



ABSTRACTS: [VOLUME 1, SPECIAL ISSUE S1](#).

ABSTRACT

Porous Concrete Caps for Infiltration Boreholes

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Published in September 2019

The municipalities of the Gaza Strip, which have implemented the project for the absorption of underground water with rain water, which aims to exploit as much water as possible on the Gaza Strip to feed ground water, which suffer significantly from the increase in pollution, carried out some of the drilling projects on the ground And the face of the problem of early blockage of its internal components, which need to be maintained periodically to be blocked by the sediments carried with running water by the structure of the system, which is the two containers flowing water to the first container and then to the second container located above the separation wall between the two containers. This practical idea is intended to increase the sedimentation process by introducing the liquid in several stages, but this method failed due to irregular and turbulent flow to the inside, thus moving the sediment beneath the first container. In this project we aim to solve the problem of obstruction and increase the amount of injection in the groundwater, and the work of a more efficient and effective system and reduce the high cost and periodic maintenance. This is done by a new design which is only one container. The water is directly connected to it. We placed a porous mortar on the top of the absorbent hole in the cylindrical shape, which is similar to the head cap, which has an external diameter and an internal diameter that produces a certain thickness capable of filtering the water passing through it. The lateral water pressure and the reverse washing process have a special design method. Therefore, we designed a project that simulates the idea implemented in the project in fact through simple tools and equipment expressed the desired goal, and we used a concrete with a particular design allows access to water through which the concrete called water, and we added rainwater deposits water reservoirs used in the operation of the system. Since the concrete allowed the entry of a small proportion of the very soft sediments exist and did not allow the passage of sediments of large size and the

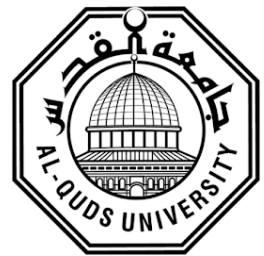
PalStudent Journal

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system was suitable to solve this problem and we got very good results where the proportion of sediments in the water before entering the filtering process is much greater after entering the process of filtering and exit.