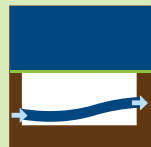




Terre Arch™ Concrete Detention/Infiltration



**Solutions
Guide**

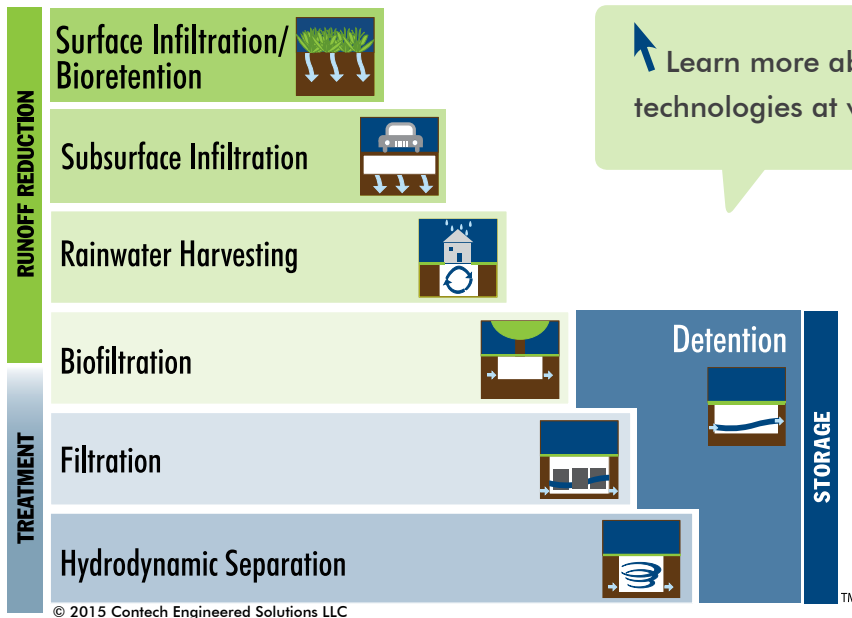


Stormwater Solutions from Contech®



Selecting the Right Stormwater Solution Just Got Easier...

It's simple to choose the right stormwater solution to achieve your goals with the Contech Stormwater Solutions Staircase. First, select the runoff reduction practices that are most appropriate for your site, paying particular attention to pretreatment needs. If the entire design storm cannot be retained, select a treatment best management practice (BMP) for the balance. Finally, select a detention system to address any outstanding downstream erosion.



Learn more about all of our stormwater technologies at www.ContechES.com/stormwater

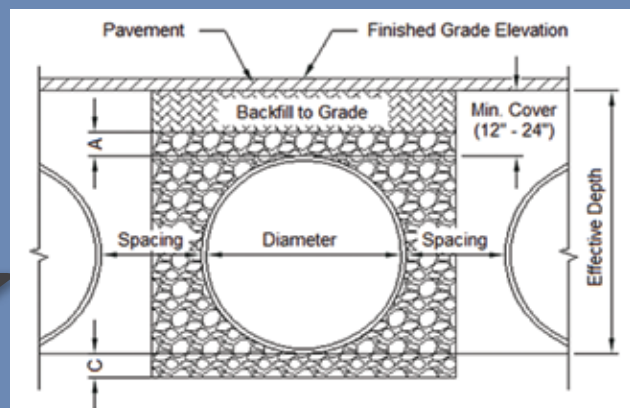
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DYODS

DESIGN YOUR OWN DETENTION OR INFILTRATION SYSTEM

The Contech DYODS is an exclusive online design tool that allows users to quickly and easily design their own detention or infiltration system. Just input your required storage volume to calculate the quantity of the material needed for your Contech CMP, CON/SPAN®, or ChamberMaxx® system.

To use the *Design Your Own Detention or Infiltration System* tool, visit: www.ContechES.com/dyods



The Terre Arch Advantage

The Lowest Installed Cost – The Highest Strength and Durability

Contech is the exclusive seller of Terre Arch in the U.S. and International. Terre Arch is a modular, multi-chambered, precast concrete stormwater storage system that is engineered especially for underground installation. Terre Arch utilizes a proven arch design to provide a simple solution for stormwater detention and retention-recharge.

Terre Arch's patented, fiber-reinforced design is lightweight, yet incredibly strong. With a load-bearing rating of HS-25 (with 12" cover from the top of the arch to final grade), each section can support heavy gross weight trucks and machinery, allowing installation equipment direct access to the site during installation, dramatically reducing installation time and labor. Each Terre Arch installs quickly, adding several hundred cubic feet of storage in a matter of minutes.

Benefits

- 100+ year design life
- Minimum 5,000 psi compressive strength
- HS-25 load rating
- No concrete foundation required
- 12" minimum cover above arch
- Simple and fast installation; install 30,000 - 50,000 cubic feet of storage per day
- Provides maintenance access to individual chambered rows



Application

Underground Storage = More Usable Land Space

Terre Arch provides flexibility for stormwater detention or infiltration, allowing you to meet runoff reduction requirements by storing runoff water in underground chambers before it is infiltrated or released at a controlled rate.

Terre Arch will maximize your land space by storing runoff underground. This frees up valuable land space for buildings, parking lots or green space.

Because little cover is required, Terre Arch is the best solution when the site engineer is faced with site restrictions such as high ground water tables and minimum separation between the top of the underground structure and the finished grade.

Terre Arch can be designed in HydroCAD and Streamline Technologies ICPR Perc Pack

Sizing & Storage

Two Configurations = Flexibility in System Design

Terre Arch 26

Terre Arch 26 is a connected 4 arch precast concrete structure providing 277 CF of installed storage and 152 SF infiltration area. Since it is less than 3' high, Terre Arch 26 is great for shallow sites and low drop infiltration systems.

Terre Arch 48

Terre Arch 48 is a connected 3 arch precast concrete structure providing 541 CF of installed storage and 160 SF infiltration area.

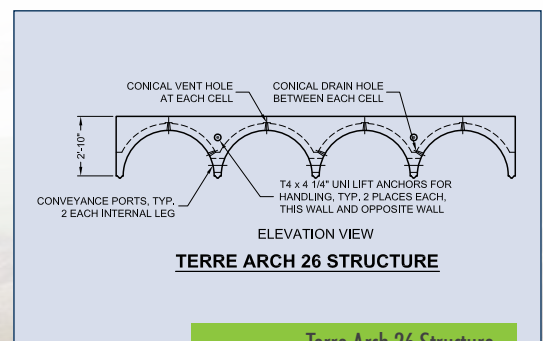
Pipe Dimensions				
Model	Volume	Infiltration Area	Weight (approx.)	Dimensions
Terre Arch 26	319 CF*	152 SF	13,500 lbs.	8'-0" x 19'-0" x 2'-10"
Terre Arch 48	608 CF*	160 CF	19,500 lbs.	8'-0" x 20'-0" x 4'-8"
* Table assumes 6" stone base for TA26 and 12" stone base for TA48, with 6" cover stone over top of arch. (40% void space typical with stone)				



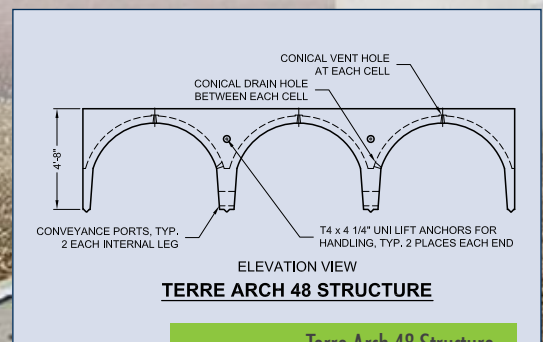
Terre Arch precast concrete detention system



Underground storage maximizes land space



Terre Arch 26 Structure

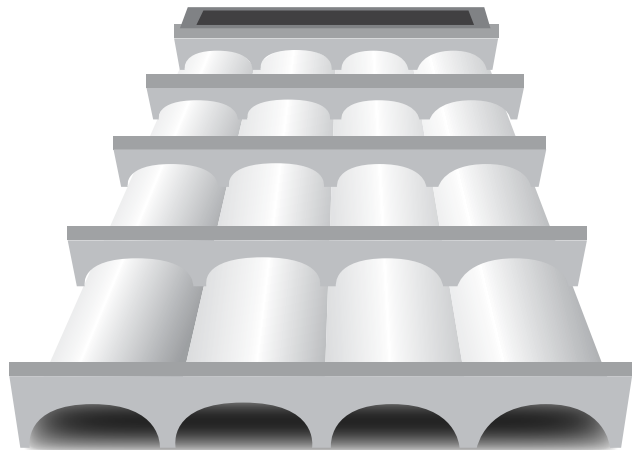


Terre Arch 48 Structure



A Superior Design

- Distribution openings in the legs of the arches equalizes flow between sections
- Ventilation and draining orifices prevent ponding and air pockets
- Adjacent units are installed with no spacing required, reducing footprint and installation costs
- Ideal for shallow sites requiring minimal cover and shallow inverts



Bedding and Backfill Requirements

- The minimum cover for both Terre Arch units is 12" above the top of the arch and the maximum cover is 16 feet. Both elevations are to the top of pavement or final grade.
- Both Terre Arch units are appropriate for installation on a sub-base with soil bearing capacity greater than 3000 psf. For soils less than 3000 psf, Contech recommends a geotechnical engineer be consulted for appropriate soil treatment.
- Terre Arch 26 is installed with a 6" (minimum) stone bedding on sub-base that has a 3000 psf bearing capacity or greater.
- Terre Arch 48 is installed with a 12" (minimum) stone base on soils with a 3000 psf bearing capacity or greater.
- The minimum stone perimeter around all Terre Arch systems is 12"

Learn more at www.ContechES.com/detention



Installation

Time is Money - Terre Arch Saves Both

No other concrete system can match Terre Arch's ease of installation. With a properly excavated and prepared base, a Terre Arch can be set every five minutes; with installation of up to 50,000 CF of storage in 1 day, including cover and backfill. And the "just in time" delivery of Terre Arch reduces material handling and eliminates on-site storage. The result – reduced project time, reduced man hours and significant cost savings.



Rapid installation – 5 minutes per section



Terre Arch requires less stone

Lower installed cost compared to plastic chamber and pipe systems due to **significantly** less stone.

Maintenance

Easy, Worry-Free Maintenance

The Terre Arch system is designed for ease of maintenance. It is the only chamber system on the market that provides worker access from distribution boxes that extend from grade to the inside of the installed arch, providing confined space entry for removal of sediment and debris from inside the structure.

Frequency of inspections will vary significantly on the local site conditions, and individual inspection schedules should be established for each site. However, visual inspections are recommended annually. When the depth of sediment accumulates over 4 inches (102 mm), cleanout is recommended via vacuum truck or other similar device.



Ease of inspection and maintenance



Manhole access instead of 4" inspection port

Pretreatment & Pipe

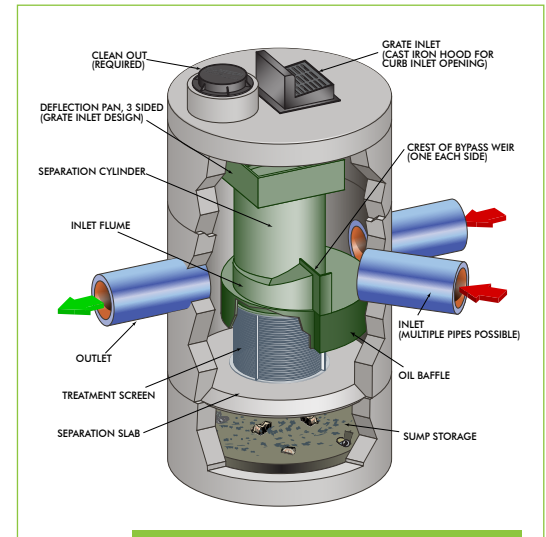
Pretreatment

Pretreatment is an important component of all stormwater detention and infiltration systems and should be considered to reduce overall sediment loading into the system. Conventional chamber systems may have impractical maintenance methods and designs that do not appropriately address long term performance concerns .

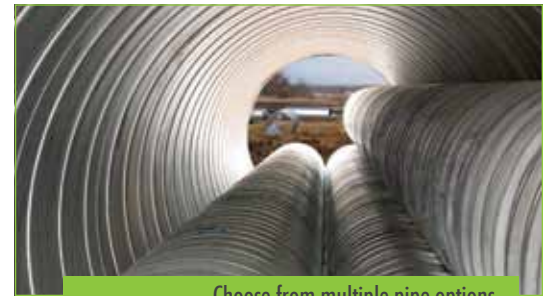
Using patented continuous deflective separation technology, the CDS® system effectively screens, separates and traps debris, sediment and oil from stormwater runoff. The CDS system captures and retains 100% of floatables and neutrally buoyant debris 2.4 mm or larger, even at high flow rates. It is an ideal system for treating runoff before entering Terre Arch.

Pipe

Contech offers a wide variety of pipe material, thicknesses, corrugations and coatings for varying service life, hydraulic and economic needs to convey runoff to your Terre Arch system. Each of our solutions is designed for hydraulic efficiency, ease of handling and installation, durability and, of course, economy.



The CDS® System



Choose from multiple pipe options

Engineer Support - The support you need, From a source you can trust

For more than two decades, Contech has helped engineers managing stormwater at sites across the country. From design project, to concept to installation, Contech has the resources to ensure your projects are completed on time and on budget:

Our Team Includes:

- Stormwater consultants
- Professional engineers
- Regulatory specialists
- Installation consultants
- Customer service professionals
- LEED accredited professionals
- Construction professionals
- Field sales representatives



Terre Arch

Learn more at www.ContechES.com/detention



Dig Deeper

Find all the information you need at www.ContechES.com, including field and laboratory test results, approvals, brochures, design guides, standard details, and specifications within the product section of our site.

Connect with Us

We're here to make your job easier – and that includes being able to get in touch with us when you need to. Go to www.ContechES.com/ConnectwithContech.

While you're there, be sure to check out our upcoming seminar schedule or request an in-house technical presentation.

Start a Project

If you are ready to begin a project, contact your local representative to get started. Or you can check out our design toolbox for all our online resources at www.ContechES.com/designtoolbox.

Links to Stormwater Tools:

To use the Land Value Calculator, visit:
www.ContechES.com/lvc
(Look under the Stormwater Management section to download the Land Value Calculator)

To use the Design Your Own Detention System tool, visit:
www.ContechES.com/dyods

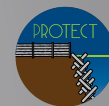
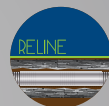
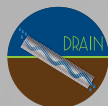
To use the Design Your Own Hydrodynamic Separator tool, visit: www.ContechES.com/dyohds

To use the Rainwater Harvesting Runoff Reduction Calculator tool, visit: www.ContechES.com/rwh-calculator

To use the LID Site Planner, visit:
www.ContechES.com/LIDsiteplanner



COMPLETE SITE SOLUTIONS



STORMWATER SOLUTIONS

Helping to satisfy stormwater management requirements on land development projects

- Stormwater Treatment
- Detention/Infiltration
- Rainwater Harvesting
- Biofiltration/Bioretenation

PIPE SOLUTIONS

Meeting project needs for durability, hydraulics, corrosion resistance, and stiffness

- Corrugated Metal Pipe (CMP)
- Steel Reinforced Polyethylene (SRPE)
- High Density Polyethylene (HDPE)
- Polyvinyl Chloride (PVC)

STRUCTURES SOLUTIONS

Providing innovative options and support for crossings, culverts, and bridges

- Plate, Precast & Truss bridges
- Hard Armor
- Retaining Walls
- Tunnel Liner Plate



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