

Village Park #4 Strong!

Fire Assessment and Proposed Plan of Action

Note: Redacted version. The HOA board has taken out any personal or identifiable addresses from the original report.

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Prepared for Village Park Recreational Community #4

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NOTICE: Although Douglas Kent MS, MLA has made every effort to ensure that the information in this report is accurate and effective, he is not responsible for any loss, damage, injury or inconvenience that may occur to anyone while using this report. Following the advice in this report does not guarantee success. You are responsible for your own safety and the outcome of your work.

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NOTE: this report is for Village Park #4 homeowners only. None of the HOA specific details such as names, phone numbers, images, street names or houses are to be shared outside of the HOA.

You can share the advice how to fireproof houses.

Background



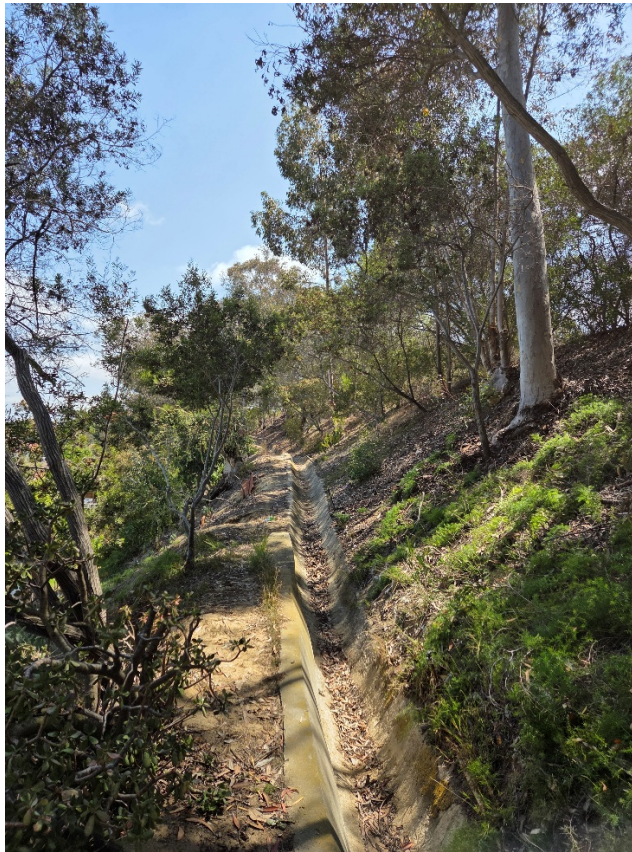
A slope on the southwestern edge of the Open Space that shows good attention to fuel reduction while reducing erosion and topsoil loss.

On July 17 Doug Kent spent three hours touring the community of Village Park #4. The tour included a quick walking assessment of the 9 acres of open space, several private residents that border the open space, interviews with a several homeowners, and Google Earth investigations. The physical assessment spanned just 3 hours and should be considered cursory.

Douglas Kent, the surveyor, has been working to help individuals, businesses and public entities defend themselves from wildfire since 1993. He has written two books on the subject (*Firescaping*), one of which is a bestseller on the topic. He has authored over 30 fire related articles, appearing in such publications as *The Los Angeles Times* and *Pacific Horticulture*. And he has appeared in such media as *The New York Times* and *NPR*. He also teaches the topic of fire protection at Cal Poly Pomona, UCLA Extension, and USC's School of Architecture.



Findings



Picture taken along the southwestern edge of the open space and it shows land care that will greatly reduce the severity of a wildfire. Excess vegetation and deadwood have been removed, ladder fuels have been reduced, and spacing between trees is being maintained.

Introduction

Included in this section is a quick assessment of the open space and private residences. It also includes a map that highlights my findings. Further in this report are pictures that support those findings.

Open Space

Because the open space is not irrigated or vigorously maintained, it is a fire risk, as all natural areas are. Fire is natural too. The goal in this area is not to stop fire, but slow it and reduce its intensity.

The Open Space is highly flammable for these reasons:

- There are many slopes over 30% (17 degrees), which means a 3-foot flame on flat ground elongates to about 60 feet on those slopes. Some of the slopes were steeper (and others not).
- There are small canyons and slots, which compresses the wind and speeds it up, further elongating flame length, endangering more of the area and residences.
- Much of the vegetation is past its prime, and more vulnerable to any type of environmental stress, whether fire, pests, disease, and/or climatic extremes, such as freezes, excessive heat and winds. Young plants, like people, are far more resilient.
- There are sources of ignition. Not only do workers come in with blazing machines, the leading cause of ignition in California, but there were other signs of sources as well, such as being close to roadways (second leading cause), pot smokers (we found evidence), and possible short-term encampments (some evidence).

That said, not all areas posed significant risk. There were some areas where deadwood, ladder fuels, unwanted plants, and excess ground debris were removed. This type of land care should be the model throughout. However, access and ease of removing greenwaste seemed to dictate where that work was occurring.

- Note: It was a joy to tour your open space. From the geology and ecology, to the views and shaded nooks, I believe your community is incredibly rich to be able to enjoy and manage such a unique area.

Structures

Of all the aspects of fire protection in this report, Village Park's structures were waning. Many are not prepared for a firebrand attack and may not be able to endure intense heat without igniting. More often than not, it is just a matter of basic housekeeping—removing ignitable material from next to a house, painting eaves, and filling gaps in siding.

The importance of fire-hardened structures cannot be overstated. Conservative estimates of structure loss during the Woolsey Fire (Malibu/ Ventura 2018) say that more than 68% of the 1,643 structures destroyed were lost to firebrands—and up to 40% of those burned from the inside out, meaning that a firebrand penetrated the interior. Direct flame contact only devoured 526 homes.

Compounding the problem is the distance between homes. Unless structures have 30 feet of separation, radiant heat from a burning home can ignite its neighbor(s), which means if

one goes, the entire block goes. This inflammation through radiation explains California's largest calamities, including the Cedar and Witch Fires.

Much of Village Park's risk lies in the age of the homes. These homes were built 31 years before California overhauled its building and fire codes. The age of the homes also increases ignitability through lapses in weatherization, warped wood, peeling paint, and degraded screens on air vents, all of which provide access and footholds for firebrands.

Suggestions for Community-Wide Protection

I am recommending a three-pronged approach to reduce community risk and ensure generational resistance. These three approaches are open space management, individual responsibility, and seeking assistance.

Open Space

1. **Fuel Reduction:** In the Areas of Great Concern (see prior section) the dead wood must be removed. These fuels are both on the ground and in the canopies of the shrubs and trees. Importantly, anyone doing work in the open space must bring a fire extinguisher with them and a board to lay hot equipment on.



All machine work in fire country must be accompanied by a fire extinguisher, board for hot equipment, and a no-spill refueling can.

2. **Access:** Ease of access produces three benefits. First, maintenance work is easier and less expensive. Second, emergency personnel gain points of entry, which would improve the efficiency of their fire-fighting work. And third, greater access may allow more community members to visit, which might reduce unwanted uses of the land, such as teenagers lighting things and encampments.
3. **Renewal/Regeneration:** Much of the vegetation in the open space is past its prime and susceptible to ignition. Fire is a natural and ancient regenerator and

maintenance should mimic its' benefits. Many trees, like the *Acacia*, can be coppiced. Sage scrub and buckwheat can be cut down by two-thirds. And removal of excess leaf litter allows new and resilient plants to sprout.

4. **Winter Water:** More so than any other time of year, California native and Mediterranean plants need late fall and winter moisture—it is when they stock up and prepare for the long, dry and hot months ahead. If average rainfall does not occur, the community should ensure winter moisture.



Some parts of the Open Space have an irrigation system. It should be employed when rainfall is scant. Other areas of the Open Space would be more fire resistant with supplemental moisture as well.

5. **Long-Term Plan:** Is there a vision for this area? If so, it was never explained. Management activities appear reactive, rather than proactive. What would you like the area to look like in 20 years? That should be visualized. Oak savannah, coral tree retreat, or food producing were some of the things I heard in the community forum. A vision informs which plants are removed and which are favored; when work is done and where; and the amounts of water and resources allocated yearly. As it stands right now, I saw a lot of deferred maintenance and heard of no shared vision.

Individual

1. **Identify Linchpins:** A linchpin structure is one that is close to a high hazard area and if it gets inflamed, has a high potential to inflame others through its close proximity. Houses that overlooked the open space and have less than 30 feet of separation are linchpins.
2. **Public Education:** Home hardening is the surest way to protect the community. As mentioned, without irrigation and weekly maintenance, the open space will always

pose a fire risk. A strong education campaign on the importance of home hardening can help protect all 300 homes in VP#4.



Pictured is a common sight in every burn area I have toured—an immaculate landscape surrounding a pile of charred rubble. Always start with the heart and work outwards. Picture taken in Altadena

3. **Identify Resource Deficient Homeowners:** Not everyone in your community may be able to afford to have their houses painted, screens replaced, fences restored, and/or any of the other expensive tasks that create community-wide protection. Once identified, the community can volunteer to do work, host fund raisers, and/or solicit funding from outside sources.
4. **Evacuation Plan-Making Parties:** How people evacuate during a firestorm has a huge impact on a structure's chance of survival—it is not enough to simply grab the kids, computers, and pictures. The house must be buttoned up like you are leaving for weeks; anything remotely flammable must be moved off a home; and gas must be turned off, lights turned on, gates opened, and trashcans placed on sidewalks. Every community member needs an action/evacuation plan.

Seeking Assistance

FireSafe and FireWise: These two non-profits have been helping vulnerable communities in the state and nation for decades. They are the best place to start for any emerging fire-protected community. They have a library of educational material, they distribute grants for both fuel/vegetation reduction and home hardening, and they are an ally when working with insurance companies and fire departments.

The Law: While I am not recommending connecting the community to California's onerous fire code just yet, the law can be a powerful tool to get people to act for the benefit of the community.

Appendix A: Additional Tools for Protection

State Approved Ember-Resistant Air Vents

- **Brandguard Vents**, San Clemente, CA
<https://www.brandguardvents.com/>
- **Embers Out LLC**, Yorba Linda, CA <https://www.embersout.com/>
- **Vulcan Technologies**, San Rafael, CA
<http://www.vulcantechologies.com/>

Removing Debris from Roof Gutters

- **Gutter Trowel:** Many hardware stores sell a gutter trowel, which is a small hand shovel designed to fit roof gutters. It involves either climbing a ladder or reaching over the edge of your roof.
- **Wet/Dry Vacuum:** Using an outdoor vacuum (Shop-Vac) is a clean and efficient way to remove debris. Some hardware stores sell extension hoses and hooked beaks, so that they can be cleaned from the ground.
- **Blower:** Using a blower to push the debris from your gutters is quick and efficient, but messy and still involves getting up on a ladder or the roof.
- **Hose:** Hosing gutters is fast, but messy work.
- **Pole System:** There are a variety of pole-extension systems that allow you to clean your gutters from the ground. Google “cleaning roof gutters with poles”.
- **Install Leaf Guards:** Leaf guards can help prevent a big pile of dead material from accumulating in your gutters, but you will still have to sweep the roof of leaves.

Knowing Plastics in Fire Country

Plastic outdoor furniture can be made from a variety of plastics, some of which are flammable, others that are much less so. Below are lists of plastics to avoid in fire country and those that are preferred. If you are unsure what type of plastic you have, visit the manufacturers’ website.

Plastics to Avoid in Fire Country

High-density polyethylene: HDPE is made from recycled plastics, such as milk jugs and shampoo bottles. It creates a durable and long-lasting product but is flammable and will liquefy. Plastic Type 2.

Low-Density Polyethylene: LDPE is inexpensive, durable and flexible. It can be found in bags, light chairs and bins. Unfortunately, it will liquefy and burn at relatively low temperatures. Plastic Type 4.

Polypropylene: PP is lighter weight than HDPE and lacks its strength. Although it is resistant to chemical degradation, making it great for containers and pots, it is also flammable. Plastic Type 5.

Polystyrene: PS is commonly associated with Styrofoam, but can also be made into lightweight, UV resistant benches, chairs and tables. It is considered highly flammable. Plastic Type 6.

Polyamides: PA, or better known as nylon, is commonly used for synthetic cushions, weed fabrics and netting. Nylon may be reluctant to burn, but once it does, it melts and can spread a fire. Plastic Type 7.

Polymethyl Methacrylate: PMMA, which is acrylic and Plexiglas, makes a long lasting and UV resistant sheet that can be clear. It is used for greenhouses and tabletops. It is highly flammable. Plastic Type 7.

Better Plastics for Fire Country

Polyvinyl chloride: PVC, often called vinyl, is durable, flexible and can be long lasting. It is used for couches, fencing and tables. Its high chlorine content makes it fairly fire resistant. It will melt. Plastic Type 3.

Polycarbonate: PC is a tough and impact-resistant material. It is one of the better plastics for transparency. It is used in chairs, panes and tables. While it has reasonable flame resistance, it can leach BPAs. Plastic Type 7.

Are plastic or plastic composite fences dangerous?

Luckily, the most common type of plastic fencing is vinyl, which is made from polyvinyl chloride (PVC). Vinyl has a good degree of fire resistance but will wilt and melt in extreme heat.

Although less common, some plastic fences are made from Polypropylene (PP), nylon (PA), and Polypropylene (PP). All three are considered flammable and should be avoided in fire country.



Appendix B: Self-Assessment for Protection

Overview

The areas tested below have been ranked based on their ability to first save lives and to second save assets.

1. Roads
2. Structures
3. First 5 feet from a structure
4. Defensible Space: to 30 feet from a structure
5. Fire Hydrants
6. Staging Areas

Roads

The importance of roads cannot be overstated. Surviving a conflagration involves both fleeing and fighting, and both demand roads that can allow for two-way traffic and easy navigation during periods of poor visibility. Roads are also commonly used to fight a fire.

Width

- Good: 22 to 27 feet for two-way; 14 to 18 feet for single lane.
- Okay: 18 to 22 feet for two-way; 12 to 14 feet for single lane.
- Poor: Less than 18 feet for two-way; less than 12 for single lane.

Shoulders

- Good: 5 feet on either side of road with non-flammable vegetation that is well maintained and mountable.
- Okay: 5 feet on either side of road with wild vegetation mowed to 6 inches.
- Poor: Flammable vegetation along the road's shoulders.

Pullouts for Cars

- Pullouts (8x17 feet) on single lane roads every 1,000 feet with flammable vegetation cleared 5 feet from around them.

Trees

- Good: No overhanging branches along roads and trees are properly maintained and irrigated.
- Okay: Some overhanging branches, but limbs are 15 feet above roadway and they are well maintained.
- Poor: Many overhanging branches that have dead or dying vegetation and/or the tree is flammable.

Structures

A majority of the structures destroyed during a wildfire are ignited by a firebrand, which is a flying ember driven ahead of the fire. When firebrands rain on a structure for days even the smallest lapse in design or maintenance can have a devastating impact.

Roof

- Good: Class A and not broken, cracked or uplifting.
- Okay: Class A and in poor condition.
- Poor: Roof and rain gutters are littered with leafy debris.

Roof Gutters

- Good: Clean and not prying away from fascia.
- Okay: No more than an ½ inch of debris and only a little prying.
- Poor: Rain gutters are full of debris, might be growing weeds, and are in poor condition.

Siding

- Good: Fire resistant, such as stucco, stone and concrete-composite paneling.
- Okay: Ignition resistant treated wood.
- Poor: Wood shingle, poorly joined wood panels, or any siding with fissures and splits.

Windows

- Good: Double Paned, Not Large.
- Okay: Single Paned, Not Large.
- Poor: Single Paned and Large.

Gaps

- Eaves have a soffit or maintained with ignition resistant treatment and have no gaps.
- The screens over air vents are in good repair.
- All seams, such as paneling, flashing, windows and two joining materials, are maintained with no gaps.

Maintenance

- Good Maintenance: No leafy debris on roof or rain gutters, siding treated, and gaps closed.
- Okay Maintenance: Some leafy debris and peeling paint.
- Poor Maintenance: Leafy debris, peeling paint and/or disjointed seams under eaves and/or siding.

Vegetation

- Limbs of trees and large shrubs are kept 15 ft from a structure and 10 ft above its roof.
- Trees and large shrubs immediately around structure are fire retardant and well maintained.

First 5 feet

The first 5 feet plays a disproportionate role in any structure's survival. If anything ignites within this area the radiant heat can ignite things within the structure. At the very least, the ignition will damage the structure.

The First 5 Feet

- Good: No flammable debris, clutter, materials or woody mulches. Plants are fire retardant and well maintained.
- Okay: Some flammable debris, such as leaves and student projects, but overall low flammability.
- Poor: Debris, clutter and/or flammable materials.

Defensible Space: to 30 feet

Defensible space is crucial in high fire hazard areas. Without igniting, this zone must be able to withstand firebrands and intense heat, between 900 to 1,300 degrees. Everybody should be able to move swiftly through this area. Fire fighters will battle a blaze within the area immediately around a structure.

Vegetation

- Good: Comprised of fire retardant and resistant plants and well maintained (no dead, dying or diseased vegetation).
- Okay: Comprised of some fire-resistant plants, but all is well maintained.
- Poor: Comprised of flammable plants and poorly maintained.

Pathways

- Good: No less than 4-foot wide, 2 feet of clearance on either side, overhead branches no less than 10 feet high, and pathways encircle the structure.
- Okay: Paths around structure but constricted or restricted at times and/or path has depressed or uplifted surfaces.
- Poor: Access to any point of the structure is impeded, paths are narrow, and/or there are tripping or ducking hazards.

Landscape Features

Landscape features include work areas, shade structures and tool sheds.

- Good: Features are made from non-flammable materials, such as steel and stone, are in good repair, and have 5 feet of clearance around them.
- Okay: Wood features are in good repair, with no splitting wood, peeling paint or gaps, and has clearance around them.
- Poor: Features are in poor condition, has many gaps for firebrands, and may have flammable debris, materials or vegetation around them.
-

Fire Hydrants

- Good: Hydrant is brightly painted, can be seen from 30 feet away and in periods of low visibility, and 3 feet of clearance around their circumference and 5 feet of mowed space in front.
- Okay: Can only see hydrant from 15 feet away, has less than 3 feet of clearance around hydrant and/or the hydrant is not in sharp contrast.
- Poor: Hard to see or find hydrant and little or no clearance around it.
-

Emergency Staging Areas (parking off critical roads)

- Good: 200 feet of non-flammable surface (100 feet in any direction from parked trucks).
- Okay: 150 feet of non-flammable surface (75 feet in any direction from parked trucks).
- Poor: Less than 100 feet of non-flammable surface (50 feet in any direction from parked trucks).

Other Important Elements

- Fire hydrants are within the parking lot.
- Vegetation in parking lots is fire resistant, properly irrigated, and well maintained (no dead or dying vegetation).
- Parking has lighting.

