

LAW OFFICE OF MARC CHYTILO

ENVIRONMENTAL LAW

March 13, 2009

Santa Barbara County
Board of Supervisors
105 E. Anapamu Street, Suite 407
Santa Barbara, CA 93101

*By email to sbcob@co.santa-barbara.ca.us
and by hand delivery*

RE: Munda Appeal of HLAC's Approval of the Parker Exhibit at the Santa Barbara Botanic Garden; Agenda Item # 8, March 17, 2009

Dear Chair Centeno and Honorable Members of the Board,

This letter is submitted on the behalf of our client Friends of Mission Canyon ("Friends"). Friends is concerned that the Historic Landmarks Advisory Commission ("HLAC") violated CEQA by approving the Parker Exhibit on the basis of a Categorical Exemption. The Parker Exhibit ("Exhibit" or "Project") will materially impair the physical characteristics of the Historic Meadow, a protected County Historical Landmark. Additionally the Exhibit will increase visitation in an area of extreme fire risk, and contribute traffic to Mission Canyon's already-overburdened and solitary evacuation route causing potentially significant fire protection impacts. Due to its potential impacts to Historic Resources, and unusual circumstances contributing to these historic impacts as well as fire safety impacts, categorical exemptions are not available and CEQA compliance is required. We therefore urge the Board to uphold the appeal filed by Jim Marino on behalf of Patricia Munda and the Munda Family Trust, rescind HLAC's approval of the Parker Exhibit and either deny the Project or require the preparation of an Initial Study in compliance with CEQA. At a minimum, the Board must condition the Parker Exhibit to address the significant fire safety risk in Mission Canyon.

1. The Parker Exhibit Is Not Categorically Exempt from CEQA

In enacting CEQA, the legislature empowered the Secretary of the Resources Agency to exempt certain classes of projects which have been determined not to have a significant effect on the environment. Pub. Resources Code § 21084 (a). These classes of projects are now listed in the CEQA Guidelines. The Notice of Exemption for the Parker Exhibit (NOE) claims the Exhibit is exempt from CEQA under Guidelines section 15311 for "Accessory Structures" (Class 11 exemption). For reasons articulated below, this exemption is not available for the Parker Exhibit and CEQA compliance is required before this Project may be lawfully approved.

a. Categorical Exemptions are Unavailable because the Parker Exhibit may Cause a Substantial Adverse Change in the Significance of an Historical Resource

CEQA provides that “[n]o project that may cause a substantial adverse change in the significance of an historical resource, as specified in Section 21084.1, shall be exempted from this division. . . .” Pub. Resources Code § 21084 (e). The Parker Exhibit is to be located in the historic Garden Meadow, a designated County historical landmark. The Meadow unquestionably qualifies as a historical resource (*see* Pub. Resources Code § 21084.1) and this fact is not disputed in the NOE. The NOE however incorrectly asserts that the Exhibit will not cause a substantial adverse change in the significance of the Meadow.

The CEQA Guidelines § 15064.5 (b) (1) defines “substantial adverse change in the significance of an historic resource” as meaning “physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historic resource would be materially impaired.” The Guidelines go on to explain that the significance of an historical resource is materially impaired when a project “[d]emolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources . . .” *Id.*, subd. (b)(2)(B). A project may have a significant environmental impact under CEQA even if the impact is only temporary. *See e.g. City of Santee v. County of San Diego* (1989) 214 Cal. App. 3d 1438, 1451 (Court found EIR inadequate because it failed to discuss the additional environmental effects of a temporary facility included in a larger jail expansion project.) *see also City of Arcadia v. State Water Resources Control Bd.* (2006), 135 Cal. App. 4th 1392, 1425. The Cultural Resources Technical Report, prepared as part of the RDEIR for the Garden’s expansion project and CUP establish what your Board found in its rejection of the Garden’s appeal of the Meadow Terrace Project. “Like paving the trails, the Meadow Terrace alteration represents a serious departure from the naturalistic and informal intent of the Garden’s original design. . . . result[ing] in a significant impacts to the historically informal and unaffected character of the Historic Garden.” Historic Resources Group, Santa Barbara Botanic Garden Cultural Resources Technical Report, October 2008, pages 52-53, attached as Exhibit 2. The Historic Landmark Advisory Commission itself found that the Parker Exhibit will cause a substantial deviation from the historic landscape design concept. HLAC Minutes, January 12, 2009, attached as Exhibit 4. This clearly constitutes a substantial adverse change to the historic Garden and Meadow, and thus the Parker Exhibit cannot be exempted from CEQA review.

The 1,200 square foot Parker Exhibit will stand for three years, during which time Garden visitors will not experience the Meadow as a naturalistic and unaffected setting as intended by the designers and landscape architects who created it. This ‘historic landscape design concept’ is expressly protected by County Landmark #24 and the Parker Exhibit would materially alter this protected resource in a manner that adversely impacts its historic significance. That the exhibit will only be in place for a period of three years does not mean its impact is insignificant (*Id.*) and

CEQA does not permit this Project to proceed without environmental review. Pub. Resources Code § 21084.1.

b. Unusual Circumstances Preclude the Use of a Categorical Exemption

A categorically exempt project loses its exempt status if there is a reasonable possibility that the activity will have a significant effect on the environment due to unusual circumstances.

Guidelines § 15300.2 (c); *Salmon Protection & Watershed Network v. County of Marin* (2004) 125 Cal. App. 4th 1098, 1105. To sustain the “unusual circumstances exception”, the evidence must show some feature of the project that distinguishes it from others in the exempt class. *San Lorenzo Valley Community Advocates for Responsible Education v. San Lorenzo Valley Unified School Dist.*, 139 Cal. App. 4th 1356, 1394 (Cal. App. 6th Dist. 2006).

There is a reasonable possibility that the Parker Exhibit will have a significant effect on the environment, including significant effects to historical resources and fire protection. These significant effects are due to several features that distinguish the Parker Exhibit from the classes of accessory structures described in the Guidelines. Specifically, the Parker Exhibit (1) is proposed to be located *within* a historic landmark, and (2) is a visitor-attracting exhibit proposed in an area of extreme fire hazard with only one overburdened and precarious evacuation route.

The Project’s location within a historic landmark readily distinguishes the Parker Exhibit from other “accessory structures” in the Class 11 exemption class. Its unique location within a historic landmark constitutes the sort of unusual circumstance that precludes the use of any categorical exemption from CEQA. *See Committee to Save the Hollywoodland Specific Plan and Hollywood Heritage v. City of Los Angeles* (2008) 2008 Cal App LEXIS 501. (Categorical exemption unavailable for the purpose of attaching a fence to a historic wall). The Exhibit may cause significant impacts to the historic significance of the Meadow due to the unusual circumstance of its location within the historic meadow, discussed in the above section. CEQA therefore requires environmental review before the Parker Exhibit may be approved. Guidelines § 15300.2 (c).

The extreme fire hazard present in Mission Canyon is another unusual circumstance that distinguishes the Parker Exhibit from other “accessory structures” in the Class 11 exemption class. *See Exhibits 1 and 3.* The Project’s entrance is located along Mission Canyon Road, the only egress route from the east side of Mission Canyon. Special exhibits at the Garden have in the past generated overcrowding of the Garden’s parking lot and subsequent illegal parking alongside Mission Canyon Road, further constraining the narrow and treacherous road. Emergency evacuation of the Botanic Garden and Mission Canyon is highly compromised by the existing narrow roadways, substandard intersections, increased populations, trees along roadways, extensive overhead wires, each of which compromise emergency evacuation and represent conditions that increase risks to public safety in the proposed Project’s fire-prone, box canyon. *See, Santa Barbara Botanic Garden RDEIR, § 4.5, Exhibit 4; Letter, Public Safety*

Consultants Northwest, LLC, February 17, 2009, attached as Exhibit 5. The Parker Exhibit clearly will attract more visitors to the Garden. Despite an arbitrary and unsupportable comment in the NOE to the contrary, the very purpose of the Parker Exhibit, as stated by Santa Barbara Botanic Garden officials at the HLAC hearing, is to increase visitation to the Garden. Increasing visitation to the Garden is likely to cause significant public safety impacts due to the unusual circumstances of Mission Canyon's fire hazard and solitary egress, and therefore no categorical exemption from CEQA is available for the Parker Exhibit. Guidelines § 15300.2 (c).

2. Conditions Are Necessary to Address the Significant Fire Risk in Mission Canyon

The recently released Revised Draft EIR for the Botanic Garden's Vital Mission Plan includes a Conceptual Fire Protection Plan (FPP) detailing mitigation measures that address (albeit insufficiently) the risk associated with increasing the Canyon's temporary population during times of elevated fire risk. Exhibit 3.

For example, the FPP requires closure of the Garden to visitation and events during Red Flag periods. FPP Emergency Planning section, p. 44, attached hereto as Exhibit 3. The Board should, at a minimum, implement this restriction as a condition of the Parker Exhibit.


The FPP also restricts operations at times in response to fire risks in the Canyon, for example, restricting events during the "declared fire season" to no more than 80 participants and requiring that event participants be transported to and from the Garden via shuttle busses which must remain onsite for the duration of the event. Exhibit 3, p. 46. Given that "Southern California Fire Agencies have transitioned from using the 'in and out of fire season' approach and instead now refer to levels of preparedness based on the potential of an incident occurring." Vital Mission Plan RDEIR, p. 4.5-1, excerpts of which are attached hereto as Exhibit 4. We urge the Board to condition the Parker Exhibit to require its closure during times of elevated fire risk, and incorporate increasing levels of restriction commensurate with fire risk (e.g. as indicated on the sign at Station 15). Specifically, whenever the Fire Station 15 sign is anything other than green, the Botanic Garden should implement a series of use restrictions, lesser when risk is moderate but higher when risk is denoted high, severe and extreme. Fire risks denoted high and above should require the Botanic Garden to maintain and implement an evacuation plan ensuring adequate immediate evacuation capacity for all visitors and staff. Evacuation planning must integrate capacity for all residents in Mission Canyon. Current plans fail to provide assurances of such capacity, and thus the Board must impose additional conditions on the Parker Exhibit to protect the safety of residents and visitors, limiting numbers of Garden visitors and staff, ensuring evacuation capacity, and eliminating activities that may increase risks of ignition.

3. Conclusion

Because a categorically exempt project will not undergo environmental review, it is imperative that the County only use categorical exemptions where clearly proper and warranted under CEQA. The historical resources and extraordinary fire risks in the Garden and Mission Canyon mandate careful consideration and conditioning of projects that may impact the Garden's historical significance or further jeopardize public safety of residents and visitors to the Canyon. Visitor increases associated with special exhibits such as the Parker Exhibit must be restricted in a manner commensurate with the level of fire risk present in the Canyon on any given day to avoid a potential catastrophe like the Oakland Hills Fire where dozens of people burned to death trying to escape the flames. We urge the Board to grant the Munda appeal and require environmental review of the Parker Exhibit. At a minimum, it is imperative that the Board condition the Project to reduce the substantial risk to public safety associated fire risks and the Project's effect of attracting additional visitors to Mission Canyon.

Thank you for your consideration of these comments.

Sincerely,



Marc Chytlo

Exhibit 1: Excerpts from the Santa Barbara Botanic Garden Vital Mission Plan RDEIR (pp. 4.5-1 – 4.5-10)

Exhibit 2: Historic Resources Group, Santa Barbara Botanic Garden Cultural Resources Technical Report, October 2008, pages 52-53

Exhibit 3: Conceptual Fire Protection Plan (FPP), section 6.0: Emergency Planning

Exhibit 4: Historic Landmark Advisory Commission Minutes, January 12, 2009

Exhibit 5: Letter, Public Safety Consultants Northwest, LLC, February 17, 2009

4.5 FIRE PROTECTION

This section in the DEIR was based in part on a third party review by the EIR consultant of a report entitled *Santa Barbara Botanic Garden Fire Protection Plan*, prepared for the applicant by G&M Ventures, April 13, 2006 (see **Appendix E** of the DEIR). This report included a *Fire/Vegetation Management Plan and Fire Risk Analysis* prepared by Scott Franklin Consulting, December 12, 2001. The DEIR identified a mitigation measure that would be required in order to reduce the project's significant fire protection impacts. The measure entailed the expansion and amendment of the Fire Protection Plan (FPP) for County Fire Department review and specified numerous elements to be addressed in the expansion/revision of the plan.

During public review of the DEIR, a number of commenters requested that the revisions to the FPP occur during the EIR process and that the revised FPP be circulated for public review. In response to these comments, the applicant has revised the FPP in light of the DEIR mitigation measure along with the revised project description. The revised FPP (*Santa Barbara Botanic Garden Vital Mission Plan Conceptual Fire Protection Plan*, Dudek, Draft November 2008) was reviewed by the Santa Barbara County Fire Department (SBCFD) as well as County of Santa Barbara Planning and Development staff. The revised FPP document is provided in **Appendix E**. The revised FPP identifies the fire risk associated with the project and sets forth site-specific requirements for water supply, fuel modification, access, building ignition and fire resistance, fire protection systems, defensible space, staff, visitor and collection safety, among other pertinent criteria essential for fire protection. The purpose of the revised FPP is to generate and memorialize the fire safety requirements of the SBCFD, which is the Fire Authority Having Jurisdiction (FAHJ).

This section has been updated to incorporate the revised FPP into the EIR analysis. Hereafter the revised FPP is referred to simply as the FPP.

4.5.1 Existing Conditions

The Santa Barbara Botanic Garden property in Mission Canyon includes 78 acres situated in a wildland-urban interface area that has been designated by the California Department of Forestry as having a very high fire hazard potential. A wildland-urban interface is a location where highly flammable vegetation within a wildland (naturally vegetated area) is present adjacent to urban development. The very high fire hazard at this location is due to a combination of conditions including climate, topography, and vegetation, and is evidenced by the history of fires in this and other similar areas. Human activity in a wildland-urban interface area may also contribute to the frequency of wildland fires.

It is recognized by California Fire Agencies that the fire season in southern California is a 12-month event. The history of wildland fires occurring throughout the year is a product of inconsistent precipitation, drought stressed fuel beds, and evolving environmental conditions. With the recognition of a year round threat of wildfire, Southern California Fire Agencies have transitioned from using the "in and out of fire season" approach and instead now refer to levels of preparedness based on the potential of an incident occurring. High or Low Level of Preparedness are levels of response based on current and predicted environmental conditions. Levels of response that are adaptable to the current and predicted weather and fuel bed conditions provide the most responsible approach to meeting the threat of wildfire in the wildland-urban interface on a year round basis. The discussion and analyses that follow reflect this new understanding. This

new approach was formulated subsequent to preparation of the revised Fire Protection Plan. Thus, it is assumed that references to the “declared fire season” within the FPP are now understood to refer to High Fire Season Level of Preparedness periods, as they are functionally equivalent. The Final FPP will be revised accordingly.

Conditions Contributing to Existing Wildland Fire Hazards

Climate and Local Weather Patterns

The climate of southern California is classified as a Mediterranean type in which hot summer droughts are followed by winter season rainfall. The hot, dry summers subject vegetation to prolonged periods of moisture stress at times when wildfire is most likely. In addition, the project site is in an area subject to “sundowner” type winds with speeds up to 50 MPH or more. These hot dry winds can blow for several days, from the mountains to the ocean. The hot dry winds remove moisture from vegetation and result in a high fire hazard condition. Relative humidity of less than 10% is possible during levels of High Fire Season Preparedness.

In addition, climate change (a significant change in measures of climate such as temperature, precipitation, or wind lasting for an extended period) has the potential to substantially increase the risk and intensity of large wildfires in the region. Higher temperatures may result in increased precipitation during the winter. This would increase the growth of vegetation that becomes fuel during wildfires. Hotter temperatures and drier conditions during the summer would also exacerbate fire risks.

Vegetation

Plant growth is most rapid in spring, followed by a drought-induced dormancy during the summers. Drought causes plants to accumulate dead plant material annually during their dormant stages, which contributes to a build-up, or fuel-loading, of volatile plant material. This vegetative response produces conditions that may exacerbate the intensity of potential fires, and thereby the degree of the fire hazard over time.

Vegetation in areas outside of the Garden, particularly further up the canyon towards the Los Padres National Forest, is characterized by dense stands of chaparral and oak woodland/riparian woodland communities, including those associated with Mission Creek. Due to the lack of any recent fires in this area, large expanses of dead and decadent vegetation exist in these areas, providing significant fuel loads in a wildland fire event. In recent years, the Mission Canyon Association has been working closely with the County Fire Department to ensure canyon residents employ proper vegetation management strategies to reduce the build-up of dead and decadent vegetation on their properties. These efforts are on-going. This has helped to reduce fuel loads within the residential neighborhoods of Mission Canyon, though significant natural vegetation and sources of fuel still remain.

Natural vegetation at the Garden consists of extensive riparian forest and woodland, and upland woodland, chaparral, and introduced grassland communities associated with the perennial stream courses of Mission Creek and Las Canoas Creek and adjoining upland slopes and minor tributaries. Vegetation at the Garden also consists of several areas of manicured and maintained exhibits of California native plants and shrubs, all of which are irrigated, thereby minimizing the build-up of fuel loads. See Section 4.3 for further description of on-site vegetation.

Variations in vegetative cover type and species composition have a direct effect on fire behavior. Some plant communities and their associated plant species have increased flammability due to plant chemistry (resin content), biological function (flowering, retention of dead plant material), physical structure (leaf size, branching patterns), and overall fuel loading. For example, the native shrub species that compose the coastal scrub plant communities on site are considered to exhibit higher potential hazard than grassland or oak woodland, based on such criteria.

Vegetation distribution throughout the site varies by location and topography. Riparian woodlands are concentrated in canyon bottoms while upland areas typically support oak woodland, grass or scrub cover. The importance of vegetative cover type on fire suppression efforts is related to its role in affecting fire behavior. For example, while fires burning in grasslands may exhibit lower flame lengths than those burning in coastal scrub, fire spread rates in grasslands are often much more rapid than those in other vegetation types due to the fine fuels which readily ignite and spread fire. On-site vegetation conditions are a key component of the fire behavior modeling conducted as part of the FPP. This modeling is described below.

Topography

Topography conditions such as the length of slopes, slope steepness, directional exposure (slope aspect), and/or the overall ruggedness of terrain each influence the potential intensity of and/or rates at which wildfire may spread. Terrain surface configuration also affects wind speed and direction. Most importantly, slope steepness influences the speed at which fire spreads. Up-slope fires move significantly faster than down-slope fires because of an up-slope “wind effect” which accelerates the spread of fire. Slope steepness or the ruggedness of terrain also affects fire-fighting accessibility and response times.

The general topography of the Garden site is characterized by a fairly gentle landscape of moderately wide to wide ridges bordered by shallow to moderately steep slopes descending into U-shaped and flat-bottomed primary drainages. Relief between the ridge areas proposed for development and each adjacent valley is roughly 60 feet or less decreasing to the south. The intervening slopes have maximum gradients ranging mostly from 20 to 27 degrees (45 to 60 percent). Slopes along the ridge line and down the valleys are approximately 11 percent and 7 percent, respectively.

The north-south alignment of Mission Canyon exacerbates the wind effect by channeling air currents through a narrow passage, which accelerates wind velocity, particularly for down-slope winds with fires coming from the north. However, when the down canyon drift ceases, an up-canyon problem exists due to topography. As mentioned above, up-slope wind effects accelerate the spread of fire.

Fire History

Fire history information can provide an understanding of fire frequency, fire type, most vulnerable project areas, and significant ignition sources, amongst others. There have been numerous fires recorded by fire agencies in the vicinity of the project area’s foothill location. During preparation of the FPP, fire history data was obtained via the California Department of Forestry and Fire Protection (CDF/CalFire) Fire and Resource Assessment Program (FRAP) database (FRAP 2007). Significant fires include:

- 1932 – Matilija Fire – 220,000 acres
- 1955 – Refugio Fire – 85,000 acres
- 1964 – Coyote Fire – 64,000 acres
- 1966 – Wellman Fire – 94,000 acres
- 1977 Sycamore Fire – 805 acres
- 1985 – Wheeler Fire – 118,000 acres
- 1990 – Painted Cave Fire – 4,900 acres
- 2007 – Zaca Fire – 225,000 acres
- 2008 – Gap Fire – 9,443 acres
- 2008 – Tea Fire – 1,940 acres

Since the FPP was prepared (early November 2008), the Tea Fire burned approximately 1,940 acres, beginning in Montecito and extending westward to approximately one-quarter mile east of the eastern boundary of the Cavalli site.

The fire frequency in the Santa Ynez Mountain foothills is approximately every 16 years, although Mission Canyon appears to have not been subject to wildfire for approximately 80 years or more. During this period, the canyon has been subject to landscape level changes with structures and ornamental landscaping replacing much of the original native plant communities. The lack of a recent fire in the Mission Canyon area has resulted in a build-up of decadent vegetation and heavy fuel loads, especially within the Los Padres National Forest boundaries to the north of the Garden. Current conditions in the project area (volume and age class of native vegetation, typical fuel moistures, typical weather influences, etc.) are similar to conditions preceding the 1964 Coyote Fire and the 1977 Sycamore Fire. However, there are currently more buildings and people present in the area. As discussed below, the additional population in the canyon exacerbates evacuation of the area in the event of a fire. While development typically brings with it more fuel management, buildings themselves serve as fuel and can also be sources of a fire in their own right (e.g. gas leaks, electrical shorts, etc.). Lastly, additional development in the area places more people at risk in a fire than would otherwise occur in a less populated fire-prone area.

Sources of Ignition

Human Activity and Area Development

The potential for wildland fires increases with increased human activity in high fire hazard areas. Wildland fires can be ignited by an arsonist, vehicle, structure fire, children playing with matches, careless smokers, gas powered mowers, trimmers or other equipment, etc. To reduce potential on-site risks, the SBBG currently educates visitors on fire awareness and potential hazards, implements a No Smoking policy in all areas of the Garden, discourages roadside parking along Garden street frontages, and, as much as is physically possible, monitors visitation and protects the Garden grounds from potential risks associated with unauthorized and unattended visitors.

Development in Mission Canyon is characterized by low- to medium-density residential neighborhoods. The areas to the north and east of the Garden along Mission Canyon Road and Las Canoas Road are predominantly large-lot single-family residences, while areas to the west and southwest along Tunnel Road and in the Mission Heights area (Cheltenham Road/Montrose

Place) are more urbanized with smaller residential lots. The Mission Canyon Plan area includes a total of approximately 1,012 residential units located throughout the approximately 1,178-acre planning area, 231 of which are located south of Foothill Road and 254 are located in the Upper Mission Canyon area. According to the 2000 U.S. Census, Mission Canyon had a population of 2,610 people. These figures include the portion of Mission Canyon below Foothill Road. These single-family residential neighborhoods and the Garden area are the primary sources of human activity in the Mission Canyon area, as well as visitors (hikers, walkers, etc.) to the extensive trail network in the National Forest area at the head of the canyon.

In addition to the sources of ignition discussed above associated with human activities, power lines serve as a considerable ignition source, especially during sundowners and Santa Ana wind conditions when the lines can be blown down and the sparks ignite a fire. Power lines run throughout Mission Canyon, including along Mission Canyon Road above and below the Garden and along the entirety of Tunnel Road and Las Canoas Road. In addition, power lines run west to east within Los Padres National Forest at the head of Mission Canyon. These lines represent an existing fire risk within Mission Canyon and the rest of the South Coast foothills.

Fire Behavior Modeling

Fire behavior modeling was conducted to document the type and intensity of fire that would be expected on this site given characteristic site features such as topography, vegetation, and weather. This modeling is described in detail in the FPP provided in Appendix E and summarized below.

Fire behavior modeling includes a high level of analysis and information detail to arrive at reasonably accurate representations of how wildfire would move through available fuels on a given site. Fire behavior calculations are based on site-specific fuel characteristics supported by fire science research that analyzes heat transfer related to specific fire behavior. To objectively predict flame lengths, intensities, and spread rates, the BehavePlus 3.0.2 fire behavior fuel modeling system was applied using predominant fuel characteristics, slope percentages, and five representative fuel models observed on site.

Predicting wildland fire behavior is not an exact science. As such, the movement of a fire will likely never be fully predictable, especially considering the variations in weather and the limits of weather forecasting. Nevertheless, practiced and experienced judgment, coupled with a validated fire behavior modeling system, results in useful and accurate fire prevention planning information.

Fire behavior is affected by seven principal fuel characteristics: fuel loading, size and shape, compactness, horizontal continuity, vertical arrangement, moisture content, and chemical properties. The seven fuel characteristics help define 13 standard fire behavior fuel models and more recent custom fuel models developed for Southern California.

To support the fire behavior modeling efforts conducted for this FPP, the different vegetation types observed on site as delineated in Section 4.3 were classified into the appropriate fuel models. Weather data for the fire behavior modeling is associated with the extreme weather conditions experienced in the area during the 1990 Painted Cave Fire, which burned approximately 4,900 acres and destroyed nearly 500 homes. This includes 100° temperatures and wind speeds of 60 mph.

The results from the BehavePlus fire behavior model are presented in **Table 4.5-1**. As presented, wildfire behavior for areas with coastal scrub vegetation presents the most hazardous condition on the SBBG site, although this vegetation community covers only 6.3 acres of the site (8%) and is generally remote from existing and proposed structures. Fire spread rate in coastal scrub vegetation where located onsite with slopes measuring 9% reach 1 mph with flame lengths exceeding 25 feet.¹ Fires burning in grassland vegetation on site experience lower flame lengths (8.7 to 9.4 feet), although spread rates exceed 3.5 mph, depending on slope conditions. Spotting is projected to occur up to nearly two miles during extreme weather conditions with sustained 60 mph wind speeds.

It should be noted the BehavePlus fire behavior computer modeling system was not intended for determining sufficient fuel modification zone widths. However, it does provide the average length of the flames, which is a key element for determining “defensible space” distances for minimizing structure ignition. In addition, it should be noted that the results presented in Table 4.5-1 depict values based on inputs to the BehavePlus software. Changes in slope, weather, or pockets of different fuel types, are not accounted for site-wide in this analysis. Model results are used as a basis for planning only, as actual fire behavior for a given location will be affected by many factors, including unique weather patterns, small-scale topographic variations, or changing vegetation patterns.

Table 4.5-1
BehavePlus Fire Behavior Modeling Results

Fuel Model (On-site Vegetation)	Surface Rate of Spread (mph)*	Fireline Intensity (Btu/ft/sec)*	Flame Length (feet)	Spotting Distance (miles)
1 (Cultivated Areas, Grasslands)	3.1 - 3.7	624 – 725	8.7 – 9.4	0.9
8 (Oak Woodlands)	0.06 - 0.07	21 – 27	1.8 – 2.0	0.1
9 (Riparian Habitats)	0.3	242	5.6	0.3
SCAL18 (Coastal Scrub)	1.0	6,591	25.7	1.9

*Ranges result from variations in slope values calculated for the site.
Source: Santa Barbara Garden Vital Mission Plan Conceptual Fire Protection Plan, Dudek, November 2008.

Defensibility From Wildfire Hazard

Defensibility from wildfire hazards depends on a variety of factors, including structural design features, vegetation management, the ability of residents to evacuate and/or shelter-in-place as necessary, water supply and availability for use by Garden staff and/or visitors, as well as

¹ The coastal scrub occurring within approximately 300 feet of proposed structures (the area that has the largest impact on fuel modification zone areas), occurs on relatively flat terrain, and with 60 mph winds, is predicted to produce 25-foot tall flame lengths. There are other remote areas on site with coastal scrub, and if these areas were modeled, slope would play a significant factor on resulting flame lengths. One SCAL18 inclusive area on a steep slope in the eastern portion of the project is anticipated to produce flame lengths in the 52 feet range. However, it is remote from proposed structures and therefore is not considered in this study except for its ability to produce fire brands (embers). The FPP addresses embers through structural construction requirements, fire protection systems, fuel modification zones, and maintenance.

emergency responder access to the site. The following describes each of these factors as they relate to the existing Botanic Garden site and the surrounding Mission Canyon area.

Fire Department Facilities, Equipment, and Response Time

The Project is located within the SBCFD jurisdiction. The SBCFD provides structural fire protection and rescue services to the Santa Barbara County Fire Protection District, which encompasses approximately 1,236 square miles (791,040 acres). The Santa Barbara County Fire Department is also one of six contract counties, which has executed a contract with the State of California to provide wildland fire protection on state responsibility areas (SRA). As such, the SBCFD and its mutual aid partners maintain a comprehensive assortment of fire apparatus from wildland and structural fire engines to fixed wing and rotary aircraft along with personnel to operate them.

Initial response is from SBCFD's Station No. 15, located at 2491 Foothill Road, approximately $\frac{3}{4}$ of a mile south of the SBBG's primary entrance. This facility staffs a minimum of three firefighters at all times (nine total staffing three shifts) and has a Type I Engine as well as a Type III wildland engine. This apparatus is suitable to the existing (as well as proposed) structures as building heights do not exceed those that would require a ladder truck for adequate response.

Secondary response would be provided from other Santa Barbara County and City of Santa Barbara Fire Stations, as well as by USFS for wildland fires in the Red Zone that may affect Los Padres National Forest, as needed and according to automatic and mutual aid agreements with neighboring agencies, including air support, as necessary and available.

Given the proximity of Fire Station No. 15 and the automatic aid and mutual aid responses of Santa Barbara City Fire Department equipment and personnel, fire department response time is adequate for a typical fire. However, the wildland-urban interface fire typically results in a response by the fire department to the general area rather than a specific address, as many homes are usually threatened. It is not unusual to have a ratio of only one fire engine per 25 or more simultaneously threatened homes in this type of fire and/or no direct aid to houses for up to several hours due to overwhelmed emergency crews. In addition, as described further below, the single access/egress route to the Garden along Mission Canyon Road, and associated potential traffic flow conflicts between fire responders and evacuees, may affect fire response times. The potential amount of delay is highly dependent on the particulars of a given wildfire event (e.g. location, extent, whether smoke or flames block access, etc.) and cannot be accurately quantified.

Water Supply and Pressure

Existing water supply and pressure at the Garden (at the time of the Notice of Preparation) is limited for the purposes of fire protection. The Garden is currently served by a 2-inch water line extending across the canyon from the main 12-inch gravity fed line on Tunnel Road. There are inadequate water flows and pressure to fight a fire for any extended period of time as County Fire Department standards would not be met. The nearest standard fire hydrant is north of the main parking lot on Mission Canyon Road. An additional hydrant is located at the intersection of Mission Canyon Road and Las Canoas Road, which serve some of the southern Garden facilities. Recent flow tests indicate flows (gallons per minute, gpm) and pressure from those hydrants do not meet current County Fire Department standards for commercial development (i.e. 1,250 gallons per minute at 20 psi for two hours) but do meet County Fire Department standards for residential development (i.e. 750 gallons per minute at 20 psi for two hours). No standard fire

hydrants with 4-inch connections currently exist within the Garden, though there are several smaller proprietary standpipes that could be used for fire-fighting purposes.

The Garden recently upgraded its existing fire protection capacity by extending an 8-inch line up Mission Canyon Road from its intersection with Las Canoas Road. This project, which is separate and distinct from the proposed Vital Mission Plan, was completed in 2007 (after the Notice of Preparation) and facilitated the addition of six standard residential-grade hydrants to serve existing facilities, thus significantly improving water supply and pressure for fire-fighting purposes. However, because this installation occurred after the Notice of Preparation, this EIR analysis assumes no such upgrades have occurred as part of existing baseline conditions. Additionally, the City recently installed a residential grade fire hydrant immediately north of the entrance to the Garden's main parking lot, which is served by the Upper Mission Canyon Pressure Zone by a hydro-pneumatic pump. Together, these hydrants have significantly improved the fire-fighting capabilities in and around the Garden. However, water supply for fire-fighting purposes still does not meet the standard for commercial uses. Analysis of these recent projects is addressed in the cumulative impact discussion.

The City of Santa Barbara operates the water distribution system that serves the Mission Canyon Area. The water distribution system is divided into different pressure zones. Canyon residents above the Botanic Garden on Mission Canyon Road are on the Upper Tunnel Pressure Zone, while the Botanic Garden, residents along Tunnel Road, and south and west of the Botanic Garden are on the El Cielito/Tunnel Pressure Zone.

The Cater Water Treatment Plant provides domestic water supplies to Tunnel Reservoir, which has a one-million gallon capacity. Tunnel Reservoir serves the Upper Tunnel Pressure Zone via a hydro-pneumatic pressure tank that is equipped with an emergency generator and 60-hour fuel tank. The El Cielito/Tunnel Pressure Zone is dually served by gravity flows from El Cielito and Tunnel Reservoirs. El Cielito Reservoir has a one-million gallon capacity, and receives flows from the two 6.5 million gallon Sheffield Reservoirs via the El Cielito Pump Station, which is equipped with an emergency generator. Flows into the Sheffield Reservoirs come from the Cater Water Treatment Plant, via the Sheffield Pump Station, which also can be supported by an emergency generator.

The Upper Tunnel Pressure Zone would not see the affects of water flowing in the El Cielito/Tunnel Zone, and vice versa, since the two are separate and distinct pressure zones. Reservoir operating levels are pre-determined by distribution staff, and are controlled by a sophisticated electronic control system known as SCADA. SCADA allows for the water system to automatically respond to changing water demands throughout the entire water distribution system. This ensures that there is ample water flow and pressure for domestic and fire fighting purposes throughout the distribution system, in accordance with American Water Works Association (AWWA) recommendations and United States Environmental Protection Agency (USEPA) regulations.

Existing Building Fire and Ignition Resistance

The 30 structures currently existing at the Garden exhibit varying degrees of ignition resistance. Newer structures include more features that help structures resist ignition, however none of the structures meet the latest ignition resistant codes. Many of the existing structures include wood

siding, unboxed eaves, and other potentially vulnerable features in a wildland-urban interface setting. None of the existing structures include interior fire sprinklers.

Vegetation Management

Vegetation management is accomplished in zones, referred to as Fuel Management Zones (FMZ), and expressed in feet of impacted area adjacent to buildings, exit pathways, combustible fuels and sources of ignition. These zones can substantially reduce the direct flame impingement, radiant heat exposure, and ember volume that account for building loss in wildland-urban interface fires. Currently the Garden utilizes chipped biomass to preclude the invasion of flashy fuels, such as grass, leaves, pine needles, ferns, tree moss, and some types of slash. Flashy fuels ignite readily and are consumed rapidly when dry. These fuels are also called fine fuels.

SBBG currently maintains a defensible space program which is implemented at least annually on portions of the site. The defensible space program at the SBBG site consists of the following features:

- Primary-access-road shoulder is mowed to the extent possible (east of Mission Canyon Road).
- Areas around structures are maintained with canopy lifting and mowing beneath large shrubs and trees.
- Plant exhibits throughout the public viewing areas and around structures are irrigated and routinely maintained.
- Fuel modification occurs at various areas around the Garden structures with chipped biomass scattered to minimize establishment and growth of weeds.

Based on recent site visits to the Garden by SBCFD, the Garden's current defensible space program is generally adequate though additional thinning and removal of certain flammable vegetation in proximity to existing structures is recommended to break horizontal and vertical fuel ladders and provide greater defensible space.

Site Access and Emergency Evacuation

Access to the Garden is provided via Mission Canyon Road. This road has pavement width of 20 to 22 feet from Foothill Road to the Santa Barbara Botanic Garden site. The road does not meet County requirements for road width, which are based on the number of parcels served. In this location a road width of 32 to 40 feet would be necessary, depending on whether or not parking would be allowed, in order to meet County requirements. In addition, with only a single access road serving the Garden and residences north of the Garden (see description of the area's development pattern above), emergency access and egress in the project area is a significant problem in terms of defensibility from wildland fires. Fire and other emergency first responders must use the same primary path to gain access to the fire that the residents and visitors use to relocate or evacuate during a fire event. For these reasons, there is currently a considerable risk associated with evacuating the canyon population in the event of a wildfire.

There are two fire stations located within the study area: a County of Santa Barbara Fire Station (Fire Station #15) located at 2491 Foothill Road, south of Mission Canyon Road, and a City of Santa Barbara Fire Station located at 2411 Stanwood Drive, approximately 2 miles south east of the Garden during a wildland fire in Mission Canyon Area #6 (i.e., Botanic Garden, Mission

Canyon Road, Alamar Avenue). As identified in the *Santa Barbara I-Zone Major Incident Preplan* document, fire response units will use Foothill Road to access Mission Canyon Road to respond to the fire incident. As part of controlling access to and from an evacuation area for a wildland fire in Mission Canyon Area #6, nearby roadways will be closed by law enforcement agencies to inbound traffic with the exception for public safety vehicles. The closed roads or traffic closure points are identified in the *Santa Barbara I-Zone Major Incident Preplan*. For eastbound traffic, the traffic closure points would be at the following locations:

- Foothill Road at Alamar Road (approximately 0.8 miles west of the Foothill Road/Mission Canyon Road (East) intersection).
- Foothill Road at 2600 Mission Canyon Road (just east of Foothill Road (West)).

For westbound traffic, the traffic closure points would be at the following locations:

- Foothill Road at Mountain Drive (approximately 0.7 miles east of the Foothill Road/Mission Canyon Road (East) intersection).
- Foothill Road at Mission Canyon Road (East) (at Fire Station #15).

Evacuation routes for Garden visitors and residents identified in the *Santa Barbara I-Zone Major Incident Preplan* are as follows:

- For westbound traffic, the probable evacuation route is Foothill Road to Alamar Road to State Street.
- For eastbound traffic, the probable evacuation route is Foothill Road to Mountain Drive to Mission Ridge.

The Garden currently maintains an Emergency Response Plan that is part of staff training.

Summary of Existing Fire Hazards at the Project Site

The SBBG is vulnerable to wildfire starting in, burning onto, or spotting onto the site given the climatic, vegetation, wildland-urban interface location, and topographical characteristics of the area, along with the fire history and behavior modeling results discussed above. Under certain weather conditions, lower intensity fire can move rapidly through the non-indigenous grass and grass understory areas approaching the developed portions of the SBBG site. Under extreme conditions, catastrophic wildfire could result as grass fires burn into ladder fuels or heavier fuels, driven by high winds, in the absence of properly implemented and maintained fuel modification zones. The existing fire hazard is exacerbated by limited access, including a lack of a secondary access road to the area west of Mission Canyon. In addition, the single access serving the site also serves the residential areas of Mission Canyon, which are also subject to severe fire hazard conditions similar to those described for the SBBG site.

4.5.3 Thresholds of Significance

The County's *Environmental Thresholds and Guidelines Manual* does not include significance thresholds pertaining to fire hazards. The following significance threshold is based on CEQA Guidelines Appendix G. A significant adverse impact would occur as a result of the project if:

boundary would not necessarily result in a significant impact to the Historic Garden. Because the Caretaker's Cottage is to be relocated outside the Historic Garden property, however, the relocation will disassociate the Cottage from its historic setting and location, resulting in a potentially significant impact.

The Wood Shed located north of the horticultural units on the east side of Mission Canyon Road is to be relocated to a new site outside of the Historic Garden boundary. The shed was previously moved to its current site from an unknown location and relocation within the Historic Garden boundary would not necessarily result in a significant impact. Because it is to be relocated outside the Historic Garden property, however, the relocation will result in a potentially significant impact.

Potential Impacts from the Rehabilitation of Historically Significant Buildings

The Blaksley Library, Caretaker's Cottage, and Wood Shed are to be rehabilitated. Without measures to assure that character-defining features of these buildings would not be compromised during renovation and remodeling, their rehabilitation would result in a potentially significant impact.

Potential Impacts from the Proposed Paving Program

New paving is anticipated throughout the Historic Garden, including much of the heretofore unpaved trail system. Trails represent an important design feature of the Historic Garden, providing access to planted areas and scenic vistas while maintaining the naturalistic and informal character championed by landscape architects Lockwood De Forest and Beatrix Farrand. Much of the trail system has remained intact and unpaved since the Historic Garden's period of significance.

Approximately twenty-five percent (25%) of the trail system within the Historic Garden has been paved. The project anticipates additional paving of the remaining seventy-five percent (75%) of the trail system contained within the Historic Garden.⁴² Potentially adverse impacts to the trail system may result from grading and widening of trails in preparation of paving. The proposed new paving will compromise the naturalistic design of the Historic Garden which has been historically characterized by the subtle variations found in nature. Paving of the trails will result in a significant loss of naturalistic landscape features and will formalize and make uniform what was originally designed as an informal and unaffected landscape, resulting in a potentially significant impact.

Potential Impacts from the Alteration of Meadow Terrace

The Meadow Terrace, located immediately west of the Meadow Section, is to be re-designed as a series of three paved terraces supported by stone retaining walls. Graced with views of the canyon and Mission Dam, the Meadow Oaks area (including Meadow Terrace), has served as a gathering place since the Garden's inception. Graded and planted to function as an area of respite, design intervention at Meadow Terrace has historically been kept subtle to blend in with the larger landscape. As

⁴² These percentages are approximate. A map displaying existing and planned pavement of trails is included in Appendix C.

such, Meadow Terrace is characteristic of the Garden's transitional spaces, mediating between deliberately cultivated areas such as the Meadow and the natural landscapes of the creek and canyon.

Like the paving of the trails, the Meadow Terrace alteration represents a serious departure from the naturalistic and informal intent of the Garden's original design. Extensive grading and pavement will introduce a more architectural and fabricated element, interrupting the naturalistic meadow to canyon transition. This will result in a significant impact to the historically informal and unaffected character of the Historic Garden.

Potential Impacts from New Fencing

A new system of fences is anticipated that will augment and extend existing fencing throughout the Garden. The proposed new fencing consists of a three and one-half foot high perimeter fence circumnavigating the entire Botanic Garden property and sections of six foot interior fencing parallel to, but within the perimeter fence.

The perimeter fence does not appear to adversely impact the Historic Garden. Located at the outer edge of the Garden property and of a "visually permeable" design, the perimeter fence as proposed appears to blend in with the Garden landscape and should not interfere with import vistas and sightlines from the garden outward.

In contrast, the proposed interior safety fence, particularly in its centrally located portions along Mission Canyon Road, does appear to result in significant visual impacts within the Historic Garden. Because it is set back from the Garden boundary, the safety fence will effectively carve away area portions of the Historic Garden by creating a "dead zone" between the perimeter fence and the safety fence.

The safety fence's extension along Mission Canyon Road will also create a barrier between the area west of Mission Canyon Road from the area east of Mission Canyon Road. This will interrupt the feeling of the Historic Garden as an integrated whole and insert a sense of containment where none originally existed.

Detailed information regarding the design, materials, and placement of new fencing was not available for this analysis. A general fencing plan, however, including the design intent and general locations for new fencing, was available for review. It is based on this information that impacts were analyzed and considered significant. Without information to assure that character-defining features of the Historic Garden would not be compromised by the new fences, their installation would result in a potentially significant impact.

Potential Impacts from the Fire Protection Plan

The Fire Protection Plan⁴³ identifies fire risks associated with the Vital Mission Plan and sets requirements for fire protection. Fire protection measures include vegetation management that will alter planted and managed landscape areas. According to the Plan, plant species, densities, and heights would be restricted in

⁴³ *Santa Barbara Botanic Garden Vital Mission Plan Conceptual Fire Protection Plan (Draft)*, prepared by Dudek, June 2008.

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- Hydrants, post-indicator valves, and fire department sprinkler connections will have adequate vehicle crash protection.
- Elevators and controls, if any, will be to Fire District approval.
- Supervised smoke detection will be provided.
- Manual fire alarms should be provided.
- Emergency announcement system should be provided if applicable to final design of buildings.
- Building identification will have minimum 6-inch-high characters with 1/2-inch stroke.
- There will be a KNOX key box at main entrance
- There will be fire extinguishers as required.
- Occupancy design and layout will comply with the County Fire Code and Building Code.
- All actual plans shall be subject to approval of the County Fire Department.
- Maintenance equipment and fuel shall be stored in a non-flammable structure, underground or in a ConVault tank.
- Enforcement of smoking prohibition to continue on site.

6.0 EMERGENCY PLANNING

The following emergency planning policies and procedures will be implemented at the SBBG site:

- Continue active participation in Emergency Preparedness planning for SBBG and Mission Canyon.
- Update the SBBG Emergency Preparedness Plan (*Appendix F*) as appropriate, with information provided within this FPP and which includes provisions for:
 - Staff Training
 - Lead Emergency Contact (LEC) Staff Training for Weekends, Year-Round
 - Building and Facility Protection
 - Grounds Protection
 - Collection Information and Property Protection
- Fire Prevention during High Fire Danger and Extreme High Fire Danger periods
- Emergency Supplies
- Telephones/Communications

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- Media Communications
- Emergency Response Team (Post-Event)
- Command List
- Emergency Response Notebook
- Annual Review and Update
- Notification of Emergency
- Emergency Evacuation Plan
- Advisement of Potential Fire Danger
- Property Evacuation Plan
- Visitor Education on Fire Awareness and Prevention
- Continue participation in Santa Barbara County Red Flag Fire Alert Program and improve overall effectiveness by:
 - Closing the SBBG to general public visitation and special events during RFFA periods as declared by the County Fire Chief
 - Establishing a Remote Area Weather Station (RAWS) directly connected to local fire agencies to assist Red Flag Fire Alert declarations
 - Maintaining the manually-activated, facility-wide emergency notification system
 - Establishing Mission Canyon residents and all SBBG telephone numbers with Santa Barbara County Sheriff's Department so that use of the Reverse 911 Emergency Notification System works efficiently during a wildfire emergency
 - Take a lead role in researching, organizing and funding a Low Power Radio Emergency Alert System. These FCC compatible, local radio stations are available for specific geographies and provide local residents information about wildfire (and other events) within a highly specific area.
- The SBBG shall conduct at least annual relocation drill/fire drill exercises to ensure proper safety measures have been implemented.
- Staff shall receive annual training to coincide with the fire relocation drill.

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6.1 Santa Barbara Botanical Garden Emergency Response Procedures

Many of the preceding conditions have been incorporated into the existing SBBG Emergency Preparedness Plan (*Appendix F*) that was adopted in 2004. Additional updates will occur and will incorporate the recommendations detailed within this FPP.

Wildfire emergency response procedures will vary depending on the type of wildfire and the available time in which decision makers from SBCFD and SBBG can assess the situation and determine the correct relocation/evacuation alternative.

The following sections discuss emergency response decision making and the relocation/evacuation alternatives available for SBBG staff and visitors.

6.2 Relocation/Evacuation

As identified in this FPP, in case of wildfire, the preferred plan is relocation when that option would not expose people to dangerous conditions.

The SBBG site and its structures will be designed and constructed to withstand significant wildfire. Nevertheless, early notification of the SBBG administrators and subsequently of SBBG staff and visitors is critical to the timely and safe relocation to the designated evacuation areas. As indicated in the 2007 San Diego County wildfires and the 2008 Gap Fire in Santa Barbara County, early notification and evacuation of residents is an effective means of limiting loss of life. On an annual basis, SBBG will conduct a fire relocation/fire drill to train staff on what to do during a wildfire and where to assemble.

If a relocation of SBBG staff and visitors is required, the following procedures would be followed. (**NOTE:** Relocation of the SBBG staff and visitors, at maximum usage during the non-fire season, may require in excess of an hour.) If adequate time is not possible, the decision to temporarily relocate to less exposed/protected areas of SBBG will be made with the assistance of fire and law enforcement personnel, and relocations will temporarily follow that alternative until it is safe to leave the canyon.

Relocation/evacuation of SBBG staff and visitors would typically occur during large, distant wildfire events that, due to weather patterns and difficulty in gaining control, could threaten Mission Canyon and SBBG. Under this scenario, law enforcement and SBBG administrators would evaluate the wildfire event and determine at which point relocation would occur, utilizing a conservative threshold for evacuation. Allowance for adequate relocation time will be a key factor in determining the relocation timeframe so that the roads do not become congested, hindering relocation of other Mission Canyon residents.

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Relocation/evacuation would occur in scenarios that include ample time to relocate staff and visitors from the site without impacting the up canyon residents' evacuation, such as non-extreme weather days where a wildfire has the potential for spotting into or otherwise threatening Mission Canyon. With regard to staff, volunteers, and interns, relocations could be completed relatively quickly, whereas canyon residents may require longer timeframe to gather personal property and pets. Evacuation of all staff at SBBG under this scenario would typically occur before resident evacuation by virtue of the pre-planned relocation process and lack of additional personal property requiring relocation.

Relocation/evacuation of SBBG visitors would occur quickly as well. As mentioned, on red flag days as declared by the County Fire Chief, when wildfire potential is high and fire behavior is unpredictable, the SBBG will be closed to general public visitation and special event uses. On non-red flag days within the declared fire season, typical visitation will be allowed except that all special events will be limited to no more than 180 participants onsite at any one time, and any event involving more than 80 participants will be required to transport participants to and from the Garden via shuttle/busses, which shall remain onsite for the duration of the event. On non-red flag days outside of the declared fire season, when wildfire potential is lower and wildfire behavior is more predictable and controllable, typical visitation will be allowed. On a non-red flag day, should a wildfire occur that allowed time to relocate/evacuate, visitors would be quickly relocated with the assistance of SBBG's internal pre-plan which includes notification systems and procedures, gathering, and disbursement with local law enforcement assistance, as described below.

In the event of a notification of wildfire and relocation by local law enforcement, fire agencies, and SBBG staff:

- Staff and visitors will be directed to their vehicles and will be required by SBBG staff and/or Fire personnel to carpool for evacuation.
- Vehicles will exit the site via the primary site access off Mission Canyon Road.
- The vehicles will drive south on Mission Canyon Road and depending on direction from law enforcement, will continue westbound on Foothill Road to Alamar Road to State Street; or they will continue eastbound on Foothill Road to Mountain Drive to Mission Ridge and on to safe areas of the City.
- Assuming an average of 100 people on site at any one time and on a given day (except during red-flag days as declared by the County Fire Chief when the Garden would be closed to general public visitation), it is estimated that it could take as long as one hour or more to locate all visitors, get them to their vehicles, and relocate them from Mission Canyon south to the City area.

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- SBBG holds regular evacuation drills with timed facility sweeps for visitor “round up”. The sweeps take a maximum 25 minutes and include all facilities and paths. Continued property sweep training will be included in the overall SBBG fire safety training program.

During red flag conditions as declared by the County Fire Chief, general public visitation and special events will not be allowed at SBBG and, as such, evacuation of people on the SBBG site would be prompt. During the declared fire season (on non-red flag days) SBBG events will also be limited to a maximum of 180 participants and special events involving 80 participants or more shall transport participants in from south of Foothill Boulevard via shuttle buses. The busses will wait on site such that all event attendees could be relocated/evacuated at one time. With mandated use of shuttle busses for event transportation of 80 participants or more, attendees would be expeditiously evacuated from the site with few vehicles and the traffic impact from this scenario is minimal. Relocations would be directed by local law enforcement and would follow the County’s OES emergency evacuation plans. In no case shall events exceeding 180 guests occur during the declared fire season. No commercial buses greater than two axles and 45 passengers are sanctioned during the declared fire season.

Should a wildfire threaten during a non-red flag day Special Event, the following procedures would be followed:

- Special events involving 80 visitors or more occurring within the declared fire season shall transport all attendees in from south of Foothill Boulevard via shuttle buses, which shall remain onsite for the duration of the event. These buses would be mobilized and loaded with SBBG visitors and staff.
- The vehicles will exit the site via the primary site access off Mission Canyon Road.
- The vehicles would convoy south on Mission Canyon Road back to the designated parking site for visitor vehicles south of Foothill Road, as directed by law enforcement or according to the SBBG FPP if law enforcement is not available.
- If the maximum allowed 180 person event occurred on site during the declared fire season and were to require relocation in conjunction with the assumed average of 100 people on site at any one time and on a given day, it is estimated that the shuttle buses and limited personal vehicles could relocate 180 persons via on-site busses in one trip out of the canyon. The 100 other visitors would utilize their vehicles to relocate from the site. It is estimated that relocation of the 280 persons can be accomplished within approximately 30 to 45 minutes (including time for loading and unloading) with open roads. Therefore, relocation to the ignition resistant structures will likely be an option

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that is not used in all but the most severe scenarios and will be a last resort only if evacuation from the canyon is not possible.

6.3 On-Site Relocation

Wildfire scenarios that would not allow enough time to safely evacuate Mission Canyon residents and SBBG, such as fires igniting within the canyon north or south of SBBG and driven by wind and rapid spread rates, may require an alternative to off site evacuation. There is a high probability that wildfire in Mission Canyon will be spotted and reported by SBBG first, based on the fact that its staff members are in Mission Canyon, on the SBBG grounds every day and some are currently and more will be residing on the site as part of the proposed Vital Mission Plan. SBBG staff and personnel consistently monitor emergency broadcasts (an emergency frequency radio is provided and monitored onsite) as well as an existing onsite weather station. In addition, a new Remote Automated Weather Station is included in the Vital Mission Plan. Once a fire is reported and SBBG is notified, the pre-planned emergency response would be initiated. Evacuation procedures will be implemented immediately. However, should fire and law enforcement personnel determine that a higher risk to people exists during off site evacuation/relocation options than if people were to temporarily seek protection in SBBG's ignition resistant and maintained structure, the on-site relocation plan will be initiated by SBBG administration in communication with local fire authorities (when possible). Visitors can not be mandated to follow on-site relocation directions, but visitor education and training information will be provided to raise awareness of the potential danger and potential options during a wildfire emergency.

As detailed in this FPP, the combined system, including site-specific fuel modification zones, enhanced, ignition-resistive construction, interior sprinklers, and exterior sprinklers (on designated structures), and infrastructural improvements only possible with the implementation of the proposed site plans, is designed to provide protected area during a wildfire.

The proposed horticulture unit has been identified as an on-site protected area. The building offers interior space and additional amenities to maintain communication and situation awareness for those utilizing the on-site protected area, which include:

- Large-panel television monitors on multiple walls for tracking newscasts during a wildfire event
- Large computer monitors for tracking fire incident status
- Several computer terminals available for communicating via e-mail
- Back-up power – battery banks that are “float” maintained and/or supported by solar panels

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- Second utility source such as back-up batteries or U.L.-rated diesel generator with fuel stored in an above ground ConVault tank or a below ground storage tank.
- Emergency preparedness kits to make brief shelter in place stay as comfortable as possible and including medical related equipment (i.e., supplemental oxygen, pain relievers, inhalers, etc.).

If a wildfire occurs within the canyon during a declared red flag day and there is no option for safely evacuating the canyon, the relocation of SBBG personnel to the on-site protected area would occur by moving all people into the designated structure. Staff would presumably be located throughout the 78 acre site and therefore would be notified by 1) site wide intercom/warning system, 2) handheld radios, 3) structural intercom systems and 4) cell phone/text message. All SBBG staff would be current on appropriate emergency response procedures during a wildfire event. Staff would be tallied once in the structure(s) to ensure that all on-duty staff members were accounted for. Staff would stay in communication with law enforcement and fire agencies for authorization to relocate from the SBBG site, after the fire threat has been controlled or the fire has passed.

Should a wildfire threaten Mission Canyon on a non-red flag day, when visitors may be on the SBBG site and there is no option for safely evacuating the canyon, willing persons and all SBBG personnel on the site would be guided to the protected structures via communication systems mentioned above and supplemented by well-trained staff who are proficient at sweeping the facilities and site. Staff and the number of visitors in the garden would be tallied so that all are accounted for. Staff would stay in communication with law enforcement and fire agencies for authorization to relocate from the SBBG site, after the fire threat has been controlled or the fire has passed. Should a vegetation fire ignite on the SBBG site or very nearby and spread rapidly making safe evacuation impossible, staff and visitors may be instructed to stay within any of the structures on site for temporary refuge from advancing flames. As noted by the office of the state Fire Marshal, a building will be exposed to the main flame front of a wildfire for a relatively short period of time, 5 to 10 minutes at the most (Cal Fire 2007). This exposure time will be shorter and less intense if proper fuel modification zones are in place. Buildings are subject to pre- and post-fire for a longer period of time, which may include wind, flying embers and spot fires. Temporary refuge in any of the newly constructed buildings will be preferable to remaining outdoors, and exposed to the wildfire should offsite evacuation/relocation be infeasible. Buildings will be "linked" via intercom, radios or other communication systems such that staff can contact each other from any building to stay apprised of the situation. The SBBG site, following implementation of the requirements in this FPP, will provide its staff and visitors with last resort protected areas during a wildfire.

This FPP does not provide a guarantee that all SBBG staff and visitors or community members will be safe at all times because of the advanced fire protection features it requires for the SBBG

Santa Barbara Botanic Garden Conceptual Fire Protection Plan

expansion. There are many variables that may influence overall safety. This FPP provides requirements and recommendations for implementation of the latest fire protection features that have proven to result in reduced wildfire related risk and hazard. The system of fire protection features must be properly maintained for it to function as designed. Even then, fire can compromise the fire protection features through various, unpredictable ways. The goal is to reduce the likelihood that the system is compromised through implementation of the requirements in this FPP.

6.4 Emergency Response – Typical Scenario

Wildfire call to 911

1. Fire authority notification of wildfire in jurisdiction.
2. SBBG receives notification call within 1.5 minutes of wildfire report.
3. SBBG manually activates its warning system, notifying all staff and visitors of an emergency.
4. SBBG's internal emergency planning proceeds with all personnel and visitors gathering in a designated area for further instruction.
5. SBBG and SBCFD utilize Emergency Response Decision Matrix based on fire and weather information and professional experience to determine the correct course of action.

If evacuation from the canyon is required and can be safely accomplished, SBBG follows its internal evacuation plan and works closely with law enforcement to evacuate to areas south of Foothill Road. According to the Emergency I Zone Major Incident Preplan (CITE) – in the event of a wildfire in Mission Canyon or the surrounding area, law enforcement would close roads to ingress (other than fire department personnel) and would direct and control egress, including the SBBG staff and visitors to use one of the following routes:

- a. Westbound - Foothill Road to Alamar Road to State Street
- b. Eastbound – Foothill Road to Mountain Drive to Mission Ridge

In addition to these referenced evacuation routes, and depending on the wildfire location, and wind direction, it may be possible to use the following routes:

- c. Las Canoas Road Eastbound and Southbound to 192
- d. Tunnel Road south to Montrose Place to Cheltenham Road and south to Foothill Road

If safe evacuation is not possible, all persons onsite may be relocated to on-site protected areas as a temporary, last resort action.

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6. If contact with Fire Authority is not possible, SBBG administrators utilize the decision matrix and determine location of fire and based on weather, road conditions, visibility, and provided information from available sources, make determination to evacuate or conduct on-site relocation to protected areas.

6.4.1 Emergency Response Decision Matrix

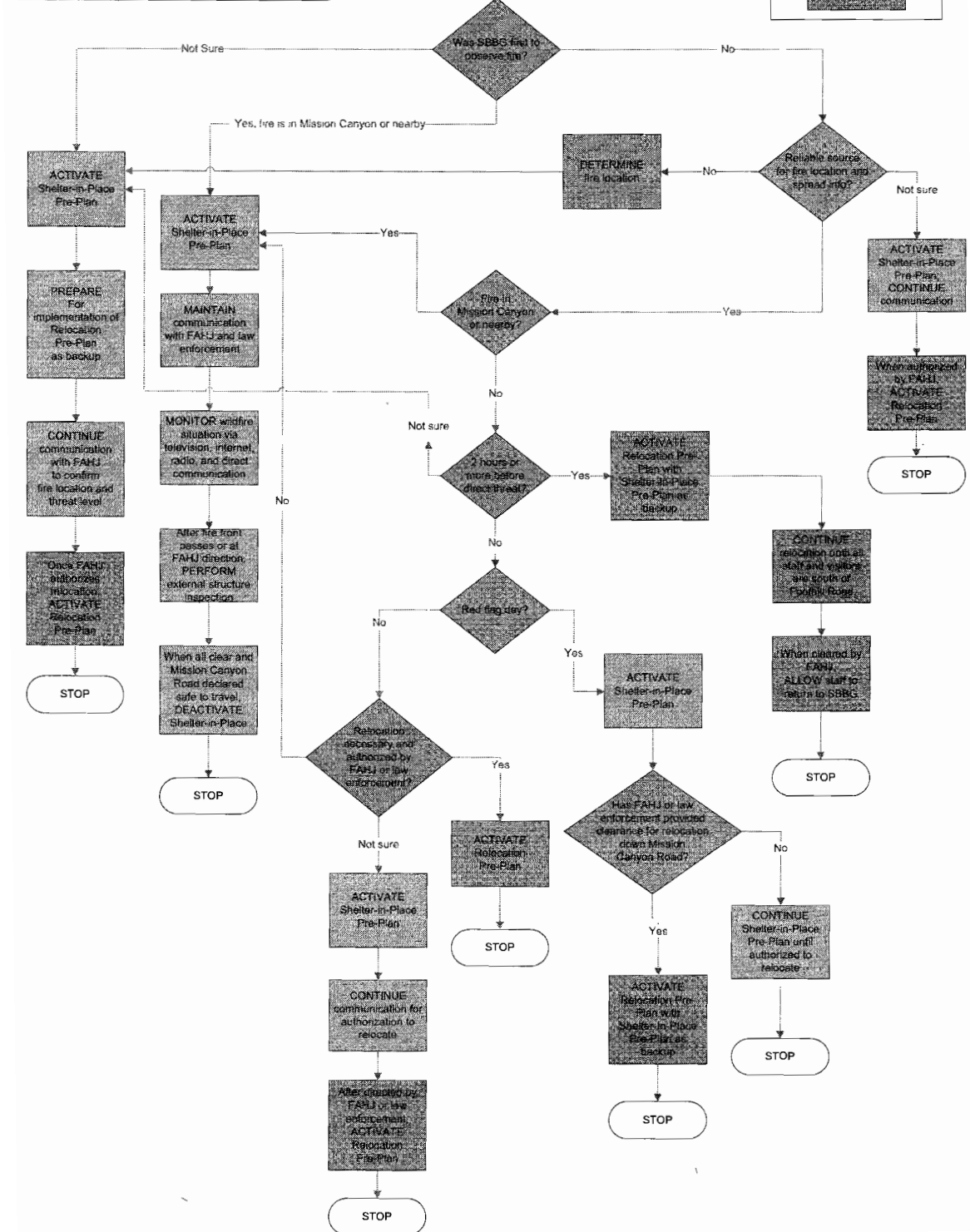
The decision matrix on the following page provides a summary of what may occur from the moment a fire is reported to the local fire authority.

**WILDFIRE EMERGENCY
DECISION MATRIX:
Santa Barbara Botanic Garden**

4296-03	10/12/2007	DRAFT
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Actions (by color)

- ACTIVATE
- SHELTER-IN-PLACE
- RELOCATION





COUNTY OF SANTA BARBARA

HISTORIC LANDMARKS ADVISORY COMMISSION APPROVED MINUTES

**Hearing of January 12, 2009
Meeting Time of 10:00 a.m.**

The regular hearing of the Santa Barbara County Historic Landmarks Commission was called to order by Chair John C. Woodward, at 10:15 a.m., in the Santa Barbara Administration Building, Board of Supervisors Conference Room, 4th Floor, 105 East Anapamu Street, Santa Barbara, California.

COMMISSIONERS PRESENT:

JOHN C. WOODWARD, CHAIR
SUE ADAMS
RANDY MELCOMBE
GERRY SHEPHERD
EILEEN WYCKOFF
DEBORAH L. SCHWARTZ, VICE-CHAIR
AUDREY MUSSELL

MEMBER AT LARGE
1ST DISTRICT
3RD DISTRICT
3RD DISTRICT
4TH DISTRICT
2ND DISTRICT
5TH DISTRICT

STAFF MEMBERS PRESENT:

Anita Hodosy-McFaul, HLAC Secretary
Mary Pat Barry, Deputy County Counsel
Alex Tuttle, Planner, Development Review South

REPORTERS: None in attendance.

NUMBER OF INTERESTED PERSONS: Approximately 11

ADMINISTRATIVE AGENDA

1. Roll Call: Commissioner Lowenthal was absent. 1st District
2. The Minutes of December 8, 2008 were considered as follows:
ACTION: Commissioner Adams moved, seconded by Commissioner Schwartz and carried by a 7 to 0 vote (Lowenthal absent) to approve the meeting minutes of December 8, 2008.
3. PUBLIC COMMENT: None.

EXHIBIT 4

DECISION ITEMS

4. Proposal to designate Walter and Evelyn Buell's Central Avenue House as a Place of Historic Merit. The property involves AP No. 083-180-033, located at 8201 Santa Rosa Road (originally located at 655 Central Avenue), Buellton, Third Supervisorial District. (Continued from 12/08/08)

ACTION: Commissioner Adams moved, seconded by Commissioner Schwartz and carried by a 7 to 0 vote (Lowenthal absent), the Santa Barbara Historic Landmarks Advisory Commission adopts the Resolution designating as a place of historic merit the Walter and Evelyn Buell House now located at 8201 Santa Rosa Road, Buellton, California, Assessor's Parcel Number 083-180-033, (including an area of 20 feet extending from all portions of the building) in accordance with the requirements, standards and criteria contained in County Code, Chapter 18A.

5. Proposal for a sculpture structure within the Redwood Section of the Santa Barbara Botanic Garden (County Landmark #24) and determine whether the project is in compliance with the terms of the Landmark Resolution No. 2003-059 and take action as appropriate. The proposed sculpture in this location would be approximately 400 square feet in size with a peak height of approximately 12 feet designed to simulate a logarithmic spiral. The interior of the proposed sculpture structure would be accessible to the public, similar to the Toad Hall exhibit previously installed in the Meadow. Alternative designs of the sculpture may be developed depending on its exact location. The sculpture would remain for approximately two to three years. The project is located within the area designated as County Landmark #24 (Board of Supervisors Resolution 2003-059). The subject parcel is 12.83 acres in the REC zone and is shown as Assessor's Parcel Number 023-340-015, located at 1212 Mission Canyon Road, in the Mission Canyon area, First Supervisorial District. (Continued from 8/11/08 and 12/08/08)

PUBLIC COMMENTS:

Gary Robinson, Trustee of the Botanic Garden
Kellam de Forest
Mark Chytilo, Friends of Mission Canyon
Paulina Conn
James Marino
Barbara Bonadeo
Fran Galt

STAFF COMMENTS:

- Staff reported that the project is subject to CEQA if HLAC exercises its jurisdiction over the project and approves the project. Would return to next meeting with a CEQA Notice of Exemption prepared in the event that the project is approved.

HLAC COMMENTS:

Jurisdiction was considered by HLAC Commissioners with the following comments by various members:

- HLAC has jurisdiction over any substantial deviation from the historic landscape design concept in the Meadow Area; some members believe there should be no distinction between temporary or permanent structures.
- Deviation is different than evolution as nothing should be frozen in time. Rotational and temporary structures exist in other gardens. Historic and contemporary prospectives should be a consideration. There should be reluctance to narrowly defining the concept of deviation and deciding what garden goers may want to see and experience in the garden.
- HLAC does have jurisdiction to approve or deny large impacts.

- **Project is both a structure and an exhibit.**

ACTION: Adams moved, seconded by Shepherd and carried by a 7 to 0 (Lowenthal absent) to approve jurisdiction, with the finding that the proposed project will cause a substantial deviation from historic landscape design concept which gives HLAC jurisdiction.

The location and design was considered by HLAC Commissioners with the following comments:

- The original proposed Redwood area is not appropriate and is off the table for consideration
- The Garden prefers utilizing only the Meadow area. The Manzanita area proposal has been withdrawn.
- Conceptual action will only be considered at this hearing. In order to grant final action an exemption to California Environmental Quality Act (CEQA) has to be formally prepared in writing, which will be presented at the next meeting.
- Some members considered the size, bulk and scale of the proposed structure to be too large and out of scale, and the cumulative effect in the meadow is detracting from the experience of the meadow leading to the view of the mountains.
- Discussed using specific plantings to screen and blend the proposed structure to reduce effect in the Meadow.
- Garden needs to be viable.
- Supports the use of natural materials in the sculpture.
- Concerned that this might set a precedent for larger items being placed in the Meadow and proposed structure should be considered a one-time approval.

ACTION: Commissioner Schwartz moved, seconded by Commissioner Adams, and carried by a 5 to 2 vote (Lowenthal absent, Shepherd and Woodward opposed) to conceptually approve the proposed sculpture structure in the location of the Meadow Section of the Santa Barbara Botanic Gardens with the following conditions: display is temporary only for up to 3 years, project is not to set a precedence for future large displays, and the site is to be brought back to original and naturalistic meadow setting upon removal of the sculpture.

ACTION: Commissioner Mussell moved, seconded by Commissioner Shepherd and carried by a vote 7 to 0 (Lowenthal absent) to continue the approval of the proposed sculpture in the Meadow Section, with the inclusion of a formally written CEQA exemption, to the Meeting of February 9, 2009 .

6. The Historic Landmarks Advisory Commission (HLAC) will discuss and comment on the Recirculated Draft Environmental Impact Report for the Botanic Garden Vital Mission Plan. Planning and Development has prepared a Recirculated Draft Environmental Impact Report (07EIR-00000-00001) pursuant to requirements of the State Guidelines for the Implementation of the California Environmental Quality Act (CEQA) and the County of Santa Barbara Guidelines for the Implementation of CEQA. The Recirculated DEIR prepared for the project includes a revised project description, and identifies and discusses potential impacts, mitigation measures, residual impacts and monitoring requirements for cultural resources and fire hazards, and has been revised in response to public and agency comments on the original Draft EIR (June 2007). The proposed project is to revise the existing CUP and approve a Development Plan to allow the development of approximately 25,884 square feet of net additional building area for administrative research, educational, and residential uses. The project also proposes to add a newly acquired 13.15 acre parcel to the CUP (approximately 78 acres total), improve internal circulation and parking, install fencing, improve and expand its trail system, improve fire protection for all existing and proposed development, and extended municipal sewer and water service to serve the entire project site. Increases in staff, visitors, classes, and special events are proposed and anticipated. Upon completion of the project, the Garden would include a total of 65,442 square feet of development, with a net increase of three residential units.

PUBLIC COMMENTS:

Ed Schneider

Susan Chamberlin

Tim Steele
Mark Chytilo, Friends of Mission Canyon
Fran Galt
Barbara Bonadeo
James Marino
Kellam de Forrest
Paulina Conn

HLAC COMMENTS:

- **An extension of time is needed for public comment on the DEIR.**
- **Requesting a presentation for the proposed Santa Barbara Botanic Garden Vital Mission Plan to provide a comprehensive understanding of the project, with an emphasis on the landmark portion of the Garden.**
- **HLAC needs to be present for and mentioned more in reviews and decisions to be made in the DEIR with respect to impacts and mitigation. Gane House and Guild Studio may need HLAC oversight.**
- **Landmark section of DEIR needs more review; mitigations incomplete.**

ACTION: Wyckoff moved, seconded by Shepherd and carried by a 7 to 0 (Lowenthal absent) to continue the comment and discussion of the DEIR for the Botanic Garden Vital Mission Plan to the February 9, 2009 meeting. Commissioners' written comments should be directed through the HLAC Secretary to Commissioner Sue Adams for draft comment letter.

DISCUSSION ITEM

7. Status Report regarding pending litigation involving Landmark No. 24, Santa Barbara Botanic Garden.
- ✚ **Commissioner Woodward reported that three mediation sessions has taken place. One more mediation meeting is scheduled. Time spent in mediation has been very productive. Commissioner Adams has joined Commissioner Woodward and Deputy County Council Mary Pat Barry in the meetings.**

COMMISSION BUSINESS AND PROCEDURES

8. HLAC Monthly Budget Report and Decisions

- . Budget Report
- . Staff Support and Office Expense
- . Travel
- . Historic Surveys & Contracts: Proposal by historian Michelle Nellis.
 - Present Completed Historic Survey of Mission Canyon.
 - Propose Historic Survey of Upper Mission Canyon.
 - **Presentation of the Mission Canyon Historic Survey and Proposal of the Historic Survey of Upper Mission Canyon was continued to the February 9, 2009 meeting at the request of Michelle Nellis.**

9. District Reports:

- ✚ **Commissioner Melcombe added into the record three Santa Ynez Valley News articles. One article addressed the Buell House and the other two articles addressed Mattei's Tavern in Los Olivos.**
- ✚ **Commissioner Schwartz added into record the Noozhawk.com interview with Maria Harold, local historian.**
- ✚ **Commissioner Wyckoff requested that the meeting of March 9, 2009 to be held at the Lompoc Veteran's Memorial Building to include a luncheon.**

10. **Commission Vacancies. Keith Mautino resigned on December 8, 2008.** (Applicants needed from 2nd, 4th and 5th Districts).

✦ **Commissioner Woodward stressed the need for architects and landscape architects or applicants with design backgrounds to be recruited to fill vacancies.**

Keith Mautino's time and commitment on HLAC for the past year is greatly appreciated and he will be missed by the other Commissioners.

11. **Next Meeting of the Historic Landmarks Advisory Commission**

Date: February 9, 2009

**Location: Administration/Engineering Building Complex
105/123 East Anapamu Street, Santa Barbara**

For additional information about this agenda or any Historic Landmarks Advisory Commission business, please contact the HLAC Secretary at (805) 884-6833.

<http://applications.sbcountyplanning.org/boards/hlac/hlac.cfm>



Public Safety Consultants Northwest, LLC
PO Box 608
Union, Washington 98592
877.420.2638

February 17, 2009

Marc Chytilo, Esq
PO Box 92233
Santa Barbara, CA 93190

Re: Santa Barbara Botanic Garden Draft Environmental Impact Report (DEIR)

Dear Mr. Chytilo:

At your request, Public Safety Consultants Northwest, LLC has conducted a review of the DEIR, associated proposed mitigation measures, the proposed Conceptual Fire Protection Plan, and a review of evacuation-related professional reports and papers. In addition, we conducted a site (Mission Canyon and surrounding areas) visit on February 5, 2009, to assess road configurations, current resident density, proposed new building under the Vital Mission Plan, evacuation routes, and related public safety plans. We also met Santa Barbara County Fire Department Captains Martin Johnson and David Neels to discuss current response and evacuation protocols. Based on these efforts, we present our findings below.

Public Safety Consultants Northwest, LLC, is a nationally recognized fire service, law enforcement and emergency management consulting firm whose key staff are practicing public safety professionals. As such, we serve as wildland fire incident commanders, hazardous materials incident commanders, fire ground incident safety officers, law enforcement incident commanders, evacuation supervisors, and members of Unified Command staffs. Our company profile and key staff biographies are attached.

Findings

- 1. The DEIR and Fire Protection Plan address the single hazard of wildland fires but no other hazards such as earthquake with loss of bridges or roadways, hazardous materials incident (such as propane truck accident with product release), or the 24 inch natural gas pipeline which traverses Mission Canyon.**
- 2. The DEIR and FPP do not take into account climate change in terms of fire behavior and modeling.**



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EXHIBIT 5

References:

- 1 **NFPA Standard 1600, Disaster/Emergency Management and Business Continuity Programs, adopted by the Department of Homeland Security in 2007, chapter 5, requires all hazards risk assessments in emergency planning.**
- 2 **Fiscal Year 2008 National Incident Management System (NIMS) Requirements Matrix (mandatory for State of California and all counties), items 7 and 16, requires all hazards risk assessment and amendment of existing emergency plans to address these hazards. NIMS also requires all hazards exercise and preparedness planning**

Conclusions:

1. **The current Fire Protection Plan and DEIR do not address current inadequacies in all hazards response, evacuations, and emergency planning that serve as the public safety baseline for the Vital Mission Plan. Both documents fail to address roadway bottlenecks, driveway and road configurations and layouts, dangerous intersections and vehicle chokepoints, as well as alternatives to use of Foothill Road and nearby roads such Sycamore Canyon if fire behavior, vehicle accidents, or road closures occur.**
2. **Available pre-incident plans contained in the County Hazardous Materials Emergency Response Plan are general in nature to accommodate change on-site conditions, yet do not provide incident commanders viable response and evacuation route alternatives to the Mission Canyon area, thus requiring the incident commanders to make up these alternatives at the incident.**
3. **No coordination of the Fire Protection Plan could be found indicating the various law enforcement agencies and the County Office of Emergency Services who conduct, support, or supervise evacuations concur with the FPP and their roles in it.**
4. **US Forest Service Climate Change Resource Center, (May 2008) article Wildland Fire and Climate Change indicates that a warmer climate (global warming) “will lead to more frequent fire, possibly more severe fires, and a longer fire season in the Western US.” These factors are not cited or addressed in the DEIR and FPP and do not support adding population increases to already dangerous box canyon such as the Mission Canyon Area. In addition, the US Forest Service indicates in the article that more aggressive thinning and surface fuel management in fuel management zones must be considered. The FPP does not address any increased, Canyon-wide fuel management plan. Through mutual aid agreements, firefighting resources from afar can assist in fighting local wildfires, but in a future with more frequent and severe wildfires, as predicted by many global climate scientists, there is likely to be greater competition among fires for these resources, potentially resulting in smaller and slower responses to blazes. This factor amplifies risks and potential adverse consequences of wildfire.**



2. Existing and proposed private and public roadways and current population density do not support a successful no-notice evacuation. The Mission Canyon area road system is a cumulative set of response vehicle and evacuation chokepoints and bottlenecks.

- A. Private driveways used by multiple (8 or more) residences flow through a single chokepoint where the drives intersect county feeder roads. These feeder roads such as Los Canoas and Tunnel Road then intersect larger main roads (such Mission Canyon Road) at dangerous intersections with turn radii of over 120 degrees creating dangerous chokepoint and accident potentials during emergency operations and evacuations. In the case at the Los Canoas/Mission Canyon intersection, a new proposed Botanical Garden parking lot exit just south of that intersection will be nearly invisible to traffic from Los Canoas turning onto Mission Canyon. The turn radius at Los Canoas/Mission Canyon Road is well over 120 degrees.**
- B. Street parking at the Botanical Garden as well as Tunnel Road trailhead is uphill, requiring evacuating vehicles to turn around potentially into the flow of other down-canyon traffic as well as slowing any up-canyon emergency response vehicles. There are no dedicated turn around areas at or near the terminus of either road that could enable passenger vehicles or emergency equipment to reverse direction without a three or more point turn.**
- C. Foothill Road must hold all the evacuating traffic and counterflowing emergency response vehicles. A single accident or medical incident along Foothill Road will severely impact both sets of traffic flow.**
- D. The DEIR and FPP do not address evacuations for persons without transportation such as physically challenged or home care residents.**

References:

- 1. US Fire Administration Report 060, The East Bay Hills Fire Oakland-Berkley California, cites the majority of fatalities occurred in the first 30 minutes of the fire restart. Six fatalities including a police officer were found at a narrow road chokepoint closed due to a traffic accident involving evacuating residents. Cova (2005) cites existing the Mission Canyon area roads exits and community density in his study that shows the Mission Canyon area as a greater evacuation hazard now than the 1991 Oakland fire area prior to that conflagration.**
- 2. US Department of Transportation Federal Highway Administration Signalized Information Guide, Chapter 3, August 2004, calls for intersection conflict reduction to maximize driver safety. Adding a parking lot exit at the Los Canoas intersection adds to rather than reduces intersection conflict. Section 3.3, Intersection Angles, cites driver confusion and reduced safety under normal driving conditions at intersections of greater than 90 degrees as a major safety hazard. These hazards are compounded in high stress evacuation situations.**
- 3. FY 2008 NIMS Implementation Matrix indicates that special needs emergency planning will be included in FY 2009 preparedness planning requirements.**



Conclusions

1. **The existing road system and population density in the Canyon do not support a successful evacuation scenario. Existing roadways in times of competing fire response and population evacuation will serve as chokepoints to vehicular traffic trying to use the sub standard Canton area roads and non-standard intersections.**
2. **Under the Vital Mission Plan, the addition of more up-canyon parking, lack of emergency vehicle turn-arounds, additional cars in the existing Garden parking lots, and addition of parking lot that egresses to Mission Canyon Road will exacerbate an already dangerous evacuation situation. None of the proposed mitigation measures in the DEIR contribute to a more successful evacuation.**
3. **Evacuation of transportation-dependent persons in the Mission Canyon area is not addressed in the FPP.**

3. Fire Protection Plan

- A. **We concur with the Cumulative Impacts Assessment in DEIR paragraph 4.5.5. that any additional development in the Canyon area will have a significant cumulative impact on already tenuous fire fighting and evacuation abilities. We believe, however, that the proposed mitigation measures do not address these impacts on the residents outside of the Gardens.**
- B. **Red Flag Days: This declaration decision by the Fire Chief is not aided by any on-site weather information to include humidity, fuel water content, winds, and temperature. Red Flag warnings emanate from the National Weather Service using the National Fire Danger Rating System (NDFRS). This system uses computer modeling of fuel, slope/topography characteristics, lightning, temperature, relative humidity, and fuel moisture levels. The National Weather Service also indicates that this "system only considers "initiating fire", not in fires behaving erratically, or spreading downwind spotting or crowning. In other words, the fires that are burning through continuous bed of fuels on the surface of the ground." In Mission Canyon, this definition means the Red Flag warning and declaration would be based the assumption any fire there would behave in a predictable manner in a non-up canyon scenario and would be confined solely to ground level, all very unlikely situations. In addition, the NWS applies the NDFRS to a large coastal area in the Santa Barbara area and not to the Mission Canyon area proper. One or more automated weather station strategically placed in the Canyon would provide more objective red flag criteria and information for the Chief and the public. This site should be properly established and run, and a second site established higher up canyon in the Los Padres National Forest. In addition, relying solely on wildland red flag days does not address high fire season, non-Red Flag days, the additional Garden population and residents who may be subjected to fire or hazardous situations caused by other reasons such as earthquakes or Hazardous Materials incidents.**



- C. Circulation Roads:** Fire apparatus will compete with evacuating visitors and residents in speeding vehicles for road width and turn-arounds. If responding engines to a fire in the main Garden buildings must remain on Mission Canyon, that roadway is effectively blocked for evacuations until contraflow using the up-canyon lane can be established. There are insufficient width and an inadequate number of engine turn-arounds the further up-canyon a fire occurs.
- D. Water Supply:** Current fire response protocols including one water tender assume the water supply and hydrant system are viable. No plans exist to provide an initial response of additional water if the firefighting water system is not viable due to earthquake or motor vehicle collision. As the DEIR indicates, water flow and pressures still do not meet county commercial requirements.
- E. Emergency Planning:** Does not address any situation other than wildland fire as a cause for evacuations. The plan does not address roads and bridges becoming impassable due to mudslides, downed trees, downed wires, vehicular blockage or earthquakes. In addition, residents attempting to call into the 9-1-1 system while a reverse 9-1-1 notification is being disseminated may encounter delays or dropped calls depending on the configuration of the E 911 system.
- F. Emergency Response Procedures:** Most significant to note is the one hour estimated maximum evacuation time period for the Garden during Low Fire Season. There is no explanation in the FPP as to how this evacuation figure was arrived at. In High Fire Season, this time may likely double or triple. Evacuation times and directions do not address road chokepoints or closures, smoke impacts, accidents, or other negative time impacts.

Conclusions

- 1. The FPP addresses the single hazard of wildland fire and fails to address other valid hazards such as the 24 inch natural gas pipeline or hazardous materials incident such as a propane delivery truck collision. This single focus does not provide a comprehensive evaluation of risks and associated plans for the Mission Canyon area.**
- 2. Install/update automated weather stations in the Canyon now for use in determining Red Flag declarations.**
- 3. The FPP assumes “best case” situation: all hydrants working, adequate fire apparatus parking and turning areas, all roads open and available to competing response and evacuation vehicles, no conflicting incidents competing for fire response, transportation available for all residents and visitors. We suggest the FPP needs to look at the worst case situation planning process described below and based on all hazards risk assessments consistent with validated hazards found in the County Emergency Operations Plan.**



Overall Conclusion and Recommendations

Based on our experiences as incident commanders at natural disaster sites including wildland fires, we believe that evacuation of current-level Garden visitors, area residents, and persons without transportation would be extremely problematic given the response needs of all hazards incidents. The Mission Canyon population are in a dangerous evacuation-driven location under the present road system and population density, climate change scenario, and land use standards. Without a realistic, comprehensive review of the existing Mission Canyon road and population density, adding additional visitors, vehicles, and roads to the area may contribute more danger to an already imperiled population in the Canyon. We recommend the following be undertaken before any further population density increase occurs in the Mission Canyon area:

1. Conduct an all hazards assessment of existing infrastructure (roads, high power lines, natural gas lines, evacuation routes), emergency plans, and incident pre-plans to identify and prioritize risk based on all hazards approach.
2. Review and update emergency plans, procedures, and pre-plans based on the risk assessment and list alternatives for incident command consideration in pre-plans and on checklists.
3. Conduct Garden and area resident training based on updated plans.
4. Consider use of alternate site for Garden activities that would not impact the Canyon area.
5. Establish more localized Red Flag criteria using on-site weather instrumentation
6. Develop High Fire Season, non-Red Flag day population criteria and include in plans.
7. Conduct no-notice exercises using risk-based scenarios.
8. Create Corrective Action Plan to modify plans based on exercises and lessons-learned reports.

We further recommend developing an alternative location for a portion of the Botanic Garden's proposed activities. Given the current Mission Canyon area evacuation environment, we strongly recommend not placing additional people at risk in the wildland urban fire interface through institutional permitting then developing mitigation measures that might reduce risks somewhat. Human behavior during times of panic is not always rational, and even the best developed plans will not mitigate the danger of a fast moving fire. Unexpected developments are more problematic when escape routes are limited in number, as in the case of Mission Canyon. Proactively, it is preferable to avoid increasing the number of people potentially exposed to this kind of risk whenever possible. Our strongest recommendation for reducing the risk to Mission Canyon residents and visitors would be to relocate a portion of the Botanic Garden's operations to another location away from the wildland urban interface.

Respectfully Submitted,

Michael DeCapua

Michael DeCapua, Founding Associate
PSCNW, LLC



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