

An expanding fault on a mountain near a Central Pennsylvania town is worried about a collapse. Inspecting and monitoring the fissure



With the wet weather officials were worried that the hillside would break apart and take down transmission lines. If that were to happen, a spokesperson said there could be downed power lines and live wires on the ground.

the ground knocks them down, the whole area will be electrified. All of the stores on the mountain will lose power and will be in a charged zone. Anyone standing in the area is in danger.

**Crack in hill near shopping center may be caused by cutting too far into hill to build mall**



WTMJ-TV shared a post.

April 28, 2016 · 🌐

Take a look at these up-close pictures of the fault behind Logan Town Centre. These were taken by Chelsea Robenolt. Her post in a Facebook group sparked a lot of interest and concern. Stay tuned, at 6 we talk about why police are concerned about nearby power lines.





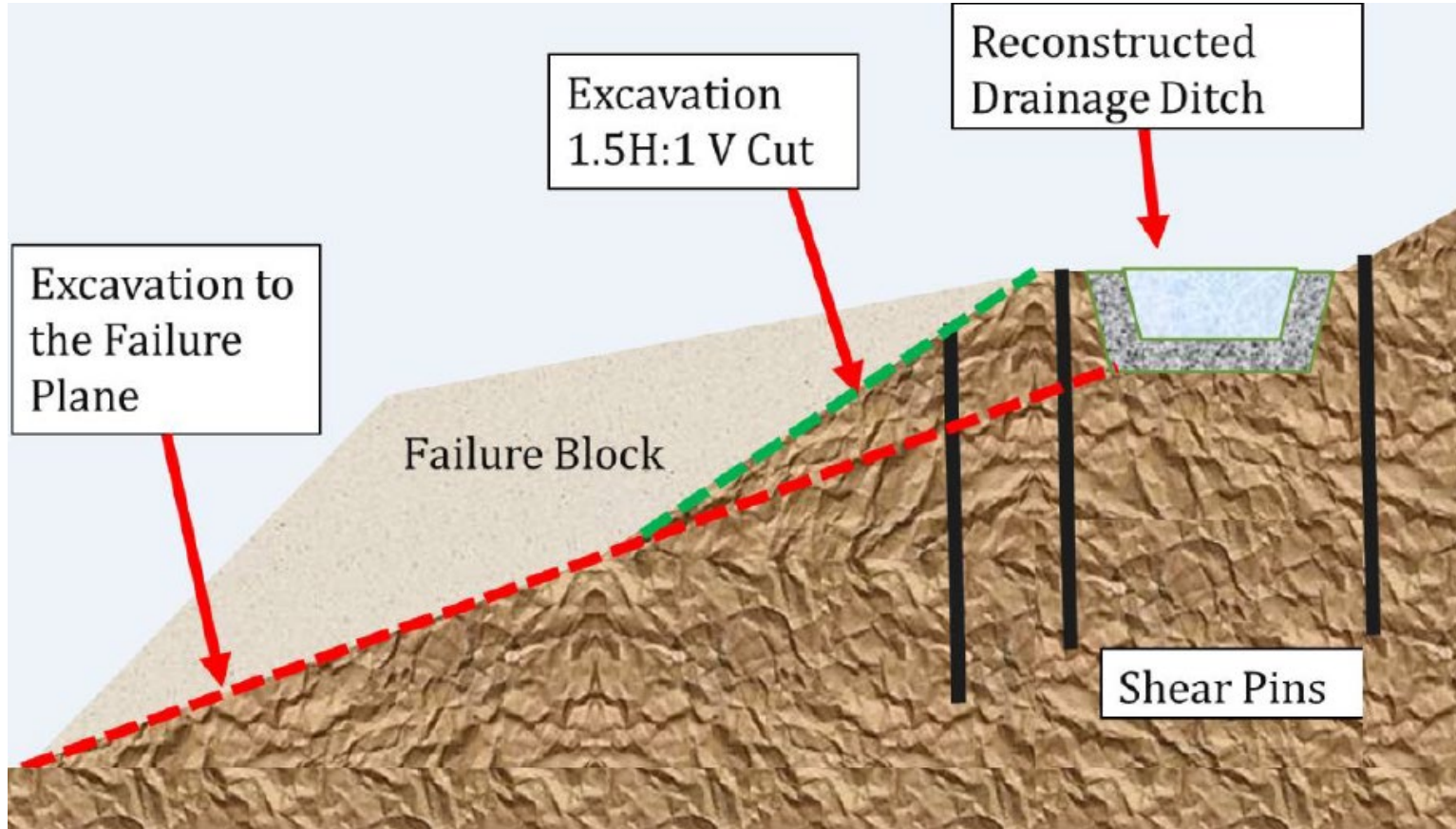


- 2"/day (5cm)  
- 0 beyond scarp

★ Surveying points



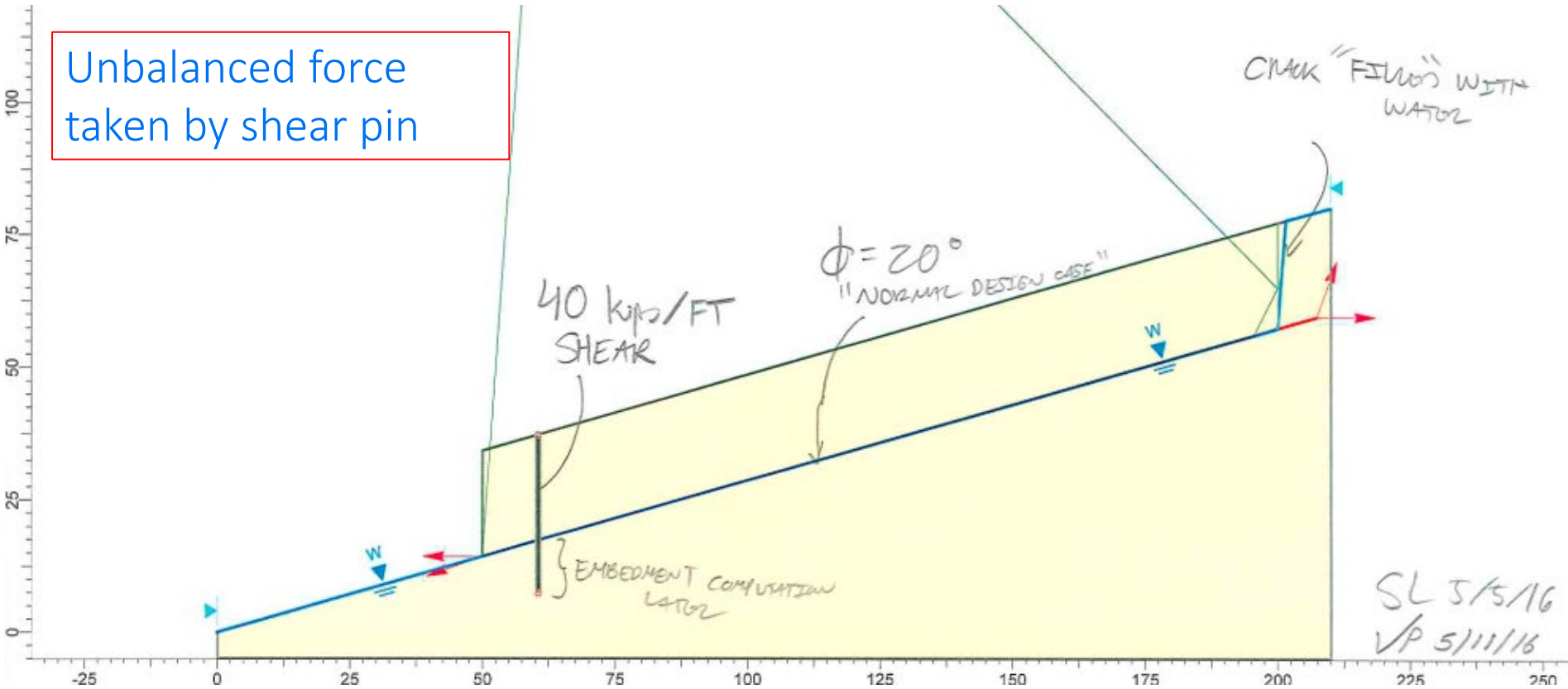
# Design: "Taylor Plane"



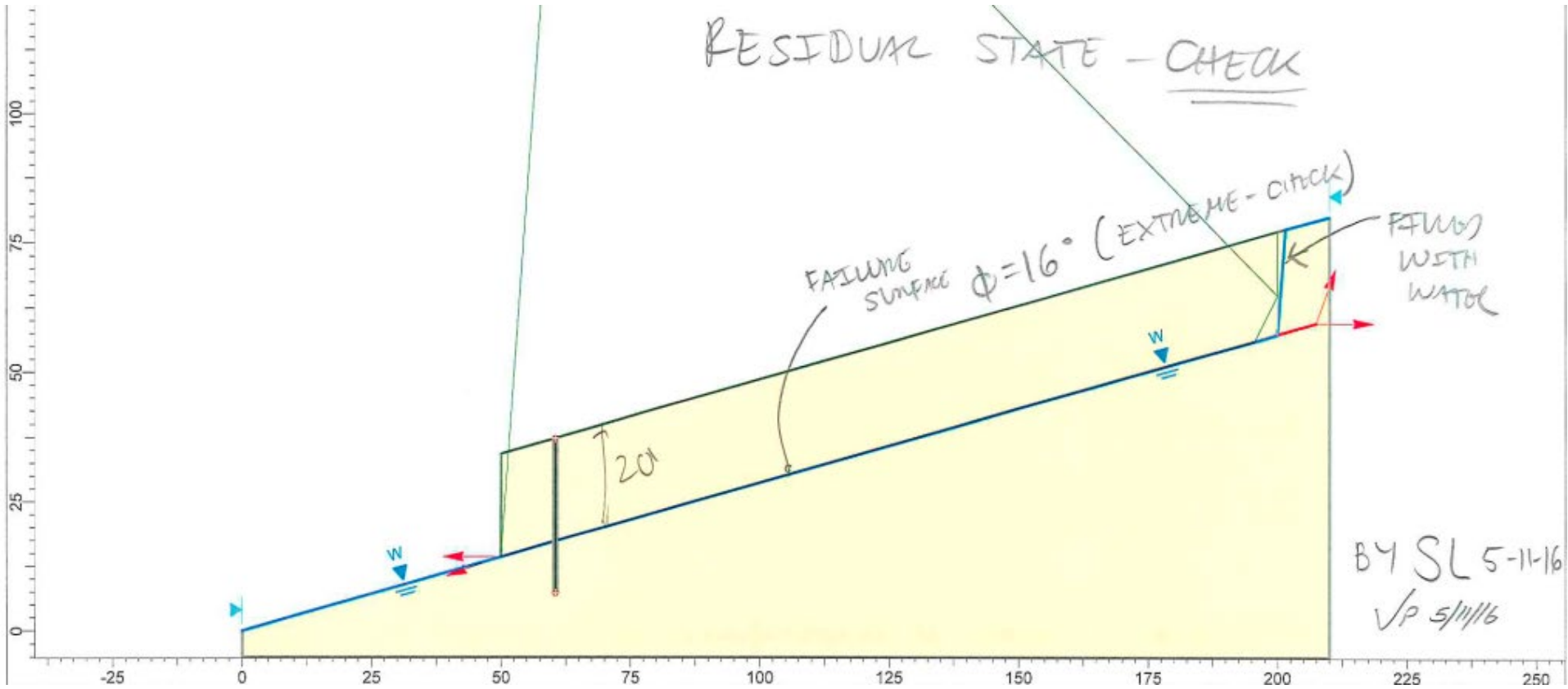
# Global Stability – Micropile Design

Global Stability FS= 1.5;  $\phi=20^\circ$

Unbalanced force taken by shear pin



FS= 1.2; Residual case  $\phi=16^\circ$



# Structural Desing

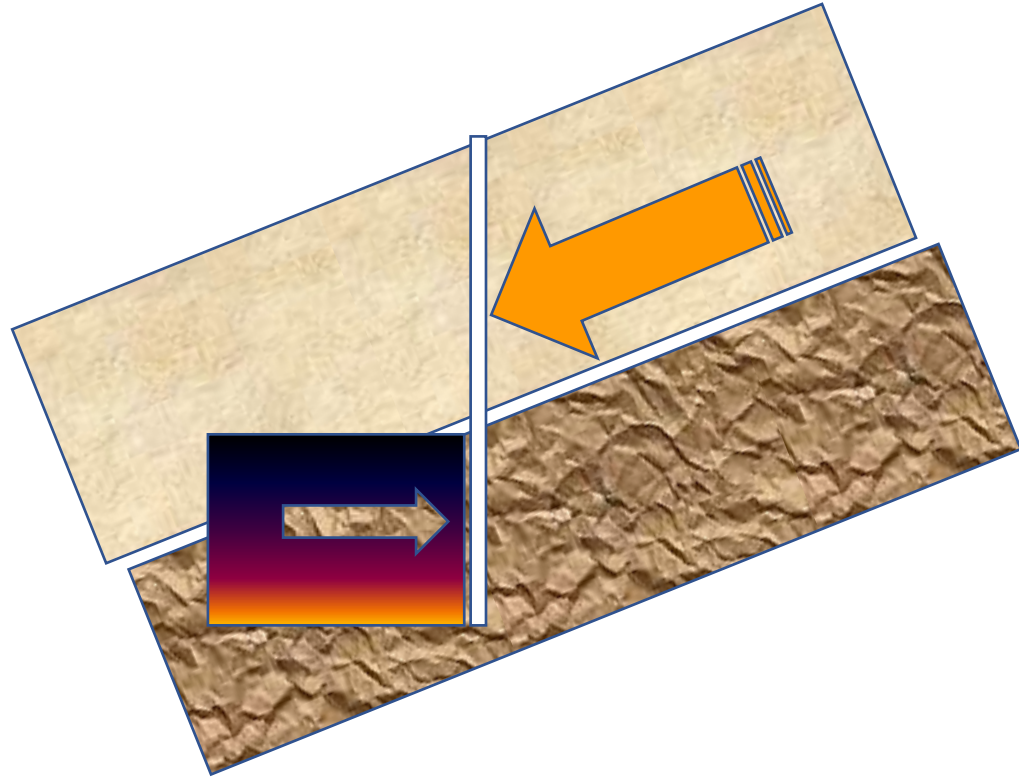
## Shear resistance

$FS_{\text{structural}} = 1.5:$

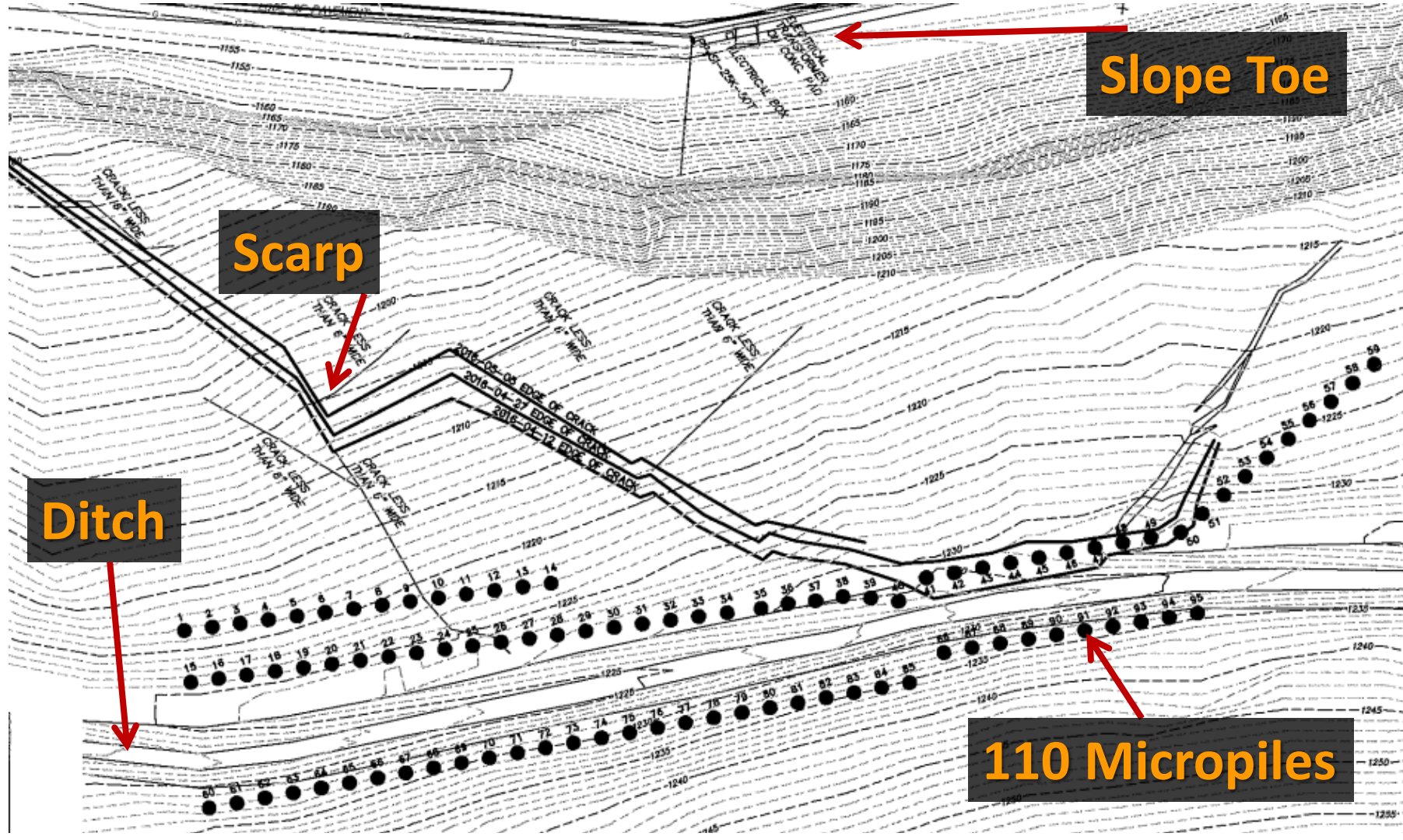
- No. 20 bars, 75 ksi (517 MPa), 30 feet (9.1m)
- Hole diameter 6" (152 mm), grout 3 ksi (20.7 MPa)
- 3 rows, 8 feet spacing (2.44m) along the row

# Embedment

- **Passive pressure below failure plane**
- **10 ft (3 m) below failure plane. FS = 2.0**







**Slope Toe**

**Scarp**

**Ditch**

**110 Micropiles**