Evacuation Plan

Church of the Woods Site

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Plan Basis

The Church of the Woods Project site is located in the San Bernardino Mountains–within San Bernardino County, and surrounded by San Bernardino National Forest Lands. The Project is proposed to be developed on an approximately 37 acre parcel of land, located in the community of Rim Forest within the San Bernardino National Forest just north of Highway 18 (Rim of the World Highway) between Bear Springs Road and Daley Canyon Road (See Figure 1).

Project Site

Figure 1: *The COTW site is located near the crest of a portion of the San Bernardino Mountains. It is adjacent to State Highway 18 at its entrance, and Daley Canyon Road on the East. Note the three canyon mouths at its front.*

The Church of the Woods (COTW) project involves a proposal to create a development in two phases. Development would occur on approximately one-third of the site. As described in more detail elsewhere, the project would include a Youth Center/Gymatorium, Assembly Building, Maintenance Building, Caretaker's Residence, and parking. The structures would be located in the Southeast corner on approximately one-third of the site.

General evacuation plans are already in place at the County level (see Appendix attachment, County of San Bernardino 2007 General Plan, March 2007, in this document),

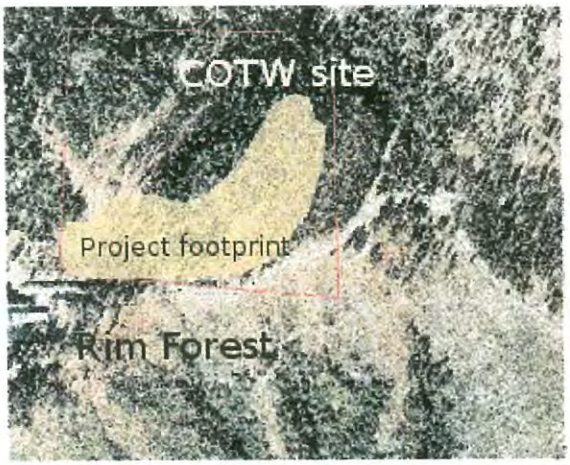


Figure 2. *Approximate footprint of the development area in the COTW site.*

and promulgated by a consortium of emergency organizations (Mountain Area Safety Task Force-MAST). Both have general evacuation route maps (see Appendix). Neither are detailed enough to apply to a specific locale within the area. An evacuation plan for a locale such as the Church of the Woods site, is therefore necessary.

The Church of the Woods site is situated in a noteworthy location that requires explicit attention to certain natural disasters, and requires particular attention to timing and preplanning. The site is subject to usual natural and human-caused disasters–fire, flood, and earthquake, but its primary threat comes from fire. Other disasters can occur and result in the need for evacuation–hazardous materials incidents being a salient potential problem.

Triggers for Evacuation

Hazardous Materials

Hazardous materials can range from local storage tanks containing compressed gases, such as oxygen and natural gases for cooking and heating, to off-site storage, and transport of chemicals or radioactive materials. Release of hazardous materials can result in wind-borne fumes or contaminated air that range from noxious to deadly, or in spills of material that can range from environmental damaging to injury or death for humans. Generally, these kinds of incidents require evacuation to locations out of the range of the particular spill or wind-borne plume. However, one kind of hazardous material incident–that of a tanker, carrying flammable material, that is burning–requires more drastic evacuation procedures. The fire can often be emerging from a filler hole, or a puncture in the tank. The tank can become an uncontrolled projectile if it is not cooled down in sufficient time. Evacuation from such an incident should be immediate, and constitute a long distance from the site–on the order of miles. Direction of evacuation is difficult to discuss because direction of the projectile is unpredictable. Cover from flying missiles is a useful consideration.

Floods

Figure 3: *Watershed basins fall away to the North and to the South of the projected site. The site itself drains Northeast into Daley Canyon. (Watershed basins are delimited by orange lines, and major drainage lines are in blue.)*

Floods will pose little need for evacuation. The site itself lies within a small watershed basin (see Figures 3 and 3a), and drains immediately into a creek in Daley Canyon. As long as the basin maintains its current general configuration, there will be very little need for concern.

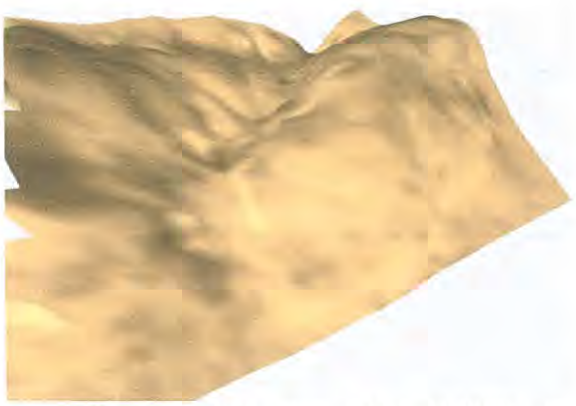


Figure 3a. *Digital elevatiion of the COTW site–looking downhill towards the Northeast.*

Earthquakes

Earthquakes are always a threat, but wholesale evacuation would be an unlikely requirement. Local damage could require people to move off site, but little else should be in order. General evacuation after an earthquake could be problematic due to the potential for infrastructure damage and dislodged boulders along roadways.

Fire

In fire-prone southern California, Fire poses a threat and is the primary disaster that requires careful evacuation planning for the COTW site. Particular attention must be paid to the nature of wildland fire in the vicinity–and to on-site fires, whether they ignite from firebrands arriving from off-site, or from a local on-site source, such as a structure. Fire's potential course, and the various characteristics that it can exhibit, must be understood in order to carry out effective evacuation efforts.

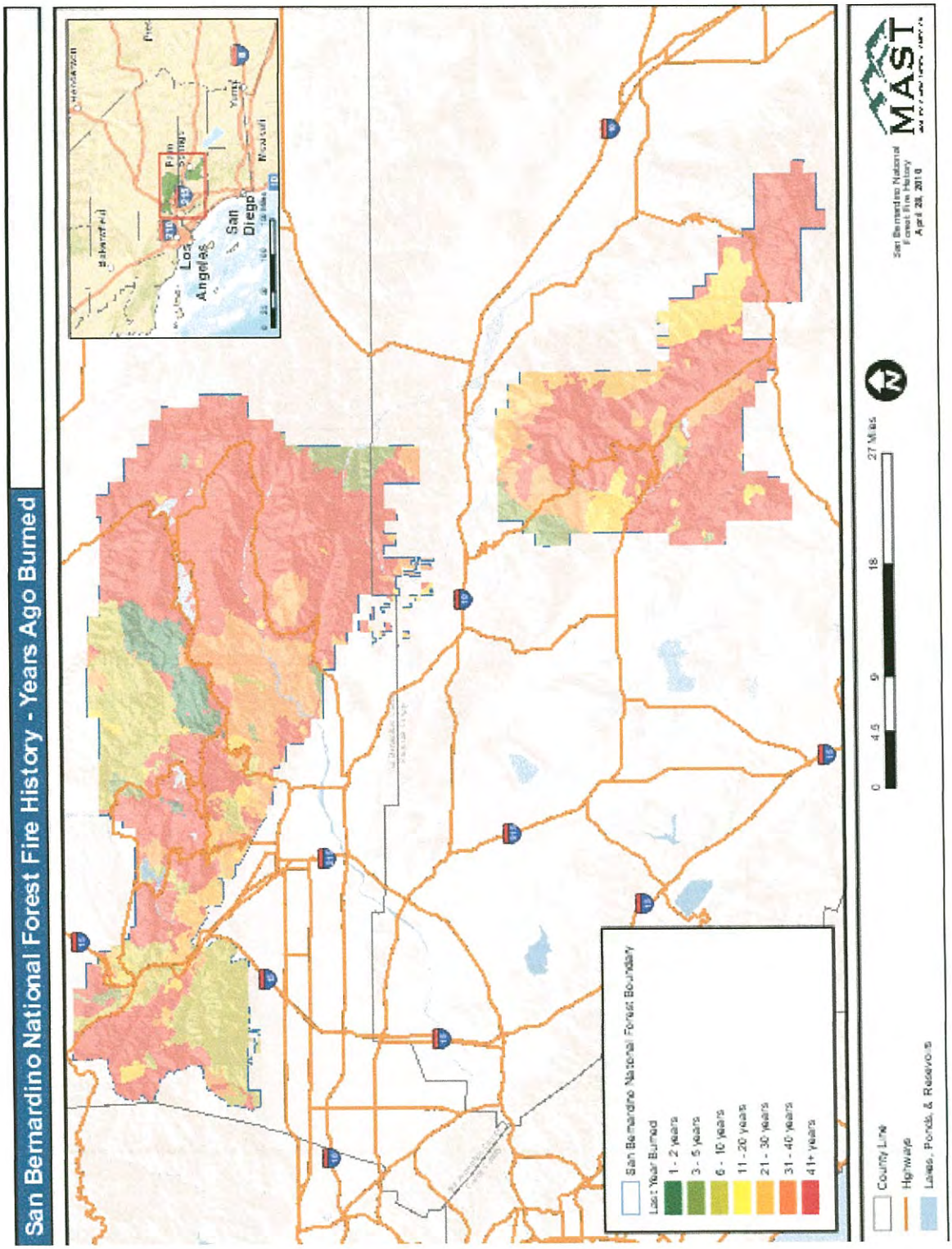


Figure 4: *Forty plus years of fire history (http://rvcweb.org/MASTPortal/Default.aspx?tabid=96).*

Fire Occurrence

Choice of evacuation routes will be pre-planned before any need arises.

Knowledge of historic fire occurrence patterns in the area, and some cognizance of things that affect burning patterns are necessary to facilitate rational decisions under an evacuation situation. This will be especially true if no emergency personnel are on site, and individuals will have to be self-directed for a time. To this end, Figure 4 presents a history of large fire occurrence patterns in the San Bernardino Mountains for over forty years. The COTW site location can be viewed as being vulnerable to fire coming from many sides-but the same location characteristics also provide complimentary avenues of escape.

The possible directions that wildland fires can take while burning are important to understand. The location of the fire is important to determine, and knowledge of the current wind direction is critical: know whether winds are the prevailing southwesterly winds that generally occur during the day, or if they are Santa Ana winds that can range from the Northwest to the Northeast (see Figure 5). These issues will affect the choice of evacuation routes.

Wildland Fires predominate on the southern face of the mountain range with some coming from the northern slope. These often reflect a combination of convection processes and prevailing winds. A number of fires have originated from within the range, in some cases from the backbone of the ridge itself. The latter are often driven by Santa Ana winds, and spread counter to expected convection effects.

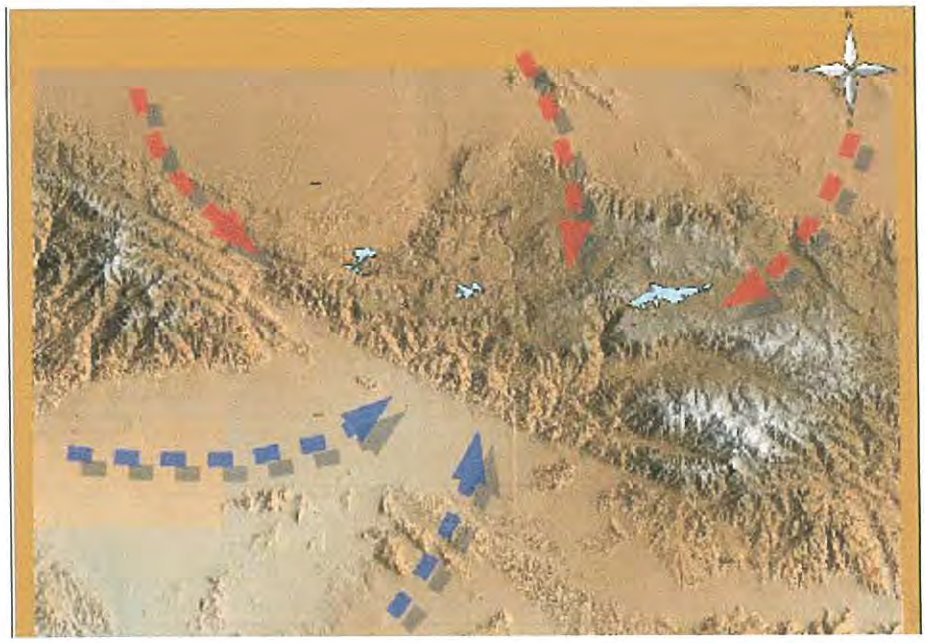


Figure 5: *Wind patterns to be expected in the San Bernardino Mountain area. Specific winds blowing during an evacuation event must be ascertained.*

Structural fires, by themselves, present a different kind of problem from that of wildland fires. The physics of structural fires is unique, and they are dealt with differently than wildland fires. If they can be restricted to a given structure, then evacuation can be a simple matter. -People should evacuate the project area, and maintain a proper distance from the site out of the path of fire brands, and material from possible explosions within a burning structure. However, given

unfortunate wind and fuel conditions, a structure fire can be the starting point for a wildland fire. Under such circumstances, wildland evacuation procedures will be necessary.

Evacuation Routes and Their Use

Prevailing Winds

Time of day and season will affect the direction of prevailing winds. The bulk of discussion in this plan will assume mid-day conditions during the late Spring to early Fall. Daytime and seasonal considerations will be discussed toward the end of the plan.

Evacuation routes presented in this plan are those that give the most functional and accessible means for exit from the COTW site. Circumstances dictate which routes best serve at the moment. Personal knowledge, and advise from emergency personnel on site, if available, can combine to determine the most advisable exit route. This plan does not provide guarantees, but rather a basis for making a rational decision.

Available Routes

Figure 6 presents major routes that are suitable for evacuation use. The routes are complementary to those suggested in the San Bernardino General Plan, and in the Mountain Area Safety Taskforce (MAST) evacuation brochure. General strategies should involve choices described in the following paragraphs.

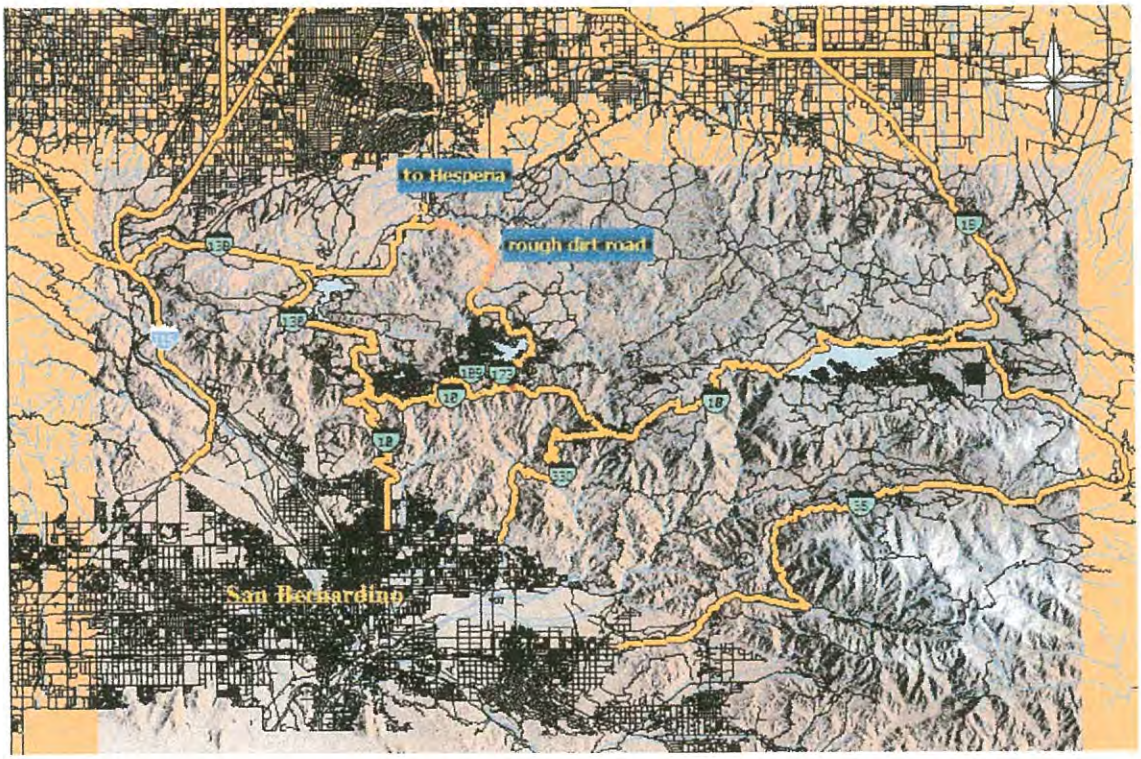


Figure 6: *Major roads suitable for evacuation are indicated with highway markers. Roads most suitable for evacuation to the South frorn the COTW site are Highways 18, and (if appropriate) 330. Evacuation to the North is most expeditious by way of Highway 138, and if time and circumstances permit, Highway 189 to the Lake Arvowhead area. The latter should only be chosen if serious time constraints are not present (or, if there is no other choice); moving from Lake Arrowhead to points further North or Northwest can be slow. A red dot shows the locatiion of the COTW site.*

Fires coming from the North, Northwest, and Northeast

Convection-driven fires (non-Santa Ana wind driven)

Evacuate to the southeast if fire is emerging directly from the North facing slope of the mountain range, and not near the major backbone of the ridge itself. If time is not critical (fire is far down on the northern front of the range), a southwest evacuation route could be feasible (Figure 7).

Santa Ana wind driven fires

Evacuation to the West, and then toward either the South or North could be in order–depending upon the fire activity and specific wind direction. There is no direct route to the South from the COTW site.

Santa Ana winds from the Northwest

Wind driving a fire from the Northwest would probably make an eastern evacuation the most feasible.

Santa Ana winds from the Northeast

Wind driving a fire from the Northeast would dictate evacuation to either the Southwest or to the North. *The Bear Fire of 1970 (see Figure 4) originated on the top of the back- bone of the general mountain range, and, not only spread to the Southwest, but also turned to the West as it approached San Bernardino. In such a case, evacuation to the South (down Highway 18, for example) would not be advised.*

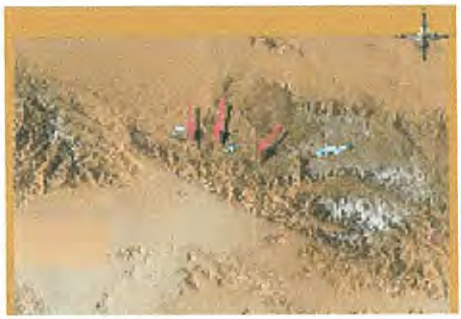


Figure 7. *Convection driven fire pathways from the North of the COTW site.*

Santa Ana Winds and Fire

Fires being driven by Santa Ana winds have challenging characteristics, due to the nature of the wind itself. Santa Ana winds, originating from low pressure zones windward of the mountain range, have characteristics of typical Foehn winds, and blow downslope on the leeward side of the range. As they drop in elevation, they warm and often increase in speed. As a consequence, the winds can offset the upslope convection tendencies of a burning fire, and push the fire downslope, most often accompanied by turbulent fire activity as the winds and convection forces conflict with one another. The typical notion that 'fire burns uphill' can not be relied upon under such circumstances.

Fires Burning from the South, Southwest or Southeast

Figure 8. *Fires south of the mountain range can occur north of the COTW site. Adjustments in response protocol will be necessary.*

Evacuation generally to the North is necessary. Specific fire location and direction, however, can alter this course of action. It is necessary to consider the physical orientation of the San Bernardino Mountain range itself in relation to the location of the COTW site. For example, a fire on the southern base of the foothills, being pushed by a wind from the South, could actually be to the north and West of the COTW site (Figure 8). Under such a circumstance, an Eastward or Southeastward evacuation should be considered.

The complexity of the terrain south of the major ridge line of the San Bernardino Mountains amplifies the need to pay attention to circumstances during a potential evacuation event. A Santa Ana wind from the Northeast pushing a fire down Mill Creek Canyon (e.g.-along a portion of Highway 38), or westward, down the Santa Ana River Canyon (by way of Seven Oaks) can end up being a fire moving westward along the southern face of the mountain range, south of the COTW site (Figure 9) Such a fire would not behave in the same manner as a fire that starts to the south of the COTW site, and is being pushed by southerly winds and fire convection upslope toward the site. The former would require exit to the North and Northwest; the latter could require the same, but might allow an eastward evacuation ultimately to either the South or the North, according to circumstances (Figure 10).

Figure 9. *General path of Santa Ana wind-driven fires south of the COTW site.*

Daytime or nightime-season of the year

Figure 10. *Stylized path of convection and prevailing wind-driven fires from the South of the COTW site.*

In an area such as southern California, mountain winds will tend to shift direction twice in a 24 hour period. The shifts are a result of differences in the rates of heating and cooling between the land mass and the ocean to the West. The land will warm during the day, and cool at night much more quickly and to a greater degree than the ocean–the large mass of water offshore that varies very little in temperature throughout the day and night.

When the land mass is warmer than the ocean, air above the land will tend to rise–resulting in the normal 'up-canyon' winds that are experienced locally in the San Bernardino Mountains. These winds will begin eariy in the morning, as the land begins to warm. At night, as the land mass becomes cooler than the ocean, the opposite effect occurs, and 'down-canyon' winds are experienced locally in the mountains. This shift generally begins in the early evening–before sunset. The consequence of this shiftt does not present a hard and fast 'rule of thumb' to use under an evacuation event, but rather an element to be wary of.

At best, evening winds will oppose, slightly, the upward convection tendencies of a fire. This phenomenon coupled with atmospheric conditions that are often cooler, and more moist than those during the day, might provide a night evacuation with a little more 'elbow-room'-or easier maintenance of calm. At worst, the down-slope winds might require a modification of escape plans–the nature and degree of which can only be determined on- site–at the time of a given evacuation event. The need for individuals to pay attention to conditions will not disappear.

Caveats Specific to the COTW Site

Refer to Figure 11. The site is at the head of three canyons leading up to the front entrance to the development. Should a fire emerge from the South, and accurate knowledge of its location is unknown, then a 'wait- and-see' approach to evacuation is not wise. People on site should leave immediately by way of Highway 18, and set a destination for either Lake Silverwood and Interstate I-15, or for the Big Bear area-continuing along Highway 18 to the East. Highways 18 and 330 to the South should not be considered.

COTW Campus Evacuation Procedures

The project follows procedures to ensure:

1. the readiness of the campus in the event of an emergency that requires evacuation (see page 13); and

2. the implementation of safe and timely evacuation of all church members and staff from the project site by ground transportation.

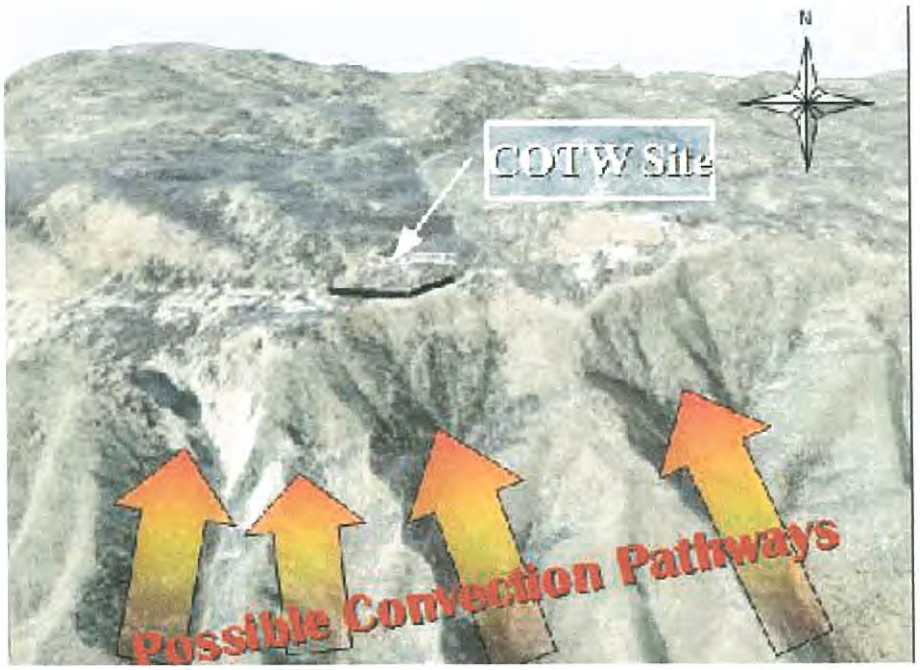


Figure 11: *The location of the COTW site can make it particularly susceptible to effects of southerly winds, 'chimney' effects of convection up the drainages to the South, and in these same drainages, the potential for the development of local inversions that can burst causing an instantaneous 'flash' effect due to combustible gases that were trapped under the inversion layer.*

The maximum number of people on site at any one time will be 900. This number represents approximately 300 cars.

The procedures are as follows:

Campus Evacuation Readiness Procedures

1. The Church Director shall be assigned the primary responsibility for the implementation of the Evacuation Plan. In the event that the Director leaves the project site, the Assistant Director (or designee) shall have the temporary responsibility for the implementation of the Evacuation Plan until the return of the Director.

2. The permanent church staff shall be required to review and be knowledgeable of the Evacuation PIan including the Campus Evacuation Procedures as a part of their staff orientation process.

3. The Campus Evacuation Procedures and a site map with exit routes shall be posted in prominent locations, where people will notice them, throughout the facility.

4. Church staff shall test the emergency alarm system on a monthly basis.

5. The Church Director in conjunction with the Church Leadership group shall review the Evacuation Plan on an annual basis to determine if changes to its contents are necessary. If it is determined that any changes are required, they will be prepared in coordination

with the Crest Forest Fire Protection District (CFFPD) and, as appropriate, the Sheriff's Department.

6. During fire season, the church staff (or designees, as appropriate) shall monitor any fire danger warnings or fire events in the San Bernardino Mountains. This shall be accomplished through ongoing coordination with designated personnel at the CFFPD and the Sheriff's Department.

Campus Evacuation Response Procedures

1. The Sheriff's Department shall notify the Church Director (or designee) in the event that a voluntary evacuation order for the project area has been issued. At the time that the Church Director (or designee) receives the notification, the Evacuation Plan including the Evacuation Response Procedures shall be fully implemented. Upon receipt of this notification, the project shall have a maximum of 40 minutes for absolute departure of all attendees and staff (with exception of Church Director and Assistant Church Director per Item 4 below).

2. The Church Director shall coordinate with the Sheriff's Department in the selection of the appropriate evacuation route(s) to evacuate the project.

3. Prior to departure from the project site, the maps will be made available of the predetermined evacuation route(s) with a specific arrival destination out of the the mountain region.

4. The Church Director and Assistant Church Director shall be responsible for the closure of the church site facilities prior to their final departure from the project site.

Telephone numbers of local emergency agencies (as indicated in the Appendix) should be consistently updated, and sources of emergency information (radio stations, television stations) should be noted as appropriate.

Use by Non-C.O.T.W. Entities

When outside associations are granted use of the site, they will be given a copy of the Evacuation Plan. The visiting association will designate a responsible party to implement the Evacuation Plan, if necessary.

Appendix

A Exhibit 1

Map of Fire Evacuation Routes from the San Bernardino General Plan

B Exhibits 2 and 3.

MAST brochure with evacuation route maps, key emergency agency telephone numbers, and radio stations that would provide emergency information.

C Exhibit 4.

Table of planned on-site uses.

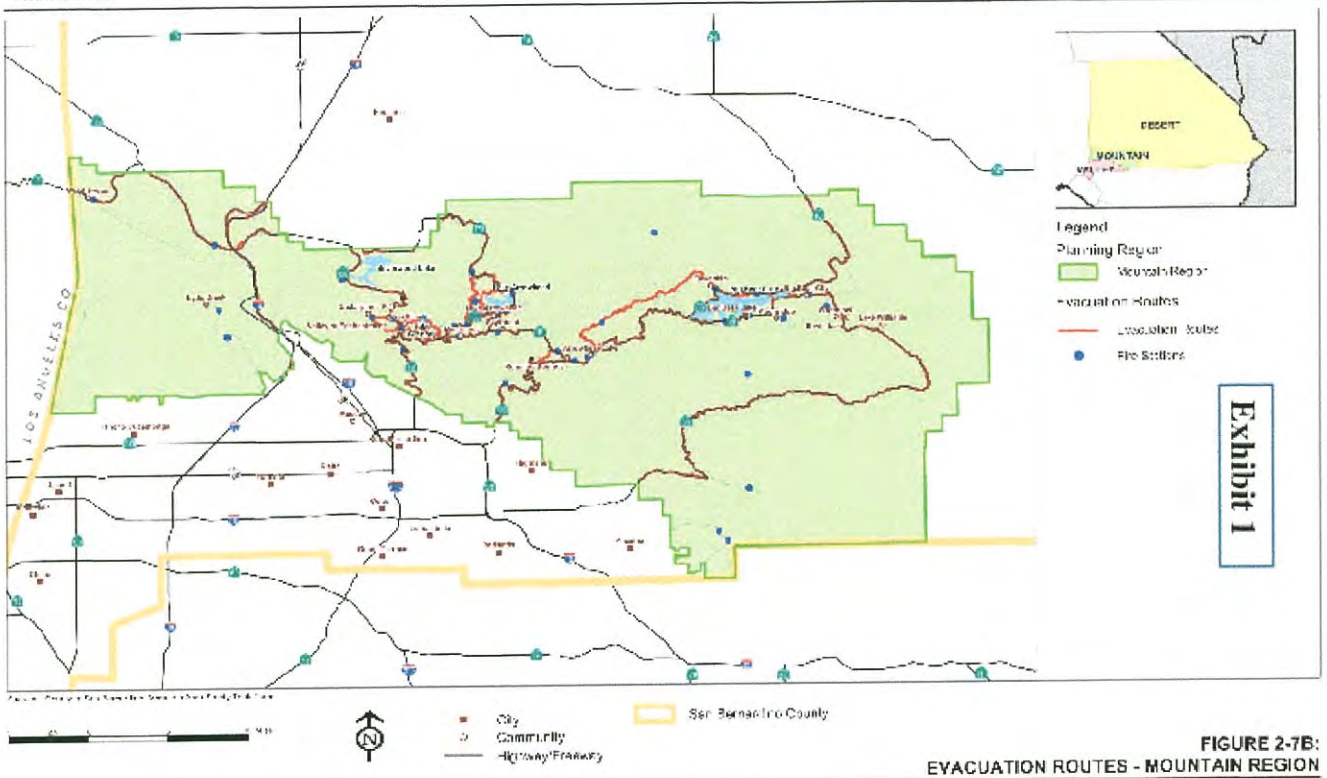


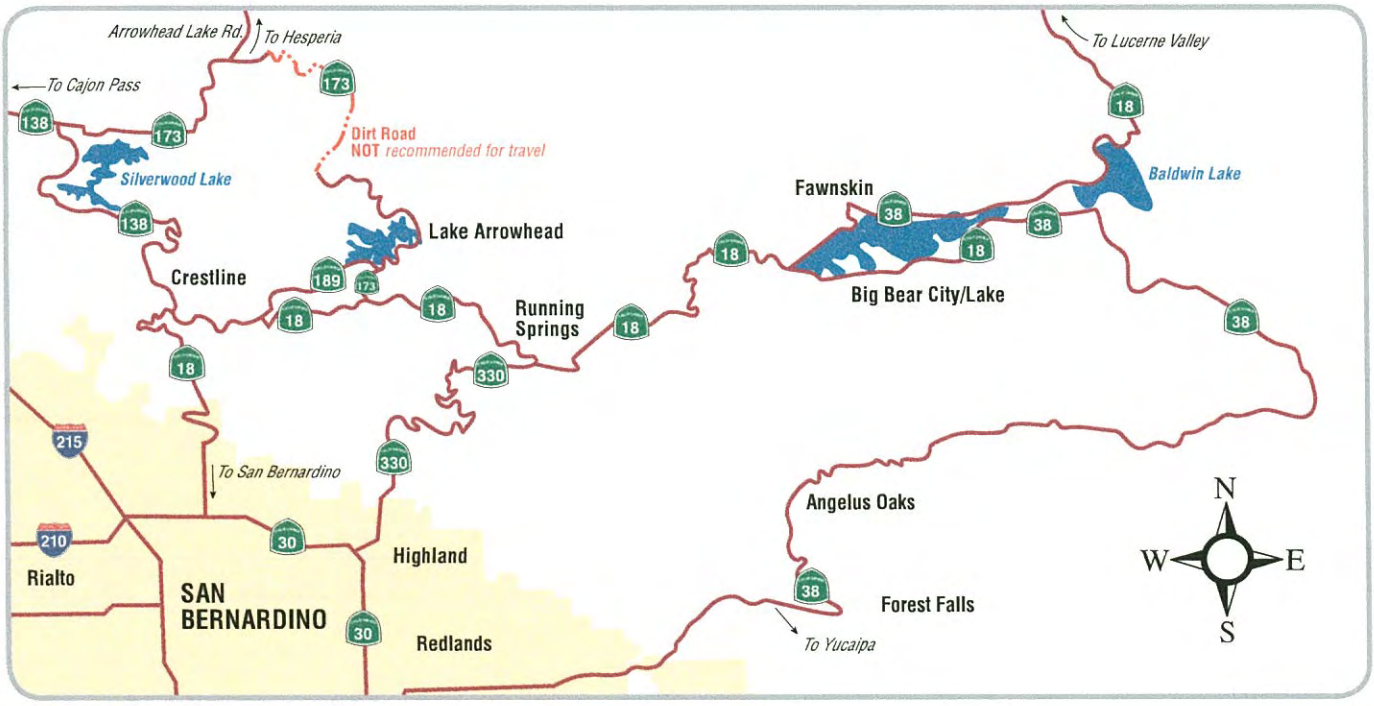
FIGURE 2-7B:
EVACUATION ROUTES - MOUNTAIN REGION

Exhibit 2

MOUNTAIN AREA ROUTES

EMERGENCY ALERT RADIO STATIONS

- 95.1 FM, 103.1 FM, 92.9 FM KFRG Valley/High Desert/Mountains
- 98.9 FM KHWY High Desert
- 102.3 FM KZXY Victor Valley
- 107.7 FM KCDZ Yucca Valley/Joshua Tree
- 93.3 FM KBHR Big Bear Valley



FIRE SAFETY TIPS - BE FIRE SMART

- Know before you go — fire danger level and weather conditions
- Plan your emergency route (see map inside)
- Be informed about restricted access to the national forest
- Campfires are only allowed at approved sites
- Obtain a campfire permit — required for campfires, barbecues and portable stoves (subject to restriction by local authorities)
- Safely put out and discard cigarettes and other burning material
- Clear a 10-foot space around your fire
- Fireworks are illegal, including Safe and Sane
- Operate equipment fitted with a spark arrester
- Do not ride your brakes while driving down the mountain
- Bring snow chains in winter

FOR MORE INFORMATION:

Big Bear Lake Fire Protection District
Office: (909) 866-4668

Big Bear City Fire Department
Office: (909) 585-2362

Running Springs Fire Department
Office: (909) 867-2630

Crest Forest Fire Protection District
Office: (909) 338-3311

San Bernardino County Fire Department
Office: (909) 387-5974
Emergency Information Line: (909) 355-8800

CAL FIRE
San Bernardino Unit: (909) 881-6900

U.S. Forest Service, San Bernardino National Forest
San Bernardino Office: (909) 382-2600
Information Center: (909) 383-5688

Inland Empire Fire Safe Alliance
To find your local fire safe council, please contact **(866) 923-3473** or visit **www.fireinformation.com**

ROAD CONDITIONS

Caltrans/CHP Current Highway Conditions
(800) 427-7623

Caltrans (909) 383-4631

SERVING THE MOUNTAIN AREA

MAST
Mountain Area Safety Taskforce

Formed in 2002, the Mountain Area Safety Taskforce (MAST) has significantly reduced the fire threat in the San Bernardino and San Gabriel Mountains, removing more than one million dead, dying or diseased trees.

However, the fire danger remains high.

Years of drought, bark beetle infestation and a century of fire suppression have left the forest tinder dry with the potential for a catastrophic wildfire.

Healthy forest initiatives are restoring the vigor of the forest so we can all enjoy this natural resource for generations to come.

For more information, visit:
www.calmast.org

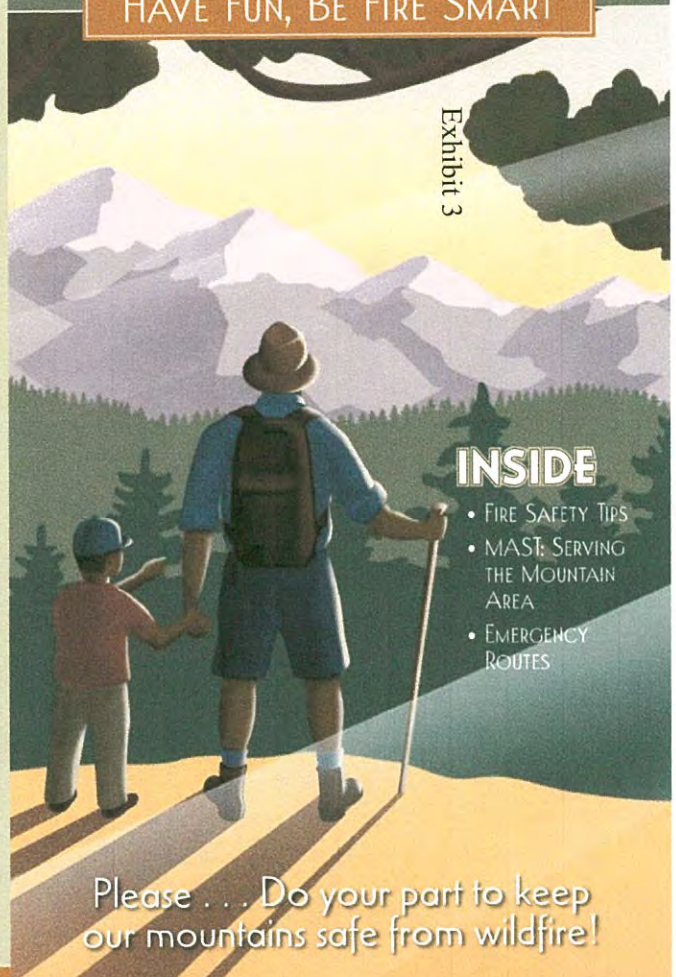
BE FIRE SMART
SAVE PROPERTY, HOMES AND LIVES

MAST

Visitors Welcome to the SAN BERNARDINO COUNTY MOUNTAINS

HAVE FUN, BE FIRE SMART

Exhibit 3



INSIDE
- FIRE SAFETY TIPS
- MAST: SERVING THE MOUNTAIN AREA
- EMERGENCY ROUTES

Please . . . Do your part to keep our mountains safe from wildfire!

IN CASE OF EMERGENCY DIAL 911
TO REPORT ARSON CALL "WE TIP" AT (800) 47-ARSON

Table 1: On-Site Uses–Phases I and II

Activity	Day/Time	Estmt. #Participants			
		Phase I	Phase II	Phase I	Phase II
Sunday Service	Phase I: 0900 to 1100 hrs Phase II: 0830 to 1000 hrs 1100 to 1230 hrs	400	400/service	Youth Cent./Gymnatorium	Assymbly Bldg./Child. Ministry
Wednsday Service	1830 to 2100 hrs	250	400	Youth Cent./Gymnatorium	Assymbly Bldg./Child. Ministry
Aerobics	M,W,F-0800 to 100 hrs	30-40/class	30-40/class	Youth Cent./Gymnatorium	Assymbly Bldg./Child. Ministry
Fife & Drum	M-1700 to 2000 hrs	30	30	Youth Cent./Gymnatorium	Assymbly Bldg./Child. Ministry
Women's Bible Study	T-0800 to 1300 hrs	100-150	150-200	Youth Cent./Gymnatorium	Assymbly Bldg./Child. Ministry
Choir	T-1900 to 2000 hrs	30-40	30-40	Youth Cent./Gymnatorium	Assymbly Bldg./Child. Ministry
Sr. High Youth Grp.	T-1800 to 2000 hrs	50-60	100-150	Youth Cent./Gymnatorium	Youth Cent./Gymnatorium
Women's Prayer Grp.	W-0800 to 1000 hrs	25	50	Assymbly Bldg.	Assymbly Bldg.
Men's Bible Study Grp.	Sat-0800 to 1000 hrs	25	35	Assymbly Bldg.	Assymbly Bldg.
Band Practice	Sat-1500 to 1700 hrs	15-20	15-20	Assymbly Bldg.	Assymbly Bldg.
Basketball	W,F-1700-2000 hrs Sat-1100 to 2000 hrs	20	40	Basketball Courts	Basketball Courts
Vollyball	W,F-1700-2000 hrs Sat-1100 to 2000 hrs	20	40	Vollyball Courts	Vollyball Courts

Exhibit 4