Flyover from Kwai Tsing Interchange Upramp to Kwai Chung Road

Project Profile

(prepared in accordance with
the Environmental Impact Assessment Ordinance (Cap. 499))

February 2012

Civil Engineering and Development Department

Project Profile

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1 BASIC INFORMATION

Project Title

1.1 The title of the proposed project is "Flyover from Kwai Tsing Interchange Upramp to Kwai Chung Road" (hereinafter named as the Project).

Purpose and Nature of the Project

1.2 The objective of the Project is to resolve the forecast traffic congestion on the south bound carriageway of Tsuen Wan Road (TWR) between Kwai Tsing Interchange (KTI) and Kwai Chung Road during peak hours in the future years.

Name of Project Proponent

1.3 New Territories North and West Development Office (NTN&W DevO), Civil Engineering and Development Department (CEDD) of the Government of HKSAR.

Location and Scale of the Project

1.4 The subject site is located in the existing urban area of Kwai Chung (see Drawing Nos. 1.1 to 1.2).

Background and Project Description

1.5 TWR is part of the strategic road network carrying a significant volume of long distance traffic through Tsuen Wan Area between the Northwest New Territories and Kowloon. The 3-lane southbound carriageway of TWR from KTI to Kwai Chung Road also functions as a collector road in Kwai Chung and Tsing Yi including the Container Port area, where the local traffic heading for Kowloon gains access to southbound TWR at KTI via a slip road from Hing Fong Road southbound (the HFR southbound exit slip road).

1.6 On completion of the project "Tsuen Wan Bypass, Widening of Tsuen Wan Road between Tsuen Tsing Interchange and Kwai Tsing Interchange and associated junction improvement works", the traffic flow at southbound TWR at KTI is envisaged to increase. The increase in traffic flow will significantly reduce the traffic gaps and this will increase the difficulty for the merging of traffic from the HFR southbound exit slip road to southbound TWR.

1.7 To resolve the above capacity problem, the Transport Department proposes to improve the section of the southbound carriageway of TWR between KTI and Kwai Chung Road. The following options will be studied:-

(i) Option 1 as shown on **Drawing No. 1.1**;
(ii) Option 2 as shown on **Drawing No. 1.2**; and
(iii) Any other options to be identified.

Number and Types of Designated Projects Covered by the Project Profile

1.8 This Project is a Designated Project (DP) under Part I Schedule 2, A8 – "A road or railway bridge more than 100m in length between abutments".

Name and Telephone Number of Contact Person(s)

1.9 All queries regarding the project can be addressed to:

Mr K. L. CHEUNG (Senior Engineer/4)
New Territories North and West Development Office,
Civil Engineering and Development Department,
25/F, Tsuen Wan Government Offices,
38 Sai Lau Kok Road, Tsuen Wan, New Territories
Tel : 2417 6370
Fax : 2412 0358

2 OUTLINE OF PLANNING AND IMPLEMENTATION PROGRAMME

Project Time Table

2.1 The construction works of the Project is tentatively scheduled to commence in end 2016 and complete in end 2018.

Project Interface

2.2 The Project may have interaction with the following projects:

- Tsuen Wan Bypass, widening of Tsuen Wan Road between Tsuen Tsing Interchange and Kwai Tsing Interchange, and associated junction improvement works;
- Replacement and Rehabilitation of Water Mains Stage 3 – Mains in Tsuen Wan and Kwai Tsing - Contract No 25/WSD/09; and
- Replacement and rehabilitation of watermains, stage 4 phase 1, Mains in West Kowloon, Kwai Tsing and Tsuen Wan – Contract No 13/WSD/10.

3 POSSIBLE IMPACT ON THE ENVIRONMENT

Construction Phase

Air Quality

3.1 During construction, dust is the potential air quality impact which would be generated from construction activities such as material handling, excavation, vehicle movement and erosion of unpaved area and stockpiles. The potential air quality impact however is anticipated to be short–term and be controlled through appropriate design and good site practice stipulated in the Air Pollution Control (Construction Dust) Regulation.

Noise

3.2 During construction, the source of noise nuisance is primarily from the use of Powered Mechanical Equipment (PME) on site. The construction activities for the Project involve the use of plant for piling, substructure and superstructure construction, utility diversion, etc. Construction noise impact is anticipated to be short-term and can be reduced to an acceptable level with implementation of the mitigation measures outlined in Section 5.

Water Quality

3.3 Site runoff is expected to be the only water quality impact from construction sites for this land-based project. The potential sources of site runoff may include water from dust suppression sprays and

wastewater from erosion of temporarily stockpile by rainfall. Water quality impact however would be readily mitigated with the adoption of good site management practices outlined in Section 5.

Waste Management

3.4 C&D waste will be generated from the construction activities, vehicle and plant maintenance etc. Waste generation will be first avoided and then reduced by reusing materials on-site in order to minimise the off-site waste disposal as far as practicable. Other types of waste may include small amounts of general refuse and chemical waste. The volume of these wastes to be generated will be quantified and the implications on waste management will be considered in the EIA study. With proper waste management in place, adverse impact from the Project is unlikely.

Land Contamination

3.5 The proposed flyover encroaches onto a temporary carpark under a Short Term Tenancy, a government land allocation granted to Public Works Regional Laboratory and roadside amenity area. Investigations will be conducted during the EIA study to identify if there is any land contamination.

Landfill Gas Hazard

3.6 The Project falls within the Consultation Zone (250m) of the former Gin Drinker's Bay Landfill (i.e. presently known as Kwai Chung Park). Under Annexes 7 and 19 of the Technical Memorandum on Environmental Impact Assessment Process, landfill gas hazard assessment would be required for the construction of the Project.

Landscape and Visual Impact

3.7 Potential landscape and visual impacts are anticipated from construction activities and plant, however the impacts would be short-term and can be minimized by appropriate mitigation measures.

Ecological Impact

3.8 The Project would be within an extremely "urban" area and principally no natural habitat would be affected. No important ecological resources have been identified within the study area. Ecological impact to the habitats would be considered negligible.

Cultural Heritage

3.9 Potential cultural heritage impacts during construction and operation phases within the Project site will be assessed in EIA study.

Operation Phase

Air Quality

3.10 In the operation phase, air quality impact may arise from vehicular emission of the traffic on the proposed roads. The vehicular emission impact assessment will be conducted to assess the potential impact to the planned and existing air sensitive receivers.

Noise

3.11 Road traffic noise impact to the adjacent NSRs would be the main concern during operation phase. Direct noise mitigation measures, if required, will be explored and proposed to mitigate the traffic noise impact.

Water Quality

3.12 The potential water quality impacts during operation phase would be the discharges of surface runoff to Rambler Channel. The surface runoff may contain minimal amounts of oil, grease and grit that may cause water quality impacts to Rambler Channel, if uncontrolled.

Landfill Gas Hazard

3.13 The Project falls within the Consultation Zone (250m) of the former Gin Drinker's Bay Landfill (i.e. presently known as Kwai Chung Park). Under Annexes 7 and 19 of the Technical Memorandum on Environmental Impact Assessment Process, landfill gas hazard assessment would be required for the operation of the Project.

Landscape and Visual

3.14 The Project and the proposed noise barriers/enclosures, if required, will have landscape and visual impact. An assessment would therefore be required to minimize the impact.

4 MAJOR ELEMENTS OF THE SURROUNDING ENVIRONMENT

4.1 The study area covers the existing urban area of Kwai Chung. This dense urban area includes a variety of land uses such as industrial buildings, residential estate, schools, open spaces and recreational facilities.

4.2 There are major transport links in the close vicinity of the project site which include Tsuen Wan Road, Kwai Tsing Interchange and Kwai Chung Road. There are no natural habitats in the area. Rambler Channel would be the nearest receiving water body within the study area. The environmental condition in the study area is mainly influenced by traffic

noise from the existing transport links, while air quality is generally affected by vehicular and industrial emission.

4.3 The major existing and planned sensitive receivers identified within the study area are listed in **Table 4.1** and illustrated in **Figure 4.1**.

Table 4.1 Major Representative Sensitive Receivers

Type	Sensitive Receivers
Residential	Fung King House, Ming King House, Wo King House and Yat King House of Lai King Estate
Institutional	Ha Kwai Chung Polyclinic and Special Education Services Centre, Lai King Catholic Secondary School, Lingnan Dr. Chung Wing Kwong Memorial Middle School
Industrial	Ever Gain Plaza, Fedelity Godown, Golden Industrial Building, Industrial Buildings at Kwai Fung Crescent, Kerry (Kwai Chung) Godown, Kwai Shun Industrial Centre, Kwai Tak Industrial Centre, Profit Industrial Building
Open Spaces / Recreational	Kwai Shun Street Playground

5 ENVIRONMENTAL PROTECTION MEASURES AND ANY FURTHER ENVIRONMENTAL IMPLICATIONS

Construction Phase

Air Quality

5.1 Good site practices and relevant dust control measures set out in the Air Pollution Control (Construction Dust) Regulations will be implemented to control the dust impacts on the nearby sensitive receivers. With the mitigation measures in place, it is expected that the construction dust impact will be minimized to acceptable levels.

Noise

5.2 General site practices including the location of noisy machinery away from sensitive receivers; the use of silencers, mufflers and acoustic shields on plant and equipment; regular maintenance of plant and equipment; and the reduction in number of machines used at any one time, will be adopted as needed to control noise impacts.

Water Quality

5.3 Water quality impact mitigation measures will be implemented in accordance with the Practice Note for Professional Persons on Construction Site Drainage (ProPECC PN 1/94) such as drainage facilities to control site runoff, wheel washing facilities, proper toilet facilities and comprehensive waste management procedures.

Waste Management

5.4 Mitigation measures to avoid or minimise potential impacts may include the reuse of C&D material in the construction. A disposal plan will be required to detail disposal sites for waste that cannot be recycled on-site and adopting the trip-ticketing system, to monitor disposal and hence prevent illegal dumping. A waste management plan/control measures shall be developed.

5.5 Chemical and oily wastes generated from the construction activities, vehicle and plant maintenance and oil interceptors should be disposed of as chemical waste in strict compliance with the Waste Disposal (Chemical Waste) (General) Regulations. General refuse will be disposed of at designated landfill.

Landfill Gas Hazard

5.6 For construction works adjacent to the former Gin Drinker's Bay Landfill, safety requirements will be stipulated to minimize the risk of fires, explosions, asphyxiation of workers and toxicity effects.

Landscape and Visual

5.7 The potential landscape and visual mitigation measures include:

- avoidance of impacts of adjacent landscape by minimizing temporary works areas;
- avoidance of impacts on existing mature trees;
- temporary reprovision of open space should the existing public open area be affected by construction works; and
- compensatory planting scheme should be provided where tree felling required.

Operation Phase

Air Quality

5.8 The details and extent of air quality mitigation measures will be subject to the assessment results in the EIA Stage.

Noise

5.9 The details and extent of noise mitigation measures will be subject to the assessment results in the EIA Stage.

Water Quality

5.10 For the operation phase, a surface water drainage system with interceptors and silt traps will be provided to collect runoff during rainfall. The collected runoff would be discharged to the stormwater drainage system and is considered unlikely to produce any quantifiable adverse effects on the receiving coastal water.

Landfill Gas Hazard

5.11 The risk associated with the landfill gas will be assessed. Any utilities to be laid under the Project within the Consultation Zone will be designated as "special routes" and the necessary precautions outlined in Landfill Gas Hazard Assessment Guidance Note will be adopted for all maintenance or extension works.

Landscape and Visual

5.12 The landscape and visual impact would be reduced by appropriate landscaping works and careful architectural treatment of highways structures. The details of mitigation measures for landscape and visual impacts will be addressed in the EIA stage.

Environmental Monitoring and Audit

5.13 This Project Profile has outlined the potential environmental impacts which would arise from the construction and operation of the proposed road works and has introduced briefly some possible environmental mitigation measures that can be incorporated into the Project. An environmental monitoring and audit programme, for the construction and/or operational phase of the Project, will be developed.

Possible Severity, Distribution and Duration of Environmental Effects

5.14 With the implementation of the recommended mitigation measures, no adverse environmental impacts (both short and long term) are expected from the proposed project.

6 USE OF PREVIOUSLY APPROVED EIA REPORTS

6.1 No previously approved report exists for the Project. However, reference would be made to the EIA report on Tsuen Wan Bypass, Widening of Tsuen Wan Road between Tsuen Tsing Interchange and Kwai Tsing Interchange, and associated Junction Improvement Works, Scott Wilson Limited, September 2008.

6.2 The above EIA was approved by the Government on 8 December 2008 (Register No. AEIAR-124/2008). Environmental considerations which were addressed in the EIA include:

- Air quality
- Noise
- Water quality
- Waste management, including land contamination
- Landfill gas hazard
- Landscape and visual
- Hazard related to Yau Kom Tau Water Treatment Works
- Ecology
- Cultural heritage

葵青交匯處
KWAI TSING
INTERCHANGE

現有葵青交匯處上斜路
EXISTING KWAI TSING INTERCHANGE UP-RAMP

荃灣路
TSUEN WAN ROAD

擬建天橋
PROPOSED FLYOVER

青葵公路 TSING KWAI HIGHWAY

葵涌道 KWAI CHUNG ROAD

PROVISIONAL
SUBJECT TO AMENDMENT
DATE: 16.12.2011

編號 no.	日期 date	內容摘要 description	核對 checked	核准 approved

修訂 REVISION

圖則名稱 drawing title

連接葵青交匯處上斜路至葵涌道的天橋
道路設計圖(方案1)

FLYOVER FROM KWAI TSING INTERCHANGE
UPRAMP TO KWAI CHUNG ROAD
ROAD LAYOUT PLAN (OPTION 1)

繪圖 drawn: K.H. LO	簽署 initial	日期 date: 16.12.2011	項目編號 item no.
核對 checked	簽署 initial	日期 date	比例 scale: 1:2 000
核准 approved	簽署 initial	日期 date	圖則編號 drawing no.: 1.1

辦事處 office
新界西及北拓展處
NEW TERRITORIES NORTH AND WEST DEVELOPMENT OFFICE

土木工程拓展署
CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

date filename (Updated as 2011dec23 R:\CSWP\KT-Flyover\drawing\NTWZ1443\NTWZ1451-11.dgn A3 297MM X 420MM

葵青交匯處
KWAI TSING
INTERCHANGE

現有葵青交匯處上斜路
EXISTING KWAI TSING INTERCHANGE UP-RAMP

擬擴闊至四線行車天橋
PROPOSED WIDENING
TO 4-LANE FLYOVER

擬建單線行車天橋
PROPOSED SINGLE
LANE FLYOVER
WITH 6.0M MIN WIDTH

現有行人天橋NF303
將被改建／重建
EXISTING FOOTBRIDGE NF303
TO BE MODIFIED / REPROVIDED

PROVISIONAL
SUBJECT TO AMENDMENT
DATE: 23.12.2011

編號 no.	日期 date	內容摘要 description	核對 checked	核准 approved

修訂 REVISION

圖則名稱 drawing title

連接葵青交匯處上斜路至葵涌道的天橋
道路設計圖(方案2)
FLYOVER FROM KWAI TSING INTERCHANGE
UPRAMP TO KWAI CHUNG ROAD
ROAD LAYOUT PLAN (OPTION 2)

繪圖 drawn: K.H. LO	簽署 initial	日期 date: 20.12.2011	項目編號 item no.
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核准 approved	簽署 initial	日期 date	圖則編號 drawing no.: 1.2

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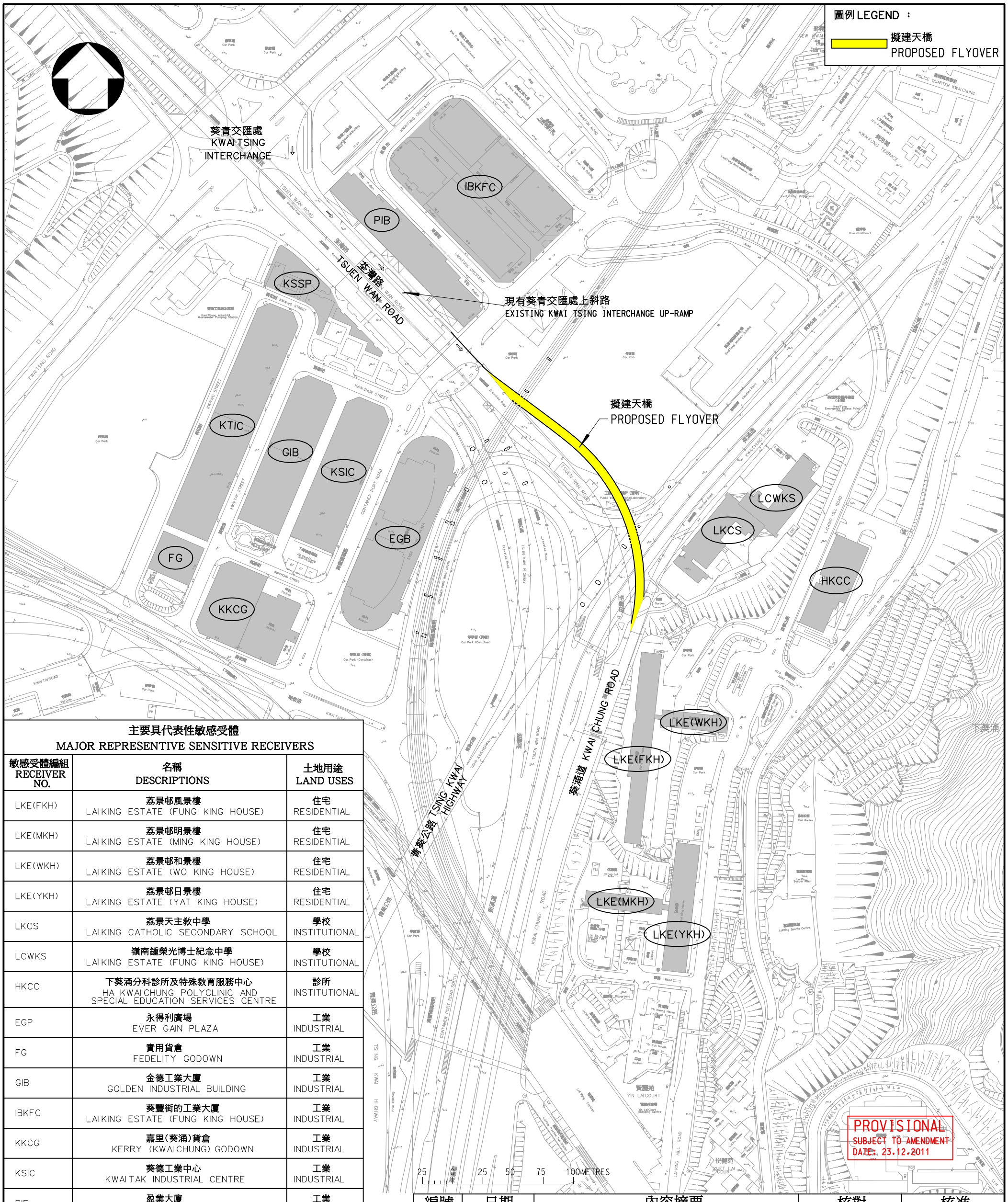
date filename (Updated as 2011dec23 R:\CSWP\KT-Flyover\drawing\NTWZ1443\NTWZ1451-12.dgn A3 297MM X 420MM



主要具代表性敏感受體
MAJOR REPRESENTIVE SENSITIVE RECEIVERS

敏感受體編組 RECEIVER NO.	名稱 DESCRIPTIONS	土地用途 LAND USES
LKE(FKH)	荔景邨風景樓 LAI KING ESTATE (FUNG KING HOUSE)	住宅 RESIDENTIAL
LKE(MKH)	荔景邨明景樓 LAI KING ESTATE (MING KING HOUSE)	住宅 RESIDENTIAL
LKE(WKH)	荔景邨和景樓 LAI KING ESTATE (WO KING HOUSE)	住宅 RESIDENTIAL
LKE(YKH)	荔景邨日景樓 LAI KING ESTATE (YAT KING HOUSE)	住宅 RESIDENTIAL
LKCS	荔景天主教中學 LAI KING CATHOLIC SECONDARY SCHOOL	學校 INSTITUTIONAL
LCWKS	嶺南鍾榮光博士紀念中學 LAI KING ESTATE (FUNG KING HOUSE)	學校 INSTITUTIONAL
HKCC	下葵涌分科診所及特殊教育服務中心 HA KWAI CHUNG POLYCLINIC AND SPECIAL EDUCATION SERVICES CENTRE	診所 INSTITUTIONAL
EGP	永得利廣場 EVER GAIN PLAZA	工業 INDUSTRIAL
FG	實用貨倉 FEDELITY GODOWN	工業 INDUSTRIAL
GIB	金德工業大廈 GOLDEN INDUSTRIAL BUILDING	工業 INDUSTRIAL
IBKFC	葵豐街的工業大廈 LAI KING ESTATE (FUNG KING HOUSE)	工業 INDUSTRIAL
KKCG	嘉里(葵涌)貨倉 KERRY (KWAI CHUNG) GODOWN	工業 INDUSTRIAL
KSIC	葵德工業中心 KWAI TAK INDUSTRIAL CENTRE	工業 INDUSTRIAL
PIB	盈業大廈 PROFIT INDUSTRIAL BUILDING	工業 INDUSTRIAL
KSSP	葵順街遊樂場 KWAI SHUN STREET PLAYGROUND	康樂及休憩用地 OPENSPACES / RECREATIONAL

編號 no.	日期 date	內容摘要 description	核對 checked	核准 approved

修訂 REVISION

圖則名稱 drawing title

連接葵青交匯處上斜路至葵涌道的天橋
主要具代表性敏感受體

FLYOVER FROM KWAI TSING INTERCHANGE UPRAMP TO KWAI CHUNG ROAD - MAJOR REPRESENTATIVE SENSITIVE RECEIVERS

	簽署 initial	日期 date
繪圖 drawn K.H. LO		30.11.2011
核對 checked		
核准 approved		

項目編號 item no. -

比例 scale 1 : 3 000

圖則編號 drawing no. 4.1

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