Alluvial Fans and the Cost to Local Governments

Alluvial Fan Task Force
Plenary Meeting 1

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Alluvial Fans and the Cost to Local Governments

By Lynn Merrill

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A Lack of Planning on Your Part…

• Residential development in cities seek locations that provide amenities and features.
• Views are a desirable feature and development along foothills are prime areas for high end neighborhoods.
• Alluvial fans offer a broad expanse of land with multiple lots.
Shouldn’t Create a Crisis on My Part…

• In City and County Governments, Public Works agencies provide infrastructure maintenance support.

• In most local governments, funding for Public Works can be 5% to 10% of total General Fund.

• In contrast, Public Safety (Police and Fire) may take nearly 60% of General Fund.
Public Works Cleans It UP!

• While Police and Fire are the “sexy” functions in government, they don’t generally stick around to clean up the mud, debris and boulders after the event is over.

• Bulldozers, skip loaders, dump trucks, sweepers and lots of hand shovelling and brooming.
After the hills have burned…

• In San Bernardino County in 2003, combination of Old Fire and Grand Prix fires destroyed nearly 35 miles of watershed

• Over half a million people in seven cities were exposed to potentially catastrophic debris flows.
And before the rains fell

- Nearly 100% of the Public Works resources from October 2003 to March 2004 focused on emergency preparedness and recovery.
- Activities included threat assessments, installation of preventive measures and public education.
Please pass the sand bags…

- Disaster funding from OES and FEMA only available after disaster declaration.
- Limited funding for protective measures such as diversion walls, sand bags.
- Assistance from Federal Department of Agriculture, Natural Resource Conservation Service.
And the rain came down…

- Christmas Day flood resulted in debris flows along entire foothills.
- Loss of 16 lives in two locations north of San Bernardino.
- Mud and water flows create potential catastrophic events, damaged roads and destroyed houses.
Costs to Local Governments

• Extensive amounts of overtime for city staffs.
• Need to protect residents from death, injury and property loss.
• Dislocation and disruption of residents lives.
• Debris removal and facility restoration costs.
Design to Minimize Losses

• Need to recognize that after the developers have left, City / County is responsible for the facilities constructed.
• Designs for future developments should consider maintainability and loss prevention from debris flows.
• An ounce of prevention is worth a pound of cure.
Public Infrastructure Issues to Consider…

- What are best management practices for minimizing debris flows while balancing development.
- Funding for maintenance and restoration without counting on State and Federal agencies.
- Improve ability to quickly restore services and operations to pre-event condition for multiple storm events.