

完善交通網絡 推動社區聯繫

Enhance Transportation Networks
Promote Community Connections



粉嶺繞道(東段)
The Fanling Bypass Eastern Section

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因地制宜的橋樑建造方法

粉嶺繞道(東段)(下稱“繞道”)是古洞北及粉嶺北新發展區的重點工程之一。這條長約4公里的雙程雙線分隔車道，將連接新發展區至粉嶺公路近九龍坑段，以應付新發展區的交通需求，以及改善粉嶺區的交通狀況。通車後，市民可以取道繞道直達粉嶺公路前往市區，而無須再經粉嶺市中心的道路網絡或交匯處，行車時間將大為縮短。

工程團隊考慮了現場限制，制定合適的施工方法興建繞道，包括採用掛籃式模板、架橋機及起重機建造橋面，及使用橋樑轉體施工跨越東鐵線，以減少工程對周邊居民及港鐵設施的影響。

Adaptive deck erection methods to tackle local constraints

The Fanling Bypass Eastern Section (“The Bypass”) is one of the key infrastructures in the Kwu Tung North and Fanling North New Development Areas (NDAs). It is a dual two carriageway of about 4 km long, connecting the Fanling North Development Area to Fanling Highway near Kau Lung Hang to cope with the traffic needs of the NDA and improve the traffic condition in Fanling districts. Upon commissioning, the drivers can take The Bypass to join Fanling Highway to the urban area without having to wind through the road network or interchanges in Fanling town centre, which will significantly shorten the traveling time.

The project team has considered the site constraints and formulated suitable construction methods for the construction of The Bypass, including the use of form traveller, launching girder and crane for bridge segment construction, and bridge rotation method, etc. to minimize the impact of the works on the surrounding resident and MTR East Rail Line.

架橋機是組裝橋樑預製件的吊重機械。工程團隊使用專用的架橋機，將預製混凝土樑段定位並連接成連續結構。架橋機主要由一個長型可移動的桁架加上一個吊重裝置，用於支撐和運輸預製樑段到指定位置。

- ✓ 可建構無縫的橋面
- ✓ 高效和準確施工
- ✓ 減少對交通的干擾
- ✓ 縮短整個項目的施工時間



Launching Girder is a lifting equipment for transportation and assembly of bridge segment. Precast concrete segments are positioned and stitched together to compose the bridge deck. The launching girder mainly comprises a long movable truss system and is equipped with lifting appliances which can support and transport the segments to specified position.

- ✓ Create seamless bridge decks
- ✓ Efficient and accurate construction
- ✓ Minimize disruption to traffic
- ✓ Reduce overall construction time



Form Traveller is a movable formwork system which can be launched horizontally along the bridge deck for segment construction.

- ✓ Provide stable working platform for workers
- ✓ Can be used for pouring and curing concrete to ensure precise alignment and structural integrity of the bridge
- ✓ Flexible construction method to adapt different bridge geometries with high efficiency

掛籃式模板是指一種可沿橋面縱向移動的模板系統，以現場澆注混凝土方式建造橋面。

- ✓ 為工人提供了穩定的工作平台
- ✓ 可用於倒入和固化混凝土，確保橋樑精確對接和結構完整。
- ✓ 搭建方法靈活，可適應不同的橋樑幾何形狀，施工效率高。



起重機吊運是相對傳統的組裝橋面結構方式，將預製混凝土樑段吊起並精確定位，組裝成所需的結構。

- ✓ 靈活高效地快速組裝
- ✓ 配備伸縮臂和先進吊裝功能的移動起重機可確保吊運安全
- ✓ 確保橋樑組件能準確而穩定地組裝
- ✓ 縮短施工時間

Crane lifting is a comparatively traditional segments assembly method. Individual precast concrete segments are lifted and positioned precisely to form the desired structure.

- ✓ High flexibility and rapid assembly
- ✓ Mobile cranes equipped with telescopic booms and advanced lifting capabilities to ensure safety
- ✓ Ensure proper control on alignment and stability
- ✓ Optimize construction timelines

橋樑平衡轉體施工是一種嶄新的橋樑施工方法，主要用於興建橫跨現有鐵路或高速公路的高架橋。先將橋樑結構作橫向澆築，然後旋轉到指定位置。

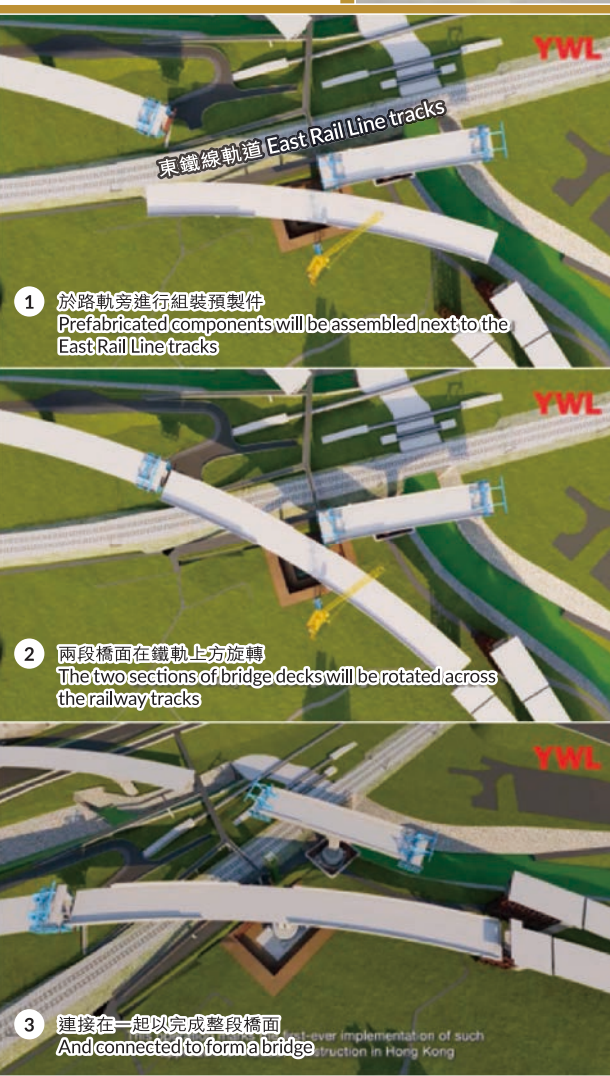
粉嶺繞道(東段)部份走線須跨越現有港鐵東鐵線，然而在路軌保護區域內難以進行吊重工序，採用平衡轉體施工法，可解決跨越路軌的限制。

- ✓ 節省起重成本
- ✓ 不會干擾鐵路運作
- ✓ 將夜間工作減至最低
- ✓ 降低施工風險
- ✓ 確保安全可靠

Horizontal Bridge Rotation Construction is an innovative bridge construction method. It is mainly used for construction of viaducts spanning over railway line and high speed road. Bridge structure will be cast parallel to the railway line and then rotated horizontally to the designed position.

Part of the alignment of Fanling Bypass Eastern Section will span across the existing MTR East Rail Line. The use of horizontal bridge rotation method can overcome the difficulties in carrying out lifting within the railway protection zone.

- ✓ Save lifting costs
- ✓ Minimal disruption to railway operation
- ✓ Minimize night work
- ✓ Reduce construction risks
- ✓ Ensure safety and reliability



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創科@大埔 2024

工程團隊於2024年2月獲邀參加由大埔民政事務處和大埔學校聯絡委員會合辦的「創科@大埔2024」展覽會，藉此機會向公眾介紹古洞北及粉嶺北的未來發展，並展示創新科技於工地的應用。其中展出利用建築信息模擬(BIM)製作的「粉嶺繞道(東段)模擬駕駛遊戲」，讓市民率先體驗飛馳於未來的繞道上，兩日內吸引了近500人試玩。工程團隊亦為逾100名大埔區中學生提供關於建造業及工程界的生涯規劃分享講座，增加他們對工程界的認識，提早為生涯規劃作準備。



Inno Expo@Tai Po 2024

The project team was invited to participate in the "Inno Expo@Tai Po 2024" exhibition jointly organized by Tai Po District Office and the Tai Po School Liaison Committee in February 2024, taking this opportunity to introduce the project to the public, and showcase the innovative technology applications on construction sites. The driving simulator of the Fanling Bypass Eastern Section, which is produced by using Building Information Modelling (BIM), was exhibited to provide the public with a galloping experience on the future highway. The exhibit was well received by the public with around 500 participants in two days.

The project team was also invited to provide a sharing on career planning to some 100 secondary school students from the Tai Po area, providing them with an overview of the engineering industry.

香港國際創科展 2024

「智慧香港展館」

「香港國際創科展2024」於4月由香港特別行政區政府、香港貿發局主辦，以創新科技場景應用為主線，匯聚各項新世代智慧解決方案，向全球展示香港的科創優勢。當中設立的「智慧香港展館」，更展出超過20個政府部門推廣與市民生活息息相關的科技方案。

在為期四天的展覽會中，工程團隊重點展示現時工地上所應用的創新科技，簡介智慧科技如何讓工程團隊更有效率地管理工程項目進度，監察和提升工地安全水平。

參觀者更可透過「粉嶺繞道(東段)模擬駕駛遊戲」，以互動方式體驗飛馳於未來的繞道上。

Smart Hong Kong Pavilion at the InnoEX 2024

The InnoEX 2024 was organized by the Hong Kong SAR Government and the Hong Kong Trade Development Council in April. Focusing on smart technology applications and gathering next-gen smart solutions to showcase Hong Kong's advantages on innovation and technology to the world. The Smart Hong Kong Pavilion at InnoEX showcased innovative solutions adopted by over 20 government bureaus and departments.

During the four-day exhibition, the project team demonstrated innovative technology applications on site, including how smart technology allows us to manage project progress more efficiently, as well as monitor and improve site safety levels.

Visitors were also able to experience the future Fanling Bypass Eastern Section with the driving simulator exhibited.



「建造業議會可持續建築大獎2023」金獎

「粉嶺北新發展區第一階段 - 粉嶺繞道東段(石湖新村北至龍躍頭)」的工程團隊獲建造業議會頒發「可持續建築大獎2023金獎」，表揚其在「可持續建築」理念方面之卓越貢獻，並致力在建築過程中減少對環境、社會和經濟方面的影響。

CIC Sustainable Construction Award 2023 - Gold Award
The project team of "Fanling North New Development Area Phase 1 - Fanling Bypass Eastern Section (Shek Wu San Tsuen North to Lung Yeuk Tau)" was awarded the Gold Award in the Construction Industry Council (CIC) Sustainable Construction Award 2023 in recognition of its outstanding contribution to the concept of sustainable construction, minimizing the environmental, social, and economic impacts during the construction process.

推廣園境建築工作獲業界肯定

工程團隊獲香港園境師學會頒發香港園境師學會年獎2021-2023「園境傳意項目 - 優異獎」，確認團隊在向公眾傳達園境建築工作、研究、技術和理論方面的傑出表現。

為推廣可持續發展的重要性，自工程開展至今，團隊已為區內學校或團體舉行超過20場活動或工作坊，升級再造工程中所收集的木料，為樹木賦予第二生命。



Recognition received in the promotion of landscape architecture

The project team received the "Excellence in Landscape Communication - Merit Award" in the Hong Kong Institute of Landscape Architects (HKILA) Award 2021 - 2023 in recognition of outstanding efforts in communicating landscape architecture works, research, technologies and theory to raise public awareness.

To promulgate the importance of sustainable development, the project team has organized over 20 events/workshops for local schools or organizations, which includes upcycling of wood materials collected under the Project, thus giving second life to yard materials.

工程小知識 Engineering Knowledge

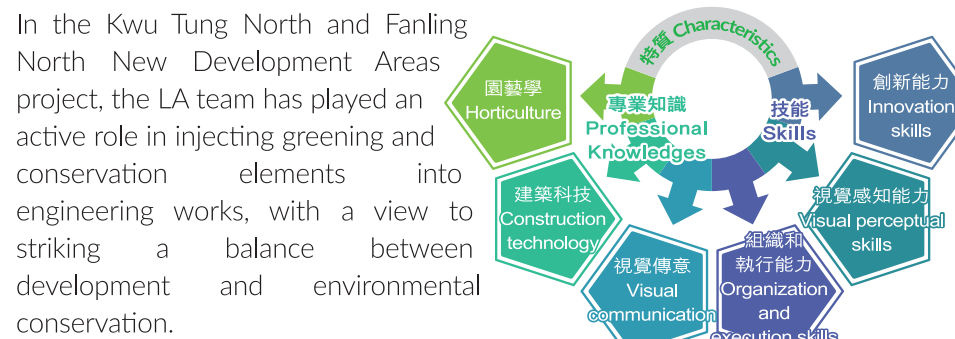
園境師的角色

隨着社會日益重視綠化和可持續發展，園境規劃已成為大型基建項目中不可或缺的一環。園境師涉獵的工作範疇眾多，包括環境評估、戶外空間規劃、綠化設計，以及樹木管理等。

在古洞北及粉嶺北新發展區項目中，為平衡發展和環境保育，園境師團隊擔當起重要角色，負責為工程項目注入綠化和保育元素。

The Roles of Landscape Architects

With the growing emphasis on greening and sustainability in the society, landscape planning has become part and parcel of large-scale infrastructure projects. A Landscape Architect (LA) is responsible for tasks ranging from environmental assessment, design of outdoor spaces, greening works, to tree management.



In the Kwu Tung North and Fanling North New Development Areas project, the LA team has played an active role in injecting greening and conservation elements into engineering works, with a view to striking a balance between development and environmental conservation.



查詢詳情，請與古洞北及粉嶺北新發展區辦事處聯絡。
For further information, please contact the Kwu Tung North and Fanling North New Development Area Office.
古洞北 tel: 3547 1645 email: ktgrp@cedd.gov.hk
粉嶺北 tel: 3547 1648 email: fnrnp@cedd.gov.hk



合約編號 Contract No.: ND/2019/01
古洞北新發展區第一階段 - 地盤平整和基礎設施工程
Kwu Tung North New Development Area, Phase 1: Site Formation and Infrastructure Works
古洞北沖廁水配水庫現正進行水密性測試。
Water tightness test of Kwu Tung North Flushing Water Service Reservoir is ongoing.
石仔嶺花園現正進行地盤平整工程。
Site formation works at Dills Corner Garden are in progress.
工程熱線 Enquiry Hotline 5975 8579

合約編號 Contract No.: ND/2019/03
古洞北及粉嶺北新發展區第一階段 - 發展塢原自然生態公園
Kwu Tung North and Fanling North New Development Areas, Phase 1: Development of the Long Valley Nature Park
塢原自然生態公園的建造工程已大致完成，並正逐步轉交予漁農自然護理署。
The construction works of the Long Valley Nature Park are nearing completion and are being handed over to the Agriculture, Fisheries and Conservation Department.
供農戶使用的留宿設施已大致完成外牆飾面工程。
Mural painting at the lodging facilities for farmers is substantially completed.工程熱線 Enquiry Hotline 5506 5268

合約編號 Contract No.: ND/2019/04
粉嶺繞道東段 — 石湖新村北至龍躍頭
Fanling Bypass Eastern Section between Shek Wu San Tsuen North and Lung Yeuk Tau
粉嶺繞道(東段)橫跨梧桐河的行車橋樑工程，現正興建中。
Bridge deck structure of Fanling Bypass Eastern Section across Ng Tung River is being constructed.
沙頭角公路龍躍頭一帶工地，正進行地面道路和地下車道的挖掘及結構工程。
Excavation and construction of depressed roads and underpass adjacent to Sha Tau Kok Road - Lung Yeuk Tau are in progress.
現正進行連接馬適路與粉嶺繞道的新路建造工程。
New road connecting Fanling Bypass to Ma Sik Road is in progress.
工程熱線 Enquiry Hotline 5197 5733

合約編號 Contract No.: ND/2019/07
粉嶺北新發展區第一階段 - 地盤平整及基礎設施工程
Fanling North New Development Area, Phase 1: Site Formation and Infrastructure Works
連接馬適路及和泰街交界的一段馬得得路已於2024年1月27日開放予公眾使用。
A section of Ma Tak Road connecting to the junction of Ma Sik Road and Wo Tai Street was opened to the public on 27 January 2024.
土地平整大致完成，新建道路、渠務工程及隔音屏障正在進行中。
Site formation works have been substantially completed. Construction of new roads, drainage works and noise barriers are in progress.
工程熱線 Enquiry Hotline 5925 7173

合約編號 Contract No.: ND/2019/06
粉嶺北新發展區第一階段 - 北區臨時農產品批發市場重置工程
Fanling North New Development Area, Phase 1: Reprovisioning of North District Temporary Wholesale Market for Agricultural Products
北區臨時農產品批發市場內的所有工程已經完成，並已交由漁護署營運。
All works in the reprovisioned North District Temporary Wholesale Market for Agricultural Products have been completed and handed over to AFCD for operation.
塘坑東村
Tong Hang
Tung Chuen

合約編號 Contract No.: ND/2019/02
古洞北新發展區至石湖墟的道路和渠務工程
Kwu Tung North New Development Area, Phase 1: Roads and Drains between Kwu Tung North New Development Area and Shek Wu Hui
古洞北污水泵房的結構工程現正進行中。
The structure of Kwu Tung North Sewage Pumping Station is being constructed.
橫跨雙魚河的行人天橋已大致完成裝設。
Builder works of the footbridge spanning across Sheung Yue River are substantially completed.
工程熱線 Enquiry Hotline 6848 0156

合約編號 Contract No.: ND/2019/05
粉嶺繞道東段 — 崇謙堂至九龍坑
Fanling Bypass Eastern Section between Shung Him Tong and Kau Lung Hang
近崇謙堂一帶工地，正進行橋面預製件安裝工程。
Bridge segment erection near Shung Him Tong Village is in progress.
沿粉嶺公路的隔音屏障正進行地基工程。
Construction of noise barrier foundations along Fanling Highway is in progress.
工程熱線 Enquiry Hotline 9737 1021