بسم الله الرحمن الرحيم

MONA MAGHRABY

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

MONA MAGHRABY

شبكة المعلومات الجامعية

التوثيق الإلكتروني والميكروفيلم

جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات

يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار

MONA MAGHRABY

FAST-TRACK WATER QUALITY MANAGEMENT PROGRAM TO ENHANCE THE OXIDATIVE CAPACITY OF AGRICULTURE DRAINS

By

Mohamed Lotfy ElKhazragy Zein

A Thesis Submitted to the
Faculty of Engineering at Cairo University
in Partial Fulfillment of the
Requirements for the Degree of
DOCTOR OF PHILOSOPHY
in
Civil Engineering – Public Works

FACULTY OF ENGINEERING, CAIRO UNIVERSITY
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Under the Supervision of

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Approved by the
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2021

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Title of Thesis:
Fast-Track Water Quality Management Program to Enhance the Oxidative Capacity of Agriculture Drains.

Key Words:
Water pollution; Watershed management; Bioengineering; drainage water cleaning; Wastewater treatment.

Summary:
Fast-Track Water Quality Management (FTWQM) is an ongoing quick action suggested to control the pollution within a certain watershed. watershed is the smallest hydrological management unit through which whatever is dumped in upstream ends up downstream. Two different programs have been implemented based on both conventional and unconventional methods in order to achieve an immediate partial improvement of environmental status and present water quality for better reuse practices. The first on is to set the best prioritization scenario of building, upgrading and upscaling of wastewater treatment plants, while the second one is by applying bioengineering technology through exploiting the natural capacity of bacteria in improving water quality. The first program results proved that the intervention by upgrading and/or upscaling the existing wastewater treatment plants is much more feasible compared to building new ones. In the second program when there are no treatment facilities or the treatment was done partially and pollution spills to waterbody, fast corrective action by applying bio-based material in-stream, shows improvement in oxidative capacity of waterbody.

Disclaimer

I hereby declare that this thesis is my own original work and that no part of it has been submitted for a degree qualification at any other university or institute.
I further declare that I have appropriately acknowledged all sources used and have cited them in the references section.

Name: Date: ../../2021

Signature:

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