



MEMORANDUM REPORT

DATE: April 25, 2024

TO: Board of Commissioners of the Los Altos Hills County Fire District

FROM: Mora – Ravensbury Project Team,
Ryan Cronin, Technical Analyst/Project Manager
A. Harmon, Field Manager
Eugenia Woods, Programs, Planning and Grants Manager

SUBJECT: Mora – Ravensbury Evacuation Route Project Final Reports

RECOMMENDATION:

Receive Mora - Ravensbury Evacuation Route Project Final Reports

BACKGROUND

The Los Altos Hills County Fire District (District or LAHCFD) 2023-2027 Strategic Plan Goals & Strategies (Attachment 1), Strategic Goal 1 Prevention, Protection, Resiliency, aims to fund, develop and maintain programs to protect life, property and enhance safety to build a resilient community. Evacuation Route Hardening is an initiative of this goal. Integrated Hazardous Fuel Reduction (IHFR) programs identified in the LAHCFD Chart of Services (Attachment 2) include the Community-Focused Evacuation Route Hardening projects. These IHFR programs are based on fire science, the LAHCFD Community Wildfire Protection Plan (CWPP) Annex 4, and the expenditures allocated in the annual District budget. IHFR projects are designed to enhance community resiliency, educate District residents, and reduce community fire hazards. In accordance with Goal 1, staff identified high fire risk areas and initiated collaborative solutions with regional partners including the Santa Clara County FireSafe Council and the Santa Clara County Central Fire Protection District (County Fire or Fire Department). The projects targeted roadside hazardous vegetation reduction on major transportation corridors such as Page Mill Road - Phase I and Phase II in 2020/2021, Moody-El Monte Roads in 2021, Altamont Road in spring 2022, Arastradero Road in fall of 2022, maintenance on Page Mill Road in 2023 and Mora-Ravensbury Drive and Avenue in summer 2023. The fundamental goal of these evacuation route and road hardening

projects is to provide greater protection for life safety and to reduce property losses in the event of wildfire by providing safer egress and ingress for evacuees and emergency responders.

Santa Clara County FireSafe Council (SCCFSC) was the project manager for the Page Mill Road, Phase I and Phase II, Moody-El Monte Roads, Altamont Road, Arastradero Road, Page Mill Road maintenance and Mora-Ravensbury projects that were designed to remove hazardous vegetation from the roadside and thereby create multiple evacuation routes for egress and ingress in event of a wildfire or emergency incident. These LAHCFD evacuation route projects were successfully completed, resulting in greater public safety and alignment with LAHCFD's and Santa Clara County's evacuation initiatives.

The Mora-Ravensbury evacuation route project was initially selected because these two roadways provide the only means of egress/ingress for a portion of the southern Los Altos Hills Community. Ravensbury Avenue connects to Magdalena Avenue, providing access to Interstate 280 or alternatively access to Foothill Expressway. Mora Drive provides an overpass of Interstate 280 with access to Foothill Expressway.

Additionally, these two roads connect to trailheads for Midpeninsula Regional Open Space District users of Rancho San Antonio County Park. These users may need to rely upon these roads for emergency evacuation on foot in the event of a wildfire.

The length of the project is within the District boundaries and received hazardous fuel reduction treatment. The treated areas are visually pleasing, with improved visibility for travelers, especially at intersecting crossroads.

Information about this project, and other District projects can be found on the Department website at <https://www.lahcfd.org/community-projects/>.

DISCUSSION

The Santa Clara County FireSafe Council Final Report for the Mora-Ravensbury Evacuation Route project is Attachment 3. The District provides this Report and summary of costs for the project. The Mora-Ravensbury Evacuation Route project was successful in attaining the goal of reducing hazardous fuel to provide for a safer evacuation route.

The Mora-Ravensbury project was unique with the engagement of the residents affected by the project. The depth of treatment was limited by the nature of the residential community. Fences and ornamental horticultural were located near the roadways reducing the depth, extent, and necessity of treatment. Residents expressed concern that treatment within the easement area would be disruptive to their landscaping and privacy. District staff made a concerted effort to reach out to residents to address their concerns. Individual meetings were scheduled, properties were inspected, and treatment plans were agreed upon. For the most part all concerns were addressed.

On one day of treatment, one resident had a noted confrontation with the crews and district staff. The property in question was treated with a very light touch and any issues were resolved. Strategies will be implemented at future projects to isolate the work zone for the safety of both workers and residents.

Conversely, at another property, neighbors expressed concern that the treatment was inadequate. After the project was completed, district staff met with the concerned members of the public at the property to address their concerns. District staff explained the limitations of the authority to conduct treatment. With this understanding, neighbors engaged as partners of the district in the promotion of life safety. They reached out to the owner of the property and successfully engaged them in further treatment.

The volume of wildfire fuel that was removed was modest yet effective in improving life safety. Proudly, there were no injuries or traffic related incidents on this project.

A concerted effort was afforded to improve visibility at roadway and driveway intersections as well as blind corners. The Town of Los Altos Hills municipal code Title 10, Chapter 1, Article 5, Section 1.507(f)(12) declares, "all shrubs and plants shall be pruned to a height not to exceed three (3) feet above the road level at its nearest point in an area bounded by the center line of intersecting roads or easements for vehicular access, public or private and a straight line joining points on such center lines eighty (80) feet distant from their intersection (see figure). All side limbs of trees in such area shall be pruned to a height of not less than six (6) feet above the road surface. The purpose of the provisions of this section is to provide an unobstructed view of approaching traffic on the intersecting roads." With this guidance overgrown vegetation in the described locations was addressed.

QUANTITATIVE RESULTS and EXPENSES

Date	Tons	Cubic Yds	Distance (Miles)
Wednesday, August 9, 2023	5	30	0.67
Thursday, August 10, 2023	4.2	30	0.82
Friday, August 11, 2023	9	50	1.69
Total	18.2	110	3.18

Production data by date.

Ravenbury-Mora Evac. Route Project Costs			
Contractor/Staff	Service	Completed	Amount
SCC FireSafe Council	IHFR Project Management	July	6,604.40
SCC FireSafe Council	IHFR Project Management	Aug	4,490.10
SCC FireSafe Council	Project supplies	Aug	4.49
SCC FireSafe Council	Personnel Mileage	July-Aug	487.17
Bay Area Traffic Solutions	Traffic Control Plan	June	500.00
Bay Area Traffic Solutions	Project traffic control	August	12,954.00
Huertas Tree Service	Fuel Reduction	August	29,700.00
Surf to Snow Environmental	Environmental Study	July (Aug bill)	2,975.05
Folger Graphics	Mailer; Cover Letter + ROE	July	545.04
Jackson Ricketts	Ravenbury/Mora Data & Planning	May	2,450.00
	Mora Advanced Report	July	700.00
	Ravenbury Advanced Report	July	650.00
	Ravenbury/Mora Post-Treatment	Sept	6,200.00
Total Ravenbury-Mora Evac. Route Project Costs			68,260.25

Costs directly associated with the Mora-Ravenbury Evacuation Route Project.

Successes

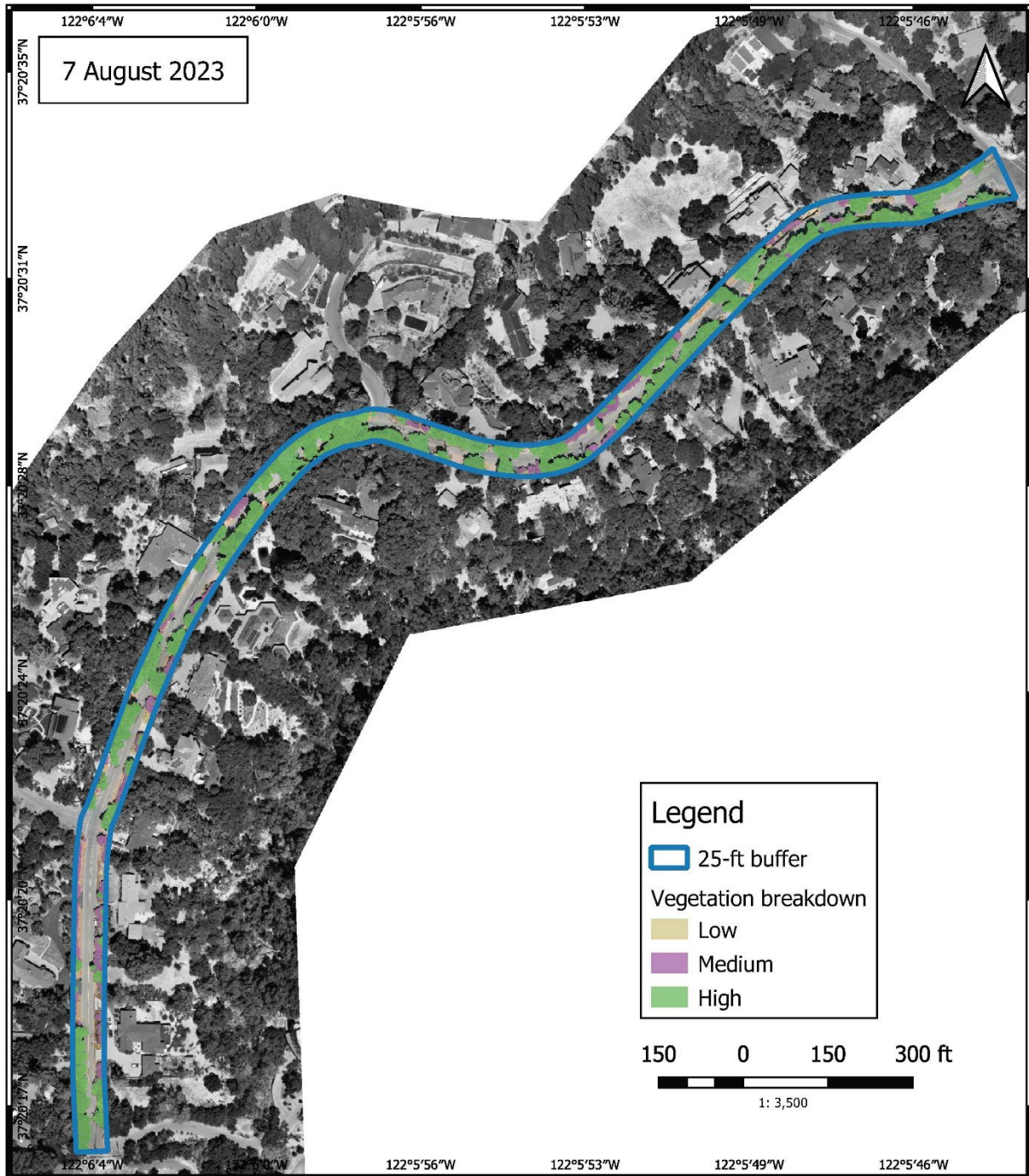
Effective utilization of Unmanned Aircraft Systems (UAS) for image telemetry. JACKSONS DRONES was contracted to provide aerial photos and to identify treatment areas, and quantitatively measure hazardous fuel reduction.

Comparing the Mora Drive before and after treatment data, medium and high vegetation was reduced in volume as well as area covered. Low vegetation was also reduced. However, since the medium and high vegetation area was reduced, more low vegetation was exposed for data detection. The area of coverage and volume detected for low vegetation has increased even though a significant amount of low vegetation was removed.

Ravensbury Avenue vegetation reduction data tells a different story. Ravensbury has many landscaped residential parcels. There is less low vegetation understory to be exposed. In this area all types of vegetation, low, medium and high, were reduced in volume and area of coverage.

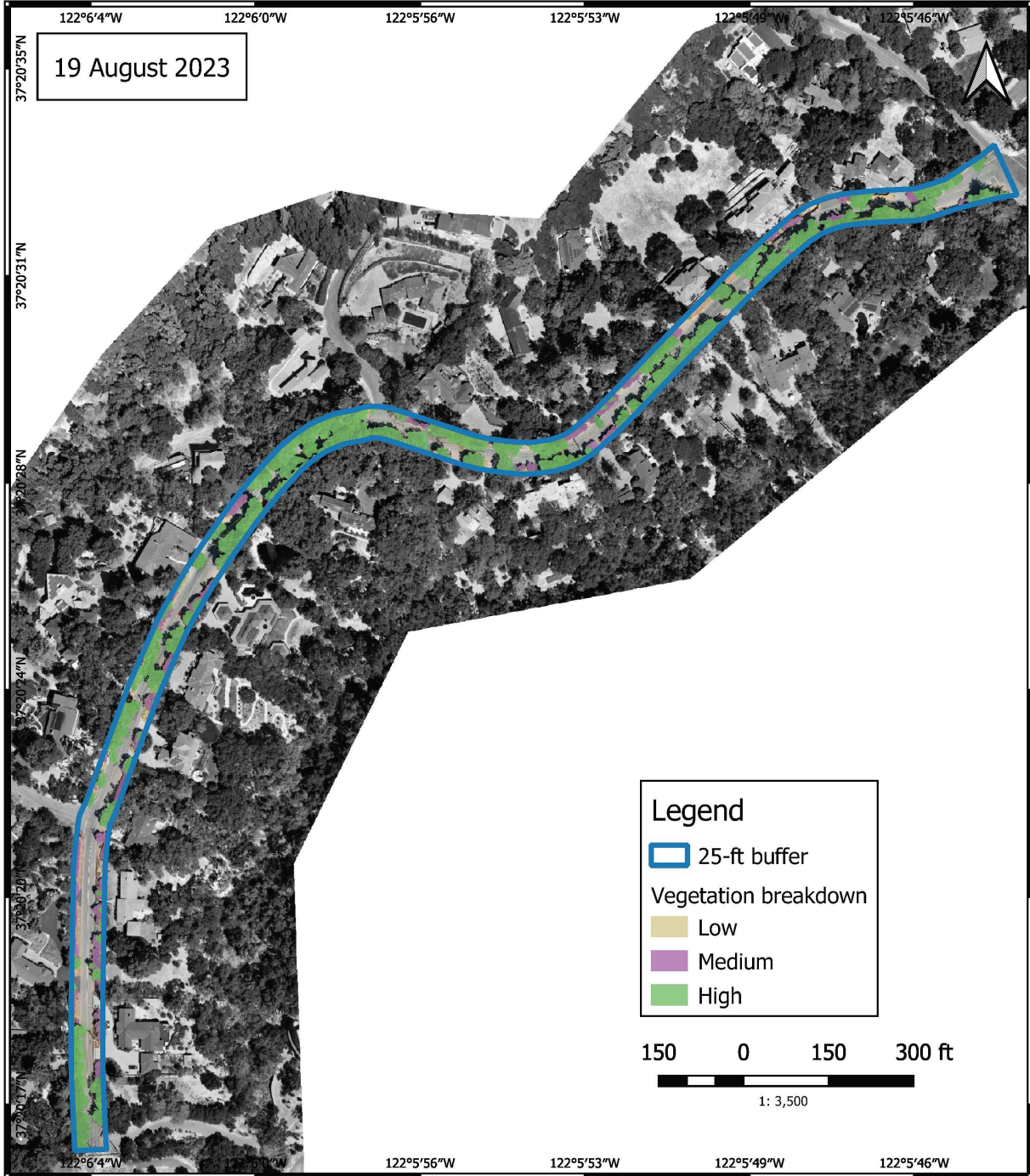
As imagery data advances with the use of Light Detection and Ranging (LIDAR), the true volume and percentage of fuel reduction for low, medium and high vegetation will increase in accuracy.

Mora Rd Vegetation Breakdown



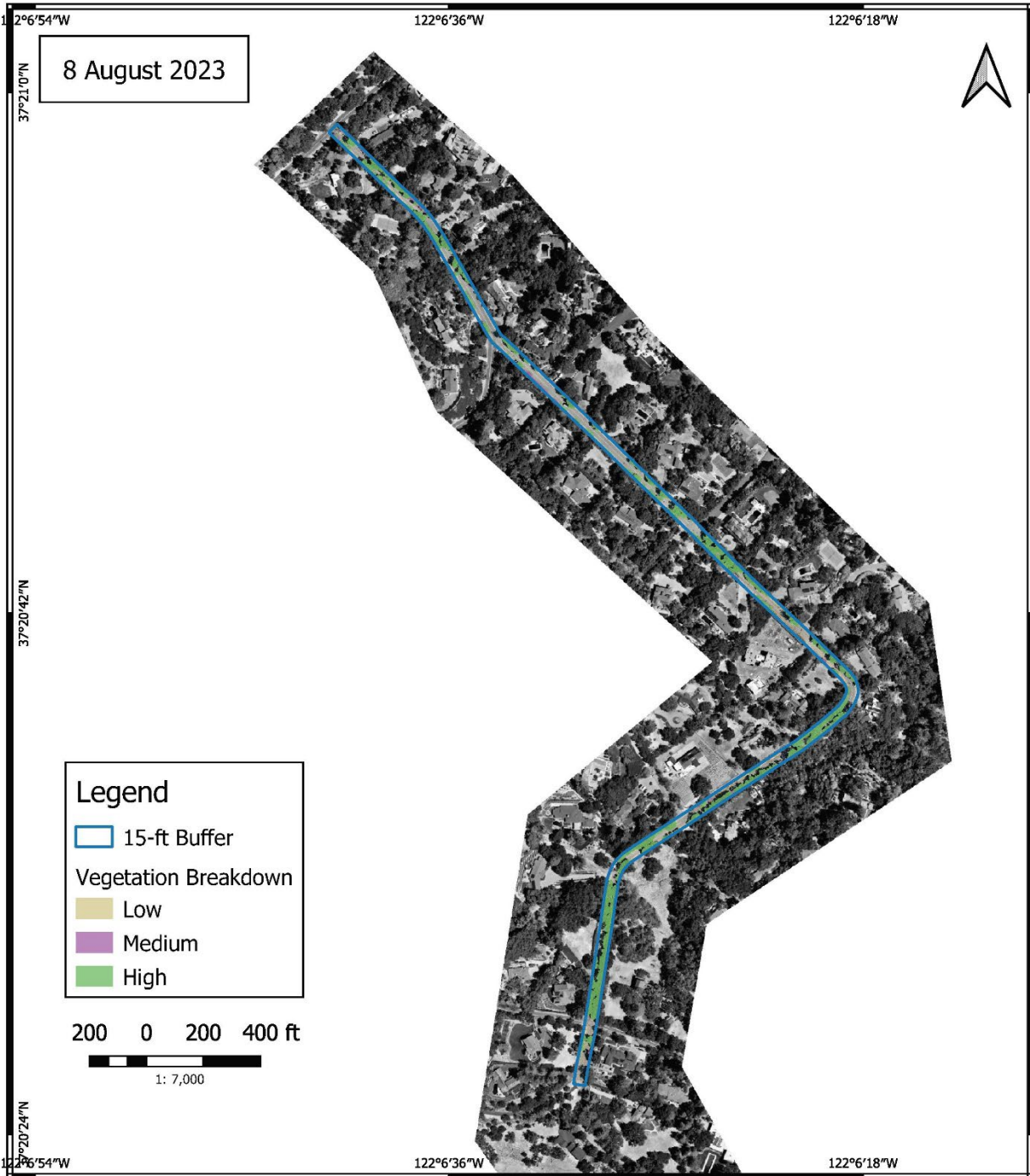
Vegetation	Coverage area, acres	Volume, cub.yard
Low	0.02	29.06
Medium	0.45	7257.49
High	2.47	114272.73

Mora Rd Vegetation Breakdown



Vegetation	Coverage area, acres	Volume, cub.yard	Changes in volume
Low	0.02	33.56	+0.15%
Medium	0.43	6929.47	-4.52%
High	2.41	110255.66	-3.52%

Ravensbury Ave Vegetation Breakdown



Vegetation	Coverage area, acres	Volume, cub.yard
Low	0.02	66.13
Medium	0.13	1794.99
High	2.66	107845.83

Ravensbury Ave Vegetation Breakdown



Vegetation	Coverage area, acres	Volume, cub.yard	Changes in volume
Low	0.02	64.94	-1.80%
Medium	0.11	1779.59	-0.86%
High	2.56	104678.20	-2.94%

- With assistance of County Counsel, the project team completed CEQA compliance by filing a Notice of Exemption (NOE) through the Office of the Santa Clara County Clerk. By filing the NOE, LAHCFD utilized a process that notified the public of the proposed mitigation work, provided the public the opportunity to voice concerns, and if concerns were expressed, allowed for time to address, and remedy the concerns prior to commencing the project. No concerns were received, and the project commenced as planned.
- Recognition that the insurance industry is now incentivizing the high value of hazardous vegetation management programs to reduce the threat of wildfire and property losses. LAHCFD efforts strongly support the Office of the Insurance Commissioner's Initiative for the insurance industry to recognize wildfire mitigation efforts as a benefit to the insured.
- Appreciation is expressed for the dedicated support of the LAHCFD Board of Commissioners, the Santa Clara County Fire Department, the Town of Los Altos Hills, the Santa Clara County FireSafe Council, Santa Clara County Roads & Airports, and the contractor, crews and traffic control involved in the success of the project.
- The Mora-Ravensbury Evacuation Route project enhances and refines staff experience necessary for improvement of future evacuation road projects. Future projects will seek more community input to guide the upcoming road evacuation route designs.

Community Outreach

LAHCFD staff promoted this project, and the other programs of the District, through several outreach activities.

- Letters were mailed to all property owners along the project route. Owners were offered the opportunity to make inquiries, and have their property participate in the vegetation management efforts.
- LAHCFD staff walked the project route, door knocking, and spoke with residents about the project, made ROE requests, and promoted other District programs.
- Sandwich board signs were posted at strategic entry points to the project two weeks before the project commenced, alerting hikers, bikers, and motorists to the upcoming work.
- Spontaneous contacts and interactions with the community provided staff with the opportunity to educate citizens about the project as well as other District programs and services.



- During these community contacts, recognition and gratitude from the community and agencies for the public safety benefits of the project were received.

Insights/Lessons Learned

- Embracing the lesson learned from the Page Mill maintenance project, the traffic control vendor was contacted prior to the commencement of the project. Confirmation was made that the field crew supervisor was provided with a copy of the Traffic Control Plan.
- The field crew supervisor was briefed that our project would have a moving work area, to be prepared for many driveways that would require traffic control. The crew supervisor confirmed that there will be a crew of four for this project.
- From these two important citizen interactions mentioned in the DISCUSSION section of this report, adjustments will be made for pre-project community outreach. The district will explore a community meeting held in concert with the posting of project signage and request-of-entry mailings. The district is hopeful this will become a new best practice.
- Trash is the reality of any roadside project. In the neighborhood setting of Mora Drive and Ravensbury Avenue the encountered trash was mostly product packaging and containers. Thank you to the residents of Los Altos Hills who shared their trash and recycling totes for proper disposal.
- As a result of the collaboration and coordination between LAHCFD and its partners, the Mora-Ravensbury Evacuation Route project was successful and provided a strategic and high priority public safety benefit to the community in the event of a wildfire or emergency incident. LAHCFD thanks the team, contractors, Commissioners, community members and partner agencies for their contributions to and support of this project.

Attachment(s):

1. LAHCFD 2023-2027 Strategic Plan, Goal 1
2. LAHCFD Chart of Services, V11, 3/01/2022
3. Santa Clara County FireSafe Council Final Report: Mora-Ravensbury Evacuation Route project



2023—2027 LAHCFD Strategic Plan

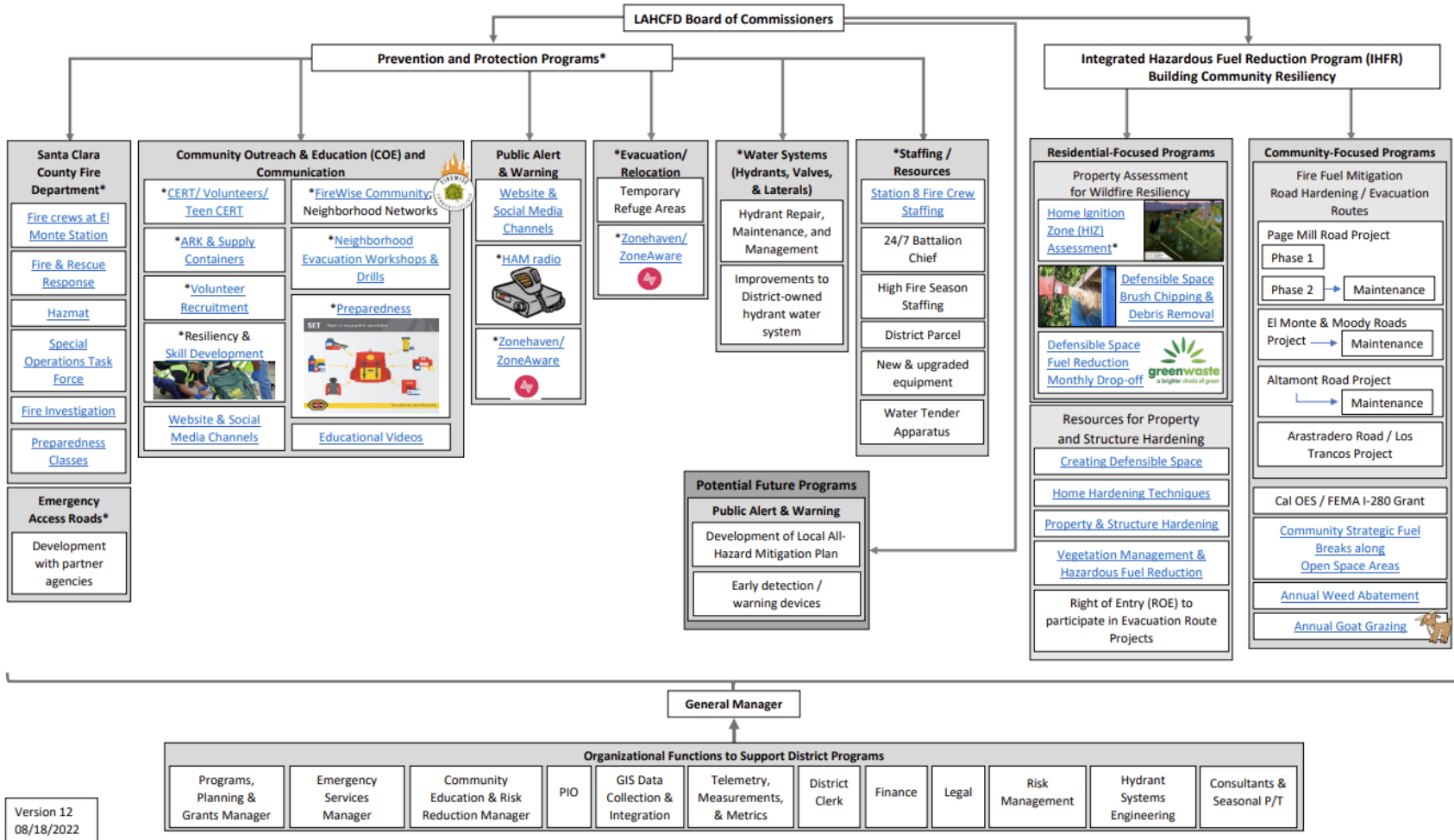
Mission	Protect the lives, property and environment within the District it serves f prevention, protection and emergency response services, and			
Strategic Goals	1. Prevention, Protection, Resiliency			
Objectives	Fund, develop and maintain programs to protect life, property and enhance safety to build a resilient community. Current Programs described in the District's Chart of Services.			
Initiatives	Harden Evacuation Routes and Emergency Access Roads	Support reduction of hazardous fuels by residents	Update CWPP, Annex 4	Contribute resources to support and enhance operations at SCC Central Fire
Strategies	Complete planning and preparations for additional evacuation routes	Continue targeted Chipping Program	Participate in County-wide regional committee on CWPP	Maintain contract for fire suppression and EMS services with County Fire
	Maintain completed evacuation routes	Provide monthly vegetation drop off		Fund additional seasonal fire crews (high risk event extra staffing)
	Implement vegetation mgmt services on emergency access roads in collaboration with Central Fire and Fire Safe Council	Continue Home Ignition Zone (HIZ) inspections and implement rebate program		Fund Station 8 to provide additional support and response
	Support and advance I280 vegetation mgmt project	Support Central Fire fuels crew work		Apply for grants in a manner consistent with Commission discussion 6/21/22 to leverage tax dollars and maximize community benefit

ATTACHMENT 2

LEGEND
 *Indicates programs are delivered in collaboration with partner agencies
 Underlined text indicates a clickable link

LAHCFD Chart of Services
 Built on Fire Science & LAHCFD-CWPP Annex 4
 Guided by Strategic Plan 2021 – 2022 – Resourced by FY Budget

For more information on LAHCFD Programs and how to participate, please visit: www.LAHCFD.org
 An interactive version of this chart can be viewed here: www.lahcfd.org/governance/ForwardLookingCommunityResiliency

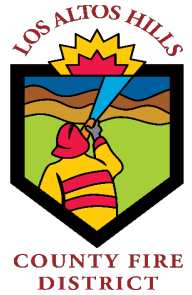


Version 12
08/18/2022



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ATTACHMENT 3

FINAL REPORT Mora Ravensbury Evacuation Route

November 28, 2023

Introduction:

Ravensbury Avenue and Mora Drive in Los Altos Hills, California, provides two significant routes of egress/ingress for the southern portion of Los Altos Hills Community and for Midpeninsula Regional Open Space District users in the event of a fire. To secure the integrity of these egress/ingress routes, Los Altos Hills County Fire District and Santa Clara County FireSafe Council conducted a roadside treatment of hazardous fuels.

Cooperators:

There were multiple agencies, contractors, property owners, and organizations that contributed to the project; Santa Clara County Fire Safe Council, Los Altos Hills County Fire District, Surf to Snow Environmental Resource Management, Huerta's Tree Service, Bay Area Traffic Solutions, the County of Santa Clara, County Road and Airports, and the Town of Los Altos Hills to name a few.

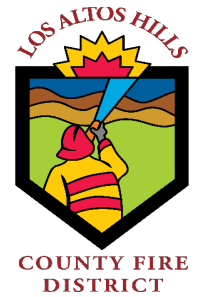
Goals For This Project:

1. Trim woody vegetation and weed whip grasses and weeds adjacent to the road.
2. Remove dead or dying woody debris of less than 8 inches DBH.
3. Reduce ladder fuels around larger trees.
4. Remove dead, diseased, or damaged trees smaller than 8" DBH posing a hazard.
5. At street corners where vegetation is thick and blocks visibility, trim and remove to meet standards of shrubs less than 3 feet high and trees limbed up to at least 6 feet above ground. Per Los Altos Hills Municipal Code Title 10-Zoning, "shrubs and plants shall be pruned to a height not to exceed three (3') feet above the road level at its nearest point in an area bounded by the center line of intersecting roads or easements for vehicular access, public or private and a straight line joining points on such center lines eighty (80') feet distant from their intersection. All side limbs of trees in such an area shall be pruned to a height of not less than six (6') feet above the road surface."



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Project Site:

This evacuation route project treated two roads.

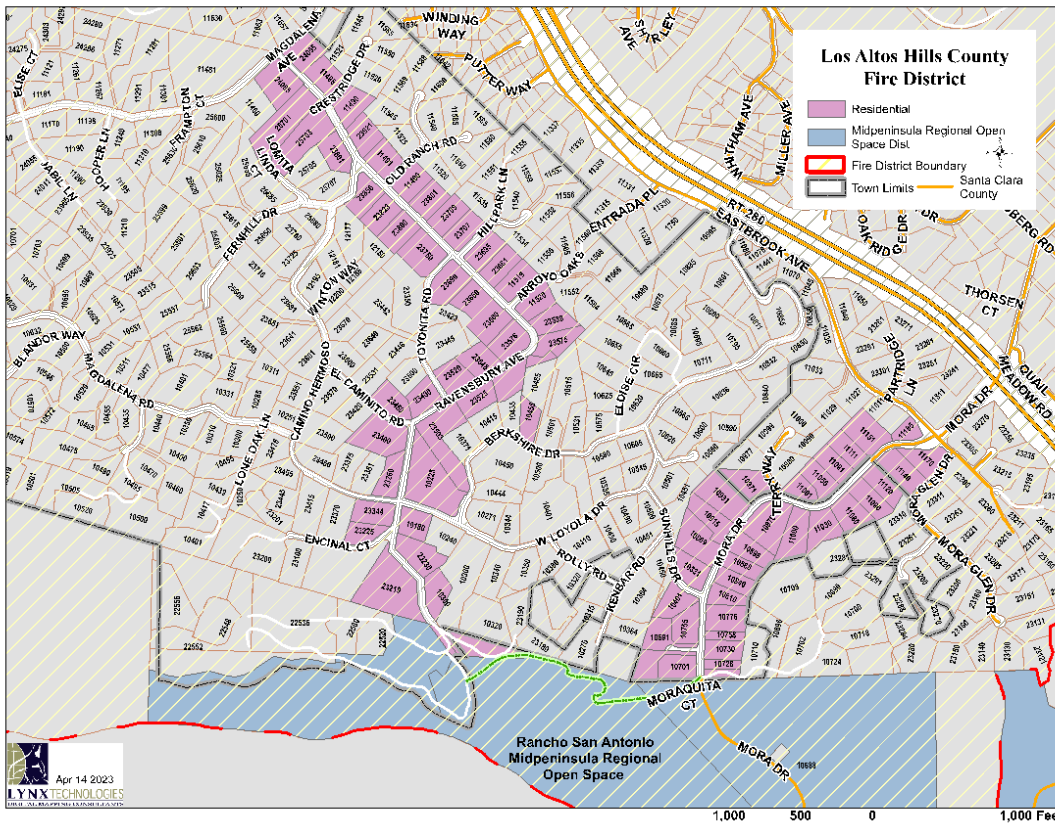
The Ravensbury Avenue portion of this evacuation project began at the intersection of Magdalena Rd (37.349496, -122.111213) and ended at the upper section of Ravensbury Avenue (37.338808, -122.105459), at the Los Altos Hill County Fire District's jurisdiction line.

The Mora Drive evacuation route began at the Eastbrook Ave intersection (37.342471, -122.095435) and ended at Mora Dr (37.337841, -122.100975) where the road intersects with Rancho San Antonio County Park & Open Space Preserve boundaries.

The length of the project is approximate:

1. Ravensbury Avenue is 1.05 mi linear distance, which equates to two miles treated on both sides of the road.
2. Mora Drive is .54 mi linear distance, which equates to one mile treated on both sides of the road.
3. A total of three miles have been treated.

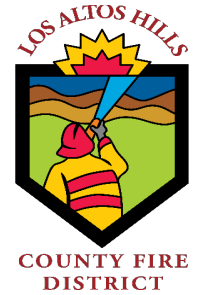
Mora-Ravensbury Evacuation Route Project Map





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Permissions:

One of the biggest challenges in these types of projects is getting permission to treat the properties. During planning of the project we conducted an extensive public outreach effort to get the permissions needed. It included mailers, newspaper articles, door-to-door visits, and a social media campaign. We were able to include 4 of the 85 parcels involved. Prior to the project, LAHCFD staff conducted a survey of the area to identify key parcels within the project scope. We always strive for 100 percent participation, but every project has a few property owners with reservations. An average participation rate is around 30% for first time maintenance projects (with the goal of 100% participation). SCCFSC's timeframe for ROE forms to be returned was 14 days with a due date of July 10, 2023. The staff of SCCFSC and LAHCFD executed door knocking on July 13-14, 2023, in efforts to get as much community involvement as possible.

Biological Precautions:

As with all of our projects, protecting the biodiversity of the area is a high priority. A Biological Survey was conducted on July 29, 2023, by Surf to Snow Environmental Resource Management, the ten days before the project started. The biologist identified and flagged wood rats nests, active birds' nests, and any habitat within the treatable area. The biological review was completed within the nesting season. Heritage trees were identified during the field verification stage and were not included in the work plan. Finally, a buffer of 25 feet was implemented along stream beds and seasonal waterways.

Project Duration:

The project started on Wednesday August 9, 2023, and completed on Friday August 11, 2023. We did not encounter any red flag days or any rain days.

Jurisdictions And Funders Involved:

Santa Clara County Fire Safe Council, Los Altos Hills County Fire District, Santa Clara County, County Roads and Airports, and Town of Los Altos Hills.

Contractors Selected:

Surf to Snow Environmental Resource Management was selected due to scheduling availability.



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Huerta's Tree Service was selected due to their availability, familiarity with evacuation route projects within SCCFSC, and for rotation of contractors selected for LAHCFD projects.

Bay Area Traffic Solutions provided a traffic control plan and provided flaggers and traffic control for project duration.



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Project Photos:

Before



After





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COUNTY FIRE DISTRICT





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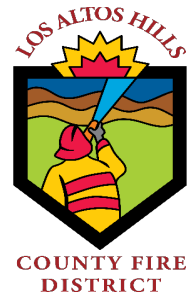
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By The Numbers:

- Area treated – 3.08 miles total area treated for both sides of Mora Dr. and Ravensbury Ave. Most of which was treated 15 to 30 feet from the edge of the road unless marked for riparian area. On ROE properties treatment extended 30-50 feet from the edge of the road if needed. The daily average was 1.03 miles per day.
- Acres treated = 7.47 acres with an average of 2.49 acres treated per day.
- No poison oak was treated during this project.
- 3 days of treatment conducted by Huerta's Tree Service.

We overcame many challenges to complete this critical part of growing the evacuation route and vegetation treatment system in Santa Clara County. This project also supports goals in the LAHCFD CWPP annex as well as the overall Community Wildfire Protection Plan.

We would like to acknowledge the contribution made by Huerta's Tree Service, Surf to Snow Environmental Resource Management, and Bay Area Traffic Solutions. All entities were committed to assisting Santa Clara County Fire Safe Council with the project from start to finish.

Bay Area Traffic Solutions provided four traffic control personnel every day to make sure that the work could be done in a safe manner. Mora Dr. and Ravensbury Ave are commuter roads with multiple driveways, high bike and foot traffic routes; the fourth traffic control personnel was necessary for the safety of the tree crews, SCCFSC staff, LAHCFD staff, general traffic, and bicyclists in the Los Altos Hills area. SCCFSC staff and Huerta's Tree Service were provided a radio from the Bay Area Traffic Solutions staff for constant communication. In addition, Huerta's Tree Service provided a translator each day to ensure maximum communication capabilities in an effort to provide complete safety coverage for the crews working and additional personnel on site. I'm happy to report, with Bay Area Traffic Solutions traffic control coverage and the safe working practices of Huerta's Tree Care, we were able to finish the project with no reported injuries or incident reports. In addition to that, Los Altos Hills County Fire District granted permission for the project crew to use their parcel for a staging area.

Safety briefings were held by the safety officer, Irene Armstrong, each morning before start of work to discuss traffic control, personal protective equipment, local emergency services, environmental hazards, and weather conditions.

We would like to thank all the cooperators and property owners for all their support. If you have any questions or concerns, please feel free to direct them to:



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