

## ENVIRONMENTAL HEALTH FACT SHEET

No. 511

### ***DHF REQUIREMENTS FOR THE DESIGN OF WASTE STABILISATION PONDS AND THE ASSOCIATED DISPOSAL OR RECYCLING OF SEWAGE EFFLUENT***

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The purpose of this Information Bulletin is to detail the Department of Health and Families (DHF) requirements for the design of waste stabilisation ponds and the associated disposal or recycling of sewage effluent. The applicable design criteria for waste stabilisation ponds is the Power Water Corporation (PWC) *Waste Stabilisation Pond Design Manual*.

The document does not aim to provide information on detailed standards and procedures as this level of information will be provided by the relevant Northern Territory Government agency.

This Information Bulletin replaces the Territory Health Services *Policy for the Design of Off Site Sewage Ponds and the Disposal or Reuse of Sewage Pond Effluent, 1998*.

#### **INTRODUCTION**

Waste stabilisation ponds (also known as sewage ponds) are used extensively in the Northern Territory for the treatment of sewage effluent prior to final disposal. While economic constraints may affect the waste stabilisation pond design in small communities, public health matters, such as minimising the potential for mosquito breeding and disease transmission, need to be considered and addressed during their design.

Treated sewage effluent from waste stabilisation ponds is a potentially valuable resource and the conservation and reuse of this treated effluent is encouraged in the Northern Territory.

Sewage effluent however, can contain various materials such as organic solids, nutrients and pathogenic microorganisms, which can affect human health and contribute to undesirable environmental and ecological effects when discharged untreated to land or waterways.

There is legislation to control the reuse or disposal of treated sewage effluent. The responsibility for enforcement of such legislation is vested with DHF and the Department of Natural Resources, Environment, The Arts and Sport (NRETAS). The discharge of treated sewage effluent to land or water may therefore occur, but only in accordance with pertinent legislation, or in its absence, to any reasonable conditions imposed by the relevant Northern Territory Government agency.

The following performance requirements for waste stabilisation ponds and associated disposal or reuse of sewage effluent require that the effect on the environment and public health is minimised:

- Sewage effluent will not result in pooling
- Sewage effluent will not enter potable water supply off-takes
- Sewage effluent will not cause mosquito breeding
- Sewage effluent will not adversely impact on waterways

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## **NORTHERN TERRITORY LEGISLATION**

- *Public Health Act 1952*
- *Water Act 1992*
- *Waste Management And Pollution Control Act 1998*
- *Planning Act 1999*
- *Water Supply And Sewerage Services Act 2000*

## **CODES / GUIDELINES**

### **Australian Government - Department of the Environment, Water, Heritage and the Arts:**

National Water Quality Management Strategy publications

[www.environment.gov.au/water/publications/quality/index.html](http://www.environment.gov.au/water/publications/quality/index.html)

- Australian Guidelines for Water Recycling: Managing Health and Environmental Risks (Phase 1) 2006
- Paper 11: Guidelines for Sewerage Systems - Effluent Management - 1997
- Paper 12: Guidelines for Sewerage Systems – Acceptance of Trade Waste (Industrial Waster) – 1994
- Paper 13: Guidelines for Sewerage Systems - Sludge (Biosolids) Management - 2004
- Paper 14: Guidelines for Sewerage Systems - Use of Reclaimed Water - 1999
- Paper 15: Guidelines for Sewerage Systems - Sewerage System Overflows - 2004

### **Department of Health and Families – Environmental Health**

- Environmental Health Standards for Remote Communities in the Northern Territory, June 2001, [www.nt.gov.au/health/envirohealth](http://www.nt.gov.au/health/envirohealth)
- Guidelines for the Management of Recycled Water Systems

### **Department of Health and Families – Medical Entomology**

- Policy for the Design of Off Site Sewerage Ponds and the Disposal or Reuse of Sewerage Pond Effluent
- Recommendations for the Design Details of Sewage Pond Effluent Reuse or Disposal Facilities to Prevent Mosquito Breeding
- The Prevention of Mosquito Breeding in Sewage Treatment Facilities

Medical Entomology Guidelines > [www.health.nt.gov.au/medical\\_entomology](http://www.health.nt.gov.au/medical_entomology) > publications > development guidelines

### **Department of Natural Resources, Environment, The Arts and Sport**

- Sewage Treatment Plants (STPs) in Indigenous Communities under the Strategic Indigenous Housing and Infrastructure Program (SIHIP)

### **Power Water Corporation**

- Waste Stabilisation Ponds Design Manual 2008
- Guidelines for Buffer Zones – Sewerage Treatment, Sludge Management and Re-Use Schemes 2003

*\*Note that these documents are updated from time to time.*

## DHF REQUIREMENTS FOR WASTE STABILISATION POND DESIGN

DHF approval for the construction of waste stabilisation ponds is not required providing that waste stabilisation ponds are designed in accordance with PWC's Waste Stabilisation Pond Design Manual 2008.

Notwithstanding, DHF requires that the proponents of new or upgraded waste stabilisation ponds carry out the following:

- Notify DHF of a proposal to construct waste stabilisation ponds. This includes modifying or extending existing waste stabilisation ponds. Notification can be via email and shall summarise the following:
  - Location of waste stabilisation ponds
  - Owners details
  - Project Manager's details including where plans can be viewed
  - Method of onsite disposal or recycling
  - Anticipated commencement date of construction
- The design of waste stabilisation ponds for Indigenous Communities must undergo a risk assessment in accordance with NRETAS' *Sewage Treatment Plants (STPs) in Indigenous Communities under the Strategic Indigenous Housing and Infrastructure Program (SIHIP)*.
- Submit an electronic copy to DHF of the Operational Environment Management Plan (OEMP) for the waste stabilisation ponds.
- Contact NRETAS – Environment and Heritage Division: to determine if the waste stabilisation ponds require a Waste Discharge Licence (WDL) under Part 7 of the *Water Act*.
- Contact the Department of Planning and Infrastructure (DPI) to determine if planning consent is required for waste stabilisation ponds.
- Any waste stabilisation ponds and associated disposal or reuse scheme should also be designed to incorporate means of preventing or minimising the breeding of mosquitoes under the *Public Health Act 1952*. The waste stabilisation ponds should be sited so that suitable wastewater disposal and dispersal is practical, and ideally be constructed with suitable banks that assist in enhancing wave motion as well as reducing the need for weed removal and other maintenance requirements. The design and maintenance of ponds to prevent mosquito breeding should be in accordance with the principles outlined in the following DHF Medical Entomology documents:
  - *Policy for the Design of Off Site Sewerage Ponds and the Disposal or Reuse of Sewerage Pond Effluent.*
  - *Recommendations for the Design Details of Sewage Pond Effluent Reuse or Disposal Facilities to Prevent Mosquito Breeding.*
  - *The Prevention of Mosquito Breeding in Sewage Treatment Facilities*

## DISPOSAL OR RECYCLING OF SEWAGE EFFLUENT FROM WASTE STABILISATION PONDS

### To Land

Any person or community proposing to dispose or reuse sewage effluent from waste stabilisation ponds to land shall make 'Application for Approval of a Recycled Water Scheme' to DHF. The approval process requires compliance with the DHF *Guidelines for the Management of Recycled Water Systems*.

### To Waterways

Section 16 of the *Water Act* prohibits the pollution of water but allows for authorisation by NRETA of waste discharge under Part 7 of the Act. This authorisation takes the form of a waste discharge licence (WDL).

A WDL issued by NRETAS may be necessary if waste stabilisation ponds generate significant amounts of sewage effluent that is discharged into receiving waters. Waste discharge licences are regulatory instruments used to regulate the quality and quantity of wastewater (includes sewage effluent) created by industrial and commercial operations that are then discharged to receiving waters in the Northern Territory.

NRETAS liaises with DHF when processing waste discharge licences.

### CONTACTS

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