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MEMORANDUM

To:	Mark Slovick, County of San Diego Planning and Development Services
From:	Michael Huff, Dudek
Subject:	Fire-Safety – Otay Ranch Village 14 and Planning Areas 16/19
Date:	February 26, 2020
cc:	Liz Jackson, Jackson Pendo Development Company (JPDC) Rob Cameron, JPDC David Hubbard, Gatzke Dillon & Ballance
Attachments:	Proposed Project Amendment Wildfire Evacuation Plan Village 14 and Planning Area 16/19 Fire Term Sheet

Introduction

Comments submitted in response to the Addendum expressed concerns regarding the Proposed Project Amendment's impacts on fire ignition risk and emergency evacuation procedures. This memorandum addresses those issues and seeks to clarify certain points regarding fire ignition, subdivision-specific evacuation planning and execution, the defensibility of modern subdivisions, and temporary refuge strategies. This memorandum does not address all fire protection measures, planning, design, monitoring and maintenance measures that would be provided by the Proposed Project Alternative, and should be read in conjunction with the project's collective fire and evacuation safety documentation, including that set forth in, and attached to, the Final EIR for the Approved Project, certified on June 26, 2019.[1]

1. New Development in the WUI and Fire Ignition Risk

- Data Do Not Support Assumption That New Development Increases Fire Ignition Risk: Some of the comments received suggested that placing new residential projects in the County's wildland-urban interface (WUI) will increase the risk of fire ignition. The data, however, do not support that conclusion. According to the available evidence, no large fires in San Diego County since 1990 were determined to have been started within a nearby master planned, ignition-resistant subdivision or neighborhood. Syphard and Keeley[2] (2015 - *Location, timing and extent of wildfire vary by cause of ignition*) summarized all wildfire ignitions included in the CAL FIRE Fire and Resource Assessment Program[3] database, dating back over 100 years. They found that in San Diego

[1] While this memorandum addresses the Proposed Project Amendment, the points raised in the memorandum apply equally to the Approved Project adopted by the County on June 26, 2019. When the memorandum makes a specific point regarding the Approved Project, it will use that specific term.

[2] Alexandra D. Syphard and Jon E. Keeley. 2015. Location, timing and extent of wildfire vary by cause of ignition. International Journal of Wildland Fire. 11 pp.

[3] Cal Fire Fire and Resource Assessment Program. https://frap.fire.ca.gov/

County, equipment-caused fires were by far the most numerous, and these also accounted for most of the area burned; power-line fires were a close second. Ignitions classified as equipment-caused frequently resulted from exhaust or sparks from power saws or other equipment with gas or electrical motors, such as lawn mowers, trimmers or tractors. These ignition sources are typically associated with *lower density* housing, not *higher density* housing such as that contemplated under the Proposed Project Amendment. It is noted that electrical transmission lines would be undergrounded to the project area consistent with the County of San Diego General Condition for undergrounding utility lines.

- Data Indicate That Lower-Density Housing Poses Greater Ignition Risk: In San Diego County, ignitions were more likely to occur close to roads and structures, and at intermediate structure densities. This likely because lower density housing creates a wildland urban *intermix* rather than an *interface*. The intermix places housing amongst unmaintained fuels, whereas higher density housing such as the Proposed Project Amendment converts all fuels within the footprint and provides a wide, managed fuel modification zone separating homes from unmaintained fuel. The lower density portion of the Approved Project (Planning Area 16) is different than contemplated in the Syphard and Keeley study in that it too will include perimeter FMZs as well as structure specific FMZs, setting back the nearest unmaintained fuels. Syphard and Keeley (2015 – see footnote 1) determined that "[t]he WUI, where housing density is low to intermediate, is an apparent influence in most ignition maps." This further enforces the notion that lower density housing is a larger ignition issue than higher density communities. Syphard and Keeley also state that "Development of low-density, exurban housing may also lead to more homes being destroyed by fire" (Syphard et al. 2013)[4]. However, neither of these findings considers the fire hazard and risk reduction associated with HOA managed FMZs and ignition resistant structures. In addition, the study found that frequent fires and lower density housing growth may lead to the expansion of highly flammable exotic grasses that can further increase the probability of ignitions (Keeley et al. 2012)[5]. This is not the case with the Proposed Project Amendment, where the landscapes are managed and maintained to remove exotic fuels that may become established over time. The PEP and FPP plant palette restrictions, combined with HOA maintenance and 3rd party review/inspections of FMZ would minimize the establishment and expansion of exotic plants, including grasses. Based on research of the relevant literature and extensive conversations with active and retired fire operations and prevention officers, there is no substantial evidence that new residential neighborhoods built to the requirements of San Diego County's Fire and Building Codes increase the risk of wildfire ignition. Rather, the data indicate that roadways, electrical distribution lines, and lower density residential projects (that do not have HOA enforced restrictions and annual inspections) are the primary causes of increased wildfire ignition. It is important to note that the Proposed Project Amendment will provide roadside fuel modification throughout the project area and on either side of Proctor Valley Road, and that the Proposed Project Amendment's electrical lines will be subterranean. Additionally, SDG&E[6] is considered the leading electrical utility in California regarding its fire prevention and fire safety practices.

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4 Syphard AD, Bar Massada A, Butsic V, Keeley JE (2013) Land use planning and wildfire: development policies influence future probability of housing joss. PLoS ONE 8(8), e71708. doi:10.1371/JOURNAL. PONE.0071708

5 Syphard AD, Keeley JE, Bar Massada A, Brennan TJ, Radeloff VC (2012) Housing arrangement and location determine the likelihood of housing loss due to wildfire. PLoS ONE 7(3), e33954. doi:10.1371/JOURNAL. PONE.0033954

6 https://www.bing.com/videos/search?q=san+diego+gas+and+electric+weather+system&&view=detail&mid=40AB6A3DD81DE981EE7D40AB6A3DD81DE981EE7D&&FORM=VRDGAR&ru=%2Fvideos%2Fsearch%3Fq%3Dsan%2Bdiego%2Bgas%2Band%2Belectric%2Bweather%2Bsystem%26FORM%3DHDRSC4

SDG&E has invested heavily in developing a robust weather monitoring system with fire detection capabilities, fire hardening of its system, and fire awareness and outreach.

2. Evacuation Planning and Execution in San Diego County

The subdivision-specific Wildland Fire Evacuation Plan was prepared based on the Unified San Diego County Emergency Services Organization and County of San Diego Operational Area (OA) Emergency Operations Plan (EOP)[7] – Evacuation Annex. It also incorporates key information from the JCPP (Jamul Disaster Team 2006), Evacuation Plan Appendix.

- Evacuation Planning Begins with the County Office of Emergency Services (OES): To establish a framework for implementing well-coordinated evacuations, the County of San Diego OES developed an Evacuation Annex as part of the area EOP (County of San Diego 2014 – see footnote 6). Large-scale evacuations are complex, multijurisdictional efforts that require coordination between many agencies and organizations. Emergency services and other public safety organizations play key roles in ensuring that an evacuation is effective, efficient, and safe.

  Evacuation during a wildfire is not necessarily directed by the fire agency, except in specific areas where fire personnel may enact evacuations on scene. The San Diego County Sheriff's Department, California Highway Patrol (CHP), and other cooperating law enforcement agencies have primary responsibility for evacuations. These agencies work closely within the unified Incident Commander (IC) system, with the county OES, and responding fire department personnel who assess fire behavior and spread, which should ultimately guide evacuation decisions. To that end, San Diego County Fire Authority (SDCFA), law enforcement, Public Works, Planning, Emergency Services Departments, and California Department of Transportation (Caltrans), amongst others, have worked with a county pre-fire mitigation task force to address wildland fire evacuation planning for San Diego County.

  If the emergency only impacts a local jurisdiction, the decision to evacuate will be made at the local jurisdiction level with regional collaboration considerations. Based on the information gathered, local jurisdictions will generally make the determination on whether to evacuate communities as the need arises, on a case-by-case scenario basis. Technological advancements in emergency notification capabilities has resulted in the ability of emergency managers to evacuate targeted areas vs the mass evacuations that occurred during 2003 and 2007 wildfires. Targeted evacuations allow better management of traffic congestion and focus on evacuating populations on a threat-level priority basis.
- Evacuation Scenarios Vary and Often Change in Response to the Fire: Every evacuation scenario includes unique challenges, constraints, and fluid conditions that require interpretation, fast decision making, and alternatives. For example, given a distant wildfire driven by Santa Ana winds, emergency managers may have several hours or more to evacuate communities with less urgency and the ability to spread traffic surges out over a long timeframe. In a scenario where a fire is much closer, less time is available and a more strategic approach may be necessary. Optionality is important in case unforeseen issues arise that require short-term or long-term changes to the evacuation process. In general, risk is considered highest when evacuees are

[7] https://www.sandiegocounty.gov/content/dam/sdc/oes/emergency_management/plans/op-area-plan/2018/2018-Annex-Q-Evacuation.pdf

evacuating late and fire encroachment is imminent. The Proposed Project Amendment provides the option of contingency on-site temporary refuge in designated buildings to address this scenario.

- Evacuation and Early Warning Systems: As demonstrated during large and localized evacuations occurring throughout San Diego County over the last 15 years, an important component to successful evacuation is early assessment of the situation and early notification via managed evacuation declarations. San Diego County utilizes early warning and informational programs to help with these important factors. The weather system developed by SDG&E is considered to be one of the most robust systems in the country. This system enables the detection of changing weather that may favor wildfire ignition and spread and can predict these changes with 24 to 72 hours' notice, allowing time to prepare fire response resources and provide resident warnings. Similarly, there are numerous fire detection assets positioned in San Diego County's open space areas, resulting in more time availability for the evacuation process to begin while a wildfire is still in its early stages. Among the methods available to citizens for emergency information are Reverse 911/Alert San Diego[8], radio, television, social media/internet, neighborhood patrol car, and Aerial Support to Regional Enforcement Agencies helicopter (as available) and public address notifications.
- The Proposed Project Amendment's Subdivision-Specific Evacuation Plan is Consistent with County Protocols: The Proposed Project Amendment's subdivision-specific Wildland Fire Evacuation Plan incorporates concepts and protocols practiced throughout San Diego County. The San Diego County Evacuation Annex follows basic protocols set forth in the County's Operation Area EOP and the California Master Mutual Aid Agreement, which dictate who is responsible for an evacuation effort and how regional resources will be requested and coordinated. In addition, the Proposed Project Amendment's subdivision-specific Wildland Fire Evacuation Plan is consistent with JCPP Evacuation Plan and San Diego County evacuation planning standards and can be integrated into a regional evacuation plan when and if the area officials and stakeholders (California Department of Forestry and Fire Protection (CAL FIRE), SDCFA, OES, San Diego County Sheriff's Department (SDCSD), and others) complete one. The Proposed Project Amendment's subdivision-specific Evacuation Plan has been reviewed by San Diego County Fire Authority and San Diego County Sheriff's Department (SDCSD). The Wildland Fire Evacuation Plan has been updated for the Proposed Project Amendment, and is included as Attachment 1 to this Memo.
- Law Enforcement Takes Lead on Evacuations: The SDCSD is the lead agency for evacuations of the unincorporated areas of San Diego County, including the Proposed Project Amendment. The SDCSD, as part of a Unified Command, assesses and evaluates the need for evacuations, and orders evacuations according to established procedures. Additionally, as part of the Unified Command, the SDCSD identifies available and appropriate evacuation routes and coordinate evacuation traffic management with the California Department of Transportation (Caltrans), the California Highway Patrol (CHP), other supporting agencies, and jurisdictions. The following process describes how emergency evacuation decisions are coordinated, allowing emergency managers and other supporting response organizations to make collaborative decisions.

3. Evacuation Routes

- Fire Agencies and Law Enforcement Determine Evacuation Routes: Evacuation routes are determined by 1) jointly prepared pre-wildfire plans (Rhode & Associates[9], SDCFA, Cal Fire, and others) that indicate the

[8] https://www.readysandiego.org/alertsandiego/
[9] http://www.rohdeassociates.net/wui-fire-plans

likely fire scenario, and how traffic can be moved from an area and 2) in real time data reflecting fire location, movement and projected path considering downstream traffic and most vulnerable populations. As indicated above, real time evacuations in San Diego County are primarily managed by the Sheriff's Department (or local law enforcement in cities). SDCSD relies on input and situational awareness provided by the Incident Command. SDCSD coordinates with CAL TRANS and CHP for road management during evacuations. The pre-prepared evacuation plans, such as the Approved Project's subdivision-specific Wildland Fire Evacuation Plan, are guidance documents only. San Diego County OES has separately prepared regional wildfire response plans that guide emergency responses and evacuation procedures. Actual field conditions supersede prepared subdivision-specific evacuation plans, but these plans may provide valuable information that helps inform the moment by moment decision making at the Incident Commander (IC) level, as well as educating local residents about what to expect in an evacuation scenario.

- Factors Affecting Evacuation Timing and Routes: The main factors affecting the timing and routing of evacuations are those related to the nature of the wildfire. For example, is the fire uncontrollable and does it have the capability of affecting a wide area? How will its movement and projected path play into evacuation route decisions? A key component of evacuations is the weather. On non-windy days and days with higher humidity, it is far less likely for a vegetation ignition to burn out of control and therefore, evacuation notifications are not typical. Windy, low humidity days (Red Flag Warning days) are far more prone to result in vegetation ignition escape and spread, resulting in far more sensitive evacuation trigger thresholds.

  Evacuation routes that are considered acceptable when a wildfire is distant may be considered unsafe when a wildfire is in closer proximity. Having alternative routes offers flexibility for decision makers and having the contingency option of being able to temporarily refuge citizens within fire hardened structures offers yet another option in an environment where optionality is extremely valuable. Changes in wildfire behavior and traffic flow do alter how evacuation orders are implemented. Evacuation orders are based on a great deal of input, contemplation, situational awareness, and pre-planning. Evacuations may be altered to focus on controlling downstream intersections so that a population that is at highest risk can be moved before other populations that are considered at lower risk are allowed passage. This occurs often during wildfires. As weather conditions change and influence wildfire movement, evacuation orders will also shift, typically including larger areas. San Diego County Fire Agencies and related partners have a robust ability to rationally predict wildfire movement. This is accomplished through pre-fire planning and fire behavior modeling, working with UCSD's WIFIRE lab advanced wildfire behavior projection technology, and SDG&E's weather system network. More than 500 million dollars has been invested to enhance the county's fire prevention, detection, response, suppression and recovery capabilities since the 2003 Cedar Fire[10]. These efforts have proven effective in successfully managing wildfire events, such as was accomplished during the successfully managed 2018 Lilac Fire.
- Fire Agencies and Law Enforcement Do Not Use Subdivision-Specific Evacuation Plans: Agencies involved in implementing an evacuation order would not rely on a residential subdivision evacuation plan. Individual residential subdivision evacuation plans prepared in San Diego County have been prepared as a tool to help residents be aware of wildfire evacuations, their potential evacuation routes, and the fact that they may be directed to stay in their homes in lieu of evacuating. Further, ICs and law enforcement are not bound by subdivision-specific evacuation plans. Instead, evacuation managers would rely on situation awareness that dictates decision making and where possible, on wildfire pre-plans, which have been or are in the

[10] https://www.sandiegocounty.gov/content/dam/sdc/sdcfa/documents/prevention/2019-Wildfire-update-5-6-2019.pdf

process of being prepared for every portion of San Diego County by Rohde and Associates, under contract to SDCFA. The wildfire pre-plans are an operational tool provided to emergency responders that provide high-level fire environment, assets at risk, preferred evacuation approaches, and other safety information to responding personnel.

- Modeling Evacuation Scenarios: Modeling potential traffic impacts during an evacuation would include assumptions for the following variables (at a minimum): number of existing vehicles (various methods), number of project vehicles (various methods), roadway capacities (maximum lane capacity discounted or provided a premium if enhancements are provided – i.e., extra lanes, lane widening, signaling intersections, etc., total intersections, final destination, targeted evacuation area, total mobilization time, and others. Every fire scenario would include different assumptions. But the assumptions would change, depending on how a fire spreads, spots, and new fires start and impact routes being relied upon. Wildfire pre-plans that are going to be relied upon for evacuation in San Diego County include information without attempting to model evacuation traffic because the results would be unreliable. There are wildfire categories: Extreme fire weather, fire weather, and typical (and within each of these categories, there could be a wide variety of conditions related to high wind/low humidity vs. low wind/low humidity vs. high wind/high humidity vs low wind/high humidity, etc.). Then there would be variations based on the vegetation communities and terrain. Spot fires are difficult to predict without real-time weather conditions (wind direction and intensity, relative moisture level/humidity, etc.,) and can affect fire spread rates and evacuation routes. There would also be many variations depending on where the ignition occurred. Simply put, there would be hundreds of scenarios and the results would be limited because it is a model that would not be relied upon during an evacuation event.

  Dudek has also prepared a Wildland Fire Evacuation Plan for the Proposed Project Amendment. This updated evacuation plan indicates that, in an wildfire scenario, there are two likely evacuation scenarios; one where all traffic flows southwesterly on Proctor Valley Road through the City of Chula Vista and one where project traffic would be evacuated in both directions (southwesterly and northeasterly).

  Under the Proposed Project Amendment, an additional 147 units would be built compared to the Approved Project. Assuming two cars per unit, this would add approximately 294 vehicles on the road in an evacuation, although this may not occur simultaneously. This represents an increase of approximately 13% compared to the Approved Project and would reasonably be expected to result in somewhat increased evacuation times if every resident and vehicle attempted to evacuate in the same direction at the same time. However, the Incident Command would monitor the wildfire and evacuation efforts and make decisions on which areas to evacuate, and in which direction, in real time.

  Because the Proposed Project Amendment would be constructed to stringent ignition resistant requirements that were designed to allow development within fire hazard severity zones, the Proposed Project Amendment would be capable of temporarily refuging residents, guests, and firefighters within the project area, and because the Proposed Project Amendment would consolidate development closer to Proctor Valley Road and thus reduce potential lead times for certain neighborhoods to evacuate through open space/Preserve areas, the Proposed Project Amendment would not interfere with existing evacuation plans.

  San Diego County Sherriff's Department is on record indicating that they are confident they can evacuate projects like the Proposed Project Amendment and have a successful track record over the last 20+ years.

4. Fire Defensibility of Modern Residential Subdivisions

- The Role Fuel Management Zones (FMZs) Play in Fire Protection: FMZs provide managed and maintained separation between structures and infrastructure and the unmaintained wildland fuels. This setback is considered defensible space because it enables firefighters to safely position themselves at the development edge and begin tactical protection efforts. The FMZ's essentially starve advancing wildfire of fuel through the outer thinning zones (where native fuels are reduced so that no more than 50% of the ground is covered by plant canopy and includes removal of the highest flammability species), then an inner irrigated zone removes all native plants and replaces them with fire resistive species that are kept irrigated and with high internal moisture, which results in more difficult ignition. Fire behavior is affected as a wildfire burns into the thinned zone. Flame lengths drop, spread rates are reduced, and intensity decreases. This process continues as fire burns into the irrigated zone where flame lengths, spread rates and intensity are reduced substantially and wildfires become spotty. FMZs or "brush management" was initially made part of the Public Resources Code 4290 and 4291 to protect natural resources from fires originating in neighboring developed areas. The Proposed Project Amendment's FMZs are provided access for maintenance and for firefighting efforts at regularly spaced intervals. FMZs have since become focused on protecting communities and structures, but they continue to have the same benefit of buffering preserved open space areas from accidental ignitions within communities. Positioning the low plant density, irrigated zone directly adjacent to the structures provides a significant buffer between a house or other landscape fire and native vegetation. The same way that FMZs setback a wildland fire from structures, the FMZs setback a structure fire from the more burnable native plants. Embers can be generated by a structure fire and can be blown over the FMZs into native fuels, but the inclusion of automatic sprinklers in every building combined with the presence of staffed fire stations with fast response significantly reduces the potential for a structure fire to reach a size that would produce significant. The highest likelihood of vegetation ignitions would be related to roadways, which are provided roadside FMZ throughout the project area and along both sides of Proctor Valley Road.
- Modern Subdivisions Are Easier to Defend Than Neighborhoods with Older Homes: Modern subdivision are easier to defend than older subdivisions. San Diego County Fire Authority, Rancho Santa Fe Fire Protection District, and many other fire agencies (personal communications with Dudek and at Public Hearings between 2016 and 2019) have indicated that communities built to the standards required in San Diego County and maintained on an ongoing basis enable them to allocate resources where they are needed *most* — i.e., in the older communities — while defending the newer communities with significantly fewer engines. Deploying fire fighters in new communities offers safe refuge due to the wide FMZs and ignition resistant structures. The requirements for ignition resistant structures and landscapes that are maintained in ignition resistant conditions are designed to minimize impacts on fire agencies. These requirements have become part of the fire and building codes because they were found as a result of after fire save and loss assessments to be important for protection structures from ignition. This is the same reason newer communities can be considered for contingency temporary refuge. Modern residential subdivisions in San Diego County are built to very strict requirements that have evolved over the last approximately 20 years to include a focus on ignition resistance. Following the 2003, 2007, and 2010 wildfires, assessment teams were formed to evaluate every home that was damaged or lost as well as for the first time, homes that were saved. The resulting data, revealed that lost homes were almost always lost because embers penetrated the attic or other openings and ignited fires within the buildings or the homes were situated amongst heavy, unmaintained landscape fuels. Saved homes were strongly linked to newer, more resistant construction

materials and methods such as ember resistant vents, boxed eaves, and other methods described in the Proposed Project Amendment's FPP along with maintained fuel buffers. Additionally, numerous newer master planned communities in Southern California have been subjected to wildfire and generally performed well. Examples include Cielo in Rancho Santa Fe, 4S Ranch in San Diego[11], Older communities throughout California continue to be the largest contributors to fire-destroyed homes, as occurred within Paradise during the Camp Fire (2018). Further evidence can be found in the Institute for Business and Home Safety *Mega Fires – The Case for Mitigation* (2007)[12] report which discusses findings from the 2007 Witch Creek Fire, and the National Institute of Standards and Technology publication NIST Technical Note 1796, *A Case Study of a Community Affected by the Witch and Guejito Fires: Report #2 – Evaluating the Effects of Hazard Mitigation Actions on Structure Ignitions*[13]. This study focused on a particular Rancho Bernardo community and findings associated with the 2007 Witch Creek Fire.

- Amenities of the Proposed Project Amendment Improve Fire Response and Fire Safety: The Proposed Project Amendment includes various improvements and amenities that improve fire response and fire safety as detailed in Attachment 2, Village 14 and Planning Areas 16/19 Fire Term Sheet. The accepted Fire Protection Plan details the fire protection approach and the individual requirements that provide fire safety. Amongst these are:
    - *Improved Proctor Valley Road*: The Proposed Project Amendment would provide for full improvements of Proctor Valley Road to the County General Plan Mobility Element road classification specifications. This would provide for a paved two-lane road with a community pathway from the terminus of Proctor Valley Road at the City/County jurisdictional boundary to the community of Jamul, a distance of approximately 4.5 miles. Such an improvement would provide immediate additional access to/from the community of Jamul, which currently only has one option to evacuate easterly (i.e., typically in the direction of an on-coming fire) towards SR-94 and Campo Road.
    - *Secondary Access Roads:* The Proposed Project Amendment has two access routes, northbound through Jamul and southbound through Chula Vista, which is important from a fire response and fire safety perspective. Internal neighborhoods all meet access and secondary access requirements, per County acceptance of the Proposed Project Amendment's FPP. Access roads are crucial to communities, as they provide incoming access for emergency response and outgoing egress for evacuating citizens. Further, the concept for providing additional access is similar to providing more than one way out of a building. If the primary access point is not available due to fire or blockage, having another viable option is important for public safety.
    - *On-Site Fire Station:* Having a fully staffed fire station within a community with the ability to respond quickly to all emergencies, including fire ignitions is a benefit that increases fire safety and reduces fire risk. It has been a common fire industry estimate that most vegetation fire ignitions (estimated 90%)(Environmental Information Center 2020) occur during normal weather (non-extreme fire weather) and these fires account for approximately 10% of the total land area burned. This indicates that vegetation fires under normal weather conditions are controllable and fast response to these fires helps control them at small sizes. The 10% of fires that occur during extreme fire weather account for 90% of the burned area. These fires can quickly surpass efforts to control them and the need for a fast response to these types of vegetation fires is considerable if there is any likelihood of controlling/extinguishing

11 https://www.rsf-fire.org/shelter-in-place/
12 https://ibhs.org/wp-content/uploads/wpmembers/files/Mega-Fires-The-Case-for-Mitigation_IBHS.pdf
13 https://nvlpubs.nist.gov/nistpubs/TechnicalNotes/NIST.TN.1796.pdf

them when they are small. The presence of an on-site station provides for fast response. Additional "eyes and ears" of residents in the project area heightens the likelihood of quick detection and reporting, enabling a fast response to ignitions. Structural fire ignitions are similar in that fast responses will reduce the fire's ability to spread from the room of origin and limit the overall ability of a structural fire to result in a whole home loss, which would be the primary ember producing "fuel" within a new development. However, even though fast fire station response would be provided, a built-in protection that is designed to provide for safe egress from a house fire is the automatic fire sprinkler system. These systems have been shown to contain interior fires to the room of origin and literally begin the process of fire suppression before firefighters arrive.

- *Water Service for Fire Suppression:* Water is a key component to fighting wildfire and protecting structures. Providing water where it is not currently available, especially when it is provided in a protected environment like the ignition resistant landscapes of a new master planned community, enables firefighters to protect homes and work to control a wildfire's advancement. New communities are required to provide fire hydrants meeting flow, volume and duration specifications at intervals designed to assist in fighting structural fires. These hydrants provide opportunities for wildland fire engines to stage, fill engine tanks, set up dip tanks for helicopter firefighting efforts, and sustain a fire fight. The Proposed Project Amendment's location offers a large area of converted landscape, a fuel break, which offers opportunities for fighting and controlling wildfires before they encroach upon more urban areas. The Proposed Project Amendment changes fire behavior due to the lack of fuels and, combined with aerial fire-retardant drops, extent outward to slow or stop a fire's advancement.

5. Temporary Refuge as Contingency Option

- *Temporary Refuge Defined*: Temporary refuge is the practice of going or remaining indoors during or following an emergency event. This procedure is recommended if there is little time for the public to react to an incident and it is safer for the public to stay indoors for a short time rather than travel outdoors. Sheltering-in-place also has many advantages because it can be implemented immediately, allowing people to remain in their familiar surroundings and providing individuals with everyday necessities such as telephone, radio, television, food, and clothing. However, the amount of time people can stay sheltered-in-place is dependent upon availability of food, water, medical care, utilities, and access to accurate and reliable information.
- *Temporary Refuge Strategies*: The decision on whether to evacuate or temporarily refuge is carefully considered with the timing and nature of the incident (County of San Diego 2014). Sheltering in place is the preferred method of protection for people that are not in the direct path of a hazard. This reduces congestion and transportation demand on the major transportation routes for those that have been directed to evacuate by police or fire personnel. When a community is within the projected path of a wildfire, temporary refuge is a contingency option, but the preferred approach is to evacuate early. Like most new master planned communities incorporating ignition-resistant construction, wide FMZs, and providing defensibility throughout, responding fire and law enforcement personnel would be able to direct residents to temporarily refuge in their homes or within designated structures such as the school or community center if it is determined to be safer than evacuating, such as if an early evacuation is not possible.
- *Evacuation v. Temporary Refuge*: Temporarily refuging during a wildfire is not recommended or viable in all buildings or communities. Further, temporarily refuging from wildfire is not the planned approach or preferred approach by fire agencies, even in communities that are designed, constructed and maintained

to withstand significant wildfire. The planned and preferred approach, given the ability to do so, is to evacuate a community and evacuate it early, long before a fire is threatening. When this is not possible, however, such as when a fire ignites nearby or otherwise does not enable enough time to fully evacuate, then temporary refuge is an important contingency plan. Evidence supporting the viability of sheltering in protected buildings requires an understanding of the previously described after action reports and post-fire save and loss assessments. This information, coupled with the extensive research that goes into determining how fire and embers affect structures and how construction materials and methods can protect structures from ignitions, provides insight into how building can be ignition resistant. Ignition resistant structures set back from wildfire by appropriate fuel modification zones/defensible space buffers result in the ability to temporarily refuge as a contingency option. Rancho Santa Fe includes 4 communities designated as temporary refuge sites (Cielo, The Crosby, 4S Ranch and The Lakes). In addition, there are many examples of people sheltering in open-air spaces or in buildings during wildfires, including within the town of Paradise in 2018 where nearly 150 people sheltered in an open air parking lot that included buffers from adjacent fuels and others in a church. During the 2003 Cedar Fire, hundreds of people sheltered in the Barona Casino and hundreds of students were sheltered in the protected gymnasium in the Tea Fire on the Westmont College campus. Similarly, hundreds of students were sheltered on the Pepperdine Campus instead of evacuated during the 2018 Woolsey Fire.

Attachment A

Proposed Project Amendment Wildfire Evacuation Plan

DRAFT

WILDLAND FIRE EVACUATION PLAN
for
Otay Ranch
Village 14 and Planning Areas 16/19 Proposed Project Amendment

Prepared for:

County of San Diego

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APPENDIX

FIGURE

1 Quick Reference – Wildland Fire Evacuation Plan

NOTE: Pages 1 through 3 are to be the focus of the homeowner's evacuation educational outreach efforts. These pages will be available on the community's homeowners' association (HOA) website. The remainder of this evacuation plan provides more detailed analysis and background information, including this plan's consistency with standard San Diego County Office of Emergency Services (OES) evacuation planning and the existing Jamul Community Protection Plan (JCPP) Evacuation Plan.

Evacuation is a process by which people are moved from a place where there is immediate or anticipated danger, to a safer place, and offered temporary shelter facilities. When the threat passes, evacuees are able to return to their normal activities or to make suitable alternative arrangements.

Figure 1 indicates the emergency evacuation routes available to the Otay Ranch Village 14 and Planning Areas 16/19 Proposed Project Amendment (PPA) community. The figure highlights the community's interior roads, primary access points and primary roads, and major traffic corridors leading to off-site areas.

The available evacuation routes for the residents and guests of the PPA community are as follows:

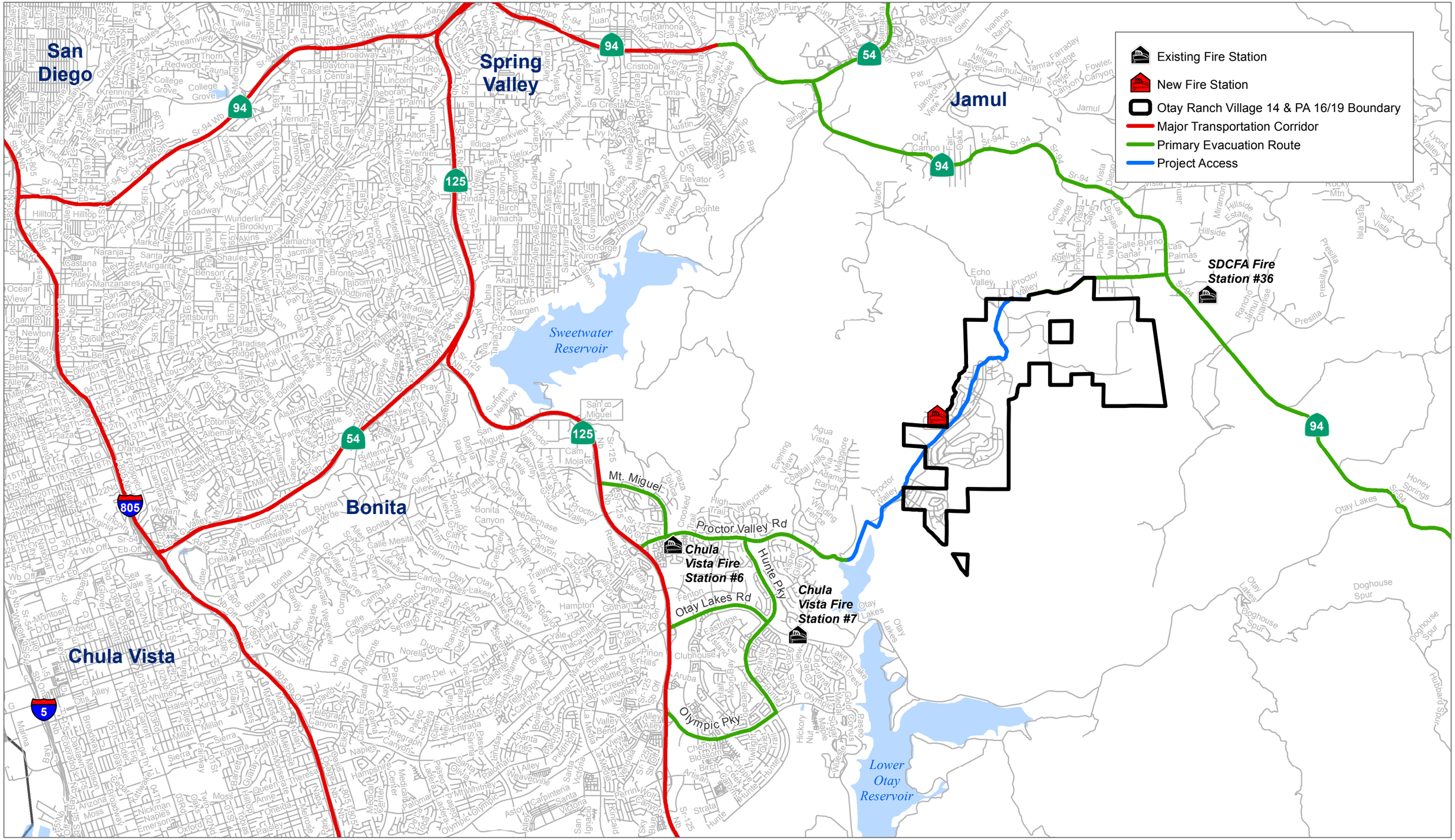
1. **Egress to the south (and west) via Proctor Valley Road** – This is the primary PPA access road and connects with East H Street, which offers travel options to the west and south on State Route (SR) 125 into Chula Vista or to the north on SR-125 into Bonita and SR-54. SR-54 also provides travel options to the north towards Lemon Grove-Spring Valley or southwest toward National City. Likely neighborhoods using this access during an evacuation include: southern and central portions of Village 14, unless the threat is to the east/northeast of the PPA, in which case, all evacuations would occur to the south (and west).
2. **Egress to the north on Proctor Valley Road** – This secondary access road provides a route to Campo Road (SR-94) in Jamul, at which point travel to the north into Rancho San Diego/Casa de Oro or south to Dulzura/Campo is possible. Likely neighborhoods using this access road during an evacuation are northern portion of the PPA, unless the threat is to the east/northeast of the PPA.

The PPA community residents would be strongly encouraged to register with Reverse 911 and Alert San Diego. Further, residents would be encouraged to form volunteer Neighborhood Emergency Response Teams with Community Emergency Response Team (CERT) experience. In addition, the community HOA would organize annual evacuation public outreach as well as maintain a fire safe page on the community website, including this Emergency Evacuation Plan and links to important citizen preparedness information.

This Wildland Fire Evacuation Plan (WFEP) is prepared specifically for the PPA community and focuses on wildland fire evacuations, although many of the concepts and protocols are applicable to other emergency situations. Ultimately, this plan would be used by the HOA to educate community residents as to their evacuation responsibilities and recommended approach during wildfires and other similar emergencies.

It must be recognized that wildfire and other emergencies are often fluid events and that the need for evacuations are typically determined by on-scene first responders or by a collaboration between first responders and designated emergency response teams, including OES and the Incident Command (IC) established for larger emergency events.

As such, and consistent with all emergency evacuation plans, this emergency evacuation plan is to be considered a tool that supports existing pre-plans and provides for citizens who are familiar with the evacuation protocol, but is subservient to emergency event-specific directives provided by agencies managing the event.



SOURCE: SANDAG, 2017

DUDEK

0 0.5 1 Miles

FIGURE 1

Fire Evacuation Map

Otay Ranch Village 14 and PA 16/19 Wildland Fire Evacuation Plan

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2 Background

This PPA Wildland Fire Evacuation Plan (WFEP) was prepared based on the Unified San Diego County Emergency Services Organization and County of San Diego Operational Area (OA) Emergency Operations Plan (EOP) – Evacuation Annex. It also incorporates key information from the JCPP (Jamul Disaster Team 2006), Evacuation Plan Appendix.

To establish a framework for implementing well-coordinated evacuations, the County of San Diego OES developed an Evacuation Annex as part of the area EOP (County of San Diego 2014). Large-scale evacuations are complex, multijurisdictional efforts that require coordination between many agencies and organizations. Emergency services and other public safety organizations play key roles in ensuring that an evacuation is effective, efficient, and safe.

Evacuation during a wildfire is not necessarily directed by the fire agency, except in specific areas where fire personnel may enact evacuations on-scene. The San Diego County Sheriff's Department, California Highway Patrol (CHP), and other cooperating law enforcement agencies have primary responsibility for evacuations. These agencies work closely within the unified IC system, with the county OES, and responding fire department personnel who assess fire behavior and spread, which should ultimately guide evacuation decisions. To that end, San Diego County Fire Authority (SDCFA), law enforcement, Public Works, Planning, Emergency Services Departments, and California Department of Transportation (Caltrans), amongst others, have worked with a county pre-fire mitigation task force to address wildland fire evacuation planning for San Diego County.

Every evacuation scenario includes some level of unique challenges, constraints, and fluid conditions that require interpretation, fast decision making, and alternatives. For example, one roadway incident that results in blockage of evacuating vehicles may require short-term or long-term changes to the evacuation process. Risk is considered high when evacuees are evacuating late and fire encroachment is imminent. This hypothetical scenario highlights the importance of continuing to train responding agencies, model various scenarios, educate the public, provide contingency plans, and take a very conservative approach to evacuation decision timelines.

Equally as important, the evacuation procedures should be regularly updated with lessons learned from actual evacuation events, as they were following the 2003, 2007, and 2014 San Diego County fires. The authors of this evacuation plan recommend that occasional updates, especially following lessons learned from actual incidents, as new technologies become available that would aid in the evacuation process, and as changing landscapes and development patterns occur within and adjacent the Project Area that may impact how evacuation is accomplished. At the time of this plan's preparation, there is no encompassing emergency evacuation plan available for the Proctor Valley region. There is a JCPP prepared by the Jamul Disaster Team in coordination with the County of San Diego (County of San Diego 2006) that provides a community risk assessment and an evacuation plan.

This PPA WFEP is consistent with JCPP Evacuation Plan and San Diego County evacuation planning standards and can be integrated into a regional evacuation plan when and if the area officials and stakeholders (California Department of Forestry and Fire Protection (CAL FIRE), SDCFA, OES, San Diego County Sheriff's Department (SDCSD), and others) complete one, but is focused on providing PPA resident awareness and raising levels of preparedness.

As demonstrated during large and localized evacuations occurring throughout San Diego County over the last 15 years, an important component to successful evacuation is early assessment of the situation and early notification via managed evacuation declarations. San Diego County utilizes early warning and informational programs to help with these important factors. Among the methods available to citizens for emergency information are radio, television, social media/internet, neighborhood patrol car, and Aerial Support to Regional Enforcement Agencies helicopter (as available) public address notifications, and Reverse 911.

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3 San Diego County Evacuation Planning Summary

This WFEP incorporates concepts and protocols practiced throughout San Diego County. The San Diego County Evacuation Annex (County of San Diego 2014) follows basic protocols set forth in the County's Operation Area EOP and the California Master Mutual Aid Agreement, which dictate who is responsible for an evacuation effort and how regional resources will be requested and coordinated.

First responders are responsible for determining initial protective actions before emergency operation centers (EOCs) and emergency management personnel have an opportunity to convene and gain situational awareness. Initial protective actions are shared/communicated to local EOCs and necessary support agencies as soon as possible to ensure an effective, coordinated evacuation.

During an evacuation effort, the designated County Evacuation Coordinator is the Sheriff, who is also the Law Enforcement Coordinator. The Evacuation Coordinator would be assisted by other law enforcement and support agencies. Law enforcement agencies, highway/road/street departments, and public and private transportation providers would conduct evacuation operations. Procurement, regulation, and allocation of resources would be accomplished by those designated. Evacuation operations would be conducted by the following agencies:

- County of SDCSD
- Fire and Rescue
- County Health and Human Services Agency
- Department of Animal Services (DAS)
- Department of Planning and Development Services
- Department of Environmental Health
- Department of General Services
- Department of Public Works
- Department of Agriculture, Weights, and Measures
- Department of Parks and Recreation

The following information has been largely taken verbatim from the San Diego County Evacuation Annex.

3.1 Evacuation Objectives

The overall objectives of emergency evacuation operations and notifications are to:

- Expedite the movement of persons from hazardous areas;
- Institute access control measures to prevent unauthorized persons from entering vacated, or partially vacated areas;
- Provide for evacuation to appropriate transportation points, evacuation points, and shelters;

- Provide adequate means of transportation for persons with disabilities, the elderly, other persons with access and functional needs, and persons without vehicles;
- Provide for the procurement, allocation, and use of necessary transportation and law enforcement resources by means of mutual aid or other agreements;
- Control evacuation traffic;
- Account for the needs of individuals with household pets and service animals prior to, during, and following a major disaster or emergency;
- Provide initial notification, ongoing, and re-entry communications to the public through the Joint Information Center (JIC); and
- Assure the safe re-entry of the evacuated persons.

The San Diego Sheriff's Department (SDCSD) is the lead agency for evacuations of the unincorporated areas of San Diego County, including the PPA. The SDCSD, as part of a Unified Command, assesses and evaluates the need for evacuations, and orders evacuations according to established procedures. Additionally, as part of the Unified Command, the SDCSD identifies available and appropriate evacuation routes and coordinate evacuation traffic management with the California Department of Transportation (Caltrans), the California Highway Patrol (CHP), other supporting agencies, and jurisdictions.

The decision to evacuate an area is not made lightly and there is a significant impact to public safety and the economy. The following process describes how emergency evacuation decisions are coordinated, allowing emergency managers and other supporting response organizations to make collaborative decisions.

3.2 Evacuation Coordination Process

If the emergency only impacts a local jurisdiction, the decision to evacuate will be made at the local jurisdiction level with regional collaboration considerations.

a. Based on the information gathered, local jurisdictions will generally make the determination on whether to evacuate communities as the need arises, on a case-by-case scenario basis.
b. The decision to evacuate will depend entirely upon the nature, scope, and severity of the emergency; the number of people affected; and what actions are necessary to protect the public.
c. Local jurisdictions may activate their Emergency Operations Center (EOC) and conduct evacuations according to procedures outline in their Emergency Operations Plan (EOP).
d. The EOC may make recommendations on whether a jurisdiction should evacuate and may help coordinate the evacuation effort.
e. The Evacuation Annex is automatically activated when an incident occurs requiring an evacuation effort that impacts two or more jurisdictions.
f. The EOC will coordinate with fire, law enforcement, public health, and other relevant support agencies to obtain recommendations on protective actions.
g. The EOC will coordinate with jurisdictional emergency management personnel and other public safety personnel. The Policy Group within the EOC will coordinate will other officials from jurisdictions within the San Diego County Operational Area (OA) to identify command decisions, including:
    i. Gaining regional situational awareness

ii. Determining response status
iii. Reviewing status of initial protective actions
iv. Considering additional protective actions
v. Evaluating public information needs
vi. Determining next steps
vii. Establishing a regular time to share updates

h. The EOC will coordinate emergency public information to citizens in accordance with established procedures.
i. The EOC may support coordinating the evacuation response according to the EOP, including:
viii. Providing transportation for those who need assistance
ix. Provide support for people with disabilities and other access and functional needs
x. Coordinate and communicate with the private sector, community groups, and faith based organizations to utilize their services and resources available to support the response
xi. Providing shelter for evacuees

3.3 Evacuation Response Operations

Evacuation of any area requires significant coordination among numerous public, private, and community/non-profit organizations. Wildfire evacuations would typically allow time for responders to conduct evacuation notification in advance of an immediate threat to life safety, giving residents time to gather belongings and make arrangements for evacuation. On the other hand, other threats, including wildfires igniting nearby, may occur with little or no notice and certain evacuation response operations would not be feasible. Evacuation assistance of specific segments of the population may also not be feasible.

3.3.1 Evacuation Points and Shelters

When the SDCSD implements an evacuation order, they coordinate with the responding fire agency, the EOC, and others to decide on a location to use as a temporary evacuation point (TEP). The SDCSD Dispatch Center would utilize the AlertSanDiego system to direct evacuees to the established TEP or shelter. These evacuation points would serve as temporary safe zones for evacuees and would provide basic needs such as food, water, and restrooms. The JCPP indicates the following shelters and assembly areas that can provide at least short-term refuge:

- Jamul Primary School*
- SDCFA Fire Station 36
- Rancho San Diego Shopping Center Parking Lot*
- Thousand Trails

**Denotes classification as a Primary Shelter/Assembly Area*

Other refuge sites are available within urbanized areas of Chula Vista, El Cajon, Rancho San Diego, and developed communities primarily to the west of the PPA.

If there are residents unable to evacuate and need transportation assistance to get to a TEP or shelter, the SDCSD may establish transportation points to collect and transport people without transportation resources to evacuation points. These points should be large, well-known sites such as shopping centers, libraries, and schools. Transportation should be accessible to all populations, including people with disabilities and other access and functional needs.

The Pets Evacuation and Transportation Standards Act of 2006 amends the Stafford Act and requires evacuation plans to take into account the needs of individuals with household pets and service animals, prior to, during, and following a major disaster or emergency.

The San Diego County DAS has plans in place to transport and shelter pets in a disaster under Annex O of the OA EOP, including the Animal Control Mutual Aid Agreement. Animal Control Officers, the San Diego Humane Society, and private animal care shelters would assist in the rescue, transport, and sheltering of small and large animals. In addition, potential volunteer resources and private groups should be identified and tracked in WebEOC. Only non-emergency resources and personnel, such as public and private animal services agencies, would be used to rescue and transport animals during an evacuation effort.

In most cases, DAS and the OA EOC would coordinate and attempt to co-locate animal shelters with people shelters.

3.3.2 Shelter-in-Place/Temporary Refuge

Sheltering-in-place, also known as “temporary refuge”, is the practice of going or remaining indoors during or following an emergency event. This procedure is recommended if there is little time for the public to react to an incident and it is safer for the public to stay indoors for a short time rather than travel outdoors. Sheltering-in-place also has many advantages because it can be implemented immediately, allowing people to remain in their familiar surroundings and providing individuals with everyday necessities such as telephone, radio, television, food, and clothing. However, the amount of time people can stay sheltered-in-place is dependent upon availability of food, water, medical care, utilities, and access to accurate and reliable information.

The decision on whether to evacuate or shelter-in-place is carefully considered with the timing and nature of the incident (County of San Diego 2014). Sheltering-in-place is the preferred method of protection for people that are not directly impacted or in the direct path of a hazard. This would reduce congestion and transportation demand on the major transportation routes for those that have been directed to evacuate by police or fire personnel. Like most new master planned communities incorporating ignition-resistant construction, wide fuel modification zones (FMZs), and providing defensibility throughout, responding fire and law enforcement personnel would be able to direct residents to temporarily refuge in their homes or at designated PPA locations, including the school and community center, in the anticipated rare scenario where that alternative is determined to be safer than evacuating.

4 Village 14 and Planning Areas 16/19 Proposed Project Amendment Evacuation Road Network

Wildfire emergencies that would be most likely to include an evacuation of the PPA would be large wildfires approaching from the north, northeast, or east. These fires are often wind driven and occur during declared red flag warning days where low humidity and high winds facilitate fire ignition and spread. If a fire starts in the backcountry (East County) and is fanned by these fire weather conditions, an early evacuation of the area may occur as many as 24 hours prior to actual threatening conditions. Fires occurring on typical weather days, even fires igniting off the SR-125, have been very successfully controlled at small sizes within minutes of ignition and would not typically trigger a need to evacuate the PPA. Partial evacuation of some neighborhoods could be an option in these cases.

If a wildfire ignited closer to the Proposed Area during weather that facilitates fire spread and where multiple hours are not available for evacuation, the project offers a contingency plan of temporary refuge. It is preferred to evacuate long before a wildfire is near, and in fact, history indicates that most human fatalities from wildfires are due to late evacuations when they are overtaken on roads. Therefore, it is prudent to consider a contingency option. For example, if a wildfire is anticipated to encroach upon the community in a timeframe that is shorter than would be required to evacuate all residents, then options available to responding fire and law enforcement personnel should include (1) partial relocation where residents in perimeter homes on the north/northeast/east edge are temporarily relocated to internal areas or to the Village center (public safety, school and multi-use lots), (2) individual neighborhood relocations where residents, such as from homes in Planning Area 16, are temporarily relocated to the Village Core (school or community center) or south to Chula Vista, and (3) temporary refuge where residents are instructed to remain in their homes while firefighters perform their structure protection function. This approach is consistent with San Diego County's (County of San Diego 2014) evacuation approach, which states "Due to the nature of the threats requiring an evacuation, there may be insufficient time to perform an early evacuation of the area and shelter-in-place instructions may need to be provided." Although not a shelter-in-place community, the structures in the PPA would be ignition resistant, defensible, and designed to require minimal firefighting resources for protection, which enables these contingency options that may not be available to other area communities.

Among the most important factors for successful evacuations in urban settings is control of intersections downstream of the evacuation area. If intersections are controlled by law enforcement, barricades, signal control, or other means, potential backups and slowed evacuations can be minimized. Another important aspect of successful evacuation is a managed and phased evacuation declaration. Evacuating in phases, based on vulnerability, location, or other factors, enables the subsequent traffic surges on major roadway to be smoothed over a longer time frame and can be planned to result in traffic levels that flow better than when mass evacuations include large evacuation areas at the same time.

This plan defers to law enforcement and OES to appropriately phase evacuations and to consider the vulnerability of communities when making decisions. For example, the PPA community would offer its residents a high level of fire safety on site (refer to the Village 14 and Planning Areas 16/19 Proposed Project Amendment – Fire Protection Planning Technical Memorandum prepared by Dudek (Appendix 3.1.1-2)) along with options for properly equipped and trained firefighter safety zones (within the Village 14 neighborhoods) and temporary resident on-site refuge (within their well-protected homes) as a contingency, as discussed further in this plan.

The PPA's planned community interior road network and the existing regional road system that it interconnects provide multidirectional primary and secondary emergency evacuation routes consistent with, or exceeding, most communities in this area. Consistent with County of San Diego evacuation planning annex (2014), major ground transportation corridors in the area would be used as primary evacuation routes during an evacuation effort. The road systems were evaluated to determine the best routes for fire response equipment and "probable" evacuation routes for relocating people to designated safety areas. The primary roadways that would be used for evacuation from the PPA are Proctor Valley Road towards the City of Chula Vista and Melody Road towards Jamul. These roads provide access to major traffic corridors, including indirectly to SR-125 to the south and SR-94 to the north and east.

During an emergency evacuation from the PPA community, residents may be exiting along the primary and secondary roadways while responding emergency vehicles are inbound. Therefore, to minimize conflicts that may affect the efficiency of the evacuation, the roadways have been designed to meet or exceed County of San Diego Consolidated Fire Code requirements—including 12-foot-wide, unobstructed travel lanes, adequate parking, 28-foot inside radius, grade maximums, signals at intersections, and roadside FMZs.

The community's primary evacuation routes are accessed through a series of internal neighborhood roadways, which connect with the primary ingress/egress roads that intersect off-site primary and major evacuation routes. Based on the existing road network, the community can evacuate once off site to the north, south, east, or west depending on the nature of the emergency.

Depending on the nature of the emergency requiring evacuation, it is anticipated that the PPA community traffic would exit the area via Proctor Valley Road to the north or south as follows (Figure 1):

- In the southern and central portion of the community – Proctor Valley Road, the PPA's primary access, provides access to other primary evacuation routes (i.e., East H Street or Otay Lakes Road via Hunte Parkway) that intersect with SR-125 on-ramps.
- In the northern portion of the community – Proctor Valley Road connects with Campo Road (SR-94) via Melody Road.

4.1 Evacuation Route Determination

Fire and law enforcement officials would identify evacuation points before evacuation routes are announced to the public. Evacuation routes are determined based on the location and extent of the incident and include as many pre-designated transportation routes as possible.

5 Village 14 and Planning areas 16/19 Proposed Project Amendment Resident Wildfire/Evacuation Awareness

The PPA community HOA would be active in its outreach to residents regarding fire safety and general evacuation procedures. There are aspects of fire safety and evacuation that require a significant level of awareness by the residents and emergency services to reduce and/or avoid problems that may impede an effective evacuation. Mitigating potential impediments to successful evacuations requires focused and repeated information through a strong educational outreach program. The community HOA would engage residents and coordinate with local fire agencies for fire safety awareness through a variety of methods.

This evacuation plan would be provided to each homeowner/HOA member as well as being accessible on the HOA website. Annual reminder notices would be provided to each homeowner encouraging them to review the plan and be familiar with community evacuation protocols. The HOA would coordinate with local fire agencies to hold an annual fire safety and evacuation preparedness informational meeting and important fire and evacuation information would be reviewed. One focus of these meetings and of the HOA's annual message would be on the importance of each resident to prepare and be familiar with their own "Ready, Set, Go!" evacuation plan. The "Ready, Set, Go!" program is defined at http://www.readysandiego.org/Resources/ wildfire_preparedness_guide.pdf, and information about preparing an individual Action Plan is provided in Appendix A of this document.

The focus of the "Ready, Set, Go!" program is on public awareness and preparedness, especially for those living in the wildland/urban interface (WUI) areas. The program is designed to incorporate the local fire protection agency as part of the training and education process in order to ensure that evacuation preparedness information is disseminated to those subject to the potential impact from a wildfire. There are three components to the program, described below.

"READY" – Preparing for the Fire Threat: Take personal responsibility and prepare long before the threat of a wildfire so you and your home are ready when a wildfire occurs. Create defensible space by clearing brush away from your home as detailed in the PPA's FPP (Appendix 3.1.1-2). Use only fire-resistant landscaping and maintain the ignition resistance of your home. Assemble emergency supplies and belongings in a safe spot. Confirm you are registered for Reverse 911, AlertSanDiego, and Community alert system. Make sure all residents residing within the home understand the plan, procedures, and escape routes.

"SET" – Situational Awareness When a Fire Starts: If a wildfire occurs and there is potential for it to threaten your area, pack your vehicle with your emergency items. Stay aware of the latest news from local media and your local fire department for updated information on the fire. If you are uncomfortable, leave the area.

"GO!" – Leave Early!: Following your Action Plan provides you with knowledge of the situation and how you would approach evacuation. Leaving early, well before a wildfire is threatening your community, provides you with the least delay and results in a situation where, if a majority of neighbors also leave early, firefighters are now able to better maneuver, protect, and defend structures; evacuate other residents who couldn't leave early; and focus on citizen safety.

"READY SET GO!" is predicated on the fact that being unprepared and attempting to flee an impending fire late (such as when the fire is physically close to your community) is dangerous and exacerbates an already confusing situation. This PPA WFEP provides key information that can be integrated into the individual action plans, including the best available routes for them to use in the event of an emergency evacuation.

Situation awareness requires a reliable information source. One of the most effective public notification methods is Reverse 911. The San Diego OES operates the Reverse 911 notification system that provides a recorded message over land line telephone systems relating to evacuation notices. In addition, OES operates a program known as "Alert San Diego" that has the capability to send emergency notifications over both land lines as well as to cell phones and via text messages. It is up to individual residents to register their cell phones for "Alert San Diego". The registration of cell phones can be done on line at www.ReadySanDiego.com. In addition, the San Diego Emergency Alert System is county wide and broadcasts emergency information via two radio stations KOGO AM 600 and KLSD AM 1360.

As part of the PPA's resident fire awareness and evacuation readiness program, information would be delivered in a variety of methods. The HOA would be responsible to provide and distribute to each homeowner a complete copy of the Fire Protection Plan and this WFEP, including materials from the "Ready, Set, Go!" program. The HOA is also responsible for ensuring the distribution of copies of the aforementioned materials to those individuals that purchase properties for re-sales and to the management of multifamily residential and other non-residential properties. The management of multifamily residential units that do not have individual unit ownership would be responsible for conducting informational sessions regarding the fire safety measures and evacuation plan details and would be responsible for making copies of the evacuation plans available for each unit. Management of the commercial properties would be responsible for the dissemination of the evacuation plan information to their employees.

As part of the approval of this PPA, it shall be binding on the HOA to actively participate as a partner with the SDCFA to assist with the coordination and distribution of fire safety information they develop.

6 Village 14 and Planning Areas 16/19 Proposed Project Amendment Evacuation Procedures

Wildfire emergency response procedures would vary depending on the type of wildfire and the available time in which decision makers (i.e., IC, SDCFA, CAL FIRE, SDCSD, and/or County Office of Emergency Management) can assess the situation and determine the best course of action. Based on the community, its road network, and the related fire environment, the primary type of evacuation envisioned is an orderly, pre-planned evacuation process where people are evacuated from the Project Area to more urban areas further from an encroaching wildfire (likely to urban areas south (and west) or north (and west)) well before fire threatens. This type of evacuation must include a conservative approach to evacuating (i.e., when ignitions occur and weather is such that fires may spread rapidly, evacuations should be triggered on a conservative threshold that includes time allowances for unforeseen, but possible, events that would slow the evacuation process). Wolshon and Marchive (2007) simulated traffic flow conditions in the WUI under a range of evacuation notice lead times and housing densities. To safely evacuate more people, they recommended that emergency managers (1) provide more lead time to evacuees and (2) control traffic levels during evacuations so that fewer vehicles are trying to exit at the same time.

In cases where evacuation is in process and changing conditions result in a situation that is considered unsafe to continue evacuation, it may be advisable to direct evacuees to pre-planned temporary refuge locations, including their own home if it is ignition resistant and defensible, such as those at the PPA. This situation is considered highly undesirable, but the evacuation pre-planning must consider these potential scenarios and prepare decision makers at the IC level and at the field level for enacting a contingency to evacuation when conditions dictate.

Indications from past fires and related evacuations, in San Diego County and throughout Southern California, which have experienced increasingly more frequent and larger fires, are that evacuations are successful, even with a generally unprepared populace. Thus, it is reasonable to expect that an informed and prepared populace would be able to evacuate more efficiently and at risk levels considered acceptable from a community perspective.

Evacuation orders or notifications are often triggered based on established and pre-determined model buffers, which are based on topography, fuel, moisture content of the fuels, and wind direction. Evacuations are initiated when a wildfire reaches or crosses one of these pre-determined buffers. Evacuations can also be very fluid. The IC, law enforcement, and county OES would jointly enact evacuations based on fire behavior, trigger points, and threat levels.

6.1 Village 14 and Planning Areas 16/19 Proposed Project Amendment Evacuation Baseline

For purposes of this WFEP, the first and most logical choice for all of the residents and guests within the boundaries of the PPA community is to adhere to the principals and practices of the "Ready, Set, Go!" program previously mentioned in this document. As part of this program, it is imperative that each household develop a plan that is clearly understood by all family members and participates in the educational and training programs sponsored by the PPA's HOA and the SDCFA. In addition, it is imperative that the "Ready, Set, Go!" program information be reviewed on a routine basis along with the accompanying maps illustrating evacuation routes,

TEPs, and pre-identified evacuation points. It must be kept in mind that conditions may arise that would dictate a different evacuation route than the normal roads used on a daily basis.

Residents are urged to evacuate as soon as they are notified to do so or earlier if they feel uncomfortable. Directions on evacuation routes would be provided in most cases, but when not provided, residents of the PPA would proceed according to known available routes away from the encroaching fire.

The available evacuation routes for the residents and guests of the PPA are as follows (Figure 1):

1. **Egress to the west via Proctor Valley Road** – This is the primary PPA (Village 14) access road and connects with East H Street, which offers travel options to the west and south on SR 125 into Chula Vista or to the north on SR 125 into Bonita and SR-54. SR-54 further provides travel options to the north towards Lemon Grove-Spring Valley or southwest towards National City. Likely neighborhoods using this access during an evacuation include southern and central portions of Village 14, unless the threat is from the north (and east), where all of the community may be advised to use southerly route.
2. **Egress to the north on Proctor Valley Road** – This secondary access road provides a route to Campo Road (SR-94) in Jamul at which point, travel to the north into Rancho San Diego-Casa de Oro or south to Dulzura/Campo is possible. Likely neighborhoods using this access road during an evacuation are northern and central portions of Village 14 and Planning Area 16, unless the threat is from the north (and east), where all of the community may be advised to use southerly route.

Note: This evacuation plan would require adjustment and continued coordination by the PPA's HOA and/or developer and fire/law enforcement agencies during each of the construction phases. With each phase, the evacuation routes may be subject to changes with the addition of both primary and secondary evacuation routes.

6.2 Civilian and Firefighter Evacuation Contingency

During an emergency, including a wildfire, the preferred response would always be early evacuation following the "Ready, Set, Go!" model, but there exists the potential for unforeseen civilian evacuation issues, and having a contingency plan would provide direction in these situations that may result in saved lives.

Potential problems during wildfire evacuation from the PPA include:

- Fires that prevent safe passage along planned evacuation routes
- Inadequate time to safely evacuate
- Fire evacuations during rush hour traffic or when large events are occurring
- Blocked traffic due to accidents or fallen tree(s) or power pole(s)
- The need to move individuals who are unable to evacuate

It is recommended that local law enforcement and fire agencies conduct concerted pre-planning efforts focusing on evacuation contingency planning for civilian populations when it is considered safer to temporary seek a safer refuge than evacuation.

6.2.1 Safety Zones

The International Fire Service Training Association (Fundamentals of Wildland Fire Fighting, 3rd Edition) defines safety zones as areas mostly devoid of fuel, which are large enough to assure that flames and/or dangerous levels of radiant heat would not reach the personnel occupying them. Areas of bare ground, burned over areas, paved areas, and bodies of water can all be used as safety zones. The size of the area needed for a safety zone is determined by fuel types, its location on slopes, and its relation to topographic features (chutes and saddles) as well as observed fire behavior. Safety zones should never be located in topographic saddles, chutes, or gullies. High winds, steep slopes, or heavy fuel loads may increase the area needed for a safety zone.

The National Wildland Fire Coordinating Groups (NWFCG), Glossary of Wildland Fire Terminology, provides the following definitions for safety zone and escape routes:

> *Safety Zone*. An area cleared of flammable materials used for escape in the event the line is outflanked or in case a spot fire causes fuels outside the control line to render the line unsafe. In firing operations, crews progress so as to maintain a safety zone close at hand allowing the fuels inside the control line to be consumed before going ahead. Safety zones may also be constructed as integral parts of fuelbreaks; they are greatly enlarged areas, which can be used with relative safety by firefighters and their equipment in the event of blowup in the vicinity.

According to NWFCG, safety zone(s):

- Must be survivable without a fire shelter
- Can include moving back into a clean burn
- May take advantage of natural features (rock areas, water, meadows)
- Can include Constructed sites (clear-cuts, roads, helispots)
- Are scouted for size and hazards
- Consider the topographic location (larger if upslope)
- Should be larger if downwind
- Should not include heavy fuels
- May need to be adjusted based on site-specific fire behavior

The definition for a safety zone includes provisions for separation distance between the firefighter and the flames of at least four times the maximum continuous flame height. Distance separation is the radius from the center of the safety zone to the nearest fuels. For example, considering worst-case 34-foot-tall flame lengths that may be possible adjacent this site (Appendix 3.1.1-2), then a 136-foot separation would be required, and potentially more if there were site-specific features that would result in more aggressive fire behavior. To provide 136 feet in all directions, a minimum 0.5 acres is considered necessary for a safety zone to be considered appropriate for one three-person engine crew during an extreme weather fire.

If one considers the ignition-resistant and maintained landscaping within each of the PPA's neighborhoods, along with the adjacent 100-foot-wide FMZ and Chapter 7A of California Building Code compliant structures and setbacks, the Village 14 neighborhoods would provide potential safety zones to responding firefighters.

Identification of potential safety zones is for example purposes and would require additional focused study by SDCFA and other fire and law enforcement agencies.

6.2.2 Temporary Firefighter Refuge Areas

FIRESCOPE California (Firefighting Resources of Southern California Organized for Potential Emergencies) was formed by legislative action to form a partnership between all facets of local, rural, and metropolitan fire departments, CAL FIRE, and federal fire agencies. FIRESCOPE defines a contingency plan when it is not possible to retreat to a safety zone. This contingency includes establishment of firefighter temporary refuge areas (TRAs), which are defined as:

> A preplanned area where firefighters can immediately take refuge for temporary shelter and short-term relief without using a fire shelter in the event that emergency egress to an established Safety Zone is compromised.

Examples of a TRA may include the lee side of a structure, inside of a structure, large lawn or parking areas, or cab of fire engine, amongst others. Differences between a TRA and a safety zone is that TRA's are closer to the immediate firefighting area, are considered a contingency to being able to get to a safety zone, do not include a requirement for a large area set back four times the flame lengths of adjacent fuels, and cannot be feasibly pre-planned until firefighters arrive on-scene and size up the situation.

FIRESCOPE appropriately notes that although safety zones and viable escape routes shall always be identified in the WUI environment, they may not be immediately available should the fire behavior increase unexpectedly. Often a TRA is more accessible in the WUI environment. A TRA would provide temporary shelter and short-term relief from an approaching fire without the use of a fire shelter and allow the responders to develop an alternate plan to safely survive the increase in fire behavior.

TRAs are pre-planned areas (planned shortly after firefighters arrive on scene) where firefighters may take refuge and temporary shelter for short-term thermal relief, without using a fire shelter in the event that escape routes to an established safety zone are compromised. The major difference between a TRA and a safety zone is that a TRA requires another planned tactical action (i.e., TRAs cannot be considered the final action, but must include self-defense and a move out of the area when the fire threat subsides). A TRA should be available and identified on site at a defended structure. TRAs are NOT a substitute for a safety zone. TRA pre-planning is difficult, at best, because they are very site and fire behavior specific. For the PPA community, TRAs would likely include navigating into any of the neighborhoods within the more densely developed Village 14 where firefighters would be separated from the unmaintained wildland fuels by wide areas including 100-foot-wide FMZs maintained landscapes, ignition-resistant residences, and wide roads that offer numerous opportunities for TRA.

The entire developed portions of the Village 14 neighborhoods inside the perimeter FMZs are considered TRAs. This is an important concept because it offers last-resort, temporary refuge of firefighters, and in a worst-case condition, residents. This approach would be consistent with FIRESCOPE California (2013), which indicates that firefighters must determine if a safe evacuation is appropriate and, if not, to identify safe refuge for those who cannot be evacuated, including civilians.

Each of the site's residences that can be considered for TRA include the following features:

- Ignition-resistant construction

- 100-foot-wide FMZ around perimeter of Project Area
- Annual inspections by third-party FMZ inspectors
- Wide roadways with fire hydrants
- Maintained landscapes and roadside fuel modification
- Ember resistant vents
- Interior fire sprinklers

Because there is the possibility that evacuation of the Project Area may be less safe than temporarily refuging on site such as during a fast-moving, wind-driven fire that ignites nearby, including temporary refuge within residences, at the school, the Village Center, or elsewhere on site is considered a contingency plan for the PPA. This concept is considered a component of the "Ready, Set, Go!" model as it provides a broader level of "readiness" should the ability to execute an early evacuation be negated by fire, road congestion, or other unforeseen issues. Note: This approach would be considered a last-resort contingency during wildfire with the primary focus being on early evacuation. The decision for evacuation or temporarily refuging on site would be made by responding law enforcement and/or fire personnel.

6.3 Social Aspects of Wildfire Evacuation

Orderly movement of people is the result of planning, training, education, and awareness, all of which are promoted in San Diego County. Evacuation has been the standard term used for emergency movement of people and implies imminent or threatening danger. The term in this WFEP, and under the "Ready, Set, Go!" concept, indicates that there is a perceived threat to persons and movement out of the area is necessary but would occur according to a pre-planned and practiced protocol, reducing the potential for panic.

Citizen reactions may vary during an evacuation event, although several studies indicate that orderly movement during wildfire and other emergencies is not typically unmanageable. Evacuation can be made even less problematic through diligent public education and emergency personnel training and familiarity. Social science research literature indicates that reactions to warnings follow certain behavior patterns that are defined by people's perceptions (Aguirre 1994; Drabek 1991; Fitzpatrick and Mileti 1994; Gordon 2006; Collins 2004) and are not unpredictable. In summary, warnings received from credible sources by people who are aware (or have been made aware) of the potential risk have the effect of an orderly decision process that typically results in successful evacuation. This success is heightened when evacuations are not foreign to residents (Quarentelli and Dynes 1977; Lindell and Perry 2004) as would occur within the Project Area. Further, in all but the rarest circumstances, evacuees would be receiving information from credible sources during an evacuation. Further, it would be anticipated that law enforcement and/or fire personnel would be on site to help direct traffic and would be viewed by evacuees as knowledgeable and credible. The importance of training these personnel cannot be understated and annual education and training regarding fire safety and evacuation events would be essential for successful future evacuations.

6.3.1 Evacuation of Special Populations

Vogt (1990 and 1991) defines special populations as those groups of people who, because of their special situations or needs, require different planning strategies from those of the general population. Special needs populations include those in institutions or special facilities, those with disabilities in homes, those who need care, children, and others who cannot provide for their own evacuation if necessitated. The special needs population is concentrated in facilities but is also widespread in terms of facility locations and those who live in residences.

Special needs populations in the PPA include the hearing or visually impaired, foreign speaking, visitors passing through the area, temporary visitors such as day workers, students at the potential elementary school site, and the non-ambulatory confined to residences either temporarily or permanently.

Tourists and temporary visitors may not have knowledge of the area's fire hazard, they may not know how to react in a fire emergency, and they may not understand what they are being told to do. Conversely, this segment of the population would typically be easier to evacuate quickly as they have no possession or pets that they would need to prepare. They can get in their cars and be directed out of the area.

The reasons why special needs populations may fail to respond to warnings to take protective actions is that they may require special transportation while others require different types of warnings or technologies to receive a warning. Some groups must rely on caregivers to hear the warning and respond.

Village 14 and Planning Areas 16/19 Proposed Project Amendment Approach

The PPA community would provide information to residents regarding notifying county OES and Health and Human Services of special needs residents so that accommodations for their notification (Accessible AlertSanDiego, CERT programs, or other), transportation, or other special requirements can be provided during an emergency evacuation.

6.3.2 Animal Evacuations

Animal evacuations present a host of challenges that may affect the overall successful movement of people and their possessions out of harm's way. For example, livestock owners do not always have the means to load and trailer their livestock out of the area. Further, most wildfire evacuation relief shelters or commercial lodging facilities do not allow people to bring in pets or other animals. Sorensen and Vogt (2006) indicate that an issue receiving increasing attention is what evacuees do with pets or other animals such as livestock when they leave their homes and whether having pets or animals impacts their decision to evacuate.

The PPA may accommodate livestock on site within the larger lots in Planning Areas 16/19. In addition, the trails and trail access points could conceivably include horses during an evacuation notice. Household pets would be a common occurrence.

Village 14 and Planning Areas 16/19 Proposed Project Amendment Approach

- Develop a strong outreach program for large animal and pet owners so they understand their responsibilities and that they would not likely be allowed re-entry once evacuated.
- Develop a registration for owners of animals who cannot evacuate them without assistance so that volunteer organizations or individuals, can provide resources.
- Notice horse owners and those who utilize the PPA trailheads of the fire dangers and encourage them through trailhead signage to register with Alert San Diego evacuate and evacuate when given notice.

6.3.3 Re-Entry Procedures

An important component of evacuations is the citizen re-entry process. Guidance and procedures to ensure a coordinated, safe, and orderly re-entry into impacted communities following an incident is provided in the County of San Diego Re-Entry Protocol.

Re-entry would be initiated by the IC/Unified Command of the Incident Management Team, with the support of the Director of Emergency Services, the OA EOC Director, and the Operations Section Chief at the OA EOC. In most cases, the OA EOC would remain activated until full re-entry is complete. In the event that the OA EOC has been deactivated, the IC or the Liaison Officer of the Incident Management Team would initiate re-entry procedures.

The IC would designate a Re-Entry Coordinator and the Operations Section Chief of the OA EOC would coordinate with and support the re-entry coordinator. The Re-Entry Coordinator is responsible for coordinating the re-entry procedures with all involved agencies and ensuring effective communication.

The impacted areas must be thoroughly investigated to ensure it is safe for residents to return and normal operations have been restored.

The public would be notified of the re-entry status through the notification measures previously mentioned in this annex, including SDCountyEmergency.com, SDEmergency App for smart phones, emergency broadcast radio, television, press releases, informational phone lines such as 2-1-1, community briefings, and informational updates at shelters.

Once evacuees are permitted to return, it is important that procedures are established to properly identify residents and critical support personnel, as well as ensure the legitimacy of contractors, insurance adjustors, and other personnel. Re-entry points should be staffed by law enforcement personnel.

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7 Limitations

This WFEP has been developed based on wildfire and evacuation standards and the San Diego County Evacuation Annex (County of San Diego 2014) and is specifically intended as a guide for evacuations for the PPA. This plan provides basic evacuation information that would familiarize the PPA's residents with the evacuation route options that may be available to them during an emergency. However, because emergencies requiring evacuation have many variables and must be evaluated on a case-by-case basis, this plan shall be subservient to real-time law enforcement and fire personnel/agencies' decision making and direction during an emergency requiring evacuation.

This WFEP promotes the "Ready, Set, Go!" model, adopted by County OES, CAL FIRE, and many fire agencies statewide, including SDCFA. The goal is to raise agency and citizen awareness of potential evacuation issues and get a majority of the public "Ready" by taking a proactive stance on preparedness, training drills, and visitor education, and evacuation planning efforts. The PPA populace would be "Set" by closely monitoring the situation whenever fire weather occurs and/or when wildland fire occurs, and elevating pre-planned protocol activities and situation awareness. Lastly, officials would implement the plan and mandate that populations "Go" by executing pre-planned evacuation procedures in a conservative manner (i.e., evacuation would occur based on conservative decision points, as proposed in this evacuation plan). The preferred alternative would always be early evacuation. However, there may be instances when evacuation is not possible, is not considered safe, or is not an option based on changing conditions. For example, should a fire occur and make evacuation from the Project Area ill advised, a contingency plan for residents would be available. This contingency would include moving people to pre-designated TRAs until it is safe to evacuate or the threat has been mitigated.

Ultimately, it is the intent of this WFEP to guide the implementation of evacuation procedures such that the process of evacuating people from the PPA is facilitated in an efficient manner and according to a pre-defined, evacuation protocol as well as providing a contingency option of temporarily refuging, if evacuation is considered less safe. Residents of the PPA would be aware of this evacuation plan as the HOA would post it on its website and provide reminders to residents on at least an annual basis. This educational outreach would result in a populace that understands the potential for evacuations and the routes and options that may be presented to them.

During extreme fire weather conditions, there are no guarantees that a given structure would not burn or that evacuations would be successful all of the time. Wildfires may occur in the area that could damage property or harm persons. However, successful implementation of the procedures outlined in this WFEP would provide for an informed populace regarding evacuations. The PPA is designed specifically to be resistant to wildfire ignition and perform as a fire-adapted project, offering fire and law officials additional options for resident safety than are available from less defensible communities.

This WFEP does not provide a guarantee that all persons would be safe at all times because of the procedures discussed. There are many variables that may influence overall safety. This plan provides a summary for implementation of standard evacuation protocols, project provided roadway enhancements, and public outreach, which should result in reduced wildfire related risk and hazard. Even then, fire can compromise the procedures through various, unpredictable ways. The goal is to reduce the likelihood that the system is compromised through implementation of the elements of this plan and regular occurring program maintenance and updates.

It is recommended that the evacuation process is carried out with a conservative approach to fire safety. This approach must include maintaining the PPA's fuel modification landscape, infrastructural, and ignition-resistant construction components according to the appropriate standards and embracing a "Ready, Set, Go!"

stance on evacuation. Accordingly, evacuation of the wildfire areas should occur according to pre-established evacuation decision points, or as soon as they receive notice to evacuate, which may vary depending on many environmental and other factors. Fire is a dynamic and somewhat unpredictable occurrence and it is important for anyone living at the WUI to educate themselves on practices that would improve safety.

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Appendix A

"Ready, Set, Go!"
Personal Wildland Fire Action Guide

READY, SET, GO!

YOUR PERSONAL WILDLAND FIRE ACTION GUIDE

THE NOBLEST MOTIVE IS THE PUBLIC GOOD
COUNTY OF SAN DIEGO
MDCCCLI

READY, SET, GO!

OFFICE OF EMERGENCY SERVICES
OES
COUNTY OF SAN DIEGO

READY, SET, GO!

Wildland Fire Action Guide

Saving Lives and Property
through Advance Planning

Fire is a constant threat in San Diego County, and drought, high temperatures in the summer and fall, combined with seasonal Santa Ana winds can lead to explosive fire growth.

In San Diego County, first responders are busy year-round fighting fires. When large fires threaten our community, local, state, federal, tribal, military and other agencies work together to save lives, protect property, and help those impacted by the disaster.

First responders can't do it alone though. Residents, especially those in the Wildland Urban Interface, play a critical role in being prepared for wildfires before, during, and after the next one strikes.

This guide has been modeled off of the Ready, Set, Go! program that is used locally, throughout California, and across the nation. This version is customized for San Diego County, with important local tips and information.

Use this guide to get "Ready" by making your home hardened against wildfire by using defensible space and smart fire resistant building and design choices. Create and practice a family disaster plan that includes storing essentials like food and water supplies, knowing how you'll meet up or communicate with each other, where you can safely evacuate to, and other important information.

Visit ReadySanDiego.org to register with AlertSanDiego to receive emergency alerts via email, text, cell and landline phones, and download the SD Emergency App to get the latest emergency updates delivered to your Android/iOS devices.

Be "Set" and prepared to leave when in danger by monitoring local media, viewing disaster updates on SDCountyEmergency.com, talking with 2-1-1 San Diego, and taking important steps to harden your home even further when you decide to evacuate.

Finally, be able to "Go" and go early, both to keep you and your family safe, and to make it easier for first responders to get into your community.

This guide is a great place to start as you take action to protect your family home, and community.

Tony Mecham, County Fire Chief

INSIDE

Photos courtesy of CAL FIRE, FEMA and ©Kevin Pack/K.E. Photography

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Living in the Wildland Urban Interface and the Ember Zone

Ready, Set, Go! begins with a house that firefighters can defend

Defensible Space Works!

If you live next to a naturally vegetated area, often called the Wildland Urban Interface, provide firefighters with 100 feet of defensible space to protect your home. The buffer zone you create by removing weeds, brush and thinning vegetation helps keep the fire away from your home and reduces the risk from flying embers. Firewise Communities and your local fire department's brush management guidelines provide valuable guidance on property enhancements.

A home within one mile of a natural area is in the Ember Zone. Wind-driven embers can attack your home. You and your home must be prepared well before a fire occurs. Ember fires can destroy homes or neighborhoods far from the actual flame front of the wildland fire.

What is Defensible Space?

Defensible space is the required space between a structure and the wildland area that, under normal conditions, creates a sufficient buffer to slow or halt the spread of wildland fire to a structure. It protects the home from igniting due to direct flame or radiant heat. Defensible space is essential for structure survivability during wildland fire conditions. For more information about defensible space zones and preparedness techniques within each, visit ReadySanDiego.org/wildland-fire

ZONE ONE

Zone One extends 50 feet from your home.

- Must be permanently irrigated to maintain green and healthy plants.
- Is primarily low-growing plant material, with the exception of trees. Plants shall be low-fuel and fire-resistive.
- Trim tree canopies regularly to remove dead wood and keep branches a minimum of 10 feet from structures, chimney outlets and other trees.
- Remove leaf litter (dry leaves/pine needles) from yard, roof and rain gutters.
- Relocate woodpiles and other combustible materials into Zone Two.
- Remove combustible material and vegetation from around and under decks.
- Remove or prune vegetation near windows.
- Remove “ladder fuels” (low-level vegetation that would allow the fire to spread from the ground to the tree canopy). Create a separation between low-level vegetation and tree branches by reducing the height of the vegetation and/or trimming low branches.

ZONE TWO

Zone Two extends 50 to 100 feet from your home.

- Minimize the chance of fire jumping from plant to plant by removing dead material and removing or thinning vegetation seasonally. The minimum spacing between vegetation is three times the dimension of the plant.
- There should be no permanent irrigation in Zone Two.
- Remove “ladder fuels.”
- Cut or mow annual grass down to a maximum height of 4 inches.
- Trim tree canopies regularly to keep branches a minimum of 10 feet from other trees.

What is a Hardened Home?

Construction materials and the quality of the defensible space surrounding a home are what gives it the best chance to survive a wildland fire. Embers from a wildland fire can find the weak link in your home's fire protection scheme and gain the upper hand because of a small, overlooked or seemingly inconsequential factor. However, there are measures you can take to safeguard your home from wildland fire. While you may not be able to accomplish all the measures listed below, each will increase your home's, and possibly your family's, safety and survival during a wildland fire.

ROOFS

Roofs are the most vulnerable surface where embers land because they can lodge and start a fire. Roof valleys, open ends of barrel tiles and rain gutters are all points of entry.

EAVES

Embers can gather under open eaves and ignite exposed wood or other combustible material.

VENTS

Embers can enter the attic or other concealed spaces through vents and ignite combustible materials. Vents in eaves and cornices are particularly vulnerable, as are any unscreened vents.

WALLS

Combustible siding or other combustible or overlapping materials provide surfaces or crevices for embers to nestle and ignite.

WINDOWS and DOORS

Embers can enter through open windows and gaps in doors, including garage doors. Plants or combustible storage near windows can ignite from embers and generate heat that can break windows and/or melt combustible frames.

BALCONIES and DECKS

Embers can collect in or on combustible surfaces or the undersides of decks and balconies, ignite the material and enter the home through walls or windows.

To harden your home further, consider protecting your home with a residential fire sprinkler system. In addition to extinguishing a fire started by an ember that enters your home, it also protects you and your family year-round from any fire that may start in your home.

Tour a Wildland Fire Prepared Home

Home Site and Yard: Ensure you have at least a 100-foot radius of defensible space (thinned vegetation) around your home. Note that even more clearance may be needed for homes in severe hazard areas. This means looking beyond what you own to determine the impact a common slope or neighbors' yard will have on your property during a wildland fire.

Cut and remove dry weeds and grass before noon when temperatures are cooler to reduce the chance of sparking a fire.

Landscape with fire-resistant plants that have a high moisture content and are low-growing.

Keep woodpiles, propane tanks and combustible materials away from your home and other structures such as garages, barns and sheds.

Ensure that trees are far away from power lines.

Inside: Keep working fire extinguishers on hand. Install smoke alarms and carbon monoxide detectors on each level of your home and near bedrooms. Test them monthly and change the batteries twice a year.

Address: Make sure your address is clearly visible from the road.

Roof: Your roof is the most vulnerable part of your home because it can easily catch fire from wind-blown embers. Homes with wood-shake or shingle roofs are at high risk of being destroyed during a wildland fire.

Build your roof or re-roof with fire-resistant materials such as composition, metal or tile. Block any spaces between roof decking and covering to prevent ember intrusion.

Clear pine needles, leaves and other debris from your roof and gutters.

Cut any tree branches within ten feet of your roof.

Vents: Vents on homes are particularly vulnerable to flying embers.

All vent openings should be covered with ⅛ inch metal mesh. Do not use fiberglass or plastic mesh because they can melt and burn.

Attic vents in eaves or cornices should be baffled or otherwise protected to prevent ember intrusion (mesh is not enough).

Windows: Heat from a wildland fire can cause windows to break even before the home ignites. This allows burning embers to enter and start internal fires. Single-paned and large windows are particularly vulnerable.

Install dual-paned windows with the exterior pane of tempered glass to reduce the chance of breakage in a fire.

Limit the size and number of windows in your home that face large areas of vegetation.

Walls: Wood products, such as boards, panels or shingles, are common siding materials. However, they are combustible and not good choices for fire-prone areas.

Build or remodel with fire-resistant building materials, such as brick, cement-fiber board, masonry or stucco.

Be sure to extend materials from foundation to roof.

Garage: Have a fire extinguisher and tools such as a shovel, rake, bucket and hoe available for fire emergencies.

Install a solid door with self-closing hinges between living areas and the garage. Install weather stripping around and under door to prevent ember intrusion.

Store all combustibles and flammable liquids away from ignition sources.

Driveways and Access Roads: Driveways should be designed to allow fire and emergency vehicles and equipment to reach your house.

Access roads should have a minimum 10-foot clearance on either side of the traveled section of the roadway and should allow for two-way traffic.

Ensure that all gates open inward and are wide enough to accommodate emergency equipment.

Trim trees and shrubs overhanging the road to a minimum of 13½ feet to allow emergency vehicles to pass.

Non-Combustible Fencing: Make sure to use non-combustible fencing to protect your home during a wildland fire.

Non-Combustible Boxed In Eaves: Box in eaves with non-combustible materials to prevent accumulation of embers.

Raingutters: Screen or enclose rain gutters to prevent accumulation of plant debris.

Water Supply: Have multiple garden hoses that are long enough to reach any area of your home and other structures on your property.

If you have a pool or well, consider a pump.

Chimney: Cover your chimney and stovepipe outlets with a non-flammable screen of ½ inch wire mesh or smaller to prevent embers from escaping and igniting a fire.

Make sure that your chimney is at least 10 feet away from any tree branches.

Decks and Balconies: Decks, balconies, and other floor projections and attachments must be of one – or a combination – of the following:

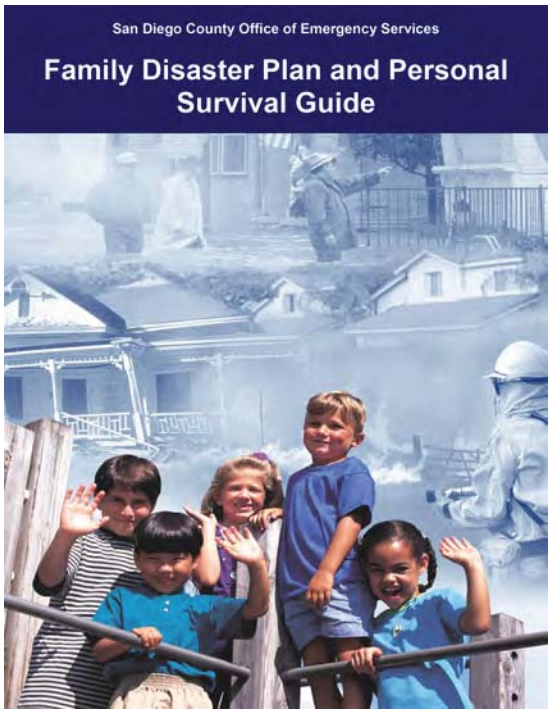
- non-combustible construction (e.g., concrete, metal)
- protected by one-hour fire-resistive material (e.g., stucco, cement-fiber board, ceramic tile, deck surface listed by approved evaluation service as one-hour-rated or Class A roof covering)
- approved fire-retardant treated materials (factory-applied fire retardant, pressure-treated lumber, listed for exterior use, installed per listing)
- heavy timber construction (minimum 4x8 joists, 4x10 or 6x8 beams, 3x ledgers, and 6x6 columns/posts)
- alternative decking materials per County Building Code 92.1.709A.1.4

READY, SET, GO!

Create Your Own Action Guide

Now that you've done everything you can to protect your house, its time to prepare your family. Your **Wildland Fire Action Guide** must be prepared well in advance of a fire. Include *all* members of your household. Use these checklists to help you gain a situational awareness of the threat and to prepare your Wildland Fire Action Guide. For more information on property and home preparedness before a fire threat, review the preparedness checklist on the Firewise Communities website, www.firewise.org

Ready – Preparing for the Fire Threat



For a more extensive survival guide, please visit: ReadySanDiego.org/make-a-plan

- ☐ Create an in-depth family disaster plan at ReadySanDiego.org
- ☐ Register to receive emergency notifications on phone, cell, text, and email for your area. Sign up at AlertSanDiego.org
- ☐ Have fire extinguishers on hand
- ☐ Ensure that your family knows the location of your utility shut-off controls
- ☐ Plan and practice several different evacuation routes
- ☐ Designate an emergency meeting location
- ☐ Assemble an emergency supply kit (water, food, medicine)
- ☐ Maintain a list of emergency contact numbers
- ☐ Have a portable radio

San Diego County

All the information in your hands when you need it! Get the SD Emergency App for Android and iOS!

2-1-1 SAN DIEGO DISASTERRESPONSE

Find out how to volunteer, and get the most up-to-date disaster information! Call 2-1-1

ReadySanDiego.org
Prepare. Plan. Stay Informed.

Visit ReadySanDiego.org for all your preparedness needs! Get a plan, get the app, get informed!

Set – Situational Awareness when a Fire Starts

- [ ] Alert family and neighbors
- [ ] Ensure that you have your emergency supply kit
- [ ] Stay tuned to media, visit: SDCountyEmergency.com
- [ ] Close all windows and doors, leaving them unlocked
- [ ] Remove flammable window shades and curtains
- [ ] Move furniture to the center of the room
- [ ] Turn off pilot lights and air conditioning
- [ ] Leave inside and outside lights on so firefighters can see your house through smoke
- [ ] Bring patio furniture, children's toys, etc. inside
- [ ] Turn off propane tanks and other gas at the meter
- [ ] Don't leave sprinklers on or water running
- [ ] Back your car into the driveway to facilitate a quick departure

- [ ] Cover attic and ground vents with pre-cut plywood or commercial covers
- [ ] Call 2-1-1 for all non-emergency inquiries or visit: 211SanDiego.org

IF YOU ARE TRAPPED: SURVIVAL TIPS

- [ ] Call 9-1-1
- [ ] Remain inside your home until the fire passes
- [ ] Shelter away from outside walls
- [ ] Bring garden hoses inside the house so embers don't destroy them
- [ ] Patrol inside your home for spot fires and extinguish any you find
- [ ] Wear long sleeves and long pants made of natural fibers such as cotton
- [ ] Stay hydrated
- [ ] Ensure you can exit the home if it catches fire (remember if it is hot inside the house, it is four to five times hotter outside)
- [ ] Fill sinks and tubs for an emergency water supply
- [ ] Place wet towels under doors to keep smoke and embers out
- [ ] After the fire has passed, check your home and roof. Extinguish any fires, sparks or embers
- [ ] Check inside the attic for hidden embers
- [ ] If there are fires that you cannot extinguish with a small amount of water or in a short period of time, call 9-1-1

Go – Leave Early

By leaving early, you give your family the best chance of surviving a wildland fire. You also help firefighters by keeping roads clear of congestion.

WHEN TO LEAVE

Do not wait to be advised to leave if there is a possible threat to your home or evacuation route. Leave early enough to avoid being caught in fire, smoke or road congestion. If you are advised to leave by local authorities, do not hesitate!

MEETING LOCATION

Travel to a predetermined location. It should be a low-risk area, such as a well-prepared neighbor or relative's house, a shelter or motel, etc.

HOW TO GET THERE

Know several travel routes out of your community in case one route is blocked by the fire or by emergency vehicles.

WHAT TO TAKE

Take your emergency supply kit containing your prepared family and pet's necessary items.

The County of San Diego Office of Emergency Services has a free, printable, All Hazards Family Disaster Plan and Survival Guide at: ReadySanDiego.org/make-a-plan

Here is a brief checklist to get your emergency supply kit started.

- ☐ Three-day supply of water (one gallon per person per day)
- ☐ Non-perishable food for all family members and pets (three-day supply)
- ☐ First aid kit
- ☐ Flashlight, battery-powered radio, and extra batteries
- ☐ An extra set of car keys, credit cards and cash or traveler's checks
- ☐ Sanitation supplies
- ☐ Extra eyeglasses or contact lenses
- ☐ Important family documents and contact numbers
- ☐ Map marked with evacuation routes
- ☐ Prescriptions or special medications
- ☐ Family photos, valuable and other irreplaceable items that are easy to carry
- ☐ Personal computers, hard drives, disks and flash drivers
- ☐ Chargers for electronic communication devices

Note: Keep a pair of old shoes and a flashlight handy in case of a sudden evacuation at night.

Why can't I immediately return home?

Although a fire has been contained or extinguished there are post-hazard concerns that must be addressed before re-entry into the impacted area(s) may be permitted. Priorities for re-entry include:

1. Safety
2. Security
3. Damage Assessment
4. Restoration of Services
5. Communication of Information

The impacted areas must be thoroughly investigated to ensure it is safe for residents to return and that services have been restored. You will be notified of the re-entry status through: *emergency broadcast radio, television, internet www.SDCountyEmergency.com, 2-1-1, community briefings, and informational updates at shelters.*

Returning Home

After a disaster, **DO NOT attempt to return to your home or cross any barriers or caution tape without permission from law enforcement officials**. When returning home, be cautious in your neighborhood and watch out for:

- Emergency personnel still operating in the area.
- Power lines lying on the ground.
- Small fires that may flare up without warning.
- Ash pits, which are holes filled with hot ash created by burned trees.
- Damaged buildings or debris (including glass, nails, etc.)
- Charred power poles and trees that may be unstable and fall.

Take the following precautions when attempting to enter your house:

POWER:

If a person or piece of equipment comes in contact with an electric line, or if a line is down or broken.

- ☐ **Call 9-1-1**.
- ☐ If you see an electrical fire, fight it with a dry CO(2) extinguisher.
- ☐ If possible, shut off the power.
- ☐ **Don't touch the person or any equipment involved**. The line may still be energized and dangerous.
- ☐ Freeing someone from energized power lines or equipment should only be attempted by a qualified SDG&E employee or a trained rescuer such as a fire fighter.
- ☐ Always assume that power lines are energized.
- ☐ Do not smoke or attempt to light anything. Use a **flashlight instead**.

GAS:

- ☐ Check to see if your gas utility is working properly. If you smell gas, leave your home immediately, and call (24/7) SDG&E at 1-800-411-7343.
- ☐ **DO NOT** light a match, candle, or cigarette.
- ☐ **DO NOT** turn electrical devices on or off, including light switches.
- ☐ **DO NOT** start an engine or use any device, including a telephone, which could cause a spark.
- ☐ **DO NOT** attempt to control the leak or repair the damaged pipe or meter. Do not use or turn off any equipment that could cause a spark.

- ☐ Check for burning embers on roofs, gutters, porches, attic, crawlspace, and throughout your property for several days after a wildfire.

- ☐ Check for any structural damage before entering your home. If you are uncertain, have your home professionally inspected before returning.

- ☐ Do not smoke or attempt to light anything as there could be flammables or leaking gases. Use a flashlight instead.

- ☐ Open windows and doors to allow airflow, which will help dry out of any water damage areas.

San Diego Gas & Electric can be reached at 1-800-411-7343 or SDGE.com/customer-service/contact-us
For more information on damage assessment visit the County's Recovery page at SDCountyRecovery.com.

Fire Action Guide

Out of Area Contact: _____ **Phone #:** _____

Work: _____ **School:** _____ **Other:** _____

Evacuation Routes: _____

_____

_____

Meeting Location: _____ **Location of Supply Kit:** _____

Information: SDCountyEmergency.com 211SanDiego.org SD Emergency App

You can create a more in-depth plan for free at: ReadySanDiego.org/make-a-plan

READY, SET, GO!

Safety Checklist

Tips To Improve Family and Property Survival During A Wildland Fire

Home	Yes	No
1. Does your home have a metal, composition, tile or other non-combustible roof with capped ends and covered fascia?	☐	☐
2. Are the rain gutters and roof free of leaves, needles and branches?	☐	☐
3. Are all vent openings screened with 1/8 inch non-combustible, corrosion-resistant metal mesh?	☐	☐
4. Are approved spark arrestors on chimneys?	☐	☐
5. Does the house have non-combustible siding material?	☐	☐
6. Are the eaves "boxed in" and the decks enclosed?	☐	☐
7. Are the windows dual-paned or tempered glass?	☐	☐
8. Are decks, porches and similar areas made of non-combustible material and are they free of easily combustible material?	☐	☐
9. Is all firewood at least 30 feet from the house?	☐	☐

Defensible Space	Yes	No
1. Has dead vegetation been removed from the defensible space zones around your home? (Consider adding distance due to slope of property.)	☐	☐
2. Is the required separation between shrubs maintained?	☐	☐
3. Have ladder fuels been removed?	☐	☐
4. Is there a clean and green area extending at least 50 feet from the house?	☐	☐
5. Is there a non-combustible area within five feet of the house?	☐	☐
6. Is the required separation between trees and crowns maintained?	☐	☐

Emergency Access	Yes	No
1. Is the home address plainly legible and visible from the street?	☐	☐
2. Are trees and shrubs overhanging the street trimmed to 15½ feet?	☐	☐
3. If your home has a long driveway, does it have a suitable turnaround area?	☐	☐

ReadySanDiego.org
Prepare. Plan. Stay Informed.

Insurance Institute for Business & Home Safety

Attachment B

Village 14 and Planning Area 16/19 Fire Term Sheet

GDCI PROCTOR VALLEY L.P.

FIRE PROTECTION AND MITIGATION TERM SHEET

TERM SHEET: This TERM SHEET is dated June 24th 2019.

PARTIES: This TERM SHEET is by and between GDCI Proctor Valley L.P., a Delaware limited partnership ("GDCI") and the San Diego County Fire Authority ("SDCFA"). Collectively, GDCI and SDCFA shall be referenced herein as "Parties".

BACKGROUND: GDCI is requesting approval of entitlements, including a General Plan Amendment, Specific Plan, and a Tentative Map, for the development of a portion of Otay Ranch Village 14 and Planning Areas 16/19 ("Project") within the unincorporated area of San Diego County. The Project Area includes land uses that are subject to the 5-minute travel time (Village 14) and the 10-minute travel time (Planning Areas 16/19) standards.

A Fire Protection Plan prepared for the Project by Dudek and Associates, dated February 2018 ("FPP") is attached to the Project's Environmental Impact Report ("EIR") as Appendix 3.1.1-2. The FPP proposed a new fire station within the Project to allow the Project to meet SDCFA travel time standards while supporting the County regional strategies for the placement of fire facilities and services.

The FPP anticipated that construction of the permanent fire station ("Permanent Station") would be on the Project's public safety site at an agreed upon trigger threshold, that would be detailed in a Fire Services Agreement. The FPP further contemplated a temporary fire station ("Interim Station"), if the Permanent Station is not constructed at the commencement of construction of residential or non-residential structures. The Interim Station, if necessary, would be available and located with SDCFA guidance so that it is operational by the first certificate of occupancy for a specified period. The FPP contemplated that the details of the Permanent Station and Interim Station would be finalized and documented in a "Fire Services Agreement."

AGREED UPON TERMS

1. **Permanent Fire Station.** GDCI shall fund and construct a Permanent Fire Station to be located within the Project. When completed, the Permanent Fire Station shall provide fire and emergency medical services for the Project within the 5-minute and 10-minute travel time standards set forth in the General Plan, Chapter 7, Policy S-6.4 ("Policy S-6.4"). The Parties agree to the following terms:

a. Site Location. The Permanent Station will be constructed at the Public Safety site as identified in the Specific Plan and Tentative Map location identified on Exhibit A to this Agreement. A Site Plan must be approved by SDCFA prior to construction, which will include ingress and egress, building location, and parking. Site requirements are identified on Exhibit B.

b. Equipment and Facility. The Permanent Station will be designed, constructed and deeded to SDCFA at GDCI's sole expense. The Permanent Station will consist of a 2-bay-two deep, approximately 5,500 square foot building structure and site improvements, and shall be designed and constructed in accordance with the specifications and requirements identified in Exhibit C. Any changes to the specifications and requirements in Exhibit C must be approved in advance by SDCFA. The Parties agree that the value of the Permanent Station shall be based upon the total cost of constructing such facility, including the land, engineering and design costs. Land costs will be per appraisal and other costs will be substantiated by construction statements provided by GDCI and reasonably approved by SDCFA. Preliminary capital cost estimates and equipment are provided in Exhibit D. Though the Project's FPP states GDCI would provide a fire engine (Type I or II) as part of the Project, SDCFA and GDCI agree that this requirement will not apply.

c. Conveyance to SDCFA. GDCI shall convey the site and improvements to SDCFA, prior to occupancy of the Permanent Station. The Parties agree that conveyance of ownership of the Permanent Station to SDCFA is intended for the operation of a fire station and related facilities and will include a County of San Diego ("County") Sheriff's storefront as contemplated by the County. Cost sharing agreements will be between SDCFA and County Sherriff.

d. Timing. The Parties agree that construction of the Permanent Station will commence prior to the 650th Certificate of Occupancy. However, the Parties agree to the timeframe outlined in the Provisions of Fire Service dated October 10, 2018 attached as Exhibit E. A construction schedule requiring the station to be completed in a timely manner shall be submitted for review and approval by SDCFA prior to commencement of construction. The facility shall be constructed in accordance with the improvement plans approved by the SDCFA, and the requirements of the State Fire Code.

2. **Interim Station.** GDCI shall fund and construct an Interim Station to be located within the Project. When completed, the Interim Station will provide fire and emergency medical services for the Project within the 5-minute and 10-minute travel time standards in Policy S-6.4. The Parties agree to the following terms:

a. Site Location. The Interim Station will be constructed at a mutually agreed upon site within the Project. SDCFA shall lease the site for $1.00/year, pursuant to the terms of a ground lease with GDCI as Lessor and SDCFA as Lessee. A site plan will be approved by SDCFA prior to construction, which will include ingress and egress, building location, and parking.

b. Facility. The Interim Station will consist of a temporary building structure and site improvements in accordance with the specifications identified in Exhibit F.

c. Timing. Construction of the Interim Station will be completed prior to the 1st Certificate of Occupancy being issued by the County for the Project. Within two years of issuance of the first Certificate of Occupancy, GDCI will provide a prefabricated steel apparatus shelter consistent with Exhibit G at the Interim Station site if construction of the Permanent Station is not completed by that time.

3. **Staffing.** The Parties acknowledge that the Interim and Permanent Fire Stations serve an area larger than the Project and contribute to the regional delivery of fire services, as shown on Exhibit H. Therefore, the Parties agree that the costs for Fire and Emergency Medical Services Staffing shall be shared between the County and GDCI. Phased staffing levels and cost sharing are set forth in the Provisions of Fire Service dated October 10, 2018 attached as Exhibit E.

4. **Establishment of Funding Mechanism.** GDCI shall establish a Community Facilities District ("CFD") or other funding mechanism approved by County to provide long-term funding for the Project's share of the actual costs of the career firefighter staffing and operation and maintenance costs for both the Interim and Permanent fire station.

5. **Fire Mitigation Fees.** The County has determined that GDCI's performance of this Agreement satisfies and exceeds the Project's fire protection services mitigation obligation as defined by the Project's EIR and as required by Title 8, Division 10, Chapter 3, §§ 810.301-810.315 of the San Diego County Code of Regulatory Ordinances and the Mitigation Fee Act, in connection with development of the Project. SDCFA shall waive the collection of Fire Mitigation Fees for the project as required under the Fire Mitigation Fee Ordinance in lieu of the GDCI's donation of the land and new fire station valued at $3,475,000. Id. at § 810.305. SDCFA acknowledges the capital facilities set forth in this TERM SHEET are sufficient to offset the need to collect the Fire Mitigation Fees.

6. **Assignment.** This TERM SHEET is applicable to the Project. Accordingly, GDCI may transfer their rights and obligations to any entity or new owner of the Project. GDCI must provide the County with a thirty (30) day written notice containing the name, address, telephone number, email address, and contact person for the assignee.

7. **Final Agreement.** Pursuant to the Project's Conditions of Approval #44, the Parties will execute a Fire and Emergency Services Agreement, which includes the terms of this Fire Protection and Mitigation Term Sheet. The Agreement shall be executed prior to approval of any plan or issuance of any permit, and prior to use of the premises in reliance on any such permit.

[*Signatures Follow*]

GDCI PROCTOR VALLEY L.P.,
a Delaware Limited Partnership

BY: GDC HOLDINGS, L.L.C.,
a Delaware Limited Liability Company,
as General Partner

By: _____
Frank L. Thomas, President and CEO

By: _____
Gina Papandrea, CFO

SAN DIEGO COUNTY FIRE AUTHORITY

By: _____
Herman Reddick, Director

List of Exhibits

Exhibit A	Public Safety Site Location
Exhibit B	Site Requirements
Exhibit C	Permanent Station Prototype and Specifications.
Exhibit D	Preliminary Fire Station Capital and Equipment Costs
Exhibit E	Provisions of Fire Service dated October 10, 2018
Exhibit F	Interim Station Prototype and Specifications
Exhibit G	Apparatus Shelter Specifications
Exhibit H	Permanent Station Location and Service Area

Exhibit A

Public Safety Site Location

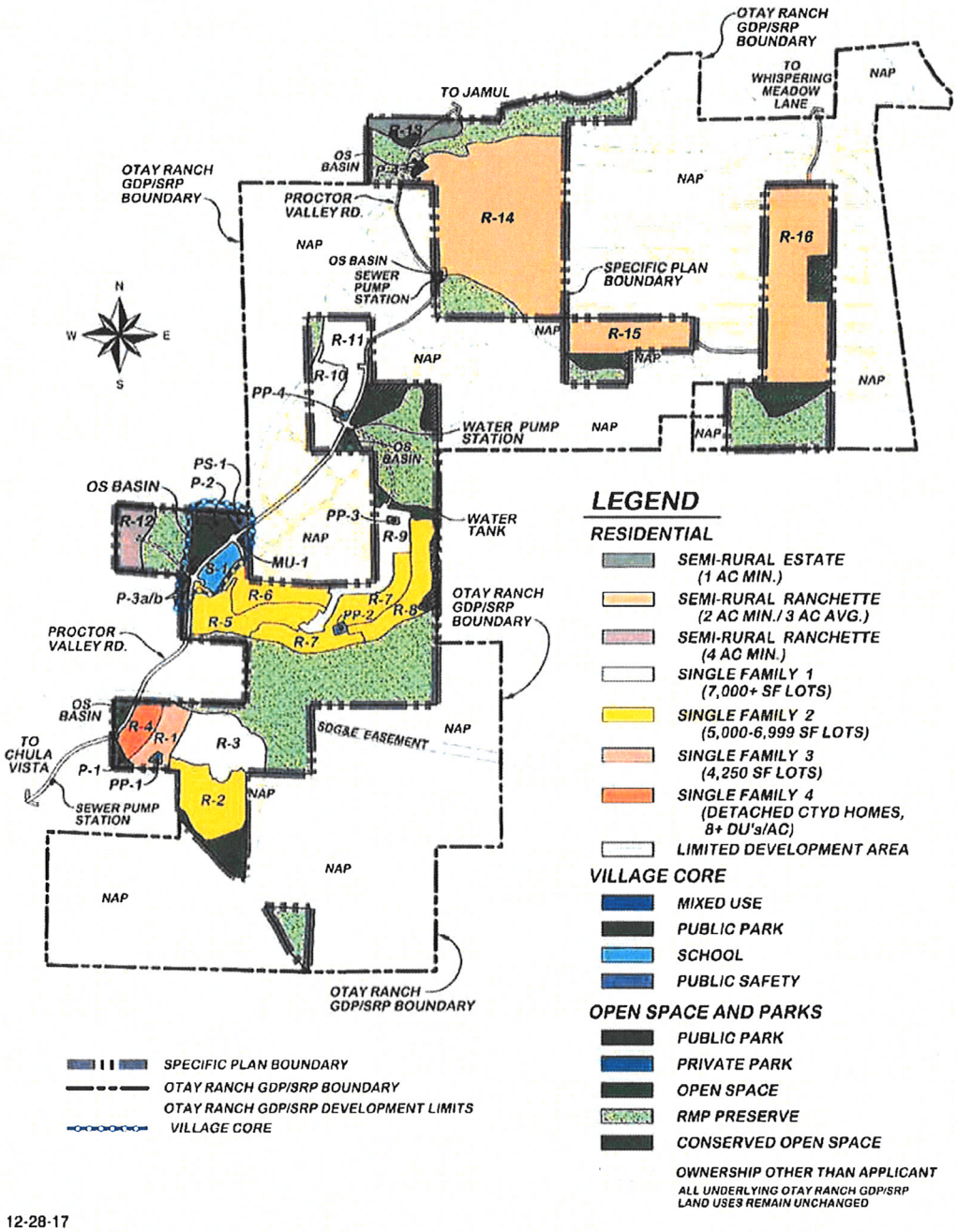


Exhibit B

Site Requirements

- Permanent 2.3-acre joint use public safety site.
- Site to be graded, pad created, and utilities stubbed out from street.
- Direct site access from Proctor Valley Road (PVR), with secondary access from the adjacent park area.
- Access across PVR via a median island break with appropriate signage.
- Site development to include parking, entrance, landscaping, signage, lighting, and any other fixed infrastructure necessary to operate fire station.
- Site to be fenced or walled for security and to limit access.
- Space for staff parking on-site for fire and sheriff personnel, and guest parking.
- Onsite drainage retention and treatment.

Exhibit C

Permanent Station Prototype and Specifications

Permanent Fire Station Prototype – will be developed and attached to final agreement

Fire Station and Sheriff Office Space

- Prototype will be developed and attached to final fire services agreement.
- Structure to be designed per County and SDCFA standards and specifications.
- Fire station structure requirements 5,500 sq. ft.
- 500 sq. ft sheriff office space.
- Two (2) bay drive through station.
- Separate side entrance for Sheriff office.
- Design Requirements, as follows:

Village 14 Fire Station Design Requirements

General Requirements

This project shall support a crew of 3 to 6 personnel and 2 vehicles. The vehicle compliment shall be as follows:

Type I Engine	28'- 3" Long
Type III Engine	27'-0" Long

Functional Relationships

The site and spatial organization of this facility shall achieve the most efficient response time of fire personnel to emergency calls. Consideration shall be given to:

A. The provision for direct access for fire apparatus to the roadway fronting the project site;
B. The provision of a drive-through apparatus bay and approach roadways that facilitate the staging of vehicles for rapid emergency departure;
C. The arrangement of spaces within the structure to allow for fast and easy movement of fire personnel to the apparatus; and,
D. The placement of support spaces and equipment as needed to enable readiness of vehicle deployment.

Functional Requirements- Building Areas (approximately 6,000 sq ft)

A. **The Apparatus Bays (approximately 2300 sq ft):**
    a. Constructed without columns in the apparatus parking area.
    b. Provided with a floor capable of supporting the loads imposed by the firefighting/emergency response vehicles
        i. Floor shall be a minimum of 8" think, 4,000 psi Portland Cement concrete, reinforced with #3 reinforcing bars at 12" on center each way;
    c. Designed with a negative pressure air balance relative to the administrative, training and living areas in order to prevent the migration of residual exhaust from the apparatus room to those areas
        i. The general room air shall be exhausted to the outside of the roof level to ensure the dissipation of vehicle exhaust
    d. Provided with a vehicle exhaust removal system (Plymovent or similar fire department approved equal)
        i. System hose drops shall be provided for each vehicle exhaust outlet and shall be adaptable to changing vehicle and/or exhaust outlet positions
        ii. System shall be sized for the removal of 100% of all vehicle exhaust
        iii. System shall be automatically activated
        iv. System shall exhaust to the outside at roof level to ensure the dissipation of vehicle exhaust
    e. Sized to house two apparatus stacked two deep with drive-thru capacity.

b. **Decontamination room located adjacent to the turnout room for the cleaning of PPE (approximately 200 sq ft)**
    i. The decon room shall be provided with a laundry sink, a hose bib and a hose-down basin
    ii. The decon room shall be provided with water resistant wall and floor finishes and floor drains routed to the sand/oil interceptor
    iii. The decon area shall be properly ventilated to remove residual humidity and to enable the room to dry quickly after use
    iv. The decon room shall be provided with a commercial grade extractor (Milnor E-P Plus Extractor or fire department approved equal)
    v. The decon room shall be provided with a commercial grade dryer (Milnor Commercial Dryer or fire department approved equal)
c. **Workshop suitable for minor repair and maintenance work (approximately 200 sq ft)**
    i. Workshop space shall be provided with workbenches, shelving and an air compressor (compressor may be remotely located to reduce noise in work area)
    ii. Workshop compressor shall be capable of achieving 150 psi and shall be located within a 100' pull of all apparatus tires
    iii. Workshop shall include flammable liquids cabinet
d. **SCBA Room (approximately 100 sq ft)**
    i. SCBA room shall be provided with a Scott Compressor System, Simple Air, 6000 PSI (or fire department approved equal).
        1. Compressor shall be connected to a dedicated electrical circuit.
    ii. SCBA room shall be provided a Scott Revolve Air Charge Station (or fire department approved equal).
    iii. SCBA room shall be provided with a Scott Storage System (or fire department approved equal).
e. **Medical Storage Room (approximately 80 sq ft)**
    i. Provided with commercial ice machine and floor drain
    ii. Provided with lockable medical supply storage cabinet
    iii. Provided with coded lock on the door

C. **Administrative Area**
    a. **Must include the following spaces:**
        i. **A public reception area (approximately 200 sq ft)**
            1. With space for 1-2 guest chairs and end table for waiting
            2. With direct access to a public counter, opening to the overhead office.
            3. That is separate from the overhead office by a locked door (coded lock)
            4. That is provided with a single-occupant disabled-accessible restroom.

f. Be provided with three (3) 42" wide x 24" deep x 96" tall pantries with individually keyed locks and adjustable heavy-duty/high-density shelving systems.
g. Be provided with adequate cabinets for the storage of cutlery, flatware, dishes, glasses, pots, pans, etc. – as required for daily food preparation and eating.
h. Dining area: Must accommodate six (6) person dining table with chairs

iv. **An exercise room (approximately 500 square feet)**
1. Which shall be approximately 500 square feet to accommodate the County's Stand Fitness Equipment Complement (to be provided to Architect)
2. Which shall be provided with a full height mirror on one wall

v. **Three (3) double occupant sleeping rooms (with direct flow to the apparatus bay) (approximately 140 sq ft per room)**
1. Must accommodate two extra-long twin beds with standard bed frames; two built in wardrobe cabinets with drawers and an area to hang uniforms; two nightstands; and, two nightstand lamps.
2. Which shall be provided with a window to the exterior which meets code standards for emergency escape
3. Which shall have access through a secure hallway and have direct access to the restrooms and showers served by that hallway
4. Which shall be provided with acoustical insulation to deaden sound transmission from surrounding rooms and areas

vi. **Two (2) unisex single occupant bathrooms (approximately 90 sq ft each)**
1 Must be provided with a vanity with integral lavatory, a water closet and a walk-in 30" x 72" shower/drying area for which:
a. Shower accessories shall include a double clothing hook, a 24" towel bar and a shower rod with curtain
b. Lavatory accessories shall include a mirror (minimum size 24" wide x 36" tall), a 24" towel bar with shelf, a liquid soap dispense and a paper towel dispenser
c. Bathroom accessories shall be stainless steel fabrication.

vii. **Laundry room (approximately 100 sq ft)**
1. Must be located for easy access from the sleeping area
2. Must provide two (2) heavy-duty residential-style clothes washers, two (2) heavy-duty residential style clothes dryers, a laundry sink and a table for folding clothes

viii. **Storage (approximately 35 sq ft)**
1. Which shall be located for easy access from sleeping areas and crew bathrooms

11. Which shall provide a 4" x 10" x ¼" telecommunications grounding busbar with a #6 AWG grounding conductor to the building grounding electrode

iii. **Mechanical rooms (200 sq ft)**

1. Provide a mechanical room for the apparatus bays and associated areas
    a. The hot water boiler may be located within the mechanical room serving the apparatus room
2. Provide a shared mechanical room for the administrative and living areas
    a. The hot water boiler may not be located within the mechanical room serving the admin and living areas
3. Shall be located for the efficient distribution of ductwork and mechanical piping to and from the areas served
4. Shall be properly ventilated

F. **The facility shall be provided with the following systems:**

a. **A communications and paging system (spec to be provided by County Fire)**

i. Provide two-horn type paging speakers with volume control located on both sides of the apparatus floor

ii. Provide and install three-port telecommunications (voice and date) outlets at all workstations, lobby desk, offices, reception, kitchen, dayroom and sleeping quarters

iii Provide and install wireless access points to provide complete wireless coverage through building

iv. Provide speakers with volume control in all rooms, including restrooms and showers

b. **Fire, smoke and carbon dioxide detectors**

i. Fire, smoke and carbon dioxide detectors shall be installed as required by the Uniform Building Code for Group B occupancies

c. **A fire sprinkler system**

i. The building shall be provided with a complete automatic fire sprinkler system per the California Fire Code and NFPA 13

ii. Sprinkler alarm shall be capable of being connected to a center monitoring station.

d. **Doorbells that ring in the dayroom,** the hallway outside the sleeping rooms and the apparatus bays are to be installed at both front and rear exterior doors, with different tones for each

Functional Requirements- Site Areas

A. **Parking**

a. **Crew parking**

i. Vehicle parking areas for the station crew shall be paved with Portland Cement concrete pavement placed based on recommendations from the geotechnical report
ii. The vehicle driveway and parking area for the public parking shall be asphaltic concrete pavement placed based on recommendations from the geotechnical report
iii. Pedestrian walkways shall be paved with Portland Cement concrete pavement place based on recommendations from the geotechnical report

D. Site security

a. The site areas along the sides and rear of the fire station shall be physically secured as follows:

I. A minimum eight (8) foot high security fence shall be installed
ii. A minimum eight (8) foot- high rolling gate shall be provided across the driveway
iii. The rolling gate will be electrically operated with keypad and remote control capability using a Delta III controller-receiver
iv. The rolling gate shall have a metal guide track, mounted concrete, that will guide the gate to its predetermined closure point
v. The rolling gate will automatically close within a predetermined time period
vi. The rolling gate will be provided with infrared sensors and control loops embedded in the driveway to prevent the gate from closing on a vehicle or pedestrian
vii. Security fencing shall be vinyl coated chain link fencing with line posts (minimum)
viii. Lockable pedestrian gates with panic releases shall be provided for access from the secured area to the public right of way at the front and rear of the facility
ix. The project site shall be provided with security night lighting controlled by photocell in series with an over-ride switching ability
x. A wall-mounted 9-1-1 phone shall be provided adjacent to the administrative office outside entrance.

b. Patio

i. A patio area shall be provided with direct access from the kitchen/dining areas.
ii. The patio area shall be provided with a barbeque with a connection to the propane system and an adjacent electrical outlet
iii. A hose bibb will be located in the area of the patio in order to facilitate cleaning

c. Trash and recycling enclosure

i. The trash and recycling enclosure shall be constructed of concrete masonry walls, six (6) feet high, minimum, with a locking vinyl coated chain link gate and protected with a floating patio-type cover that will prevent rain from falling upon the enclosed standard dumpster
    1. The trash enclosure will be located for convenient access from the kitchen

a. All apparatus room area floors, including restroom floor, shall be polished and sealed concrete.
b. All floors in administrative area, except restroom floors, shall be polished, stained and sealed concrete.
c. The kitchen and dining room floors shall be polished, stained and sealed concrete, while restroom floors in the administrative area shall be ceramic tile.
d. The exercise room floor shall be rubber matting over polished and sealed concrete.
e. Floors in sleeping rooms and dayroom shall be commercial grade carpet.
f. Floors in laundry room, storage room, and mechanical room shall be luxury vinyl plank.
g. Wall base to be 4" topset vinyl base

B. Wall and Ceiling Finishes

a. Walls and cellings shall be gypsum board painted with 100% acrylic paint, semi-gloss, two top coats over a base coat.

C. Interior Doors

a. Interior doors to be exterior grade, solid wood stave core and birch veneer.
b. Commercial grade door hardware with locks of appropriate function on all doors.

D. Window Treatments

a. Provide all windows and glazed doors with 1" aluminum mini-blinds.

E. Built-in Casework

a. Casework to meet Woodwork Institute (WIC) Custom Grade standards. Construct of ¾" exterior grade plywood, particle board substrates not acceptable.
b. Shelving shall be fully adjustable
c. Countertops to be solid surface material.
d. Hardware to be commercial grade stainless steel.

F. Painting

a. All products for each application, including primers and undercoatings, shall be by the same manufacturer. Provide low or no-VOC product lines for interior finishes.

G. Painting schedule for materials without factory finish

a. Interior and Exterior Wood, Painted: 1 prime coat, 2 coats semi-gloss enamel
b. Interior Gypsum Board: 1 coat primer/sealer, 2 coats interior latex semi-gloss enamel
c. Interior and Exterior Metal: 1 coat primer, 1 undercoat, 1 coat acrylic gloss enamel

Energy Efficiency

Thermal characteristics of the envelope surfaces shall be as required to conform with code requirements and to achieve the designated LEED Silver Certification, or better.

Exhibit D

Preliminary Fire Station Capital and Equipment Costs

Fire Station Capital Costs
Exhibit D
6/13/2019

DRAFT

	SDCFA Station	
	Interim	Permanent
Capital Costs		
Estimated Land Costs		
Acreage		2.30
Price per Acre		TBD
Total Land Value Contribution	$ -	$ -
Engineering and Design	$ 20,000	$ 150,000
Site Improvement Costs & Fees	$ 75,000	$ 250,000
Furnishings	N/A	N/A
Temporary Fire Station (Pre-fab)	$ 285,000	$ -
Estimated Permanent Fire Station Building Costs		
Permanent Fire Station SqFt		5,500
Price per SqFt (a)		$ 350
Total Permanent Fire Station Cost	$ -	$ 1,925,000
Total Capital Costs	$ 380,000	$ 2,325,000
Equipment		
Type I Structure Engine (provided by SDCFA)	$ -	
Equipment Total	$ -	$ -
Total Facility and Equipment Costs	$ 380,000	$ 2,325,000

(a) Developer Constructed Cost per SqFt

Exhibit E

Provisions of Fire Service dated October 10, 2018

Env. / Fire

PROVISION OF FIRE SERVICES

VILLAGE 14

SAN DIEGO COUNTY FIRE
5510 OVERLAND AVE. SAN DIEGO, CA 92123

Dave Nissen, Deputy Chief, Community Risk Reduction

UPDATED 10/10/2018

OTAY RANCH VILLAGE 14

Otay Ranch Village 14 and Planning Areas 16/19 will include 1,119 homes built on 709 acres around a Village Core featuring 1.7 acres of mixed use and light commercial property and a 9.7 acre elementary school site. San Diego County Fire estimates that at an average of three people per dwelling unit, the development will have a final population of 3,357 at full buildout.

At this population density, San Diego County Fire estimates that the development will generate 370 emergency incidents annually. This estimate was established utilizing five years of historical emergency response data in the unincorporated area. This data illustrated that, on average, for every 1,000 residents 100 emergency incidents are generated annually. While it is harder to quantify, the number of emergency incidents generated by the development may be increased by the elementary school, the types of commercial uses included in the development, and increased traffic on the roadways between the development and the city of Chula Vista.

SAN DIEGO COUNTY FIRE

San Diego County Fire is a combination Career and Volunteer Reserve Fire Department formed through a Cooperative Agreement between CAL FIRE and the County of San Diego. The Department is responsible for the provision of fire suppression and emergency medical services to the 1.5 million acres of unincorporated San Diego County. The Department strives to provide the highest level of service using an integrated cooperative regional fire protection system. A key element of this system is ensuring that resources are allocated to arrive to mitigate emergencies within established standards. As the provider of fire suppression and emergency medical services for the County of San Diego, the Department utilizes the County's General Plan and an Internal Standards of Cover Response Plan to establish standards and make data driven decisions regarding the placement of personnel and apparatus.

EMERGENCY SERVICES STANDARDS

In accordance with the San Diego County General Plan for Safety, the density of this development requires a 5 minute travel time for ALS (Advanced Life Support) emergency response. San Diego County Fire refers to this density as an Urban Regional Category is generally defined as an area with a population exceeding 2,000 people per square mile but is more specifically defined by land use designations.

The development will not meet the criteria of an Urban Regional Category until after the first 650 Certificates of Occupancy. Based on this, the Department has identified a phasing period for the provision of fire services. During the phasing period the Department has approved the staffing of two persons daily, with one being a paramedic. After the first 650 Certificates of Occupancy, the Department will require three personnel staffed daily, with one being a paramedic. The three person staffing is required due to the developments location in a Municipal Interface Area and the obligations under California Master Mutual Aid and existing Automatic Aid Agreements with the City of Chula Vista. Three person staffing is the standard for County Fire stations in Municipal Interface Areas including Jamul, Otay, and Harbison Canyon.

Three person staffing is achieved by having 6 dedicated personnel assigned to the fire station, Crew A and Crew B. These crews provide staffing for 6 of the 7 days in the work week. The fire station will be a part of a shared relief module to staff the 7th day.

SUN	MON	TUE	WED	THUR	FRI	SAT
CREW A	CREW A	CREW A	CREW B	CREW B	CREW B	RELIEF
Fire Captain			Fire Apparatus Engineer Paramedic			FAE
Firefighter II Paramedic			Firefighter II Paramedic			FFIIP
Firefighter II (starts at Phase IV)			Firefighter II (starts at Phase IV)			FFII

PROVISION OF FIRE SERVICE

San Diego County Fire has prepared a provision of fire service plan that is phased in response to the Developer's phased construction plan. County Fire recognizes that the addition of personnel at this location provides a regional benefit, therefore the County will share a portion of the cost to staff a Fire Station at Village 14 as outlined below. A forecast of estimated personnel costs through Fiscal Year 2032 has been included as an attachment for reference.

PHASE I: MONTH 1 thru MONTH 12

San Diego County Fire will provide 2.0 ALS staffing. San Diego County Fire will share 60% of the personnel costs during this phase.

PHASE II: MONTH 12 thru MONTH 24

San Diego County Fire will continue to provide 2.0 ALS staffing. San Diego County Fire will share 40% of the personnel costs during this phase.

PHASE III: MONTH 24 through 650 CERTIFICATES OF OCCUPANCY

San Diego County Fire will continue to provide 2.0 ALS staffing. San Diego County Fire will share 25% of the personnel costs during this phase.

PHASE IV: 650 CERTIFICATES OF OCCUPANCY thru FULL BUILD OUT

San Diego County Fire will begin to provide 3.0 ALS staffing. San Diego County Fire will share 25% of the personnel costs during this phase.

ADDITIONAL CONTRIBUTIONS

In addition to a share of the personnel costs, San Diego County Fire will provide a Type I Fire Engine for deployment at this location and will provide funding for all Fire Station operations at this location.

Phase 1 First 12 Months	FY18/19	FY19/20	FY20/21	FY21/22	FY22/23	FY23/24	FY24/25	FY25/26	FY26/27	FY27/28	FY28/29	FY29/30
Est. Total Personnel Costs	$1,004,545	$1,051,759	$1,101,191	$1,152,947	$1,207,136	$1,263,871	$1,323,273	$1,385,467	$1,450,584	$1,518,761	$1,590,143	$1,664,880
County Share = 60%	$602,727	$631,055	$660,715	$691,768	$724,281	$758,323	$793,964	$831,280	$870,350	$911,257	$954,086	$998,928
Developer Share = 40%	$401,818	$420,703	$440,476	$461,179	$482,854	$505,548	$529,309	$554,187	$580,234	$607,504	$636,057	$665,952

Phase 2 Second 12 Months	FY18/19	FY19/20	FY20/21	FY21/22	FY22/23	FY23/24	FY24/25	FY25/26	FY26/27	FY27/28	FY28/29	FY29/30
Est. Total Personnel Costs	$1,004,545	$1,051,759	$1,101,191	$1,152,947	$1,207,136	$1,263,871	$1,323,273	$1,385,467	$1,450,584	$1,518,761	$1,590,143	$1,664,880
County Share = 40%	$401,818	$420,703	$440,476	$461,179	$482,854	$505,548	$529,309	$554,187	$580,234	$607,504	$636,057	$665,952
Developer Share = 60%	$602,727	$631,055	$660,715	$691,768	$724,281	$758,323	$793,964	$831,280	$870,350	$911,257	$954,086	$998,928

Phase 3 Up to 650 Occupancies	FY18/19	FY19/20	FY20/21	FY21/22	FY22/23	FY23/24	FY24/25	FY25/26	FY26/27	FY27/28	FY28/29	FY29/30
Est. Total Personnel Costs	$1,004,545	$1,051,759	$1,101,191	$1,152,947	$1,207,136	$1,263,871	$1,323,273	$1,385,467	$1,450,584	$1,518,761	$1,590,143	$1,664,880
County Share = 25%	$251,136	$262,940	$275,298	$288,237	$301,784	$315,968	$330,818	$346,367	$362,646	$379,690	$397,536	$416,220
Developer Share = 75%	$753,409	$788,819	$825,893	$864,710	$905,352	$947,903	$992,455	$1,039,100	$1,087,938	$1,139,071	$1,192,607	$1,248,660

Phase 4 Until Full Buildout	FY21/22	FY22/23	FY23/24	FY24/25	FY25/26	FY26/27	FY27/28	FY28/29	FY29/30	FY30/31	FY31/32	FY32/33
Est. Total Personnel Costs	$1,564,022	$1,637,531	$1,714,495	$1,795,077	$1,879,445	$1,967,779	$2,060,265	$2,157,097	$2,258,481	$2,364,630	$2,475,767	$2,592,128
County Share = 25%	$391,006	$409,383	$428,624	$448,769	$469,861	$491,945	$515,066	$539,274	$564,620	$591,157	$618,942	$648,032
Developer Share = 75%	$1,173,017	$1,228,149	$1,285,872	$1,346,308	$1,409,584	$1,475,834	$1,545,199	$1,617,823	$1,693,861	$1,773,472	$1,856,825	$1,944,096

INCLUDES 5% ESCALATOR ----------→

Exhibit F

Interim Station Prototype and Specifications

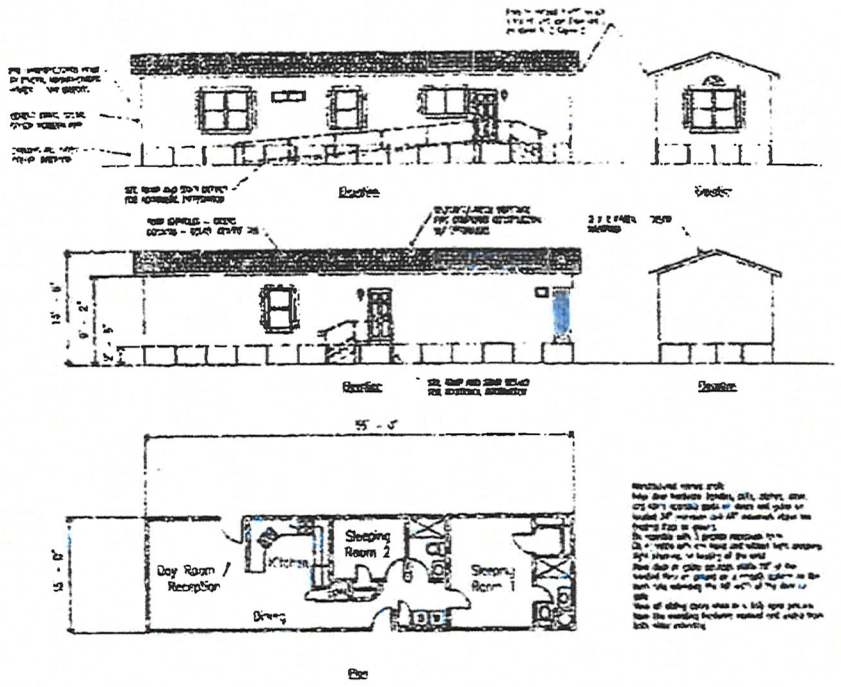
Temporary Fire Station Prototype – See attached

Temporary Fire Station requirements

- Site requirements, graded, utilities provided for structure.
- Direct access to PVR or secondary street.
- Parking areas for fire staff.
- Site preparation and construction of temp fire station triggered by first Final Map.
- GDCI to work with SDCFA on portable structure which may be relocated to this site or purchased.
- Fenced in for security.

Exhibit F. Interim

3/3



FLOOR PLAN AND ELEVATIONS

Exhibit G

Apparatus Shelter Specifications

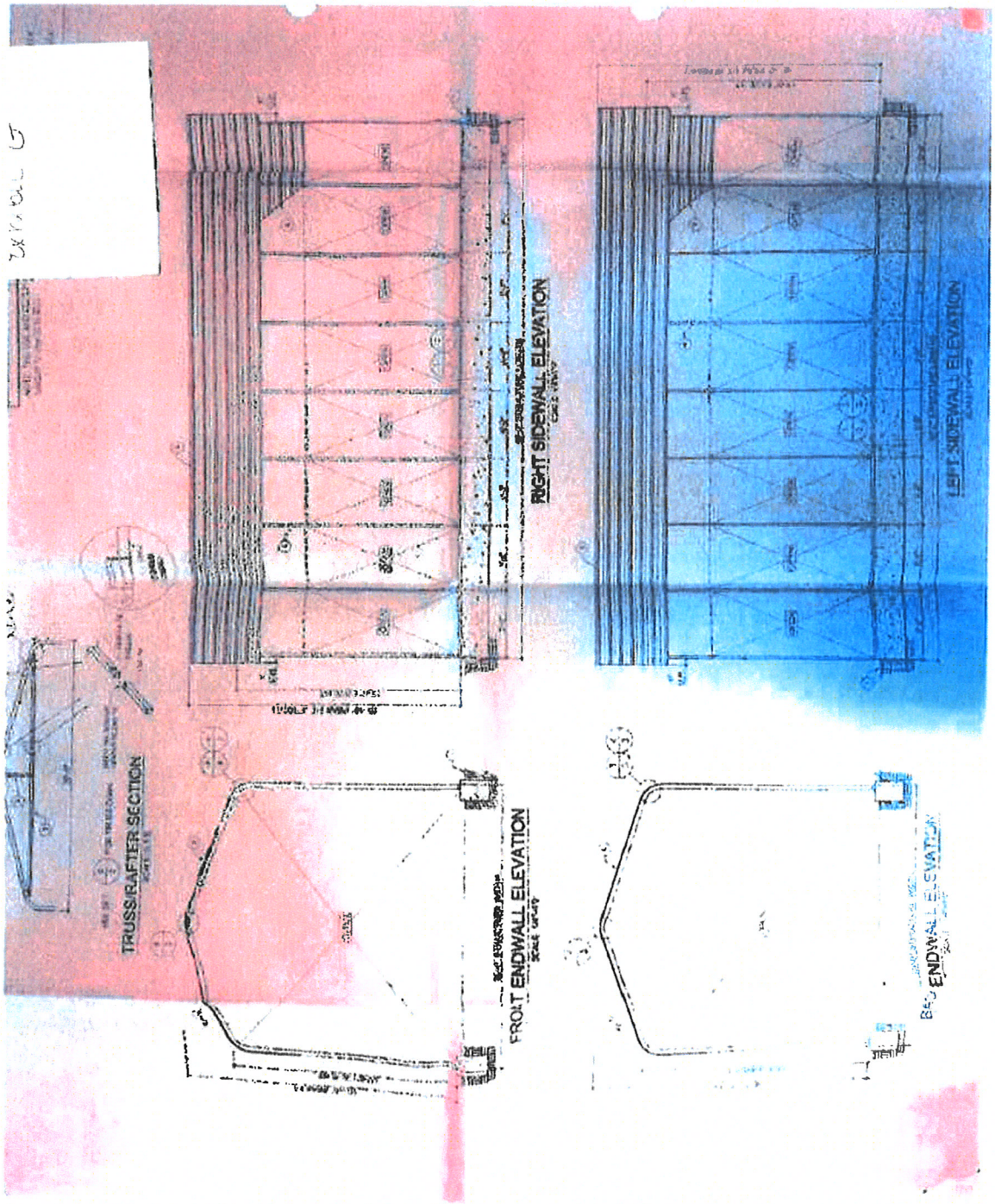


Exhibit H

Permanent Station Location