



**THE GOVERNMENT OF THE HONG KONG  
SPECIAL ADMINISTRATIVE REGION  
DRAINAGE SERVICES DEPARTMENT**

**Project Profile**

**for**

**Revitalisation of Tai Wai Nullah**

**July 2019**



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## **1 BASIC INFORMATION**

### **1.1 Project Title**

- 1.1.1 Revitalisation of Tai Wai Nullah (hereinafter referred to as the “Project”).

### **1.2 Purpose and Nature of the Project**

- 1.2.1 In the Policy Address 2015, the Government set out the intention to adopt the concept of revitalising water bodies in large-scale drainage improvement works and planning drainage networks for the new development areas. The concept of revitalising water bodies is aimed at promoting greening, biodiversity, beautification and water friendliness in addition to achieving efficient drainage, with a view to building sustainable drainage facilities and providing a better living environment.
- 1.2.2 This Project is to revitalise the existing Tai Wai Nullah (hereinafter referred to as the “Nullah”) and aims to enhance the ecological value of the nullah, provide a greener environment, promote water friendliness and improve the community environment for building a liveable city. In addition, the Project includes necessary drainage improvement works to the nullah, and provision of dry weather flow intercepting devices to improve the water quality.

### **1.3 Name of the Project Proponent**

- 1.3.1 Drainage Projects Division, Drainage Services Department (DSD) of the Government of the Hong Kong Special Administrative Region.

### **1.4 Location and Scale of the Project**

- 1.4.1 The location of the Nullah is shown at **Enclosure 1** and the proposed works of the Project comprise:
- (a) beautification of the existing nullah (approximately 2 kilometres (km) long and 40 metres (m) wide) by re-surfacing, greening and modification;
  - (b) provision of approximately 3 km walkways along the nullah bed and associated stairs and access ramps;
  - (c) provision of a dry weather flow intercepting (DWFI) system;

- (d) provision of features for ecological enhancement and sustainable drainage system;
- (e) construction of viewing decks and revamp of existing bridges;
- (f) revamp/provision of footpaths, railings, pavilions and amenity areas along the nullah banks; and
- (g) associated works including landscaping, utility works, etc.

## **1.5 Type of Designated Project covered by the Project Profile**

- 1.5.1 Based on the current project layout, the subject project is a designated project under Item I.1(b)(ii), Part 1, Schedule 2 of the Environmental Impact Assessment Ordinance (EIAO) (Cap.499) "*a drainage channel or river training and diversion works which discharges or discharge into an area which is less than 300m from the nearest boundary of an existing or planned site of cultural heritage*".

## **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**

- 2.1.1 Consultants will be engaged by the project proponent to undertake investigation of the proposed works, which will include, among other tasks, the investigation of revitalization of the Nullah and the environmental impact assessment.

### **2.2 Project Programme**

- 2.2.1 The construction works are tentatively scheduled to commence in Q3 2024 for completion in Q4 2029. Consultants will be engaged in Q3 2020 for completion the investigation and environmental impact assessment in Q3 2022.

### **2.3 Interfacing Project**

- 2.3.1 According to the available information, there is no project likely interact with this Project. If there are interfacing projects identified during the environmental impact assessment study, the cumulative environmental impacts will be investigated.

### **3 POTENTIAL ENVIRONMENTAL IMPACTS**

#### **3.1 Outline of Processes Involved**

3.1.1 The potential environmental impacts identified in Sections 3.2 and 3.3 are preliminary, possible environmental impacts will be assessed in detail in the environmental impact assessment study.

3.1.2 The Project involves the following key works:

- (a) Introduction of greening elements, riffles and pools at the upstream section of the Nullah near the existing Lower Shing Mun Reservoir Dam to promote a vibrant freshwater ecosystem and biodiversity;
- (b) Modification of the existing energy dissipation structure to maintain a steady source of inflow from the upstream and support a healthy river ecosystem;
- (c) Resurfacing the existing concrete nullah bed with growing substrate, introduction of greening vegetative elements on the sloping embankments, and modification of the existing low flow channel from a straight alignment to a meandering alignment;
- (d) Renovation of the existing pedestrian walkways and construction of pavilions along the banks of the Nullah and revamp of the existing bridges;
- (e) Construction of a pedestrian walkway, platforms, entrance points with stepped seats, with associated staircases and ramps, on the nullah bed to provide an open space for recreational activities and promote water friendliness culture; and
- (f) Construction of dry weather flow intercepting channels along the nullah bed to collect dry weather flow and convey it to the Sha Tin Sewage Treatment Works (STSTW) via the existing sewerage network.

3.1.3 The major construction activities will include landscaping works, earthworks (excavation and backfilling works), construction of civil structures and pipe laying.

#### **3.2 Construction Phase**

##### Air Quality

3.2.1 Dust emissions would be resulted from construction activities such as earthworks, foundation works, and construction of building and other structures. Odour impacts would be resulted from construction activities such as excavation and handling of nullah bed material.

### Noise

- 3.2.2 Noise would be generated from construction activities through the use of construction plant and equipment.

### Water Quality

- 3.2.3 Runoff from the site during construction may contain sediments and silts arising from earthworks, and oil and lubricants from construction vehicles and plant. Muddy water may also be generated from construction activities such as dust suppression sprays, dewatering during excavation and washing of construction equipment.

### Waste Management

- 3.2.4 Wastes and general spoil would be generated alongside materials such as excavated rocks / soil, surplus materials and packaging materials during construction and demolition (C&D).

### Ecology

- 3.2.5 During construction phase, potential ecological impacts associated with the proposed revitalisation works would include direct loss of aquatic and riparian habitats and indirect impact on downstream aquatic communities due to deterioration in water quality resulting from sedimentation and re-suspension of pollutants. Disturbance to wildlife and vegetation from air and noise pollution, site run-off and human activities associated with the construction works would also be resulted, particularly the potential impact on the ardeid night roosting site. Indirect impacts on the ecological sensitive receivers in Tolo Harbour may arise due to the contaminants potentially present in the runoff from the works area. In view of the distance separation (the nearest corals in Tolo Harbour being about 5.3 km from the works area), the indirect impact is anticipated to be minor.

### Fisheries

- 3.2.6 There are fisheries sensitive receivers, such as Yim Tin Tsai Fish Culture Zone and Yim Tin Tsai (East) Fish Culture Zone in the Tolo Harbour, located over 10 km away from the works area. The runoff from the works area during construction may have indirect impact on these fisheries sensitive receivers. Due to the distance separation, the indirect impact is anticipated to be minor.

### Landscape and Visual

- 3.2.7 Temporary visual impact may arise from establishment of equipment, stockpile of materials and erection of temporary works for construction.

### Cultural Heritage

- 3.2.8 A declared monument, the Old House in Wong Uk Village, is located within 300 m of the discharge area from the proposed works. Indirect impacts to this declared monument are not anticipated as the proposed works are mostly situated within the Nullah and there is a substantial separation distance (about 1.8km) between the proposed works and the declared monument. There are built heritage features within in the vicinity of the Nullah and no archaeological sites in the vicinity. The sites of built heritage are shown **Enclosure 2**. However, adverse impacts are not anticipated as the proposed works are mostly situated within the Nullah.

### Land Contamination

- 3.2.9 Some of the excavation areas for the revitalization works will be located near Tai Wai industrial area, where potentially contaminating activities may have occurred at industrial buildings include potential leakage / spillage related to storage, transfer or use of chemicals, fuels and oils, treatment and disposal of chemical wastes at industrial buildings.

## **3.3 Operation Phase**

### Air Quality

- 3.3.1 While no adverse impact on air quality would be expected due to the operation of the Nullah, the future users / visitors of the Nullah would become the air sensitive receivers. The potential air quality impact to the future users / visitors of the Nullah due to the surrounding environment will be investigated.

### Noise

- 3.3.2 No adverse noise impact would be expected during the operation phase.

### Water Quality

- 3.3.3 No adverse impact on water quality would be expected during the operation phase. The proposed DWFI system would enhance the water quality of the Nullah.

### Waste Management

- 3.3.4 The wastes generated during operational phase would mainly be silt and debris removed from the DWFI system, which would be similar in nature to general refuse.

### Ecology

- 3.3.5 The proposed DWFI system would improve the water quality, and hence be beneficial to the vegetation and aquatic organisms in the Nullah. Routine maintenance works, such as removal of accumulated sediments and control of vegetation, at the nullah bed could potentially impact aquatic and riparian communities in the Nullah.

### Fisheries

- 3.3.6 Due to the distance separation between the Nullah and the fisheries sensitive receivers, no impact to fisheries sensitive receivers would be expected during the operation phase.

### Landscape and Visual

- 3.3.7 The revitalization works will improve and enhance the appearance of the Nullah. No impact on landscape and visual would be expected during the operation phase.

### Cultural Heritage

- 3.3.8 No impacts to the declared monument, the Old House in Wong Uk Village, are anticipated during the operation phase due to the substantial separation distance between the proposed works and the declared monument. There are built heritage features within 50m from the works boundary and no archaeological sites are identified within 50m from the works boundary. The sites of built heritage are shown **Enclosure 2**. Nevertheless, no adverse impact on built heritages would be expected during the operation phase.

Land Contamination

- 3.3.9 No adverse impact on land contamination would be expected during the operation phase.



## **4 MAJOR ELEMENTS OF THE SURROUNDING ENVIRONMENT**

### **4.1 Existing and Planned Sensitive Receivers and Sensitive Parts of the Environment**

- 4.1.1 The Project site is about 0.11 km<sup>2</sup> and located at the centre of the Tai Wai District, surrounded by the buildings of residential estates, such as Mei Tin Estate, Mei Lam Estate, and Mei Shing Court, and an industrial zone. The nearest identified air, noise and visual sensitive receivers are the residential developments and the schools / education institutes in the vicinity of the Project. Ecological sensitive receivers include the downstream tidal stream/river habitats and associated riparian habitats, in particular the ardeid night roost on the banks of Shing Mun River, as well as the corals in Tolo Harbour. The identified fisheries sensitive receivers include Yim Tin Tsai Fish Culture Zones, Yim Tin Tsai (East) and Lo Fu Wat Fish Culture Zone. The identified sensitive receivers, as well as the landscape resources, landscape character areas and cultural heritage resources, are shown at **Enclosure 2** and are not exhaustive and indicative only. More potential sensitive receivers might be identified in the environmental impact assessment study.

### **4.2 Major Elements of the Surrounding Environment Affecting the Project Site**

- 4.2.1 The Project is located within the approved Sha Tin Outline Zoning Plan No. S/ST/34 (OZP). According to the Notes of the OZP, drainage works, road works and such other public works coordinated or implemented by the Government are always permitted on land falling within the boundaries of the OZP. These works may have influence to the Project in the future. The effects of land use in the surrounding environment of the Project will be assessed in detail in the environmental impact assessment study.

## **5 ENVIRONMENTAL PROTECTION MEASURES TO BE INCORPORATED INTO THE DESIGN AND ANY FURTHER ENVIRONMENTAL IMPLICATIONS**

### **5.1 Description**

- 5.1.1 This section describes those measures likely to be incorporated in the design to minimize environmental impacts arising from both construction and operation phases of the Project.

### **5.2 Construction Phase**

#### Air Quality

- 5.2.1 Adverse dust impact from the construction works is not expected with the implementation of dust suppression measures as stipulated in the Air Pollution Control (Construction Dust) Regulation of Air Pollution Control Ordinance (APCO). The potential odour issues results from construction activities such as excavation and handling of nullah bed material will be investigated and mitigation measures would be proposed if necessary. These measures would be incorporated into the specifications for the works contract.

#### Noise

- 5.2.2 The contractor for the works will have to comply with the provisions of the Noise Control Ordinance. The contractor will be required to follow good site practices, such as use of low noise construction plant and equipment, use of noise barriers / enclosure for noisy equipment / activities, careful scheduling of activities to minimize noise nuisance.

#### Water Quality

- 5.2.3 Measures will be implemented to minimise potential sedimentation and other water quality impacts to areas downstream of the proposed works areas. Excavation works carried out within or close to the nullah bed would be carried out during the dry seasons where possible, with containment measures such as bunds and barriers used within the nullah bed to minimize the impacts upon the downstream water body. Site runoff will be directed towards regularly cleaned and maintained silt traps and oil/grease separators to minimise the risk of sedimentation and pollution of the water body. Silt

removal facilities will be provided to remove silt before the discharge of site runoff into the nearby stormwater drains. The design of temporary on-site drainage and silt removal facilities will comply with the guidelines stipulated in EPD's Practice Note for Professional Persons, Construction Site Drainage (ProPECC PN 1/94). The above mitigation measures will be incorporated into the specifications of the works contract and be provided prior to the commencement of earthworks.

#### Waste Management

- 5.2.4 Consideration will be taken during the design phase to minimize the generation of construction and demolition (C&D) materials and to maximize its re-use on site. The contractor will be required to sort all C&D materials and waste into different categories for re-use on site and disposal at designated public fill reception facilities, landfills, or recycling facilities as appropriate.

#### Ecology

- 5.2.5 Measures will be implemented to minimise potential sedimentation and other water quality impacts to areas downstream of the proposed works areas. Excavation works carried out within or close to the nullah bed would be carried out during the dry seasons where possible, with containment measures such as bunds and barriers used within the nullah bed to minimize the impacts upon the downstream water body. The upstream non-tidal river flow will be maintained during the construction phase. Site runoff will be directed towards regularly cleaned and maintained silt traps and oil/grease separators to minimise the risk of sedimentation and pollution of the water body. Excavation works would be carried out in sections to maintain relatively undisturbed habitat during the construction phase. The ETWB TC (W) No. 5/2005 "Protection of Natural Streams/ Rivers from Adverse Impacts arising from Construction Works" will be referred to in planning of construction works in natural streams/rivers to minimize the ecological impacts. Channel modification works with greening vegetation elements along the bed and embankment would provide compensation for the unavoidable loss of potential habitats, tree-felling and riparian vegetation resulting from the proposed works.

#### Fisheries

- 5.2.6 Site runoff will be directed towards regularly cleaned and maintained silt traps and oil/grease separators to minimise the potential indirect impact to the fisheries sensitive receivers due to the contaminants potentially present in the runoff from the works area.

### Landscape and Visual

- 5.2.7 Site hoarding, with aesthetically pleasing design and compatible with the surrounding environment, will be erected as a mitigation measure. Proper control over site cleanliness and the stockpiling of materials will be exercised to minimize the impact on landscape and visual qualities. Moreover, to minimise the potential impact on existing landscape, landscape impact assessment would be conducted and the greening scheme would take into account the existing trees/vegetation along the nullah.

### Cultural Heritage

- 5.2.8 No impact on cultural heritage, including the sites of archaeological interests (SAIs), would be expected during the construction phase, and therefore mitigation measure is not necessary.

### Land Contamination

- 5.2.9 A land contamination assessment should be carried out prior to commencement of the construction phase to determine the extent of potential contamination. Mitigation measures should be proposed for handling the contaminated materials (if any) in order to minimise the potentially adverse effects on the health and safety of construction workers and impact arising from the disposal of potentially contaminated materials.

## **5.3 Operation Phase**

### Air Quality

- 5.3.1 While no adverse impact on air quality would be expected due to the operation of the Nullah, the future users / visitors of the Nullah would become the air sensitive receivers. The potential air quality impact to the future users / visitors of the Nullah due to the surrounding environment will be investigated and mitigation measures would be proposed if necessary.

### Noise

- 5.3.2 No adverse noise impact would be expected during the operation phase, and therefore mitigation measure is not necessary.

### Water Quality

- 5.3.3 The Nullah will be improved with greening elements and landscaping. The proposed DWFI system would also enhance the water quality of the Nullah. The potential impact to the water sensitive receivers nearby or groundwater due to the proposed greening and landscaping works will be investigated and mitigation measures would be proposed if necessary.

### Waste Management

- 5.3.4 The wastes generated during operational phase would mainly be silt and debris removed from the DWFI system, which would be similar in nature to general refuse. Waste generated in the operation phase will be handled, stored and disposed according to the Waste Disposal Ordinance on regular basis.

### Ecology

- 5.3.5 The proposed DWFI system would improve the water quality, and hence be beneficial to the vegetation and aquatic organisms in the Nullah. The potential operational phase activities would be limited to regular maintenance of bed vegetation. Impacts to aquatic communities resulting from these activities would be minor. Nevertheless, the measures, such as scheduling maintenance desilting activities during dry seasons and to be carried out in phases, would be recommended.

### Fisheries

- 5.3.6 Due to the distance separation between the Nullah and the fisheries sensitive receivers, no impact to fisheries sensitive receivers would be expected during the operation phase, and therefore mitigation measure is not necessary.

### Landscape and Visual

- 5.3.7 The revitalization works will improve and enhance the appearance of the Nullah. No impact on landscape and visual would be expected during the operation phase, and therefore mitigation measure is not necessary.

Cultural Heritage

- 5.3.8 No adverse impact on cultural heritage, including the sites of archaeological interests (SAIs), would be expected during the operation phase, and therefore mitigation measure is not necessary.

Land Contamination

- 5.3.9 No adverse impact on land contamination would be expected during the operation phase, and therefore mitigation measure is not necessary.

## **6 USE OF PREVIOUSLY APPROVED EIA REPORTS**

### **6.1 Previously Approved Reports**

- 6.1.1 No previously approved EIA reports have been referred to in the preparation of this Project Profile.

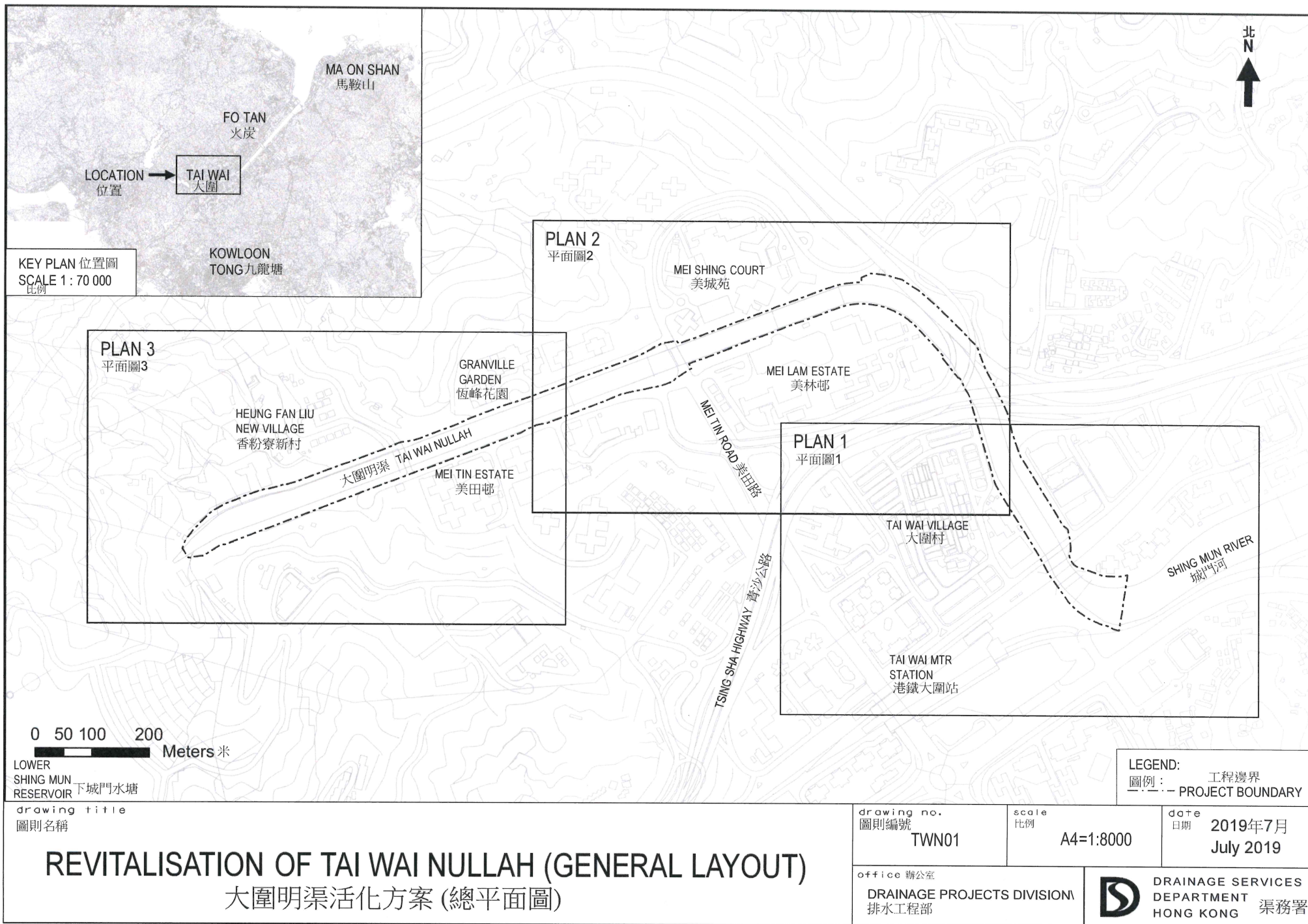
## **7 FURTHER IMPLICATIONS**

### **7.1 Consultation of relevant District Council**

- 7.1.1 The Project was generally introduced to the Health and Environment Committee of Sha Tin District Council on 7 March 2019.



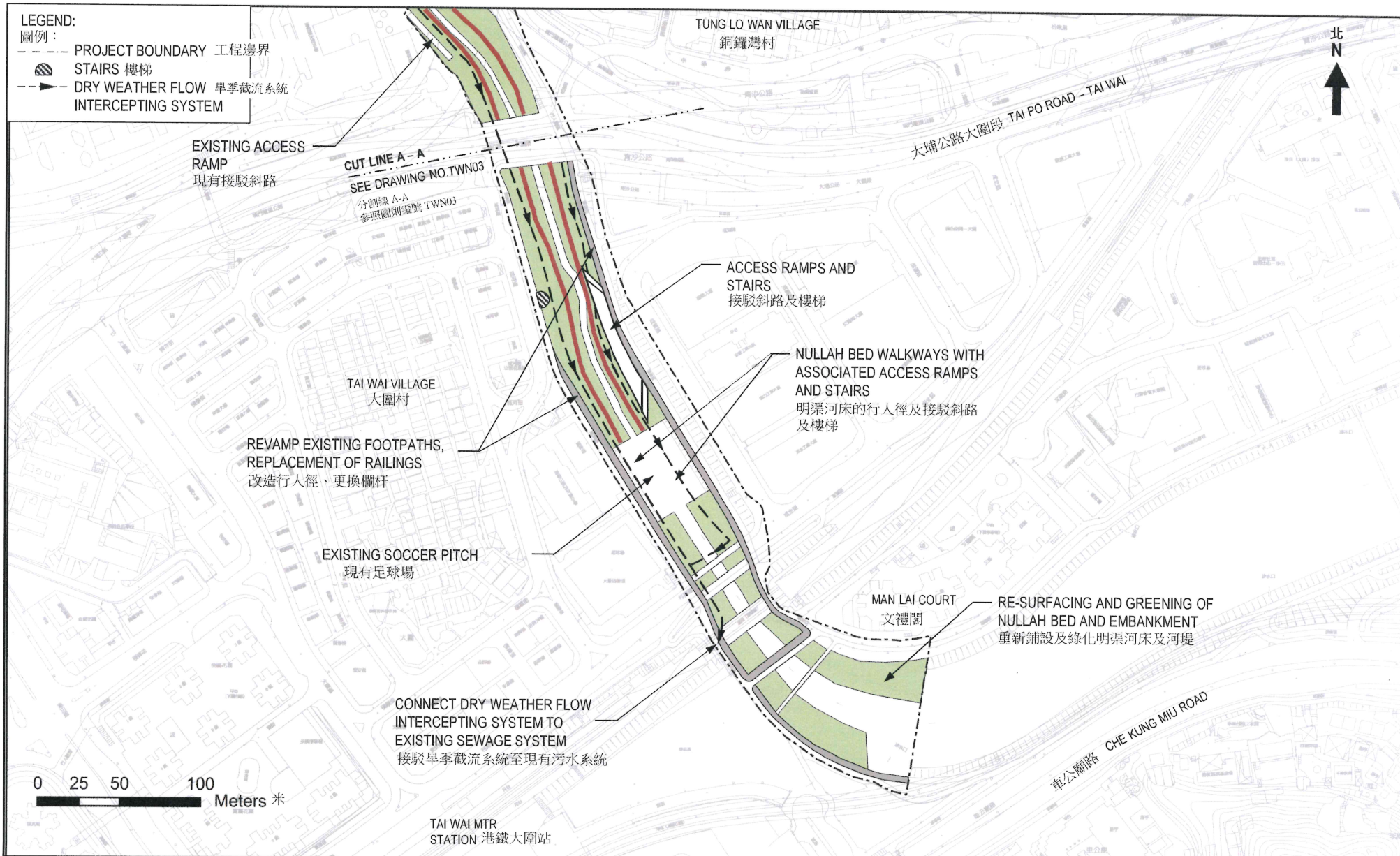
## **Enclosure 1**





LEGEND:

- 圖例：
- PROJECT BOUNDARY 工程邊界
  - STAIRS 樓梯
  - DRY WEATHER FLOW 旱季截流系統
  - INTERCEPTING SYSTEM



drawing title  
圖則名稱

# REVITALISATION OF TAI WAI NULLAH (PLAN 1) 大圍明渠活化方案 (平面圖1)

drawing no.  
圖則編號

TWN02

scale  
比例

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date  
日期

2019年7月  
July 2019

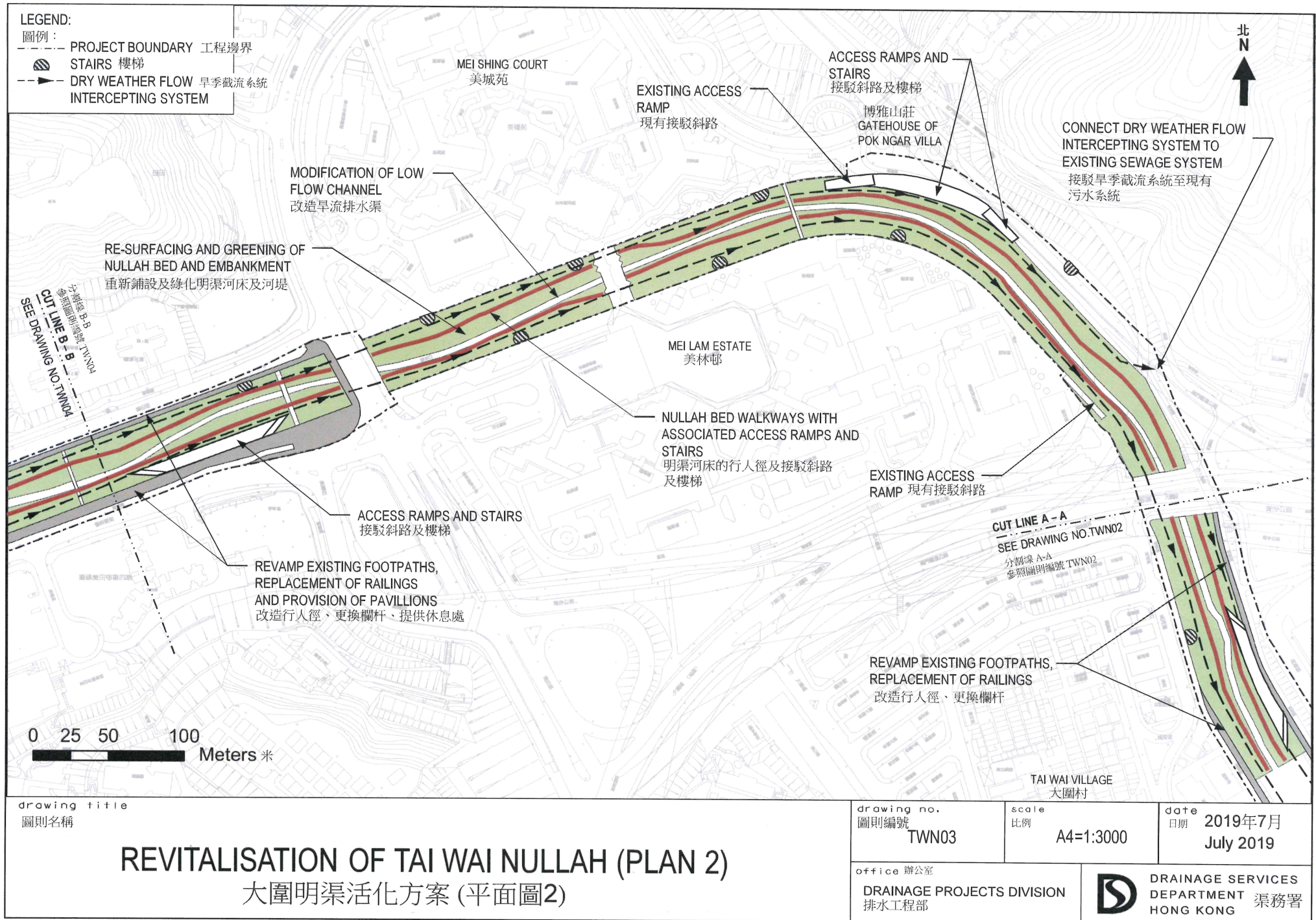
office 辦公室

DRAINAGE PROJECTS DIVISION  
排水工程處



DRAINAGE SERVICES  
DEPARTMENT  
HONG KONG 渠務署



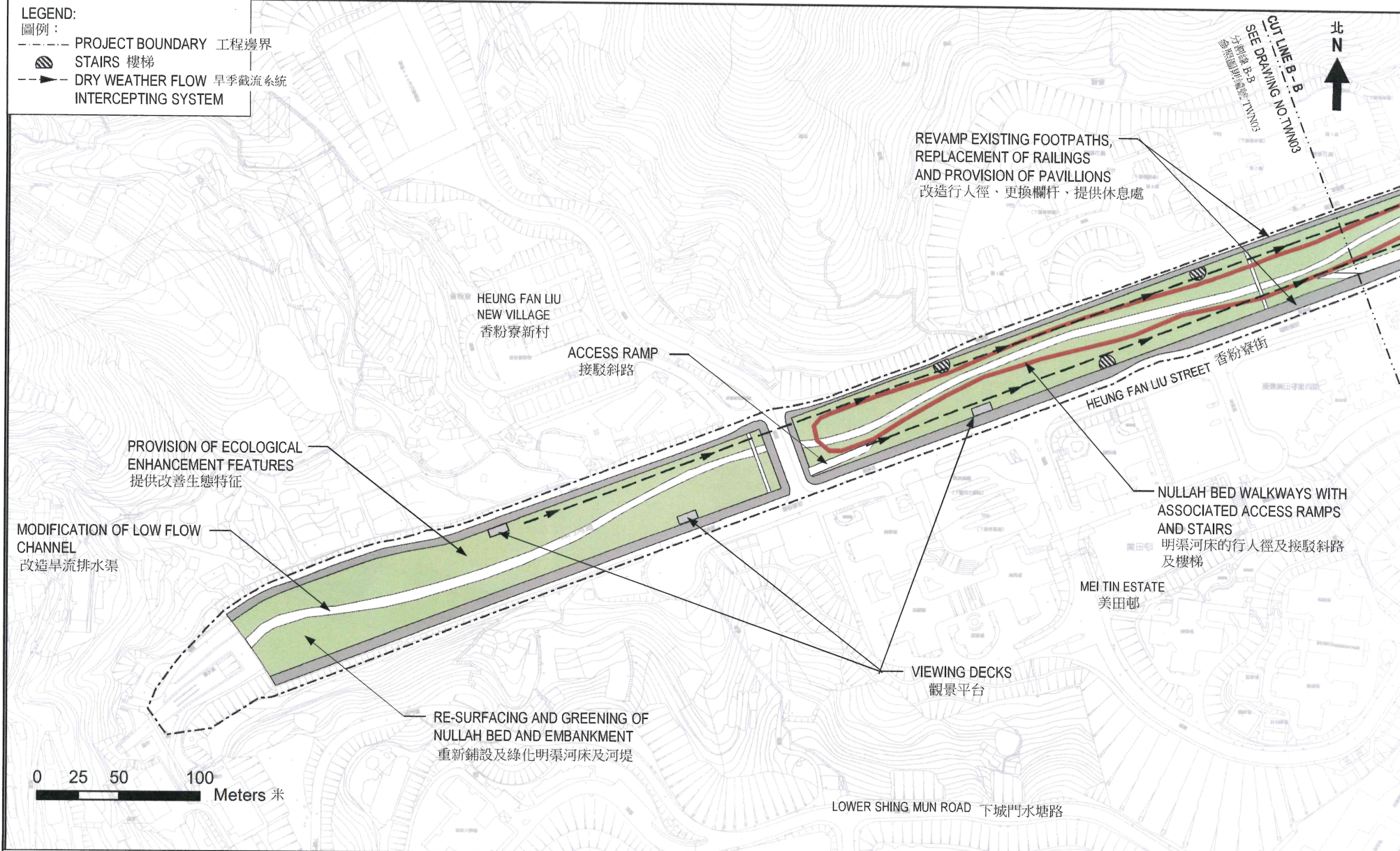




LEGEND:

圖例:

- PROJECT BOUNDARY 工程邊界
- STAIRS 樓梯
- DRY WEATHER FLOW 旱季截流系統
- INTERCEPTING SYSTEM



drawing title  
圖則名稱

# REVITALISATION OF TAI WAI NULLAH (PLAN 3) 大圍明渠活化方案 (平面圖3)

drawing no.  
圖則編號  
TWN04

scale  
比例  
A4=1:3000

date  
日期  
2019年7月  
July 2019

office  
DRAINAGE PROJECTS DIVISION  
排水工程處



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DEPARTMENT  
HONG KONG 渠務署

## **Enclosure 2**

Figure 1 – Potential Air Sensitive Receivers

Figure 2 – Potential Noise Sensitive Receivers

Figure 3 – Potential Water Sensitive Receivers

Figure 4 – Potential Ecological Sensitive Receivers

Figure 5 – Potential Visually Sensitive Receivers

Figure 6 – Landscape Resources and Landscape Character Areas

Figure 7 – Cultural Heritage Resources



Figure 1 - Potential Air Sensitive Receivers 圖1 - 潛在的空氣質素敏感受體

- Project Boundary 工程邊界
- - - - - 500m from Project Area 工程邊界外 500 米以內的範圍
- Representative Air Sensitive Receivers 具代表性空氣質素敏感受體

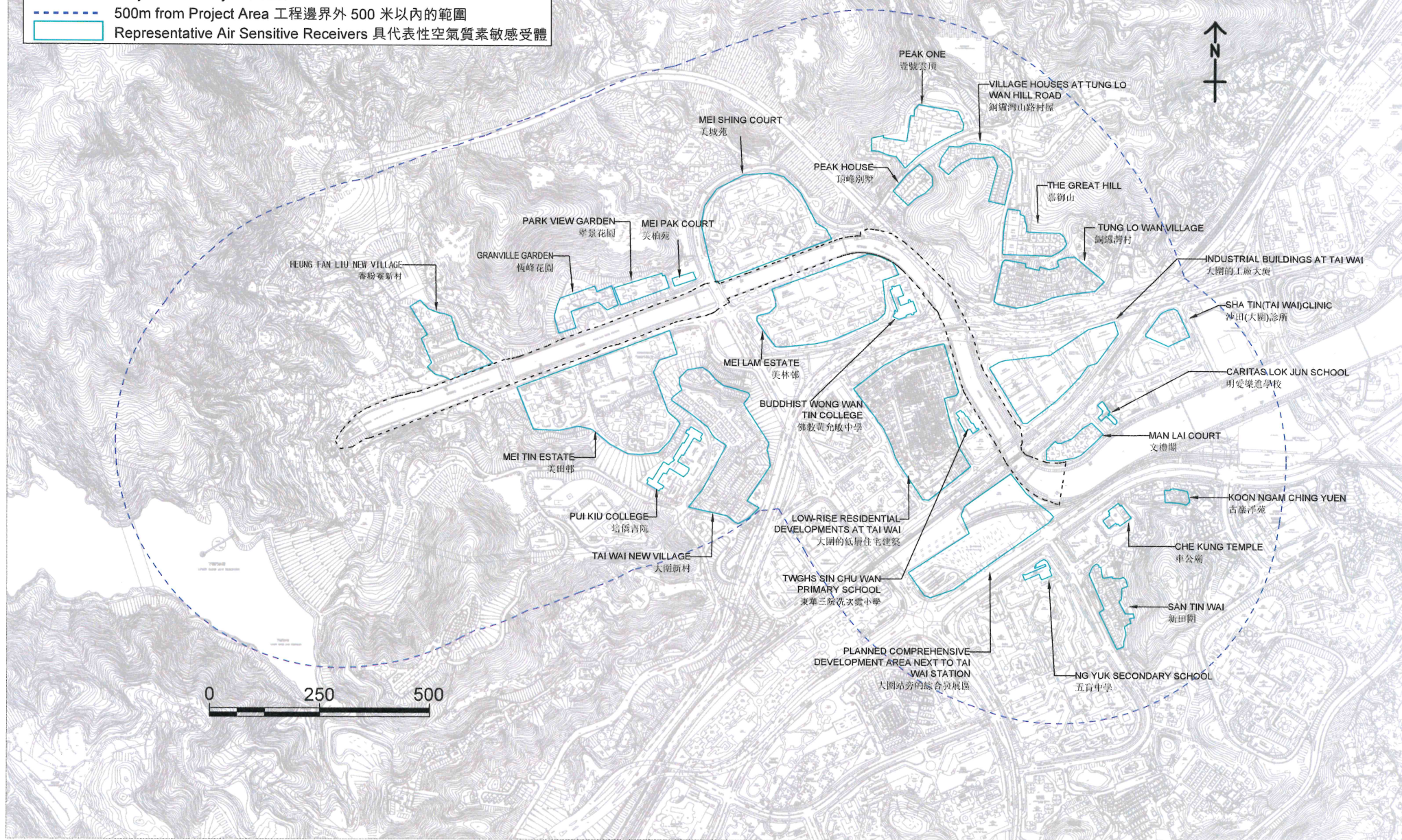
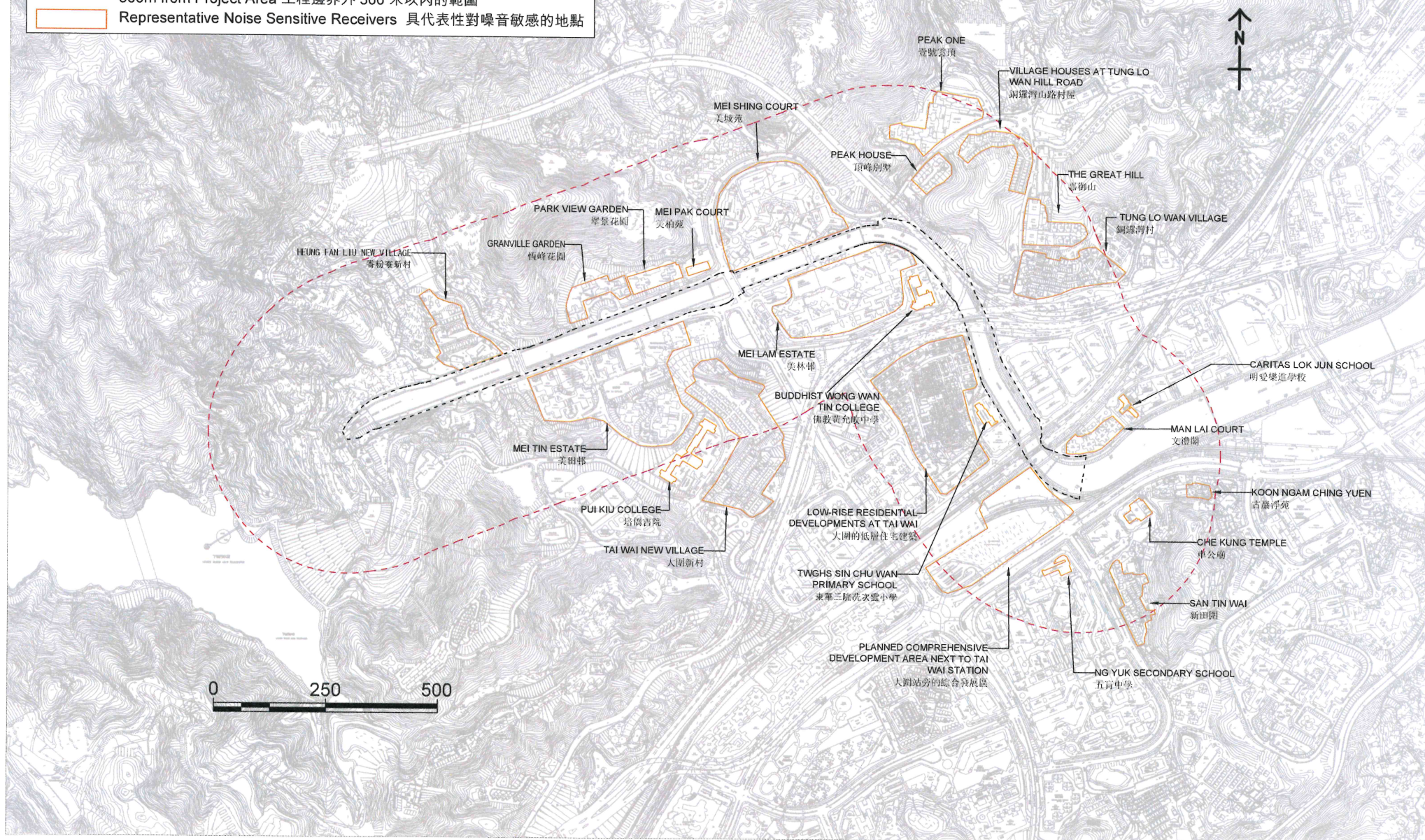


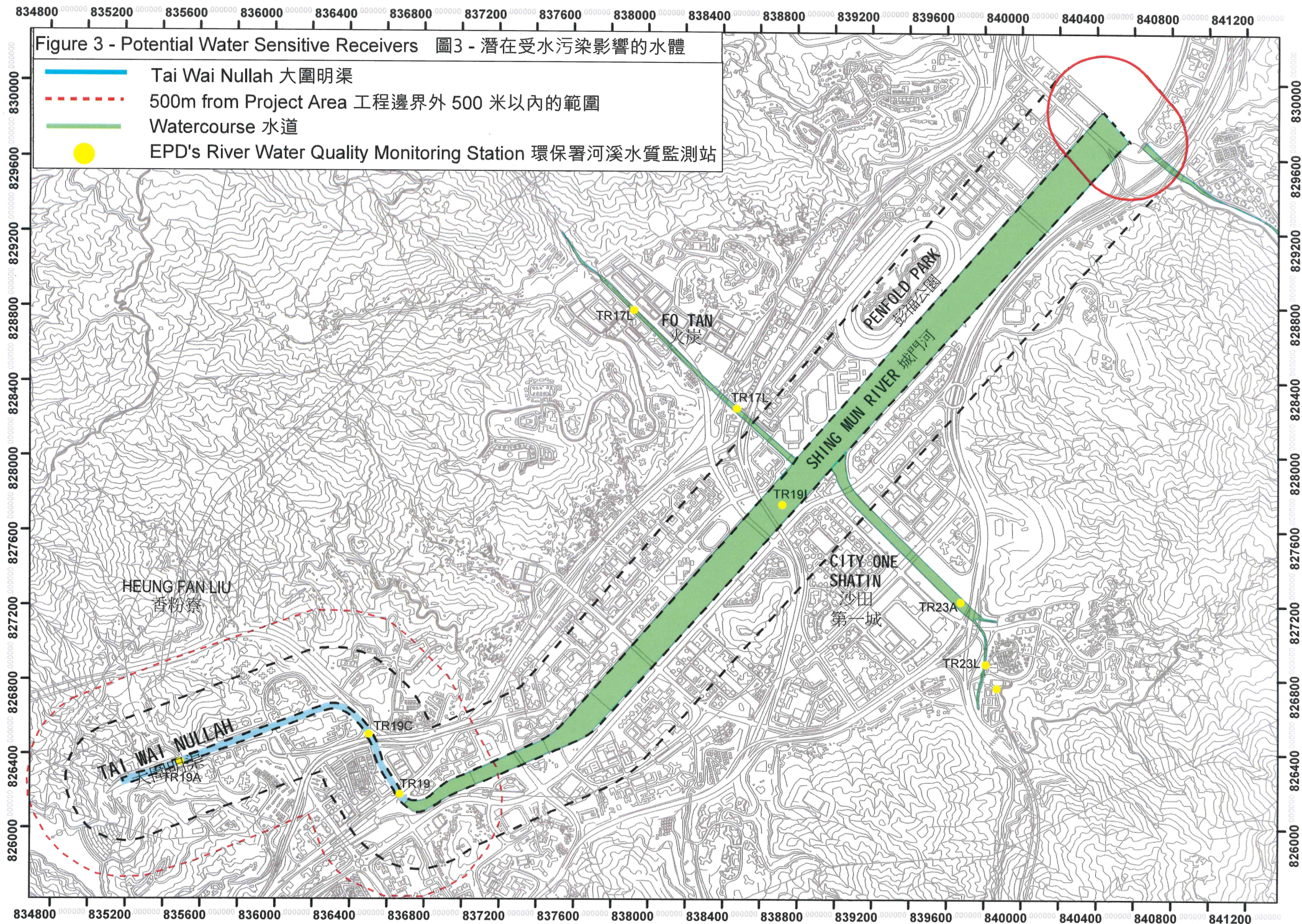


Figure 2 - Potential Noise Sensitive Receivers 圖2 - 潛在對噪音敏感的地點

- Project Boundary 工程邊界
- - - - - 300m from Project Area 工程邊界外 300 米以內的範圍
- Representative Noise Sensitive Receivers 具代表性對噪音敏感的地點









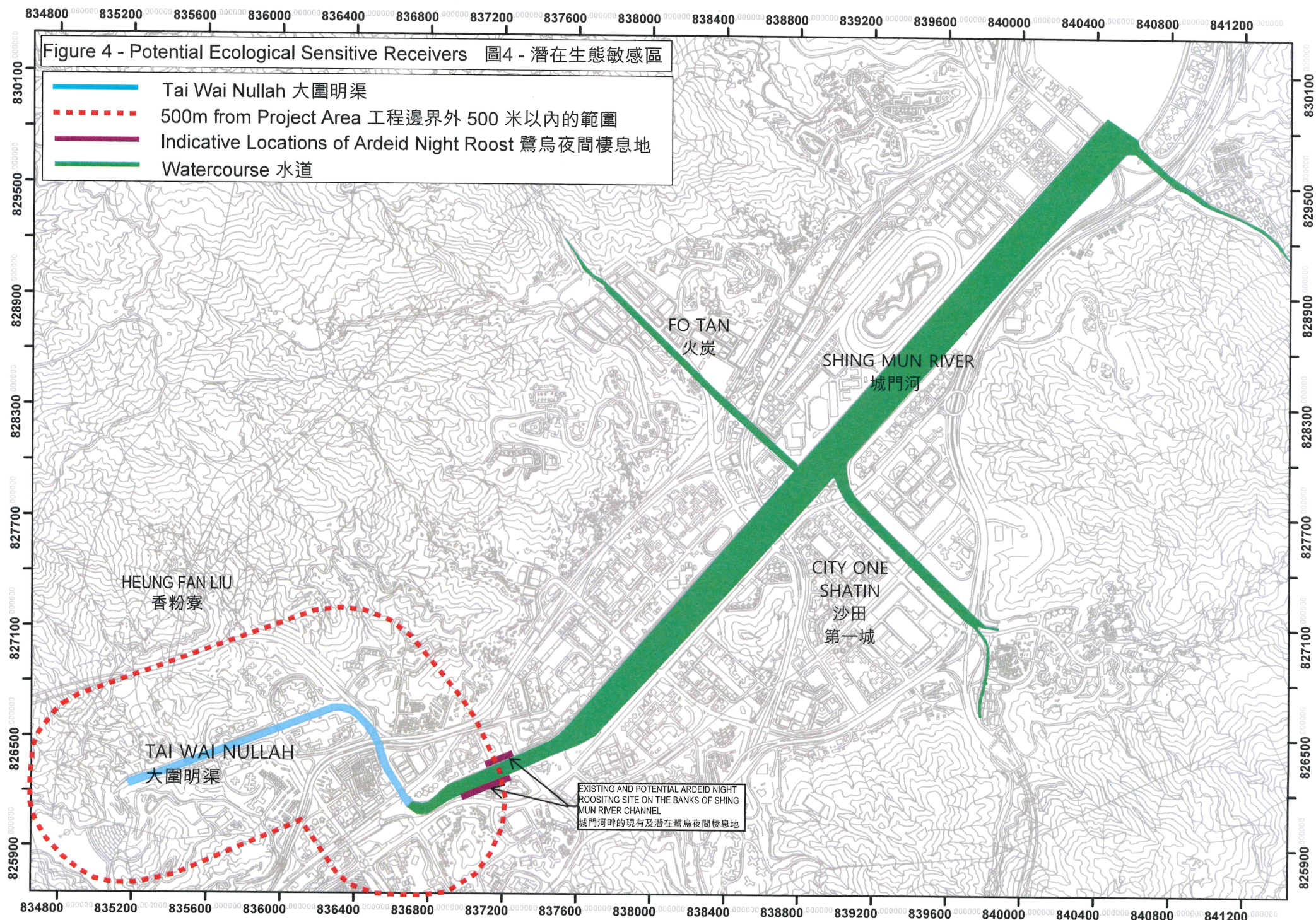
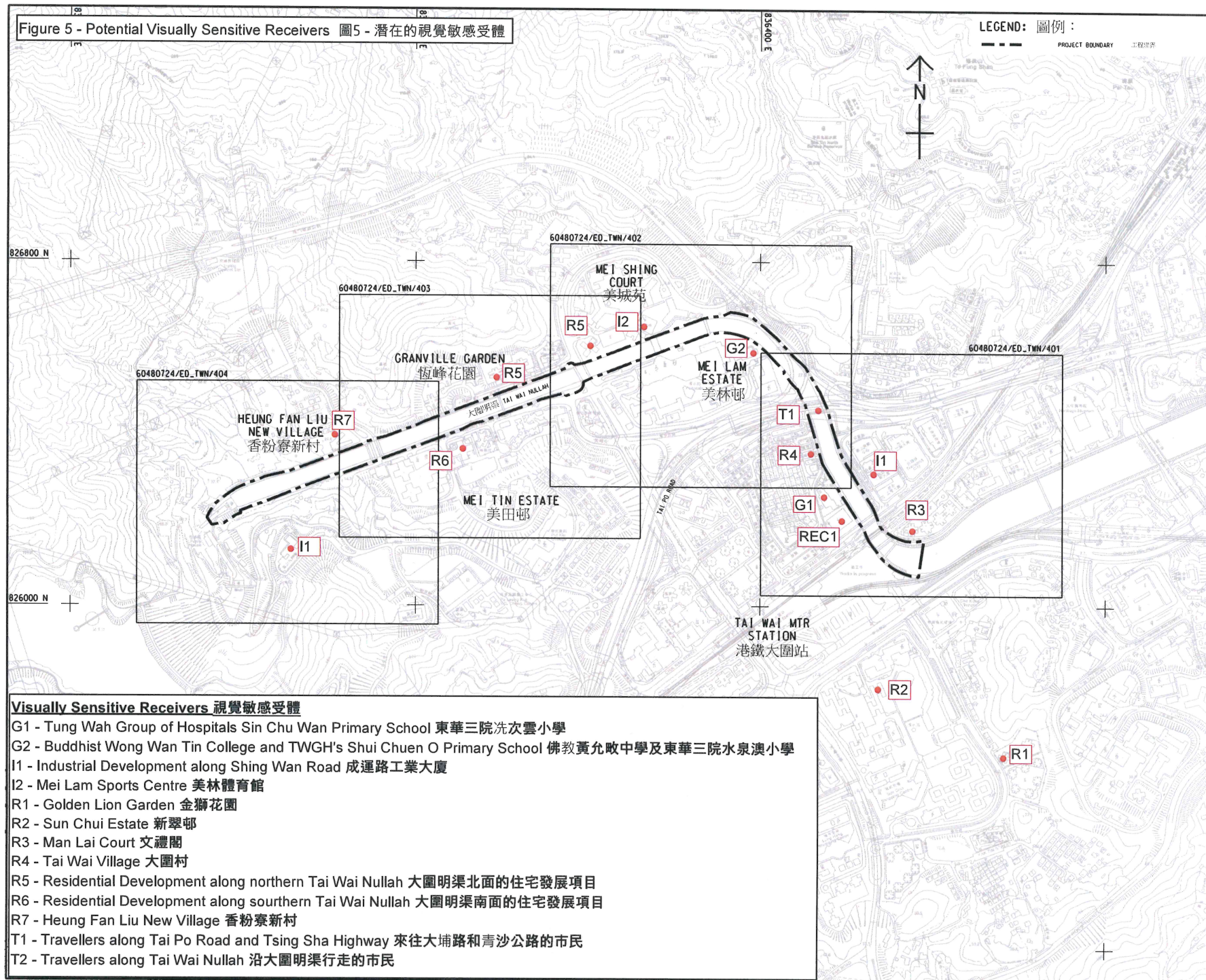




Figure 5 - Potential Visually Sensitive Receivers 圖5 - 潛在的視覺敏感受體



**Visually Sensitive Receivers 視覺敏感受體**

- G1 - Tung Wah Group of Hospitals Sin Chu Wan Primary School 東華三院洗次雲小學
- G2 - Buddhist Wong Wan Tin College and TWGH's Shui Chuen O Primary School 佛教黃允畋中學及東華三院水泉澳小學
- I1 - Industrial Development along Shing Wan Road 成運路工業大廈
- I2 - Mei Lam Sports Centre 美林體育館
- R1 - Golden Lion Garden 金獅花園
- R2 - Sun Chui Estate 新翠邨
- R3 - Man Lai Court 文禮閣
- R4 - Tai Wai Village 大圍村
- R5 - Residential Development along northern Tai Wai Nullah 大圍明渠北面的住宅發展項目
- R6 - Residential Development along southern Tai Wai Nullah 大圍明渠南面的住宅發展項目
- R7 - Heung Fan Liu New Village 香粉寮新村
- T1 - Travellers along Tai Po Road and Tsing Sha Highway 來往大埔路和青沙公路的市民
- T2 - Travellers along Tai Wai Nullah 沿大圍明渠行走的市民



Figure 6 - Landscape Resources and Landscape Character Areas 圖6 - 景觀資源及景觀特色區

