

# STORMWATER MANAGEMENT



## PRODUCTS TO WEATHER THE STORM

The rain will come. And occasionally it will be a deluge. Your task is to contain it so it can be treated and released at an acceptable rate – through an underground stormwater system. With all things considered, only one product stands out as a clear choice: precast concrete.

In developed areas, underground stormwater systems are sized to channel runoff from heavy rain to nearby bodies of water. The material that makes up the components of these systems must withstand not only the volumes of water flowing inside them, but extreme loading conditions on the outside as well. And in both cases, they must stand up to corrosive elements. Precast concrete steps up to these challenges.

Precast stormwater treatment systems consist of manholes, catch basins and pipes. These vital infrastructure components are manufactured by precast concrete plants every day and are readily available throughout North America.

**precast**  
**makes it possible™**



# STORMWATER MANAGEMENT

## STRENGTH

The strength of precast concrete gradually increases over time. Other materials can deteriorate, experience creep and stress relaxation, lose strength and/or deflect over time. The load-carrying capacity of precast concrete is derived from its own structural qualities and does not rely on the strength or quality of the surrounding backfill materials. Studies have shown that precast concrete products can provide a service life in excess of 100 years. In severe conditions, additional design options are available to extend the life of precast concrete products.

## QUALITY

Because precast concrete products typically are produced in a controlled plant environment, they exhibit high quality and uniformity. Problems affecting quality typically found on a job site – temperature, curing conditions, poor craftsmanship and material quality – are nearly eliminated in a plant environment.

## EASE OF INSTALLATION

Setting precast concrete structures into place is easier because they do not require special rigging (such as fabric slings) to avoid structural damage. Other materials can suffer structural damage during compaction. In contrast, precast concrete is less susceptible to vibratory damage while the surrounding soil is backfilled. Consequently, backfilling operations can usually proceed much faster around precast concrete structures.

## REDUCED WEATHER DEPENDENCY

Precast concrete increases efficiency because weather will not delay production. In addition, weather conditions at the job site do not significantly affect the schedule. Conversely, forming and placing of concrete in cast-in-place applications can cause significant delays due to poor weather.

## REDUCED CONSTRUCTION TIME

Precast concrete offers rapid installation compared to cast-in-place structures. This reduces excavation costs, lowers job site labor and eliminates many of the safety concerns of open excavation and working below grade with traditional concrete forming systems.

## RESISTS BUOYANCY

With a specific gravity of 2.40, precast concrete structures resist the buoyant forces associated with underground construction.

## CORROSION RESISTANT

Precast concrete is resistant to most corrosive substances. While no material is completely immune to chemical attack, the mix designs used to produce precast concrete can be adjusted to help withstand anticipated corrosive agents.

## ENVIRONMENTALLY FRIENDLY

Besides water, concrete is the most used material on earth. It is nontoxic and environmentally safe. As environmental laws heighten, especially those that prohibit pollutant discharge into rivers and lakes, precast concrete is additionally beneficial because it is made from natural materials. Precast concrete products are buried throughout the world as part of the stormwater treatment systems of nearly every modern city but do not themselves contribute to poor water quality. Precast concrete is the choice material for products used in stormwater treatment systems.

**precast**  
**makes it possible™**

