

Civil Engineering and Development Department

Liantang / Heung Yuen Wai Boundary Control Point
and Associated Works

Project Profile

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1 BASIC INFORMATION

1.1 Project Title

Liantang / Heung Yuen Wai (LT/HYW) Boundary Control Point (BCP) and Associated Works

1.2 Purpose and Nature of Project

With closer economic integration with the Mainland in particular the neighbouring cities and provinces, there is a need to further facilitate movement of people and goods across the boundary in the east. By connecting with the Eastern Corridor (東部過境通道) in Shenzhen (SZ), the new BCP will provide an efficient access to the eastern part of Guangdong Province (GD) and adjacent provinces via Shenzhen-Huizhou (深惠高速) and Shenzhen-Shantou Expressways (深汕高速). This will increase the closer ties between HK/SZ and the eastern part of GD, Fujian (福建) and Jiangxi (江西) Provinces, and greatly facilitate future regional cooperation and development. It will also help extend the economic hinterland of HK and SZ and promote regional development. The proposed BCP has strategic significance for a closer integration of HK and SZ, which is in line with the policy to consolidate HK's status as a global city for sustained development in the future.

From the local perspective, improvement to the existing Man Kam To (MKT) and Sha Tau Kok (STK) BCPs could hardly meet the current expectations of travelling convenience and comfort. Furthermore, the scope for comprehensive upgrading of these BCPs would be very limited due to various constraints. The proposed new BCP will satisfy the long-term transport needs and help re-distribute the cross-boundary traffic amongst the crossings in the eastern part of the territory. This will alleviate the frequent traffic congestion at MKT BCP and provide room for improvement at both MKT BCP and STK BCP. The resulting overall handling capacity and the quality of service of these BCPs (including LT/HYW, MKT and STK) would be greatly enhanced.

1.3 Name of Project Proponent

Civil Engineering Office, Civil Engineering and Development Department (CEDD)

1.4 Location and Scale of Project

The tentative location of the project is shown on the attached drawing no. SD2008-007 and the tentative layout plans of the BCP at Lower Floor and Upper Floor are shown on the attached drawing nos. SD2008-008 and SD2008-009 respectively.

The scope of the project comprises the following:

- Site formation of about 18.3 hectares of land for the construction of a BCP building in the area of Chuk Yuen Village;
- Re-alignment of Kong Yiu Channel in association with the above site formation;
- Cargo processing facilities including processing kiosks for clearance of goods vehicles, vehicle holding areas, customs inspection platforms, cargo examination buildings, X-ray building, weigh stations etc.;
- Passenger related facilities including processing kiosks and examination facilities for private cars and coaches, passenger clearance building and halls, etc;
- Accommodation for and facilities of the Government departments providing services in connection with the BCP;
- Provision of transport related facilities inside the BCP including public transport interchange, and transport drop-off and pick-up areas;
- Other peripheral structures and supporting facilities such as bridges across Shenzhen River, border road and fences, water supply system, utilities, culvert, drainage and sewerage etc;
- Construction of a dual two-lane trunk road with traffic control and surveillance system connecting the BCP with Fanling Highway adjacent to Wo Hop Shek - which comprises a 6.5km viaduct, three tunnel sections totaling 3.5km in length, tunnel administration building and tunnel ventilation system;
- Associated diversion/modification works at Lin Ma Hang Road to cope with the BCP development;
- Associated environmental mitigation measures, landscaping works, drainage/sewerage, waterworks, utilities and traffic engineering works; and
- Collection, treatment and disposal of sewage generated from the BCP - one of the following two tentative sewage treatment options will be recommended for adoption during the course of Environmental Impact Assessment (EIA) study:
 - Option 1 – convey the sewage generated from the BCP to the Shek Wu Hui Sewage Treatment Works through an existing village pumping main.
 - Option 2 – provide an on-site sewage treatment facility to a tertiary level with provision of reedbeds.

1.5 Number and Types of Designated Projects to be Covered by the Project Profile

Under the proposed LT/HYW BCP project, the Designated Projects in accordance with Part I of Schedule 2 of the Environmental Impact Assessment Ordinance (EIAO) are as below:

- Re-alignment of Kong Yiu Channel and drainage facilities discharging into the Shenzhen River associated with the BCP (Category I.1); and
- A dual two-lane trunk road connecting the BCP with Tolo/Fanling Highway – about 6.5km on viaduct and 3.5km tunnels (Categories A.1, A.7 & A.8).

1.6 Name and Telephone Number of Contact Persons

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2 OUTLINE OF PLANNING AND IMPLEMENTATION PROGRAMME

2.1 Project Planning and Implementation

It is proposed to implement the BCP project by employing consultants to undertake the investigation study, preliminary design, detailed design, and supervision of the construction works.

2.2 Project Programme

In line with the current programme, CEDD will appoint a consultant in mid-2009 to undertake investigation and preliminary design for the project including the EIA study. It is anticipated that construction of the BCP and connecting road will commence in end 2013 for completion in mid 2018.

2.3 Interfacing with Other Projects

Potential interfacing projects are listed below. They will be reviewed during the EIA study to ensure that all the latest projects available from the respective stakeholders are incorporated.

- Provision of Cremators at Wo Hop Shek Crematorium
- North East New Territories (NENT) Landfill Extension
- New Development Areas in NENT
- Fanling Bypass
- Drainage Improvements in Northern New Territories – Package C
- Widening Works along Tolo Highway/Fanling Highway
- Review of the Frontier Closed Area (FCA)
- Construction of a Secondary Boundary Fence and new sections of Primary Boundary Fence and Boundary Patrol Road
- SZ River Improvement Works

It is noted that a part of the proposed SZ River Improvement Works undertaken jointly by DSD and SZ Municipal Government will be in close proximity to the new BCP and their works are possibly programmed to be carried out in tandem with each other. In this connection, a cumulative impact assessment arising from the two projects will be conducted. The extent of the proposed SZ River Improvement Works is shown in the attached drawing no. SD2008-010.

3 POSSIBLE IMPACTS ON THE ENVIRONMENT

3.1 Potential Environmental Impacts: Construction Phase and Operational Phase

Construction phase activities include excavation, site formation, foundation works, building works, tunnelling works and roadworks etc. Major potential environmental issues during the construction phase are air quality, noise, water quality, waste management, ecology, cultural heritage and landscaping and visual outlook.

Ecological, cultural heritage, water quality and waste management are not expected to be significant during the operational phase. On the other hand, noise and vehicular emissions are considered to be the most major potential environmental issues to be addressed during the operational phase.

3.1.1 Air Quality

During the construction phase, potential air quality impact may arise from dust and gaseous emission generated from construction activities and construction vehicles.

During the operational phase, air quality impact will be in terms of elevated levels of nitrogen dioxide (NO₂), sulphur dioxide (SO₂), carbon monoxide (CO), respirable dust particulates and total suspended particulates due to emissions from cross-boundary vehicles using the BCP and the connecting roads.

3.1.2 Noise

During the construction phase, construction noise will be generated from site works especially from construction vehicles and during the use of powered mechanical equipment.

During the operational phase, noise sources will be associated with vehicles using the roads and the open-air noise generated by operational facilities at the BCP. Operational noise assessment on the cumulative noise impact from cross-boundary vehicles and the fixed noise sources at the BCP will be considered.

3.1.3 Water Quality

During the construction phase, potential water quality impact may arise from site run-off carrying suspended earth, fuel or oil spill from construction plants, wastewater from construction site, and sewerage generated by the workforce.

During the operational phase, potential water quality impact may arise from oil or grease spillage from passing traffic causing contamination to rainwater runoff and possibly the sewage generated by the BCP if an on-site sewage treatment facility is provided.

Given proper management, the water quality impact arising from the construction and

operation of the BCP should be acceptable.

3.1.4 Waste Management

Wastes such as excavated materials, chemical wastes and general refuse would be generated from construction activities such as drainage works, site clearance, formwork, excavation, maintenance and servicing of construction plant/equipment.

3.1.5 Ecology

The new BCP in the area of Chuk Yuen Village lies within the existing FCA in an undisturbed area of mostly abandoned agricultural land. Construction of the BCP and the adjoining SZ River Improvement Works will have some potential ecological impacts. However, no insurmountable ecological impacts to this area are expected.

3.1.6 Cultural Heritage

The area of archaeological interest have not been investigated or adequately studied previously. A cultural heritage impact assessment will be conducted under the EIA study.

3.1.7 Landscape and Visual

The project may cause potential impact to the nearby landscape resources and landscape characters during construction phase and operational phase. A landscape and visual impact assessment will be conducted during the EIA study.

4 MAJOR ELEMENTS OF THE SURROUNDING ENVIRONMENT

4.1 Existing and Planned Sensitive Receivers

The study area for water quality covers part of the Deep Bay Water Control Zone. River Ganges is the only EPD's monitoring river within the study area. Data obtained from the monitoring station of River Ganges is regarded as representative of the water sensitive receivers.

Existing and planned air sensitive receivers, noise sensitive receivers and visually sensitive receivers identified within the area were scattered rural village houses and villages including Chuk Yuen Village, Tsung Yuen Ha Village, Heung Yuen Wai Village, Kaw Liu Village, Kan Tau Wai Village, and Ta Kwu Ling Village.

The above sensitive receivers are not exhaustive and will be reviewed during the EIA study.

4.2 Major Elements of Surrounding Environment and Land Uses

The proposed BCP is located in a rural area entirely within the existing FCA. The surrounding environment consists of mainly abandoned agricultural fields, scattered rural village houses, ecologically fung shui woodland, built heritages and channelised streams of low ecological value.

The proposed road connects the BCP with Fanling Highway adjacent to Wo Hop Shek / Kau Lung Hang Lo Wai. The proposed alignment will avoid current developments. The tunnel sections are proposed to avoid conflicting with some existing burial grounds and encroaching on the existing villages directly.

5 ENVIRONMENTAL PROTECTION MEASURES AND IMPLICATIONS

5.1 Measures to Minimize Environmental Impact

Potential measures are outlined below to minimize possible environmental impacts. These measures will be further reviewed during the EIA process.

5.1.1 Air Quality

Good site practices and mitigation measures set out in the Air Pollution Control (Construction Dust) Regulation will be implemented during the construction phase.

Mitigation measures would include:

- Regular watering to suppress dust from unpaved areas, excavation, fill materials handling, active cuts and activities where dust emissions may be generated.
- Stockpiles or debris to be adequately sheltered or covered or watered.
- Ensuring minimum drop heights, maximum cover or moistening for materials transfer, loading or unloading.
- Implementation of wheel washing facilities at access roads into and out of construction sites.
- Covering of any dusty materials on vehicles leaving the sites.
- Speed control of vehicles on-site.

With the mitigation measures in place, adverse air quality impact on nearby sensitive receivers is not anticipated.

During the operational phase, fresh air intakes for the BCP buildings would be located away from any proposed vehicle holding areas or kiosks to minimize air quality impacts. Also, ventilation buildings and tunnel portals would be located away from nearby sensitive receivers. Taking the background concentrations into account, it is anticipated that the concentrations of pollutants at all receivers arising from this project will be within the statutory requirements as set out in the Air Quality Objectives laid down in the Air Pollution Control Ordinance.

5.1.2 Noise

Subject to further studies, noise control measures to be implemented during the construction phase may include:

- Selection of quiet plant equipment and working methods.
- Use of silencers on construction equipment.
- Limiting the use and number of equipment operating close to the sensitive receivers.
- Avoidance of construction activities and traffic during nighttime or restricted hours.
- Use of temporary noise barriers to screen off construction equipment from the

sensitive receivers.

The above control measures will be considered during the construction period to minimize construction noise impact on nearby noise sensitive receivers.

Subject to investigation and assessment, noise barriers / screening structures will be considered during the operational phase to minimize the impact on nearby noise sensitive receivers.

5.1.3 Water Quality

Site practices outlined in the Practice Notes for Professional Persons on Construction Site Drainage (ProPECC PN1/94) and the procedures in the Environment, Transport and Works Bureau Technical Circular (Works) No. 5/2005 'Protection of Natural Stream/Rivers from adverse impact arising from construction works' would be carefully followed to control site runoff. Mitigation measures for water quality impacts arising from soil and contaminants run-off from exposed surfaces or equipment and workforce sewage may include providing suitable wastewater collection, treatment and disposal facilities. Measures would also be adopted to minimize sediment re-suspension and sediment transport.

During the operational phase, there may be water quality impact due to potential spill, oil and grease contamination of rainwater. However, it is anticipated that the impact will be insignificant.

5.1.4 Waste Management

Proper management of the storage, handling and disposal of construction wastes and housekeeping would be sufficient to ensure that the impact of wastes will be acceptable. Chemical wastes generated from the construction works will be registered with EPD and licensed collectors will be employed for their disposal off site. Open burning for waste disposal will be prohibited. With good site control and waste management practices such as sorting and segregation of waste for reuse and disposal, it is anticipated that the waste management implications arising from the project will be insignificant.

5.1.5 Ecology

Ecological impacts will be avoided as far as practicable. Appropriate mitigation measures will be developed during the EIA study and implemented to mitigate the construction phase impact.

With suitable precautions through selection of access routes, work areas and methods, ecological impacts should not be significant or irreversible. The road alignment will be

fine-tuned if necessary during the EIA study to avoid or minimize the impact on ecologically sensitive sites. During the operational phase, proper road drainage systems will be provided to avoid the impact arising from road surface runoff.

5.1.6 Cultural Heritage

A cultural heritage impact assessment will be conducted under the EIA study. Cultural heritage sites of historical and archaeological significance will be identified. Careful design of roads and construction methods will be recommended to avoid damage to these sites, if any. Appropriate protection/mitigation measures will be developed and implemented.

5.1.7 Landscape and Visual

A landscape and visual impact assessment will be conducted during the EIA study to identify areas that may be adversely affected by the project and to recommend mitigation measures as appropriate.

Mitigation measures during the construction phase such as aesthetic hoarding and temporary greening will be implemented subject to the result of the assessment.

Mitigation measures during the operational phase such as compensatory planting, subtle facade design and rehabilitation of surround vegetation will be implemented subject to the result of the assessment.

5.2 Severity, Distribution and Duration of Environmental Effects

Construction impacts will be temporary. With effective control and mitigation measures in place, environmental impacts during both the construction and operational phases on the surrounding environment will be appropriately controlled to meet the established criteria.

The impacts on archaeological and built heritage will need to be ascertained subject to a cultural heritage impact assessment to be conducted under the EIA study.

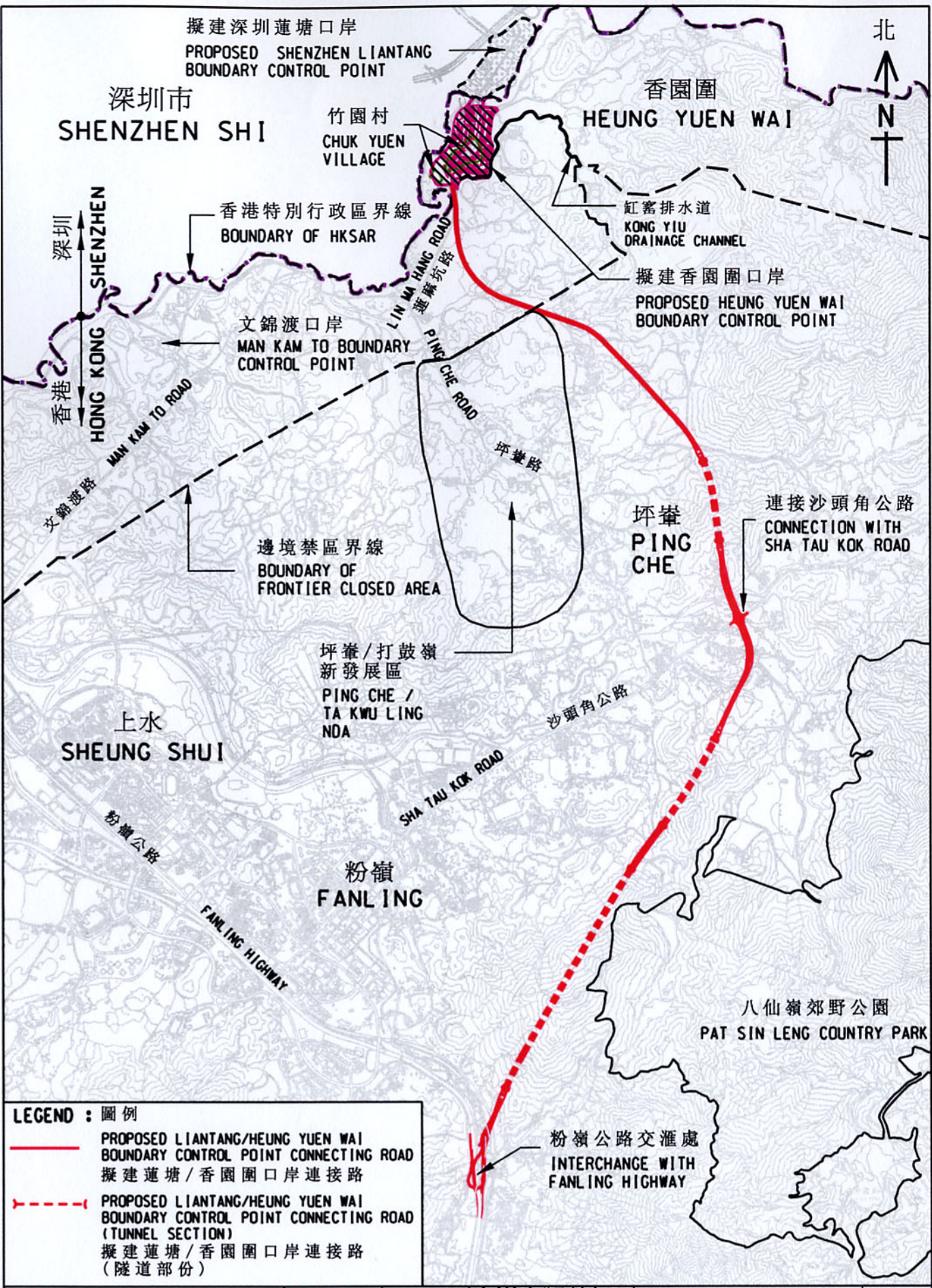
Assessment of the cumulative environmental impact due to the project and the related SZ River Improvement Works will be carried out.

5.3 Further Implication

Close co-ordination with relevant authorities and other interfacing projects will be necessary. Public consultation will be arranged when sufficient information is available.

6 USE OF PREVIOUSLY APPROVED EIA REPORTS

No previously approved EIA report is referred to during the preparation of this Project Profile.



LEGEND : 圖例

	PROPOSED LIANTANG/HEUNG YUEN WAI BOUNDARY CONTROL POINT CONNECTING ROAD 擬建蓮塘/香園圍口岸連接路
	PROPOSED LIANTANG/HEUNG YUEN WAI BOUNDARY CONTROL POINT CONNECTING ROAD (TUNNEL SECTION) 擬建蓮塘/香園圍口岸連接路 (隧道部份)

drawing title 圖則名稱
LIANTANG/HEUNG YUEN WAI BOUNDARY CONTROL POINT AND ASSOCIATED WORKS
 蓮塘/香園圍口岸與相關工程

	name 姓名	initial 簽署	date 日期
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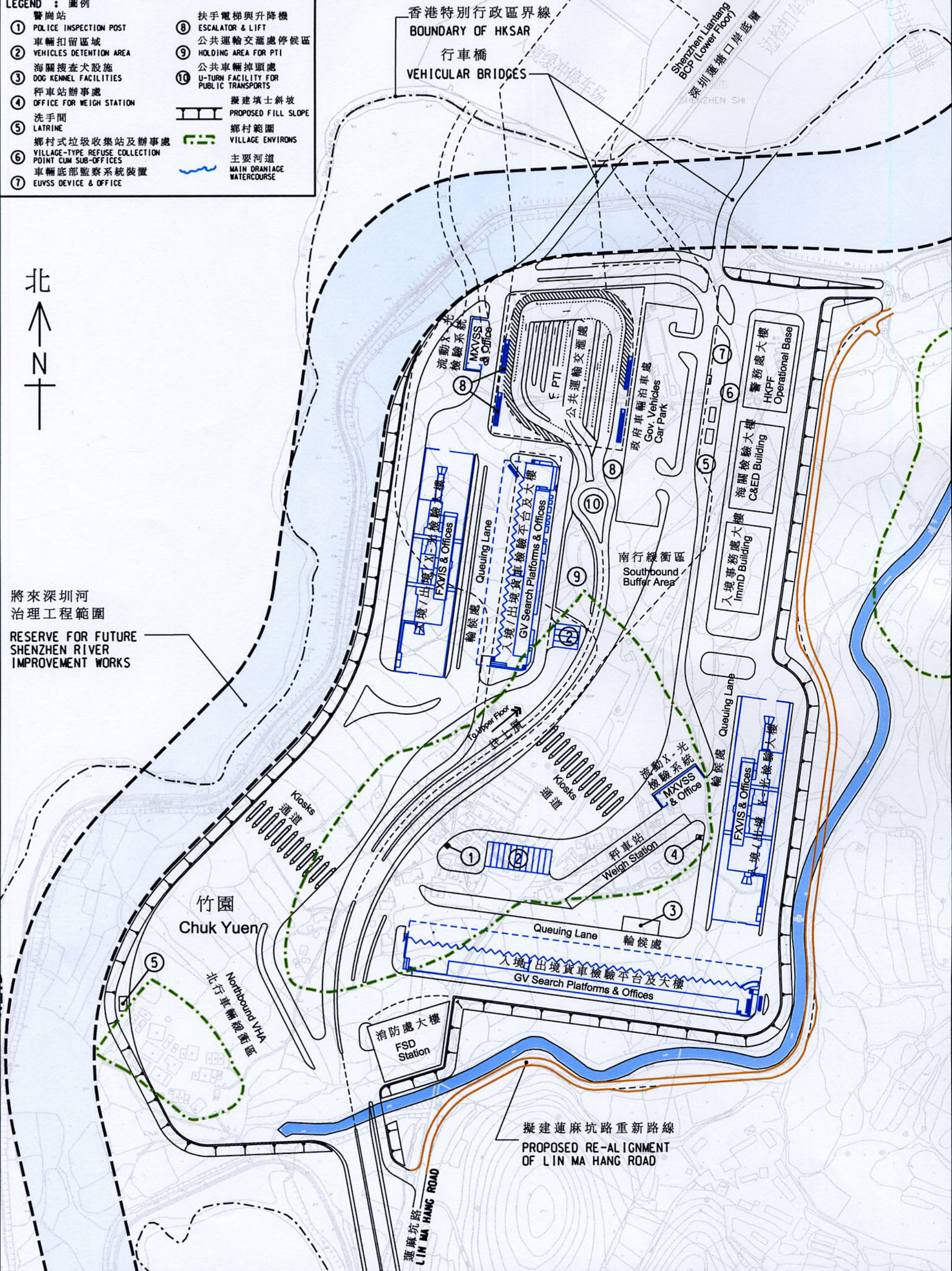
drawing no. 圖則編號
SD 2008-007
 scale 比例
 1:40 000

土木工程拓展署
 CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

- LEGEND : 圖例**
- ① 警崗站 POLICE INSPECTION POST
 - ② 車輛扣留區域 VEHICLES DETENTION AREA
 - ③ 海關搜查犬設施 DOG KENNEL FACILITIES
 - ④ 秤車站辦事處 OFFICE FOR WEIGH STATION
 - ⑤ 洗手間 LATRINE
 - ⑥ 鄉村式垃圾收集站及辦事處 VILLAGE-TYPE REFUSE COLLECTION POINT CUM SUB-OFFICES
 - ⑦ 車輛底部監察系統裝置 EUVSS DEVICE & OFFICE
 - ⑧ 扶手電梯與升降機 ESCALATOR & LIFT
 - ⑨ 公共運輸交匯處等候區 HOLDING AREA FOR PTI
 - ⑩ 公共車輛掉頭處 U-TURN FACILITY FOR PUBLIC TRANSPORTS
- 擬建填土斜坡 PROPOSED FILL SLOPE
 - 鄉村範圍 VILLAGE ENVIRONS
 - 主要河道 MAIN DRAINAGE WATERCOURSE

北
↑
N

將來深圳河
治理工程範圍
RESERVE FOR FUTURE
SHENZHEN RIVER
IMPROVEMENT WORKS



drawing title 圖則名稱
LIANTANG/HEUNG YUEN WAI
BOUNDARY CONTROL POINT
- GENERAL LAYOUT
(LOWER FLOOR)
蓮塘/香園圍口岸一
總平面圖(下層)

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designed 設計	R. YEUNG		31.10.2008
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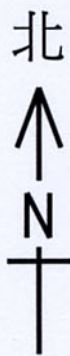
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SD 2008-008

scale 比例
1:2 500

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CIVIL ENGINEERING
AND DEVELOPMENT
DEPARTMENT

LEGEND : 圖例

-  鄉村範圍
VILLAGE ENVIRONS
-  主要河道
MAIN DRAINAGE WATERCOURSE



香港特別行政區界線
BOUNDARY OF HKSAR

行車橋
VEHICULAR
BRIDGES

將來深圳河
治理工程範圍
RESERVE FOR FUTURE
SHENZHEN RIVER
IMPROVEMENT WORKS

竹園
Chuk Yuen

往下層
TO LOWER FLOOR

drawing title 圖則名稱
LIANTANG/HEUNG YUEN WAI
BOUNDARY CONTROL POINT
- GENERAL LAYOUT
(UPPER FLOOR)
蓮塘/香園圍口岸—
總平面圖(上層)

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drawing no. 圖則編號
SD 2008-009
scale 比例
1:2 500



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CIVIL ENGINEERING
AND DEVELOPMENT
DEPARTMENT



深圳經濟特區
SHENZHEN SPECIAL ECONOMIC ZONE

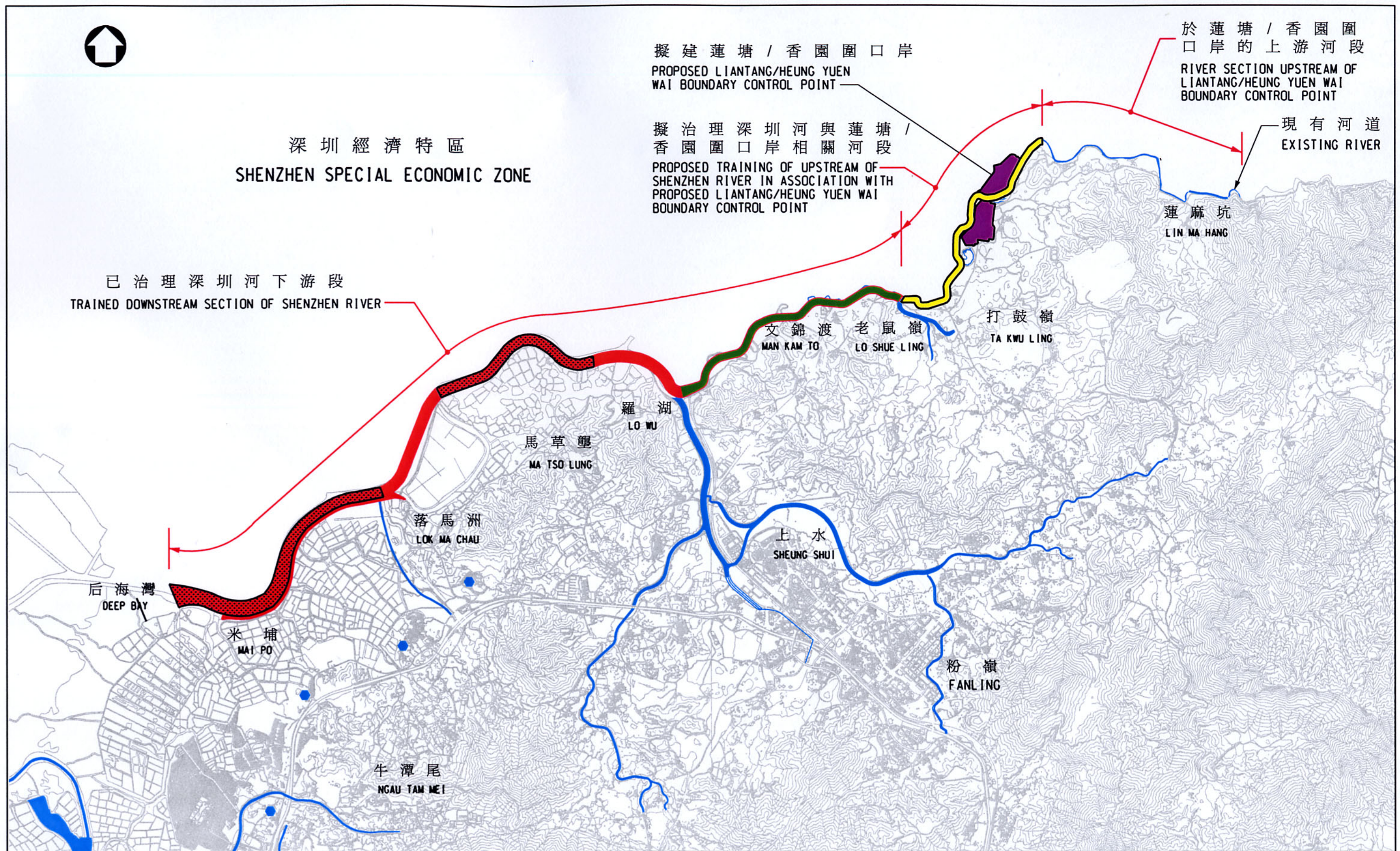
擬建蓮塘 / 香園圍口岸
PROPOSED LIANTANG/HEUNG YUEN WAI BOUNDARY CONTROL POINT

擬治理深圳河與蓮塘 / 香園圍口岸相關河段
PROPOSED TRAINING OF UPSTREAM OF SHENZHEN RIVER IN ASSOCIATION WITH PROPOSED LIANTANG/HEUNG YUEN WAI BOUNDARY CONTROL POINT

於蓮塘 / 香園圍口岸的上游河段
RIVER SECTION UPSTREAM OF LIANTANG/HEUNG YUEN WAI BOUNDARY CONTROL POINT

現有河道
EXISTING RIVER

已治理深圳河下游段
TRAINED DOWNSTREAM SECTION OF SHENZHEN RIVER



drawing title 圖則名稱

深圳河上游與蓮塘 / 香園圍口岸相關河段治理工程

TRAINING OF UPSTREAM OF SHENZHEN RIVER IN ASSOCIATION WITH LIANTANG/HEUNG YUEN WAI BOUNDARY CONTROL POINT

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CIVIL ENGINEERING OFFICE

drawing no. 圖則編號
SD 2008-010

scale 比例
N.T.S.



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