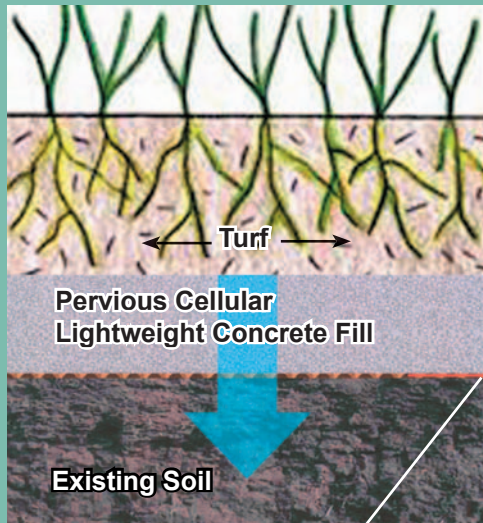


# What Can Pervious Cellular Lightweight Concrete Do?

## Provide Needed Strength and Drainage Characteristics



Geotextile (if needed)

### Pervious Cellular Lightweight Concrete versus Lightweight Aggregate:

- Pervious cellular lightweight concrete weighs considerably less than lightweight aggregate.
- Pervious cellular light-weight concrete solutions are less expensive than light-weight aggregate solutions.
- Pervious cellular lightweight concrete is self-leveling and can be pumped into areas that are hard to access.
- Pervious cellular lightweight concrete requires no compaction.

When free-draining, lightweight material solutions are required, versatile pervious cellular lightweight concrete (PCLWC) can be engineered to meet whatever strengths and drainage characteristics are needed for the project. In sports field applications, PCLWC provides increased compressive and shear strength and a permeable separation between topsoil and native soils, allowing natural moisture to pass through the material and enter the subsoil below.

A key benefit to selecting PCLWC over non-permeable material solutions in sports field applications is the ability to minimize/eliminate the time and costs involved in design, construction, and installation of extensive (and expensive) field drainage systems. Other benefits of PCLWC include:

- High Bearing Capacity – PCLWC is stronger than soils or compacted fills, providing strength and stability without disturbing/redirecting natural water flow.
- Low Density – PCLWC provides load reduction without sacrificing strength or stability, ideal for reducing vertical loads over weak soils.
- Environmental Soundness – PCLWC has enhanced filtering capability, which keeps the ground water cleaner.

Other free-draining PCLWC applications include bridging over existing unsuitable weak soils for load reduction, replacement of unsuitable materials, greenways and green wedges, embankment construction for ramps and bridge approaches, open cut backfills, and backfilling of MSE panels and retaining walls.

When weight and drainage are vital considerations, pervious cellular lightweight concretes provide proven, cost-effective, engineered, project solutions.

# What Can Pervious Cellular Lightweight Concrete Do?

## Improve Permeable Pavement System Performance

Using pervious cellular lightweight concrete (PCLWC) under permeable pavement enhances stormwater system performance in many ways, especially on project sites with slow drainage characteristics.

Crushed rock used in the reservoir courses of active permeable pavement stormwater mitigation systems creates void areas of approximately 30 to 40 percent and can retain 2.6 to 3.0 gallons of water per cubic foot. PCLWC creates void areas in the range of 50 to 60 percent, and retain 4.0 to 4.5 gallons of water per cubic foot. Using PCLWC as the storage reservoir in active permeable pavement stormwater mitigation systems reduces the amount of excavation needed for a given storage capacity or increases reservoir capacity for a given depth ... by as much as 50 percent.

Other benefits of using PCLWC in permeable pavement applications include:

- Enhanced Filtering Capabilities – Testing shows PCLWC filters hydrocarbons and heavy metals.
- Stability – PCLWC creates a solid consistent subbase, which will not shift over time and will not deteriorate or settle into the soil.
- Environmental Stewardship – PCLWC reduces the need for mining, processing, and delivering crushed stone to the project site, which trims the project's carbon footprint and extends the useful life of existing local aggregate operations, delaying or helping to eliminate the need to permit and open additional aggregate operations.

Pervious cellular lightweight concrete improves permeable pavement system performance and cost-effectively supports retention of excess runoff from adjacent roofs or pavement surfaces ... a best practice in the control of “first-flush” stormwater. PCLWC can also be used effectively as the storage medium under parking lot infiltration islands and other parking lot Low Impact Design (LID) features.



### Other applications for pervious cellular lightweight concrete include:

- Self-leveling fill
- Water retention
- Scour protection
- Annular fill
- Bridge Approaches
- Pipeline Beds
- Foundation drains
- Tunnel backfill
- Sports Fields
- Golf Courses
- Soil stabilization
- Drainage Structures
- Landslip repair fill
- Greenhouse floors
- Underground tanks
- Impact Absorption
- Underground pipelines
- Abandoned mine fills
- Permeable road base
- Gabion retaining systems
- Free-draining, load-reducing fill.