Simi Valley: Resisting Wildfires and Floods

Full Mitigation Best Practice Story

Ventura County, California

City of Simi Valley, CA – Set in a valley between two hilly and mountainous areas of brush-covered wildlands north of Los Angeles, the City of Simi Valley faces multiple risks from natural hazards including wildfires, earthquakes, and floods. Yet it is considered to be "the safest city of 100,000 or more" in California, according to city officials.

The Simi Hills and Simi Valley are considered to be a high hazard area. There are numerous secondary faults, and seismic risk is high. There is always a threat of flood and mudflows following wildfires, which can denude the hills straddling the city to the north and south, causing erosion and damage to the watershed. City and fire officials are fully aware of these risks.

"We wanted to keep the hills and mountain vistas," said Gaddis Farmer, deputy director of the building department. The city, in cooperation with Ventura County, strictly manages growth and development in the wildland/urban interface to insure that infrastructure and safety services keep pace with growth.

There is an effective partnership between building officials, the city's fire service, city officials, and officials and decision makers for the neighboring unincorporated areas of Ventura County where the wildlands abut Simi Valley's city limits. Within the city, California's Uniform Building Code and other requirements are incorporated into every decision on proposed housing and commercial development.

Builders are regulated, and "policymakers must buy into it," said Farmer. Developers of new projects are required to provide and do the following before building permits will be issued and projects approved:

• Greenbelts (landscaped, irrigated areas) are required to prevent fires from burning into housing areas, such as planned developments, and to provide open space for aesthetics and multiple uses.

• Buildings must be constructed with roofing systems that are non-combustible, such as concrete clay tile and slate.

• Eaves on houses in areas near the wildland/urban interface must be boxed-in, enclosed with stucco or plaster

• Exterior walls must be made of stucco, at least seven-eighths of an inch thick, offering one-hour fire protection.

• Dual glazed windows must be installed.

• Smoke detectors are required in every bedroom.

• Spark arrestors on fireplaces are required.

• Homes and commercial structures of 5,000 square feet or more must have interior sprinkler systems.

• Brush must be cleared from 100 to 200 feet (depending on vegetation and terrain) away from dwellings, and clear areas must be maintained.

No development in the city will be allowed without greenbelts, Farmer said. Not only are wood shake roofs not allowed, wood shake roofs treated with fire retardants are also not allowed.

Since the wildfires, attention has been directed to the Simi Hills. Erosion control measures, including lines of sandbags and K-bars (concrete barriers), are placed in advance of the rainy season to direct water flows from hills above home developments. Reseeding of hills, along with other mitigation measures, has also been done. FEMA's Hazard Mitigation Grant Program (HMGP) provided funds for flood control basin projects in 1994. Two drainage culverts have since been constructed with six more to be built.

The city used its geographic information system (GIS) to identify some 200 homeowners most at risk following the recent wildfires, and provided information to all homeowners in flood-prone areas about precautions they should take.

When the wildfires raged across the Simi Hills north of the city, none of the homes in planned developments was damaged or destroyed. Homeowners did not have to be evacuated. Only three older homes, in outlying, sparsely populated areas near the city, were lost.

Activity/Project Location

Geographical Area:	**Single County in a State**
FEMA Region:	**Region IX**
State:	**California**
County:	**Ventura County**
City/Community:	**Simi Valley**

Key Activity/Project Information

Sector:	**Public**
Hazard Type:	**Flooding; Wildfire**
Activity/Project Type:	**Land Use/Planning; Vegetation Management; Floodplain Management**
Activity/Project Start Date:	**06/1994**
Activity/Project End Date:	**Ongoing**
Funding Source:	**Hazard Mitigation Grant Program (HMGP)**
Funding Recipient:	**Local Government**
Funding Recipient Name:	**City of Simi Valley**
Application/Project Number:	**9999**

Activity/Project Economic Analysis

Cost:	**Amount Not Available**

Activity/Project Disaster Information

Mitigation Resulted From Federal Disaster?	**Unknown**
Value Tested By Disaster?	**Unknown**
Repetitive Loss Property?	**Unknown**

Reference URLs

Reference URL 1: **http://www.floodsmart.gov**

Reference URL 2: **http://www.fema.gov/government/grant/hmgp/index.shtm**

Main Points

- Developers of new projects are required to provide and do the following before building permits will be issued and projects approved: Greenbelts (landscaped, irrigated areas); Buildings constructed with non-combustible roofing systems; Eaves on houses boxed-in, enclosed with stucco or plaster; Exterior walls must be made of stucco, at least seven-eighths of an inch thick; Duel glazed windows; Smoke detectors in every bedroom; Spark arrestors on fireplaces; Homes and commercial structures of 5,000 square feet or more have interior sprinklers systems; Brush must be cleared from 100 to 200 feet (depending on vegetation and terrain) away from dwellings, and maintained.
- The city used its geographic information system (GIS) to identify some 200 homeowners most at risk following the recent wildfires, and provided information to all homeowners in flood-prone areas about precautions they should take.
- When the wildfires raged across the Simi Hills north of the city, none of the homes in planned developments was damaged or destroyed. Homeowners did not have to be evacuated.

K-bars protect these homes in the event of flooding or mudflows.

Sandbags will prevent floodwater or mudflows from reaching the homes below.

This sandbag-lined culvert diverts water or mudflow away from houses.

A retaining fence used to prevent mudflows.

Enclosed eaves provide another protection against damages.

By using the hazard mitigation techniques outlined in the Best Practice, this home is more protected from hazard-related damages.