

**FIELD TESTING AND EVALUATION OF
ENVELOPE MATERIALS FOR PIPE DRAINS**

Submitted by:

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95-PG-WRM-04

**FOR THE DEGREE OF
MASTER OF PHILOSOPHY
IN
WATER RESOURCES MANAGEMENT**

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1998

ABSTRACT

Field testing for the performance evaluation of nine envelope materials was conducted by installing experimental lateral drains on Sump-8 of Schedule-II-A in the Fourth Drainage Project, Faisalabad. These materials were screened through laboratory tests before their use in the field. Six of those were geosynthetics, one local and five imported, while, three were granular materials.

Due to the limitation of quantity of available sample materials for testing and the area selected, only one replicate of each material was carried out. To get a clear indication of success or failure of an envelope material, field data for 21 months was collected and analyzed.

All the tested envelope materials were successful in controlling the watertable in the test area. However, for comparison purpose their relative performance have been evaluated.

All the three tested gravel envelope materials gave good performance. Three of the six geosynthetic envelope materials also gave performance as good as gravel envelopes. However, the other three geosynthetic envelope materials were moderate as compared to other three gravel and three geosynthetics.

From the results of this field experiment it can be concluded that geosynthetic envelope materials can replace the usual gravel envelope materials when properly designed and installed under good field conditions.