Development of a Post-Wildfire Response to Debris Flow Protection

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In January 2018, deadly debris flows swept through the community of Montecito, California. The Santa Ynez Mountains above the town had been denuded by the Thomas Fire in Fall 2017. Twenty-three people were killed by the massive boulders and debris that swept down from the canyons during an intense rain event.

After the disaster, residents realized that waiting for protection from various agencies would take too long. Instead, they banded together and formed a non-profit organization, The Partnership for Resilient Communities (TPRC), to raise private funds and construct protective measures.

Research indicated that flexible debris nets designed by experienced geoengineers would be the quickest and most environmentally sound approach. Geobrugg AG, Romanshorn, Switzerland was selected as the supplier of the nets since it has a long research and implementation background. KANE GeoTech teamed with Access Limited Construction, Oceano, California to actualize the project. KANE and Access have designed and installed more Geobrugg debris nets in North America than any other firms and thus were the natural choices for this fast-track project.

Money was raised from private donors and nets constructed. Once nets were installed the purpose of TPRC had been realized. However, much knowledge was gained on aspects of permitting, locating, engineering, and constructing the nets. A new organization, Presilience Partners, was formed. The organization is composed of members of the TPRC, KANE GeoTech, Geobrugg AG, Access Limited, and the University of California, Santa Barbara. Its mission is to take the lessons learned and develop a response protocol for protection from future wildfire/debris flows.

This presentation will review the innovations developed in the past and describe ongoing work.