LITHIFIED Technologies US

LithTec™ Value Engineering

START HERE!

BUILDING LONGER LASTING HIGH-PERFORMANCE ROADS THAT COST LESS TO CONSTRUCT

Highway and Road Engineering Designs can save 33% to 50% over a traditional road project through *Value Engineering*.

For example, the Resilient Modulus of untreated base course is an average of 25,000 psi (M_R) and as a result, has a limit or cap on the Structural Number that is allowed in the design of a road. Lithified Technologies US has developed an *Advanced Lithification Soil Technology* that turns road base material into a rock-hard, water resistant base that can match or exceed the strength of asphalt. As a result, the structural credits (typically achieved in the thickness of the asphalt) can be transferred into the base layer at a fraction of the cost.

A LithTec™ treated base can achieve the same structural coefficient as asphalt, which is .4 to .45 and the same Resilient Modulus of asphalt, which is 500,000 psi (M_R). Achieving these numbers in the base layer suggests that every inch of LithTec™ treated base is equivalent to an inch of a semi-rigid pavement. As a result, a pavement design of 4" or 6" of asphalt surface could be reduced to 2" or 3" resulting in a savings of 50% to 67% of the cost of the asphalt.

The Asphalt surface can cost as much 2/3rds of the total road construction project. Employing *Value Engineering* as described above can provide 33% to 50% savings to the overall project.

• THE LITHTEC™ ALTERNATIVE

LithTec™ provides an alternative for Counties and State roads, the ability to apply a double pin chip seal surface on top of a LithTec™ treated base, which is the equivalent of chip seal on top of asphalt. This combination offers an all-weather, long lasting, high-performance chip seal road for as much as 75% savings over a traditional asphalt road, thus yielding more miles for your budget.

• GEOTECHNICAL SAMPLING

Lithified Technologies US trained Geotechnical Field Operators will travel to your road, sample appropriate cross sections, determine material variations, sample pits if required, and make observations regarding road history & drainage.

• PRODUCT CUSTOMIZATION

95%-98% of the finished product of your road base will be made up of your previously purchased on-site materials. Lithified Technologies US utilizes your on-site materials to customize a LithTec™ blend to maximize performance and road life.

• SOIL TESTING

Lithified Technologies US Geotechnical Lab completes extensive testing batteries on each roadway sample that include: **Plasticity Index (Pi), Plasticity Limit (PL), Liquid Limit (LL), Sieve Analysis, Soil Classification, California Bearing Ratio (CBR), Unconfined Compression (UCS), Flooded Unconfined Compression and Modulus Derivative (Mr).**

• ON-SITE PERFORMANCE TESTING

Lithified Technologies US Geotechnical Field Operators will support the installation of your customized LithTec™ blend with correlative Lightweight Deflectometer Testing that ensures that the testing you were provided in the lab is matching the results being achieved in the field. Operators will also measure moisture and depth of grind to quality control the most significant aspects of the installation process.

LithTec™ Treated Base Under Chip Seal Haul Road in Modesto, CA

Water and weight loads are the top two reasons that roads fail. Cement Treated Base (CBT) is extremely brittle and causes reflective cracking during the shrinking process. This is why the Portland Cement Association requires microfracturing, which compromises the strength of the base and creates openings for water to get into, which further undermines road foundations.

LithTec™ on the other hand can match the strength of CTB at half the dosage and has much higher ductility to prevent reflective cracking. As a result, micro-fracturing is not recommended with LithTec™. LithTec™ also has a 6 to 8 hour delay set time which enables you to open up larger sections of road and get a higher production rate per day, thus saving additional costs in equipment and labor. You use half the amount of product, half the amount of water and can complete the road twice as fast which means with less traffic disruption, mobilization is optimized.

218 CAMINO LA TIERRA, SANTA FE, NM, 87506 T 505-982-7444