Stormwater Solutions Overview

- Surface Infiltration
- Subsurface Infiltration/Bioretention
- Rainwater Harvesting
- Biofiltration
- Filtration
- Hydrodynamic Separation
- Detention
- Retention
Stormwater regulations continue to evolve — and Contech is here to provide you with the most innovative solutions every step of the way. No matter if your local regulations require Low Impact Development (LID), Total Maximum Daily Loads (TMDLs), or traditional stormwater management techniques, Contech can speed your design process, save land space, and help you get your plans approved.

Proven Solutions You Can Rely On:
For more than two decades, Contech’s solutions have been successfully managing stormwater at sites across the country. At our laboratories, our engineers and scientists conduct ongoing research, and systems are continually tested and refined for performance. We have more approvals than any other stormwater provider, thanks to our extensive lab and field test data. Plus, we have a team of Regulatory Managers working to gain approvals from local agencies in advance of your project submittal.

Online Tools and Resources to Make Your Job Easier
Log on to www.ContechES.com to get all the information you need, so you can get on with your day.

- Knowledge Center: Read case studies, watch videos and webinar recordings, and read the Stormwater Blog.
- Design Toolbox: Access our Design Your Own (DYO) tools and browse our library of specifications and standard details.
- Connect with Contech: Find your local representative.
- Product Pages: Find documents and tools for every product, including standard details, specifications, installation and maintenance guides, brochures and more.
- Get social with us:
Applications

A company partner with deep specialization in your market means confidence in your site project from day one. We credit our success in serving a breadth of markets and applications to a proficiency with varied installation demands and a commitment to providing fast, economical solutions. Here is a small sample of projects we’ve recently completed.

Explore all our markets and applications at www.ContechES.com/markets.

Retrofit: Hydrodynamic separation to meet trash TMDL requirement in Oakland, California Product: CDS®

Commercial: Stormwater treatment and detention for new restaurant project in Ft. Worth, Texas Products: SRPE Rainwater Harvesting system

Recreation: Green public park improvement project to provide rainwater harvesting in Redondo Beach, California Products: CDS®, SRPE Cisterns and StormFilter

Military: Filtration and infiltration for vehicle and equipment parking lot at Camp Murray, Washington Products: StormFilter® and ChamberMaxx®

Residential: Stormwater treatment and detention/flow control for residential project in City of Bellingham, Washington Products: StormFilter® and CMP detention system

Transportation: Stormwater treatment for airport project in Warwick, Rhode Island Products: Vortechs®

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UrbanGreen® Grass Pavers

The UrbanGreen Grass Paver plastic grid system creates a fully functional and cost-effective alternative to conventional paving. Grass pavers are a well-known and accepted Low Impact Development (LID) technique to reduce impervious surfaces and promote infiltration.

**Benefits**

- Minimize impervious area and significantly reduce runoff volume
- Meet H-20 loading with lower cost per square foot
- Conform to irregular surfaces for easy installation
- Unique connection system allows for expansion / contraction
- LEED® credits available for stormwater quantity control and heat island effect

**Applications**

- Overflow or event parking lots
- Fire lanes
- Service roads
- Green roofs

UrbanGreen® Rainwater Harvesting Cisterns

UrbanGreen Rainwater Harvesting Cisterns are constructed of DuroMaxx Steel Reinforced Polyethylene (SRPE) for a strong and durable storage solution. Cisterns are available in sizes up to 120 inches in diameter and 48 foot lengths. All cisterns are leak tested and labeled with the UPC seal to ensure a reliable long term storage solution. Contech hydrodynamic separator and filtration products provide pretreatment for stormwater prior to storage to provide the best water quality and reduced maintenance costs for the most demanding rainwater harvesting applications.

Benefits:

- A “Green Infrastructure” solution
- Stormwater runoff reduction
- Cost savings through reduction in potable water use
- Large storage volume in small footprint
- Contribute up to 12 points towards for LEED certification

Applications

- Irrigation
- Toilet flushing
- Vehicle washing
- Cooling make-up
- Laundry

Contech provides:

- Sizing and design assistance to meet stormwater management requirements
- Pretreatment systems
- Rainwater storage systems

To use the Rainwater Harvesting Runoff Reduction Calculator tool, visit: www.ContechES.com/rwh-calculator
Corrugated Metal Pipe (CMP) Stormwater Detention and Infiltration

Contech’s CMP stormwater detention and infiltration systems store stormwater exceeding a site’s allowable discharge rate and release it slowly over time. Systems can be sized and shaped to meet site-specific needs, and are available fully or partially perforated.

Benefits

• Flexible configurations and coatings for site-specific footprints and conditions requirements, with National Corrugated Steel Pipe Association (NCSPA) service life guidance of 75+ years for certain materials/coatings in recommended environments. Please refer to the Corrugated Metal Pipe Detention Design Guide for additional information.

• Fully perforated pipe available for cost-effective infiltration.

• Available in larger diameters than other materials – ranging from 12” to 144”.

• A variety of fittings allow CMP to match most layout configurations.

Applications

• Detention
• Retention
• Infiltration

Perforated CMP Infiltration System is installed at the University of Wisconsin

Design Your Own Detention System (DYODS) is available online at www.ContechES.com/dyods
ChamberMaxx® Stormwater Chamber System

Benefits

- Structurally designed to exceed HS-20 live loads in accordance with AASHTO (Section 12) LRFD design specifications
- Offers 47 ft³ (1.3 m³) of storage per chamber – short height profile optimizes stormwater storage on shallow sites
- Multiple pretreatment options available to meet local requirements
- LEED® credits available for stormwater quality and quantity control
- Integral end caps eliminate the need for expensive loose end caps and add to chamber strength

Applications

- Underneath parking lots for subsurface infiltration
- Below bioretention for enhanced infiltration on sites with marginal soils

Design Your Own (DYO) and Stage-Storage Calculators available online at www.ContechES.com/chambermaxx
DuroMaxx® Detention and Infiltration

DuroMaxx steel reinforced polyethylene (SRPE) pipe combines steel and polyethylene (PE) to make an exceptionally strong and durable pipe. DuroMaxx is unique as it has fewer joints to assemble on site, can be made watertight, and can be used in applications with corrosive soils.

Benefits

• Available up to 120” diameter – utilizing larger diameters whenever possible reduces storage cost per gallon
• Joint tightness available for all applications - 30 psi welded coupler (WC), 15 psi high performance (HP), 3 psi low head (LH), ) and soil tight (ST) joints available
• Fewer joints to assemble on site, resulting in faster installation rates
• Lightweight - easily handled and quickly installed, often without the use heavy construction equipment

Applications

• Detention
• Infiltration
• Retention
• Cisterns
• Combined Sewer Overflow (CSO)
• Glycol storage

Learn more at www.ContechES.com/stormwater
Our concrete stormwater detention solutions provide the versatility to accommodate any footprint need.

**Benefits of CON/SPAN®**

- Distinctive shape maximizes storage space; provides superior durability and structural integrity
- Wide range of span and rise combinations available
- Precast continuous foundation ensures structural integrity and eliminates differential settlement
- Available on strip footings for infiltration applications and slabs for detention applications
- Rated for aircraft loading

**Benefits of Terre Arch™**

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

**Concrete Detention Systems**

**Terre Arch 26 Structure**

**Terre Arch 48 Structure**
Filterra® Bioretention System

Filterra is similar to bioretention in its function and application, but has been optimized for high volume/flow treatment and high pollutant removal. Its small footprint allows it to be used on highly developed sites such as landscaped areas, parking lots and streetscapes. Filterra is exceedingly adaptable and can be used alone or in combination with other BMPs.

Benefits

- Third party field testing confirmed that Filterra meets state regulatory requirements for pollutant removal under TAPE and TARP testing
- Landscaping enhances the appearance of your site making it more attractive while removing pollutants
- Multiple configurations and sizes available to meet site-specific needs
- First year of maintenance is included with the purchase of every system

Configurations

- Inline
- Offline
- Roof drain / pipe inlet
- Street tree
- Custom configurations

Applications

- Low Impact Development, Green Infrastructure, and Environmental Site Design
- High pollutant removal requirements
- New construction and urban retrofits
- Pretreatment for above-ground or shallow below-ground storage
- Shallow, decentralized treatment

Learn more at www.ContechES.com/stormwater
The StormFilter stormwater treatment system uses rechargeable, self-cleaning, media-filled cartridges to absorb and retain the most challenging pollutants from stormwater runoff including total suspended solids, hydrocarbons, nutrients, metals, and other common pollutants. StormFilter performance has been verified by the State of Washington Department of Ecology and New Jersey Department of Environmental Protection, as well as numerous other stormwater regulatory agencies.

Benefits

- First proven filter on the market, performance verified by the WA DOE and NJ DEP
- Only field-tested filter on the market per TARP and TAPE protocols
- Customized media options target TSS, phosphorus, heavy metals, and hydrocarbons
- Designed for predictable maintenance intervals from 1 to 3 years
- Options for most hydraulic needs

Applications / Configurations

- Vault, manhole, volume, peak diversion
- Catch basin, curb inlet, linear grate Infiltration well/dry well Roof runoff-downspout
- Commercial and residential development, infill and redevelopment and stormwater quality retrofit applications
- Highways, airports, seaports and military installations
- Pretreatment for Low Impact Development, infiltration, and rainwater harvesting and reuse systems

The Intercounty Connector in Maryland incorporated the StormFilter® (like below) to meet stormwater regulations
The Jellyfish Filter is a stormwater quality treatment technology featuring high flow pretreatment and membrane filtration in a compact stand-alone system. Jellyfish removes floatables, trash, oil, debris, TSS, fine silt-sized particles, and a high percentage of particulate-bound pollutants; including phosphorus, nitrogen, metals and hydrocarbons.

**Benefits**

- High surface area membrane filtration
- High design treatment flow rate per cartridge – up to 80 gpm (5L/s)
- Separation skirt traps oil, trash and debris outside the filtration zone
- Field tested per TARP protocol and NJDEP approved for 80% TSS removal at 80 gpm per 54” cartridge
- Compact system decreases installed cost and site footprint
- Easy to inspect & maintain

**Applications/Configurations**

- Manhole, catch basin, vault, fiberglass tank, and custom configurations
- Commercial and residential development, infill and redevelopment and stormwater quality retrofit applications
- Highways, airports, seaports and military installations
- Pretreatment for Low Impact Development, infiltration, and rainwater harvesting and reuse systems

Learn more at www.ContechES.com/stormwater
Hydrodynamic Separation

For more than 20 years, our hydrodynamic separation solutions have been providing reliable stormwater treatment solutions. With performance proven in the lab and in the field at sites across the country, these systems are widely accepted for effective solids removal and are especially efficient on gross solids, trash and debris, making them an optimal choice for pretreatment systems.

CDS®

The CDS hydrodynamic separator uses swirl concentration and patented continuous deflective separation to screen, separate and trap trash, debris, sediment, and hydrocarbons from stormwater runoff. CDS captures and retains 100% of floatables and neutrally buoyant debris 2.4mm or larger, effectively removes sediment, and is the only non-blocking screening technology available in a stormwater treatment device.

Benefits

- Captures and retains 100% of floatables – meets trash TMDL requirements
- Self-cleaning screen is the only non-blocking screening technology available
- Performance verified by the Washington State Department of Ecology, the New Jersey Department of Environmental Protection, and the Canadian Environmental Technology Verification (ETV)

Configurations

- Inline, offline, grate inlet, and drop inlet configurations available
- Internal and external peak bypass options available
- Multiple pipe inlets eliminate the need for upstream junction manholes

CDS® provides pretreatment for a rainwater harvesting system in a California Public Park

For more info on operation, design and performance, visit www.ContechES.com/cds

Performance Claim Verified by the Canadian ETV Program
**Vortechs®**

Benefits

- Shallow system profile means installation is easier and less expensive, especially on sites with high groundwater or bedrock
- Large swirl chamber enhances fine particle removal (down to 50 microns)
- Proven performance shown by third-party field verification

Configurations

- Online
- Offline
- Cast-in-Place

The Vortechs is a hydrodynamic separator that combines swirl concentration and flow controls into a shallow treatment unit that traps and retains trash, debris, sediment, and hydrocarbons from stormwater runoff. Vortechs can be designed to remove sediment down to 50 microns and is the ideal solution for projects that require a shallow treatment device due to groundwater, utility or bedrock constraints.

**VortSentry® HS**

Benefits

- Compact manhole footprint is ideal for congested sites
- Internal bypass simplifies installation
- Backed by full-scale laboratory testing

Configurations

- Inline
- Grate inlet

The VortSentry HS is a compact stormwater treatment system that uses helical flow technology to enhance gravitational separation of floating and settling pollutants from stormwater. The small footprint of the VortSentry HS makes it an effective stormwater treatment option for projects where space is at a premium.
Maintenance

All stormwater management systems – whether natural or manufactured – should be maintained regularly. Despite the widespread implementation of BMPs, water quality goals will not be met if the treatment structures are not properly cleaned and maintained.

Systems vary in their maintenance needs, and the selection of a cost-effective and easy-to-access treatment system can mean a huge difference in maintenance expenses for years to come.

We design all our products to minimize maintenance and make it as easy and inexpensive as possible to keep our systems working properly.

Find maintenance information for all our products at www.ContechES.com/maintenance

StormFilter® Maintenance Event
Next Steps

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. www.ContechES.com/localresources.

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/startaproject.

Links to Stormwater Design Tools:
To use the Land Value Calculator, visit: www.ContechES.com/lvc
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 Low Impact Development Site Planner tool, visit: www.ContechES.com/lidsiteplanner

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