COUNTY MATERIALS CORPORATION

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ADVANTAGES OF USING CONCRETE PAVERS IN RESIDENTIAL APPLICATIONS

When seeking to create or update a home's outdoor space, the installation of concrete pavers can provide an eye-catching, cost-effective paving solution. Interlocking concrete pavers add character to a home, while functioning as a durable, low-maintenance, easy-to-install paving option. Their varied uses, including driveways, walkways, pool surrounds and patios, allow each homeowner to incorporate concrete pavers into their unique space without sacrificing style or budgetary requirements. The numerous advantages of concrete pavers make them a superior paving choice for homeowners.

Enhanced Aesthetics

Simply put, pavers look beautiful and make a great first impression. Concrete pavers provide an appeal that carries an unspoken message of quality, sophistication, and lasting performance. Where aesthetics are a priority, interlocking concrete pavers can provide beautiful and stunning, yet functional, paving in place of alternatives such as asphalt or poured concrete.

County Materials' Lifestyle® and Grand Lifestyle® Pavers in Haven make for a functional and inviting backyard patio

From the designer's perspective, concrete pavers are exceptional for their sheer creative potential. Available in an array of shapes, sizes, colors and textures, pavers allow unparalleled choice in product selection and application. Whether the desired look is weathered and rustic; classic and timeless; or modern and contemporary, pavers are the perfect medium for creating unique designs.

Economic Value

At first glance, the price per square foot of concrete pavers may be greater than that of alternative materials. However, upon examining the durability, flexibility, low maintenance, and quick installation of concrete pavers, their lower life cycle

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costs can often prove to be the most cost effective option for a residence:

Durability

Concrete pavers are manufactured and installed to easily withstand repeated pedestrian and vehicular traffic, as well as the everyday wear-and-tear of family life. ASTM guidelines for concrete pavers in the U.S. specify a minimum compressive strength of 8,000 psi; this is about twice as strong as the typical 4" concrete slab driveway. In fact, some manufacturers produce concrete pavers that far exceed these industry guidelines. Properly installed concrete pavers, following industry recommendations, will easily last 20-30 years with minimal maintenance and with proper care can be expected to last 50 years or more. The high-strength concrete paving units offer resistance to freeze-thaw cycles and deicing salts, high abrasion and skid resistance, minimal damage from petroleum products, and do not experience indentations from high temperatures.

Flexibility and Low Maintenance

Driveways and patios installed with pavers typically perform very well when subjected to freeze-thaw cycles and minor movements of the earth. This results in a longer-lasting, lower-maintenance installation. While movement control joints are intentionally added to poured concrete to accommodate the stress of settling and shifting of the earth beneath, the spaces between concrete pavers act as built-in control joints. Cracking and degradation of the paver surface is minimized because the sand-filled joints act to transfer the load without damaging the pavement surface.

Maintenance and replacement cost over time is an important consideration when pricing paving materials, and concrete pavers shine in this department. While asphalt requires periodic resurfacing and concrete repair can be expensive, pavers require only light cleaning and/or minor restoration every few years.

One primary advantage of pavers is that they can be taken up and replaced without compromising the aesthetics or the structural integrity of the pavement. If a paver gets dislodged, it can be re-set very quickly and inexpensively. In the same way, concrete pavers can be easily and seamlessly added if a driveway expansion becomes necessary. They also facilitate incremental construction, affording a homeowner the opportunity to add paver areas in phases, depending on site and budget considerations.

Quick, Efficient Installation

Pavers require no cure time and can be installed in weather not conducive for alternative materials. Installers certified by the Interlocking Concrete Pavement Institute (ICPI) or by a paver manufacturer can provide efficient and proper laying of concrete pavers. Furthermore, modern mechanical installation methods allow even large areas to be paved quickly and cost-effectively. Hiring a professional contractor experienced in installation is advised.

Sustainability

Pavers are a smart environmental choice for many applications; it's no coincidence that concrete pavers are becoming more popular as sustainability becomes a priority for homeowners. Concrete has a low embodied energy; this means it takes less energy to produce than materials such as plywood, glass, and steel. Compared to asphalt, concrete requires only about one third the energy to produce. Furthermore, the exceptional durability of concrete pavers means that fewer resources are needed to repave and replace surfaces over time. They simplify surface and subsurface repairs by reinstating the same paving units; there are

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Are Concrete Pavers Practical in Northern Climates?

"Pavers look like a great option, but will they hold up under extreme winter conditions?"

This is a common concern in northern areas where pavement materials are subjected to alternating freeze-thaw cycles, salt applications, and snow removal. People often worry that concrete pavers won't hold up as well as other options, or that plow blades will knock them out of place.

When properly installed by a qualified contractor, concrete pavers withstand repeated freeze-thaw conditions easily. The joints between pavers allow for expansion and contraction, so heaving and cracking is unlikely to occur. Pavers perform similarly to poured concrete under the snow plow. Textured paver surfaces will require snow removal equipment to have the proper spacing, bumpers and rubber blade guards to protect the surface of the pavers from possible scuffs or markings. If a shovel or plow blade should happen to catch a paver edge and move or crack it, replacement is relatively quick and inexpensive.

Permeable pavers also perform especially well in winter conditions. Snow and ice tends to melt faster from permeable surfaces because their wider joints facilitate excellent drainage. This can reduce the need for plowing and/or salt applications.

no unsightly patches or weakened pavement from utility cuts. Concrete pavers also provide heat island mitigation. Many urban areas suffer from a phenomenon known as the heat island effect, wherein light and heat reflection from the built environment can raise local temperatures in warm weather by as much as 22° at certain times of day.

Concrete pavers – especially light-colored ones – can help address this uncomfortable and dangerous situation by reflecting heat and light.

Permeable concrete pavers deserve special mention as a sustainable construction material. These concrete pavers are specially installed to filter storm water runoff through the paver joints to base and sub-grade layers that act as natural filters by capturing many harmful pollutants. Permeable pavers are widely recognized as an effective solution for reducing up to 80% of total suspended solids (TSS) levels in storm water to EPA-mandated standards. Runoff from paved surfaces can cause serious environmental damage such as erosion and silt build-up in rivers, lakes and streams, as well as impact fish and other wildlife. By allowing rain and snowmelt to infiltrate on site, permeable paver systems reduce or eliminate runoff problems. Permeable paving eliminates surface puddles and local flooding, and is typically required in many waterfront applications to protect fragile shorelines.

Furthermore, with the use of a permeable paver system, a higher percentage of rain and snowmelt percolates naturally down through layers of aggregates to maintain healthy groundwater levels. Adequate levels of groundwater promote survival and growth of trees and other plant life.

Permeable pavers like County Materials' H_2O Pro® Pavers are ideal for residential properties on lakes, rivers or streams. H_2O Pro Pavers functionally help reduce the impact on the environment while maintaining the aesthetics one expects from a paver system.

Local governments may offer tax incentives, utility fee reductions, expedited permitting

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or approval for demonstration projects to encourage use of permeable pavers as a sustainable best management practice. Additionally, while permeable pavers often have higher costs initially, they do not require the installation of underground drainage piping and reduce the need for continuous expansion of drainage infrastructure.

How to Ensure Success for Your Concrete Paver Project

Whether their primary concern is sustainability, budget, or superior aesthetics, increasing numbers of residential property owners are turning to concrete pavers for their superior performance and exceptional value.

The number one way to ensure that your concrete paver project meets expectations is to make sure the installation is installed correctly the first time by a professional contractor certified through the Interlocking Concrete Pavement Institute (ICPI) and through a manufacturer such as County Materials. More project owners and construction professionals are requiring landscape professionals to have certified installers onsite performing the work; they recognize the value of using certified professionals who stand behind their workmanship and uphold industry standards for interlocking and permeable paver applications.

About County Materials

County Materials Corporation is a family-owned, American-based manufacturing company and leading source for construction and landscape products. Its headquarters are in Marathon, WI, where it was founded in 1946. The company has grown into a diversified organization that supplies products for growing communities at more than 44 locations across the Midwest. Follow County Materials Corporation on LinkedIn for updates about the company's latest concrete innovations and charitable activities. For more information, visit: www.countymaterials.com.

Resources

Erin Ashley, Ph.D., LEED Ap1 and Lionel Lemay, P.E., S.E., LEED AP, Concrete's Contribution to Sustainable Development, published in the Journal of Green Building, Fall 2008.

Heat Island Effect, U.S. EPA website: http://www.epa.gov/heatisland/.

South Carolina Department of Transportation publication, Traffic Calming Guidelines, revised 2006.

American Society for Testing and Materials (ASTM) C 936, Standard Specification for Solid Interlocking Concrete Paving Units