Unit(s) Name: Cherry Springs

# Cherry Springs Prescribed Burn

## Unit Map

— Burn Perimeter



Project Name: Sierra Azul

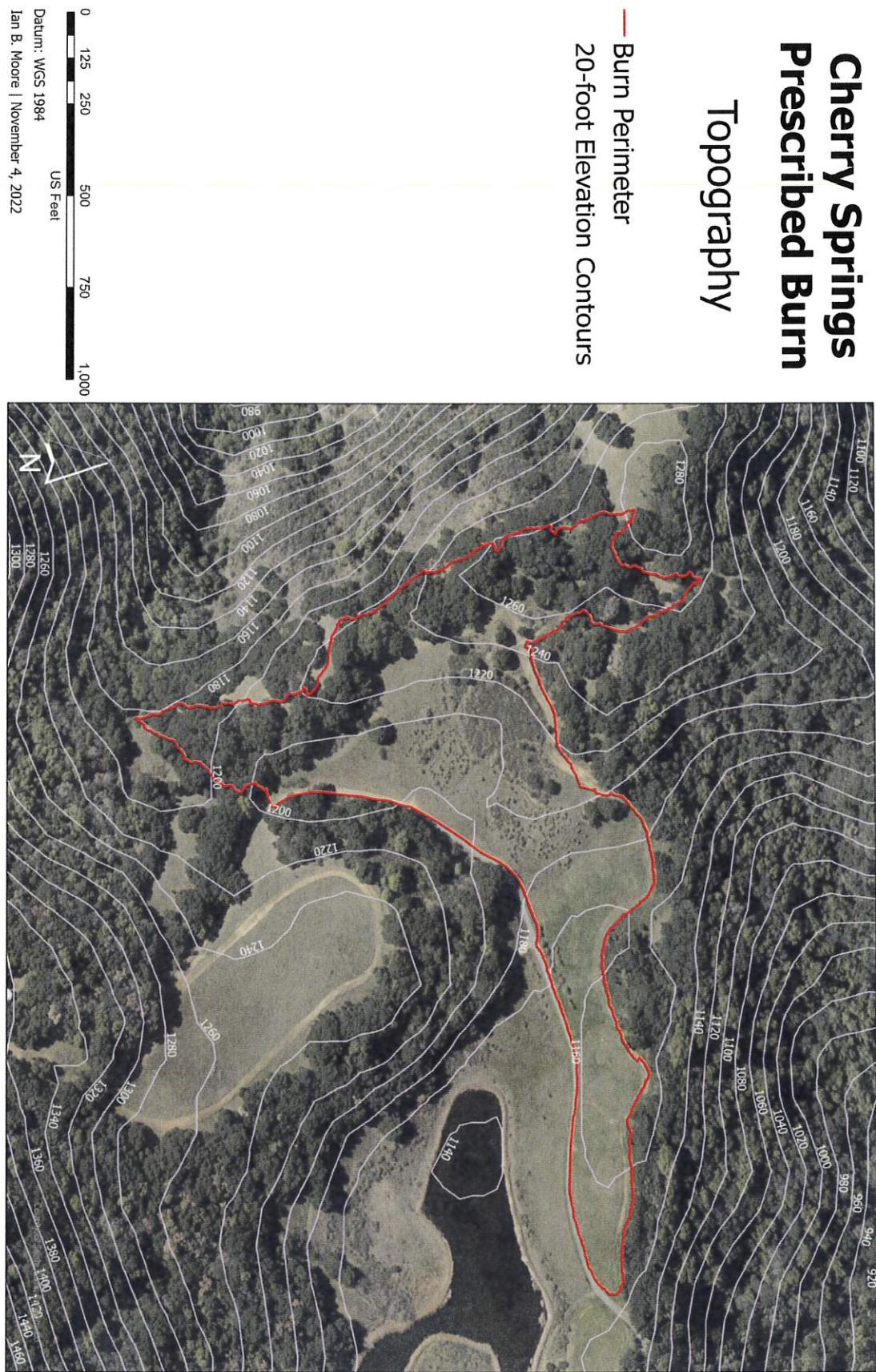
Ignition Unit(s) Name: Cherry Springs

# Cherry Springs Prescribed Burn

## Topography

— Burn Perimeter

20-foot Elevation Contours



Project Name: Sierra Azul

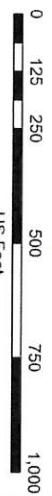
Ignition Unit(s) Name: Cherry Springs

# Cherry Springs Prescribed Burn

## Fuel Types

### Fuel Model

- GR2
- GR4
- GS2
- SH5
- SH7
- TU1
- TU5
- NB8
- NB9



Project Name: Sierra Azul

Ignition Unit(s) Name: Cherry Springs

# Cherry Springs Prescribed Burn

## Structures

- Structures
- Water Tanks
- Burn Unit
- Sierra Azul Preserve



0 0.1 0.2 0.4 0.6 0.8  
Miles

Datum: WGS 1984  
Ian B. Moore | November 4, 2022



Prescribed Fire Name: Sierra Azul

Ignition Unit Name: Cherry Springs

### Appendix B: Technical Reviewer Checklist

Fill out this checklist based on the guidance provided in the Technical Review section in the *Interagency Prescribed Fire Planning and Implementation Procedures Guide*, PMS 484. Rate each element in the following table with an "S" for Satisfactory or "U" for Unsatisfactory. Use Comment field as needed to support the element rating.

PREScribed FIRE PLAN ELEMENTS	RATING	COMMENTS
1. Signature Page	S	
2. A. Agency Administrator Ignition Authorization	S	
2. B. Prescribed Fire GO/NO-GO Checklist	S	
3. Complexity Analysis Summary	S	Adjustments need to be made to the final complexity. Significant historical barriers to burning in this area create a high political complexity with multi-jurisdictional interests.
4. Description of Prescribed Fire Area	S	
5. Objectives	S	
6. Funding	S	
7. Prescription: Prescription Narrative and Prescription Parameters	S	Good Rx, matches BEHAVE. Use whole 10 numbers on PIG to accommodate field readings
8. Scheduling	S	
9. Pre-Burn Considerations and Weather	S	
10. Briefing	S	Incorporate environmental sensitivities
11. Organization and Equipment	S	
12. Communication	S	
13. Public and Personnel Safety, Medical	S	
14. Test Fire	S	
15. Ignition Plan	S	
16. Holding Plan	S	
17. Contingency Plan	S	
18. Wildfire Declaration	S	
19. Smoke Management and Air Quality	S	
20. Monitoring	S	
21. Post-Burn Activities	S	
Appendix A: Maps	S	Consider USGS topographical map without orthophoto.
Appendix C: Complexity Analysis	S	
Appendix D: Agency-Specific Job Hazard Analysis or Risk Assessment	S	
Appendix E: Fire Behavior Modeling Documentation or Empirical Documentation	S	
Appendix F: Smoke Management Plan and Smoke Modeling Documentation (Optional)	S	
Other		

**Approval is recommended** subject to the completion of all requirements listed in the comments section, or on the Prescribed Fire Plan.

**Recommendation for approval is not granted.** Prescribed Fire Plan should be re-submitted for technical review subject to the completion of all requirements listed in the comments section, or on the Prescribed Fire Plan.

Technical Reviewer Name (print): Matt Brown

Technical Reviewer Signature: TD

Qualification and Currency: CARX

Date Signed: 9-30-24

## Appendix C: Values

			Values Description: Describe the identified off-site, on-site, and political values
Cherry Springs	Quantity	Significance	
V	On-Site	Few	The Cherry Springs unit lies within the Rancho de Guadalupe (RDG) area of the Sierra Azul Open Space Preserve. RDG is closed to the public. On-site values include sensitive plant and animal species around Cherry Pond. However, the burn unit will exclude this area. Vegetation that exists within the burn unit is typical and can be found in many locations throughout the preserve.
E	Off-Site	Mod	
U	Multiple	High	The Woods Trail lies approximately one mile south and uphill of the burn unit. Trail users could be impacted by smoke. Approximately three miles and uphill of the burn unit is the summit of Mount Umunhum, a popular recreational area with sweeping vistas of the entire Bay Area. On a very clear day, visibility can exceed 100 miles. Mount Umunhum has significant importance to the Amah Mutsun band of Ohlone Indians. The summit was also the site of an Air Force radar tracking station during the cold war and has important historical significance. Isolated residences exist within a three mile radius of the burn site, mostly along Pheasant, Hicks, and Reynolds Roads.
S	Public/Political Interest	Considerable	As described above, the RDG area is closed to the public. However, with significant recreational use around the area, public interest is likely to be considerable. Since the burn area sits approximately 500 feet above edge of the densely populated Santa Clara Valley, smoke will be visible for many miles. This will generate high public and political interest. Communication regarding the project will need to be robust and begin as early as possible.
		High	

## Appendix C: Preliminary Risk

Element	Preliminary Risk	Risk Rating Descriptors	Agency Administrator/ Preparer Discussion Completed
Safety	Mod	<ul style="list-style-type: none"> <li>• Safety issues are pronounced and require detailed briefings, with certain hazards requiring special caution.</li> <li>• A small organization with a single branch results in modest exposure of personnel to hazards.</li> <li>• Adverse impacts to public health and safety are possible.</li> <li>• At least one activity is low frequency/high risk.</li> <li>• Fatigue and extended exposure to hazards are anticipated.</li> </ul>	Yes
Fire Behavior	Mod	<ul style="list-style-type: none"> <li>• Fuels vary within the unit, both in loading and arrangement.</li> <li>• Fire behavior may present control challenges that are easily mitigated.</li> <li>• Medium fuel loadings with some high concentrations are present.</li> <li>• Variable terrain features may significantly affect fire behavior and present moderate ignition and control problems.</li> <li>• Local winds and burning conditions may vary enough to cause shifts in fire behavior that briefly exceed modeled fire behavior and threaten controllability.</li> <li>• Periodic torching can be expected either as isolated points or in limited areas.</li> <li>• Probability of ignition outside of the unit is low and any spotting is expected to be short-range.</li> </ul> <p>The burn unit has some variation in slope which may lead to changes in fire behavior. While two different fuel models exist within the burn unit, fuel loading is somewhat uniform and thus fire spread is easier to predict. Control challenges can be mitigated with appropriate unit preparation. Given the unit sits on a mid-slope bench, there can be some variations in winds and burning conditions. No torching is anticipated. Probability of ignition outside the unit is lower given the almost completely shaded fuels outside the unit.</p>	Yes
Resistance to Containment	Mod	<ul style="list-style-type: none"> <li>• Potential for multiple wildfire mechanisms such as spot fires or slopovers that can propagate at moderate rates of spread but can be held by prompt holding actions.</li> <li>• Some fuel concentrations or ladder fuels exist near critical holding points.</li> <li>• Expected fire intensities in the primary fuel type create little potential to challenge standard fire lines.</li> <li>• The probability of ignition in fuels outside of control lines is low to moderate.</li> <li>• Some dependency on natural fuel breaks to hold the prescribed fire.</li> <li>• Local drought and or fire indices are expected to be moderate to high.</li> </ul> <p>Spot fires or slopovers can be caught with prompt action by holding forces. ROS outside the unit are likely to be low to moderate. Some fuel concentrations exist near critical holding points and the burn plan will need to address mitigation techniques. With expected firing techniques, fire intensity is not likely to challenge control lines. Drought indices are high to very high so any fire that establishes outside the unit may take longer to suppress.</p>	Yes

## Appendix C: Preliminary Risk

Element	Preliminary Risk	Risk Rating Descriptors	Agency Administrator/Preparer Discussion Completed
Ignition Procedures and Methods	Mod	<ul style="list-style-type: none"> <li>Multiple firing sequences patterns and timing must be coordinated to meet project objectives and reduce the risk of an unexpected or adverse event.</li> <li>Specific fire intensities or ROS are somewhat critical for meeting resource objectives but are readily attained by placing local skill sets in firing boss positions.</li> </ul>	Yes
		<p>Firing sequences and timing are important to reduce the risk of unwanted fire behavior or an adverse event. Specific fire intensity is not crucial to meeting project objectives and can be achieved with a range of fire behavior.</p>	
Prescribed Fire Duration	Mod	<ul style="list-style-type: none"> <li>Active ignition, fire spread, and patrol is expected to occur for several operational periods.</li> <li>Some residual burning (heavy fuel smoldering, stump holes, etc.) is expected to occur for several days after the primary burn out of the unit.</li> <li>Mop-up and patrol is typical with minimal resource and equipment needs.</li> <li>Primary holding phase is expected to be completed within reasonably predictable local weather forecasts.</li> <li>The prescribed fire depends on accurate forecasts through three days.</li> </ul>	Yes
		<p>Due to small unit size, ignition and burn down should only last one day. The burn will be implemented outside of high severity season. Simple logistical support is sufficient. Mop-up should be minimal. However, if fire establishes in heavier fuels, it may require ongoing patrol until fire is declared out. Suggest overnight patrol due to political sensitivities.</p>	
Smoke Management	Mod	<ul style="list-style-type: none"> <li>Noticeable smoke will be produced creating at least some public concern.</li> <li>Short-term health or safety concerns related to smoke exposure may occur if actual weather deviates from forecasted.</li> <li>Nearby communities are highly conscious of smoke from wildland fire.</li> <li>Some possibility for a NAAQS exceedance violation.</li> <li>The prescription or ignition portions of the plan need to consider smoke management.</li> </ul>	Yes
Number and Dependence of Activities	Mod	<ul style="list-style-type: none"> <li>Several activities depend on achievement of previous or concurrent actions.</li> <li>Several activities are interactive.</li> <li>Communication is routine for coordination of activities and project success.</li> <li>The project involves another land management agency, ownership or jurisdiction but project completion is not dependent on coordinated implementation.</li> <li>Adjacent ownership supports the implementation of the prescribed fire.</li> </ul>	Yes
		<p>Firing and holding must be closely coordinated to reduce the probability of an adverse event. Some activities depend upon completion of previous or concurrent activities. Routine and ongoing communication will be required. No other land management agency is involved. It is unknown if adjacent landowners support the use of prescribed fire but they are at a considerable distance from the project area. If training is an objective, multiple actions may be happening requiring coordination and radio communications</p>	

## Appendix C: Preliminary Risk

Element	Preliminary Risk	Risk Rating Descriptors	Agency Administrator/Preparer Discussion Completed
Management Organization	Mod	<ul style="list-style-type: none"> <li>Two levels of supervision are needed (i.e. Burn Boss, Ignition Specialist, and/or Holding Specialist, plus lighters and holders).</li> <li>Special skills or supervision required for one function (RXB2 is suggested).</li> </ul> <p>Two levels of supervision are recommended. The Burn Boss should be qualified to at least the RXB2 level (or minimum Type 3 Prescribed Fire IC if using a CAL FIRE burn boss).</p>	Yes
Treatment/Resource Objectives	Low	<ul style="list-style-type: none"> <li>Few if any issues are present that hamper meeting treatment resource objectives.</li> <li>Few or no adverse impacts are expected if resource objectives are not met.</li> <li>No critical holding points.</li> </ul> <p>Minimal issues are present that would prevent meeting resource objectives. There are only a few critical holding points and these will need to be addressed in the burn plan. If resource objectives are not met, there are few, if any, impacts that are expected.</p>	Yes
Constraints	Mod	<ul style="list-style-type: none"> <li>Constraints exist with some constraints imposing limits on implementing the prescribed fire or achieving objectives.</li> </ul> <p>Implementation will require desired environmental conditions, resource availability, and the ability to secure permits from CAL FIRE and BAAQMD.</p>	Yes
Project Logistics	Low	<ul style="list-style-type: none"> <li>Minimal logistical support is needed to safely meet prescribed fire objectives.</li> <li>No special equipment, support or communications needs are required.</li> </ul> <p>Given that the project can be completed in a single operational period, project logistics are expected to be simple. Resources can provide their own support.</p>	Yes

## Appendix C: Post-Plan Risk

Element	Preliminary Risk	Post-Plan Risk	Risk Rating Descriptors	Elements and Actions in the Prescribed Fire Plan that Address Risk Mitigation
Safety	Mod	Low	<ul style="list-style-type: none"> <li>Safety issues and hazards are easily identifiable, addressed in briefings, and managed.</li> <li>Minimal organization produces little exposure of personnel to hazards.</li> <li>Adverse impacts to public health and safety are unlikely.</li> <li>Activities are high frequency/low risk.</li> <li>Fatigue and exposure to hazards are limited.</li> <li>Standard safety briefings and attention to Lookouts, Communications, Escape Routes, and Safety Zones (LCES) are sufficient.</li> </ul> <p>The small size of the project area will allow for easy identification of safety issues and hazards which can then be mitigated. Implementing resources are likely to have experience in implementing project. Fatigue and exposure will be minimal. This reduces the post-plan risk.</p>	Element 9 - Pre-burn considerations; Element 10 - Briefing; Element 13 - Public & Personnel Safety; Appendix C - Complexity Analysis; Appendix D - Job Hazard Analysis
Fire Behavior	Mod	Mod	<ul style="list-style-type: none"> <li>Fuels vary within the unit, both in loading and arrangement.</li> <li>Fire behavior may present control challenges that are easily mitigated.</li> <li>Medium fuel loadings with some high concentrations are present.</li> <li>Variable terrain features may significantly affect fire behavior and present moderate ignition and control problems.</li> <li>Local winds and burning conditions may vary enough to cause shifts in fire behavior that briefly exceed modeled fire behavior and threaten controllability.</li> <li>Periodic torching can be expected either as isolated points or in limited areas.</li> <li>Probability of ignition outside of the unit is low and any spotting is expected to be short-range.</li> </ul> <p>Post-plan risk remains unchanged. Although fuels do not vary greatly within the unit, there is enough variability to result in some diversity in fire behavior. The fire behavior can be moderated through proper techniques, patterns, and sequences and thus should not present control challenges. Terrain varies slightly. Local winds are predictable and fire behavior should not exceed modeled behavior. Torching is not expected and probability of ignition outside the unit will be low.</p>	Element 4 - Description of Prescribed Fire Area; Element 7 - Prescription; Element 14 - Test Fire; Element 15 - Ignition Plan; Appendix E - Fire Behavior Documentation
Resistance to Containment	Mod	Low	<ul style="list-style-type: none"> <li>Ranges from no potential to a likelihood of few mechanisms such as spot fires, slopovers or fire creeping, each comprising small areas that are readily detected, accessed, and controlled by holding resources available on the prescribed fire.</li> <li>No ladder fuels or concentrations are near critical holding points.</li> <li>Ignition procedures do not create intense fire behavior.</li> <li>Probability of ignition in fuels outside the unit is low.</li> <li>Local drought and or fire danger indices are expected to be low to moderate.</li> </ul> <p>This element is reduced from pre-plan risk. Pre-existing control lines are robust and can be easily improved, if needed. Slopovers and spot fires can be readily detected and controlled. No ladder fuels exist currently and those than appear can be easily mitigated. Ignition procedures that produce low intensity backing fire will moderate fire behavior. Burning will occur only when fire danger indices are lower.</p>	Element 10 - Briefing; Element 11 - Organization; Element 13 - Public & Personnel Safety; Element 15 - Ignition Plan; Element 16 - Holding Plan; Element 17 - Contingency Measures

## Appendix C: Post-Plan Risk

Element	Preliminary Risk	Post-Plan Risk	Risk Rating Descriptors	Elements and Actions in the Prescribed Fire Plan that Address Risk Mitigation
Ignition Procedures and Methods	Mod	Mod	<ul style="list-style-type: none"> <li>Multiple firing sequences patterns and timing must be coordinated to meet project objectives and reduce the risk of an unexpected or adverse event.</li> <li>Specific fire intensities or ROS are somewhat critical for meeting resource objectives but are readily attained by placing local skill sets in firing boss positions.</li> </ul> <p>This element remains unchanged from pre-plan risk. Specific firing patterns and sequences will be needed to produce desired fire behavior and achieve resource objectives.</p>	Element 5 - Objectives; Element 7 - Prescription; Element 15 - Ignition Plan
Prescribed Fire Duration	Low	Low	<ul style="list-style-type: none"> <li>Ignition operations should be accomplished within one operational period.</li> <li>Burn unit is small in size and residual burning is not expected after primary burn out of the unit.</li> <li>Decrease in seasonal severity is expected.</li> <li>Short time frame does not require special logistical support.</li> <li>Mop-up is minimal or none is anticipated/planned.</li> </ul> <p>This element remains unchanged from pre-plan risk. Seasonal severity will be reduced and small size of project means ignition, mop-up, and patrol can be accomplished in a single operational period. No residual burning is anticipated.</p>	Element 8 - Scheduling; Element 11 - Organization & Equipment
Smoke Management	Mod	Low	<ul style="list-style-type: none"> <li>Smoke concerns are generally few or easily mitigated.</li> <li>Smoke will be short-lived or inconspicuous.</li> <li>Exposure to smoke by firefighters and the public will be minimal.</li> <li>Few concerns exist about smoke from nearby communities.</li> </ul> <p>This element is reduced from pre-plan risk. Duration of smoke will be short-lived and firefighters and public will not be exposed to excessive smoke for extended periods. Visible smoke may cause some community anxiety but with proper messaging, this can be partly mitigated. In addition, burning during times of the year when wildfire danger is low should assuage most concerns.</p>	Element 2 - Prescribed Fire Go/No-Go checklist; Element 7 - Prescription; Element 8 - Scheduling; Element 13 - Public & Personnel Safety; Element 14 - Test Fire; Element 15 - Ignition Plan; Element 19 - Smoke Management and Air Quality; Appendix D - Job Hazard Analysis; Appendix F - Smoke Management Plan and Smoke Modeling Documentation
Number and Dependence of Activities	Mod	Mod	<ul style="list-style-type: none"> <li>Several activities depend on achievement of previous or concurrent actions.</li> <li>Several activities are interactive.</li> <li>Communication is routine for coordination of activities and project success.</li> <li>The project involves another land management agency, ownership or jurisdiction but project completion is not dependent on coordinated implementation.</li> <li>Adjacent ownership supports the implementation of the prescribed fire.</li> </ul> <p>This element remains unchanged from post-plan risk. Holding and firing must be coordinated to produce the desired fire behavior and reduce potential for an unwanted event. There is no other land ownership involved and adjacent ownership is over a mile away from the burn unit.</p>	Element 10 - Briefing; Element 11 - Organization & Equipment; Element 15 - Ignition Plan; Element 16 - Holding Plan; Element 17 - Contingency Plan

## Appendix C: Post-Plan Risk

Element	Preliminary Risk	Post-Plan Risk	Risk Rating Descriptors	Elements and Actions in the Prescribed Fire Plan that Address Risk Mitigation
Management Organization	Mod	Mod	<ul style="list-style-type: none"> <li>Two levels of supervision are needed (i.e. Burn Boss, Ignition Specialist, and/or Holding Specialist, plus lighters and holders).</li> <li>Special skills or supervision required for one function (RXB2 is suggested).</li> </ul>	Element 11 - Organization & Equipment
Treatment/ Resource Objectives	Low	Low	<ul style="list-style-type: none"> <li>Few if any issues are present that hamper meeting treatment resource objectives.</li> <li>Few or no adverse impacts are expected if resource objectives are not met.</li> <li>No critical holding points.</li> </ul>	Element 5 - Objectives; Element 7 - Prescription; Element 14 - Test Fire; Appendix E - Fire Behavior Documentation
			<p>This element remains unchanged from pre-plan risk. The burn plan specifies the objectives and prescription and burning within prescription will increase likelihood that objectives will be met.</p>	
Constraints	Mod	Low	<ul style="list-style-type: none"> <li>Constraints exist with little impact on implementing the prescribed fire or achieving objectives.</li> </ul> <p>This element is reduced from the pre-plan risk. Standard coordination with air quality district and fire authority having jurisdiction should remove most constraints, other than seasonality.</p>	Element 2 - Prescribed Fire Go/No-Go checklist; Element 7 - Prescription; Element 8 - Scheduling; Element 9 - Pre-burn Considerations & Weather; Element 19 - Smoke Management and Air Quality
Project Logistics	Low	Low	<ul style="list-style-type: none"> <li>Minimal logistical support is needed to safely meet prescribed fire objectives.</li> <li>No special equipment, support or communications needs are required.</li> </ul> <p>This element remains unchanged from pre-plan risk. Small unit size and short duration of project requires no special equipment or logistical support.</p>	Element 11 - Organization & Equipment

## Appendix C: Post-Plan Technical Difficulty

Element	Post-Plan Risk	Technical Difficulty	Rating Descriptors
Safety	Low	Low	<ul style="list-style-type: none"> <li>No special actions are required to mitigate potential minor accidents or injuries identified in the risk assessment/Job Hazard Analysis (JHA).</li> <li>Safety concerns can be easily mitigated through LCES.</li> <li>No preparation work or special project design features are required.</li> </ul> <p>Standard prescribed fire skills are relatively easy to find in the workforce and implementing mitigation actions as identified in the prescribed fire plan are straightforward. These actions are directed at minimizing hazards to personnel and the public from environmental or prescribed fire activities through all phases of the prescribed fire.</p>
Fire Behavior	Mod	Low	<ul style="list-style-type: none"> <li>Standard fire safety precautions are adequate to ensure personnel safety.</li> <li>No fire behavior variations are expected and numerous barriers to fire spread exist.</li> <li>The number, size or likelihood of spot fires and slopovers is minimal and do not require additional suppression resources.</li> <li>Fire behavior is such that holding forces can easily control possible spot fires and slopovers using direct attack tactics.</li> <li>No on-site operational fire behavior specialists are required.</li> </ul> <p>The anticipated work force will possess the necessary skills required for predicting, producing, &amp; sustaining the desired range of fire intensity, rate of spread and flame lengths needed to meet the prescribed fire objectives. Maintaining containment of the prescribed fire under required fire behaviors will be easy to achieve. No specific skills or equipment needed or special or unusual ignition devices to produce or sustain desired fire behavior.</p>
Resistance to Containment	Low	Low	<ul style="list-style-type: none"> <li>Minimal holding resources are involved in the holding operation.</li> <li>The burn unit and project area is easily accessible to the holding resources identified in the plan.</li> <li>Minimal line width required to contain expected fire spread.</li> <li>Minimal site prep is required.</li> </ul> <p>No special skills or techniques are needed to hold fire within unit boundaries.</p>
Ignition Procedures and Methods	Mod	Low	<ul style="list-style-type: none"> <li>There is no need for special firing equipment, techniques, or patterns.</li> <li>Firing procedures are simple and ignition team is small.</li> <li>Use of only one type of ignition device is planned.</li> <li>The ignition pattern requires minimal supervision of the lighters to achieve project objectives and manage safety concerns.</li> <li>Communications are easily maintained with a single tactical frequency.</li> <li>The entire project area is readily visible to the Firing/Burn Boss.</li> </ul> <p>No special skills are needed to adequately manage the number and type of ignition devices, patterns, sequencing and/or timing required to safely ignite the prescribed fire and meet project objectives.</p>

## Appendix C: Post-Plan Technical Difficulty

Element	Post-Plan Risk	Technical Difficulty	Rating Descriptors
Prescribed Fire Duration	Low	Low	<ul style="list-style-type: none"> <li>• Ignition and mop-up operations are usually completed in 1 to 2 operational periods.</li> <li>• Mop-up and patrol is typical with minimal resource and equipment needs.</li> <li>• Standard press release is sufficient for public notification.</li> </ul> <p>Small project size results in no significant technical difficulty.</p>
Smoke Management	Low	Low	<ul style="list-style-type: none"> <li>• ERTs and SMTs are simple, routine and straightforward to achieve and will provide desirable smoke management outcomes.</li> <li>• Some limitations may be present in the plan.</li> <li>• Wind and dispersion parameters are not constrained.</li> <li>• No sensitive receptors exist.</li> <li>• Minimal coordination with air quality officials is required.</li> </ul> <p>There will be minimal difficulty in implementing the prescribed fire plan actions which are directed at minimizing the amount of smoke entering populated areas or impacting sensitive sites, avoiding significant deterioration of air quality. There will be very short-duration, if any, violations of ambient air quality standards. No Class I airsheds are nearby.</p>
Number and Dependence of Activities	Mod	Low	<ul style="list-style-type: none"> <li>• Minimal difficulty in coordinating the required activities.</li> <li>• Holding and lighting are loosely dependent on each other.</li> <li>• Coordination problems or communication failures or issues will not affect the completion of the project.</li> <li>• No to very few pre-burn considerations are required.</li> </ul> <p>Managing and coordinating the number and sequence of activities required to safely implement the prescribed fire and meet objectives are relatively straightforward and well within the skill set of the workforce. This includes logistics, pre and post burn considerations, communication, test fire, ignition and holding operations, contingency actions (if implemented), mop-up and patrol, monitoring, and ensuring firefighter and public safety.</p>
Management Organization	Mod	Low	<ul style="list-style-type: none"> <li>• All team members are available within the local unit and are familiar with local factors affecting project implementation.</li> <li>• Several qualified personnel are available.</li> <li>• The operation is carried out employing a small burn crew.</li> <li>• There is no special pre-burn preparation organization is required.</li> </ul> <p>The local workforce has ample qualified personnel and personnel are familiar with local factors influencing fire behavior.</p>

## Appendix C: Post-Plan Technical Difficulty

Element	Post-Plan Risk	Technical Difficulty	Rating Descriptors
Treatment/ Resource Objectives	Low	Low	<ul style="list-style-type: none"> <li>• There are few resource objectives to meet.</li> <li>• Measures to achieve the objectives are easy to complete and there are few or no restrictions on techniques.</li> <li>• There are few or no restrictions on techniques and prescription parameters.</li> <li>• Basic monitoring of fire behavior and weather is needed to determine if prescribed fire objectives are being met.</li> <li>• Many other opportunities will exist to meet objectives in a given year.</li> <li>• Pre-burn site preparation is not required to meet resource objectives.</li> </ul> <p>Burning under the ideal prescription will result in the highest probability of achieving resource objectives. There are likely to be a number of days during the year where this prescription can be achieved.</p>
Constraints	Low	Low	<ul style="list-style-type: none"> <li>• Constraints are easily accommodated and do not increase the difficulty of completing the project or achieving objectives.</li> <li>• Required weather and fuel conditions are locally very common.</li> </ul> <p>With proper planning and communication, constraints can be effectively managed and easily mitigated.</p>
Project Logistics	Low	Low	<ul style="list-style-type: none"> <li>• No specific logistic function is required and the local unit will handle their own support needs.</li> <li>• Project is nearby and easily accessible.</li> <li>• Local cache can supply the needs of the prescribed fire.</li> </ul> <p>Implementation resources will be able to provide their own logistical support.</p>

Project Name: Sierra Azul

Ignition Unit(s) Name: Cherry Springs

## Appendix D: Job Hazard Analysis or Risk Assessment

1. WORK PROJECT/ACTIVITY	2. LOCATION	3. UNIT
Prescribed Fire	San Jose, CA	Cherry Springs
4. NAME OF ANALYST	5. JOB TITLE	6. DATE PREPARED
Phillip Dye	Prescribed Fire Burn Boss Type 2	November 6, 2022
7. TASKS/PROCEDURES	8. HAZARDS	9. ABATEMENT ACTIONS
Travel to, from, and on project	Motor vehicle accidents, slippery road surfaces, soft shoulders, unimproved narrow roadways weather, darkness, smoke	Driving defensively. Use seat belts. Identify road conditions during briefings. Post road guards. Mark hazards. Use headlights. Perform pre-use inspections on equipment. Scout roads and identify turnouts before ignition of project. Maintain communications. Provide road system map for project. Use backers and chock vehicle tires. Have vehicles facing out.
Experience for assigned position	Lack of experience, injuries	Workers recruited for burn assignments should be honest about experience in managing fire and with their health and physical abilities for performing tasks. If unable to initiate or complete assignment, alternative assignments should be provided. Burn Boss should be qualified to lead burn.
Briefing	Lack of communications	Provide project briefing before burning. Clarify firing order, organization responsibilities, communications, hazards, weather, and expected fire behavior.



Project Name: Sierra Azul

Ignition Unit(s) Name: Cherry Springs

7. TASKS/PROCEDURES	8. HAZARDS	9. ABATEMENT ACTIONS
Protective clothing and equipment	Injuries, burns, and death	Engineering Controls * Substitution * Administrative Controls * PPE  Wear hard hat with chin strap, safety glasses, and fire-resistant shirt and pants. Keep sleeves rolled down. Wear leather, lace type, boots with skid resistant soles, and tops at least 8 inches high. Carry drinking water. Wear leather gloves. Wear hearing protection when working around equipment where noise level exceeds 90 dba. Wear additional protective equipment as dictated by local conditions and exposure to special equipment.
Lighters	Injuries and death, falls, smoke, burns	Always have an escape route. Maintain LCES. Follow the Standard Fire Orders and Watch Out Situations. Maintain communications with other lighters, adjacent resources, and Firing Boss. Handheld radios should be provided to all lighters or at a minimum, to each lighting team. Do not fill drip torches near ignition sources and be alert for fuel geysering. Do not spill burn mix on clothing. Be aware of dangerous wildlife.
Fuel Mixing	Burns, spills, fuel saturated clothing and boots	No smoking within 25 feet of mixing and filling area. Do not fill or mix in pick up beds with bed liners. Avoid the use of cellular telephones in and around fill or mixing area. Avoid fuel contact with bare hands, clothing, and boots. Provide pour spouts. Use only approved fuel containers. Follow acceptable fuel mixture ratios. Be alert for fuel geysering.



Project Name: Sierra Azul

Ignition Unit(s) Name: Cherry Springs

7. TASKS/PROCEDURES	8. HAZARDS	9. ABATEMENT ACTIONS
Wildlife	Snakes and ticks	<p>Engineering Controls * Substitution *</p> <p>Administrative Controls * PPE</p> <p>Brief personnel to be alert for snakes. Have personnel perform tick checks post burn. Consider use of chemical agent (i.e., permethrin).</p>
Holding/Mop Up/Patrol Crews	Smoke, burns, falls, back injuries, rolling material, eye injuries, heat stress. dehydration, CO poisoning	Wear PPE listed above. LCES, follow Standard Fire Orders and Watch out Situations. Receive briefing from Holding Specialist. Identify hazards in work area. Flag hazards for others. Use warning lights and provide traffic control on roadways during smoky and nights operations. Maintaining a high level of aerobic fitness is one of the best ways to protect yourself against heat stress. Drink lots of fluids before, during and after work. Periodically rotate crews from work sites with high smoke levels to areas of less smoke or smoke free areas.



Project Name: Sierra Azul

Ignition Unit(s) Name: Cherry Springs

7. TASKS/PROCEDURES	8. HAZARDS	9. ABATEMENT ACTIONS
Covid-19	Person to person transmission	<p>Engineering Controls * Substitution * Administrative Controls * PPE</p> <p>Follow current CDC practices. This includes, but not is limited to, use of face masks, social distancing, washing of hands when possible, and avoiding riding together in vehicles when possible. Temperature checks are encouraged if available. Personnel who feel ill and/or have been exposed to persons with Covid-19 should avoid participation. Tools should not be shared. Personnel should provide their own food and water.</p>
<b>10. BURN BOSS SIGNATURE</b> 		<b>11. DATE:</b> November 6, 2022



**Inputs: SURFACE, SIZE, CONTAIN, SCORCH, MORTALITY, IGNITE**Description Cherry Springs - desired prescription**Fuel/Vegetation, Surface/Understory**

First Fuel Model		<u>gr2</u>
Second Fuel Model		<u>tu1</u>
First Fuel Model Coverage	%	<u>57</u>

**Fuel/Vegetation, Overstory**

Canopy Height	ft	<u>50</u>
Crown Ratio	fraction	<u>0.7</u>
Mortality Tree Species		<u>QUAG</u>
D.B.H.	in	<u>18</u>

**Fuel Moisture**

1-h Fuel Moisture	%	<u>8</u>
10-h Fuel Moisture	%	<u>10</u>
100-h Fuel Moisture	%	<u>11</u>
Live Herbaceous Fuel Moisture	%	<u>53</u>
Live Woody Fuel Moisture	%	<u>100</u>

**Weather**

Midflame Wind Speed (upslope)	mi/h	<u>0 2 4 6 8 10 12 14</u>
Air Temperature	oF	<u>65</u>
Fuel Shading from the Sun	%	<u>25</u>

**Terrain**

Slope Steepness	%	<u>8</u>
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**Fire**

Surface Fire Spread Direction (from upslope)	deg	<u>0 90 180</u>
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**Suppression**

Suppression Tactic		<u>Rear</u>
Line Construction Offset	ch	<u>0</u>
Resource Name		<u>C, C, C, E, E, D</u>
Resource Line Production Rate	ch/h	<u>5, 5, 5, 10, 10, 110</u>
Resource Arrival Time	h	<u>0, 0.1, 0.1, 0.2, 0.3, 0</u>
Resource Duration	h	<u>20, 20, 20, 20, 20, 20</u>

**Acceptable Fire Conditions**Surface Fire Rate of Spread (ch/h)  0.0 - 0.0

(continued on next page)



## Input Worksheet (continued)

Surface Fire Flame Length	(ft)	<input checked="" type="checkbox"/> 0.0	- 6.0
Contain Status		<input checked="" type="checkbox"/> <input type="checkbox"/> Contained	
		<input type="checkbox"/> Withdrawn	
		<input type="checkbox"/> Escaped	
Time from Report	(h)	<input type="checkbox"/> 0.0	- 0.0
Contained Area	(ac)	<input type="checkbox"/> 0.0	- 0.0
Scorch Height	(ft)	<input type="checkbox"/> 0	- 0
Probability of Mortality	(%)	<input checked="" type="checkbox"/> 0	- 20
Probability of Ignition from a Firebrand	(%)	<input type="checkbox"/> 0	- 0

## Run Option Notes

Maximum effective wind speed limit IS imposed [SURFACE].

Two fuel model weighting method: area-weighted [SURFACE].

Fire spread is in the specified directions from the IGNITION PT [SURFACE].

Fireline intensity and flame length are based on the flaming segment  
perpendicular to perimeter, improved V6 method.

Wind is blowing upslope [SURFACE].

Wind and spread directions are degrees clockwise from upslope [SURFACE].

Direction of the wind vector is the direction the wind is pushing the fire [SURFACE].

Suppression input is for multiple resources [CONTAIN];  
for each resource, identified by a Resource Name, a single value  
is specified for each resource item (line production rates, etc).

## Output Variables

Surface Fire Rate of Spread (ch/h) [SURFACE]

Surface Fire Flame Length (ft) [SURFACE]

Contain Status [CONTAIN]

Time from Report (h) [CONTAIN]

Contained Area (ac) [CONTAIN]

Fireline Constructed (ch) [CONTAIN]

Number of Resources Used [CONTAIN]

Scorch Height (ft) [SCORCH]

Probability of Mortality (%) [MORTALITY]

Probability of Ignition from a Firebrand (%) [IGNITE]

(continued on next page)



## Cherry Springs - desired prescription

Spread from Ignition Point

Surface Fire Rate of Spread (ch/h)

Midflame Wind Speed mi/h	Surface Fire Spread Direction (from upslope) deg		
	0	90	180
0	1 . 1	0 . 8	0 . 6
2	6 . 7	1 . 7	1 . 0
4	16 . 4	2 . 2	1 . 2
6	28 . 6	2 . 4	1 . 2
8	42 . 8	2 . 4	1 . 3
10	58 . 8	2 . 4	1 . 2
12	71 . 0	2 . 4	1 . 2
14	71 . 2	2 . 4	1 . 2



## Cherry Springs - desired prescription

Spread from Ignition Point

## Surface Fire Flame Length (ft)

Wind Speed mi/h	Midflame Surface Fire Spread Direction (from upslope) deg		
	0	90	180
0	1.2	1.0	0.9
2	2.7	1.3	1.1
4	4.1	1.4	1.2
6	5.2	1.4	1.2
8	6.3	1.5	1.2
10	7.3	1.5	1.2
12	8.0	1.4	1.2
14	8.0	1.4	1.2



## Cherry Springs - desired prescription

Spread from Ignition Point

Contain Status

Midflame Wind Speed mi/h	Surface Fire Spread Direction (from upslope) deg		
	0	90	180
0	Contained	Contained	Contained
2	Contained	Contained	Contained
4	Contained	Contained	Contained
6	Contained	Contained	Contained
8	Contained	Contained	Contained
10	Contained	Contained	Contained
12	Withdrawn	Withdrawn	Withdrawn
14	Withdrawn	Withdrawn	Withdrawn



## Cherry Springs - desired prescription

Spread from Ignition Point

Time from Report (h)

Midflame Wind Speed mi/h	Surface Fire Spread Direction (from upslope) deg		
	0	90	180
0	0 . 0	0 . 0	0 . 0
2	0 . 3	0 . 3	0 . 3
4	0 . 6	0 . 6	0 . 6
6	0 . 8	0 . 8	0 . 8
8	1 . 1	1 . 1	1 . 1
10	2 . 5	2 . 5	2 . 5
12	16 . 7	16 . 7	16 . 7
14	16 . 7	16 . 7	16 . 7



## Cherry Springs - desired prescription

Spread from Ignition Point

Contained Area (ac)

Midflame Wind Speed mi/h	Surface Fire Spread Direction (from upslope) deg		
	0	90	180
0	0 . 0	0 . 0	0 . 0
2	0 . 2	0 . 2	0 . 2
4	3 . 0	3 . 0	3 . 0
6	11 . 5	11 . 5	11 . 5
8	39 . 2	39 . 2	39 . 2
10	202 . 8	202 . 8	202 . 8
12	1 . 0	1 . 0	1 . 0
14	1 . 0	1 . 0	1 . 0



## Cherry Springs - desired prescription

Spread from Ignition Point

Fireline Constructed (ch)

Midflame Wind Speed mi/h	Surface Fire Spread Direction (from upslope) deg		
	0	90	180
0	0 .2	0 .2	0 .2
2	5 .6	5 .6	5 .6
4	22 .3	22 .3	22 .3
6	47 .9	47 .9	47 .9
8	102 .9	102 .9	102 .9
10	299 .2	299 .2	299 .2
12	2356 .8	2356 .8	2356 .8
14	2356 .8	2356 .8	2356 .8



## Cherry Springs - desired prescription

Spread from Ignition Point

## Number of Resources Used

Midflame Wind Speed mi/h	Surface Fire Spread Direction (from upslope) deg		
	0	90	180
0	1	1	1
2	5	5	5
4	6	6	6
6	6	6	6
8	6	6	6
10	6	6	6
12	6	6	6
14	6	6	6



## Cherry Springs - desired prescription

Spread from Ignition Point

Scorch Height (ft)

Midflame Wind Speed mi/h	Surface Fire Spread Direction (from upslope) deg		
	0	90	180
0	3	3	2
2	10	3	2
4	16	2	1
6	21	1	1
8	24	1	0
10	26	1	0
12	26	0	0
14	22	0	0



## Cherry Springs - desired prescription

Spread from Ignition Point

Probability of Mortality (%)

Midflame Wind Speed mi/h	Surface Fire Spread Direction (from upslope) deg		
	0	90	180
0	14	14	14
2	14	14	14
4	14	14	14
6	21	14	14
8	31	14	14
10	43	14	14
12	42	14	14
14	23	14	14



## Cherry Springs - desired prescription

Spread from Ignition Point

Probability of Ignition from a Firebrand (%)

Midflame Wind Speed mi/h	Surface Fire Spread Direction (from upslope) deg		
	0	90	180
0	39	39	39
2	39	39	39
4	39	39	39
6	39	39	39
8	39	39	39
10	39	39	39
12	39	39	39
14	39	39	39



## Discrete Variable Codes Used Cherry Springs - desired prescription

### First Fuel Model

gr2      Low load, dry climate grass (D) (102)

### Second Fuel Model

tu1      Light load, dry climate timber-grass-shrub (D) (161)

### Mortality Tree Species

QUAG      *Quercus agrifolia* (California live oak)

### Suppression Tactic

Rear      Rear Attack



## Inputs: SURFACE, SIZE, CONTAIN, SCORCH, MORTALITY, IGNITE

Description Cherry Springs - hot prescription

### Fuel/Vegetation, Surface/Understory

First Fuel Model	gr2
Second Fuel Model	tu1
First Fuel Model Coverage	% 57

### Fuel/Vegetation, Overstory

Canopy Height	ft	50
Crown Ratio	fraction	0.7
Mortality Tree Species		QUAG
D.B.H.	in	18

### Fuel Moisture

1-h Fuel Moisture	%	5
10-h Fuel Moisture	%	7
100-h Fuel Moisture	%	9
Live Herbaceous Fuel Moisture	%	30
Live Woody Fuel Moisture	%	50

### Weather

Midflame Wind Speed (upslope)	mi/h	0 2 4 6 8 10 12 14
Air Temperature	oF	90
Fuel Shading from the Sun	%	25

### Terrain

Slope Steepness	%	8
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### Fire

Surface Fire Spread Direction (from upslope)	deg	0 90 180
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### Suppression

Suppression Tactic		Rear
Line Construction Offset	ch	0
Resource Name		C, C, C, E, E, D
Resource Line Production Rate	ch/h	5, 5, 5, 10, 10, 110
Resource Arrival Time	h	0, 0.1, 0.1, 0.2, 0.2, 0
Resource Duration	h	20, 20, 20, 20, 20, 20

### Acceptable Fire Conditions

Surface Fire Rate of Spread (ch/h)  0.0 - 0.0

(continued on next page)



## Input Worksheet (continued)

Surface Fire Flame Length	(ft)	<input checked="" type="checkbox"/> 0.0	- 6.0
Contain Status		<input checked="" type="checkbox"/> Contained	
		<input type="checkbox"/> Withdrawn	
		<input type="checkbox"/> Escaped	
Time from Report	(h)	<input type="checkbox"/> 0.0	- 0.0
Contained Area	(ac)	<input type="checkbox"/> 0.0	- 0.0
Scorch Height	(ft)	<input type="checkbox"/> 0	- 0
Probability of Mortality	(%)	<input checked="" type="checkbox"/> 0	- 20
Probability of Ignition from a Firebrand	(%)	<input type="checkbox"/> 0	- 0

## Run Option Notes

Maximum effective wind speed limit IS imposed [SURFACE].

Two fuel model weighting method: area-weighted [SURFACE].

Fire spread is in the specified directions from the IGNITION PT [SURFACE].

Fireline intensity and flame length are based on the flaming segment  
perpendicular to perimeter, improved V6 method.

Wind is blowing upslope [SURFACE].

Wind and spread directions are degrees clockwise from upslope [SURFACE].

Direction of the wind vector is the direction the wind is pushing the fire [SURFACE].

Suppression input is for multiple resources [CONTAIN];  
for each resource, identified by a Resource Name, a single value  
is specified for each resource item (line production rates, etc).

## Output Variables

Surface Fire Rate of Spread (ch/h) [SURFACE]

Surface Fire Flame Length (ft) [SURFACE]

Contain Status [CONTAIN]

Time from Report (h) [CONTAIN]

Contained Area (ac) [CONTAIN]

Fireline Constructed (ch) [CONTAIN]

Number of Resources Used [CONTAIN]

Scorch Height (ft) [SCORCH]

Probability of Mortality (%) [MORTALITY]

Probability of Ignition from a Firebrand (%) [IGNITE]

(continued on next page)



## Cherry Springs - hot prescription

Spread from Ignition Point

Surface Fire Rate of Spread (ch/h)

Wind Speed mi/h	Surface Fire Spread Direction (from upslope) deg		
	0	90	180
0	1.7	1.2	0.9
2	9.9	2.5	1.4
4	24.1	3.2	1.7
6	42.0	3.5	1.8
8	62.9	3.6	1.8
10	86.3	3.6	1.8
12	99.3	3.6	1.8
14	100.8	3.6	1.8



## Cherry Springs - hot prescription

Spread from Ignition Point

Surface Fire Flame Length (ft)

Midflame Wind Speed mi/h	Surface Fire Spread Direction (from upslope) deg		
	0	90	180
0	1.4	1.1	1.0
2	3.1	1.5	1.3
4	4.7	1.6	1.4
6	6.1	1.7	1.4
8	7.3	1.7	1.4
10	8.5	1.7	1.4
12	9.0	1.7	1.4
14	9.0	1.7	1.4



## Cherry Springs - hot prescription

Spread from Ignition Point

Contain Status

Midflame Wind Speed mi/h	Surface Fire Spread Direction (from upslope) deg		
	0	90	180
0	Contained	Contained	Contained
2	Contained	Contained	Contained
4	Contained	Contained	Contained
6	Contained	Contained	Contained
8	Contained	Contained	Contained
10	Withdrawn	Withdrawn	Withdrawn
12	Withdrawn	Withdrawn	Withdrawn
14	Withdrawn	Withdrawn	Withdrawn



## Cherry Springs - hot prescription

Spread from Ignition Point

Time from Report (h)

Wind Speed mi/h	Surface Fire Spread Direction (from upslope) deg		
	0	90	180
0	0 . 1	0 . 1	0 . 1
2	0 . 5	0 . 5	0 . 5
4	0 . 7	0 . 7	0 . 7
6	1 . 1	1 . 1	1 . 1
8	3 . 6	3 . 6	3 . 6
10	9 . 9	9 . 9	9 . 9
12	8 . 2	8 . 2	8 . 2
14	8 . 0	8 . 0	8 . 0



## Cherry Springs - hot prescription

Spread from Ignition Point

Contained Area (ac)

Midflame Wind Speed mi/h	Surface Fire Spread Direction (from upslope) deg		
	0	90	180
0	0 . 0	0 . 0	0 . 0
2	0 . 8	0 . 8	0 . 8
4	8 . 8	8 . 8	8 . 8
6	44 . 6	44 . 6	44 . 6
8	479 . 6	479 . 6	479 . 6
10	1 . 0	1 . 0	1 . 0
12	1 . 0	1 . 0	1 . 0
14	1 . 0	1 . 0	1 . 0



## Cherry Springs - hot prescription

Spread from Ignition Point

Fireline Constructed (ch)

Wind Speed mi/h	Surface Fire Spread Direction (from upslope) deg		
	0	90	180
0	0 .6	0 .6	0 .6
2	11 .1	11 .1	11 .1
4	<del>38 .5</del>	38 .5	38 .5
6	<del>101 .7</del>	101 .7	101 .7
8	<del>468 .6</del>	468 .6	468 .6
10	1383 .1	1383 .1	1383 .1
12	1127 .0	1127 .0	1127 .0
14	1100 .4	1100 .4	1100 .4



## Cherry Springs - hot prescription

Spread from Ignition Point

Number of Resources Used

Midflame Wind Speed mi/h	Surface Fire Spread Direction (from upslope) deg		
	0	90	180
0	3	3	3
2	5	5	5
4	6	6	6
6	6	6	6
8	6	6	6
10	6	6	6
12	6	6	6
14	6	6	6



## Cherry Springs - hot prescription

Spread from Ignition Point

Scorch Height (ft)

Midflame Wind Speed mi/h	Surface Fire Spread Direction (from upslope) deg		
	0	90	180
0	6	5	4
2	20	6	4
4	32	4	3
6	41	2	2
8	48	2	1
10	54	1	1
12	51	1	1
14	43	1	0



## Cherry Springs - hot prescription

Spread from Ignition Point

Probability of Mortality (%)

Midflame Wind Speed mi/h	Surface Fire Spread Direction (from upslope) deg		
	0	90	180
0	14	14	14
2	18	14	14
4	75	14	14
6	95	14	14
8	97	14	14
10	97	14	14
12	97	14	14
14	96	14	14



## Cherry Springs - hot prescription

Spread from Ignition Point

Probability of Ignition from a Firebrand (%)

Wind Speed mi/h	Surface Fire Spread Direction (from upslope) deg		
	0	90	180
0	67	67	67
2	67	67	67
4	67	67	67
6	67	67	67
8	67	67	67
10	67	67	67
12	67	67	67
14	67	67	67



## Discrete Variable Codes Used Cherry Springs - hot prescription

### First Fuel Model

gr2      Low load, dry climate grass (D) (102)

### Second Fuel Model

tu1      Light load, dry climate timber-grass-shrub (D) (161)

### Mortality Tree Species

QUAG      *Quercus agrifolia* (California live oak)

### Suppression Tactic

Rear      Rear Attack

**Inputs: SURFACE, SIZE, CONTAIN, SCORCH, MORTALITY, IGNITE**Description Cherry Springs - cool prescription**Fuel/Vegetation, Surface/Understory**

First Fuel Model		gr2
Second Fuel Model		tul
First Fuel Model Coverage	%	57

**Fuel/Vegetation, Overstory**

Canopy Height	ft	50
Crown Ratio	fraction	0.7
Mortality Tree Species		QUAG
D.B.H.	in	18

**Fuel Moisture**

1-h Fuel Moisture	%	11
10-h Fuel Moisture	%	13
100-h Fuel Moisture	%	14
Live Herbaceous Fuel Moisture	%	75
Live Woody Fuel Moisture	%	125

**Weather**

Midflame Wind Speed (upslope)	mi/h	0 2 4 6 8 10 12 14
Air Temperature	oF	40
Fuel Shading from the Sun	%	25

**Terrain**

Slope Steepness	%	8
-----------------	---	---

**Fire**

Surface Fire Spread Direction (from upslope)	deg	0 90 180
--	-----	----------

**Suppression**

Suppression Tactic		Rear
Line Construction Offset	ch	0
Resource Name		C, E, D
Resource Line Production Rate	ch/h	5, 10, 110
Resource Arrival Time	h	0, 0.1, 0.5
Resource Duration	h	20, 20, 20

**Acceptable Fire Conditions**Surface Fire Rate of Spread (ch/h)  0.0 - 0.0

(continued on next page)



## Input Worksheet (continued)

Surface Fire Flame Length	(ft)	<input checked="" type="checkbox"/> 0.0	- 6.0
Contain Status		<input checked="" type="checkbox"/> Contained	
		<input type="checkbox"/> Withdrawn	
		<input type="checkbox"/> Escaped	
Time from Report	(h)	<input type="checkbox"/> 0.0	- 0.0
Contained Area	(ac)	<input type="checkbox"/> 0.0	- 0.0
Scorch Height	(ft)	<input type="checkbox"/> 0	- 0
Probability of Mortality	(%)	<input checked="" type="checkbox"/> 0	- 20
Probability of Ignition from a Firebrand	(%)	<input type="checkbox"/> 0	- 0

## Run Option Notes

Maximum effective wind speed limit IS imposed [SURFACE].

Two fuel model weighting method: area-weighted [SURFACE].

Fire spread is in the specified directions from the IGNITION PT [SURFACE].

Fireline intensity and flame length are based on the flaming segment  
perpendicular to perimeter, improved V6 method.

Wind is blowing upslope [SURFACE].

Wind and spread directions are degrees clockwise from upslope [SURFACE].

Direction of the wind vector is the direction the wind is pushing the fire [SURFACE].

Suppression input is for multiple resources [CONTAIN];  
for each resource, identified by a Resource Name, a single value  
is specified for each resource item (line production rates, etc).

## Output Variables

Surface Fire Rate of Spread (ch/h) [SURFACE]

Surface Fire Flame Length (ft) [SURFACE]

Contain Status [CONTAIN]

Time from Report (h) [CONTAIN]

Contained Area (ac) [CONTAIN]

Fireline Constructed (ch) [CONTAIN]

Number of Resources Used [CONTAIN]

Scorch Height (ft) [SCORCH]

Probability of Mortality (%) [MORTALITY]

Probability of Ignition from a Firebrand (%) [IGNITE]

(continued on next page)



## Cherry Springs - cool prescription

Spread from Ignition Point

Surface Fire Rate of Spread (ch/h)

Wind Speed mi/h	Surface Fire Spread Direction (from upslope) deg		
	0	90	180
0	0 .5	0 .4	0 .3
2	3 .0	0 .8	0 .4
4	7 .5	1 .0	0 .5
6	13 .0	1 .1	0 .6
8	19 .3	1 .1	0 .6
10	19 .3	1 .1	0 .6
12	19 .3	1 .1	0 .6
14	19 .3	1 .1	0 .6



## Cherry Springs - cool prescription

Spread from Ignition Point

Surface Fire Flame Length (ft)

Midflame Wind Speed mi/h	Surface Fire Spread Direction (from upslope) deg		
	0	90	180
0	0.7	0.6	0.5
2	1.6	0.8	0.7
4	2.4	0.8	0.7
6	3.1	0.9	0.7
8	3.8	0.9	0.7
10	3.8	0.9	0.7
12	3.8	0.9	0.7
14	3.8	0.9	0.7



## Cherry Springs - cool prescription

Spread from Ignition Point

Contain Status

Midflame Wind Speed mi/h	Surface Fire Spread Direction (from upslope) deg		
	0	90	180
0	Contained	Contained	Contained
2	Contained	Contained	Contained
4	Contained	Contained	Contained
6	Contained	Contained	Contained
8	Contained	Contained	Contained
10	Contained	Contained	Contained
12	Contained	Contained	Contained
14	Contained	Contained	Contained



## Cherry Springs - cool prescription

Spread from Ignition Point

Time from Report (h)

Midflame Wind Speed mi/h	Surface Fire Spread Direction (from upslope) deg		
	0	90	180
0	0 . 0	0 . 0	0 . 0
2	0 . 1	0 . 1	0 . 1
4	0 . 5	0 . 5	0 . 5
6	0 . 6	0 . 6	0 . 6
8	0 . 7	0 . 7	0 . 7
10	0 . 7	0 . 7	0 . 7
12	0 . 7	0 . 7	0 . 7
14	0 . 7	0 . 7	0 . 7



## Cherry Springs - cool prescription

Spread from Ignition Point

Contained Area (ac)

Midflame Wind Speed mi/h	Surface Fire Spread Direction (from upslope) deg		
	0	90	180
0	0 . 0	0 . 0	0 . 0
2	0 . 0	0 . 0	0 . 0
4	0 . 4	0 . 4	0 . 4
6	1 . 6	1 . 6	1 . 6
8	3 . 8	3 . 8	3 . 8
10	3 . 8	3 . 8	3 . 8
12	3 . 8	3 . 8	3 . 8
14	3 . 8	3 . 8	3 . 8



## Cherry Springs - cool prescription

Spread from Ignition Point

Fireline Constructed (ch)

Midflame Wind Speed mi/h	Surface Fire Spread Direction (from upslope) deg		
	0	90	180
0	0 .1	0 .1	0 .1
2	1 .2	1 .2	1 .2
4	9 .1	9 .1	9 .1
6	17 .3	17 .3	17 .3
8	28 .7	28 .7	28 .7
10	28 .7	28 .7	28 .7
12	28 .7	28 .7	28 .7
14	28 .7	28 .7	28 .7



## Cherry Springs - cool prescription

Spread from Ignition Point

### Number of Resources Used

Wind Speed mi/h	Surface Fire Spread Direction (from upslope) deg		
	0	90	180
0	1	1	1
2	2	2	2
4	3	3	3
6	3	3	3
8	3	3	3
10	3	3	3
12	3	3	3
14	3	3	3



## Cherry Springs - cool prescription

Spread from Ignition Point

Scorch Height (ft)

Midflame Wind Speed mi/h	Surface Fire Spread Direction (from upslope) deg		
	0	90	180
0	1	1	1
2	3	1	1
4	4	0	0
6	5	0	0
8	6	0	0
10	4	0	0
12	3	0	0
14	3	0	0



## Cherry Springs - cool prescription

Spread from Ignition Point

Probability of Mortality (%)

Midflame Wind Speed mi/h	Surface Fire Spread Direction (from upslope) deg		
	0	90	180
0	14	14	14
2	14	14	14
4	14	14	14
6	14	14	14
8	14	14	14
10	14	14	14
12	14	14	14
14	14	14	14



## Cherry Springs - cool prescription

Spread from Ignition Point

Probability of Ignition from a Firebrand (%)

Midflame Wind Speed mi/h	Surface Fire Spread Direction (from upslope) deg		
	0	90	180
0	22	22	22
2	22	22	22
4	22	22	22
6	22	22	22
8	22	22	22
10	22	22	22
12	22	22	22
14	22	22	22



## Discrete Variable Codes Used Cherry Springs - cool prescription

### First Fuel Model

gr2      Low load, dry climate grass (D) (102)

### Second Fuel Model

tu1      Light load, dry climate timber-grass-shrub (D) (161)

### Mortality Tree Species

QUAG      *Quercus agrifolia* (California live oak)

### Suppression Tactic

Rear      Rear Attack



## Inputs: SURFACE

Description

Cherry Springs outside unit

### Fuel/Vegetation, Surface/Understory

First Fuel Model

tu1

Second Fuel Model

tu5

First Fuel Model Coverage

%

40

### Fuel Moisture

1-h Fuel Moisture

%

5

10-h Fuel Moisture

%

7

100-h Fuel Moisture

%

9

Live Herbaceous Fuel Moisture

%

30

Live Woody Fuel Moisture

%

50

### Weather

Midflame Wind Speed (upslope)

mi/h

0 4 8

### Terrain

Slope Steepness

%

10

## Run Option Notes

Maximum effective wind speed limit IS imposed [SURFACE].

Two fuel model weighting method: two-dimensional spread [SURFACE].

Fire spread is in the HEADING direction only [SURFACE].

Wind is blowing upslope [SURFACE].

Wind and spread directions are degrees clockwise from upslope [SURFACE].

Direction of the wind vector is the direction the wind is pushing the fire [SURFACE].

## Output Variables

Surface Fire Rate of Spread (ch/h) [SURFACE]

Surface Fire Flame Length (ft) [SURFACE]

## Notes



## Cherry Springs outside unit

### Head Fire

Midflame Wind Speed mi/h	Surface Fire Rate of Spread ch/h	Surface Flame Length ft
0	1 . 3	3 . 3
4	8 . 6	8 . 1
8	18 . 1	11 . 4



## Discrete Variable Codes Used Cherry Springs outside unit

### First Fuel Model

t u1      Light load, dry climate timber-grass-shrub (D) (161)

### Second Fuel Model

t u5      Very high load, dry climate timber-shrub (S) (165)



BAY AREA  
AIR QUALITY  
MANAGEMENT  
DISTRICT

September 23, 2024

Matthew Shapero, Midpeninsula Open Space District, and Mike Mathiesen, Santa Clara County Fire Safe Council  
5050 El Camino Real  
Los Altos, CA 94022-1530

Dear Matthew Shapero and Mike Mathiesen:

This letter is in response to your correspondence received September 18, 2024, which requested the Bay Area Air Quality Management District's (Air District) approval of a prescribed burn smoke management plan (Plan) for the proposed *2024-Cherry Spring Prescribed Fire project* burn project. The proposed Plan was submitted pursuant to Air District Regulation 5, Section 401.15.

Air District staff has reviewed the proposed *2024-Cherry Spring Prescribed Fire project* Plan that you submitted. After considering this review, the Air District hereby approves the Plan as written, provided the following additional conditions are satisfied:

1. All observations made to verify the surface wind direction and wind speed as approved for this fire shall be recorded in writing at the burn site and be made available to Air District staff upon request.
2. A burn permit from the local fire agency and/or the California Department of Forestry and Fire Protection (CALFIRE) must be secured prior to conducting this fire and shall be made available to Air District staff upon request.

Air District approval of this Plan is valid from **October 1, 2024 to October 1, 2025**. Any burning conducted outside of this time frame or under conditions other than those approved is prohibited and a violation of Regulation 5, Section 301.3. Any changes to this Plan must also be reviewed and approved by the Air District prior to ignition.

Enclosed please find procedures for requesting an acreage burning allocation and a post-burn evaluation form for this burn project.

If you have any questions about this approval or the acreage burning allocation procedures, please call Geraldina Grünbaum, Senior Air Quality Specialist at (415) 749-4956.

Sincerely,

Jeff Gove  
Director of Compliance and Enforcement

JG:PEW:GG

Enclosures



375 Beale Street, Suite 600  
San Francisco, CA 94105  
(415) 749-5000 Fax # (415) 928-0338

## PROCEDURES FOR CONDUCTING WILDLAND VEGETATION MANAGEMENT FIRES (PRESCRIBED BURNING) IN THE BAY AREA

(Revised January 6, 2023)

**To obtain permission to conduct a prescribed burn in the Bay Area, the following procedures (#1 – #6) must be followed.** More information regarding prescribed burning can be found on the Bay Area Air Quality Management District (BAAQMD) website: <https://www.baaqmd.gov/permits/open-burn> or by calling the Open Burn Line at (415) 749-4600.

1. You must submit a smoke management plan (SMP) to BAAQMD through the Prescribed Fire Information Reporting System (**PFIRS**, <https://ssl.arb.ca.gov/pfirs>) **at least 30 days prior to burning**. If the SMP is approved, an approval letter will be uploaded to PFIRS and the land manager will receive an automatic notification email indicating that the SMP is approved. The SMP must be approved by BAAQMD prior to burning. For more information on using PFIRS, see the PFIRS User's Guide at <https://www.baaqmd.gov/~media/files/compliance-and-enforcement/open-burning/BAAQMD-PFIRS>UserGuide.pdf?la=en>.
2. You must secure a burn permit from the local fire agency and/or CALFIRE prior to conducting this fire; this permit shall be made available to BAAQMD staff upon request. A burn permit is required prior to burning.
3. **Day prior to the burn:** you must submit an “Ignition Authorization Request” before 9:00 a.m. via **PFIRS** to request a 24-hour burn day decision, acreage/pile allocation, and a confidence level (high, medium, low) that the weather will be favorable on the burn day. *Multiple requests can be submitted days in advance using PFIRS, and each request will receive a 24-hour burn day decision the day prior to the burn. “Ignition Authorization Requests” received after 9:00 a.m. will not receive an acreage/pile allocation. Long-range forecasts for project planning are also available upon request. See “Burn Day Forecasting Services” below for more information.*
4. **Day of the burn:** Check your email after 8:00 a.m. for the final acreage/pile allocation from the [pfirs@arb.ca.gov](mailto:pfirs@arb.ca.gov) email account. You can also check the status of submitted ignition requests by logging into your PFIRS account. **Burning is not allowed until you receive an allocation.** Email [forecast@baaqmd.gov](mailto:forecast@baaqmd.gov) if you do not receive an authorization email or are not able to retrieve the status of the ignition requests on your PFIRS account by 8:30 a.m.
5. **Day after the burn:** Burner must report the total amount of vegetation burned (acres/piles) and the status of the project or burn unit on PFIRS no later than **12:00 p.m.** (noon) the day after the burn. Refer to the PFIRS User's Guide for details.
6. **Upon completion of burn project:** Burner must complete and submit a post-burn evaluation form to BAAQMD within 30 days following the completion of this burn project or at the end of the approval period for this SMP.

### Burn Day Forecasting Services

To obtain a long-range forecast for tentative scheduling on a permissive burn day, contact the BAAQMD Meteorology Section by calling (415) 749-4915. Forecasting services are available up to 96 hours (4 days) before a prospective burn day. Please leave a message with your name, phone number, and the burn project name. For calls received prior to 9:00 a.m., Meteorology staff will get back to you with the requested information by 1:00 p.m. on the same day. Calls received after 9:00 a.m. will receive a call back on the following day.

**Long-range forecasting services are available every day of the year.** Forecasts are available to prescribed burners to assist with burn scheduling. However, they do not satisfy the “Ignition Authorization Request” requirement (Item #2 above). **An “Ignition Authorization Request” must be made by 9:00 a.m. the day prior to the burn via PFIRS.**



375 Beale Street, Suite 600  
SAN FRANCISCO, CALIFORNIA 94105  
(415) 771-6000 Fax # (415) 928-0338

**Form Rx-2**

## **POST-BURN EVALUATION FORM FOR WILDLAND VEGETATION MANAGEMENT FIRES (PRESCRIBED BURNS)**

Complete this form and provide the following information to the BAAQMD within 30 calendar days following the completion of a prescribed burn project for the calendar year. Please indicate **MAIL STOP: OB2** on the envelope when mailing form to the BAAQMD.

### **Section A. General Information:**

Date(s) of Burn: \_\_\_\_\_

Name of Burn Project: \_\_\_\_\_

Total Number of Acres Burned: \_\_\_\_\_

1. Did the burn remain within the weather conditions specified in the Smoke Management Plan? \_\_\_\_\_
2. Were there any adverse smoke impacts? \_\_\_\_\_ If so, also complete Section B below.
3. Describe whether the objectives of burn project were met (add attachment if needed):  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4. Describe smoke behavior observations made during and after the burn (add attachment if needed):  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### **Section B. For Burns That Had Smoke Impacts, Complete The Following:**

1. Describe any adverse smoke impacts below (add attachment if needed):  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. Lessons learned (add attachment if needed):  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## 2024-Cherry Spring Prescribed Fire project

### General Information

Primary Responsible Person	<b>Matthew Shapero</b>
Email	<b>Doogie106@icloud.com</b>
Landowner(s) Name(s)*	<b>Midpeninsula Open Space District</b>
Landowner Mailing Address*	<b>5050 El Camino Real Los Altos CA 94022-1530</b>
Field Contact Name*	<b>Phil Dye</b>
Field Contact 24-hour Phone/Pager*	<b>(408) 807-1963</b>

### Project Description

Description of Objectives*	<b>1. Implementation of a prescribed fire as a training and learning opportunity for staff and key regional partners. 2. Serve as an initial project to develop and expand use of prescribed fire as a described in Midpen's Prescribed Fire Plan Document. 3. Test vegetation responses to a prescribed burn as a means of better understanding the role of fire as a landscape management tool. Reduce fuel loading in 1hr, 10hr, and 100hr size classes by 20 to 90% immediately post burn Limit mortality in Coast Live Oak less than 18in. DBH to 20% or less measured on year post burn 2.</b>
Projected Burn Schedule*	<b>October 1st, 2024 to October 1st 2025</b>
Ignition start and end times*	<b>0900 to 1700</b>
Expected Duration of Project (hours or days)*	<p>Ignition: <b>8hrs</b></p> <p>Combustion: <b>12hrs</b></p> <p>Burndown: <b>24hrs</b></p>

### Review Burn Blocks

Cherry Springs						
Acreage and Fuels Information						
Name	Acres	Unit Type	Fuel Condition			
<b>Cherry Springs</b>	<b>9</b>	<b>Broadcast</b>	<b>Cherry springs unit is dominated by annual grasses including California brome, Yellow starthistle, Blue wildrye, and purple needle grass. West side of the unit is comprised of Coyote Brush, French Broom, native blackberry, Spanish broom and Coastal Live Oak</b>			
Legal Description		Latitude*		Longitude*	Mean Elevation (ft)*	County
<b>Cherry Springs Reservoir</b>		<b>37.201588</b>		<b>-121.911297</b>	<b>1120</b>	<b>Santa Clara</b>
Fuel and PM10 Emissions Information						
Vegetation	% Consumption	Acres	Fuel Loading	Total Tonnage	PM10 per Ton	PM10 per Type
<b>Ceanothus</b>	<b>100</b>	<b>2</b>	<b>0.9</b>	<b>1.8</b>	<b>0.01</b>	<b>0.02</b>
<b>Grass/Forb</b>	<b>100</b>	<b>5</b>	<b>0.2</b>	<b>1</b>	<b>0.007</b>	<b>0.01</b>
<b>Live Oak (Interior)</b>	<b>60</b>	<b>2</b>	<b>1.5</b>	<b>3</b>	<b>0.007</b>	<b>0.01</b>
Totals	--	9	--	4.6	--	0.04
Ignition Prescription						
Wind Speed (mph)	Wind Direction	Mixing Height (ft)		Temperature (F)	Relative Humidity (%)	

0-8mph Desired 4	Any	minimum 500 ft agl	40 degrees- 90 degrees Desired 65	25%-70% Desired 45%
<b>Smoke Sensitive Receptors</b>				
Receptor Name	Direction from Block		Distance from Block	

## Smoke Management Components

Specifications for monitoring and verification of meteorological conditions and smoke behavior before and during the burn:

**Submittal of a SMP to BAAQMD within 30 days of the desired burn date. Smoke sensitive receptors shall be identified in the SMP application in PFIRS. None were identified in this plan. Approval must be received for each day of active ignition. Ignition will be delayed or diluted if smoke starts to impact sensitive areas. A Field Observer will be utilized on site during burning to assess smoke dispersal and potential impacts to sensitive receptors. The burner will request a spot weather forecast from the National Weather service the day before the burn.**

Specifications for disseminating project information to the public:

**Nearby neighbors will be notified to the extent possible. Messaging ahead of any burning will occur with signage, social media and press releases. For roadways, placement of appropriate signs shall be required to alert motorists of the prescribed fire. A press release will shared with BAAQMD via [openburn@baaqmd.gov](mailto:openburn@baaqmd.gov).**

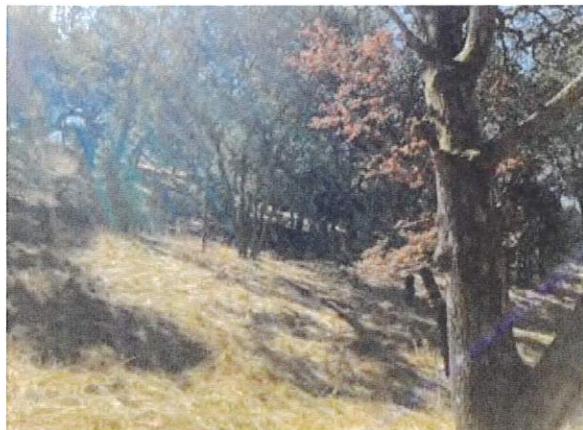
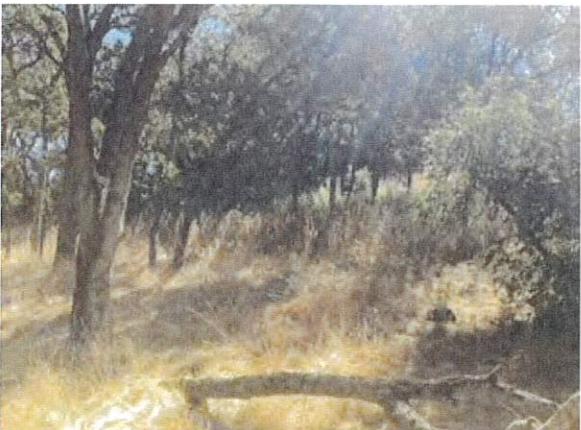
What contingency actions will be taken during the burn to reduce exposure if smoke intrusions impact any sensitive receptor areas?

- Halt ignition, except as needed to maintain control of fire
- Allow fire to burn to contingency control lines
- Suppress fire
- Begin immediate mop up
- Begin mop up within 1 hours of problem identification
- Complete mop up within 4 hours of initiation
- Discontinue mop up if favorable conditions return
- Other (explain)

## Project Maps and Documents

A map must be attached to this Smoke Management Plan that identifies nearby smoke sensitive areas, burn unit perimeters, available interior control lines (if suitable for this project), and areas subject to smoke inversions due to the burn project. Also, the map must indicate estimated path of unacceptable smoke transport. (map opens in new tab)

View units on Google Maps: [Google Map](#)

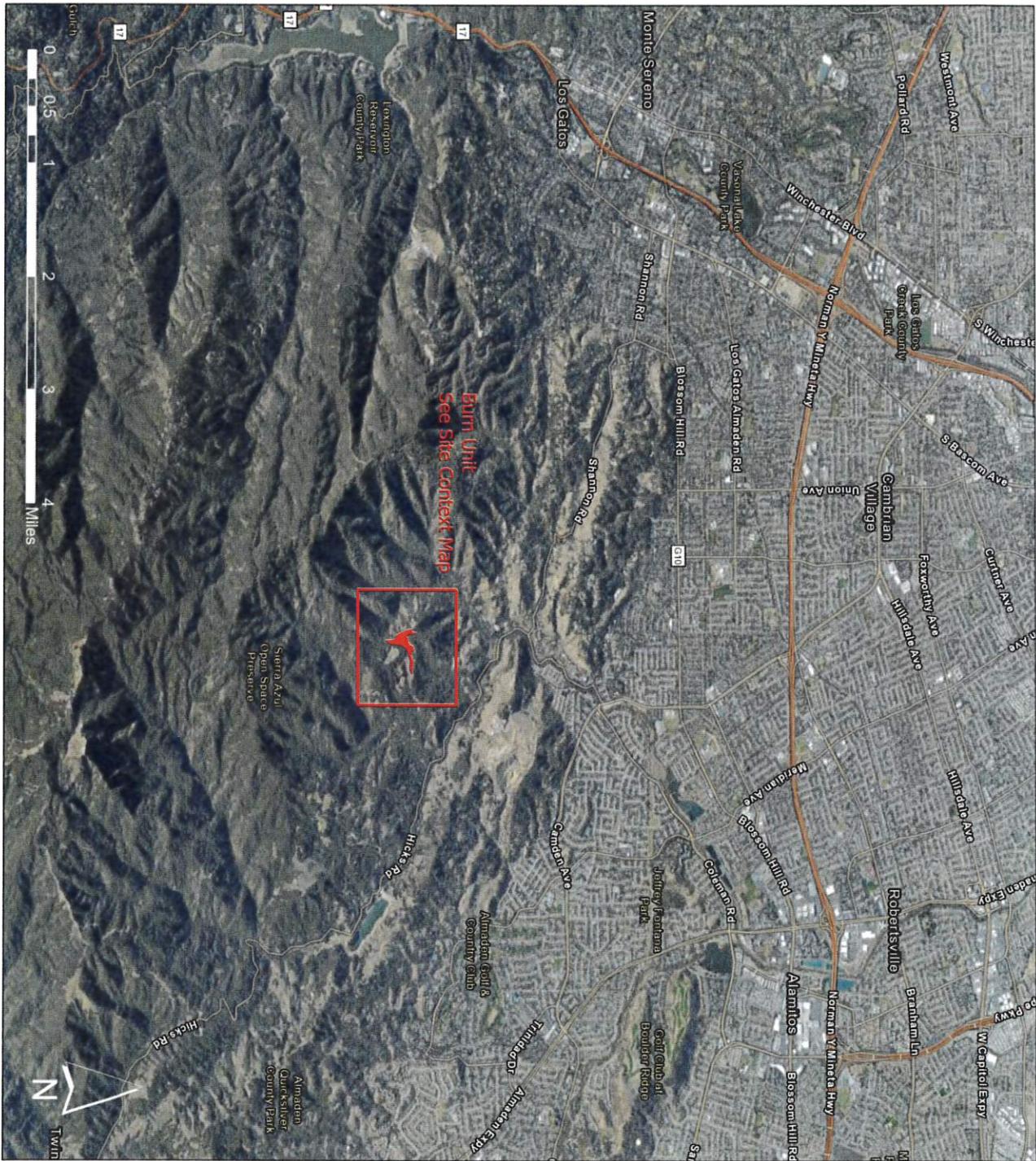


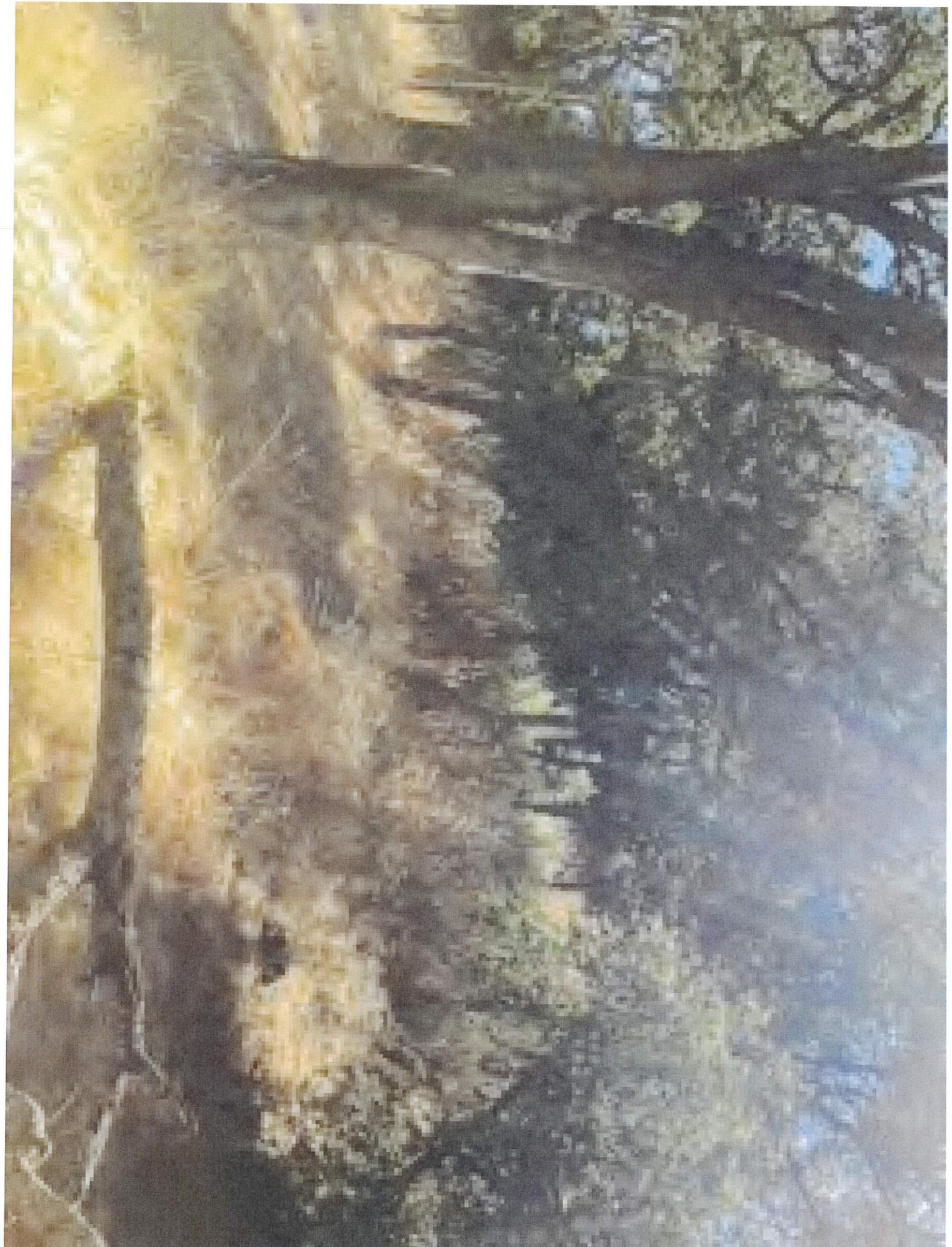
## Smoke Management Plan History

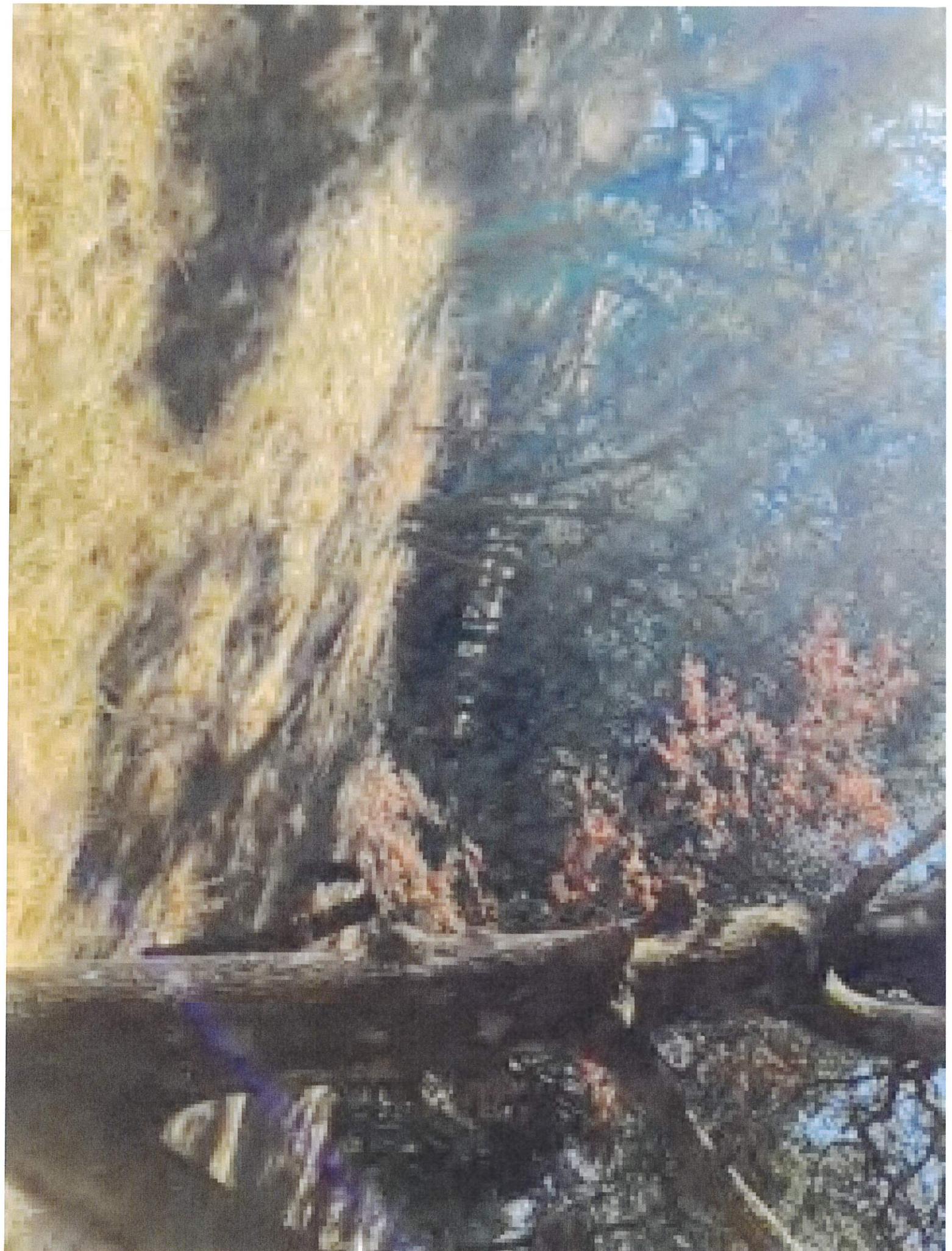
Submitted by: **Mathiesen Mike**  
Date Submitted: **Fri Sep 06, 2024 @ 9:08 PM**  
Returned by: **Duc Nguyen**  
Date returned: **Thu Sep 12, 2024 @ 4:45 AM**  
Air District name: **Bay Area AQMD**  
Comment(s): **Return for edit.**  
Submitted by: **Phillip Dye**  
Date Submitted: **Thu Sep 12, 2024 @ 2:23 PM**  
Returned by: **Duc Nguyen**  
Date returned: **Fri Sep 13, 2024 @ 6:59 AM**  
Air District name: **Bay Area AQMD**  
Comment(s): **Return for edit.**  
Submitted by: **Mathiesen Mike**  
Date Submitted: **Fri Sep 13, 2024 @ 9:04 AM**  
Returned by: **Duc Nguyen**  
Date returned: **Tue Sep 17, 2024 @ 5:15 AM**  
Air District name: **Bay Area AQMD**  
Comment(s): **Return for edit.**  
Submitted by: **Mathiesen Mike**  
Date Submitted: **Wed Sep 18, 2024 @ 2:49 PM**  
Approval letter: No approval letter has been attached.

---

# Cherry Springs Prescribed Burn Vicinity Map







Project Name: Sierra Azul

Ignition Unit(s) Name: Cherry Springs

## Appendix G: Mop Up and Patrol Guidelines

**Mop-up and patrol:** For the purposes of wildland and prescribed fire, the definition for patrol is a person(s) or crew who conduct patrol actions, such as to go back and forth watchfully over a length of control line during or after ignition, to prevent slop overs, control spot fires, or extinguish overlooked hotspots. It is the responsibility of the assigned Burn Boss to monitor weather forecasts and the on-site conditions to implement the appropriate action as outlined in this plan. Because of the long duration of some burns, activation levels are based on the potential for these projects to spot outside control lines using the following fuel and weather conditions.

Probability of Ignition (POI) is a factor of the receptiveness of the receiving fuel bed to new ignitions from firebrands.

- 10-49% - Low potential for new ignitions
- 50-69% - Moderate potential for new ignitions
- 70+% - High potential for new ignitions

POI	20' Wind Speed	Mop-up Distance	Patrol Frequency	Fire may be unstaffed?
10-40	0-12	Per Burn Boss recommendation	Per Burn Boss recommendation	Yes
	13-24	Per Burn Boss recommendation	Per Burn Boss recommendation	Yes
	25+	Per Burn Boss recommendation	1 patrol per day	No
41-69	0-12	Per Burn Boss recommendation	Per Burn Boss recommendation	No
	13-24	Per Burn Boss recommendation	1 patrol per day	No
	25+	50 feet	2 patrols per day	No
70+	0-12	Per Burn Boss recommendation	1 patrol per day	No
	13-24	50 feet +	2 patrols per day	No
	25+	100 feet +	Continuous	No



Enter data into the colored cell as appropriate. The CALFIRE input sheet and at least one Coop (use the tabs at the bottom of the screen to change to a different sheet). Be sure to keep data off that are not needed. The program will calculate the project total for all the sheets. When the input "Print Sheet" tab at the bottom of the screen. Print out the pages you need. Save the file using a name easily located. When starting a project calculation it is best to start from a blank spreadsheet. This will help you know what data to enter if you are unsure.

Enter VMP Number (e.g. Rx North-067-MEU)

Enter VMP Name (e.g. Blue Ridge 2007)

Enter Event Name (e.g. Blue Ridge South)

Date the form was filled out

RX North-060-SCU  
Cherry Springs VMP

9/17/2024

FIRE HAZARD REDUCTION  
WATER YIELD  
WILDLIFE HABITAT IMPROVEMENT  
FISHERIES HABITAT IMPROVEMENT  
RANGE FORAGE IMPROVEMENT

B1	B2
20	2
1	0
15	1
15	1
0	0

## Annual grasses and shrubs

## **Department of Forestry and Fire Protection Project Cost Summary Worksheet**

## **Personnel Summary**

Resource	Quantity	Time	units
Battalion Chief (Non-Supervisory) (2G) on or after 5/12/06	2	12	Hour
Fire Captain (A)	5	12	Hour
Fire Fighter I	10	12	Hour

Total #N/A #N/A

Resource	Equipment Summary		
	Quantity	Time	units
Fire Truck Heavy (1,000 gpm)	5	12	Hour
Emergency Crew Transport (CCV)	2	12	Hour
		#N/A	
Total			

Resource	Supplies Summary		
	Quantity	units	Rate
Diesel	10	Gal	\$6.00
Gasoline	10	Gal	\$5.00
Total			

## CashSummary Dollars

erator input sheet must contain data  
ut of any cooperator input sheets  
ut sheets are completed go to the  
i name for the project so it can be  
he comments may help you decide

Rate	Resource cost
\$57.01	\$1,368.24
\$47.83	\$2,869.80
\$34.56	\$4,147.20

#N/A

#N/A  
#N/A  
\$8,385.24

Rate	Resource cost
\$70.00	\$4,200.00
\$27.00	\$648.00
#N/A	
	\$4,848.00

Resource cost

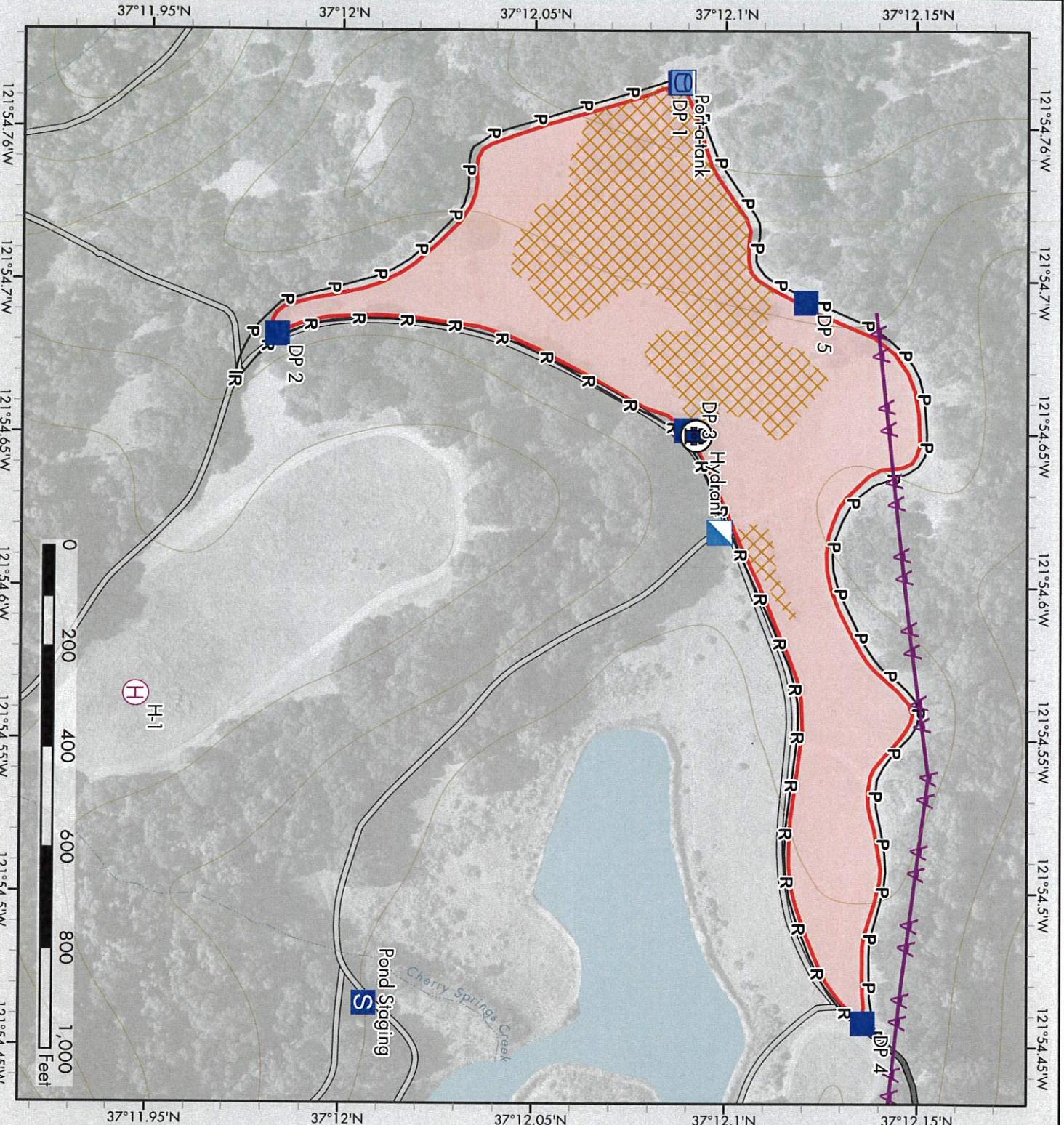
\$60.00
\$50.00
\$0.00
\$0.00
\$0.00
\$0.00
\$110.00

CALFIRE Total      \$13,343.24

## CHERRY SPRINGS POND

Prescribed Burn

October 23/24, 2024



- Incident Command Post
- Staging Area
- Water Hydrant
- Port-a-tank
- Drop Point
- Helipad (H)
- Overhead Electric Line
- Completed Road as Line
- Completed Plow Line
- Improved Road
- Access Road
- Prescribed Burn Area