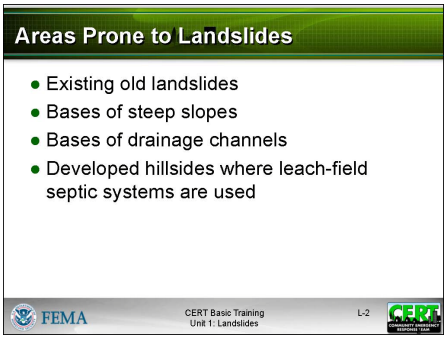
Landslides and Mudflows

INSTRUCTOR GUIDANCE	CONTENT
 **Display Slide L-0**	***Landslides and Mudflows*** Introduce landslides and mudflows.
 Allow the participants time to respond.	**What is a landslide and what causes them?**
 **Display Slide L-1** Mill Creek landslide. CALTRANS Photo by Lynn Harrison, 1997	Explain that a landslide is a rapid shift in land mass that is typically associated with periods of heavy rainfall or rapid snowmelt. Landslides tend to worsen the effects of flooding that often accompanies them. In areas that have been burned by forest and brush fires, a lower threshold of precipitation may initiate landslides. Tell the group that while some landslides move slowly and cause damage gradually, others move so rapidly that they can destroy property and take lives suddenly and unexpectedly.

INSTRUCTOR GUIDANCE	CONTENT
 **Display Slide L-2**	Point out that areas that are generally prone to landslide hazards include: ▪ Existing old landslides ▪ The bases of steep slopes ▪ The bases of drainage channels ▪ Developed hillsides where leach-field septic systems are used Tell the group that debris flows — sometimes referred to as mudslides, mudflows, lahars, or debris avalanches — are common types of fast-moving landslides. They usually start on steep hillsides as shallow landslides that accelerate to speeds that are typically about 10 miles per hour, but can exceed 35 miles per hour. Point out that the consistency of debris flows range from watery mud to thick, rocky mud that can carry away items such as boulders, trees, and cars. When the flows reach flatter ground, the debris spreads over a broad area. Explain that the most destructive types of debris flows are those that accompany volcanic eruptions.
 Allow the group time to respond.	**What can you do to increase your awareness of the landslide risk in your area?**

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	Suggest that one of the most important steps that they can take is to become familiar with the landslide history in the area. They are at lower risk if they are in areas that: ▪ Have not moved in the past ▪ Are relatively flat and away from sudden changes in slope ▪ Are along ridge lines but set back from the tops of slopes Urge the participants to look for patterns of storm-water drainage on slopes around their homes, noting especially: ▪ Places where runoff water converges, increasing the flow over soil-covered slopes ▪ Signs of land movement, such as small landslides, debris flows, or progressively tilting trees Suggest that, if the participants see signs that indicate a risk of landslide, they seek a professional site analysis and assistance with mitigation measures.
	**Does anyone have additional questions, or comments, or concerns about landslides or mudflows?**

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