渠務署
Drainage Services Department

獲得認同

在工程推行中，署方一直堅持創新意念，以持續改進服務。在各部門同事數年來不懈的努力與無間的合作下，元朗排水繞道工程在二零零六年完成。工程除了獲得包括其他政府部門、學術團體、環保團體以及公眾人士等各方面的支持和認同外，更在二零零七年公務員優質服務獎勵計劃中榮獲「創新意念獎」冠軍及善用資源獎 。

Our Achievements

Through the application of innovative ideas for continuous improvements, and the continuous efforts and cooperation of the engineering team, Yuen Long Bypass Floodway was successfully completed in 2006. The Yuen Long Bypass Floodway was well supported and recognized by the other government departments, academic bodies, green groups and the general public, and was honored the Champion in Innovation Award and Cost Effectiveness Award of the Civil Service Outstanding Service Award Scheme 2007.

工程 Project Scope	1. 約3.8公里長的排水道（由深涌村伸延至錦田河）； 3.8 km long main drainage channel from Sham Chung Tsuen to Kam Tin River; 2. 一道充氣堤壩和一個旱流抽水站（在排水道末端）； An inflatable dam and a low flow pumping station at the downstream end of the bypass floodway; 3. 18條箱形暗渠； 18 box-culverts; 4. 沿排水道的道路，相關的排水和水務工程； Roads with associated drainage and water works along the bypass floodway; 5. 面積達7公頃的人工濕地；及 7 hectares engineered wetland; and 6. 約700,000棵樹木水草園藝工程。 Landscaping work with about 700,000 no. of plants.
建造成本 Construction Cost	港幣4億7仟萬(連土木及電機工程) HK$470 million (civil & E&M works)
集水區面積 Catchment Area	18.7 平方公里 18.7 km^2
設計流水量 Design Flow Capacity	每秒317 立方米 (50年一遇) 317 m^3/s (1 in 50 yrs)
排水道闊度 Width of Channel	最上游 : 13米 (矩形排水道) Upstream end : 13 m (rectangular channel) 最下游 : 50米 (梯形排水道) Downstream end : 50 m (trapezoidal channel)
旱流抽水站 Dry Weather Flow Pumping Station	螺絲泵 : 3個 (直徑1.5米) Screw Pump : 3 no. (1.5m dia.) 旱流量 : 每秒0.9立方米 Dry Weather Flow : 0.9 m^3/s

元朗排水繞道
Yuen Long Bypass Floodway

渠務署
Drainage Services Department

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二零零九年六月印製
Printed in June 2009

政府物流服務署印

我們的抱負 Our Vision

提供世界級的污水和雨水處理排放服務，以促進香港的可持續發展。

To provide world-class wastewater and stormwater drainage services enabling the sustainable development of Hong Kong.

元朗市及周邊地區以前的水浸威脅

元朗位處低地，其高速的都市化令洪水增加，而原有蓄洪作用的洪泛平原及魚塘卻同時消失，以致數十年前建造的元朗明渠無法負荷，遇有特大暴雨時就會發生水浸，令民生大受影響。

旱流抽水站及充氣堤壩
Low Flow Pumping Station & Inflatable Dam

排水繞道
Bypass Floodway

元朗排水繞道

元朗排水繞道工程的目的，是為元朗市及其周邊的鄉村地區締造一個不再受水患威脅的環境。排水繞道是一條在元朗市以南的大型排水道，總長約3.8公里。它截取了元朗集水區四成雨水，不經元朗市而直接引到錦田河下游，再排出后海灣。此工程方案不需要在元朗市中心大興土木，避免嚴重影響民生及交通，亦符合成本效益。

排水繞道採取了一系列的環保設計。其水流並不是筆直地流出大海，而是經過不同的流域，包括彎曲的河道、淺水池和人工濕地。河底和河岸斜坡上亦廣植不同品種的草本植物，營造一個具有觀賞和生態價值的天然河道。在下游尾段，設有旱流抽水站和充氣堤壩，以控制排水繞道的水位和防止下游污染了的河水倒流入排水繞道。

元朗排水繞道的生態保育工作

工程項目本身包括在排水繞道下游附近開拓一片面積達七公頃的人工濕地。工程又沿著排水繞道及人工濕地完成了大量的綠化工作，包括種植13 000棵喬木、140 000棵灌木和550 000棵草本植物。

人工濕地主要由三個主水池、一個季節性淺水池和一個永久淺水池組成；人工濕地內還有碎磚池及蠔殼池、蘆葦圃和一個深水池。排水繞道的旱流經過蠔殼池、碎磚池和蘆葦圃的天然淨化後，流入人工濕地，繼而孕育出一個優美的生態環境，並為依賴濕地生存的野生鳥類、兩棲動物和蜻蜓提供良好的棲息地。

人工濕地在為期一年的保育期後已發展成一個可持續的生態環境，並已於二零零六年六月交由漁農自然護理署作長期專業護養。持續的監察結果顯示濕地內的生物種類現已十分豐富，有超過130個品種的植物在內繁衍，更吸引了不同的鳥類、青蛙、昆蟲和蝙蝠等棲身。

人工濕地的生趣
Beauty of Engineered Wetland

Flooding of Yuen Long in the Past

Yuen Long is a low lying area. The rapid urbanization in the past decades has increased the surface runoff. At the same time, the flood storage from flood plain and fish ponds has diminished. The existing Yuen Long Nullah built in the past cannot handle the increased flow. As a result, flooding occurs frequently during heavy rainstorms causing disruption to social activities.

Yuen Long Bypass Floodway

Yuen Long Bypass Floodway is constructed to mitigate flooding in Yuen Long Town and its peripheral village areas. Yuen Long Bypass Floodway is a 3.8 km long large drainage channel built at the South of Yuen Long Town to intercept 40% of the runoff in the Yuen Long catchment. The intercepted flow is diverted to the downstream of Kam Tin River and then discharged to Deep Bay. This engineering solution is cost-effective and can avoid major drainage improvement works in Yuen Long Town, and hence the disruption to the traffic and living of Yuen Long residents.

The Bypass Floodway has incorporated a series of environmental designs. Its flow is not carried straight to the sea but passing through different regimes including bends, shallow ponds and wetland. The channel bottom and slope are covered by different species of herbaceous plants to provide a natural riverbank with aesthetic and ecological value. A system of dry weather flow pumping station and inflatable dam is provided at the downstream end to control the water level in the Bypass Floodway and to prevent polluted water in the downstream from flowing back into the Bypass Floodway.

淺水池及綠化河道
Shallow Ponds & Green Channel

Engineered Wetland and Greening Works

The project includes the construction of a 7 hectares of engineered wetland near the downstream. Greening works carried out along the Bypass Floodway and in the engineered wetland include planting of 13,000 trees, 140,000 shrubs and 550,000 herbaceous plants.

The engineered wetland mainly consists of 3 main water ponds, a seasonal shallow pond and a permanent shallow pond. There are also crushed brick and oyster shell ponds, reed beds and a deep water pond within the wetland. The dry weather flow of the Bypass Floodway, after purified by passing through the oyster shells, crushed bricks and reed bed, flows into the engineered wetland to establish an ecologically enriched habitat for the wild birds, amphibians and dragonflies.

Managed by a professional team of the Agriculture, Fisheries and Conservation Department since December 2006, the engineered wetland has already developed into a sustainable ecological habitat. Continuous monitoring has shown great biodiversity with over 130 plant species and various species of birds, frogs, insects and bats.

人工濕地的生趣
Beauty of Engineered Wetland