



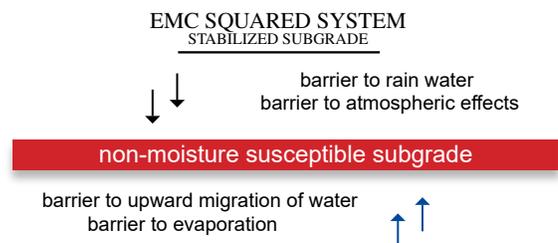
## The Product Technology

The EMC SQUARED System (EMC<sup>2</sup>) — Advanced Stabilization Product Technology. Clean. Green. Concentrated power to improve the stability of earth materials at low cost. Applied as compaction water additives to aggregates, soils and recycled pavement materials with pre-established compaction controls and construction procedures, preconditioning aggregate materials to behave more like conglomerate rock, clays like claystone, sands like sandstone, and silts like siltstone, paralleling the natural processes of consolidation and lithification. These stabilizer products have been in use for over three decades for construction of city streets and expressways, county roads, interstate freeways, industrial and renewable energy sites, military supply routes and runways, remote unpaved highways, border roads, haul roads, forest roads, oilfield access roads, temporary and permanent closures of construction sites and landfills, and for other applications.

When cement and lime are utilized for soil stabilization treatment, they typically create rigid soil layers that provide strength without necessarily reducing moisture flow through the layer. Rigid layers are subject to cracking, similar to concrete pavements, which must be constructed with expansion joints to compensate for natural shrinkage phenomenon that otherwise propagate random cracking. In soil and base course stabilization there is no way to provide expansion joints, so cracking is an expected side effect of cement and lime treatment. This reduces their overall effectiveness and often subjects pavements above to reflective cracking generated from below.

EMC SQUARED System treatments, on the other hand, typically create layers with improved flexural stiffness and retained elasticity. The EMC SQUARED System layer supports loads without a tendency to cracking. Equally important, it ordinarily reduces the rate of moisture flow through the layer, shedding water off the surface and impeding the upward capillary flow of moisture from

groundwater sources below. This ability to function in this manner as a moisture barrier is a revolutionary and fundamental advance in stabilization technology. The stabilized layer itself is not only stiffened, but it also impacts the stability of native soils below the constructed layers by promoting a more consistent and stable moisture distribution. Stabilization in this manner is largely achieved by stabilizing moisture content in the constructed layers and soils below, rather than by constructing a single rigid layer with cement and lime treatment that remains susceptible to moisture flow moving through the layer. As evidenced in field monitoring of freeway projects, this ability of EMC SQUARED System treatments to beneficially influence stability at a deeper level is resulting in smoother running roads and highways with extended service life. This is the multiplier effect, the exponential power of the EMC SQUARED System (EMC<sup>2</sup>) Stabilizer Technology. It promotes greater stability in soils below as well as within the treated layer.



EMC SQUARED System products are unique and uniquely effective. The moisture barrier aspect separates them from cement and lime. Their ability to beneficially improve soils with organic and high sulfate contents, and their capacity to stabilize gravel-surfaced roads discriminates the EMC SQUARED System products apart from cement and lime. The facility to more cost-effectively treat such a broad spectrum of aggregate and soil materials differentiates the EMC SQUARED System from any other form of soil stabilization treatment.

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