

## SW027 Hillside and South Interceptor Ditch (SID) Vegetation/Erosion Controls Evaluation

On June 23, 2010, several areas on the SW027 hillside (the 903 lip area) were interseeded to increase the vegetation cover. In December 2010, several rows of Filtrexx wattles, which were filled with compost, woodchips, and seed, were installed across the hillside (Figure 1) to reduce the potential for sediment movement from the hillside. Per the requirements of the *Adaptive Management Plan*, the vegetation and erosion controls were evaluated after one full growing season. The end of the growing season was defined as the point at which most species of plants on the prairie had stopped growing, had gone to seed, and were beginning to senesce for the year. In 2011, the end of the growing season was near the end of September.

### SW027 Hillside Evaluation Vegetation

In July 2011, as part of the normal revegetation monitoring conducted in the Central Operable Unit, the SW027 hillside was resampled using the same random quadrat methodology that had been used in previous years. Table 1 shows the 2011 results and compares them to data from 2008 and 2009. No sampling was conducted in 2010 because the area had met the revegetation monitoring criteria as listed in the *Rocky Flats, Colorado, Site Revegetation Plan* in 2009. Therefore, monitoring had been discontinued at this location. The data show that total vegetation foliar cover has continued to increase each year on the hillside. Additionally, bare ground has decreased as litter cover has increased. Consequently, the erosion protection on the hillside is continuing to increase each year as the vegetation cover continues to increase. As more vegetation develops and dies back each fall and winter, it will ultimately lead to greater litter cover, which will further protect the ground surface.

Table 1. Revegetation Monitoring Summary of the SW027 Hillside

Date	# Samples	Percent Cover		
		Litter	Bare Ground	Foliar Cover
2008	30	63.1	23.2	44.5
2009	30	73.9	15.3	71.1
2011	30	73.2	13.3	76.1

For comparison, the reference area (undisturbed grasslands) data collected in 2011 for the Preble's meadow jumping mouse mitigation monitoring had the following cover values: litter = 90.1 percent, bare ground = 3.7 percent, and foliar cover = 70.4 percent. These comparison grasslands are similar in nature to those undisturbed areas surrounding the SW027 hillside disturbed areas. Total foliar cover is higher on the SW027 than on the undisturbed grasslands; however, litter cover was higher on the undisturbed grasslands. The higher litter value on the undisturbed areas is largely a result of time. The SW027 area has only recently been revegetated, and it will take several years for its level of cover to be as great as that found on the undisturbed grassland, where the litter cover has been in place for decades.

A visual evaluation of the SW027 hillside on October 11, 2011, showed that the vegetation on the SW027 hillside is doing very well. At this point, the vegetation cover on the SW027 hillside is well established, and litter cover should continue to increase over time.

### **Erosion Controls**

A visual evaluation of the Filtrex wattles on the SW027 hillside was made on October 11, 2011. The wattles were all still staked in place and holding up well. A few sprouts of new grass were observed to be growing out of the tops of some of the wattles. Additionally, the vegetation around the wattles had grown so well on the uphill and downhill sides of the wattles that many of the wattles were hidden by the grass when viewed down the length of the wattles (Figure 2). The wattles continue to do their job of slowing and filtering sheet flow that may occur on the hillside. The abundant growth of the vegetation on the uphill and downhill sides of the wattles should increase the effectiveness of the wattles by providing additional slowing and filtering of sheet flows on the hillside.

### **SID Evaluation**

On October 11, 2011, a visual evaluation of the SID locations was made where seeding was conducted and erosion matting was installed in December 2010.

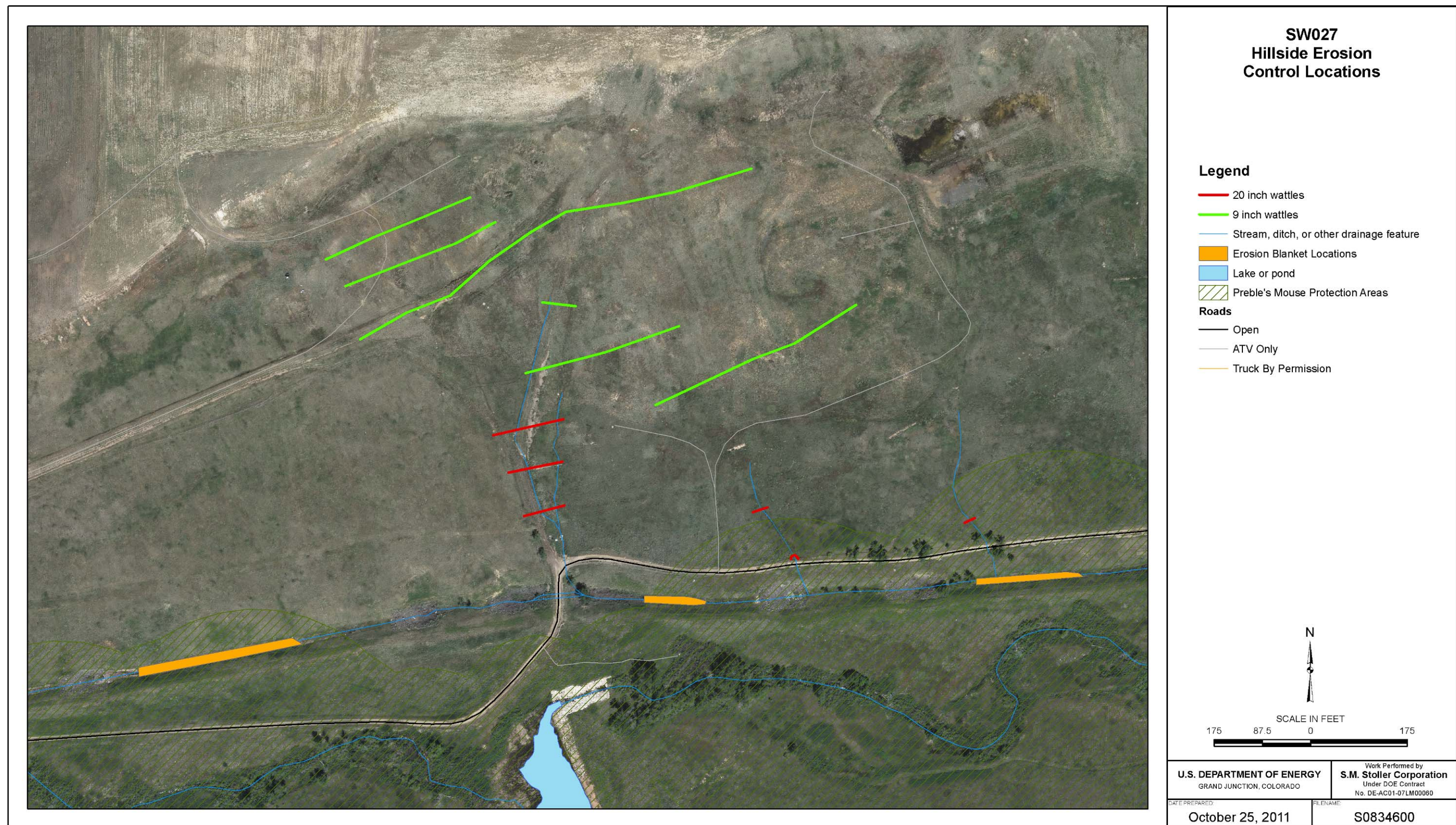
### **Vegetation**

The vegetation is establishing very well at the locations that were seeded and matted (Figure 3). Total foliar cover is estimated between 50 and 70 percent on average across the areas.

### **Erosion Controls**

The erosion matting continues to be staked and in place in the SID. The establishing vegetation, in addition to the pins that were initially installed, is now holding the mat in place (Figure 3).

Overall, the establishing vegetation and erosion matting are protecting locations where little vegetation had been present.



\\Hawk\env\projects\EBM\LT\S\11110056\03\007\S08346\IS0834600.mxd brown 10/25/2011 6:31:51 AM

Figure 1. SW027 Hillside Erosion Control Locations



*Figure 2. Top photo shows Filtrex wattle after installation on hillside in 2010. Bottom photo shows the same wattle with vegetation growth around it in 2011.*



*Figure 3. Top photo shows location in SID in 2010 after seeding and placement of erosion matting. Bottom photo shows location in 2011.*