

Proving Drivable Grass®

This study focuses on the use of a pervious, plantable, and flexible concrete pavement system called Drivable Grass® at a fire station located in Oceanside, CA. The site is located adjacent to the San Luis Rey River, which has a watershed size of 558 square miles. The San Luis Rey River outlets into the Pacific Ocean and is one of the most polluted beach outlets in Southern California. The river mouth is frequently closed to swimming and recreation, and has become a major threat to quality of life and tourism to the area.

The firemen used to wash their trucks on the asphalt outside the garage of the station up to a few times a day. As a result, up to several hundred gallons per day of polluted water used to run off directly into the river. The San Diego Regional Water Quality Control Board mandated the City of Oceanside had to make a change. At first, the city used a landscape area adjacent to the station to wash their trucks on. With limited budget, the area was underlain with visqueen and topped with gravel. The solution proved to be unstable to drive on, dirty, and high maintenance (gravel would sink into sub-grade and had to be replaced frequently), and ineffective in controlling the polluted run-off.



Original wash area in 06/05

Soil Retention, innovator and manufacturer of Drivable Grass®, got wind of the problem and proposed using the station as a test site for their new product. They hired well respected GMU Geotechnical of Rancho Santa Margarita, CA to design, test, and monitor the installation and performance of the Drivable Grass® area. The city engineering department plan checked the design and made additional recommendations. The purpose of the study was to prove that Drivable Grass® could handle heavy fire truck loading on a daily basis and resolve polluted fire truck wash runoff issues. Single rear axle trucks with axle weights of 28,000 lbs have driven over the product up to three times a day since October 2005. Deflection monometers were surveyed during set intervals and the product was inspected for wear and durability. Other studies such as truck boom loading and 75' ladder extensions were performed with great success.

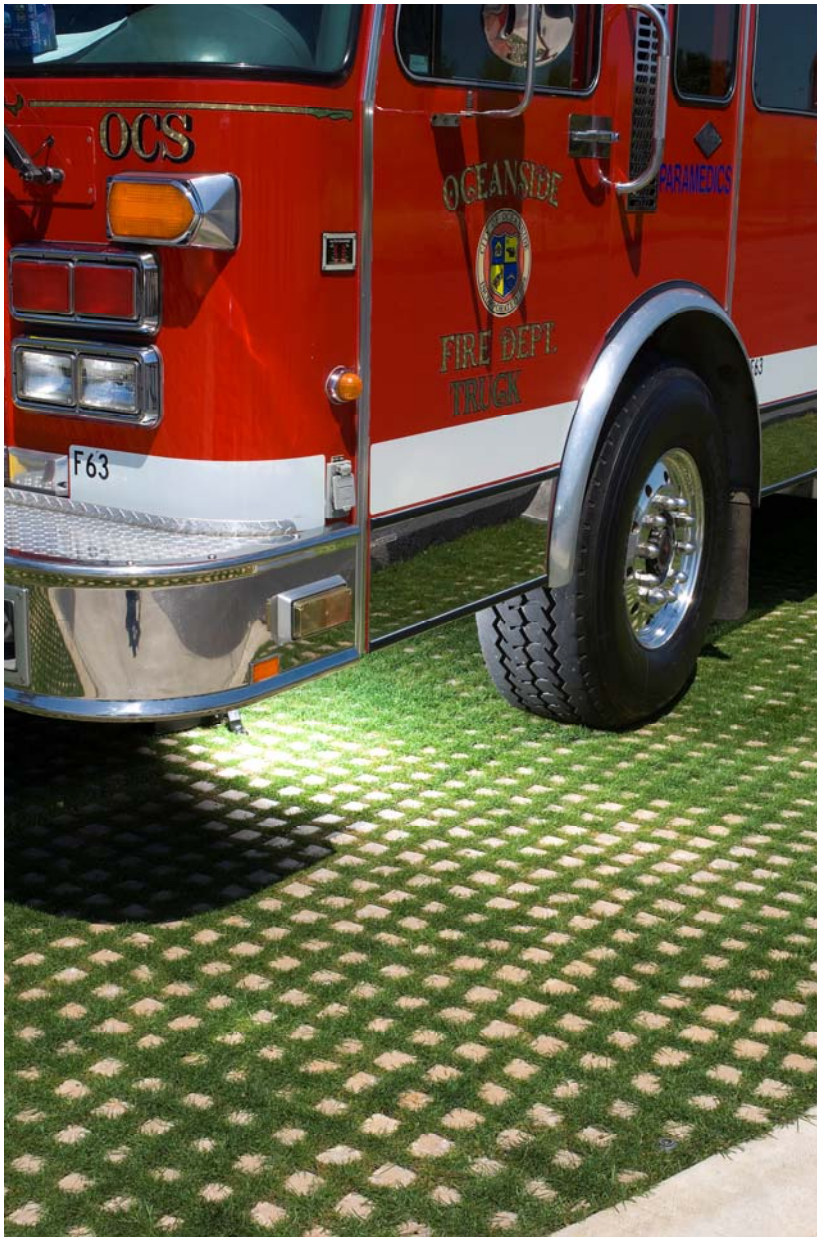


Finished test area was done with three different infills: cement stabilized gravel, sod, and a seeded portion.

The original installation consisted of a 2'x4' version of the Drivable Grass® product. Due to consumer feedback, Soil Retention modified the size of the product to 2' x 2' for ease of handling. Although the product relies on butting up closely similar to pavers, weight, and shear against underlying soils – some municipalities prompted proving the new 2' x 2' mat could take the same abuse.

Again, Soil Retention hired GMU Geotechnical to do additional work. The area chosen was a small area (20'x20'), which had experienced some deflection at the transition between the original concrete/asphalt and Drivable Grass®. The minor deflection resulted from a slight grade break at the transition, extreme use (over 1200 fire truck passes in the same place), and sub-grade yielding. A 2' X 20' trench was dug to study the section and confirm that only the sub-grade had yielded.

The truck wash now has experienced another 400 passes and counting in the six months since installation. The 2' X 2' product is performing equally as well to the old, and results will be published this spring. Further, the product conformed to the underlying soils without any cracking or unraveling at the surface that would have occurred with asphalt. The Oceanside fire department is extremely satisfied with the performance of Drivable Grass .



Seeded portion recommended for daily use. Grass has the added benefit of bio-filtration.

Most important, the truck wash off area had no more runoff. All of the water was stored and infiltrated through the product. The storage capacity at the surface is up to .4 inches of water. The infiltration rate of the section was calculated to be greater than 3 in/hr due to the granular infill and base materials used.

Drivable Grass® is now available nationwide due to heavy demand for the permeable, flexible and plantable nature of the product, as cities and counties nationwide are becoming more stringent about their stormwater requirements. For more information please visit www.soilretention.com. Drivable Grass® is protected by US and International Patents and Trademarks.