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# T.B. PENICK & SONS, INC.

1905 *Centennial* 2005

INNOVATIVE CONCRETE SYSTEMS

## T.B. Penick & Sons Innovative Concrete Systems

Put History on Your Side

July 2006

Dear Christina,



[T.B. Penick at U.S. Grant Hotel site \(1906\)](#)

In 1905, Thomas Beverly Penick arrives by train in San Diego with his wife, three daughters, and one-year-old son, Lloyd. Originally from Kentucky, T.B. has left his drayage and contracting business in Durant, Oklahoma in search of a better life. The Penicks found a house and a barn in Logan Heights, and T.B. headed for Julian in search of a team of horses. Thus begins a family construction firm that would bear T.B.'s name into the next millennium.

Christina Palpal-Iatoc, Business Development

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### *T.B. Penick Completes New Caltrans District 11 Headquarters*



The new 301,000 square foot office building campus is located on 10.8 acres between Old Town State Park and the San Diego River.



Designed by Wallace Roberts & Todd, the campus landscape is a composition of entry courts, pedestrian plazas, play areas and parking lots. New trees along Taylor Street are species that were introduced to Old Town through the Mission, Mexican, American historical period in 1769. These include Canary Island palms, Mission peppers, olive, oak, eucalyptus, and jacaranda. The parking lot takes its curved forms and native riparian materials from the river. Bioswales in the parking lot are engineered to collect storm water and let it soak into the ground.



Lithocrete was chosen for the flatwork because of its durability and its monolithic and structurally sound properties. Inspired by the materials and surfaces found at T.B. Penick's showroom and facility, WRT developed a custom blended aggregate mixture named "Old Town Mix," in honor of the project's location, to complement the building's design and colors.



The pattern at the auto court is the freeway interchange of Interstate 5 and 8. The pattern was sawcut over the Lithocrete surface and our Reactive Coloration System was applied over the pattern to enhance the design. It stretches from Taylor Street to the central fountain. The architects at Carrier Johnson used an abstraction of this pattern on the project's metal gates.

Reactive Coloration was also used in the cafeteria area of the campus. The project also includes remarkable public artwork along Taylor and hung from the trellis.

[Click here to request the new TBP Architectural Concrete Binder](#)

### *Featured System: Grasscrete*

#### **Paving Design for River and Storm Water Channels and Fire Lanes**

Grasscrete is the environmentally friendly and aesthetically pleasing alternative to traditional concrete channels. Grass and concrete is an ideal means of providing



necessary functional stability with the ability to maintain environmental equilibrium. Care needs to be taken, however, in the establishment of a correct specification for this products, which though similar in visual effect with other, varies widely in practical capability.

Grasscrete can essentially be described as a cellular reinforced concrete paving layer. It is created by site pouring concrete around recycled plastic former upstands and steel mesh reinforcement. After casting and intial curing, the tops are then removed to leave voids through the formation. Topsoil is then infilled to the voids prior to grass seeding. Such a structure is not inter-reliant upon grass cover for stability. As a result, it does not suffer from seasonal variations in capability and enables a consistent design to be achieved with hydraulic flow rate capability proven at over 8 meters per second.

In addition to its use as a revetment armor layer, the system is also widely used for vehicular applications. It can accept, subject to type, vehicle loads up to 40 ton gross vehicle weight. With structural integrity ensured by the mesh reinforcement, the paving layer resists differential settlement. As a consequence, the surface level remains even throughout.

### **Precast blocks v. Grasscrete**

Often called Grasscrete, a precast block performs a totally different function.

In terms of structural stability under both hydraulic flow and vehicular use, un-tied blocks, are, at best, of an intermediate classification for flow rates up to 4 meters per second. Their stability is created by a combination of frictional binding of grass between joints and root penetration to the sub- grade.

In practice, however, this suggests a number of problems.

a. Whether by seasonal growth or pattern or stress, grass growth can never be a guaranteed form of consistency. As a consequence, some blocks will inevitably move under load and a progressive failure by wider scale is therefore likely to result.

b. The reliance upon root anchorage can be a tenuous one. Most roots do not penetrate to a sufficient depth to anchor and those that do may often fail to penetrate underlying geotextiles.

### *Curing Decorative Concrete*

ACI-302R, "Guide to Concrete Floor and Slab Construction," covers concrete curing, but contains little information on curing decorative concrete. Some curing methods that are suitable for normal concrete may cause problems when used



on decorative concrete and, in some cases, initial curing may have to be delayed. The following considerations should be addressed in a meeting with the architect, engineer, owner, and decorative concrete contractor during the planning stages of a decorative concrete project.

#### CURING CONSIDERATIONS:

- Traditional curing methods, especially water curing, may cause excessive discoloration and efflorescence.
- Slabs treated with liquid membrane-forming compounds may not be able to receive a reactive stain treatment or overlay until the compound is removed.
- Slabs treated with a powdered release agent and textured with mats are unable to accept liquid membrane-forming compounds until the release agent is washed off one to three days after the job is completed.
- Curing paper may be better suited for interior spaces scheduled for a reactive stain treatment.
- Don't rely on dissipating liquid membrane-forming compounds to make a surface suitable for reactive staining or overlays because the time required to dissipate can vary and is affected by the amount of sunlight exposure.
- Monomolecular films or evaporation retarders may help prevent rapid moisture loss from the surface when the concrete is still plastic.
- Manufacturers' recommendations should always be followed for the specific product and or application.

A different curing approach may be needed for different types of decorative concrete applications. Before the project starts, it is imperative for the construction team to be aware of the results a curing method will produce. The specified curing method should always be applied to the mock-up prior to the start of the project. The mock-up should be treated with the same coloring, texturing, and sealing methods to be used on the actual project. The decorative concrete contractor must be involved in this decision to ensure that the project will meet the specified requirements of the owner.

Decorative concrete contractors will work with owners and architects in developing specifications and constructing mock-ups to address their appearance requirements. If you have any questions, contact Christina with T.B. Penick & Sons, Inc. at (858) 558-1800 ext. 163.

### *Lithocrete is seeking licensees in specific territories worldwide*



Lithocrete is looking for the preferred concrete contractor in regions where we currently do not have an existing Lithocrete installer. If you know of an architectural flatwork contractor in your area that may be a good fit for the Lithocrete system, please contact us.

Maximum consideration will be given to parties who are already established in the concrete industry and have a proven ability and resources to promote and expand their business

Existing Lithocrete Installers:

- T.B. Penick & Sons, Inc., San Diego, CA
- Shaw & Sons, Inc., Costa Mesa, CA
- Concepts in Concrete Construction, San Diego, CA
- Robert T. Hill & Assoc., Chico, CA
- Jeffo Concrete Construction, Tuscaloosa, AL
- Progressive Concrete, Phoenix, AZ
- Colorado Hardscapes, Denver, CO
- ConcreteScience, Corcoran, MN
- Architectural Concrete Systems, Grove City, OH
- Belarde Co., Woodinville, WA
- Beyond Concrete, Keyport, NJ
- Creative Concrete, Albuquerque, New Mexico
- Cypress Bomanite, Quezon City, Philippines
- Artistic Concrete, El Paso, TX

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