Abstract (en)
The new system, Stormpillow, deals with contaminated runoff stormwater before it goes to the drainage channel and water bodies. A well-designed technology is fitted into a drainage inlet without modifying or manipulating the drainage or hydraulic infrastructure architecture. The Stormpillow design is adaptable to any size or shape of drainage architecture. Most pollutants such as hydrocarbons, microplastics, microplastic, heavy metals, coarse and small debris, and dissolved ones are removed by taking advantage of the filter media composition in the bag (pillowcase).The main advantages of the system, which distinguish it from other similar systems on the market, are increased hydraulic efficiency, extremely low operation and maintenance (O&M) costs, ease of installation and maintenance, adaptability to any size and shape of the drainage system of the catchment, and the presence of the entire treatment media (granular activated carbon, zeolite, and perlite) in the pillowcase, which improves treatment efficiency. These advantages distinguish the system from other filtration technologies on the market.The technology has a well-designed overflow mechanism equipped with traping mesh (capturing debris and other coarse materials associated with the stormwater) that ensures the system's high efficiency in the face of high stormwater intensity and frequency.In addition to being very easy to install, build, and maintain, Stormpillow is also quite relatively affordable. It is not only adaptable to any size and shape of the drain's inlet due to the highly practical design of Stormpillow's body (guiding frame), but there is also an adjustable design that provides the possibility of being modified on the site in the occasion that there is any error in the measurement of the dimension of the drain inlet or any other obstacle to setting up Stormpillow.As a result of the filtering materials that are used in Stormpillow, contaminated stormwater runoff may be addressed on a large scale without having to take into consideration the hydraulic structure architectural design. In addition to being very effective at preventing pollution, the design of the overflow decreases the likelihood that polluted runoff will either be diverted around the system or overflow.

IPC 8 full level
E03F 5/04 (2006.01)

CPC (source: EP)
E03F 5/0404 (2013.01)

Citation (applicant)
• BONDELIND, MIA ET AL.: "Hydrodynamic modelling of traffic-related microplastics discharged with stormwater into the Gota River in Sweden", ENVIRONMENTAL SCIENCE AND POLLUTION RESEARCH, vol. 27, no. 19, 2020, pages 24218 - 24230, XP037166038, DOI: 10.1007/s11356-020-08637-z
• LINE, D.E.M. B. SHAFFERJ. D. BLACKWELL: "Sediment Export from a Highway Construction Site in Central North Carolina", TRANSACTIONS OF THE ASABE, vol. 54, no. 1, 2011, pages 105 - 111

Citation (search report)
• [XI] CN 110359541 A 20191022 - XU YONGFENG
• [A] WO 2021025740 A1 20210211 - NEW PIG CORP [US]
• [A] US 2013299402 A1 20131114 - ROGAHN DON [US]
• [A] US 2002021939 A1 20020221 - ALLARD DOUGLAS PAUL [US]
• [A] US 6270662 B1 20010807 - GIBSON DARRELL JAMES [US], et al
• [A] US 7112274 B1 20060926 - SANGUINETTI PETER S [US]
• [A] DE 102011106270 A1 20130103 - SCHRECK PAUL [DE]
• [A] DE 3822661 A1 19900111 - SCHRECK PAUL [DE]
• [A] US 2013292317 A1 20131107 - SHAW MARK D [US], et al