CEDD

將軍澳跨灣連接路

Cross Bay Link, Tseung Kwan O

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海上高架橋附設單車徑及行人路
Cycle track and footpath on the marine viaduct

海上高架橋簡介
Introduction of Marine Viaduct

跨度200米長的鋼製拱橋
200-metre Span Steel Arch Bridge

多功能海上高架橋
Multipurpose Marine Viaduct

橫跨將軍澳灣的海上高架橋是香港首條同時具備行車道路、單車徑及行人路功能的高架橋，充份發揮連接路的功能。它的總長度約為1公里，主橋寬度約36米，包括雙程雙線的分隔車道(每邊車道的寬度為7. 3米)、4米寬的單車徑及3. 5米寬的行人路，設計行車速度為每小時80公里。

The marine viaduct across Junk Bay, which is the first of its kind in Hong Kong, combines the functions of carriageway, cycle track and footpath on one bridge to fully utilize the link road. It is about 1 kilometre long and 36 metres wide, comprising dual two-lane carriageways (each of 7.3 metres wide), a 4-metre wide cycle track and a 3.5-metre wide footpath. The design driving speed is 80 kilometres per hour.

海上高架橋簡介
Introduction of Marine Viaduct

鋼橋的設計
Design of Steel Bridge

海上高架橋由400米長的鋼橋和600米長的混凝土橋組成。當中400米長的鋼橋包括一條200米長的鋼製拱橋及兩條各100米長的鋼製橋面。鋼橋曾先後分別於丹麥、法國及中國進行了3次風洞測試，以測定其空氣動力穩定性和耐風能力，以及獲取設計參數。測試結果核實鋼橋符合「道路及鐵路結構設計手冊」的風速為每小時284公里的設計標準，能夠抵禦超強颱風的吹襲。舉例而言，超強颱風山竹於2018年9月襲港時最高陣風紀錄為每小時220公里。

The marine viaduct comprises 400-metre long steel bridge and 600-metre long concrete bridge. The 400-metre long steel bridge comprises a 200-metre long steel arch bridge and two sections of 100-metre long steel deck. Three wind tunnel tests were conducted in Denmark, France and China respectively to determine aerodynamic stability and wind resistance capability of the steel bridge, and acquire design parameters. The test results verified that the steel bridge could meet the design wind speed of 284 kilometres per hour in accordance with the standard stipulated in "Structures Design Manual for Highways and Railways". In brief, the steel bridge shall be capable to resist the attack of super typhoons. For instance, the peak gust speed was 220 kilometres per hour during the attack of super typhoon Mangkhut in September 2018.

鋼橋部分的風洞測試
Wind tunnel tests on steel bridge

樁帽殼組件的生產廠房
Fabrication yard of pile-cap shells

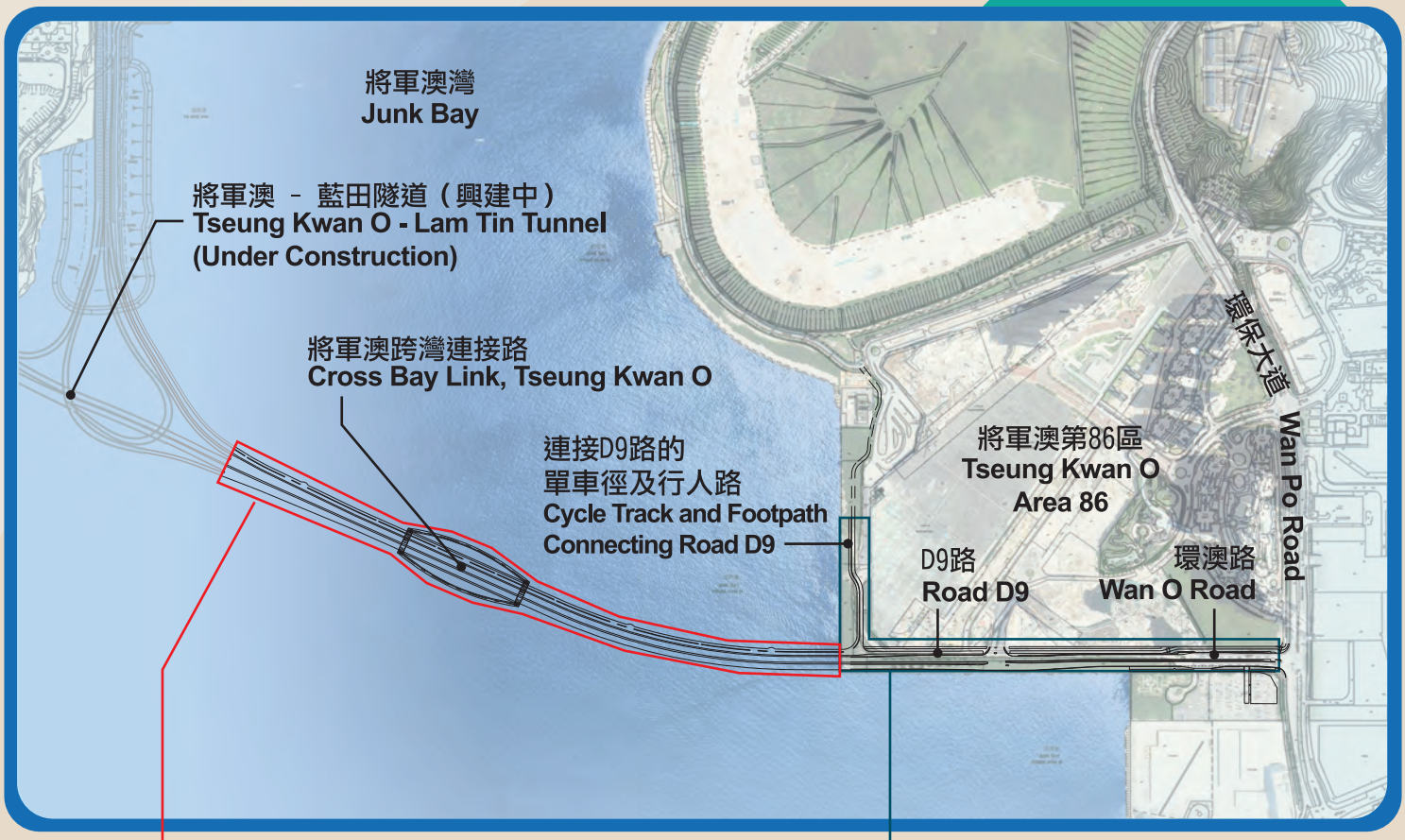
箱形大樑組件的生產廠房
Fabrication yard of box girder units

施工方法
Construction Methodology

海上高架橋採用了組裝合成的建造方法。整條海上高架橋將會分為若干的鋼及混凝土大型部件，並在生產廠房進行預製。完成的部件將會經海路運送到香港，及後在地盤進行組裝。使用組裝合成建造方法的優點主要有(a)較優的質量及工藝控制；(b)提升生產力；(c)避免在海面上施工的潛在工地安全隱憂；以及(d)避免對周遭及鄰近居民的潛在環境影響。

The modular integrated construction methodology is used to construct the marine viaduct. The marine viaduct, which is sub-divided into sizeable steel and concrete segments, are fabricated at off-site yards. The fabricated segments will then be delivered to Hong Kong by sea and assembled on site. The merits of the modular integrated construction methodology are mainly as follows: (a) better control of quality and workmanship; (b) productivity enhancement; (c) avoidance of potential site safety hazards while working at sea; and (d) avoidance of potential environmental impact to the surroundings and nearby residents.

工程進度
Project Progress



主橋及相關工程
(合約編號：NE/2017/07)
Main Bridge and Associated Works
(Contract No：NE/2017/07)

海上鑽孔樁工程及機電工房的建造工程進展順利，並開始為海上高架橋地基生產預製樁帽殼，以及為混凝土橋生產箱梁部件。

The marine bored-piling works and the construction of E&M plant room are in good progress. The fabrication of pile-cap shells for the foundation of marine viaduct, and box girders of the concrete bridge commenced.

D9路及相關工程
(合約編號：NE/2017/08)
Road D9 and Associated Works
(Contract No：NE/2017/08)

現時正在D9路進行前期鑽探及鑽孔樁工程，未來將會開始興建橋台結構。

The pre-drilling works and bored-piling works of Road D9 are in progress. The construction of bridge abutment will commence.

工程小知識
Knowledge of Construction

海上工程船隻 Marine Plant

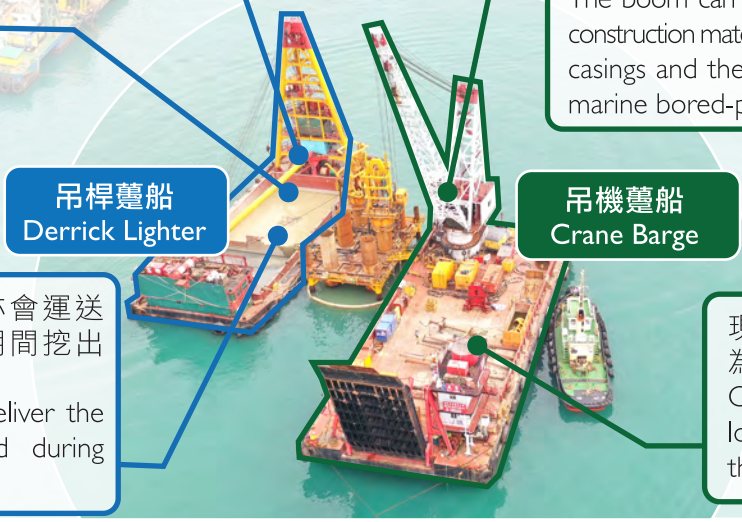
在建造海上高架橋時會使用不同種類的工程船隻，以下介紹在海上進行地基工程及建造橋墩時所使用的船隻，這些船隻均備有起重裝置及設備。

Various types of marine plant are used to construct the marine viaduct. Here we would like to introduce the marine plant used in the construction of bored piles and piers. Those marine plants are equipped with lifting appliances and gears.

1 吊臂只限於**單向轉動**以協助吊運海上臨時結構
The boom can be **rotated on one side** for lifting the temporary marine structure

2 現時工程使用安全操作負荷為**60公噸**的吊桿躉船
Derrick lighters with safe working load of **60 tonnes** are used in this project

3 除吊運外，吊桿躉船亦會運送海上鑽孔樁工程進行期間挖出的海泥
Derrick lighters help to deliver the marine deposit excavated during marine bored-piling works



吊桿躉船 Derrick Lighter

吊機躉船 Crane Barge

1 吊臂可**靈活轉動**以便在海上吊運工程物料，如鋼筋、套管、鑽孔機等以配合海上地基工程
The boom can be **flexibly rotated** for lifting construction material such as steel reinforcement, casings and the drilling machine, facilitating marine bored-piling works

2 現時工程使用安全操作負荷為**200公噸**的吊機躉船
Crane barges with safe working load of **200 tonnes** are used in this project

資訊與聯絡
Information and Enquiries

如欲知詳情，請瀏覽將軍澳跨灣連接路的工程網頁：
For further information, please visit the Cross Bay Link, Tseung Kwan O's project website:

工程網頁：Website

www.cbltko.hk

歡迎提出意見及建議。
Your views and comments are welcome.

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星期一至五 Mon to Fri	09:00 - 13:00 14:00 - 19:00
星期六 Sat	10:00 - 15:00
星期日及公眾假期 Sun and Public Holiday	休息 Close

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