

November 17, 2008

TO: Rod H. Kubomoto
Water Resources Division

FROM: Patricia Wood *P.W.*
Facilities Section

THANICS RHC 11/18

**MAREK FIRE
BURNED AREA REPORT
FILE NO. 2-11.40**

The Marek Fire started on October 12, 2008, and was contained on October 16, 2008. The fire burned 4,635 acres mostly in the Angeles National Forest. This report focuses on potential debris flow impacts to facilities and residences within the unincorporated area of County of Los Angeles.

Recommendations

1. This report documents for Flood Maintenance Division (FMD) the potential impacts to Kagel Canyon Channel and Lopez Canyon Channel below the burned area. It is our understanding from FMD staff that during and after storms, FMD will routinely monitor both channels for possible sediment deposition and plugging and clean them as necessary. The monitoring and as-needed cleanouts should continue for the next four to five years until the watershed has significantly recovered from the burn.
2. This report documents for Road Maintenance Division (RMD) the potential debris flow from the burned watershed that may impact County maintained Little Tujunga Canyon Road, Kagel Canyon Road, and Lopez Canyon Road and underlying culverts. It is our understanding from RMD staff that during and after storms, RMD will closely monitor these roads for possible sediment deposition on the roads and plugging of the culverts and clean them as necessary. The monitoring should continue for the next four to five years until the watershed has significantly recovered from the burn.

Attachments

- A. Burned Area Map
- B. Description of Burn and Potential Sediment Impact
- C. Mudflow Phase Maps:
Attachment C-1, Phase 1 Map
Attachment C-2, Phase 2 Map
Attachment C-3, Phase 3 Map
- D. List of residents either contacted or received engineering advice.

Summary of Potential Sediment Impact

The burned area, which is located in Debris Production Area (DPA) 1, is subdivided into 16 subarea watersheds (see Attachment A for the Burned Area Map). During a design storm event (a 50-year frequency rainfall), debris flow from the burned canyons may impact Lopez Channel and its debris inlet, and Kagel Canyon Channel. Lopez Canyon Channel and the reaches of Kagel Canyon Channel that are under the purview of the Los Angeles County Flood Control District are maintained by FMD. As discussed with WRD's Dams and Operation Sections, debris flow from the burned hillsides on the eastern side of Pacoima Reservoir will deposit into the reservoir. Debris flow from the burned canyons may also impact Little Tujunga Canyon Road, Kagel Canyon Road, and Lopez Canyon Road and numerous underlying culverts along these roads, which are maintained by Public Works (RMD). Several roads and crib dams maintained by the U.S. Forest Service (USFS) may also be subject to flooding and debris flows.

Water Resources Division (WRD) staff provided engineering advice to 30 residences that may potentially be impacted by debris flows during storm events.

Detailed descriptions of each subarea are contained in Attachment B.

Debris flow Phase Maps

The phase maps for the fire are found in Attachment C. The phase maps (Phases 1, 2, and 3) identify the critical locations of potential debris flow impacts below the burned area for varying storm magnitudes. These maps are prepared when potential debris flows pose a major impact to homes, roadways, flood control facilities or other public infrastructure. These maps and the Burned Area Report, when approved, can be accessed through the Internet at <http://www.dpw.lacounty.gov/WRD/FIRE/>. The phase maps will be given to FMD and affected emergency response agencies. WRD will post debris and debris flow potential forecasts on the Internet at the aforementioned site for each forecasted significant storm event throughout this storm season and the four subsequent storm seasons.

Coordination

On October 16, 2008, WRD staff conducted a field reconnaissance of the burned area looking for residences and/or County facilities that could be potentially impacted by debris flow during storms. On October 22, 2008, at the USFS's Little Tujunga Canyon Fire Training Center, WRD and RMD staff met with representatives from U.S. Representative Sherman's Office, State Senator Alex Padillo's Office, Councilmember Wendy Greuel's Office, the USFS, the Natural Resources Conservation Service, the State Office of Emergency Services, the State Department of

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Water Resources, the State Department of Fish and Game, Caltrans, Los Angeles County Sheriff, Los Angeles County Fire Department, City of Los Angeles Police and Fire Departments, and Southern California Edison. USFS estimates the Marek Fire achieved a moderate to low burn intensity and expects three to four times the normal sedimentation from the burned watershed. USFS identified Kagel Canyon, Lopez Canyon, and Little Tujunga Canyon as the areas of greatest impacts from debris flows.

The list of residences provided or offered engineering advice to date by WRD staff is found in Attachment D.

If you have any questions regarding this fire report, please contact Youssef Chebabi at 458-6154 or Arevik Vardanyan at 458-6115.

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Attach.

cc: Disaster Services (Bui)
Flood Maintenance (Lee, Vander Vis)
Road Maintenance (Lehman, Caddick)
Water Resources (Lilley, Walden, Wood, Files)

**ATTACHMENT B
MAREK FIRE
DESCRIPTION OF BURN AND POTENTIAL SEDIMENT IMPACT**

Fire Name: Marek Fire
Date of Fire: October 12, 2008
Burned Area: 4,635 acres
Location: Northeast of the intersection of the 118 and 210 Freeways.
Thomas Guide page 482. The burned area boundary is plotted on
the map in Attachment A.

Vegetation Types before Burn

Light brush with grass
Chaparral

Improvements Damaged

Skyview Terrace Mobile Home Park, six residences damaged and 38 destroyed;
Dexter Canyon, two residences damaged and two destroyed; Lower Lopez Canyon,
one commercial building damaged and two commercial buildings destroyed.

Fire History

The Pacoima Canyon Fire occurred on August 9 to 18, 1975, and burned part of the
Pacoima Canyon watershed (7,025 Acres).

Potential Sediment Impact Below/Within Burned Area

The burned area is in a high debris production zone (DPA-1) and is subdivided into
16 subarea watersheds as shown in Attachment A.

Subarea 1 has an area of 1,169 acres and is 95 percent burned. During a major storm,
an estimated 201,000 cubic yards (cy) of debris (adjusted sediment production due to
the burn) may be produced. Sediment flows from the watershed are expected to
deposit on Lopez Canyon Road and potentially impact underlying culverts. Debris from
Indian Canyon may potentially deposit on Bailey Road and impact two residences.
WRD staff provided engineering advice to the two residences. The intersection at
Lopez Canyon Road and Bailey Road will experience debris deposition during heavy
storms rendering the intersection susceptible to a traffic hazard and closure. During
storms, RMD needs to monitor Lopez Canyon Road and its culverts and clear as
needed to alleviate the traffic hazard. The Lopez inlet at Paxton Street and
Lopez Canyon Road may potentially be overwhelmed with sediment deposition. FMD
needs to frequently monitor and clean the inlet as needed throughout the storm season.

Subarea 1a is located on the northwest corner of the Hope Gardens complex along Lopez Canyon Road and may produce an estimated 11,000 cy of debris. Debris flows from this subarea can potentially impact buildings inside the complex. Water Resources Division (WRD) is pursuing the installation of a rail and timber structure to alleviate potential debris flow damages to the buildings inside the complex.

Subarea 2 has an area of 106 acres and is 100 percent burned. During a major storm, an estimated 32,000 cy of debris may be produced. Debris flows from the burned watershed may impact the inlet to Private Drain (PD) 2373. FMD needs to routinely monitor the inlet and clear it during storms.

Subarea 3 has an area of 275 acres and is 14 percent burned. During a major storm, an estimated 35,600 cy of debris (adjusted sediment production due to burn) may be produced. No Public Works facilities or residences are impacted. Debris flow may reach a debris basin belonging to the City of Los Angeles at Kagel Canyon Street near Terra Vista Way.

Subarea 4 has an area of 888 acres and is 59 percent burned. During a major event, an estimated 130,000 cy of debris (adjusted sediment production due to burn) may be produced. A portion of the natural creek upstream of Trail 3 along Blue Sage Drive contains heavy vegetation, trees, and boulders that local residents assert block the stream's flow path during storms and could potentially contribute to flooding of residences downstream. This reach is privately owned, and its maintenance is under the purview of the property owner. Further downstream are reaches of Kagel Canyon Channel that are maintained by Public Works. FMD needs to routinely monitor and clear the channel during storms. WRD is evaluating the feasibility of installing a rail and timber structure upstream of Trail 3 near the Glen Haven Memorial Park. WRD staff has provided engineering advice to residences they may potentially be impacted by debris flows during storms.

Subarea 5 has an area of 285 acres and is 99 percent burned. During a major storm, an estimated 63,000 cy of debris (adjusted sediment production due to burn) may be produced. The streets located south of Dexter Park could potentially be impacted by debris flows. During storms, FMD and RMD should monitor and clear, as needed, Kagel Canyon Channel and the streets below Dexter Park to lessen debris flow impacts to residences. WRD staff has provided engineering advice to residences that may potentially be impacted by debris flows during storms.

Subarea 6 has an area of 137 acres and is 99 percent burned. During a major storm, an estimated 38,000 cy of debris (adjusted sediment production due to burn) may be produced. No debris impact to residences or Public Works facilities is anticipated.

Subarea 7 has an area of 58 acres and is 100 percent burned. During a major storm, an estimated 21,800 cy of debris (adjusted sediment production due to burn) may be produced. Little Tujunga Canyon Road may potentially experience debris deposition

that may create traffic hazards. During storms, RMD needs to routinely monitor the road and culverts and clear them as necessary.

Subarea 8 has an area of 428 acres and is 93 percent burned. During a major storm, an estimated 83,700 cy of debris (adjusted sediment production due to burn) may be produced. Debris generated from various small canyons within the subarea may deposit on Little Tujunga Canyon Road and clog various underlying culverts. During storms, RMD should monitor the road and clean debris deposits and unclog culverts to avert traffic hazards. WRD staff has provided engineering advice to residences that may potentially be impacted by debris flows during storms.

Subarea 9 has an area of 101 acres and is 100 percent burned. During a major storm, an estimated 31,000 cy of debris may be produced. Most of the subarea is within the City of Los Angeles boundary. Debris flows may deposit in the parking lot of a large commercial building at 12745 Arroyo Street. The upper portion of the subarea is abutting the upstream end of Pacoima Wash. The reach by Lopez Dam is owned by the U.S. Army Corps of Engineers and outlets into a channel reach owned by the Los Angeles County Flood Control District and maintained by FMD. During storms, FMD needs to monitor the wash for any excess debris deposition and clean it, as needed.

Subarea 10 has an area of 81 acres and is 100 percent burned. During a major storm, an estimated 27,900 cy of debris may be produced. The upper portion of this subarea consists of hillsides abutting a developed community within the City of Los Angeles. Public Works sent a letter to the City offering help in providing engineering advice to residences. The City has not yet responded to the offer. The lower portion of the subarea may produce debris flows, which will deposit in the U.S. Army Corps of Engineers' Lopez Flood Control Basin.

Subarea 11 has an area of 78 acres and is 100 percent burned. During a major storm, an estimated 26,900 cy of debris may be produced. Debris flows may potentially impact a residence at 12100 Harding Street. WRD staff has given engineering advice to the resident.

Subarea 12 has an area of 254 acres and is 91 percent burned. During a major storm, an estimated 56,000 cy of debris (adjusted sediment production due to burn) may be produced. The subarea abuts a developed community within the City of Los Angeles. Public Works sent a letter to the City offering help in providing engineering advice to residences. The City has not yet responded to the offer.

Subarea 13 has an area of 752 acres and is 29 percent burned. During a major storm, an estimated 91,000 cy of debris (adjusted sediment production due to burn) may be produced. Debris flows may deposit at Pacoima Canyon Road that leads to Pacoima Dam. This may impede access to the dam. During storms, FMD needs to monitor the road and clean it as needed to maintain access to the dam.

Subarea 14 has an area of 327 acres and is 98 percent burned. During a major storm, an estimated 73,000 cy of debris (adjusted sediment production due to burn) may be produced. Debris flows from this subarea will be contained in the watercourse of Limekiln Canyon and will pass under Gavina Avenue south of Pacoima Canyon Road and discharge into Pacoima Wash, which at this location is privately owned. Excessive debris flows may impact the intersection at Gavina Avenue and Pacoima Canyon Road. The intersection is within the City of Los Angeles boundary. The streets at this location are posted as private roads.

Subarea 15 has an area of 621 acres and is 100 percent burned. During a major storm, an estimated 119,000 cy of debris may be produced. The Karl Holton County Probation Camp may potentially be impacted by debris flows. WRD staff provided engineering advice to Ms.Carolynn Briggs at the site. Debris flows may potentially impact Little Tujunga Canyon Road and create a traffic hazard. The culvert near Marek Street may potentially clog with sediment. During storms, RMD should monitor and clear Little Tujunga Canyon Road and underlying culverts.

Subarea 16 comprises of the watershed tributary to Pacoima Reservoir and has an area of 18,048 acres. The subarea is one percent burned. During a major storm, an estimated 1,282,000 cy of debris (adjusted sediment production due to burn), 25,200 cy of which would be from the 179-acre burned area, will deposit in Pacoima Reservoir. A 2005 survey of Pacoima Reservoir indicates it has a capacity of 9.8 M cy. Sediment deposition behind the dam should be evaluated after major storms to assess sediment impacts to the dam's outlet works.

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