



American
Concrete Pipe
Association

Underground Storm Water Storage Systems — The Cost Effective, Efficient Way

**PRECAST
CONCRETE IS
THE MATERIAL
THAT COMBINES
STRUCTURAL
STRENGTH AND
VERSATILITY
WITH
AFFORDABILITY**

As an owner or project manager, you can keep mainline pipe sizes smaller and/or utilize existing drainage when developing new areas by installing an Underground Storm Water Storage System. In areas prone to heavy rainfalls or flash flooding, an underground detention system allows for the collection and storage of the storm water that can later be discharged into the municipal system at a controlled rate to suit the current storm sewer sizes. In dry areas, water can be stored for use during droughts or other times of need.

The benefits of underground storage tanks are as numerous as are the configurations and materials used to build them.

Regardless of the necessary volume, the structural strength requirements or the need for special fittings,

PRECAST CONCRETE HAS THE SOLUTION.

Structural Strength

- ✓ Pre-cast concrete products can be designed for any site conditions.
- ✓ The numerous, available combinations of different design strengths and installation types mean more choices with precast concrete products.
- ✓ The structural strength is delivered to the project.
- ✓ Precast concrete has a 100 year design life.
- ✓ Concrete products rarely have flotation problems.

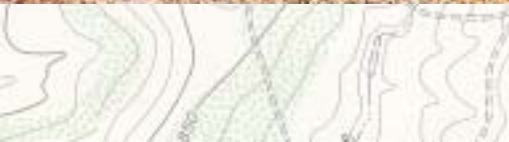
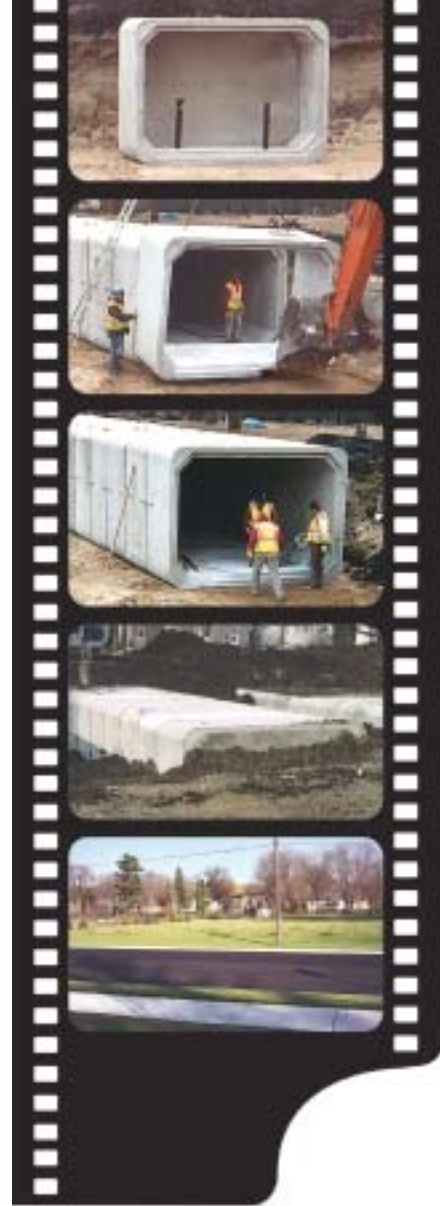
Versatility

- ✓ The concrete pipe industry has a wide range of shapes to offer (box, circular, elliptical or arch) to ensure that all job site requirements can be met with one or more available choices to the Engineer or Owner.
- ✓ The large range of shapes and sizes allows large volumes of water to be handled in a relatively small footprint.
- ✓ These systems can also be used in conjunction with structural storm water quality units.

- ✓ The precast manufacturer has the ability to supply various specialty fittings (elbows, tees, access tees and bulkheads)

Reduced Short & Long Term Costs

- ✓ The maintenance costs associated with concrete structures are generally minimal and definitely a lot less than the “lifelong” maintenance costs of above ground storage ponds.



- ✓ The surface area made available due to underground storage can be utilized as valuable land space to the development.
- ✓ There is a major saving for liability insurance with the underground systems.
- ✓ Unlike flexible products that are more difficult to install properly and have a much shorter design life, precast concrete will preclude the high costs of product repairs or replacement and the associated business disruptions.

Environment Product of Choice

- ✓ Concrete is made from readily available natural resources
- ✓ Concrete pipe is ranked # 1 in environmental performance compared to metal or plastic
- ✓ Precast concrete uses the least amount of energy to manufacture, and since it is made locally, less fuel is used for transport to the job site.
- ✓ Concrete also has the lowest toxicity to sediment, soil, water and humans when compared to all other competitive product materials.

DASH

The DASH (Detention and Sewer Hydraulics) CD features easy-to-use interactive design software for underground storm water detention systems, storm sewers and sanitary sewers.

Storm Water Detention Volume Calculation

Determine the storage volume required for your site by a variety of methods:

- HEC-1
- TR-55
- TR-20
- Modified Rational Method

The software generates a printable report of the results for the design files

Storm Water Detention System Design

The intuitive software helps the user efficiently design entire systems and includes the following features:

- Draws proposed layout to scale
- Uses multiple sizes and shapes of pipes and box culvert
- Provides a complete listing of all materials for cost estimating and comparison

For additional information regarding DASH, contact your local precast supplier or visit www.concrete-pipe.org under Resources.



Precast Concrete has been finding solutions for our customers' requirements for many years. For all underground storm water storage requirements the industry can supply a range of shapes and sizes. Whatever precast concrete product is selected, the owner can rest assured of a structurally designed system that will outlast all other products at a competitive cost.



**OUR ONLY LIMITATION
IS OUR IMAGINATION**



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