

Highways Department

**Widening of Tsuen Wan Road and the associated junction
improvement works**

Project Profile

June 2021

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1 BASIC INFORMATION**1.1 Project Title**

- 1.1.1 The project is entitled “Widening of Tsuen Wan Road and the associated junction improvement works” (hereinafter referred to as “the Project”).

1.2 Purpose and Nature of the Project

- 1.2.1 In 2006, Civil Engineering and Development Department (CEDD) engaged consultants to carry out an Environmental Impact Assessment (EIA) under an Investigation Assignment with the project title “Tsuen Wan Road Bypass, Widening of Tsuen Wan Road between Tsuen Tsing Interchange and Kwai Tsing Interchange, and Associated Junction Improvement Works”. The EIA studied the impacts of the project on noise, air quality, water quality, construction waste, cultural heritage, landfill gas hazard, hazard to life, ecology, visual and landscape on both existing and planned developments during construction and operation stages. The EIA report was approved under the EIA Ordinance in December 2008 (EIA Register No.: AEIAR-124/2008).
- 1.2.2 In 2009, CEDD conducted a Design and Construction (D&C) Assignment on “Tsuen Wan Bypass, Widening of Tsuen Wan Road between Tsuen Tsing Interchange and Kwai Tsing Interchange, and Associated Junction Improvement Works” (the TWB project) to cater for the anticipated increase in traffic demand arising from the developments in the Northwest New Territories, the commissioning of West Rail and its associated property developments as well as other planned developments in Tsuen Wan. By comparing the result of the traffic survey conducted in 2012 with that conducted in 2006, it was revealed that there was a general decrease in the peak hour traffic volume between 2006 and 2012. Moreover, the projected traffic peak hour flow in 2021 as forecast in the survey conducted in 2012 also demonstrated a drop as compared with the traffic flow in 2006.
- 1.2.3 In view of the foregoing, CEDD concluded that there was still adequate road capacity for Tsuen Wan Road (TWR) by 2021 and there was no imminent need to implement the TWB project by that time. It was then agreed in June 2013 to defer the implementation programme of the TWB project.
- 1.2.4 Since then, Transport Department (TD) conducted traffic counts from 2013 and 2015. The traffic counts revealed a general increase in peak hour traffic in 2013 and 2014 when compared with the findings of CEDD’s traffic survey conducted in 2012, while the peak hour traffic in 2015 remained steady.
- 1.2.5 Highways Department (HyD) subsequently took over the project from CEDD. HyD’s traffic review study on TWR traffic conditions conducted in 2016 revealed that the widening of TWR and improvement of associated junctions were needed to cope with the future traffic demand.
- 1.2.6 On 23 May 2019, HyD commissioned AECOM Asia Co. Ltd. to undertake the assignment of Agreement No. CE 61/2018 (HY) Widening of Tsuen Wan Road, Extension of Existing Vehicular Bridge at Texaco Road and the Associated Junction Improvement Works – Investigation. The purpose of the investigation assignment is to examine and review the Initial Scheme, modified from the aforementioned CEDD’s D&C Assignment, develop other feasible build forms / alignment options (other Schemes) for the Project. By comparing and evaluating the Initial Scheme and all other Schemes developed, based upon traffic, environmental and land considerations amongst other factors, the Preferred Scheme will be formulated and taken forward to

the detailed design and construction stages of the Project.

- 1.2.7 Since approval of the abovementioned EIA report (EIA Register No.: AEIAR-124/2008) in 2008, there are new developments and new sensitive receivers within the study area as well as new assessment requirements for the Project, together with potential changes in project scope, a fresh EIA study is considered required for the Preferred Scheme.

1.3 Name of the Project Proponent

- 1.3.1 The project proponent is Major Works Project Management Office, Highways Department, HKSAR Government.

1.4 Location and Scale of Project

- 1.4.1 The location plan of the Project is shown in **Figure 1.1**. The Project covers Tsuen Wan area and Kwai Tsing area. The northern boundaries of the Project are at TWR near Chai Wan Kok Interchange, while the southern boundaries of the Project are at TWR near Kwai Tsing Interchange.

- 1.4.2 The scope of the Project mainly comprises:

- i. Widening of the section of TWR and provision of slip road(s) between Chai Wan Kok Interchange and Tsuen Tsing Interchange for both Tuen Mun and Kowloon bounds;
- ii. Widening of the section of TWR and provision of slip road(s) between Tsuen Tsing Interchange and Kwai Tsing Interchange for both Tuen Mun and Kowloon bounds;
- iii. Associated junction improvement works; and
- iv. Associated works including, but not limited to, geotechnical, drainage, traffic aids, directional signs, street lighting modification, E&M, environmental mitigation measures and landscaping works.

1.5 Number and Types of Designated Projects

- 1.5.1 The Project involves construction and operation of highways and associated slip road(s), which is classified as the following Designated Project (DP) under Part I, Schedule 2 of the EIA Ordinance (EIAO):

- Item A.1 – A road which is an expressway, trunk road, primary distributor road or district distributor road including new roads, and major extensions or improvements to existing road; and
- Item A.8 – A road bridge more than 100 m in length between abutments.

1.6 Name and Telephone Number of Contact Persons

1.6.1 All queries regarding the Project can be addressed to:

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Name: Mr. Eric LEUNG
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88 Chung Hau Street, Ho Man Tin, Kowloon
Tel: 2762 3604
Fax: 2714 5289

2 OUTLINE OF PLANNING AND IMPLEMENTATION PROGRAMME**2.1 Project Planning and Implementation**

2.1.1 The Project will be implemented under a Public Works Programme item. Consultants have been appointed to carry out the investigation study of the Project under Agreement No. CE 61/2018 (HY). Subject to completion of detailed design, contractor(s) will be appointed to carry out the construction works.

2.2 Project Programme

2.2.1 The tentative implementation programme is as follows:

- a) Investigation and Preliminary Design: Q2 2019 to 2022 earliest
- b) Detailed Design and Tendering: from 2023 earliest
- c) Construction: to be ascertained
- d) Commissioning and Operation: to be ascertained

2.2.2 The packaging and programme of the Project shall be ascertained during the investigation and detailed design stages of the project, taking into account the prevailing site conditions and the results of relevant technical studies.

2.3 Project Interface

2.3.1 Major projects in vicinity that may have potential interface with the Project have been identified and listed below. Any cumulative impact from these projects including but not limited to the following, will be addressed in the EIA as appropriate:

Potential Interfacing Projects
Flyover from Kwai Tsing Interchange Upramp to Kwai Chung Road
Improvement works at Tsuen Tsing Interchange
Kwai Chung Public Fill Barging Point
Provision of Columbarium at Ex-Kwai Chung Incineration Plant on Kwai Yue Street
Kwai Chung Park

3 POSSIBLE IMPACT ON THE ENVIRONMENT

3.1 Environmental Impacts from the Project

3.1.1 It is anticipated that the construction of the Project would involve land based construction works including site clearance, earthworks, piling or foundation works, construction of viaducts, at-grade roads, retaining structures, demolition and reconstruction of footbridge, extension of underpass, noise barriers / enclosures, landscaping works, diversion of existing utilities, etc.

3.1.2 It is anticipated that the Project will bring potential environmental impacts on sensitive receivers in the vicinity, such as air quality, noise, water quality, waste management, land contamination, landfill gas hazard, landscape and visual impacts, hazard to life and cultural heritage, during the construction and operation phases of the Project. The potential environmental impacts are discussed in the following sub-sections. Detailed impact assessments will be carried out during the EIA study.

3.2 Air Quality

Construction Phase

3.2.1 The potential air quality impacts on air sensitive receivers (ASRs) would be dust emissions generated from construction activities. The construction activities dominantly contribute to construction dust impacts would include site clearance, earthworks, piling or foundation works, construction of viaducts, at-grade roads, retaining structures, demolition and reconstruction of footbridge, extension of underpass, and wind erosion of exposed excavated sites. In general, it is expected that no extensive underground construction work would be conducted throughout the construction phase, but mainly at-grade road pavement construction and pre-cast viaduct elements when practicable for on-site installations. In addition, construction works would be carried out in different phases, potential fugitive dust emissions for each work fronts would be finite and confined within limited area. With the implementation of dust mitigation measures, construction dust impact to surrounding ASRs is anticipated to be limited.

3.2.2 Exhaust emissions from construction plant and equipment would also cause air quality impact. With the implementation of the relevant Regulations stated in **Section 5.2.3**, the emissions from construction plant and equipment are considered relatively low and will not cause adverse air quality impact to the surrounding ASRs.

Operation Phase

3.2.3 Operation phase air quality impact arising from the Project would be vehicle emissions of Nitrogen Dioxide (NO₂), Respirable Suspended Particulates (RSP) and Fine Suspended Particulates (FSP) from traffic on the proposed roads. Appropriate mitigation measures will be considered, if necessary.

3.3 Noise

Construction Phase

3.3.1 Potential noise impacts on noise sensitive receivers (NSRs) will be associated with the use of Powered Mechanical Equipment (PMEs) for various construction activities. The key construction activities which would create noise impact will be site clearance, earthworks, piling or foundation works, construction of viaducts, at-grade roads, retaining structure, demolition and reconstruction of footbridge, extension of underpass, etc. The noise impact arising from these construction activities will be

mitigated by suitable good site practices and precautionary measures.

Operation Phase

- 3.3.2 Operation phase noise impact arising from the Project would be traffic noise from the proposed roads. Cumulative traffic noise impact from surrounding existing and proposed road networks will be included in the traffic noise impact assessment. Appropriate mitigation measures will be considered, if necessary.

3.4 Water Quality

Construction Phase

- 3.4.1 Potential water quality impacts will be from construction site runoff, wastewater from general construction activities, sewage generated from on-site workforce and accidental spillage of chemical. Appropriate good site practice measures should be implemented to minimize potential impacts on any nearby water sensitive receivers (WSRs) to comply with relevant standards.

Operation Phase

- 3.4.2 Potential water quality impact during the operation phase of the Project would be confined to the road surface runoff.

3.5 Waste Management Implications and Land Contamination

Construction Phase

- 3.5.1 Potential waste generated from construction activities includes construction and demolition (C&D) materials, chemical waste, general refuse, etc. Standard good site practices will be implemented to avoid or minimize potential environmental impacts associated with handling, collection and disposal of wastes.
- 3.5.2 According to the approved EIA Report of the Tsuen Wan Bypass, widening of Tsuen Wan Road between Tsuen Tsing Interchange and Kwai Tsing Interchange, and associated junction improvement works (Register No.: AEIAR-124/2008), potentially contaminative land uses have been identified, previous TWR upgrading works will not encroach upon any of the identified potentially contaminative uses, land contamination impacts are therefore not anticipated. The Project is not anticipated to directly encroach upon any areas occupied by potentially contaminative uses. Hence, land contamination impacts are not anticipated.

Operation Phase

- 3.5.3 During operation phase, it is not anticipated that the Project would generate any adverse environmental impact associated with waste and land contamination.

3.6 Landfill Gas Hazard

Construction Phase

- 3.6.1 A small section of the planned works falls in close proximity to the former Gin Drinkers Bay Landfill and within its Consultation Zone. The landfill gas hazard assessment undertaken for the EIA of the Tsuen Wan Bypass, widening of Tsuen Wan Road between Tsuen Tsing Interchange and Kwai Tsing Interchange, and associated junction improvement works (Register No.: AEIAR-124/2008) indicated an overall medium risk during construction phase. To reduce this medium risk to an acceptable level, precautionary measures shall be required to mitigate hazard associated with

accumulation of landfill gas.

Operation Phase

- 3.6.2 The risks associated with landfill gas (LFG) during operation phase have been classified as low. However, utilities companies should be advised of the possible presence of LFG during maintenance.

3.7 Landscape and Visual

Construction Phase

- 3.7.1 Potential landscape impacts during construction phase would be mainly within existing traffic corridor. Some existing vegetation is expected to be affected by the construction works which would involve vegetation clearance, tree removal and alteration of landform. For visual impact, the construction works mainly carried out along existing road may induce some degree of visual impact to the surroundings.

Operation Phase

- 3.7.2 The proposed works would be similar to existing traffic corridor in nature, permanent and irreversible. Limited landscape impact is anticipated during the operation phase and confined to the proposed roadworks footprint. Due to the visually sensitive receivers (VSRs) are located close to the proposed works, some unavoidable visual impacts shall be expected. Appropriate mitigation measures will be proposed to minimize the visual impacts.

3.8 Hazard to Life

- 3.8.1 The Project site is located within the Consultation Zone (CZ) of the Yau Kom Tau Water Treatment Works (YKTWTW), which is classified as a Potentially Hazardous Installation (PHI). With reference to the information provided by Water Supplies Department (WSD), it is confirmed that the new On-Site Chlorine Generation (OSCG) plant is currently being installed in YKTWTW and it is expected that full operation of the OSCG would be commenced in late 2021 / early 2022, no on-site liquid chlorine storage would be required after the upgrading work. The OSCG should be completed much earlier than the commencement for the construction of the Project. Therefore, hazard to life impact is not expected.

3.9 Cultural Heritage

- 3.9.1 The Project site does not have any built heritage and archaeological potential. The nearest site of archaeological interest is the Chai Wan Kok Site of Archaeological Interest located 390m from the Project site while the nearest built heritage is Old House, Hoi Pa Village which is a Declared Monument located about 560 m from the Project site. As there are no cultural heritage features within or in vicinity of the Project site, no direct and indirect impacts on cultural heritage features is anticipated.

3.10 Ecology

- 3.10.1 The Project site is located within an urban area and principally no natural habitat would be affected. No important ecological resources have been identified within the study area and ecological impacts are not expected.

4 MAJOR ELEMENTS OF THE SURROUNDING ENVIRONMENT

4.1 General

- 4.1.1 The Project site is located in developed areas surrounded by a combination of transport infrastructure, residential premises, industrial / commercial buildings and government facilities.
- 4.1.2 Environmental sensitive receivers have been identified based on existing and planned developments in the vicinity, as presented below.

4.2 Air Quality

- 4.2.1 The study area for air quality impact assessment is defined as within 500m from the Project boundary. Potential ASRs that may be affected by the Project will be included in the air quality impact assessment and are as follows:

Potential Air Sensitive Receivers	Land Use
Serenade Cove	Residential
Basketball Court at Hoi On Road Playground	Recreational
Industrial Buildings along Hoi On Road	Industrial
Industrial Buildings along Hoi Shing Road	Industrial
Chai Wan Kok Rest Garden	Recreational
The Salvation Army Ng Kwok Wai Memorial Kindergarten	Educational
Clague Garden Estate	Residential
Po On Commercial Association Wong Siu Ching Secondary School	Educational
Parc City	Residential
Ocean Pride	Residential
L'hotel Nina et Convention Centre	Commercial
Nina Tower	Commercial
Tsuen Wan Park	Recreational
The Dynasty	Residential
The Aurora	Residential
Tsuen Wan Sports Centre	Recreational
Pavilia Bay	Residential
Industrial Buildings along Texaco Road	Industrial
City Point	Residential
Shak Chung Shan Memorial Catholic Primary School	Educational
Proposed School Site at TW7	Educational
Riviera Gardens	Residential
HKBU Tsuen Wan Campus	Educational
High Prosperity Terrace	Residential
Kerry Cargo Centre	Industrial
Industrial Buildings along Shing Yiu Street	Industrial
Sunley Centre	Industrial
Industrial Buildings at Kwai Fuk Road	Industrial
S.K.H. Chu Yan Primary School	Educational
Kwai Shing West Estate	Residential
CNEC Lee I Yao Memorial Secondary School	Educational

Potential Air Sensitive Receivers	Land Use
Wing Kei Road 5-a-Side Soccer Pitch	Recreational
Industrial Buildings along Wing Kei Road and Wing Kin Road	Industrial
Industrial Buildings along Kwai Hei Street	Industrial
Industrial Buildings along Kwai Fung Crescent	Industrial
Kwai Shun Street Playground	Recreational
Kwai Shun Street Cooked Food Market	Commercial
Industrial Buildings along Kwai Shun Street	Industrial
Lai King Catholic Secondary School	Educational
Lai King Estate	Residential
Planned Joint-User Complex at Texaco Road, Tsuen Wan	Government, Institutional or Community
Other Potential Air Sensitive Receivers	To be determined

4.2.2 The locations of the above potential ASRs are shown in **Figure 4.1a** and **Figure 4.1b**. The abovementioned ASRs are not exhaustive and indicative only, more potential ASRs will be identified in the EIA report. Major elements within the study area include road networks, industrial buildings, Tsuen Wan Pier, bus terminus and major parking facilities.

4.3 Noise

4.3.1 Sources of noise impact would include the construction of the proposed roads, and traffic noise arising from operation of these proposed roads. The study area for noise impact assessment is defined as within 300m from the Project boundary. Potential NSRs that may be affected by the Project will be included in the noise impact assessment and are as follows:

Potential Noise Sensitive Receivers	Land Use
Serenade Cove	Residential
The Salvation Army Ng Kwok Wai Memorial Kindergarten	Educational
Clague Garden Estate	Residential
Po On Commercial Association Wong Siu Ching Secondary School	Educational
Parc City	Residential
Ocean Pride	Residential
Vision City	Residential
The Dynasty	Residential
The Aurora	Residential
Pavilia Bay	Residential
City Point	Residential
Shak Chung Shan Memorial Catholic Primary School	Educational
Proposed School Site at TW7	Educational
Riviera Gardens	Residential
HKBU Tsuen Wan Campus	Educational

Potential Noise Sensitive Receivers	Land Use
Sheung Chui Court	Residential
Tai Wo Hau Estate	Residential
High Prosperity Terrace	Residential
S.K.H. Chu Yan Primary School	Educational
Kwai Shing West Estate	Residential
CNEC Lee I Yao Memorial Secondary School	Educational
Lai King Catholic Secondary School	Educational
Lai King Estate	Residential
Planned Joint-User Complex at Texaco Road, Tsuen Wan	Government, Institutional or Community

4.3.2 The locations of the above potential NSRs are shown in **Figure 4.2a** and **Figure 4.2b**. The abovementioned NSRs are not exhaustive and indicative only, more potential NSRs will be identified in the EIA report.

4.4 Water Quality

4.4.1 Major WSRs within 500m from the Project site will be included in the water quality impact assessment, such as Tsuen Wan Flushing Water Intake, Tsuen Wan Cooling Water Intake and Rambler Channel Typhoon Shelter.

4.5 Landscape and Visual

4.5.1 The landscape resources around the proposed works are mainly roadside planting, vegetation on slopes, amenity areas in residential areas nearby and some parks and playgrounds adjoining TWR.

4.5.2 Key potential visual sensitive receiver (VSR) groups to be affected shall include residential VSRs near Tsuen Wan West Station and at City Point, and recreational VSRs such as Tsuen Wan Promenade and Tsuen Wan Park along the proposed works in close proximity. Besides, VSR groups with low sensitivity such as travelling VSR along TWR and industrial VSR in close proximity to the proposed works may also be affected. The locations of the key potential VSR groups are shown in **Figure 4.3a** and **Figure 4.3b**.

5 ENVIRONMENTAL PROTECTION MEASURES TO BE INCORPORATED IN THE DESIGN AND ANY FURTHER ENVIRONMENTAL IMPLICATIONS**5.1 Mitigation Measures for the Project**

5.1.1 Practicable and effective mitigation measures will be adopted for construction and operation of the Project, as necessary, to ensure compliance of relevant environmental standards. Possible key measures to be adopted, subject to studies, are listed below.

5.2 Air Quality

5.2.1 To minimize air quality impact to identified ASRs as stated in **Section 4.2**, the following mitigation measures will be proposed.

Construction Phase

5.2.2 Dust mitigation measures as stipulated in the Air Pollution Control (Construction Dust) Regulation (Cap. 311R) will be implemented to control fugitive dust emission. Possible key measures include:

- Regular watering on all exposed and unpaved surface, particularly during dry weather;
- Frequent watering for particularly dusty construction areas and areas close to ASRs;
- Minimise temporary storage of stockpiles on site;
- Cover excavated or stockpile of dusty material by impervious sheeting or spraying with water to maintain the entire surface wet;
- Wheel washing facilities at the exit points of the site;
- Cover dusty materials on vehicles leaving the site;
- Erection of hoarding along the site boundary and around dusty activities as far as practicable;
- Proper planning of transportation routes of construction vehicles;
- Minimise exposed area by proper work planning; and
- Dust suppression measures.

5.2.3 Requirements stipulated in Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation will also be followed to control potential emissions from non-road mobile machinery during construction phase. To control sulphur dioxide emission from construction plant and equipment, requirements stipulated in Air Pollution Control (Fuel Restriction) Regulation (i.e. using liquid fuel with a sulphur content less than 0.005% by weight) will be followed. In addition, mitigation measures such as avoiding the use of diesel or petrol powered generators, use of mains electricity or battery powered equipment, prohibition of vehicle idling, throttling down or switching off unused machines will be considered as far as practicable.

Operation Phase

5.2.4 Mitigation requirements will be subject to the findings of the EIA, and the necessary performance and implementation of these measures will be documented in the EIA study.

5.3 NoiseConstruction Phase

5.3.1 All practicable mitigation measures will be exhausted to minimize the construction noise impact, including:

- Quiet plant, silencers or mufflers on construction equipment;
- Movable and temporary barriers to screen particular items of plant or noisy operations;
- Noise screening structures or purpose-built noise barriers along the site boundary;
- Good site practices such as locate noisy equipment and activities at farthest practicable distance, schedule noisy activities to minimise noise exposure, proper maintenance of construction plant, devise quiet methods of working, and regular noise monitoring; and
- Proper planning of construction vehicle travelling route.

Operation Phase

5.3.2 Potential noise impact from road traffic will be avoided or minimized with the implementation of noise mitigation measures, such as noise barriers / enclosures and low noise surface materials, which will be subject to the findings of the EIA.

5.4 Water QualityConstruction Phase

5.4.1 During construction phase, possible key mitigation measures to minimize water quality impact on nearby water sensitive receivers include:

- Good site practices in accordance with the Professional Persons Environmental Consultative Committee Practice Notes on Construction Site Drainage (ProPECC PN 1/94) and Recommended Pollution Control Clauses for Construction Contracts issued by EPD;
- All runoffs arising from the construction sites should be properly collected and treated to ensure the effluent comply with the Water Pollution Control Ordinance. Silt trap and oil interceptor will be provided to remove the oil, lubricants, grease, silt, grit and debris from the wastewater before being pumped to the public stormwater drainage system;
- Temporary stockpiles of the on-site excavated materials, which is stored on-site before disposal to landfill site or before reused in other construction sites, will be covered to avoid erosion and washing of solid waste into drainage system. The disposal of the on-site excavated materials will be carried out as soon as possible; and
- Mobile toilets or other appropriate means to store sewage before disposal through licensed collection agent or discharging to communal sewerage system.

Operation Phase

5.4.2 Proper drainage systems with silt traps and oil interceptors should be installed,

maintained and cleaned at regular intervals. The design of the operation phase mitigation measures should also follow the Professional Persons Environmental Consultative Committee Practice Notes on Drainage Plans subject to Comment by EPD (ProPECC PN 5/93), which provide useful non-statutory guidelines for pollution control on different types of discharge to minimize water quality impact from proposed drainage systems.

5.5 Waste Management Implications

5.5.1 Possible key measures to reduce the quantities of C&D materials, chemical waste, general refuse, etc. for offsite disposal include:

- Sorting and reuse on site as far as practicable;
- Handle by registered and licensed waste hauliers under Waste Disposal Ordinance (Cap. 354) and Waste Disposal (Chemical Waste) (General) Regulation (Cap. 354C);
- Nomination of an approved person for waste management;
- Separate chemical wastes for handling and treatment at licensed facilities;
- Proper record system for wastes generated, recycled and disposed of;
- Ticket-trip system in accordance with Development Bureau Technical Circular No. 6/2010 Trip Ticket System for Disposal of Construction & Demolition Materials;
- Waste Management Plan in accordance with ETWB TCW No. 19/2005 Environmental Management on Construction Sites;
- Segregate different types of waste for storage;
- Recycle unused chemicals with remaining functional capacity;
- Use of non-timber form work; and
- Proper storage and site practices.

5.6 Landfill Gas Hazard

5.6.1 Precautionary landfill gas monitoring measures shall be undertaken regularly to confirm concentrations of methane, carbon dioxide and oxygen are within safe levels in depressions, trenches and other excavations throughout the entire period any such excavation remains open. If elevated LFG level is measured, ventilation of such excavations shall take place and sources of ignition shall be kept away from areas where a build-up of gas is possible. These measures shall be clearly stated and followed rigidly during trenching, excavation and creation of confined spaces at, near to or below ground level. These measures should be incorporated into Contract Documentation. Workers should be equipped with portable gas detection equipment.

5.6.2 Temporary site buildings should be located outside the Consultation Zone or where unavoidable buildings should be elevated above ground level to create a clear air space beneath the structure/ building to prevent potential accumulation of hazardous gases and allow any landfill gas to dissipate harmlessly to atmosphere. Service ducts, pipes or cables etc. within conduits shall be sealed to prevent entry of landfill gas and allow venting to atmosphere via utility manholes and chambers.

5.6.3 New or realigned utilities within the Consultation Zone should be designated as

“special routes” and utilities companies should be notified of the possible presence of LFG in the subsurface. The abovementioned preventive measures should be taken into account in the design and construction of the new or realigned utilities within the Consultation Zone. It should be specified in the contracts that the service ducts, pipes or cables etc. within conduits shall be sealed to prevent entry of landfill gas and allow venting to atmosphere via utility manholes and chambers.

5.7 Landscape and Visual

5.7.1 Possible key measures to reduce potential landscape and visual impacts include:

Construction Phase

- Minimize disturbance to significant landscape resources;
- Optimize construction activities, e.g. minimizing extent of temporary works area, installing decorative site hoardings and minimizing illumination on non-target areas;
- Minimize construction periods where possible; and
- Early establishment of planting areas near sensitive receivers as far as appropriate.

Operation Phase

- Provision of greening, aesthetic architectural design of above ground structures to minimize perceived visual intrusiveness;
- Re-instatement of landscape areas temporarily affected by the proposed works;
- Sensitive lighting design to minimize spilling onto nearby residential developments; and
- Tree preservation in accordance with Development Bureau Technical Circular (Works) No. 4/2020 – Tree Preservation.

5.8 Hazard to Life

5.8.1 No hazard to life impact is anticipated, therefore no mitigation measure would be required.

5.9 Cultural Heritage

5.9.1 No archaeological impacts or impacts to built heritage features are anticipated, therefore no mitigation measure would be considered necessary. Antiquities and Monuments Office (AMO) will be informed immediately in case of discovery of antiquities or supposed antiquities in the course of works, so that appropriate mitigation measures, if needed, can be timely formulated and implemented in agreement with AMO. If any buildings or structures both at grade level and underground which were built on or before 1969 are identified during construction, AMO will be alerted in an early stage or once identified.

5.10 Severity, Distribution and Duration of Environmental Effects

5.10.1 Subject to the findings of detailed impact assessments, control measures will be

identified to mitigate the impacts to acceptable levels. The possible severity, distribution and duration of environmental effects such as beneficial and adverse effects; short and long term effects; secondary and induced effects; cumulative effects and trans-boundary effects from committed projects will be considered and addressed in the EIA, where applicable.

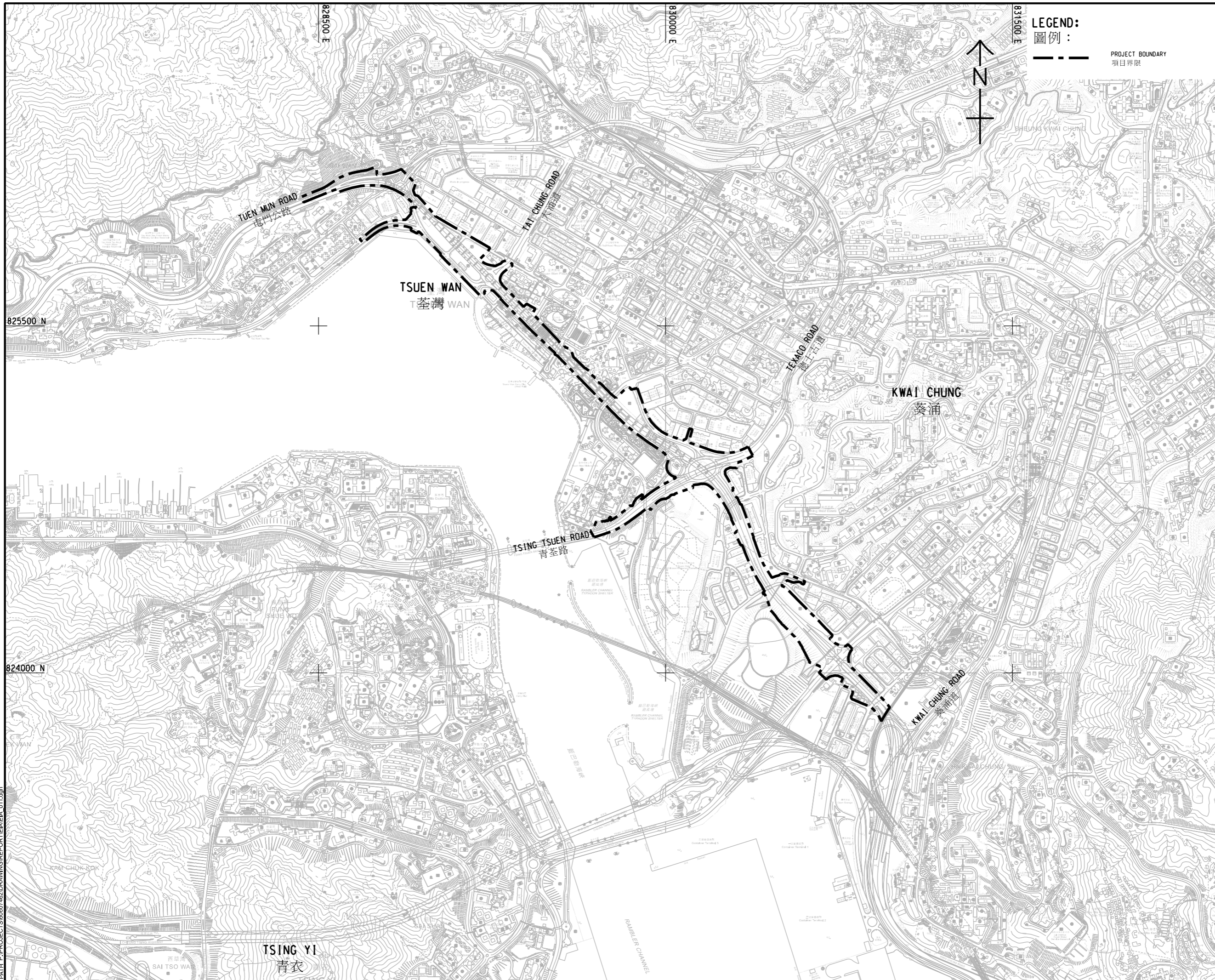
5.11 Further Implication

- 5.11.1 In future public consultation process, the District Councils and relevant stakeholders will be briefed and consulted on the proposals.

6 USE OF PREVIOUSLY APPROVED EIA REPORTS

- 6.1.1 The EIA report for the Tsuen Wan Bypass, widening of Tsuen Wan Road between Tsuen Tsing Interchange and Kwai Tsing Interchange, and associated junction improvement works (Register No.: AEIAR-124/2008) was approved by EPD in December 2008. Since approval of the abovementioned EIA report, there are new developments and new sensitive receivers within the study area as well as new assessment requirements for the Project, together with potential changes in project scope, a fresh EIA study is considered required for the Preferred Scheme.
- 6.1.2 Relevant EIA reports in the vicinity of the Project would be made reference to as appropriate in the course of the EIA study for the Project including:
- Tsuen Wan Bypass, widening of Tsuen Wan Road between Tsuen Tsing Interchange and Kwai Tsing Interchange, and associated junction improvement works (Register No.: AEIAR-124/2008, approved in December 2008);
 - Texaco Road Improvement between Texaco Road Interchange and Tsuen Tsing Interchange Environmental and Engineering Investigation (Reference No.: EIA-144/BC, approved prior to April 1998); and
 - Flyover from Kwai Tsing Interchange Upramp to Kwai Chung Road (Register No.: AEIAR-190/2015, approved in August 2015).

Figure



LEGEND:
圖例:

PROJECT BOUNDARY
項目界限



PROJECT
項目

WIDENING OF TSUEN WAN ROAD AND THE ASSOCIATED JUNCTION IMPROVEMENT WORKS
擴闊荃灣路及相關路口改善工程

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IR	DATE	DESCRIPTION	CHK.

STATUS
狀況

SCALE
比例

A1 1:7500

DIMENSION UNIT
尺寸單位

METRES

KEY PLAN
索引圖

PROJECT NO.
項目編號

60607462

AGREEMENT NO.
協議編號

CE61/2018(HY)

SHEET TITLE
圖紙名稱

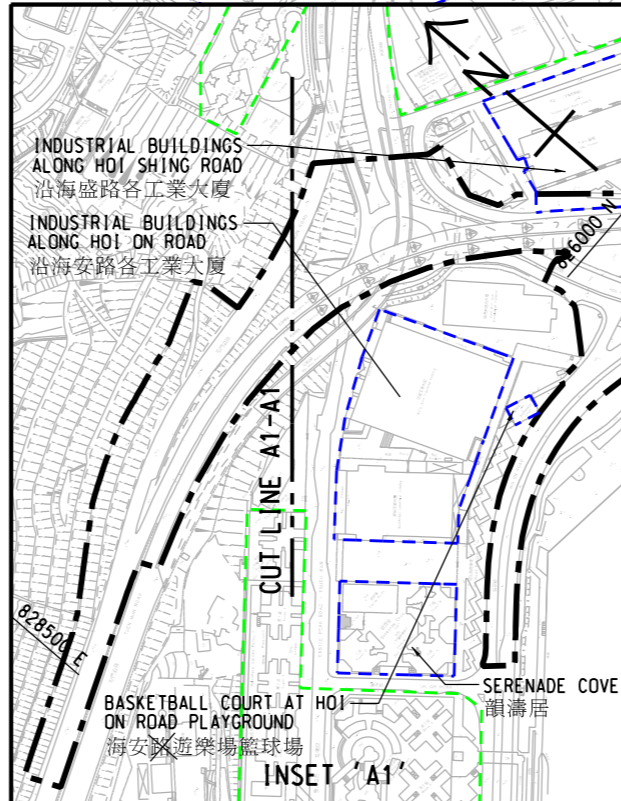
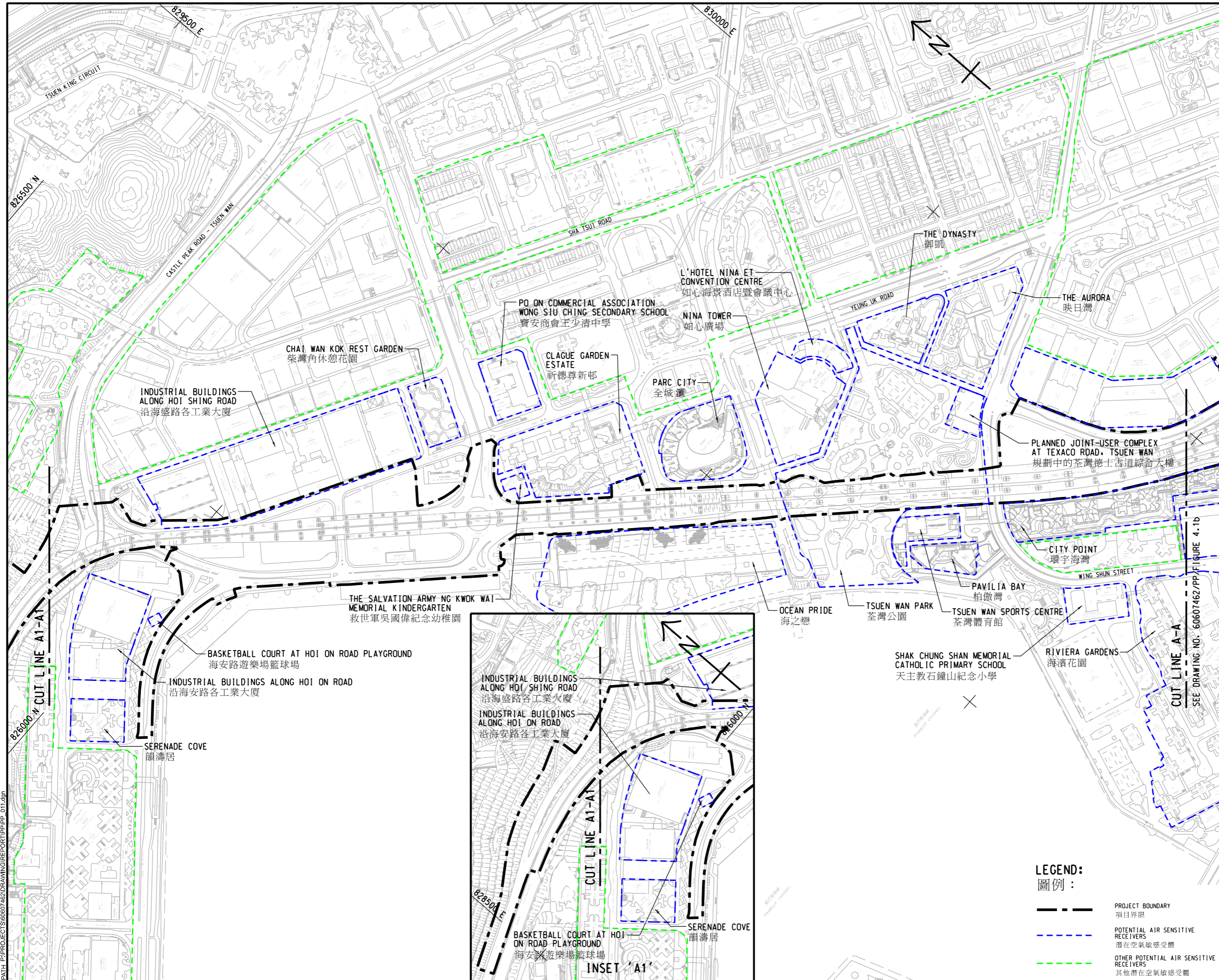
WIDENING OF TSUEN WAN ROAD AND THE ASSOCIATED JUNCTION IMPROVEMENT WORKS LOCATION PLAN
擴闊荃灣路及相關路口改善工程位置圖

SHEET NUMBER
圖紙編號

60607462/EIA/FIGURE 1.1 圖 1.1

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LEGEND:
圖例:

	PROJECT BOUNDARY 項目界限
	POTENTIAL AIR SENSITIVE RECEIVERS 潛在空氣敏感受體
	OTHER POTENTIAL AIR SENSITIVE RECEIVERS 其他潛在空氣敏感受體

AECOM

PROJECT
項目

WIDENING OF TSUEN WAN ROAD AND THE ASSOCIATED JUNCTION IMPROVEMENT WORKS
擴闊荃灣路及相關路口改善工程

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STATUS
狀況

SCALE
比例

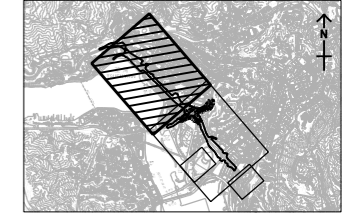
A1 1:2500

DIMENSION UNIT
量度單位

METRES

KEY PLAN
索引圖

A1 1:70000



PROJECT NO.
項目編號

60607462

AGREEMENT NO.
協議編號

CE61/2018(HY)

SHEET TITLE
圖紙名稱

POTENTIAL AIR SENSITIVE RECEIVERS
潛在空氣敏感受體

SHEET NUMBER
圖紙編號

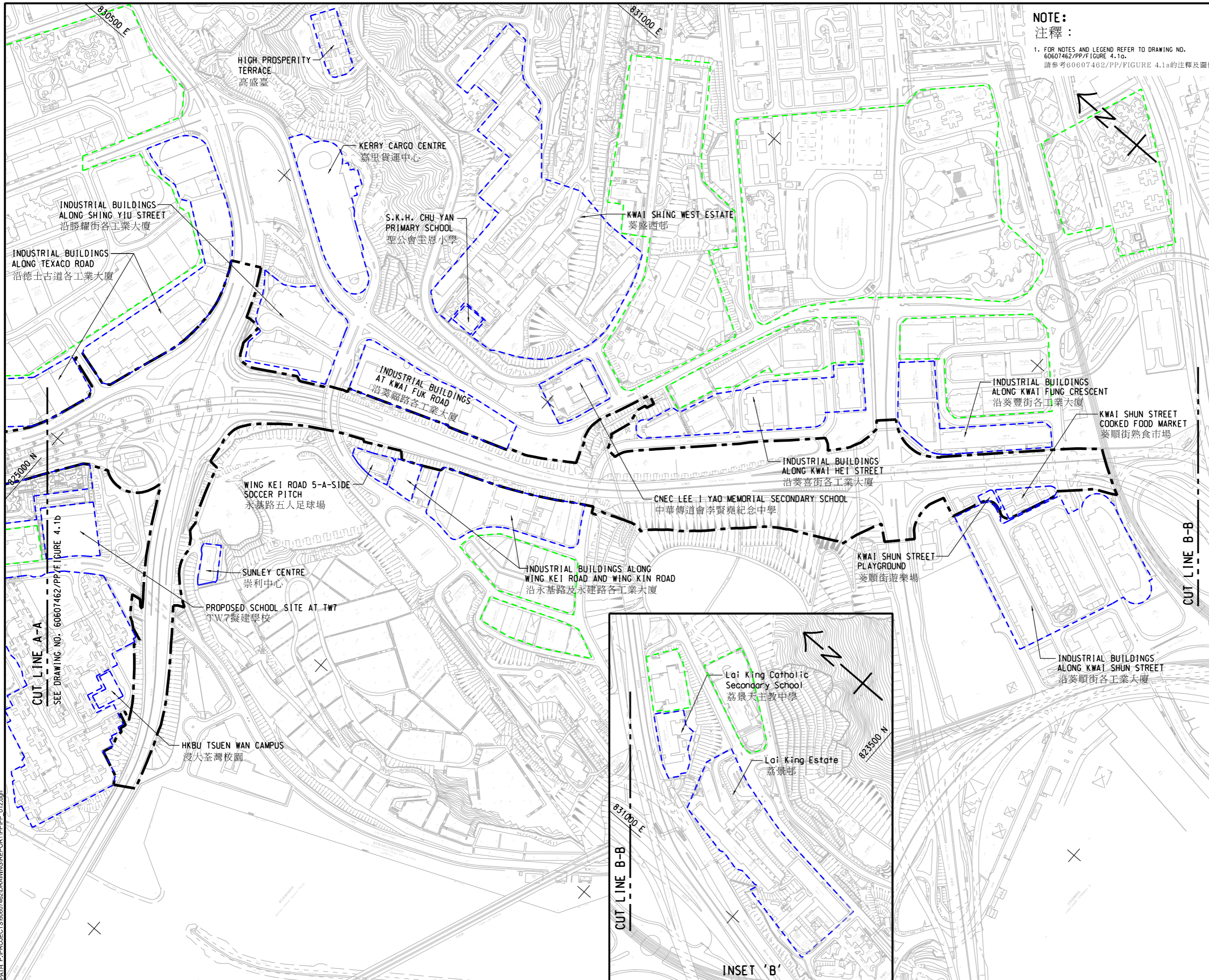
60607462/PP/FIGURE 4.1a 圖 4.1a

SHEET 1 OF 2
兩張之第一張

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NOTE:
注釋:
1. FOR NOTES AND LEGEND REFER TO DRAWING NO. 60607462/PP/FIGURE 4.1a.
請參考60607462/PP/FIGURE 4.1a的注釋及圖例。

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PROJECT
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STATUS
狀態

SCALE
比例
A1 1:2500

DIMENSION UNIT
量度單位
METRES

KEY PLAN
索引圖

PROJECT NO.
項目編號
60607462

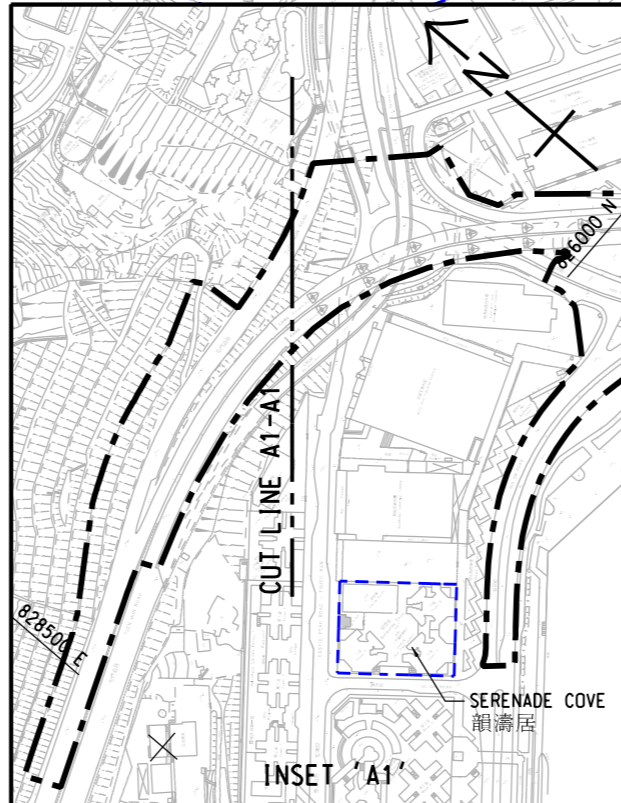
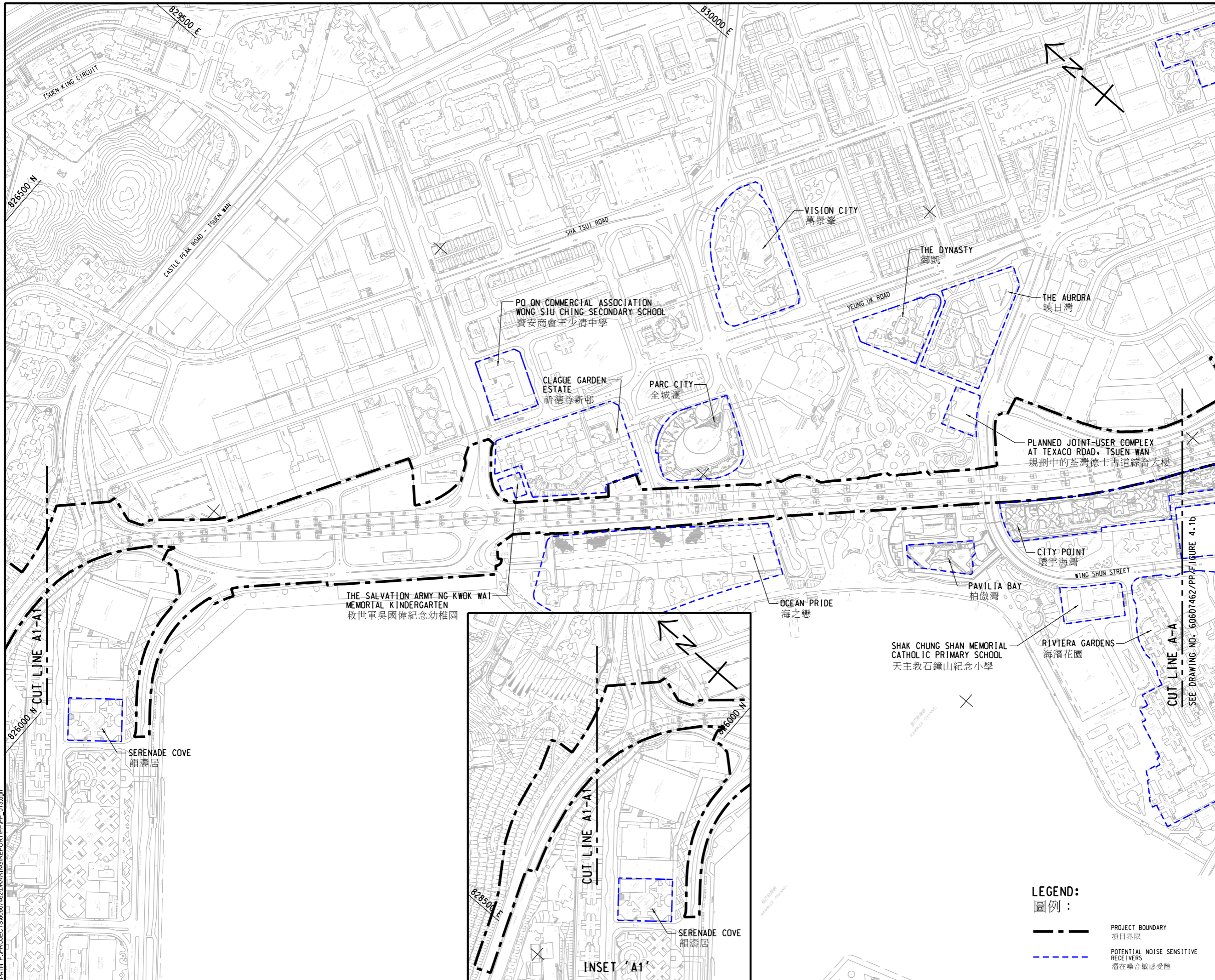
AGREEMENT NO.
協議編號
CE61/2018(HY)

SHEET TITLE
圖紙名稱
POTENTIAL AIR SENSITIVE RECEIVERS
潛在空氣敏感受體

SHEET NUMBER
圖紙編號
60607462/PP/FIGURE 4.1b 圖 4.1b

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LEGEND:
 圖例:

	PROJECT BOUNDARY 項目界限
	POTENTIAL NOISE SENSITIVE RECEIVERS 潛在噪音敏感受體

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PROJECT
 WIDENING OF TSUEN WAN ROAD AND THE ASSOCIATED JUNCTION IMPROVEMENT WORKS
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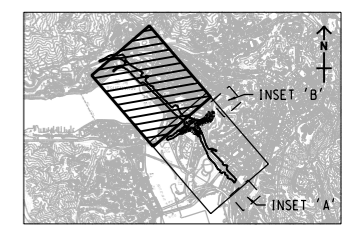
IR	DATE	DESCRIPTION	CHK.

STATUS

SCALE
 A1 1:2500

DIMENSION UNIT
 METRES

KEY PLAN
 A1 1:70000



PROJECT NO.
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AGREEMENT NO.
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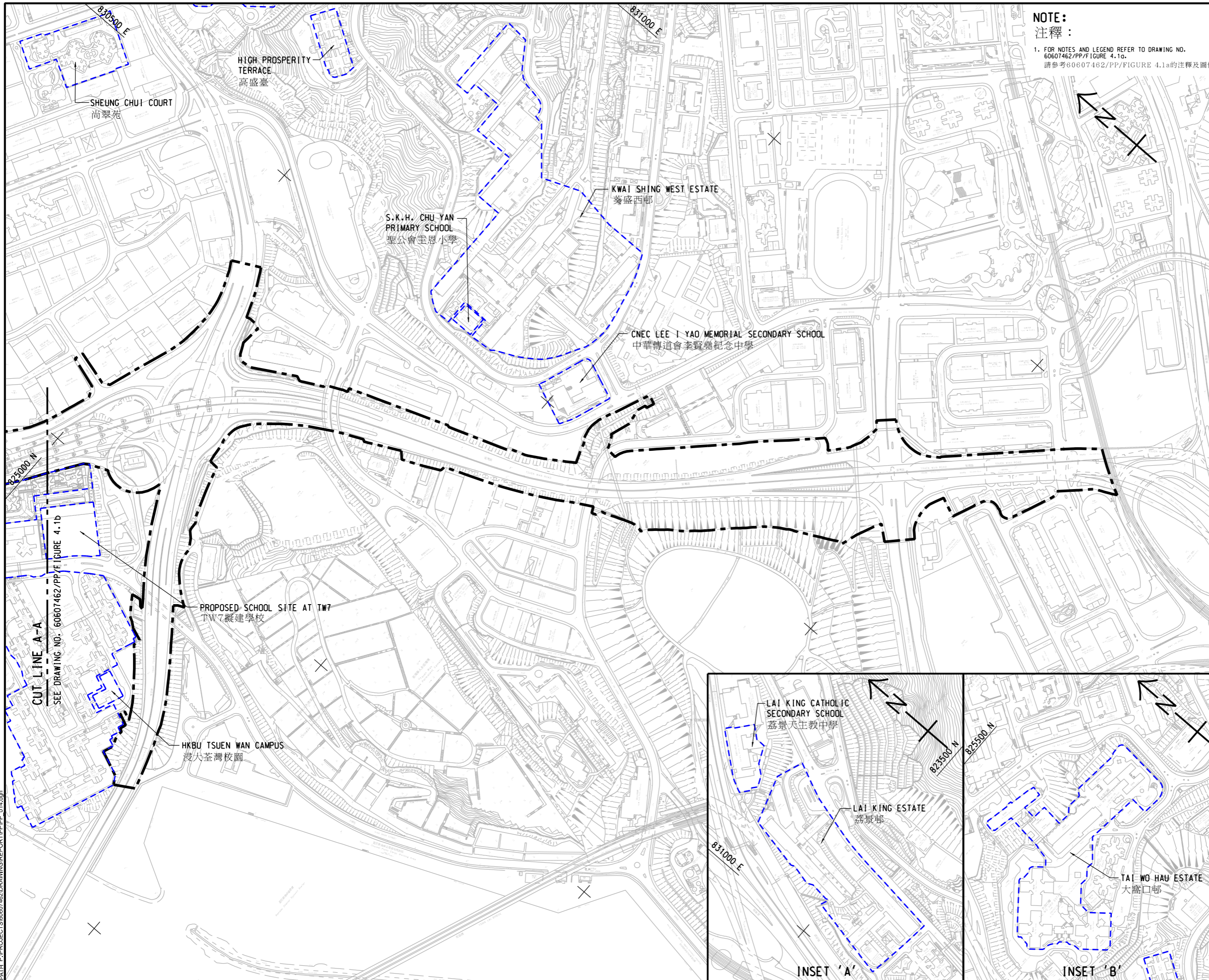
SHEET TITLE
 POTENTIAL NOISE SENSITIVE RECEIVERS
 潛在噪音敏感受體

SHEET NUMBER
 60607462/PP/FIGURE 4.2a 圖 4.2a

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NOTE:
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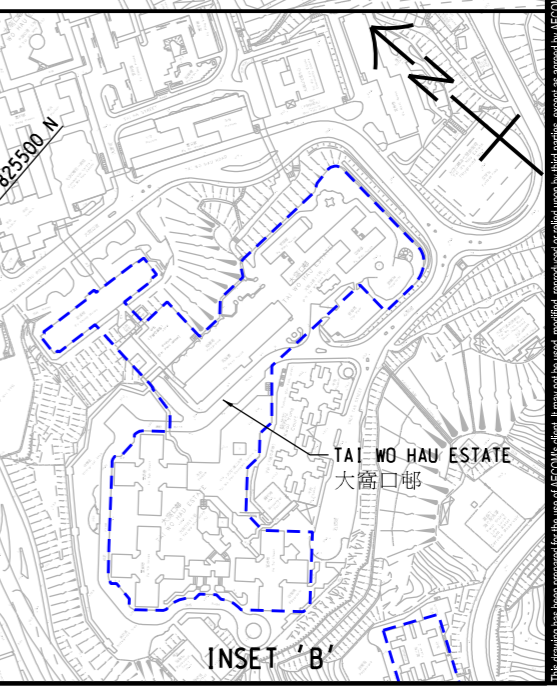
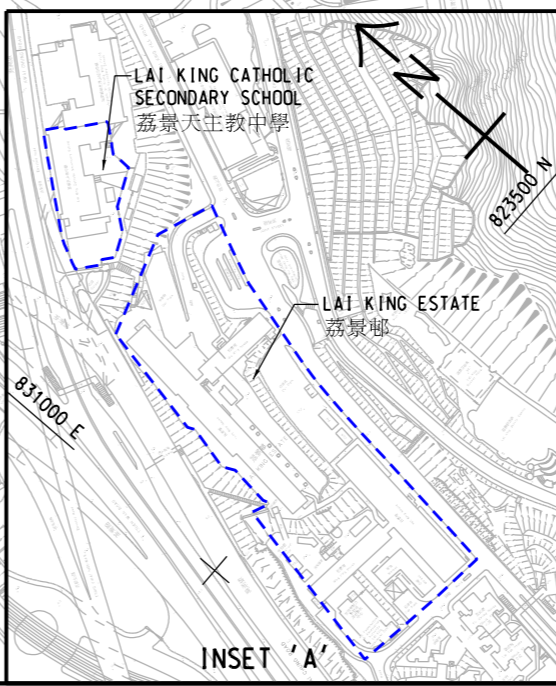
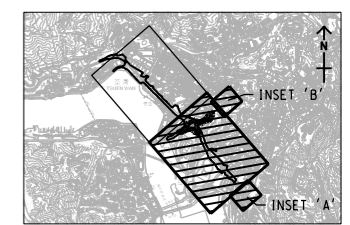
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STATUS
狀態

SCALE
比例
A1 1:2500

DIMENSION UNIT
量度單位
METRES

KEY PLAN
索引圖
A1 1:70000



PROJECT NO.
項目編號
60607462

AGREEMENT NO.
協議編號
CE61/2018(HY)

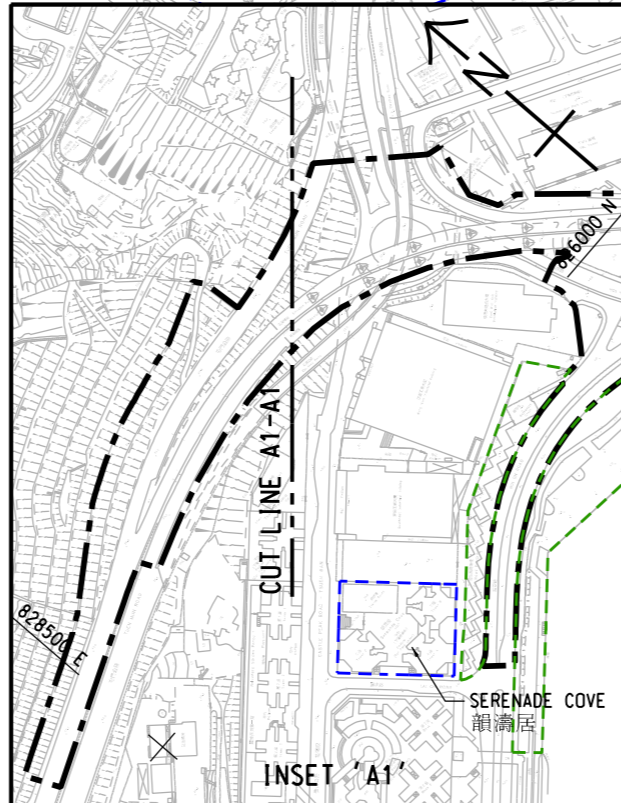
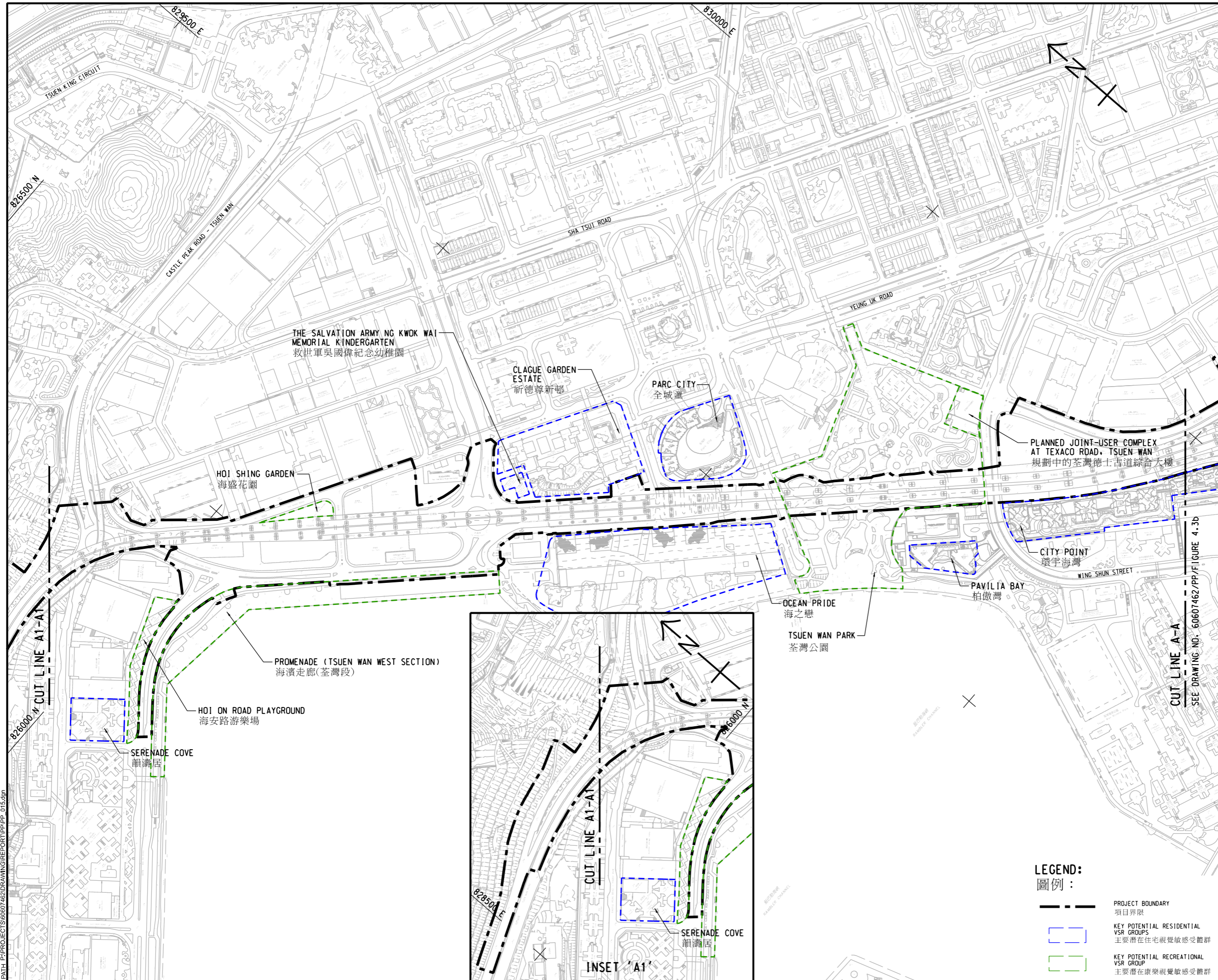
SHEET TITLE
圖紙名稱
POTENTIAL NOISE SENSITIVE RECEIVERS
潛在噪音敏感受體

SHEET NUMBER
圖紙編號
60607462/PP/FIGURE 4.2b 圖4.2b

SHEET 2 OF 2
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LEGEND:
 圖例:

	PROJECT BOUNDARY 項目界限
	KEY POTENTIAL RESIDENTIAL VSR GROUPS 主要潛在住宅視覺敏感受體群
	KEY POTENTIAL RECREATIONAL VSR GROUP 主要潛在康樂視覺敏感受體群

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IR	DATE	DESCRIPTION	CHK.

STATUS

SCALE

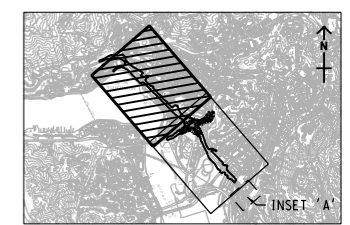
A1 1:2500

KEY PLAN

A1 1:70000

DIMENSION UNIT

METRES



PROJECT NO.
 60607462

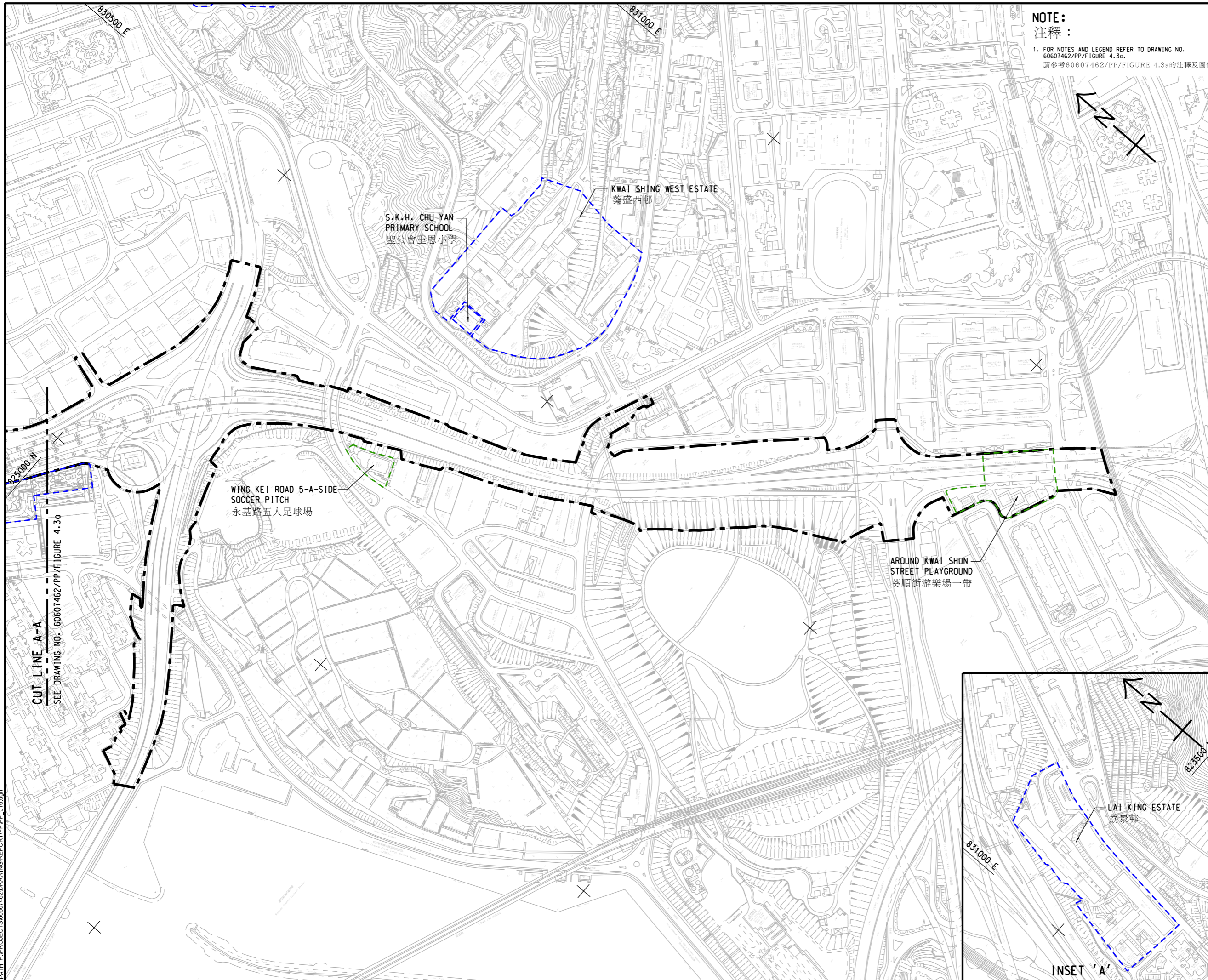
AGREEMENT NO.
 CE61/2018(HY)

SHEET TITLE
 KEY POTENTIAL VISUALLY SENSITIVE RECEIVER GROUPS
 主要潛在視覺敏感受體群

SHEET NUMBER
 60607462/PP/FIGURE 4.3a

SHEET 1 OF 2
 兩張之第一張

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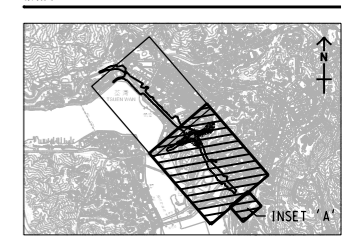
NO.	DATE	DESCRIPTION	CHK.

STATUS
 狀況

SCALE
 比例尺: A1 1:2500

DIMENSION UNIT
 單位: METRES

KEY PLAN
 索引圖: A1 1:70000



PROJECT NO.
 60607462

AGREEMENT NO.
 CE61/2018(HY)

SHEET TITLE
 圖名: KEY POTENTIAL VISUALLY SENSITIVE RECEIVER GROUPS
 主要潛在視覺敏感受體群

SHEET NUMBER
 圖號: 60607462/PP/FIGURE 4.3b 圖 4.3b

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