Case Study

application	MSE Slope Slide Repair	**job owner**	**County of LA Dept of Public Works**
location	Los Angeles, CA	**engineer**	**M3CE**
product	Miragrid® 10XT & Miramesh® FR	**contractor**	**Ledcor Construction**
		date of installation	**August 2016**

TenCate develops and produces materials that function to increase performance, reduce costs and deliver measurable results by working with our customers to provide advanced solutions.

THE CHALLENGE

The Stoneview Nature Center at 5950 Stoneview Drive has been called an oasis in the heart of bustling Los Angeles, CA. A five acre parkland expansion in Culver City with a distant view of the famous Hollywood sign was created to provide more accessible open space and protection habitat for wildlife. The challenge in creating the park required slide repair of the adjacent hillside using a TenCate MSE slope as shown in Figure 1.

THE DESIGN

TenCate Geosynthetics worked directly with the design engineer using its Miraslope software to design the slope using Miragrid® geogrids as primary reinforcement and Miramesh® FR for surficial stability as shown in Figure 2. The slope consists of a 25-ft high 1:1 slope with a 25-ft high 2:1 slope located above for a combined total slope height of 50 ft. Miragrid® 10XT was designed at 2-ft vertical lifts extending 46-ft back into the slope to satisfy global stability for the high seismic peak ground acceleration of 0.708g. TenCate Miramesh® FR is a fire resistant permanent facing geogrid offering a 75-year design life exposed to sunlight while promoting vegetation growth and facing stability.
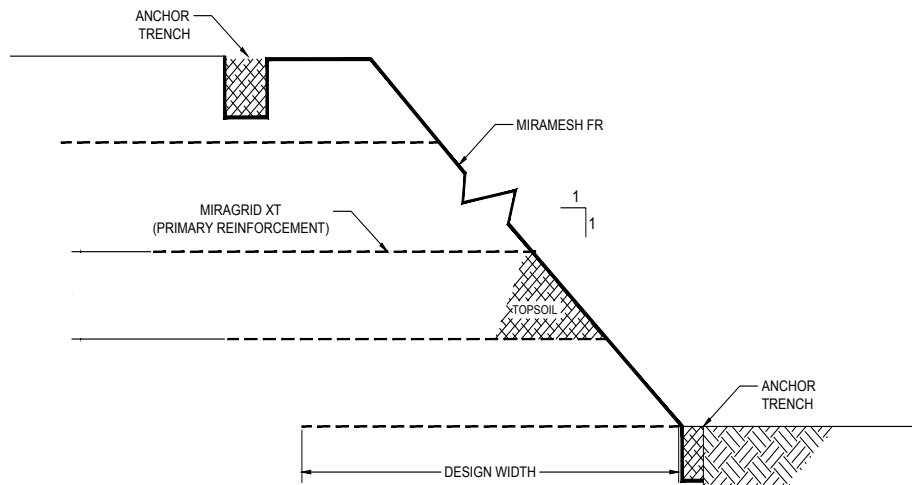

Figure 1: Typical Section of TenCate MSE Slope with Miragrid® geogrids and Miramesh® FR on slope face.

Figure 2: Completed TenCate MSE Slope with Miramesh® FR on the 1:1 slope face.

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THE CONSTRUCTION

The 12 ft wide rolls of Miragrid® 10XT were unrolled perpendicular to the slope face starting 6 inches behind the proposed finished slope grade and extending back into the slope as shown in Figure 3. Adjacent geogrid panels were butted together with no overlap. The contractor repeated the sequence of Miragrid® installation and soil compacted lifts to the full height of slope. The contractor overbuilt the slope by 12 inches to achieve soil compaction at the slope face. Once completed, the slope face was trimmed back to finished grade. Any exposed pieces of Miragrid® geogrids were easily trimmed off by the construction equipment operations. The 8 ft wide rolls of Miramesh® FR were unrolled down the slope face using a 6-inch overlap at roll edges as shown in Figure 4. In order to secure Miramesh® FR to the slope face, an anchor trench was used at the top and bottom on the slope and U-shaped staples were placed on 3.5 ft centers. Miramesh® FR retains the soil at the slope face as shown in Figure 5 and was also cast into a formed and poured concrete gunite drainage ditch on the slope face. At the recommendation of the landscape architect plant, cuttings were inserted thru the Miramesh FR into the slope face to promote vegetation.

THE PERFORMANCE

Using a TenCate MSE Slope to repair a slide area on an unusable piece of hillside, the County of Los Angeles was able to create an urban park to benefit the neighborhood and local wildlife.
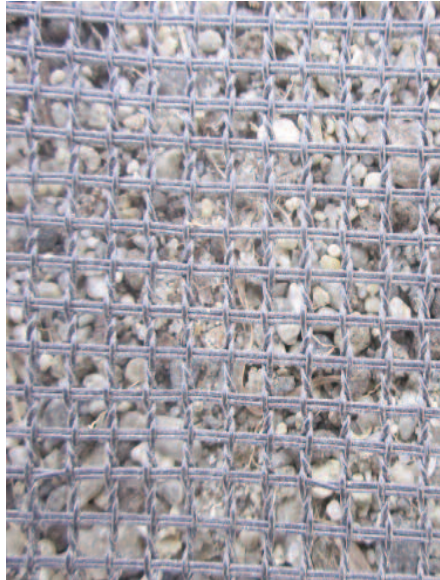

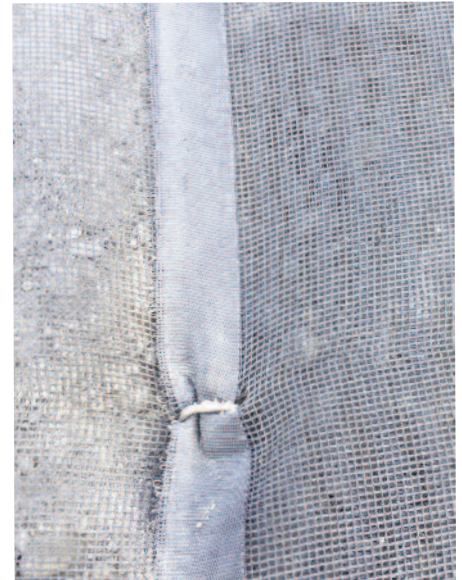Figure 5: Miramesh® FR retaining soil at slope face.

Figure 4: Miramesh® FR overlap and U shaped soil staple.

Figure 3: Miragrid® 10XT placed inside the slope.

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