ENVIRONMENTAL SERVICES
CITY OF PORTLAND
working for clean rivers

Approved Manufactured Stormwater Treatment Technologies

The City of Portland approved the following manufactured stormwater treatment technologies under the submission and review requirements of the *Stormwater Management Manual*. Project designers may use technologies from the approved list under the *Stormwater Management Manual* (SWMM) Performance Approach.

The following technologies have achieved General Use Level Designation (GULD) through the Technology Assessment Protocol (TAPE)[1] from the Washington State Department of Ecology (DOE) and have been reviewed and approved by the City of Portland. The City of Portland has included any conditions of approval with each device, such as configuration specification or use category.

DOE TAPE categorizes each technology by treatment type[2], which describes its effectiveness at removing specific pollutants. The treatment types are defined below:

> Basic Treatment: *Intended to achieve a goal of 80% removal of total suspended solids for an influent concentration range of 100 mg/L to 200 mg/L. For influent concentrations less than 100 mg/L, the effluent goal is 20 mg/L total suspended solids. For influent concentrations greater than 200 mg/L, a higher treatment goal is intended.*
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> Phosphorous Treatment: *Intended to achieve a goal of 50% total phosphorus removal for an influent concentration range of 0.1 to 0.5 mg/L as well as achieving basic treatment.*
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> Enhanced Treatment: *Intended to achieve a higher level of treatment than basic treatment. Enhanced treatment is targeted at removing dissolved metals.*
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> Pretreatment: *Intended to achieve 50% removal of fine (50 micron-mean size) and 80% removal of coarse (125-micron-mean size) total suspended solids for influent concentrations greater than 100 mg/L, but less than 200 mg/L. For influent concentrations less than 100 mg/L, the facilities are intended to achieve effluent goals of 50 mg/L of fine and 20 mg/L of coarse total suspended solids.*
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> Oil Treatment: *Intended to achieve the goals of no ongoing or recurring visible sheen and a daily average total petroleum hydrocarbon concentration no greater than 10 mg/L with a maximum of 15 mg/L for discrete (grab) samples.*

Only technologies certified for Basic, Enhanced or Phosphorous Treatment meet the City of Portland's standards for TSS reduction. A technology that is on the City of Portland's approved list may not meet Portland's standards for pollution reduction with a single standalone installation and other stormwater management options may be necessary, such as a treatment train. Project designers should determine which technology best fits their site conditions, project goals, and long-term maintenance requirements. Not all technologies will be appropriate for every site or project.

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[1] http://www.ecy.wa.gov/programs/wq/stormwater/newtech/index.html
[2] https://fortress.wa.gov/ecy/publications/publications/1110061.pdf

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Manufacturer	Device Name	DOE Treatment Type	Approval Expiration	Conditions
CONTECH Engineered Solutions, LLC	Filterra Bioretention Systems	Basic Treatment Enhanced Treatment Phosphorus Treatment Oil Treatment	7/9/2018	See Conditions of Approval.
CONTECH Engineered Solutions, LLC	Stormfilter using SPG Media	Basic Treatment	1/2/2017	The following configurations are approved for standalone use in the public right-of-way at 15 gallons per minute (gpm) treatment flow per cartridge: • Vault-type with multiple filter cartridges • Precast 48" manhole with 2 filter cartridges • Precast 60" manhole with 3 filter cartridges The following configurations are approved for standalone use on private property at 15 gpm treatment flow per cartridge: • Vault-type with multiple filter cartridges • Precast 48" or 60"manhole designs • Catch basin model
CONTECH Engineered Solutions, LLC	CDS™ Stormwater Treatment System	Pretreatment	1/2/2017	Pretreatment Only. Treatment train approach or other stormwater management options likely required.
CONTECH Engineered Solutions, LLC	Vortechs System	Pretreatment	1/2/2017	Pretreatment Only. Treatment train approach or other stormwater management options likely required.
Hydro International	Downstream Defender	Pretreatment	1/2/2017	Pretreatment Only. Treatment train approach or other stormwater management options likely required.
Imbrium Systems	Stormcepter	Pretreatment	1/2/2017	Pretreatment Only. Treatment train approach or other stormwater management options likely required.
Modular Wetland Systems	MWS Linear	Basic Treatment Enhanced Treatment Phosphorus Treatment	6/21/2019	See Conditions of Approval.
Oldcastle Stormwater Solutions	PerkFilter™ Media Filtration Device (using ZPC Filter Media	Basic Treatment Phosphorus Treatment	11/28/2019	See Conditions of Approval