FIND A SALES REP



Engineered solutions: Prinsco's fabricated fittings

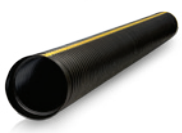
Prinsco offers a comprehensive line of fabricated fittings designed to meet the demands of diverse stormwater management projects. Available in both Goldflo® HDPE and high-performance Goldpro™ polypropylene, these fittings provide long-term performance and durability.



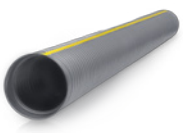
More about retention/detention systems
Installation videos
Installation documents
Specifications
Technical notes

Prinsco products are fully supported by our engineering team and are designed, manufactured and tested to meet/exceed the high performance needs of the construction market. Prinsco's engineering, quality control and production teams are committed to a continuous process of innovation and product development. We are focused on current and future market needs centered around environmental sustainability, water quality, stormwater management and performance advancement.

COLLECTION & CONVEYANCE



GOLDFLO®
Dual-wall polyethylene



GOLDPRO™
Dual-wall HP polypropylene

TREATMENT

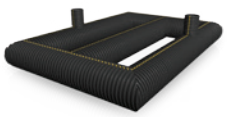


STORMWATER QUALITY
Engineered water treatment

STORAGE



HYDROSTOR®
Arched chambers



UNDERGROUND RETENTION/DETENTION
Customized pipe systems

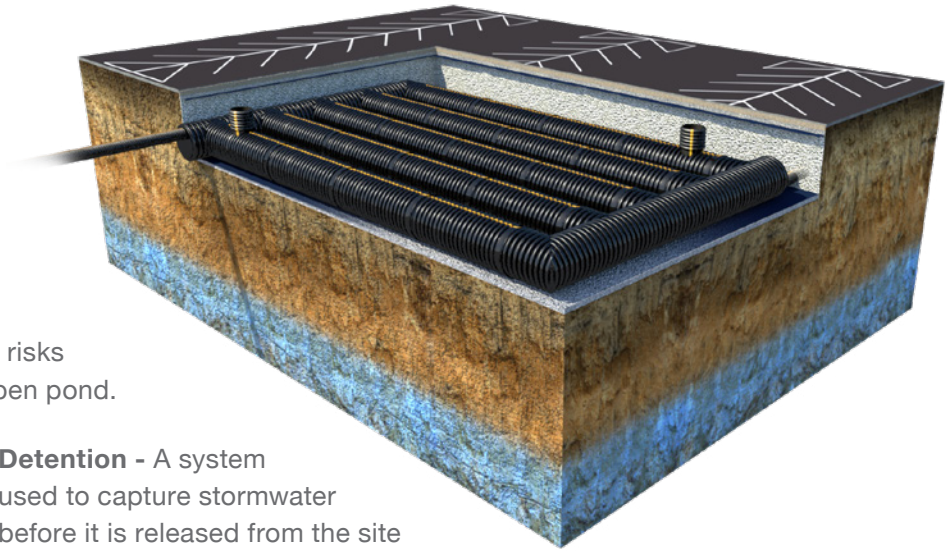
STORMWATER SOLUTIONS



Stormwater solutions / Storage / **Pipe**

Pipe systems

Prinsco's underground storage systems are completely customizable to your unique project and can be designed with the support of our Prinsco engineering team. Headers and laterals combine to create an "underground pond", allowing valuable land to be utilized for green space, parking lots, and more. Prinsco systems are closed, mitigating the health risks and safety hazards associated with an open pond.



Retention - A system designed to capture stormwater runoff in a designated area where it is permitted to infiltrate into the ground, recharging the groundwater table.

Detention - A system used to capture stormwater before it is released from the site at a controlled rate, reducing the load on municipal storm drains.

Features & benefits

Prinsco's underground detention systems provide a cost-effective, highly customizable way to store stormwater.

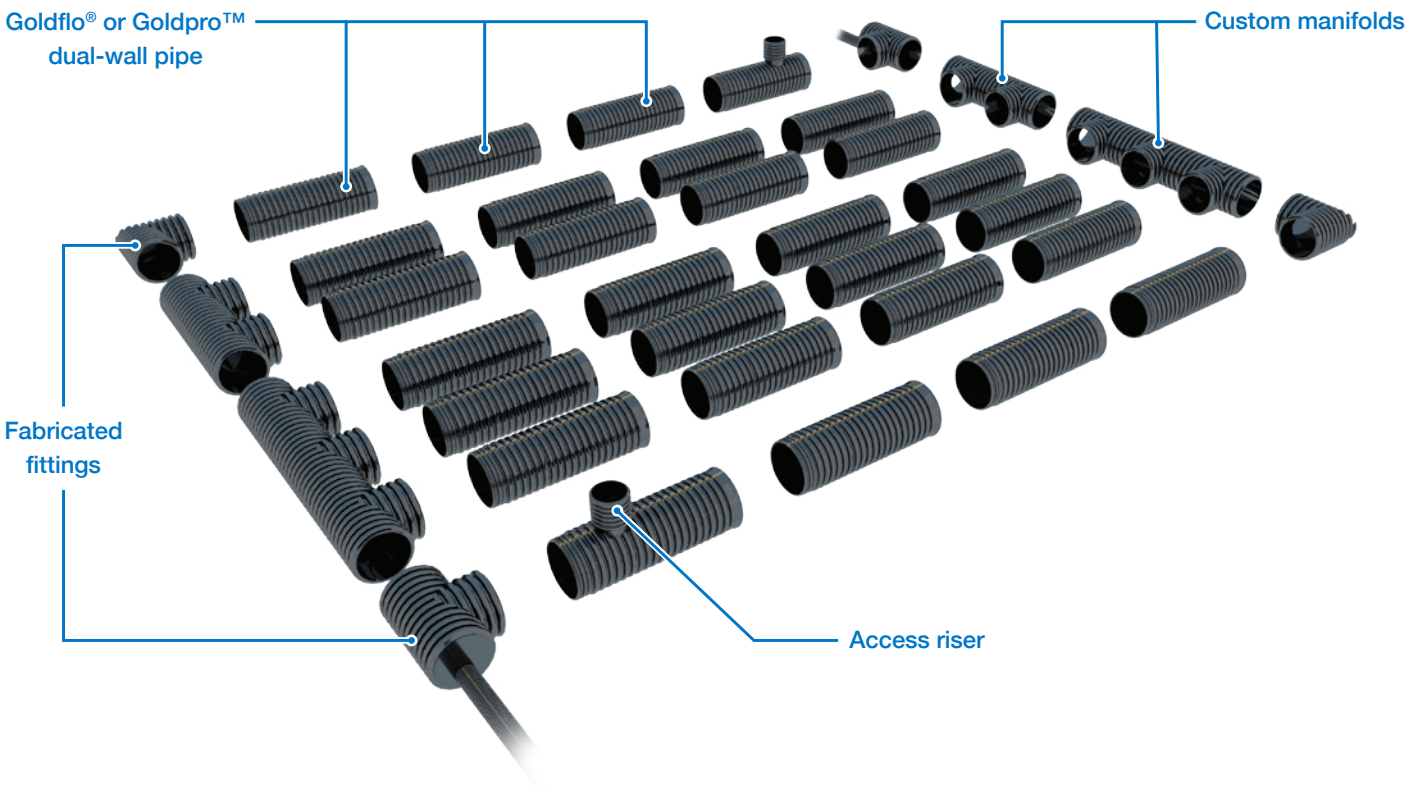
- Manufactured out of strong, durable, high-density polyethylene (HDPE) or polypropylene (PP) pipe and fittings
- Customizable layout designs can be tailored to specific job site constraints
- Proven performance under H-25 traffic loads when minimum cover is achieved
- HDPE and PP available up to 60" in diameter
- Optional perforations allow stone void volume to be used as storage
- Optional risers allow man-entry and easy cleanout
- Custom manifolds and fabricated fittings are available
- Tools are available for calculating the amount of pipe needed for desired storage (including perforated systems)

Available pipe configurations

Material	Pipe design	Diameter(s)	Standard length (ft.)	Connection	Pipe features	Standards*
High-density polyethylene (HDPE) **Goldflo®**	Integrated bell and spigot	12" - 60"	20'	Gasket Watertight	Dual-wall Non-perforated Perforated	ASTM F2306 AASHTO M252 AASHTO M294 ASTM F477 ASTM D3212
	Plain end	12" - 36"	20'	Coupler† Soil tight Watertight	Dual-wall Non-perforated Perforated	AASHTO M294 AASHTO M252 ASTM F2306
Polypropylene (PP) **Goldpro™**	Integrated bell and spigot	12" - 60"	20'	Gasket Watertight	Dual-wall Non-perforated Perforated	ASTM F2881 AASHTO M330 ASTM D3212 ASTM F477

Shorter lengths available at some locations. Some configurations may be special order. †*Couplers sold separately.*

Underground system components

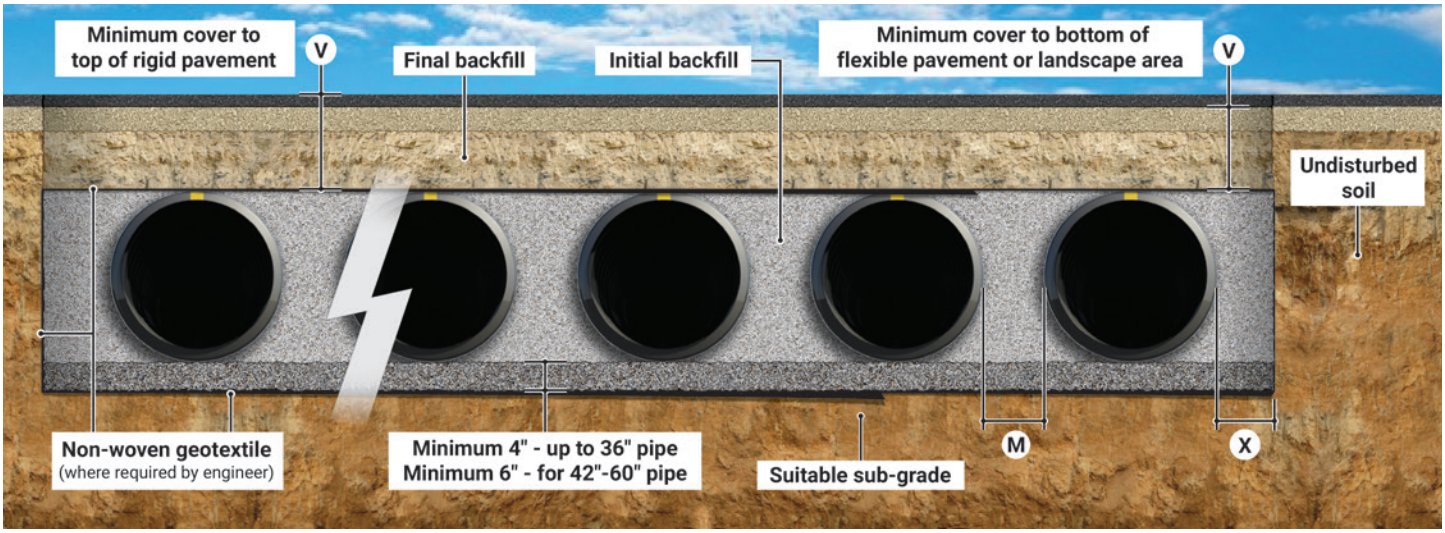








Installation guide



Retention/detention systems shall be installed in accordance with the latest edition of ASTM D2321 and Prinsco's installation guidelines. A non-woven geotextile filter fabric or other measures should be taken to prevent native soil from migrating into the initial backfill material, when required.

Sub-grade: Trench bottoms with unstable or unyielding material shall be excavated to a depth directed by the engineer and replaced with suitable material. For unstable materials, geotextile may be used to stabilize the trench bottom, if directed by the engineer.

Foundation: Suitable material shall be Class I or II, as specified by ASTM D2321. Provide a minimum bedding thickness of 4" for pipe diameters 36" and smaller, and 6" for pipe diameters of 42", 48", and 60".

Initial backfill: Suitable material shall be Class I or II, as specified by ASTM D2321. Compaction and backfill lifts shall be in accordance with ASTM D2321.

Minimum cover: For H-25 traffic applications, provide a minimum cover of 12" for pipe diameters up to 36", 15" for 42" diameter pipe, and 18" for 48" and 60" diameter pipe. Minimum cover **"V"** shall be measured from the top of the pipe to bottom of flexible pavement or to the top of rigid pavement. Additional cover may be required for construction loads, vehicles over 25 tons, or to prevent floatation.

Final backfill: Suitable materials directed by the engineer shall be used in landscape or non-traffic applications. For areas subjected to traffic, a higher degree of compaction is required and a separation layer of non-woven geotextile may be required. Compaction levels and/or geotextile may be specified at the discretion of the design engineer.

Fittings: Available with either plain end or bell end. Custom fittings can be tailored to meet project needs/requirements.

Dimensions

Pipe diameter (in.)	Approx O.D. (in.)	Bedding depth (in.)	"V" Minimum (in.)*	"X" Minimum (in.)*	"M" Minimum (in.)*
12"	14.5"	4"	12"	8"	9"
15"	17.7"	4"	12"	8"	11"
18"	21.5"	4"	12"	9"	14"
24"	28.2"	4"	12"	10"	19"
30"	34.7"	4"	12"	18"	20"
36"	40.6"	4"	12"	18"	21"
42"	47.5"	6"	15"	18"	23"
48"	54.1"	6"	18"	18"	23"
60"	66.8"	6"	18"	18"	27"

**Dimensions measured from outside diameters.*

Storage capabilities

Pipe diameter (in.)	Pipe volume (ft^3/ft)	Stone void volume (ft^3/ft)	Total retention storage (ft^3/ft)
12"	0.8	0.7	1.5
15"	1.2	1.0	2.3
18"	1.8	1.5	3.3
24"	3.1	2.5	5.6
30"	4.9	3.3	8.2
36"	7.1	4.0	11.1
42"	9.6	5.6	15.2
48"	12.6	6.5	19.1
60"	19.6	9.2	28.9

1. Pipe volumes based on nominal pipe ID.
2. Stone porosity assumed 40%.
3. Bedding depth assumes 4" for 12"-36" pipe and 6" for 42"-60" pipe.
4. Storage volume based on average OD of pipe.
5. Any stone height above crown of the pipe is not included in the void volume calculations.