

Training Course on Sewer Hydraulics

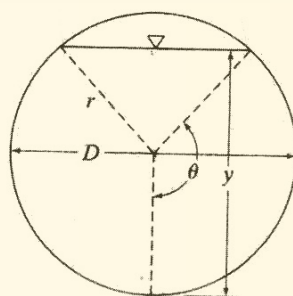


Fig. A Geometry

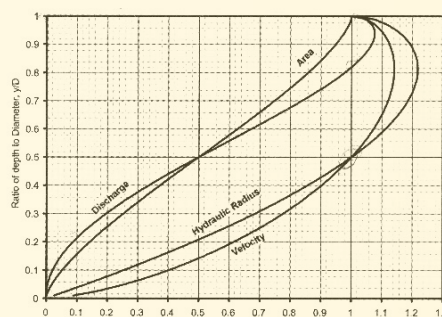


Fig. B Hydraulic Elements

(Source : ASCE/ WEF (2007) - Gravity Sanitary Sewer Design and Construction)

Training

Introduction

Since wastewater contains dissolved gases as well as pollutants in dissolved and suspended solids phases, sewer hydraulics not only concerns water transport but also odour nuisance and maintenance matters. Sewers are usually closed conduits with free surface flows; however, pressurised flows arise from sewer capacity limitations. More dramatically, steep sewers may choke, overflowing manholes with unacceptable environmental consequence.

Course Description

This 1-day CPD Training on “Sewer Hydraulics” planned for Dec 2023 is to supplement the 2-day CPD Training on “Sewerage System in Hong Kong” carried out in Feb/March 2023.

It is essential to grasp the hydraulic principles before turning to applications of computational hydraulic modelling suites on sanitary sewer systems. This Course draws not only on sewer hydraulics literatures in English but also translations from those in German and Russian.

Programme code

10014820

Date and time

6 December, 2023 (Wednesday)
9:30am – 5:30pm

Venue

Inno Network, 1/F, HKPC Building

Medium

Cantonese with English terminology

Course fee

HK\$ 2,400

Remarks

Participants who have fulfilled 75% attendance will be awarded an e-certificate of attendance issued by the Hong Kong Productivity Council

WHO SHOULD ATTEND?

This course is targeted at civil and environmental engineering professionals in the public and private sectors, responsible for project management, planning, investigation, design, construction, operation and management of wastewater infrastructure., which is increasingly important for sustainable development to meet social economical needs in times of Climate Change.

Supporting Organisations –



The HK Chapter of the International Association for Hydro-Environment Engineering and Research

Course Outline

Lecture 1 - Introduction

- Basic Equations
- Flow Classifications
- Hydraulic Losses
- Choking (abrupt transition between open channel & pipe flows)

Lecture 2 - Intermediate Topics (1)

- Uniform Flow
- Aerated Flows in Steep Sewers
- Critical Flow
- Hydraulic Jump

Lecture 3 - Intermediate Topics (2)

- Backwater Curves in circular conduits
- Backwater Curves in rectangular conduits
- Culvert
- Inverted Siphon

Lecture 4 - Advanced Topics

- Fall Manholes: drop & vortex
- Standard Manholes
- Junction Manholes
- Sewer Sideweir

TRAINER

Ir Prof. CHAN Pak-Keung taught a 2-day CPD course “Sanitary Sewers: Principles and Applications” for HKPC in July 2019, a 1-day course “An Introduction to Wastewater Treatment Plant (WWTP) Hydraulics” in August 2021, a 2-day course “Intermediate WWTP Hydraulics” in September/October 2022 and a 2-day course “Training on Hong Kong Sewerage System” in February/March 2023.

Ir Prof. CHAN has over thirty years of experience in Civil and Environmental Engineering. He had spent sixteen years working as a Chief Engineer / Assistant Director in Drainage Services Department (DSD) amongst flood management, major wastewater engineering projects, the Research & Development initiatives of DSD as well as operation and maintenance for sewerage & drainage systems. Since 2015, Ir Prof. CHAN has been active in teaching university programmes and CPD courses.

Enrolment Method

1. Scan the QR code to complete the enrolment and payment online.

OR

2. Mail the crossed cheque with payee name "Hong Kong Productivity Council" in HK dollar and the application form should be mailed to Hong Kong Productivity Council, 2/F, HKPC Building, 78 Tat Chee Avenue, Kowloon (ATTN: Ms Mandy LAM). **Please indicate the course name and course code on the envelope.**



Enrol [HERE](#)