

ANGWIN

Community Wildfire Protection Plan



Original Date Created: April 11, 2016
Revised: August 8, 2017

This document shall be known as the Angwin Community Wildfire Protection Plan (ACWPP). The original ACWPP created in 2016 and this revision have been developed by the Angwin Fire Safe Council (AFSC). Upon the approval of local and state agencies with jurisdictional responsibilities for Angwin and surrounding environs, this revised plan will continue to implement projects contained within it.

Decision Makers:

The AFSC is comprised of community volunteers and its members are the decision makers for the ACWPP. The initial AFSC was drawn from individuals attending the community-wide meeting in Angwin, held August 2015 and organized by the Napa Communities Firewise Foundation (NCOFF). As the Council membership periodically changes, current community AFSC members are listed in Appendix A, made part of this Plan but not subject to formal revision of the Plan.

Federal Agencies:

There are no federal agencies with jurisdictional responsibilities in the Angwin area.

State and Local Agencies:

The state and local agencies, and the designated representatives, with jurisdictional responsibilities in the Angwin area are as follows. As individuals representing the agencies periodically change, the current names of agency representatives are listed in Appendix B, made part of this Plan but not subject to formal revision of the Plan.

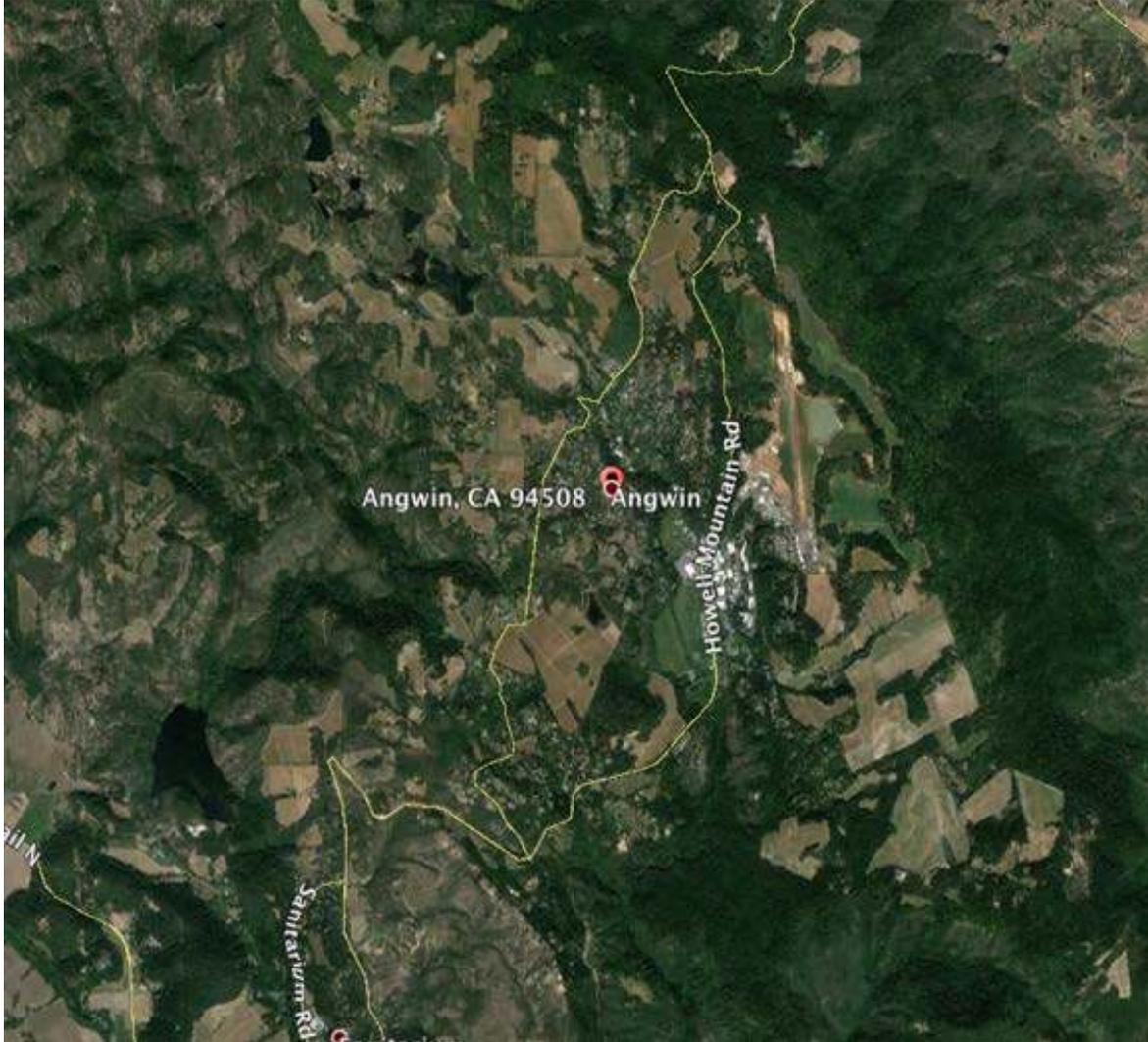
Agency	Representative
County Supervisor	District 3 Supervisor
Napa County Fire Department	Fire Chief
CAL FIRE Sonoma-Lake-Napa Unit	Unit Chief
CAL FIRE Napa County, St. Helena Battalion #14	Battalion #14 Chief
Angwin Volunteer Fire Department	Chief
Napa County Sheriff's Department	Sheriff

Significant Stakeholders:

In addition to state and local agencies that have jurisdictional responsibilities, Angwin has a variety of Significant Stakeholders with vested interests in forest and fire management on Howell Mountain.

Significant Stakeholders
Napa Communities Firewise Foundation
Residents of Angwin
Angwin Community Council
Save Rural Angwin
Pacific Union College
Pacific Union College Preparatory School
Pacific Union College Elementary School
Howell Mountain Elementary School
Howell Mountain Vineyards and Wineries
Howell Mountain Vintners Association
Land Trust Napa County
St. Helena Hospital
Angwin Water Suppliers: Howell Mountain Mutual Water Company Pacific Union College Water System Rancho La Jota Water Company Linda Falls Terrace Water Company Crestmont Water System La Tierra Heights Mutual Water Company
City of St. Helena Water Department (Bell Canyon Reservoir)
City of Napa Water Department (Lake Hennessy Reservoir)

ANGWIN DESCRIPTION AND HISTORY



Angwin Community Map

Angwin is a rural enclave located on Howell Mountain, between the Napa Valley on the west and Pope Valley on the east. Surrounded by forest and vineyards, Angwin includes (1) about 1000 homes and is comprised of approximately 3000 permanent residents; (2) the Pacific Union College (PUC) Campus and Preparatory School with a student undergraduate population of more than 1600; (3) an 8-acre commercial/retail center at Howell Mountain Road and Brookside Drive; (4) a smaller commercial area of businesses along with the Angwin Volunteer Fire Department on College Avenue; (5) various home-based businesses and wineries dispersed throughout the community; and (6) vineyards covering approximately one-third of the acreage in the Angwin area outside the residential and commercial areas. The community's overall "sense of place" and character is largely derived from its agrarian and forested environment.

The uniqueness of Angwin's terrain and forested environment has allowed it to foster a habitat for its wildlife and fauna, produce generations of clean air, and attract, capture and filter clean water for its residents and businesses, and for thousands of others who reside in the Napa Valley. From its forests flow streams and watercourses. Conn Creek, which drains an area of 60 square miles, flows across the Angwin basin and over Linda Falls before flowing into Lake Hennessey Reservoir that provides nearly 70% of the drinking water supply to the City of Napa. Also, Moore Creek originates in Angwin and flows east and south to Lake Hennessey. Bell Creek flows west from Angwin to Bell Canyon Reservoir and serves as a primary water supply for the City of St. Helena. Butler Creek flows east to Pope Valley. With these important functions of the forest come risks to those who reside here, as much of the forested areas in and surrounding Angwin contain flammable dead and dying understory and/or large stands of introduced, invasive pyrophytic species that increase ignitability of the forest canopy.

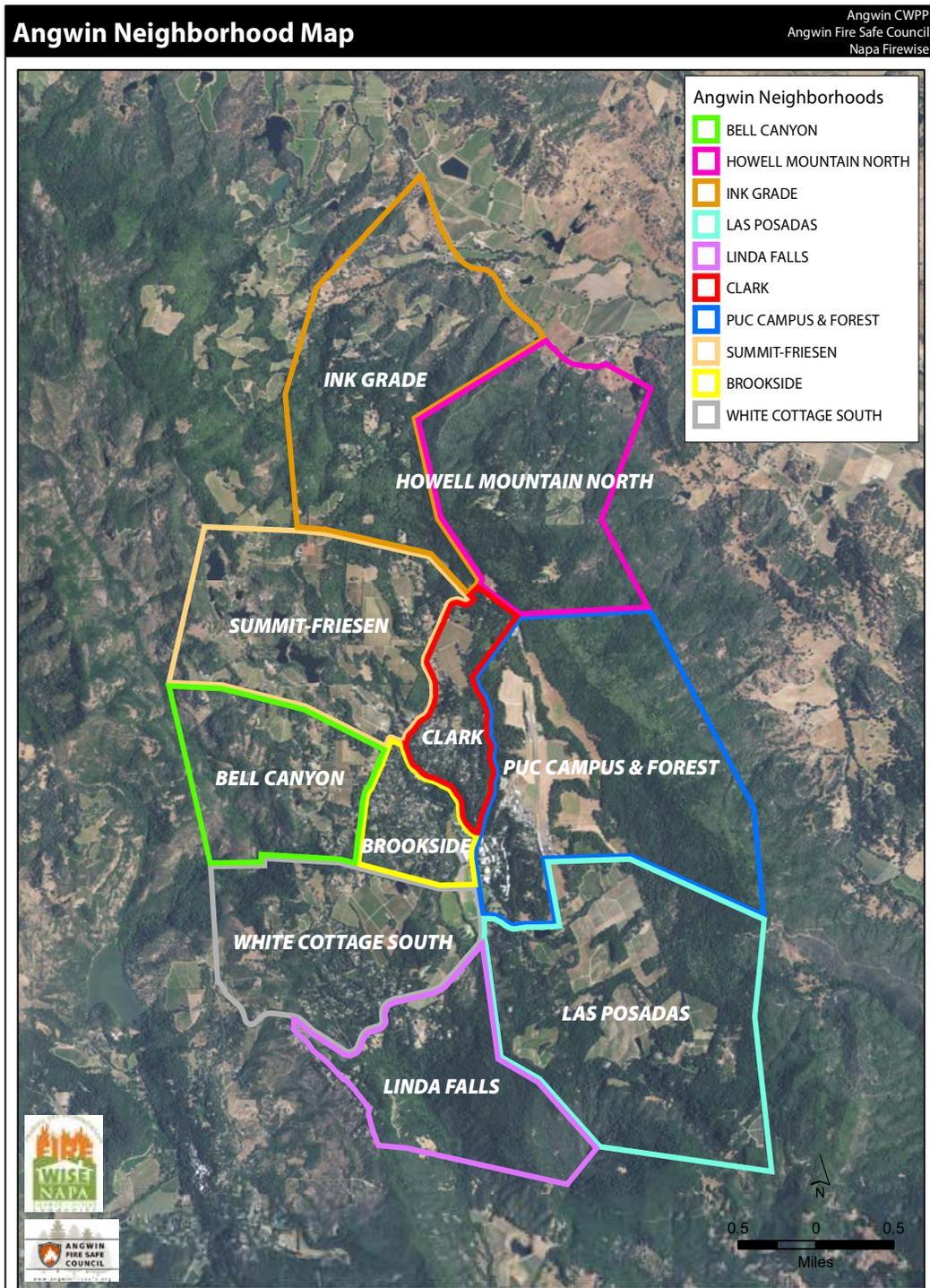
Angwin is the interface between wildlands and dispersed unincorporated developed areas. The fire hazard severity in Angwin is considered "very high". (Napa County General Plan, 2009) Sitting atop Howell Mountain, Angwin's forest-covered slopes together with weather and human activity create the potential for catastrophic fire.

Napa County has a recurring history of large fires that typically burn for several days or longer. In 2015, the Lake County Valley Fire advanced into Napa County and singed the landscape just north of Angwin, necessitating "mandatory evacuation" of the Ink Grade and Summit Lake areas as well as Howell Mountain Road east to Pope Valley. This incident served as a shocking reminder of just how vulnerable Angwin is relative to wildland fire. The Valley Fire burned over 76,000 acres and destroyed 1,955 structures including 1,281 homes, 27 multi-family structures, 66 commercial properties and 581 other minor structures. There were four civilian fatalities and four firefighters were critically injured.

In addition to the Valley Fire, other fires have threatened Angwin and the surrounding environment. The Howell Mountain fire in 1977 burned 2,500 acres in 5 hours. Two fires, one in 1964 and another in 2008, started at the "hairpin turn" on Deer Park Road. The fire in 2008 burned 300 acres primarily across the western face of Crestmont Ridge. In 2014, the Butts Canyon Fire burned 4,300 acres at the northern base of Howell Mountain.

Complicating the threat of fire, Angwin has a single narrow, winding road traversing Howell Mountain from the Napa Valley to Pope Valley, providing the vehicular access to and from Angwin for emergency equipment and personnel and evacuation of people and animals. Only two other roads extend to valley floors from the Angwin area – Ink Grade on the eastern side and "Old" Howell Mountain Road on the western side.

NEIGHBORHOODS AND AREAS OF INTEREST AND CONCERN



Neighborhood Map (borders are approximations, not aligned to property parcels)

For the purposes of the ACWPP, the AFSC has divided Angwin into ten neighborhoods to facilitate addressing risks and needs. The boundaries of the neighborhoods are approximations, and are not aligned with property parcels. Areas of special interest and concern within the community are also noted here.

- **The inhabited areas at potential risk to wildland fire include ten identified neighborhoods in Angwin. See map on prior page.**
 - Angwin Neighborhoods
 - Bell Canyon
 - Linda Falls
 - Las Posadas
 - Clark
 - Ink Grade
 - Summit/Friesen
 - Howell Mountain North
 - PUC Campus & Forest
 - Brookside
 - White Cottage South

- **Areas containing critical human infrastructure:**
 - Roads: To ensure safe evacuations and emergency access the following roads are critical to traffic movement in and out of Angwin.
 - Howell Mountain Road from Deer Park to Pope Valley
 - White Cottage Road
 - College Avenue
 - “Old” Howell Mountain Road
 - Brookside Drive
 - Ink Grade Road

 - Water: Wildland fire in the forests and/or canyons of Howell Mountain may render water supply unusable from sediment impacting both the quality and healthy functioning of the watershed.
 - Private wells are the predominant water source for Angwin properties.
 - Water service is received from (1) Howell Mountain Mutual Water Company, Inc. (serving approximately 460 households), (2) Pacific Union College (2nd largest purveyor of water), and (3) four additional smaller water companies that together serve about 80 households.
 - The Bell Canyon watershed on the northwest side of Angwin provides water to St. Helena Hospital in Deer Park and to the City of St. Helena, which relies on Bell Canyon Reservoir for almost half of its drinking water.
 - The Conn Creek watershed flows to the south side of Angwin and down to Lake Hennessy Reservoir, providing nearly 70% of the potable water supply for the City of Napa.

- **Areas of Community importance, including:**
 - Pacific Union College, including PUC Preparatory, Elementary and Discoveryland Pre-school – regional & economic importance
 - Howell Mountain Elementary School – regional and economic importance
 - Vineyards and Wineries- national and regional economic importance
 - Howell Mountain Mutual Water Company- regional importance
 - Angwin Airport/ Parrett Field – regional and economic importance for safety (1 of 2 airports in Napa County and the only up-valley airport)
 - Angwin Plaza
 - Chevron Gas Station
 - Angwin U.S. Post Office
 - Angwin Market/Ace Hardware/PUC Bookstore
 - Silverado Credit Union
 - Various medical offices
 - Land Trust Napa County Preserves and Conservation Easements:
 - Dunn-Wildlake and Duff Ranch Preserves include over 4,000 acres at the northwest side of Angwin.
 - Audubon-Cheney Preserve includes 120 acres on the west/northwest side of Angwin (Bell Canyon).
 - Linda Falls Preserve includes 177 acres bordering the south side of Angwin.
 - Okin Chiles Valley Preserve includes 110 acres bordering Las Posadas and PUC forests lands on the east side of Angwin.
 - Various Conservation Easements

- **Areas of Critical Habitat**
 - The rural community of Angwin is surrounded by over 4,500 acres of forested wildlands under the stewardship of the Land Trust, plus approximately 1,900 acres of land owned by PUC, plus the nearly 800-acre Las Posadas State Experimental Forest, all of which contain significant scenic, resource, wildlife and recreational values.
 - The dominant vegetation types in the Angwin area include Douglas Fir, Ponderosa Pine, Grey Pine, Redwood, Madrone, Coast Live Oak, Black Oak, White Alder, California Bay, Maple, Buckeye, and mixed Manzanita-Chemise Chaparral.
 - The Conn Creek riparian corridor is critical habitat for wildlife, though choked by invasive plants as it traverses the Angwin basin. The most noteworthy invasive plants also add to the fuel load and include English Ivy (*Hedera helix*), French Broom (*Genista monspessulana*), Scotch Broom (*Cytisus scoparius*), Himalayan Blackberry (*Rubus armeniacus*) and Large Periwinkle (*Vinca major*.)

After considering the location of the inhabited areas, the critical human infrastructure, and the risk of wildfire, the AFSC defined its Wildland Urban Interface (WUI) Zone around its neighborhoods and its community assets. Natural and man-made barriers (e.g. roads, ridgelines, streams, etc.) have been used to approximately define the boundary.



Angwin Wildland Urban Interface (WUI) Zone and Boundary Map

COMMUNITY ASSESSMENTS AND PROJECTS

The Napa Firewise consultant assessed the risk of each neighborhood regarding the following main conditions: those affecting firefighting response, fire hazard facing the neighborhood, the vulnerability of the structures from wildland and structural fires, and the probability that an ignition would occur.

These conditions are based on the availability and characteristics of access, general vegetative fuel condition, the quality and quantity of defensible space, the exterior structural construction materials and design, as well as land use and density of population.

Projects were recommended to respond to the conditions, offering suggestions of treatments that improve the hazard and firefighting response capabilities, and/or reduce the ignition potential and vulnerability of structures from wildland fire.

Community Risk Assessment:

Within the Angwin WUI Zone, the following table lists the associated wildfire risk by neighborhood, as viewed by this community Fire Safe Council.

Criteria for evaluating the factors, in summary:

1. Fuel Hazard (0 to 3 points available). This addresses the potential fire behavior from vegetation.
2. Risk of Wildfire Occurrence (0 to 3 points available). This factor captures the types of uses that are associated with higher rates of ignitions. A neighborhood with lots of well-traveled roads would be rated a 2. Regular neighborhoods would be rated a 1 and an area that has few homes, would be rated a 0.
3. Structural Ignitability (0-3 points available). The rating portrays the types of construction that resists or facilitates ignition.
4. Firefighting Capability (0-3). This addresses both accessibility and water supply that supports or hampers firefighting efforts.
5. Overall Risk (0-12 possible) - Add the points

***Community Risk Assessment
Table***

RISK AREA BY NEIGHBORHOOD	Fuel Hazard	Risk of Wildfire Occurrence	Structural Ignitability	Firefighting Capability	Overall Risk
Bell Canyon	3	0	1	2	6
Linda Falls	3	1	1	3	8
Las Posadas	2	1	1	2	6
Clark	2	2	1	1	6
Summit/ Friesen	1	1	1	3	6
Ink Grade	3	0	1	2	6
Howell Mountain North	3	2	1	2	8
PUC Campus & Forest	3	3	0	1	7
Brookside	2	2	1	1	6
White Cottage South	2	3	0	2	7

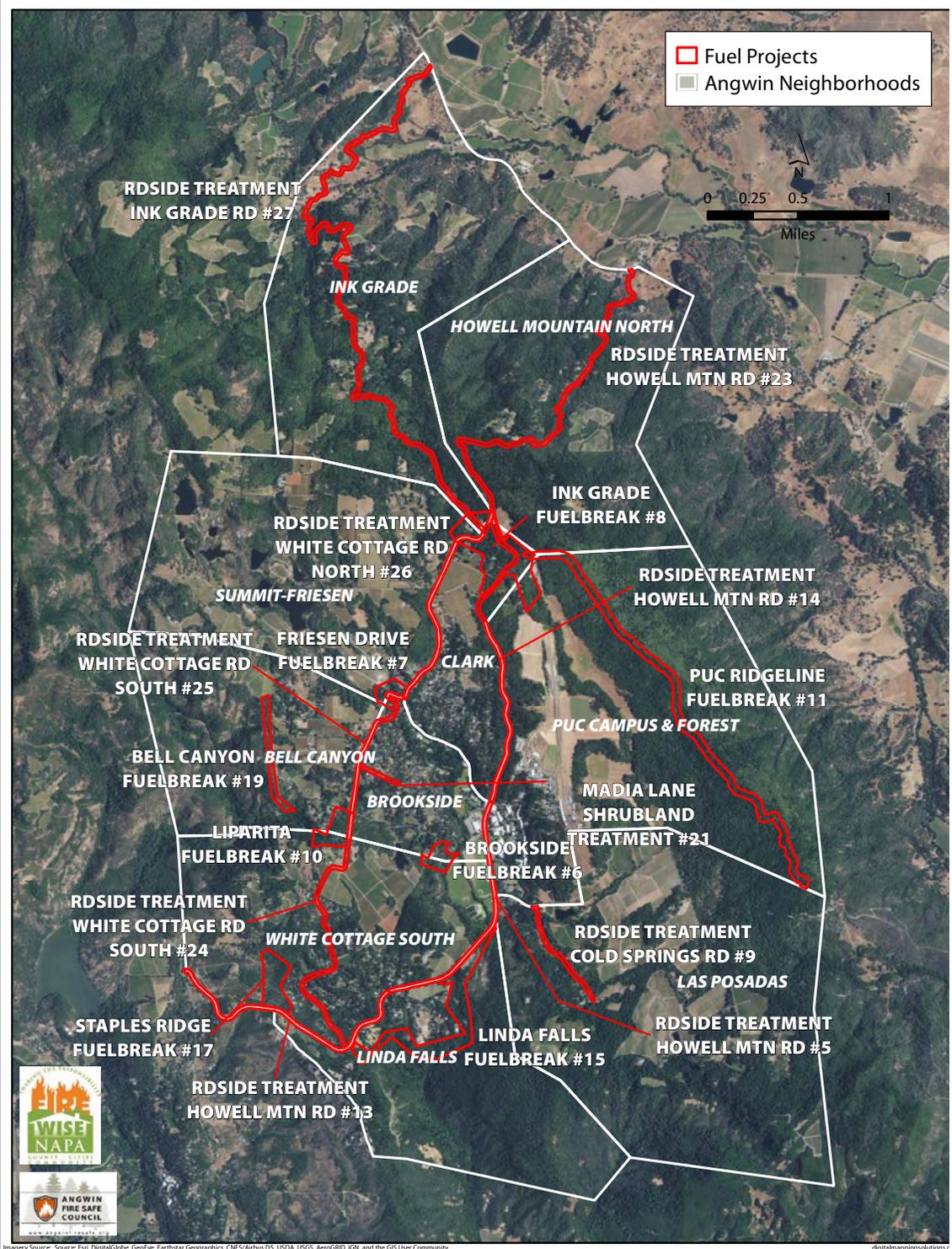
Community Hazard Reduction Projects, Treatments & Priorities:

Based on the results of the community risk assessment, and ongoing review and identification of additional community risks, projects for hazard reduction have been listed in the Angwin Fuel Projects Map and the Community Hazard Reduction Projects, Treatments & Priorities Table. The table describes the community hazard reduction treatment projects by neighborhood, types of treatments, method of treatments and overall priorities.

Implementation of the identified projects is based on funding, accessibility and private property owner responsibilities. Actual risks to each neighborhood, and the community at large, are based on several factors, such as the source and direction of fire, amount of fuel, accessibility, winds, etc.

Angwin Fuel Projects Map

Angwin CWP
Angwin Fire Safe Council
Napa Firewise



Fuel Projects Map (projects are drawn in red and defined by neighborhood and type of treatment.)

***Community Hazard Reduction Projects by Neighborhood
Treatments and Priorities
Table***

Risk Area by Neighborhood & Project	Type of Treatment	Method of Treatment	Overall Priority
LINDA FALLS Project # 5	Roadside Treatment Howell Mountain Rd (Edgemont Ln/ Viewridge Dr to College Ave)	Pyrophytic species removal, crown thinning, limbing up, brush clearing, chip debris	1 DEMO
WHITE COTTAGE SOUTH Project # 13	Roadside Treatment Howell Mountain Rd (Hairpin Turn to Edgemont Ln / Viewridge Dr)	Pyrophytic species removal, crown thinning, limbing up, brush clearing, chip debris	2 DEMO
HOWELL MOUNTAIN NORTH Project # 23	Roadside Treatment Howell Mountain Rd (White Cottage North to Pope Valley)	Pyrophytic species removal, crown thinning, limbing up, brush clearing, chip debris	3
INK GRADE Project # 27	Roadside Treatment Ink Grade Rd (White Cottage Rd to Pope Valley Rd)	Pyrophytic species removal, crown thinning, limbing up, brush clearing, chip debris	3
CLARK Project # 14	Roadside Treatment Howell Mountain Rd (College to White Cottage North)	Pyrophytic species removal, crown thinning, limbing up, brush clearing, chip debris	3
WHITE COTTAGE SOUTH Project # 24	Roadside Treatment White Cottage Rd (Deer Park Rd to Liparita Ave)	Pyrophytic species removal, crown thinning, limbing up, brush clearing, chip debris	4

BELL CANYON Project # 25	Roadside Treatment White Cottage Rd (Liparita Ave to College Ave)	Pyrophytic species removal, crown thinning, limbing up, brush clearing, chip debris	4
SUMMIT-FRIESEN Project # 26	Roadside Treatment White Cottage Rd (College Ave to Ink Grade Rd)	Pyrophytic species removal, crown thinning, limbing up, brush clearing, chip debris	4
PUC CAMPUS & FOREST Project # 11	PUC Ridge Road fire road and shaded fuel break	100' to 200' shaded fuel break. Clear brush, dead wood, fuel ladders.	4
INK GRADE Project # 8	Ink Grade Fuel Break	100' to 200' shaded fuel break. Clear brush, dead wood, fuel ladders.	5
WHITE COTTAGE SOUTH Project # 17	Staples Ridge Fuel break	100' to 200' shaded fuel break. Clear brush, dead wood, fuel ladders.	5
SUMMIT-FRIESEN Project # 7	Friesen Drive Fuel break	100' to 200' shaded fuel break. Clear brush, dead wood, fuel ladders.	6
BELL CANYON Project # 19	Bell Canyon Fuel break	100' to 200' shaded fuel break. Clear brush, dead wood, fuel ladders.	7
LAS POSADAS Project # 9	Roadside Treatment Cold Springs Rd (Las Posadas to end of Cold Springs)	Pyrophytic species removal, crown thinning, limbing up, brush clearing, chip debris.	8

BROOKSIDE Project # 6	Brookside Fuel break	100' to 200' shaded fuel break. Clear brush, dead wood, fuel ladders.	8
BELL CANYON Project # 10	Liparita Fuel break	100' to 200' shaded fuel break. Clear brush, dead wood, fuel ladders.	8
LINDA FALLS Project # 15	Linda Falls Fuel break	100' to 200' shaded fuel break. Clear brush, dead wood, fuel ladders.	8
BROOKSIDE Project # 21	Madia Lane Shrubland Management	Pyrophytic species removal, crown thinning, limbing up, brush clearing, chip debris	9

Note: Projects, project numbers and ordering have been modified since the initial community assessment in Fall 2015. Further changes to the project list in this current plan, if made, will be noted in Appendix C: Project Additions, Deletions, Modifications and/or Additional Descriptive Information. Appendix C is made a part of this Plan but not subject to formal revision of the Plan.

The AFSC intends to annually assess the implementation of the ACWPP. Agencies and landowners may submit projects that provide community protection for possible inclusion.

Additional Concerns & Efforts:

Prompted by the Angwin Evaluation

1. Develop a Communication/Education Plan and Network for Angwin.

Determine if any existing communication systems exist in Angwin that the Angwin Fire Safe Council could use to disseminate information to the community. Develop flyers/handouts, mailers, and newsletters regarding fire safety practices and public education announcements and events.

2. Emphasize & Improve Defensible Space.

Assuring 100-foot defensible space around all structures reduces the threat of direct flame impingement and ignition of structures from radiation. We will conduct individual property lot inspections with homeowners, and advise them of needed work. We will continue to perform this essential service.

3. Install Compliant Addresses at Road and Home. Install compliant reflective house numbering. As possible, collect vital household information about locations of the elderly, handicapped and/or infirm to be included in the maps for first responders. (Project # 2)

4. Install Knox Box at gated entries. This Box is for first responders, with maps that include streets, gates, hydrants, etc. Be certain fire & police have keys or codes. (Project # 1)

5. Encourage Call'em all and Nixle Sign-up. Provide information and encourage participation. (Project # 3)

6. Install Safety Zones in each Neighborhood. Identify large open areas with low fuel volumes for people to meet in an emergency. (Project # 22)

7. Organize Evacuation Drills for the PUC campus population and residences and ultimately for the community as a whole by Neighborhood Risk Areas. (Project # 18)

8. Engage in practices that promote a healthy forest and watershed by reducing and removing pyrophytic and non-native species (Himalayan Blackberry, French and Scotch Broom, English Ivy and Large Periwinkle). It is the goal of this plan to enhance the forested element of Angwin through reduction of flammable dead and dying understory and removal of non-native vegetation. The desired condition would be an understory that is open and not as easily ignitable as is the current condition. Land Trust Napa County conducts organized invasive species removal workdays each year through its field trip and stewardship programs. Angwin Fire Safe volunteers could work in concert with Land Trust to improve both the habitat and reduce fuel load on Howell Mountain.

Plan and Timetable:

Project	Agency/ Landowner	Funding Needs and Sources	Time Table
LINDA FALLS Project # 5	County Road right-of-way	NCFF Grant	2016
WHITE COTTAGE SOUTH Project # 13	County Road right-of-way	NCFF Grant	2016
HOWELL MOUNTAIN NORTH Project # 23	County Road right-of-way	NCFF Grant	2017
INK GRADE Project # 27	County Road right-of-way	NCFF Grant	2017
CLARK Project # 14			
WHITE COTTAGE SOUTH Project # 24			
BELL CANYON Project # 25			
SUMMIT-FRIESEN Project # 26			
PUC CAMPUS & FOREST Project # 11			
INK GRADE Project # 8			
WHITE COTTAGE SOUTH Project # 17			

SUMMIT/FRIESEN Project # 7			
BELL CANYON Project # 19			
LAS POSADAS Project # 9			
BROOKSIDE Project # 6			
BELL CANYON Project # 10			
LINDA FALLS Project # 15			
BROOKSIDE Project # 21			

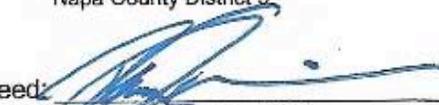
Finalized Community Wildfire Protection Plan:

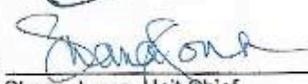
The Angwin Community Wildfire Protection Plan:

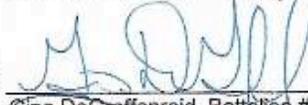
- Was collaboratively developed. Interested parties and state land management agencies managing land in the vicinity of Angwin have been consulted.
- Identifies and prioritizes areas for hazardous fuel reduction treatments and recommends the types and methods of treatment that will protect Angwin.
- Recommends measures to reduce the ignitability of structures throughout the area addressed by the plan.

The following entities mutually agree with the contents of this Community Wildfire Protection Plan:

Agreed:  Date: 10-25-17
Diahe Dillon, Supervisor
Napa County District 3

Agreed:  Date: 9-17-17
Barry Bierman, Fire Chief
Napa County Fire Department

Agreed:  Date: 11/6/17
Shana Jones, Unit Chief
CAL FIRE Sonoma-Lake-Napa-Unit

Agreed:  Date: 11/6/17
Gino DeGraffenreid, Battalion #14 Chief
CAL FIRE Napa County, St. Helena Battalion

Agreed:  Date: 9/27/17
J.R. Rogers, Chief
Angwin Volunteer Fire Department

Agreed:  Date: 9/22/17
John Robertson, Sheriff
Napa County Sheriff's Department

**ANGWIN
COMMUNITY WILDLAND PROTECTION PLAN**

APPENDIX A

ANGWIN FIRE SAFE COUNCIL MEMBERSHIP

The Angwin Fire Safe Council (AFSC) is currently comprised of fourteen voting members, one advisory member and one advisory/liaison to the Napa Communities Firewise Foundation (NCFWF):

Erin Erickson
Linda Hansel
Margo Kennedy*
Peter Lecourt
Kellie Lind
Joe McCrary
Paula Peterson*
John Tully
Marsa Tully
Aimee Wyrick-Brownworth

J.R. Rogers, Advisory/Angwin Volunteer Fire Department
Peter Lecourt, NCFWF Liaison

*Co-chairs of AFSC

AFSC Membership List Updated: May 14, 2019

**ANGWIN
COMMUNITY WILDLAND PROTECTION PLAN**

APPENDIX B

STATE AND LOCAL AGENCY REPRESENTATIVES

The State and Local Agency representatives with jurisdictional responsibilities in the vicinity of Angwin are as follows:

Napa County Board of Supervisor, District 3:	Diane Dillon
Napa County Fire Department, Fire Chief:	Geoff Belyea
CalFire Sonoma-Lake-Napa Unit, Unit Chief:	Shana Jones
CalFire Napa County, St. Helena, Battalion #14 Chief:	Gino DeGraffenreid
Angwin Volunteer Fire Department, Chief:	JR Rogers
Napa County Sheriff's Department, Sheriff:	John Robertson

State and Local Agency Representative List Updated: May 14, 2019

**ANGWIN
COMMUNITY WILDLAND PROTECTION PLAN**

APPENDIX C

**ACWPP PROJECT LIST ADDITIONS, DELETIONS,
MODIFICATIONS AND/OR ADDITIONAL DESCRIPTIVE
INFORMATION**

This appendix has been created for project additions, deletions, modifications and/or additional descriptive information related to ACWPP projects.

(As of the date below, there are no updates to the project list in the ACWPP, Revised August 8, 2017.)

AFSC Project List Updated: August 8, 2017