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THOMAS L. BROWN, CWD, P.E., President

Mark-Lang, Inc.
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Attn: Mr. William F. Boswell.
Vice President

TO WHOM IT MAY CONCERN

Dear Sir / Madam:

Mark-Lang, Inc. of Millersville, Maryland is a competent contractor with the ability to successfully complete large and complex projects. They have demonstrated their competence on numerous projects that we had an opportunity to be involved with. Some of those projects include:

1. Construction of cement stabilized foundation pad for buildings and pavement for New England Motor Freight's 153-door terminal at Northeast, Maryland.

Cement stabilization of subgrade soils for approximately 22-acres to construct the slab on-grade and the parking apron for a truck terminal. The soils were fine silts and had history of poor building performances in the area. Mark-Lang, Inc. was brought in after another contractor had constructed a very poor product that was completely rejected. Mark-Lang performed impressively and completed the project to the satisfaction of the Engineer, Architect and the Owner. The terminal is in service for 7 years and counting without any problems.

2. Construction of cement stabilized subgrades for the extension of Taxiway and Apron pavements at Washington Dulles International Airport.

Mark-Lang cement stabilized the subgrade soils to enhance the stiffness and durability to support airfield pavements. Initially, the Engineer's intent was to use cement stabilization to provide an adequate construction platform. The acceptance test results on the stabilized subgrade soils convinced the Engineer's and the Owner to utilize enhanced subgrade support condition in design and reduce the overall pavement thickness. That led to significant savings for the project.

3. Construction of lime and cement stabilized subgrades for highway pavements for I-95 Express Toll Lanes in Baltimore, Maryland.
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This is one of the most challenging projects that we were involved with. The on-site soils had poor subgrade support conditions and challenging soil chemistry. Initially, the project called for lime stabilization of the subgrades. During the mix design, problems in the chemical reaction of on-site soils and lime were observed. Instead of sitting and claiming change orders for delays and differing site conditions, Mark-Lang started working with the Engineer to come up with a solution. The next step was to blend lime with Ordinary Type I/II Portland Cement and use it as a stabilizer for the acidic on-site soils. It worked slightly better but increased the manipulation costs significantly. Mark-Lang worked in close concert with the Engineer to study the problem and identified a cement plant in Martinsburg, West Virginia that had a supply of Type I Ordinary Portland Cement. The subgrade soils were successfully stabilized and the manipulations costs were reduced by almost \$1,000,000.

4. Construction of cement stabilized full depth reclaimed pavements to support Airfield Rescue and Fire Fighting (ARFF) vehicles at Washington Dulles International Airport (IAD).

The ARFF vehicles weighing more than 200,000 lbs. are needed for Emergency Response on an airport. The new ARFF 301 station constructed near Runway 1L-19R had old beat-up roads exhibiting extensive signs of failure surrounding the new station. The subgrade soils were extremely poor in terms of stiffness and drainage. The conventional fix was extremely expensive. Mark-Lang used an innovative process wherein the failed asphalt pavement was recycled through a process called “**full-depth reclamation**” (FDR) using Portland cement. This process provided the benefits of reconstruction without the substantial costs and environmental concerns. This procedure pulverizes the existing asphalt and blends it with underlying base, subbase, and/or subgrade materials, which are mixed with cement and compacted to provide a new stabilized base. A new surface is then applied, which completes the FDR process, providing a new roadway structure using recycled materials from the failed pavement. Because of cement stabilization, the new base is more uniform, stronger, and provides better long-term performance than the original pavement. The roads were constructed for a fraction of the cost (less than half) of conventional method and are in service for more than 6 years, without any reported problems.

We really like the methodical process adopted by Mark-Lang on any of these construction projects. Quality workmanship is practiced by all their employees on site. Their motto seems to be do it right the first time!

They are a rare breed of Contractor's that work in tandem with Design Engineer's to ensure that the end product lives up to the expectation of the specifications and intended performance. Their strict adherence to quality as part of their operational procedure makes it natural for them to adhere to strict guidelines and protocols on large and complex projects. During the construction process itself, we observed that they work closely with the Construction Inspector to ensure compliance with the project specifications.

We send our Junior Engineer's and Technician's to observe Mark-Lang's construction process and learn how to do things right!

Should you need any further information, please do not hesitate to call me at 202-387-0022 or E-mail me at isyed@tlbinc.net.

Yours very truly,

THOMAS L. BROWN ASSOCIATES, P.C.

