

**RURAL AND NEW TOWN PLANNING COMMITTEE
OF THE TOWN PLANNING BOARD**

RNTPC Paper No. 3/17

**For Consideration by
the Rural and New Town Planning Committee on 12.5.2017**

**PROPOSED AMENDMENT TO
THE APPROVED SOUTH LANTAU COAST
OUTLINE ZONING PLAN NO. S/SLC/19**

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1. Introduction

This paper is to seek Members' agreement that:

- (a) the proposed amendment to the approved South Lantau Coast (SLC) Outline Zoning Plan (OZP) No. S/SLC/19 (the OZP) (**Appendix I**) as shown on OZP No. S/SLC/19A (**Appendix II**) and its Notes (**Appendix III**) are suitable for exhibition for public inspection under section 5 of the Town Planning Ordinance (the Ordinance); and
- (b) the revised Explanatory Statement (ES) of the OZP (**Appendix IV**) should be adopted as an expression of the Town Planning Board (the Board)'s planning intentions and objectives for exhibition together with the draft OZP.

2. Status of the Current OZP

- 2.1 On 2.9.2014, the Chief Executive in Council (CE in C), under section 9(1)(a) of the Ordinance, approved the draft SLC OZP, which was subsequently renumbered as S/SLC/19. On 19.9.2014, the approved SLC OZP No. S/SLC/19 (**Appendix I**) was exhibited for public inspection under section 9(5) of the Ordinance.
- 2.2 On 21.3.2017, the CE in C referred the approved SLC OZP No. S/SLC/19 to the Board for amendment under section 12(1)(b)(ii) of the Ordinance. On 24.3.2017, the reference back of the OZP was notified in the Gazette under section 12(2) of the Ordinance.

3. Background

- 3.1 Currently, there is no public sewerage in South Lantau. Sewage from this unsewered area is now treated and disposed of by private on-site treatment facilities (such as septic tanks and soakaway systems). To resolve the water pollution problem in South Lantau and to improve the sanitary conditions in the unsewered area stretching from Shui Hau to Ham Tin, the Drainage Services Department (DSD) commissioned the Project entitled "Outlying Islands Sewerage Stage 2 – South Lantau Sewerage Works" (the Project). The Project will serve the village/residential houses, government institution, beaches, etc. in South Lantau area for proper treatment and

disposal of sewage. The Project comprises the development of a Sewage Treatment Works (STW), six sewage pumping stations and sewerage network (**Drawing 1**).

- 3.2 The Project is classified as a designated project pursuant to the Environmental Impact Assessment Ordinance (EIAO). The EIA report was approved by the Director of Environmental Protection (DEP) under EIAO on 24.4.2017.
- 3.3 The proposed STW at Pui O (the Site) (**Plan 1**) falls within an area zoned “Coastal Protection Area” (“CPA”) on the OZP and ‘Sewage Treatment Works’ is neither Column 1 nor Column 2 use of the “CPA” zone. The proposed amendment to the OZP is to facilitate the proposed STW development. Site identification was conducted by Environmental Protection Department in 2008 which indicated that the Site is the optimum option in comparison with other options with due regard to various factors including land resumption, engineering works, environmental disruption and public views. A Planning Study Report prepared by DSD in support of the proposal is attached at **Appendix V**. An indicative development proposal for the STW is shown on the floor plans and section plans in **Drawings 2 to 3**. A s.16 planning application (No. A/SLC/145) for proposed sewage pumping station at Pui O and excavation of land for underground sewers which are part of the Project was submitted by DSD on 1.8.2016 (**Plan 4**). At the request of the applicant, the Rural and New Town Planning Committee of the Board agreed on 11.11.2016 and 17.3.2017 to defer consideration of the application to allow time for preparation of further information to resolve the departmental and public comments. As for the remaining proposed facilities, planning applications will be made by DSD in due course.
- 3.4 On 18.7.2011, DSD consulted the Islands District Council (IsDC) on the Project including the proposed STW. The IsDC members were supportive of the Project. In addition, the South Lantau Rural Committee and villagers of San Shek Wan, Pui O Sai Wan Tsuen and Lo Uk Tsuen were consulted in August and September 2010 and the villagers supported the implementation of the Project. The relevant extracts of the minutes of the meetings are at **Annex A of Appendix V**.

4. The Site and Surrounding Areas (Plans 2 and 3 and photos on Plan 5)

The Site (about 5,500m²) at Pui O is located to the south of South Lantau Road. Part of the Site is currently occupied by a temporary depot of CLP Power Hong Kong Limited under a Short Term Tenancy and the remaining part is mainly vegetated slopes (**Plans 2 and 3**). There is a vehicular access to the Site via South Lantau Road. The surrounding areas are predominantly rural in character. Lo Uk Tsuen is located about 120m to the northeast of the Site and Pui O San Wai Tsuen is located to the further east.

5. **Proposed Rezoning of an area (about 5,500m²) at Pui O from “CPA” to Other Specified Uses” annotated “Sewage Treatment Works”**

- 5.1 To facilitate the development of STW by DSD, the Site (about 5,500m²) to the south of South Lantau Road at Pui O is proposed to be rezoned from “CPA” to “Other Specified Uses” annotated “Sewage Treatment Works” (“OU(Sewage Treatment Works)”). The following factors have been taken into account in the proposed rezoning and amendments to the Notes of the OZP:

Planning Intention / Land Use Compatibility

- (a) The planning intention of the “OU(Sewage Treatment Works)” zone is primarily to designate land for STW. The proposed works will reduce water pollution problem in South Lantau and bring about improvement to the hygiene condition and living quality of the area.
- (b) The Site at Pui O is a suitable location for the development of STW. As the Site is partly being used as a temporary depot by CLP Power Hong Kong Limited, the area of site formation for the construction of the STW can be minimized and therefore the possible impacts on the surrounding environment will be reduced.
- (c) The Site is at a certain distance from the villages, residential and other sensitive areas and the impacts on the villages are negligible. According to the indicative development proposal in the Planning Study Report (**Drawings 2 and 3**), the proposed STW consists of 2 above-ground storeys and 1 basement level with a minimum building height of 14m above ground level and a total GFA of 7,600m². The proposed STW is considered not incompatible with the land uses of the surrounding area.

Environmental Impact Assessment

- (d) The proposed STW and other sewage works in the Project are classified as a designated project under EIAO. An EIA has been conducted to support the application for an Environmental Permit in accordance with the requirements of the EIAO and was approved by DEP. The EIA covers assessments of the potential impacts on air quality, noise, water quality, waste management, ecology, fisheries, landscape and visual and cultural heritage. Based on the assessment results and with incorporation of the recommended mitigation measures, the Project will not impose adverse impacts on the neighbouring environment during construction and operational phases. The Executive Summary of the EIA report for the Project is attached at **Annex B of Appendix V** for Members’ information. A copy of full set of EIA report is deposited at the meeting for Members’ inspection and reference.

Landscape and Visual Impact Assessment (LVIA)

- (e) The potential impacts to the landscape and visual sensitive receivers caused by the STW have been assessed in the EIA report. A tree survey has been undertaken and estimates approximately 200 trees would be affected. Mitigation measures including detailed design considerations, vertical greening and green roofs, tree preservation, transplantation and compensatory tree planting would be adopted to mitigate the possible impacts. The LVIA concludes that the landscape and visual impacts are considered acceptable with mitigation measures (**Drawings 4 and 5**). The Executive Summary of the LVIA report is attached at **Annex C of Appendix V** for Members' information.

Traffic Impact Assessment (TIA)

- (f) According to the TIA conducted for the Project, it is estimated that the traffic generation at the construction stage will be temporary and limited. The long-term generation will be arisen from operation/maintenance vehicles with a frequency of about twice per day or less. In view of the limited traffic flow generation, it is anticipated that the traffic impact on South Lantau Road is minimal.

Drainage Impact Assessment (DIA)

- (g) The DIA of the Project estimates that the increased amount of surface runoff due the site formation works for the STW is considered insignificant due to the small area of site formation. With proper permanent drainage system provided, no adverse drainage impact is anticipated.

Water Supply Assessment

- (h) According to the Water Supply Assessment for the Project, the water demand of the STW is expected to be minimal and will not affect the overall fresh water demand. Moreover, part of the effluent from the proposed STW will be reused for irrigation, toilet flushing, cleansing of equipments, etc. As such, the water supply impact is considered insignificant.

Site Formation Assessment

- (i) According to the result of the Site Formation Assessment, the excavation works of the proposed STW would not cause instability of the Site or surrounding environment. No insurmountable site formation issue is expected.

6. **Proposed Amendment to Matters shown on the Plan (Appendix II)**

Amendment Item A (About 5,500m²) (Plan 1)

Rezoning of an area to the south of South Lantau Road at Pui O from “CPA” to “OU(Sewage Treatment Works)”.

7. **Proposed Amendments to the Notes of the OZP (Appendix III)**

- 7.1 In relation to the Amendment Item A as mentioned above, the Notes of the OZP will be amended to incorporate the proposed “OU(Sewage Treatment Works)” zone.
- 7.2 Opportunity is taken to incorporate technical amendments to the Covering Notes of the OZP to follow the latest version of the Master Schedule of Notes to Statutory Plans (MSN).
- 7.3 The above proposed amendments have been incorporated in the draft Notes at **Appendix III** with additions highlighted in ***bold and italic***, and deletions highlighted in ~~cross-out~~ format for Members’ consideration.

8. **Revisions to the Explanatory Statement of the OZP**

The ES of the OZP has been revised to take into account the proposed amendments as mentioned in the above paragraphs. Opportunities have also been taken to update the general information for various land use zones to reflect the latest status and planning circumstances of the OZP. The proposed amendments to the ES (with proposed additions highlighted in ***bold and italic***, and deletions highlighted in ~~cross-out~~ format) is attached at **Appendix IV** for Members’ consideration.

9. **Plan Number**

Upon exhibition for public inspection, the Plan will be renumbered as S/SLC/20.

10. **Consultation**

Departmental Consultation

- 10.1 The rezoning proposal has been circulated to relevant departments for comment. No objection or adverse comments have been received and their comments (if any) have been incorporated into the proposed amendments to the OZP as appropriate.

Public Consultation

10.2 The IsDC will be consulted during the exhibition period of the draft SLC OZP No. S/SLC/20 for public inspection under section 5 of the Ordinance.

11. Decision Sought

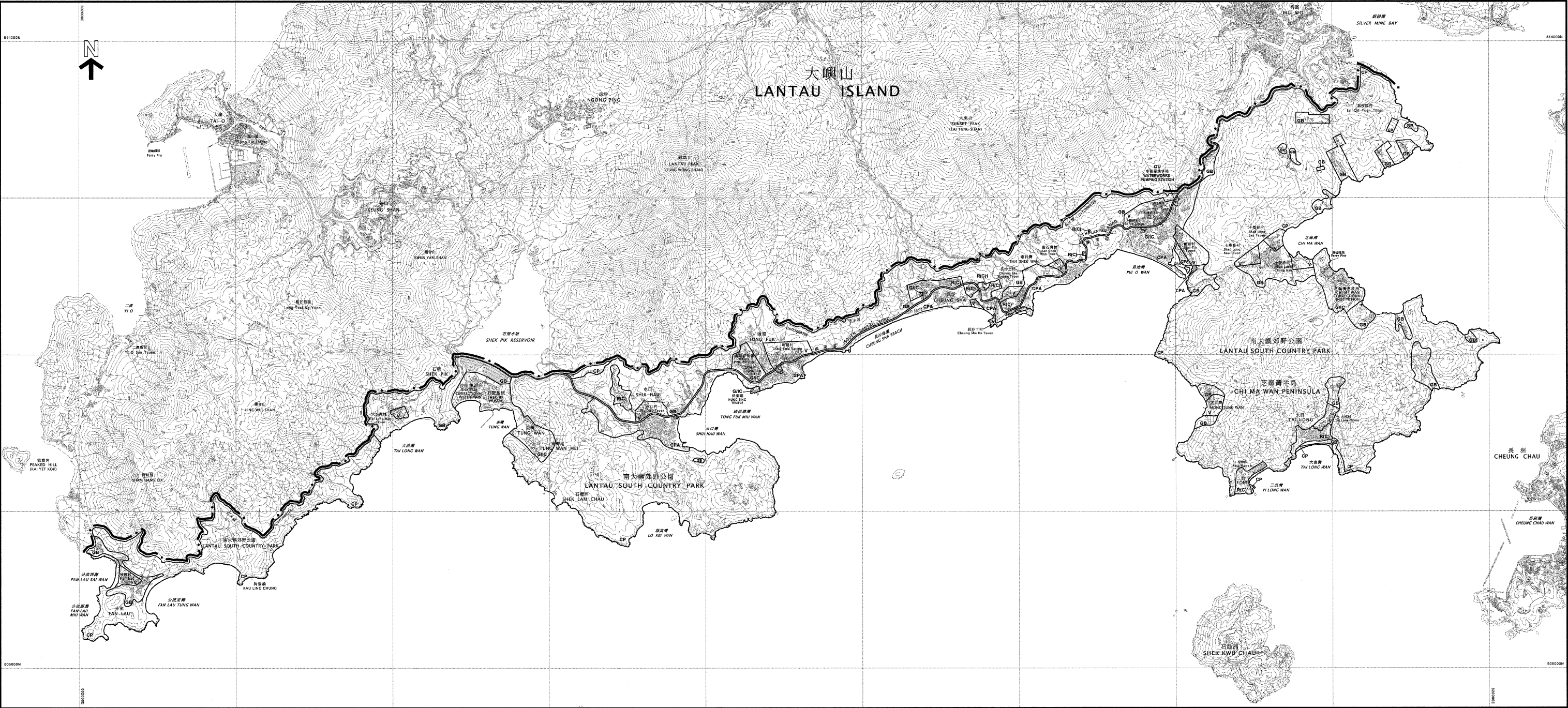
Members are invited to:

- (a) agree that the proposed amendments to the approved SLC OZP and its Notes and that the draft SLC OZP No. S/SLC/19A at **Appendix II** (to be renumbered to S/SLC/20 upon exhibition) and its Notes at **Appendix III** are suitable for exhibition under section 5 of the Ordinance; and
- (b) adopt the revised ES at **Appendix IV** for the draft SLC OZP No. S/SLC/19A as an expression of the planning intentions and objectives of the Board for the various land use zonings of the OZP and agree that the revised ES is suitable for publication together with the OZP.

Attachments

Appendix I	Approved South Lantau Coast OZP No. S/SLC/19 (reduced scale)
Appendix II	Draft South Lantau Coast OZP No. S/SLC/19A
Appendix III	Revised Notes of the Draft South Lantau Coast OZP No. S/SLC/19A
Appendix IV	Revised ES of the Draft South Lantau Coast OZP No. S/SLC/19A
Appendix V	Planning Report of the Proposed STW
Drawing 1	Proposed Sewerage Works in South Lantau by DSD
Drawings 2 and 3	Indicative Layout Plans of the STW
Drawings 4 and 5	Photomontages of the STW
Plan 1	Proposed Amendment to the approved South Lantau Coast OZP No. S/SLC/19
Plan 2	Site Plan
Plan 3	Aerial Photo
Plan 4	Location of Planning Application No. A/SLC/145
Plan 5	Site Photos

**PLANNING DEPARTMENT
MAY 2017**



圖例
NOTATION

ZONES

RESIDENTIAL (GROUP C)	R(C)
VILLAGE TYPE DEVELOPMENT	V
GOVERNMENT, INSTITUTION OR COMMUNITY	G/C
OTHER SPECIFIED USES	OU
GREEN BELT	GB
COASTAL PROTECTION AREA	CPA
COUNTRY PARK	CP

地帶

住宅（丙類）	MAJOR ROAD AND JUNCTION
鄉村式發展	
政府、機構或社區	
其他指定用途	
綠化地帶	
海岸保護區	
郊野公園	

COMMUNICATIONS

MAJOR ROAD AND JUNCTION	
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MISCELLANEOUS

BOUNDARY OF PLANNING SCHEME	
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交通

主要道路及路口	
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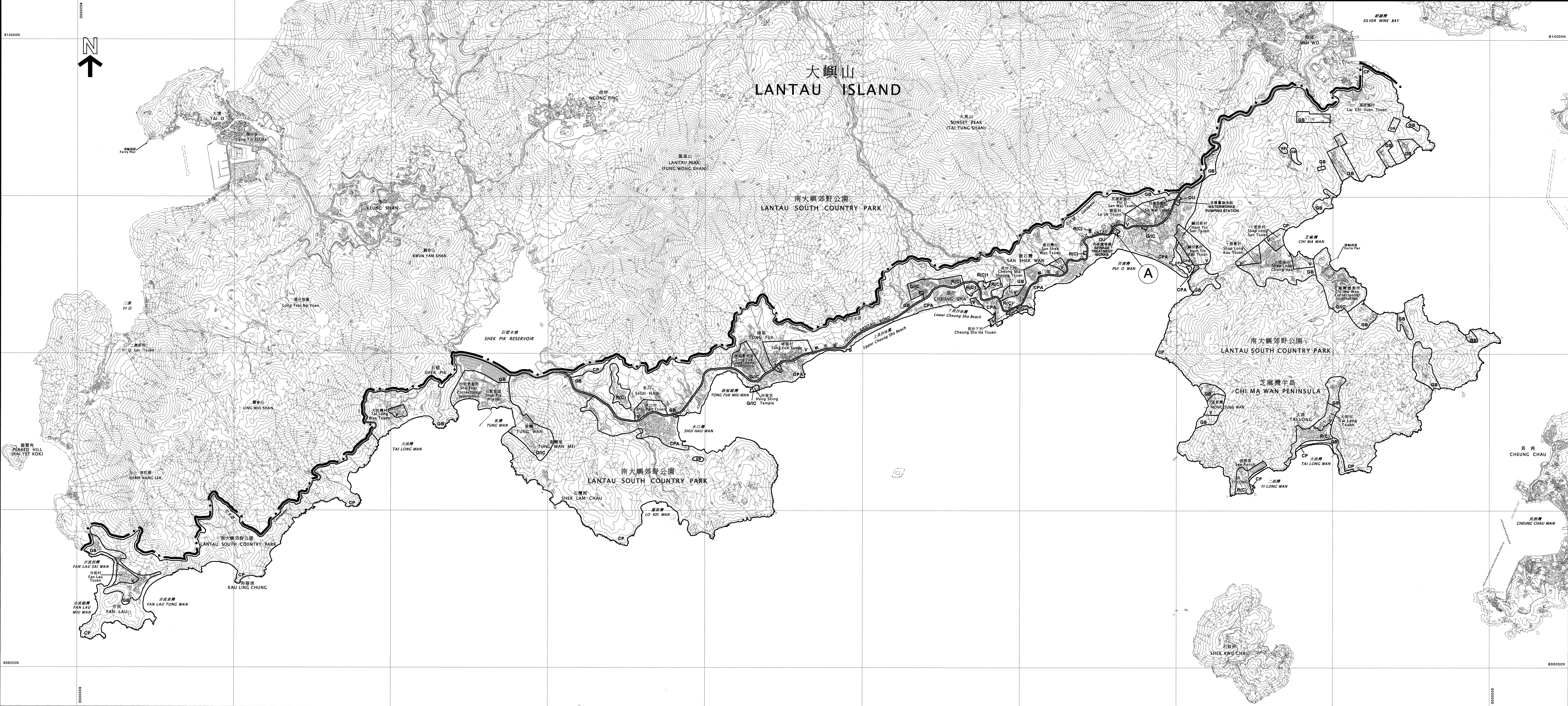
其他

規劃範圍界線	
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土地用途及面積一覽表
SCHEDULE OF USES AND AREAS

USES	大約面積及百分比 APPROXIMATE AREA & %		用途
	公頃 HECTARES	% 百分比	
RESIDENTIAL (GROUP C)	57.00	2.32	住宅（丙類）
VILLAGE TYPE DEVELOPMENT	86.49	3.52	鄉村式發展
GOVERNMENT, INSTITUTION OR COMMUNITY	86.39	3.52	政府、機構或社區
OTHER SPECIFIED USES	0.52	0.02	其他指定用途
GREEN BELT	481.73	19.62	綠化地帶
COASTAL PROTECTION AREA	182.46	6.82	海岸保護區
COUNTRY PARK	1570.36	63.96	郊野公園
MAJOR ROAD ETC.	10.18	0.42	主要道路等
TOTAL PLANNING SCHEME AREA	2455.13	100.00	規劃範圍總面積

夾附的《註釋》屬這份圖則的一部分
THE ATTACHED NOTES ALSO FORM PART OF THIS PLAN



圖例
NOTATION

ZONES

RESIDENTIAL (GROUP C) R(C)

VILLAGE TYPE DEVELOPMENT V

GOVERNMENT, INSTITUTION OR COMMUNITY G/C

OTHER SPECIFIED USES OU

GREEN BELT GB

COASTAL PROTECTION AREA CPA

COUNTRY PARK CP

地帶

住宅（丙類）

鄉村式發展

政府、機構或社區

其他指定用途

綠化地帶

海岸保護區

郊野公園

COMMUNICATIONS

MAJOR ROAD AND JUNCTION

MISCELLANEOUS

BOUNDARY OF PLANNING SCHEME

交通

主要道路及路口

其他

規劃範圍界線

土地用途及面積一覽表
SCHEDULE OF USES AND AREAS

USES	大約面積及百分比 APPROXIMATE AREA & %			用途
	公頃 HECTARES	%	百分比	
RESIDENTIAL (GROUP C)	57.00	2.32	住宅（丙類）	
VILLAGE TYPE DEVELOPMENT	86.49	3.52	鄉村式發展	
GOVERNMENT, INSTITUTION OR COMMUNITY	86.39	3.52	政府、機構或社區	
OTHER SPECIFIED USES	1.07	0.04	其他指定用途	
GREEN BELT	481.73	19.62	綠化地帶	
COASTAL PROTECTION AREA	161.91	6.59	海岸保護區	
COUNTRY PARK	1570.36	63.96	郊野公園	
MAJOR ROAD ETC.	10.18	0.43	主要道路等	
TOTAL PLANNING SCHEME AREA	2455.13	100.00	規劃範圍總面積	

夾附的《註釋》屬這份圖則的一部分，
現經修訂並按照城市規劃條例第5條展示。
THE ATTACHED NOTES ALSO FORM PART OF THIS PLAN
AND HAVE BEEN AMENDED FOR EXHIBITION UNDER
SECTION 5 OF THE TOWN PLANNING ORDINANCE

核准圖編號 S / S L C / 1 9 的修訂
AMENDMENT TO APPROVED PLAN No. S/SLC/19

AMENDMENT EXHIBITED UNDER SECTION 5
OF THE TOWN PLANNING ORDINANCE

按照城市規劃條例第5條
展示的修訂

AMENDMENT ITEM A

修訂項目 A 項

（參看附表）
(SEE ATTACHED SCHEDULE)

APPROVED DRAFT SOUTH LANTAU COAST OUTLINE ZONING PLAN NO.
S/SLC/194

(Being an ~~Approved~~ **a Draft** Plan for the Purposes of the Town Planning Ordinance)

NOTES

(N.B. These form part of the Plan)

- (1) These Notes show the uses or developments on land falling within the boundaries of the Plan which are always permitted and which may be permitted by the Town Planning Board, with or without conditions, on application. Where permission from the Town Planning Board for a use or development is required, the application for such permission should be made in a prescribed form. The application shall be addressed to the Secretary of the Town Planning Board, from whom the prescribed application form may be obtained.
- (2) Any use or development which is always permitted or may be permitted in accordance with these Notes must also conform to any other relevant legislation, the conditions of the Government lease concerned, and any other Government requirements, as may be applicable.
- (3)
 - (a) No action is required to make the existing use of any land or building conform to this Plan until there is a material change of use or the building is redeveloped.
 - (b) Any material change of use or any other development (except minor alteration and/or modification to the development of the land or building in respect of the existing use which is always permitted) or redevelopment must be always permitted in terms of the Plan or, if permission is required, in accordance with the permission granted by the Town Planning Board.
 - (c) For the purposes of subparagraph (a) above, “existing use of any land or building” **means includes** –
 - (i) before the publication in the Gazette of the notice of the first statutory plan covering the land or building (hereafter referred as ‘the first plan’),
 - a use in existence before the publication of the first plan which has continued since it came into existence; or
 - a use **or a change of use** approved under the Buildings Ordinance **which relates to an existing building**; and
 - (ii) after the publication of the first plan,
 - a use permitted under a plan which was effected during the effective period of that plan and has continued since it was effected; or
 - a use **or a change of use** approved under the Buildings Ordinance **which relates to an existing building** and permitted under a plan prevailing at the time when the use **or change of use** was approved ~~under the Buildings~~

~~Ordinance.~~

- (4) Except as otherwise specified by the Town Planning Board, when a use or material change of use is effected or a development or redevelopment is undertaken, as always permitted in terms of the Plan or in accordance with a permission granted by the Town Planning Board, all permissions granted by the Town Planning Board in respect of the site of the use or material change of use or development or redevelopment shall lapse.
- (5) Road junctions, alignments of roads and boundaries between zones may be subject to minor adjustments as detailed planning proceeds.
- (6) Temporary uses (expected to be 5 years or less) of any land or buildings are always permitted as long as they comply with any other relevant legislation, the conditions of the Government lease concerned, and any other Government requirements, and there is no need for these to conform to the zoned use or these Notes. For temporary uses expected to be over 5 years, the uses must conform to the zoned use or these Notes.
- (7) The following uses or developments are always permitted on land falling within the boundaries of the Plan except (a) where the uses or developments are specified in Column 2 of the Notes of individual zones or (b) as provided in paragraph (8) in relation to areas zoned “Coastal Protection Area”:
 - (a) provision, maintenance or repair of plant nursery, amenity planting, open space, rain shelter, refreshment kiosk, road, bus stop or lay-by, cycle track, taxi rank, nullah, public utility pipeline, electricity mast, lamp pole, telephone booth, telecommunications radio base station, automatic teller machine and shrine;
 - (b) geotechnical works, local public works, road works, sewerage works, drainage works, environmental improvement works, marine related facilities, waterworks (excluding works on service reservoir) and such other public works co-ordinated or implemented by Government; and
 - (c) maintenance or repair of watercourse and grave.
- (8) In areas zoned “Coastal Protection Area”,
 - (a) the following uses or developments are always permitted:
 - (i) maintenance or repair of plant nursery, amenity planting, sitting out area, rain shelter, refreshment kiosk, road, watercourse, nullah, public utility pipeline, electricity mast, lamp pole, telephone booth, shrine and grave; and
 - (ii) geotechnical works, local public works, road works, sewerage works, drainage works, environmental improvement works, marine related facilities, waterworks (excluding works on service reservoir) and such other public works co-ordinated or implemented by Government; and
 - (b) the following uses or developments require permission from the Town Planning Board:

provision of plant nursery, amenity planting, sitting out area, rain shelter,

refreshment kiosk, footpath, public utility pipeline, electricity mast, lamp pole, telephone booth and shrine.

- (9) In any area shown as 'Road', all uses or developments except those specified in paragraph (7) above and that specified below require permission from the Town Planning Board:

on-street vehicle park.

- (10) Unless otherwise specified, all building, engineering and other operations incidental to and all uses directly related and ancillary to the permitted uses and developments within the same zone are always permitted and no separate permission is required.

- (11) In these Notes,

"Existing building" means a building, including a structure, which is physically existing and is in compliance with any relevant legislation; **and** the conditions of the Government lease concerned; ~~and any other Government requirements, as may be applicable.~~

"New Territories Exempted House" means a domestic building other than a guesthouse or a hotel; or a building primarily used for habitation, other than a guesthouse or a hotel, the ground floor of which may be used as 'Shop and Services' or 'Eating Place', the building works in respect of which are exempted by a certificate of exemption under Part III of the Buildings Ordinance (Application to the New Territories) Ordinance (Cap. 121).

Schedule of Uses

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COASTAL PROTECTION AREA	9
COUNTRY PARK	11

RESIDENTIAL (GROUP C)

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
Flat Government Use (Police Reporting Centre, Post Office only) House Utility Installation for Private Project	Ambulance Depot Eating Place Educational Institution Government Refuse Collection Point Government Use (not elsewhere specified) Hotel Institutional Use (not elsewhere specified) Petrol Filling Station Place of Recreation, Sports or Culture Private Club Public Convenience Public Transport Terminus or Station Public Utility Installation Public Vehicle Park (excluding container vehicle) Recyclable Collection Centre Religious Institution Residential Institution Rural Committee/Village Office School Shop and Services Social Welfare Facility Training Centre

Planning Intention

The planning intention of this zone is primarily for low-rise and low-density residential developments.

(Please see next page)

RESIDENTIAL (GROUP C) (Cont'd)Remarks

- (a) On land designated “Residential (Group C)”, no new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of a maximum plot ratio of 0.4, a maximum site coverage of 25% and a maximum building height of 2 storeys (7.6m), or the plot ratio, site coverage and height of the existing building, whichever is the greater.
- (b) On land designated “Residential (Group C)1”, no new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of a maximum plot ratio of 0.8, a maximum site coverage of 40% and a maximum building height of 3 storeys (including carport), or the plot ratio, site coverage and height of the existing building, whichever is the greater.
- (c) In determining the maximum plot ratio for the purposes of paragraphs (a) and (b) above, any floor space that is constructed or intended for use solely as car park, loading/unloading bay, plant room and caretaker’s office, or caretaker’s quarters and recreational facilities for the use and benefit of all the owners or occupiers of the domestic building or domestic part of the building, provided such uses and facilities are ancillary and directly related to the development or redevelopment, may be disregarded.
- (d) In determining the maximum site coverage for the purposes of paragraphs (a) and (b) above, any floor space that is constructed or intended for use solely as car park, loading/unloading bay, plant room and caretaker’s office, or caretaker’s quarters and recreational facilities for the use and benefit of all the owners or occupiers of the domestic building or domestic part of the building, shall be included for calculation.
- (e) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the plot ratio/site coverage/building height restrictions stated in paragraphs (a) and (b) above may be considered by Town Planning Board on application under section 16 of the Town Planning Ordinance.

VILLAGE TYPE DEVELOPMENT

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
Agricultural Use Government Use (Police Reporting Centre, Post Office only) House (New Territories Exempted House only) On-Farm Domestic Structure Public Vehicle Park (for cycles only) Religious Institution (Ancestral Hall only) Rural Committee/Village Office	Burial Ground Eating Place Government Refuse Collection Point Government Use (not elsewhere specified) # House (not elsewhere specified) Institutional Use (not elsewhere specified) # Market Petrol Filling Station Pier Place of Recreation, Sports or Culture Private Club Public Clinic Public Convenience Public Transport Terminus or Station Public Utility Installation # Public Vehicle Park (not elsewhere specified, excluding container vehicle) Religious Institution (not elsewhere specified) # Residential Institution School # Shop and Services Social Welfare Facility # Utility Installation for Private Project

In addition, the following uses are always
permitted on the ground floor of a New
Territories Exempted House:

Eating Place
Library
School
Shop and Services

(Please see next page)

VILLAGE TYPE DEVELOPMENT (Cont'd)Planning Intention

The planning intention of this zone is to designate both existing recognized villages and areas of land considered suitable for village expansion. Land within this zone is primarily intended for development of Small Houses by indigenous villagers. It is also intended to concentrate village type development within this zone for a more orderly development pattern, efficient use of land and provision of infrastructures and services. Selected commercial and community uses serving the needs of the villagers and in support of the village development are always permitted on the ground floor of a New Territories Exempted House. Other commercial, community and recreational uses may be permitted on application to the Town Planning Board.

Remarks

- (a) No new development, or addition, alteration and/or modification to or redevelopment of an existing building (except development or redevelopment to those annotated with #) shall result in a total development and/or redevelopment in excess of a maximum building height of 3 storeys (8.23m) or the height of the existing building, whichever is the greater.
- (b) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the building height restriction stated in paragraph (a) above may be considered by Town Planning Board on application under section 16 of the Town Planning Ordinance.

GOVERNMENT, INSTITUTION OR COMMUNITY

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
Ambulance Depot	Columbarium
Broadcasting, Television and/or Film Studio	Crematorium
Correctional Institution	Eating Place (not elsewhere specified)
Eating Place (Canteen, Cooked Food Centre only)	Flat (Staff Quarters only)
Educational Institution	Funeral Facility
Exhibition or Convention Hall	Helicopter Landing Pad
Field Study/Education/Visitor Centre	Holiday Camp
Government Refuse Collection Point	Hotel
Government Use (not elsewhere specified)	House (Staff Quarters only)
Hospital	Marine Fuelling Station
Institutional Use (not elsewhere specified)	Off-course Betting Centre
Library	Office
Market	Petrol Filling Station
Pier	Place of Entertainment
Place of Recreation, Sports or Culture	Private Club
Public Clinic	Radar, Telecommunications Electronic Microwave Repeater, Television and/or Radio Transmitter Installation
Public Convenience	Refuse Disposal Installation (Refuse Transfer Station only)
Public Transport Terminus or Station	Residential Institution
Public Utility Installation	Sewage Treatment/Screening Plant
Public Vehicle Park (excluding container vehicle)	Shop and Services
Recyclable Collection Centre	Utility Installation for Private Project
Religious Institution	
Research, Design and Development Centre	
Rural Committee/Village Office	
School	
Service Reservoir	
Social Welfare Facility	
Training Centre	
Wholesale Trade	

Planning Intention

The planning intention of this zone is primarily for the provision of Government, institution or community facilities serving the needs of the local population, a wider district or the territory. It is also intended to provide land for uses directly related to or in support of the work of the Government, organizations providing social services to meet community needs, and other institutional establishments.

OTHER SPECIFIED USES

Column 1	Column 2
Uses always permitted	Uses that may be permitted with or without conditions on application to the Town Planning Board

For “Sewage Treatment Works” Only***Sewage Treatment Works******Government Use (not elsewhere specified)
Public Utility Installation*****Planning Intention*****This zone is intended to designate land for sewage treatment works.*****For “Waterworks Pumping Station” Only****Water Pumping Station****Government Use
Public Utility Installation (not elsewhere specified)****Planning Intention****This zone is intended to designate land for the purpose of a water pumping station in connection with the water supply system serving Lantau and the western part of Hong Kong Island.**

GREEN BELT

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
Agricultural Use	Animal Boarding Establishment
Country Park*	Barbecue Spot
Government Use (Police Reporting Centre only)	Broadcasting, Television and/or Film Studio
Nature Reserve	Burial Ground
Nature Trail	Columbarium (within a Religious Institution or extension of existing Columbarium only)
On-Farm Domestic Structure	Crematorium (within a Religious Institution or extension of existing Crematorium only)
Picnic Area	Field Study/Education/Visitor Centre
Public Convenience	Golf Course
Public Vehicle Park (for cycles only)	Government Refuse Collection Point
Tent Camping Ground	Government Use (not elsewhere specified)
Wild Animals Protection Area	Helicopter Landing Pad
	Holiday Camp
	House
	Marine Fuelling Station
	Petrol Filling Station
	Pier
	Place of Recreation, Sports or Culture
	Public Transport Terminus or Station
	Public Utility Installation
	Public Vehicle Park (not elsewhere specified, excluding container vehicle)
	Radar, Telecommunications Electronic Microwave Repeater, Television and/or Radio Transmitter Installation
	Religious Institution
	Residential Institution
	Rural Committee/Village Office
	School
	Service Reservoir
	Social Welfare Facility
	Utility Installation for Private Project

* Country Park means a country park or special area as designated under the Country Parks Ordinance (Cap. 208). All uses and developments require consent from the Country and Marine Parks Authority and approval from the Town Planning Board is not required.

(Please see next page)

GREEN BELT (Cont'd)Planning Intention

The planning intention of this zone is primarily to define the limits of development areas, to preserve existing well-wooded hillslopes and other natural features, as well as to provide passive recreational outlets for the local population and visitors. There is a general presumption against development within this zone.

Remarks

Any diversion of stream necessary to effect a change of use to any of those specified in Columns 1 and 2 above or the uses or developments always permitted under the covering Notes (except public works co-ordinated or implemented by Government, and maintenance, repair or rebuilding works) shall not be undertaken or continued on or after the date of the publication in the Gazette of the notice of the draft South Lantau Coast Outline Zoning Plan No. S/SLC/13 without the permission from the Town Planning Board under section 16 of the Town Planning Ordinance.

COASTAL PROTECTION AREA

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
Agricultural Use (other than Plant Nursery) Bathing Beach Country Park* Nature Reserve Nature Trail On-Farm Domestic Structure Picnic Area Wild Animals Protection Area	Barbecue Spot Field Study/Education/Visitor Centre Government Use Holiday Camp House (Redevelopment only) Pier Public Convenience Public Utility Installation Radar, Telecommunications Electronic Microwave Repeater, Television and/or Radar Transmitter Installation Tent Camping Ground Utility Installation for Private Project

* Country Park means a country park or special area as designated under the Country Parks Ordinance (Cap. 208). All uses and developments require consent from the Country and Marine Parks Authority and approval from the Town Planning Board is not required.

Planning Intention

This zone is intended to conserve, protect and retain the natural coastlines and the sensitive coastal natural environment, including attractive geological features, physical landform or area of high landscape, scenic or ecological value, with a minimum of built development. It is also intended to safeguard the beaches and their immediate hinterland and to prevent haphazard ribbon development along the South Lantau Coast.

There is a general presumption against development in this zone. In general, only developments that are needed to support the conservation of the existing natural landscape or scenic quality of the area or are essential infrastructure projects with overriding public interest may be permitted.

(Please see next page)

COASTAL PROTECTION AREA (Cont'd)Remarks

- (a) No redevelopment, including alteration and/or modification, of an existing house shall result in a total redevelopment in excess of a maximum plot ratio of 0.4, a maximum site coverage of 25% and a maximum building height of 2 storeys (7.6m), or the plot ratio, site coverage and height of the existing house, whichever is the greater.
- (b) In determining the maximum plot ratio for the purposes of paragraph (a) above, any floor space that is constructed or intended for use solely as car park, loading/unloading bay, plant room and caretaker's office, or caretaker's quarters and recreational facilities for the use and benefit of all the owners or occupiers of the domestic building or domestic part of the building, provided such uses and facilities are ancillary and directly related to the development or redevelopment, may be disregarded.
- (c) In determining the maximum site coverage for the purposes of paragraph (a) above, any floor space that is constructed or intended for use solely as car park, loading/unloading bay, plant room and caretaker's office, or caretaker's quarters and recreational facilities for the use and benefit of all the owners or occupiers of the domestic building or domestic part of the building, shall be included for calculation.
- (d) Based on the individual merits of a redevelopment proposal, minor relaxation of the plot ratio/site coverage/building height restrictions stated in paragraph (a) above may be considered by Town Planning Board on application under section 16 of the Town Planning Ordinance.
- (e) Any filling of land, excavation of land or diversion of stream necessary to effect a change of use to any of those specified in Columns 1 and 2 above or the uses or developments always permitted under the covering Notes (except maintenance or repair works) shall not be undertaken or continued on or after the date of the publication in the Gazette of the notice of the draft South Lantau Coast Outline Zoning Plan No. S/SLC/13 without the permission from the Town Planning Board under section 16 of the Town Planning Ordinance.

COUNTRY PARK

Country Park means a country park or special area as designated under the Country Parks Ordinance (Cap. 208). All uses and developments require consent from the Country and Marine Parks Authority and approval from the Town Planning Board is not required.

~~APPROVED~~ DRAFT SOUTH LANTAU COAST OUTLINE ZONING PLAN NO.
S/SLC/194

EXPLANATORY STATEMENT

~~APPROVED~~ **DRAFT** SOUTH LANTAU COAST OUTLINE ZONING PLAN NO.
S/SLC/19A

EXPLANATORY STATEMENT

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APPROVED DRAFT SOUTH LANTAU COAST OUTLINE ZONING PLAN NO.
S/SLC/19A

(Being an ~~Approved~~ ***Draft*** Plan for the Purposes of the Town Planning Ordinance)

EXPLANATORY STATEMENT

Note : For the purposes of the Town Planning Ordinance, this statement shall not be deemed to constitute a part of the Plan.

1. **INTRODUCTION**

This Explanatory Statement is intended to assist an understanding of the ~~approved~~ ***draft*** South Lantau Coast Outline Zoning Plan (OZP) No. S/SLC/19A. It reflects the planning intention and objectives of the Town Planning Board (the Board) for various land use zonings of the Plan.

2. **AUTHORITY FOR THE PLAN AND PROCEDURE**

- 2.1 Under the power delegated by the then Governor, the then Secretary for Planning, Environment and Lands directed the Board in June 1972, under section 3 of the Town Planning Ordinance (the Ordinance), to prepare a statutory plan for the main coastal strip of South Lantau. The draft South Lantau Coast OZP No. LLT/18 was prepared and exhibited for public inspection under section 5 of the Ordinance on 30 May 1980. The OZP was subsequently amended twice and exhibited for public inspection under section 6(7) and/or 7 of the Ordinance.
- 2.2 On 13 December 1994, the then Governor in Council under section 9(1)(c) of the Ordinance, referred the draft OZP No. S/SLC/4 to the Board for further amendment. The OZP was subsequently amended twice and exhibited for public inspection under section 5 or 7 of the Ordinance.
- 2.3 On 20 April 1999, the Chief Executive in Council (CE in C), under section 9(1)(a) of the Ordinance, approved the draft ~~South Lantau Coast~~ OZP, which was subsequently renumbered as S/SLC/7. On 30 November 1999, the CE in C referred the approved ~~South Lantau Coast~~ OZP No. S/SLC/7 to the Board for amendment under section 12(1)(b)(ii) of the Ordinance. The OZP was subsequently amended and exhibited for public inspection under section 12(3) of the Ordinance.
- 2.4 On 21 November 2000, the CE in C, under section 9(1)(a) of the Ordinance, approved the draft ~~South Lantau Coast~~ OZP, which was subsequently renumbered as S/SLC/9. On 10 April 2001, the CE in C referred the approved OZP No. S/SLC/9 to the Board for amendment under section 12(1)(b)(ii) of the Ordinance. The OZP was subsequently amended twice and exhibited for public inspection under section 5 or 7 of the Ordinance.

- 2.5 On 28 May 2002, the CE in C, under section 9(1)(a) of the Ordinance, approved the draft ~~South Lantau Coast OZP~~, which was subsequently renumbered as S/SLC/12. On 9 December 2003, the CE in C referred the approved OZP No. S/SLC/12 to the Board for amendment under section 12(1)(b)(ii) of the Ordinance.
- 2.6 On 26 March 2004, the draft OZP No. S/SLC/13, incorporating amendments to the Notes to reflect the revised Master Schedule of Notes to Statutory Plans endorsed by the Board, was exhibited for public inspection under section 5 of the Ordinance.—~~During the plan exhibition period, no objection was received.~~
On 1 February 2005, the CE in C, under section 9(1)(a) of the Ordinance, approved the draft OZP, which was subsequently renumbered as S/SLC/14.
- 2.7 ~~On 1 February 2005, the CE in C, under section 9(1)(a) of the Ordinance, approved the draft South Lantau Coast OZP, which was subsequently renumbered as S/SLC/14. On 18 February 2005, the approved South Lantau Coast OZP No. S/SLC/14 was exhibited for public inspection under section 9(5) of the Ordinance.—~~
- 2.87 On 30 June 2009, the CE in C referred the approved OZP No. S/SLC/14 to the Board for amendment under section 12(1)(b)(ii) of the Ordinance.—~~The reference of the OZP was notified in the Gazette on 10 July 2009 under section 12(2) of the Ordinance.~~ ***On 27 November 2009, the draft OZP No. S/SLC/15 was exhibited for public inspection under section 5 of the Ordinance. On 2 November 2010, the CE in C, under section 9(1)(a) of the Ordinance, approved the draft OZP, which was subsequently renumbered as S/SLC/16.***
- 2.9 ~~On 27 November 2009, the draft OZP No. S/SLC/15, incorporating amendment to rezone a site to the west of Lo Uk Tsuen from “Green Belt” to “Residential (Group C)” was exhibited for public inspection under section 5 of the Ordinance. During the plan exhibition period, no representation was received.~~
- 2.10 ~~On 2 November 2010, the CE in C, under section 9(1)(a) of the Ordinance, approved the draft South Lantau Coast OZP, which was subsequently renumbered as S/SLC/16. On 12 November 2010, the approved South Lantau Coast OZP No. S/SLC/16 was exhibited for public inspection under section 9(5) of the Ordinance.—~~
- 2.118 On 5 June 2012, the CE in C referred the approved OZP No. S/SLC/16 to the Board for amendment under section 12(1)(b)(ii) of the Ordinance.—~~The reference of the OZP was notified in the Gazette on 15 June 2012 under section 12(2) of the Ordinance.~~ ***Since then, the OZP has been amended twice and exhibited for public inspection under section 5 and section 7 of the Ordinance.***
- 2.12 ~~On 19 April 2013, the draft OZP No. S/SLC/17, incorporating amendments to rezone an area of land at San Shek Wan from “Green Belt” to “Residential (Group C)” and two areas of land from “Residential (Group C)” to “Green Belt” mainly for reflecting the boundary of a building lot was exhibited for public inspection under section 5 of the Ordinance. During the plan exhibition period, no representation was received.~~

- 2.13 ~~On 29 November 2013, the draft OZP No. S/SLC/18, incorporating amendment to rezone a piece of land at Cheung Sha from “Residential (Group C)” to “Residential (Group C)1” for increasing the development intensity so as to allow the provision of more flats, was exhibited for public inspection under section 7 of the Ordinance.~~
- 2.14 ~~Upon expiry of the 2-month exhibition period, a total of three representations were received. On 14.2.2014, the representations were published for three weeks for public comments. No comment on the representations was received. One representation was withdrawn on 30.5.2014. On 6.6.2014, after giving consideration to the two representations under section 6B (1) of the Ordinance, the Board decided not to uphold the representations.~~
- 2.159 On 2-9-**September** 2014, the CE in C, under section 9(1)(a) of the Ordinance, approved the draft ~~South Lantau Coast~~ OZP, which was renumbered as S/SLC/19. On 19.9.2014, the approved OZP No. S/SLC/19-~~(the Plan)~~ was exhibited for public inspection under Section 9(5) of the Ordinance.
- 2.10 ***On 14 March 2017, the CE in C referred the approved OZP No. S/SLC/19 to the Board for amendment under section 12(1)(b)(ii) of the Ordinance. The reference of the OZP was notified in the Gazette on 24 March 2017 under section 12(2) of the Ordinance.***
- 2.11 ***On _____, the draft OZP No. S/SLC/20 (the Plan), incorporating amendment to rezone a site at Pui O from “Coastal Protection Area” to “Other Specified Uses” annotated “Sewage Treatment Works”, was exhibited for public inspection under section 5 of the Ordinance.***

3. OBJECT OF THE PLAN

- 3.1 The object of the Plan is to indicate the broad land use zonings and major road network so that development and redevelopment of land within the Planning Scheme Area can be put under statutory planning control. It also provides the planning framework for preparing more detailed non-statutory plans which form the basis for public works planning and allocation of sites for various uses.
- 3.2 The Plan is to illustrate only the broad principles of development and to provide guidance for more detailed planning. It is a small-scale plan, the road alignments and boundaries between the land use zones may be subject to minor adjustments as detailed planning and development proceed.
- 3.3 Since the Plan is to show broad land use zonings, there would be situations in which small strips of land not intended for building development purposes and carry no development right under the lease, such as the areas restricted as non-building area or for garden, slope maintenance and access road purposes, are included in the residential zones. The general principle is that such areas should not be taken into account in plot ratio and site coverage calculations. Development within residential zones should be restricted to building lots carrying development right in order to maintain the character and amenity of the area and not to overload the road network in this area.

4. NOTES OF THE PLAN

- 4.1 Attached to the Plan is a set of Notes which shows the types of uses or developments which are always permitted within the Planning Scheme Area and in a particular zone and which may be permitted by the Board, with or without conditions, on application. The provision for application for planning permission under section 16 of the Ordinance allows greater flexibility in land use planning and control of development to meet changing needs. To provide flexibility for development with design adapted to the characteristics of particular sites, minor relaxation of the specific development restriction(s) stated in the Notes for particular zones may be considered by the Board through the planning permission system. Each proposal will be considered on its individual planning merits.
- 4.2 For the guidance of the general public, a set of definitions that explains some of the terms used in the Notes may be obtained from the Technical Services Division of the Planning Department and can be downloaded from the Board's website at <http://www.info.gov.hk/tpb>.

5. THE PLANNING SCHEME AREA

- 5.1 The Planning Scheme Area (the Area) covers a total of about 2,455 ha of land along the South Lantau Coast. In the north, it is almost all bounded by the Lantau South Country Park and in the south by the existing coastlines. Some parts of the Country Park also fall within the Area.
- 5.2 The Area comprises extensive densely vegetated hillslopes forming a scenic natural backdrop for the villages and low-rise, low-density residential developments scattered along the foothills. The dominant coastal topographical features are the two hilly peninsulas, namely Chi Ma Wan Peninsula and the peninsula at Lo Kei Wan, and the coastal strip in-between embracing a number of beaches, wetland and mangrove areas. The gazetted public beaches include Pui O Beach, Cheung Sha Upper Beach, Cheung Sha Lower Beach and Tong Fuk Beach. The area to the west of Lo Kei Wan is much more hilly with numerous small beaches. Small areas near Shek Pik Peninsula, Chi Ma Wan Peninsula and the peninsulas at Lo Kei Wan and Fan Lau are within the Lantau South Country Park and heavily wooded. Pockets of woodland and coastal lowland are also found along the coast and to the north of South Lantau Road. In order to conserve the rural character and the natural landscape resources and habitats of the Area, excavation or filling of land, diversion of stream and large-scale developments should be discouraged.
- 5.3 The existing population concentrates mainly at several recognized villages including San Shek Wan Tsuen, Pui O San Wai Tsuen, Pui O Lo Wai Tsuen, Lo Uk Tsuen, Ham Tin Tsuen, Cheung Sha Sheung Tsuen, Cheung Sha Ha Tsuen, Tong Fuk Tsuen and Shui Hau Tsuen and the low-rise, low-density residential developments at Cheung Sha.

6. POPULATION

~~According to~~ **Based on** the 2011 Population Census, the ~~total~~ population ~~in of~~ the Area **as estimated by the Planning Department was** about 6,350 persons ~~which included about 2,400 inmates and residents in staff quarters of several penal institutions.~~ It is estimated that the planned population in the Area will be about **7,700** ~~8,450 including about 3,700 inmates and residents in staff quarters of the penal institutions.~~ During weekends and public holidays, there are many visitors to the Area.

7. LAND USE ZONINGS

7.1 Residential (Group C) ("R(C)") : Total Area 57.00 ha

7.1.1 The planning intention of this zone is primarily for low-rise and low-density residential developments. Nine "R(C)" zones are designated on the Plan. Two are located at the southern tip of Chi Ma Wan Peninsula, which mainly rely on marine access. Six are located along South Lantau Road between Cheung Sha and Pui O. The remaining one is located at Shui Hau.

7.1.2 No development or redevelopment within the "R(C)" zones should exceed a maximum plot ratio of 0.4, a maximum site coverage of 25% and a maximum building height of 2 storeys (7.6m), or the plot ratio, site coverage and height of the existing building, whichever is the greater. These restrictions are primarily to reflect the existing and committed development intensities so as to maintain the existing rural and natural character of the South Lantau Coast and to avoid overtaxing the limited road capacity and infrastructure in the area.

7.1.3 A site at Cheung Sha is zoned "R(C)1". No development or redevelopment within the "R(C)1" sub-area should exceed a maximum plot ratio of 0.8, a maximum site coverage of 40% and a maximum building height of 3 storeys (including carport), or the plot ratio, site coverage and height of the existing building, whichever is the greater.

7.2 Village Type Development ("V") : Total Area 86.49 ha

7.2.1 The planning intention of this zone is to designate both existing recognized villages and areas of land considered suitable for village expansion. Land within the "V" zones is primarily intended for development of Small Houses by indigenous villagers. It is also intended to concentrate village type development within the "V" zones for a more orderly development pattern, efficient use of land and provision of infrastructures and services. Selected commercial and community uses serving the needs of the villagers and in support of the village development are always permitted on the ground floor of a New Territories Exempted House. Other commercial, community and recreational uses may be permitted on application to the Board on the basis that these uses would meet the needs of villagers and would not adversely affect the character of these villages.

7.2.2 On land designated “V”, any new building or any addition, alteration and/or modification to or redevelopment of the existing building should not result in a total development and/or redevelopment in excess of a maximum building height of 3 storeys (8.23m) or the height of the existing building, whichever is the greater.

7.2.3 The existing recognized villages at Mong Tung Wan, Tai Long, Shap Long, Ham Tin, Pui O, Lo Uk, San Shek Wan, Cheung Sha, Tong Fuk, Shui Hau, Tai Long Wan and Fan Lau are zoned “V”. The boundaries of the “V” zones are drawn up having regard to the village ‘environs’, Small House demand, topography and site constraints. Areas of difficult terrain, dense vegetation, streamcourses and burial grounds have been avoided.

7.3 Government, Institution or Community (“G/IC”) : Total Area 86.39 ha

The planning intention of this zone is primarily for the provision of Government, institution or community (GIC) facilities serving the needs of the local population, a wider district or the territory. It is also intended to provide land for users directly related to or in support of the work of the Government, organizations providing social services to meet community needs, and other institutional establishments. The major existing GIC facilities include ~~Chi Ma Wan Correctional Institution, Chi Sun Correctional Institution, Ma Po Ping Prison, Tong Fuk Centre~~ **Correctional Institution**, Shek Pik Prison, Sha Tsui Correctional Institution, Bui O Public School, Hung ~~Shing~~ Temple at Tong Fuk Miu Wan, electric substations at Cheung Sha and Tong Fuk, and a special school ~~and a holiday camp~~ at Tung Wan. Other GIC facilities such as police station, fire station and rural schools are included in the broad residential and village type development zones.

7.4 Other Specified Uses (“OU”) : Total Area ~~0.52~~ **1.07** ha

7.4.1 Sewage Treatment Works

A site at Pui O to the south of South Lantau Road is zoned “OU” annotated “Sewage Treatment Works”. This zone is intended to designate land for sewage treatment works.

7.4.2 Waterworks Pumping Station

A site off the eastern boundary of Pui O Lo Wai Tsuen and to the south of South Lantau Road is zoned “OU” annotated “Waterworks Pumping Station”. This zone is intended to designate land for the purpose of a water pumping station in connection with the water supply system serving Lantau and the western part of Hong Kong Island.

7.5 Green Belt (“GB”) : Total Area 481.73 ha

7.5.1 The planning intention of this zone is primarily to define the limits of development areas, to preserve existing well-wooded hillslopes and

other natural features, as well as to provide passive recreational outlets for the local population and visitors. It mainly covers the extensive well-vegetated uplands and hillsides, spurs and stream valleys, coastal pockets of land and isolated knolls adjoining the Lantau South Country Park.

7.5.2 Most of the northern part of the Area comprises steep slopes which are unsuitable for development. These areas, however, provide an important buffer for the Lantau South Country Park and a good landscape setting for the scattered “R(C)” zones and village type developments along the coast and are zoned “GB”. These hillslopes also embrace a number of natural streamcourses irrigating the agricultural land and the coastal wetland and should be protected from filling, excavation or stream diversion. Pockets of agricultural land at Chi Ma Wan Peninsula near the Lantau South Country Park are also zoned “GB”.

7.5.3 There is a general presumption against development within the “GB” zone. Development within this zone will be strictly controlled. Any building development will require permission from the Board and development proposals will be considered by the Board on individual merits, taking into account the relevant Town Planning Board Guidelines.

7.6 Coastal Protection Area (“CPA”) : Total Area ~~162.46~~ **161.91** ha

7.6.1 This zone is intended to conserve, protect and retain the natural coastlines and the sensitive coastal natural environment, including attractive geological features, physical landform or area of high landscape, scenic or ecological value, with a minimum of built development. This zone is also intended to safeguard the beaches and their immediate hinterland, and to prevent haphazard ribbon development along the South Lantau Coast. There is a general presumption against development in this zone. In general, only developments that are needed to support the conservation of the existing natural landscape or scenic quality of the area or the development is an essential infrastructure project with overriding public interest may be permitted. These scenic and ecologically sensitive coastal areas should also be protected against land filling, land excavation or stream diversion and encroachment by developments.

7.6.2 A long strip of land between the coastline and South Lantau Road stretching from Pui O to Shui Hau including areas adjoining the Country Park area in Chi Ma Wan and Lo Kei Wan is zoned “CPA”. The “CPA” zone also covers sandy shore of the gazetted bathing beaches at Pui O, Cheung Sha and Tong Fuk.

7.6.3 New residential development is not permitted. However, redevelopment of existing houses may be permitted on application to the Board. The redevelopment of existing houses shall not result in a total redevelopment in excess of a maximum plot ratio of 0.4, a maximum

site coverage of 25% and a maximum building height of 2 storeys (7.6m), or the plot ratio, site coverage and height of the existing house, whichever is the greater.

7.7 Country Park (“CP”) : Total Area 1,570.36 ha

The intention of this zone is to reflect the Country Park which is to protect the natural features and to provide outlets for outdoor recreation for public enjoyment of the countryside. This zone comprises a major part of Chi Ma Wan Peninsula, Lo Kei Wan Peninsula and Fan Lau. These areas form parts of the Lantau South Country Park, which was gazetted on 13 January 1978 under the Country Parks Ordinance (Cap. 208). All uses and developments require consent from the Country and Marine Parks Authority and approval from the Board is not required.

8. COMMUNICATIONS

8.1 Roads

8.1.1 The Area is mainly served by South Lantau Road, which extends from Mui Wo ferry pier to Shek Pik Reservoir. It continues to Tai O via Keung Shan Road and to Tung Chung via Tung Chung Road. ~~Accessibility of the Area has been enhanced with the improvement of the existing Tung Chung Road under “Improvement to Tung Chung Road between Lung Tseng Tau and Cheung Sha” project which was completed in 2009.~~ Local areas are served by access roads branching off from South Lantau Road.

8.1.2 Since the Area is intended mainly for recreational development, the present restriction on vehicular use of the roads, i.e. only those vehicles possessed with valid Lantau Closed Road Permits are permitted, is still in force.

8.2 Footpaths

The existing footpath system comprises a variety of paved and gently sloping paths and trails connecting villages to South Lantau Road, jetties and other major activity centres. The footpath system is intended to serve as a link between major activity centres as well as cross-country trails for hikers. Since it is a small-scale plan, the footpath system is not shown on the plan.

8.3 Public Transport

Franchised buses, taxis and ferries are the main modes of public transport for the Area. There are ferry services between Chi Ma Wan, Cheung Chau, Peng Chau and Mui Wo. The only ferry pier within the Area is located at Chi Ma Wan Peninsula. Bus services are provided from Mui Wo ferry pier to Pui O, Tong Fuk and Shek Pik, and to Tai O, Tung Chung and Ngong Ping via the Area.

9. UTILITY SERVICES

9.1 Water Supply

Raw water for the Area is collected at Shek Pik Reservoir. It is then delivered to and treated at Silver Mine Bay Water Treatment Works (located outside the Area) for supply to Mui Wo and Chi Ma Wan; and at Cheung Sha Water Treatment Works for supply to Tong Fuk, Cheung Sha and Pui O. As there is no salt water supply to the Area, mains water is used for flushing purpose.

9.2 Sewage Treatment

9.2.1 Currently, there are no sewage treatment facilities in the Area except soakaway pits and septic tanks for most of the village houses. They should only be regarded as an interim solution in remote and low-density areas far away from beaches and fish culture zones.

9.2.2 The over-night accommodation and commercial activities associated with the vast number of weekend and public holiday visitors have already been putting severe pressure for a proper sewage treatment system in the Area.

9.2.3 The Government is ~~formulating an outlying islands sewerage master plan for areas including South Lantau Coast~~ **has planned to implement a sewerage work covering the villages, residential areas and bathing beaches from Shui Hau to Ham Tin.** The works proposed ~~for the Area~~ comprise village and trunk sewerage system, which include sewage pumping stations, gravity sewers and rising mains, conveying sewage to a new Sewage Treatment ~~Plant in South Lantau~~ **Works at Pui O.**

9.3 Solid Wastes Disposal

Small refuse collection points are located in the vicinity of the villages and residential developments throughout the Area. Domestic wastes delivered to the refuse transfer station in Mui Wo are containerized and shipped to the West New Territories Landfill for disposal.

9.4 Other Services

Electricity supply and telephone service are available in the Area. A telephone exchange is located at Cheung Sha. No difficulty is envisaged to provide electricity and telephone services to meet the need of existing and future developments.

10. CULTURAL HERITAGE

10.1 Within the boundary of the Plan, there are three declared monuments, i.e. Fan Lau Fort, Fan Lau Stone Circle and Shek Pik ~~(Lower)~~ Rock Carving. There

are also several sites of archaeological interest ~~and graded historic buildings/structures~~ within the Area namely Cheung Sha Ha Tsuen site of archaeological interest, Cheung Sha Wan site of archaeological interest, Chi Ma Wan site of archaeological interest, Fan Lau Sai Wan site of archaeological interest, Kau Ling Chung site of archaeological interest, Ngau Kwu Wan site of archaeological interest, Pui O site of archaeological interest, Shap Long site of archaeological interest, Shui Tseng Wan site of archaeological interest, Tai Long Wan site of archaeological interest (at Chi Ma Wan), Tai Long Wan site of archaeological interest (at Shek Pik), Tong Fuk site of archaeological interest, Tong Fuk Miu Wan site of archaeological interest, Tung Kok site of archaeological interest, Tung Wan site of archaeological interest (at Shek Pik), Yi Long site of archaeological interest, and Yi O to Fan Lau Boulder Trackway. On 19 March 2009, the Antiquities Advisory Board (AAB) released the list of 1,444 historic buildings, ~~in which some buildings/structures within the Area have been also given gradings, i.e.~~ **The following historic buildings are also located within the area, namely** Cheung Ancestral Hall at Pui O Lo Wai Tsuen (Grade 3), Lin Kong Tong at No. 5 Ham Tin Tsuen (Grade 3), ~~and~~ Tin Hau Temple at Fan Lau Miu Wan (Grade 3), **Leung Ying Kong Ancestral Hall at Fan Lau Sai Wan Ha Tsuen (Grade 3) and Nos. 49 & 50 Shui Hau (Proposed Grade 3)**. All the declared monuments, sites of archaeological interest and graded/**proposed to be graded** historic buildings/structures are worthy of preservation.

- 10.2 The AAB also released a number of new items in addition to the list of 1,444 historic buildings. These items are subject to the grading assessment by the AAB. Details of the list of 1,444 historic buildings and its new items have been uploaded onto the official website of the AAB at <http://www.aab.gov.hk>.
- 10.3 Prior consultation with the Antiquities and Monuments Office (AMO) of the Leisure and Cultural Services Department (LCSD) should be made, if any development, redevelopment or rezoning proposal might affect the above sites of archaeological interest, graded/**proposed to be graded** historic buildings/structures, new items pending grading assessment and their immediate environs. If disturbance to site of archaeological interest is unavoidable, a detailed Archaeological Impact Assessment (AIA) conducted by a qualified archaeologist engaged by the project proponent is required. The archaeologist shall apply for a licence to conduct the AIA under the Antiquities and Monuments Ordinance (Cap. 53). A proposal of AIA shall be submitted to the AMO for agreement prior to applying for a licence. Subject to the findings of the AIA, appropriate mitigation measures shall be fully implemented by the project proponent in consultation with the AMO of LCSD.

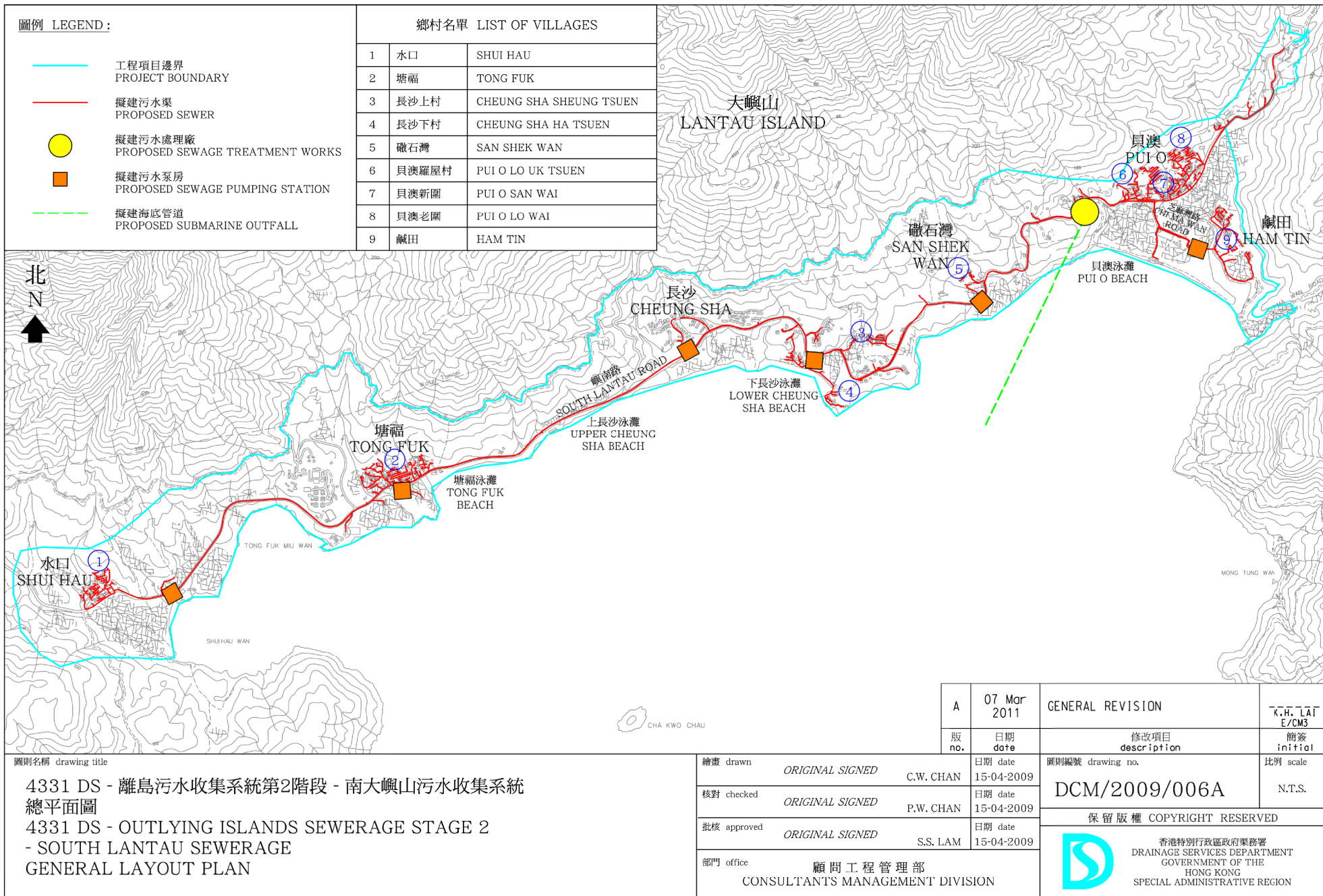
11. IMPLEMENTATION

- 11.1 Although existing uses non-conforming to the statutory zonings are tolerated, any material change of use and any other development/redevelopment must be always permitted in terms of the Plan, or if permission is required, in accordance with the permission granted by the Board. The Board has published a set of guidelines for the interpretation of existing use in the urban and new town areas. Any person who intends to claim an “existing use right” should refer to the

guidelines and will need to provide sufficient evidence to support his claim. The enforcement of the zonings mainly rests with the Buildings Department, the Lands Department and the various licensing authorities.

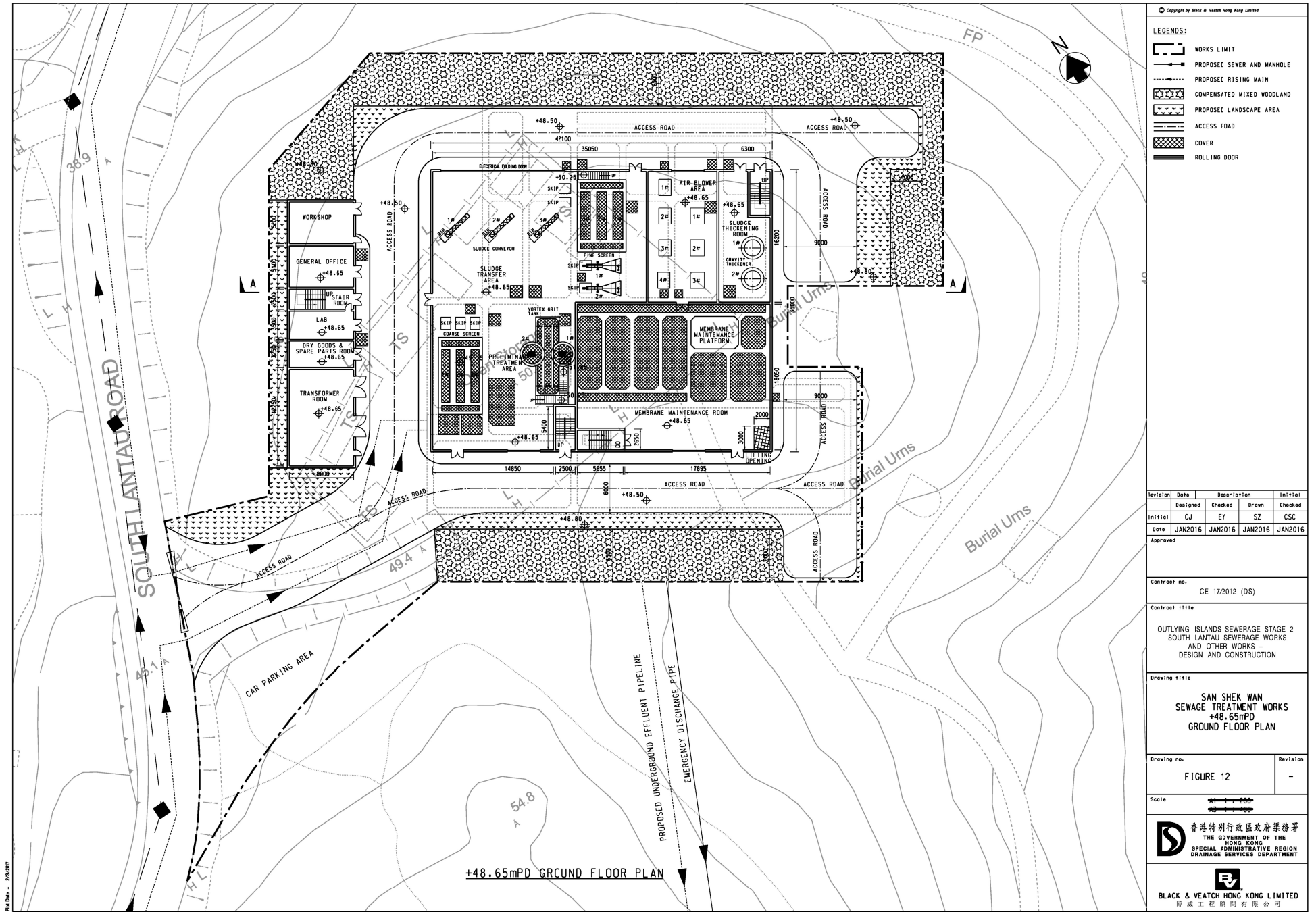
- 11.2 The Plan provides a broad land use framework on which preparation of more detailed non-statutory plans for the Area is based. These detailed plans are used as the basis for planning of public works and reservation of sites.
- 11.3 Future development of the Area will be carried out by both the Government and the private sector. The Government would co-ordinate the provision of public facilities and infrastructure as guided by the planning and development control framework to preserve the natural amenity of the Area and to ensure that development would take place in an orderly manner. The provision of infrastructure will be implemented through the Public Works Programme and the Rural Public Works Programme as and when resources are available. Private developments will be effected principally through private sector initiatives in accordance with the provisions of the Plan.
- 11.4 Planning applications to the Board will be assessed on individual merits. In general, the Board, in considering planning applications, will take into account all relevant planning considerations which may include the departmental outline development plans and layout plans for the Area, and Guidelines published by the Board. The outline development plans and layout plans are available for public inspection at the Planning Department. Guidelines published by the Board are available from the Board's website, the Secretariat of the Board and the Technical Services Division of the Planning Department. Application forms and guidance notes for planning applications can be downloaded from the Board's website and are available from the Secretariat of the Board, and the Technical Services Division and the relevant District Planning Office of the Planning Department. Applications should be supported by such materials as the Board thinks appropriate to enable it to consider the applications.

TOWN PLANNING BOARD
~~SEPTEMBER 2014~~
MAY 2017



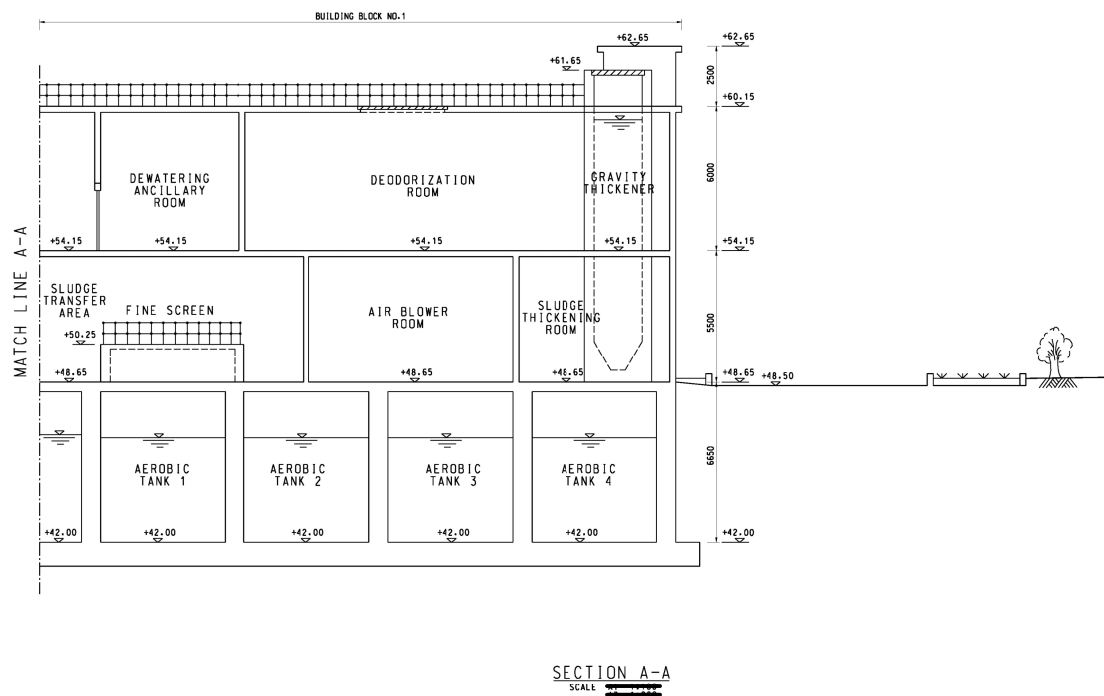
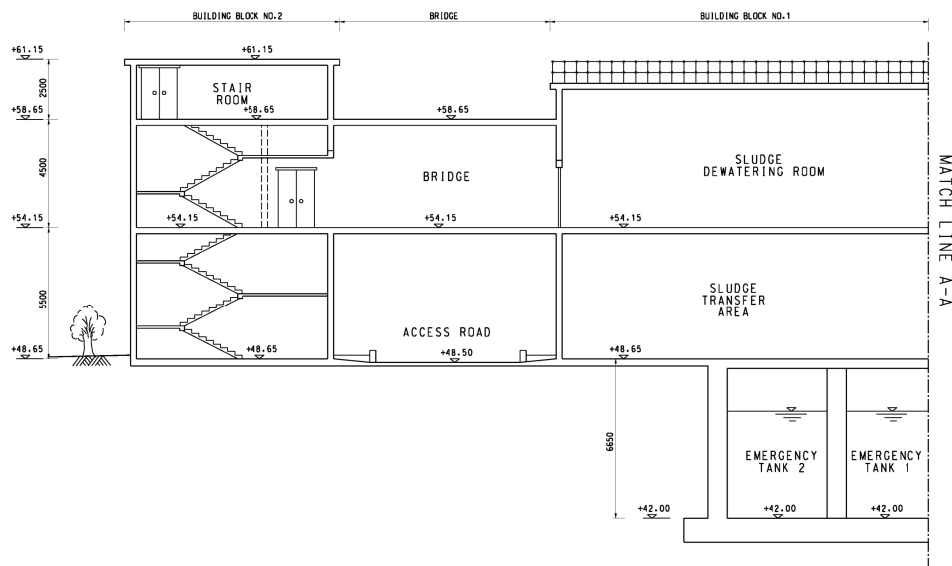
參考編號
REFERENCE No.
M/LI/17/38

繪圖
DRAWING
1



參考編號
REFERENCE No.
M/LI/17/38

繪圖
DRAWING
2



SECTION A-A
SCALE

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Revision	Date	Description	Initial
Initial	Designed	Checked	Drawn
Initial	CJ	DJ	SZ
Date	JAN2016	JAN2016	JAN2016

Approved

Contract no.
CE 17/2012 (DS)

Contract title
OUTLYING ISLANDS SEWERAGE STAGE 2
SOUTH LANTAU SEWERAGE WORKS
AND OTHER WORKS -
DESIGN AND CONSTRUCTION

Drawing title
SECTION A-A

Drawing no.
FIGURE 14

Scale
1:1000

香港特別行政區政府渠務署
THE GOVERNMENT OF THE
HONG KONG
SPECIAL ADMINISTRATIVE REGION
DRAINAGE SERVICES DEPARTMENT

BLACK & VEATCH HONG KONG LIMITED
博威工程顧問有限公司

參考編號
REFERENCE No.
M/LI/17/38

繪圖
DRAWING
3



VP4 - Photomontage with mitigation at Day 1



VP4 - Photomontage with mitigation at Year 10

<p>Title</p> <p>View from VP4 (2 of 2) (Photomontage)</p>	<p>OUTLYING ISLANDS SEWERAGE STAGE 2 SOUTH LANTAU SEWERAGE WORKS - INVESTIGATION</p>		<p>Figure no. Figure 3</p>	
	<p>香港特別行政區政府渠務署 THE GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION SEWERAGE SERVICES DEPARTMENT</p>		<p>Prepared KK</p>	<p>Checked FEZ</p>
	<p>BLAK & VEATCH HONG KONG LIMITED 博威工程顧問有限公司</p>		<p>Date 30/04/2013</p>	<p>Scale N/A</p>

0115164a4b

<p>參考編號 REFERENCE No. M/LI/17/38</p>	<p>繪圖 DRAWING 4</p>
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VP7 - Photomontage with mitigation at Day 1

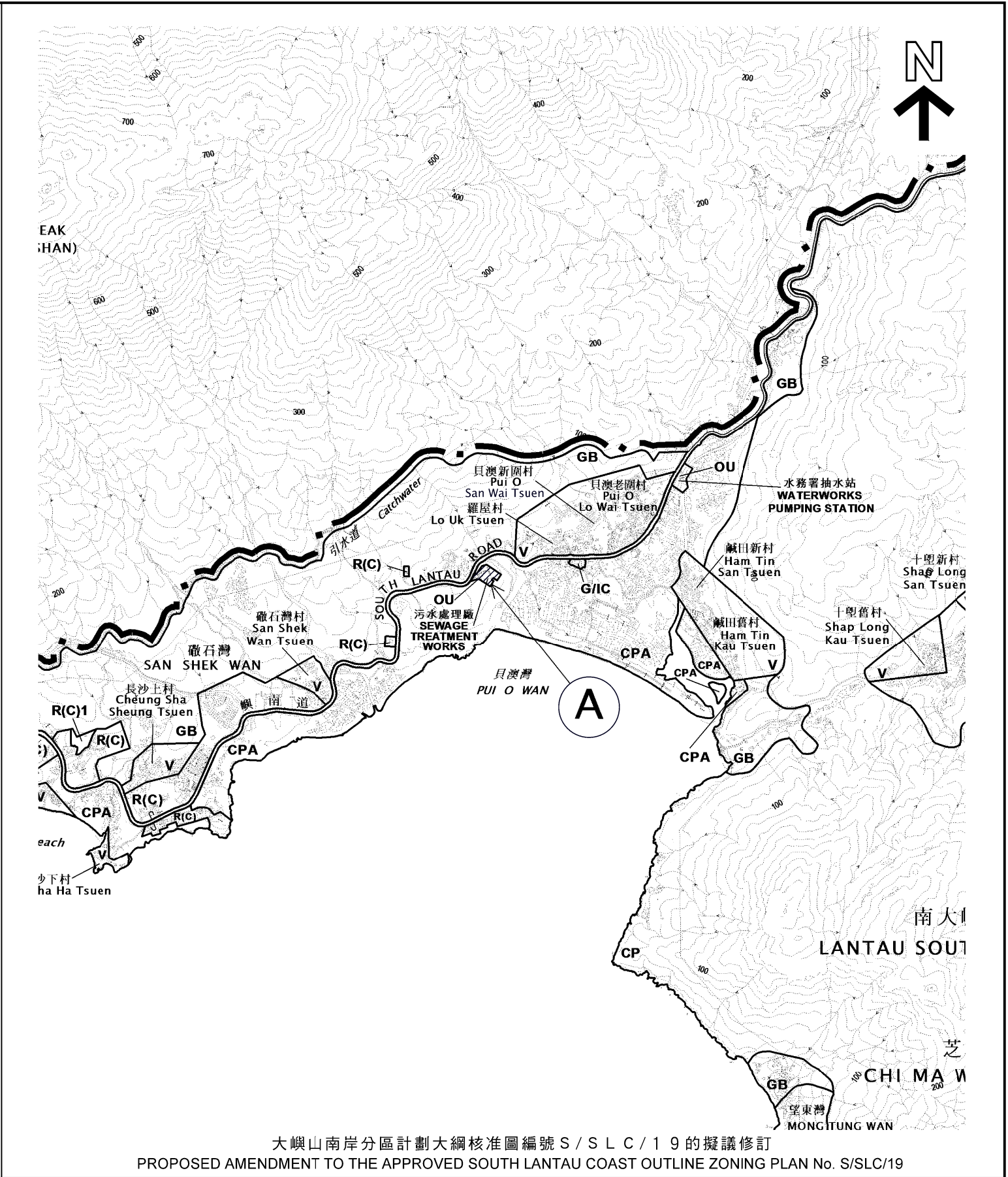
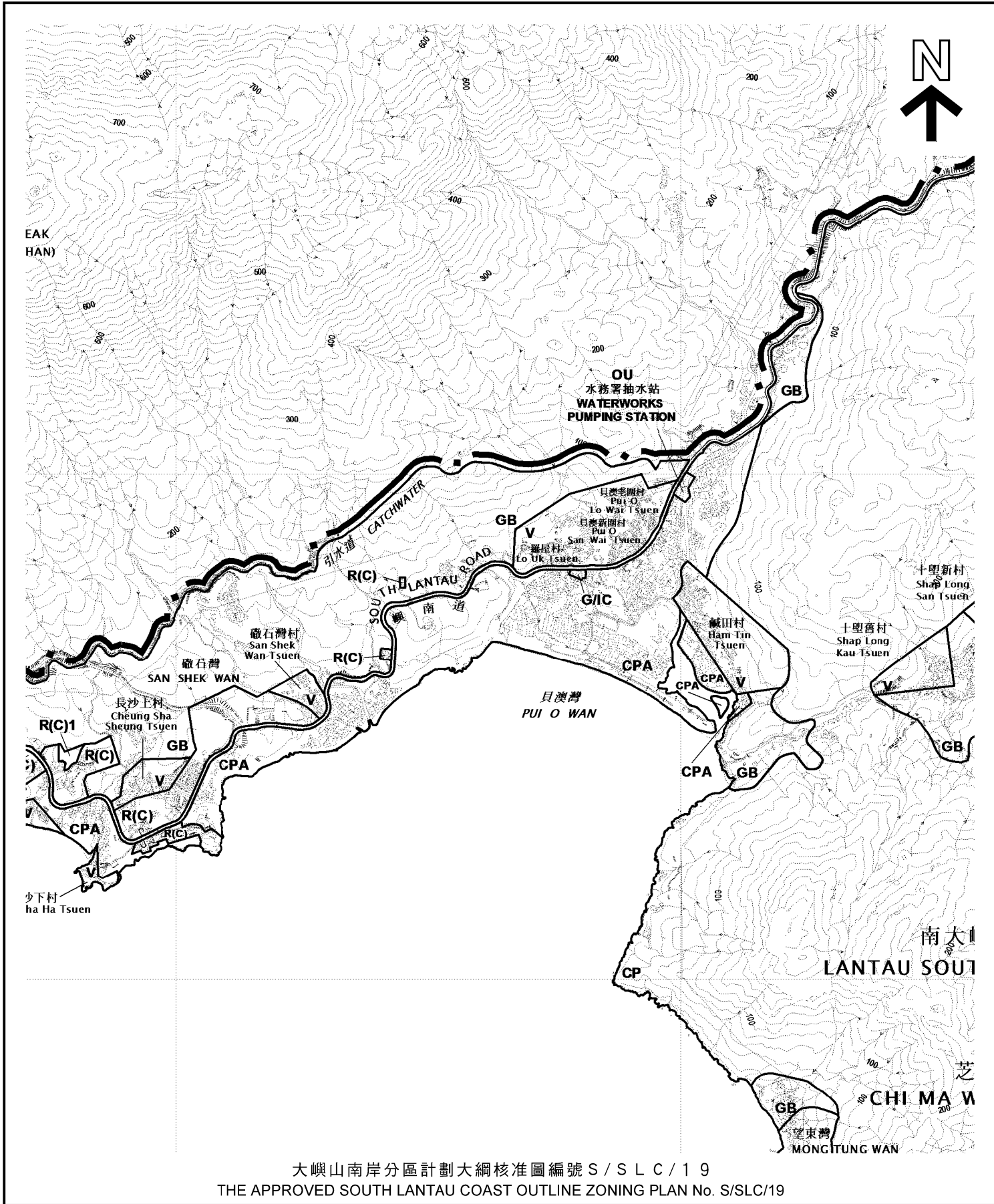


VP7 - Photomontage with mitigation at Year 10

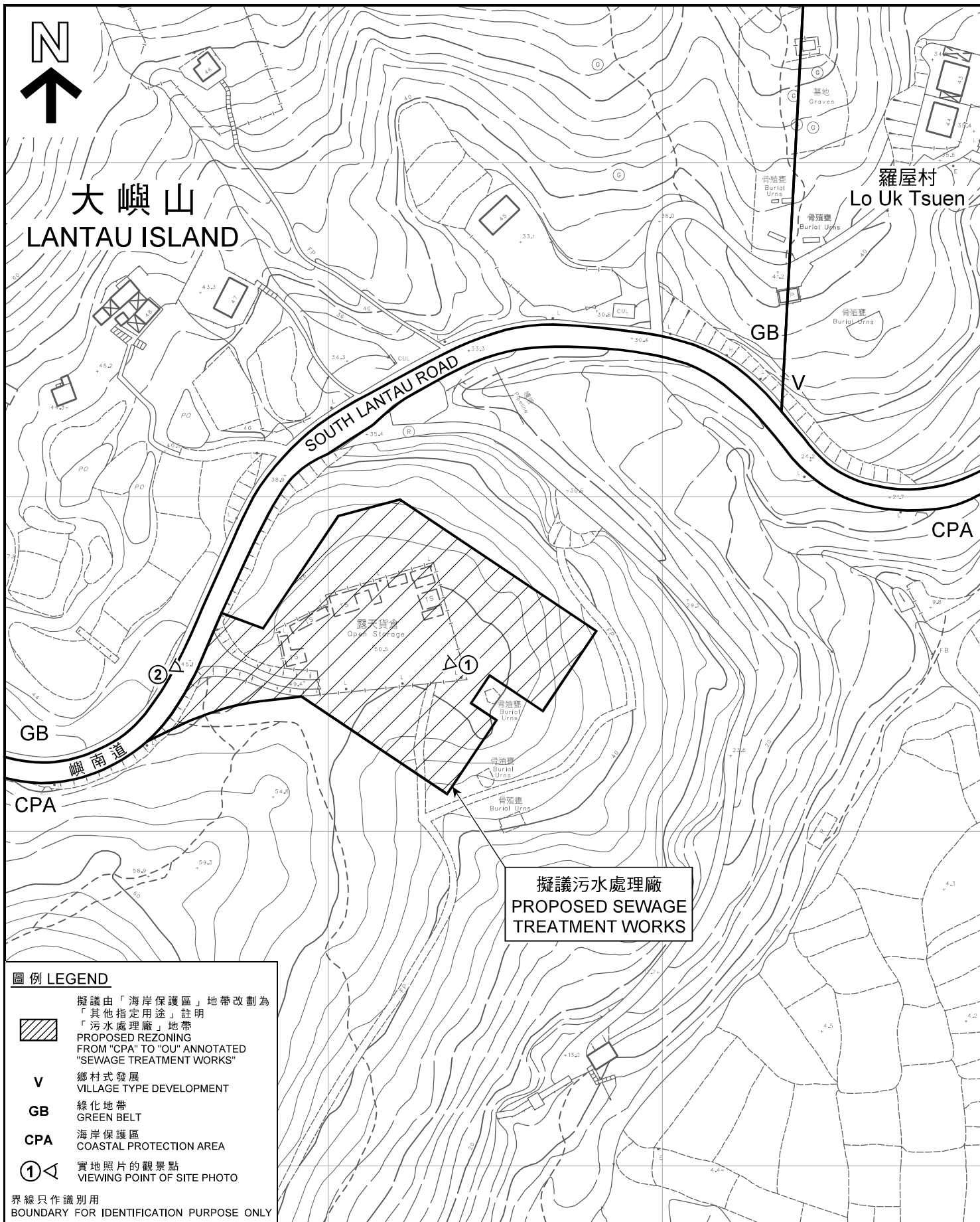
<p>Title</p> <p>View from VP7 (2 of 2)</p> <p>(Photomontage)</p>	<p>OUTLYING ISLANDS SEWERAGE STAGE 2</p> <p>SOUTH LANTAU SEWERAGE WORKS -</p> <p>INVESTIGATION</p>		<p>Figure no.</p> <p>Figure 4</p>	
	<p>香港特別行政區政府渠務署</p> <p>THE GOVERNMENT OF THE HONG KONG</p> <p>SPECIAL ADMINISTRATIVE REGION</p> <p>DRAINAGE SERVICES DEPARTMENT</p>		<p>Prepared</p> <p>KK</p>	<p>Checked</p> <p>FEZ</p>
	<p>BLAKE & VEATCH HONG KONG LIMITED</p> <p>博威工程顧問有限公司</p>		<p>Date</p> <p>29/06/2016</p>	<p>Scale</p> <p>N/A</p>

0115164a7c

<p>參考編號</p> <p>REFERENCE No.</p> <p>M/LI/17/38</p>	<p>繪圖</p> <p>DRAWING</p> <p>5</p>
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<p>本摘要圖於2017年5月5日擬備， 所根據的資料為於2014年9月2日 核准的分區計劃大綱圖編號S/SLC/19 EXTRACT PLAN PREPARED ON 5.5.2017 BASED ON OUTLINE ZONING PLAN No. S/SLC/19 APPROVED ON 2.9.2014</p>	<p>位置圖 LOCATION PLAN</p> <p>大嶼山南岸分區計劃大綱核准圖編號 S / S L C / 1 9 的擬議修訂 (A 項)</p> <p>PROPOSED AMENDMENT TO THE APPROVED SOUTH LANTAU COAST OUTLINE ZONING PLAN No. S/SLC/19 (ITEM A)</p> <p>SCALE 1 : 20 000 比例尺</p> <p>米 200 0 200 400 600 800 米 METRES METRES</p>	<p>規劃署 PLANNING DEPARTMENT</p> <p>參考編號 REFERENCE No. M/LI/17/38</p> <p>圖 PLAN 1</p>
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本摘要圖於2017年5月4日擬備，
所根據的資料為測量圖編號
14-NW-1A和1C

EXTRACT PLAN PREPARED ON 4.5.2017
BASED ON SURVEY SHEETS No.
14-NW-1A & 1C

平面圖 SITE PLAN

大嶼山南岸分區計劃大綱核准圖
編號 S / S L C / 1 9 的擬議修訂
PROPOSED AMENDMENT
TO THE APPROVED SOUTH LANTAU COAST
OUTLINE ZONING PLAN No. S/SLC/19

SCALE 1 : 1 500 比例尺
米 25 0 25 50 米
METRES

規劃署
PLANNING
DEPARTMENT



參考編號
REFERENCE No.

M/LI/17/38

圖 PLAN

2



大嶼山
LANTAU ISLAND

羅屋村
Lo Uk Tsuen

SOUTH LANTAU ROAD

嶼南道

擬議污水處理廠
PROPOSED SEWAGE
TREATMENT WORKS

圖例 LEGEND



擬議由「海岸保護區」地帶改制為
「其他指定用途」註明
「污水處理廠」地帶
PROPOSED REZONING
FROM "CPA" TO "OU" ANNOTATED
"SEWAGE TREATMENT WORKS"

界線只作識別用
BOUNDARY FOR IDENTIFICATION PURPOSE ONLY

航攝照片 AERIAL PHOTO

大嶼山南岸分區計劃大綱核准圖
編號 S / S L C / 1 9 的擬議修訂
PROPOSED AMENDMENT
TO THE APPROVED SOUTH LANTAU COAST
OUTLINE ZONING PLAN No. S/SLC/19

規劃署
PLANNING
DEPARTMENT

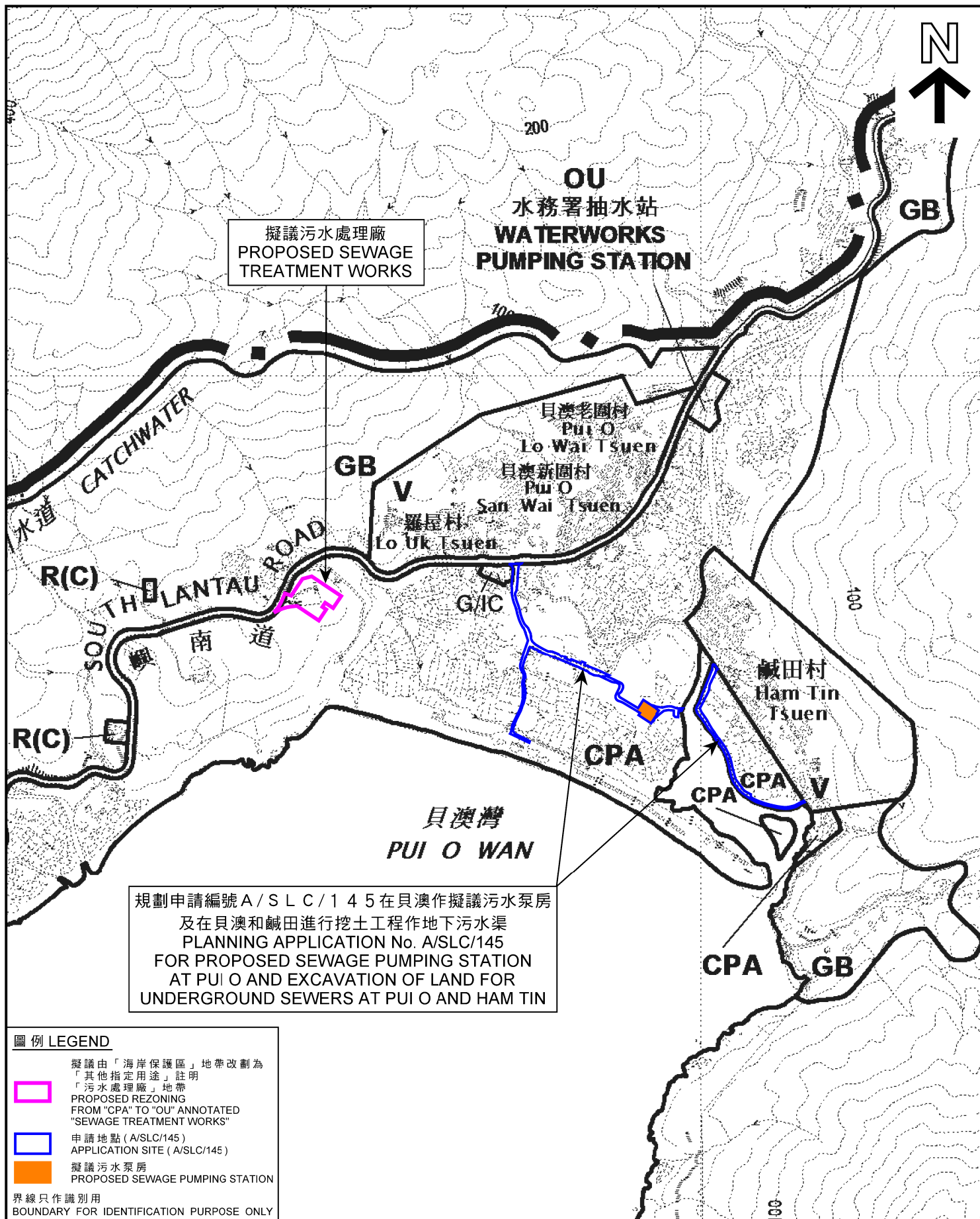


參考編號
REFERENCE No.
M/LI/17/38

圖 PLAN
3

本摘要圖於2017年4月7日擬備，
所根據的資料為地政總署於2015年6月16日
拍得的航攝照片編號CW115291

EXTRACT PLAN PREPARED ON 7.4.2017
BASED ON AERIAL PHOTO No. CW115291
TAKEN ON 16.6.2015
BY LANDS DEPARTMENT



位置圖 LOCATION PLAN

大嶼山南岸分區計劃大綱核准圖
編號 S/S/L/C/19 的擬議修訂
PROPOSED AMENDMENT
TO THE APPROVED SOUTH LANTAU COAST
OUTLINE ZONING PLAN No. S/SLC/19

SCALE 1 : 10 000 比例尺
米 100 0 200 300 400 500 米
METRES

規劃署
PLANNING
DEPARTMENT



參考編號
REFERENCE No.
M/LI/17/38

圖 PLAN
4

本摘要圖於2017年4月6日擬備，
所根據的資料為於2014年9月2日
核准的分區計劃大綱圖編號S/SLC/19
EXTRACT PLAN PREPARED ON 6.4.2017
BASED ON OUTLINE ZONING PLAN No.
S/SLC/19 APPROVED ON 2.9.2014



實地照片 SITE PHOTOS

大嶼山南岸分區計劃大綱核准圖
編號 S / S L C / 1 9 的擬議修訂
PROPOSED AMENDMENT
TO THE APPROVED SOUTH LANTAU COAST
OUTLINE ZONING PLAN No. S/SLC/19

規劃署
PLANNING
DEPARTMENT



參考編號
REFERENCE No.
M/LI/17/38

圖 PLAN
5

本摘要圖於2017年3月31日擬備，
所根據的資料為攝於
2017年3月29日的實地照片
PLAN PREPARED ON 31.3.2017
BASED ON SITE PHOTOS
TAKEN ON 29.3.2017

**THE GOVERNMENT OF THE HONG KONG
SPECIAL ADMINISTRATIVE REGION**



DRAINAGE SERVICES DEPARTMENT

**PWP Item No. 4331DS
Outlying Islands Sewerage Stage 2 -
South Lantau Sewerage Work**

Planning Study Report

**Proposed Amendment to the Approved South Lantau
Coast Outline Zoning Plan No. S/SLC/19
for the Proposed San Shek Wan Sewage Treatment Works**

May 2017

Project Proponent:

Drainage Services Department
Consultants Management Division
42/F, Revenue Tower,
5 Gloucester Road,
Wan Chai, Hong Kong

Consultants:

Black & Veatch Hong Kong Limited
25/F, Millennium City 6,
392 Kwun Tong Road,
Kowloon,
Hong Kong

SUMMARY OF PROPOSAL

Project Proponent	: Drainage Services Department, Consultants Management Division	
Consultant	: Black & Veatch Hong Kong Limited	
Existing Zoning(s)	: “Coastal Protection Area”	
Proposed Zoning(s)	: “Other Specified Uses” annotated “Sewage Treatment Works”	
Location	: Near San Shek Wan and Pui O at a site covering STT CX1429 and adjoining government land, adjacent to South Lantau Road, Lantau Island.	
The Site Area	: About 5,500 m ² (Government Land)	
Proposed Use and Concerned Area	<i>Proposed Use</i>	<i>Concerned Area (sq.m.) and Existing Zoning(s)</i>
	Sewage Treatment Works (STW) associated with underground sewers, retaining structures and run in/out	5,500 m ² at “Coastal Protection Area”
Statutory Plan	: Approved South Lantau Coast Outline Zoning Plan No. S/SLC/19	
Previous Application(s)	: Nil	

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Annex

Annex A	Copies of the Relevant Extract of Minutes of Meetings of the Public Consultation
Annex B	Executive Summary of South Lantau Sewerage Works EIA report
Annex C	Extracted Landscape and Visual Impact Assessment with Photomontage for the Proposed San Shek Wan Sewage Treatment Works

1. Introduction

1.1. Objective of the Report

- 1.1.1 This Planning Study Report (hereinafter called “the Report”) is prepared by Black & Veatch Hong Kong Limited on behalf of the Drainage Services Department (DSD) in support of the proposal to amend the South Lantau Coast Outline Zoning Plan (OZP) No. S/SLC/19 by rezoning a piece of land (with an approximate area of 5,500 m²) located to the north of Pui O Wan and adjacent to South Lantau Road (hereinafter called “the Site”) from “Coastal Protection Area” (“CPA”) to “Other Specified Uses” (“OU”) annotated “Sewage Treatment Works” zone to facilitate the implementation of a proposed Sewage Treatment Works (STW). The location plan and site plan for the subject site are respectively shown at **Figures 1 and 2**.
- 1.1.2 The purpose of the Report is to present the rezoning proposal.
- 1.1.3 The proposed STW forms part of the Project entitled “Outlying Islands Sewerage Stage 2 – South Lantau Sewerage Works” being implemented under PWP Item No. 4331DS, which aims to resolve the water pollution problem in South Lantau and to improve the sanitary conditions in the unsewered area stretching from Shui Hau to Ham Tin. The proposed STW will serve the village/residential houses, government institutions, beaches, etc. in South Lantau for proper treatment and disposal of sewage generated from this area. The general layout of the Project is shown at **Figure 3**.

1.2 Structure of the Report

- 1.2.1 This Report is divided into 9 sections. **Section 1** provides an introduction to the Project and the Report. **Sections 2 and 3** provide details on the Site, including its location, existing and surrounding land uses, accessibility, land status and planning context. Details of the rezoning proposal are detailed in **Section 4** while the scheme of the proposed STW associated with underground sewers, retaining structures and run in/out supported by an Indicative Master Layout Plan (MLP) and an Indicative Landscape Master Plan (LMP) are provided and discussed in **Section 5**. Technical assessments on traffic, drainage, environmental and landscape and visual impact, etc. are summarized in **Section 6**. **Section 7** gives an overview of the public consultation undertaken for the Project. Justifications for the rezoning proposal are set out in **Section 8**. Finally, recommendation and the conclusion to the Report are given in **Section 9**.

1.3 Background and Description of the Project

- 1.3.1 The Environmental Protection Department (EPD) completed an Outlying Islands Sewerage Master Plan (SMP) Study in December 1994 and drew up a SMP for Lantau Island and other outlying islands. The SMP was subsequently reviewed by EPD under the Outlying Islands Sewerage Master Plan Stage 2 Review Study (SMP Review Study) in June 2001. In February 2002, EPD completed a Preliminary Project Feasibility Study (PFFS) to define the scope of Outlying Islands Sewerage Stage 2 including the proposed works in South Lantau among others.
- 1.3.2 After the SMP Review Study and the PFFS, the proposed sewerage scheme for South Lantau was further reviewed and a revised scheme was recommended under the Review of Sewerage Scheme for South Lantau (Review Study) in September 2008.

1.3.3 In 2013, DSD completed an investigation stage of the Project under Agreement No. CE 55/2009 (DS) entitled “Outlying Islands Sewerage Stage 2 – South Lantau Sewerage Works – Investigation” (Investigation Consultancy). The Investigation Consultancy reviewed the recommendations of the Review Study and optimized the scheme of the Project. The elements of the optimized scheme (see **Figure 3**) comprise the following:

(a) Village Sewerage Works

Construction of village sewerage system for the following 9 unsewered villages within the catchment area of South Lantau:

- (1) Shui Hau;
- (2) Tong Fuk;
- (3) Cheung Sha Lower Village;
- (4) Cheung Sha Upper Village;
- (5) San Shek Wan;
- (6) Pui O Lo Uk Tsuen;
- (7) Pui O San Wai;
- (8) Pui O Lo Wai; and
- (9) Ham Tin.

The sewerage network will also extend to the resort areas (inclusive of, inter alia, the villa/bungalows alongside of Cheung Fu Street and Lai Pan Path) and the 4 bathing beaches (Tong Fuk Beach, Cheung Sha Upper Beach, Cheung Sha Lower Beach and Pui O Beach) within the catchment area.

(b) Trunk Sewerage Works

Construction of a trunk sewerage system along South Lantau Road and Chi Ma Wan Road for conveyance of the sewage collected from the above village sewerage systems to a proposed STW near Pui O and San Shek Wan, namely San Shek Wan STW. The works mainly include construction of 6 sewage pumping stations associated with rising mains and gravity sewers along South Lantau Road and Chi Ma Wan Road.

(c) San Shek Wan STW and Submarine Outfall

Construction of a secondary STW, namely San Shek Wan STW in South Lantau for proper treatment and disposal of sewage generated in this area. The proposed STW will be constructed associated with a submarine outfall for discharge of the treated effluent into the sea.

1.3.4 Following the completion of the investigation stage of the Project, DSD commissioned another Agreement No. CE 17/2012 (DS) entitled “Outlying Islands Sewerage Stage 2 – South Lantau Sewerage Works and Other Works – Design and Construction” in 2013 to proceed with the design and construction of the Project.

1.4 Site Identification for the proposed STW

- 1.4.1 South Lantau is a highly scenic and natural area in HK with large size of densely vegetated hillside areas as Lantau South Country Park in the north and long stretch of beaches in the south. The topography of Lantau Island in the south rises from low flat plain to steep hilly terrain in the north. Most of the flat plains are occupied by village clusters. The availability of suitable size of land for treatment plants is limited.
- 1.4.2 For identification of suitable site of about 5,000 m² to 7000 m², a report namely "Evaluation Report on Treatment and Disposal Options" conducted by EPD in 2008 indicated that the Site is the best option for the proposed STW.
- 1.4.3 To facilitate the aim of minimum footprint and accommodate the design flow of 5,800 m³ / day, different biological treatment processes had been considered in early stage of the project. Membrane Bio-Reactor (MBR) is adopted for the sewage treatment process due to the least amount of land required and high treatment level provided for the anticipated flows to be treated at the STW. Therefore, the site is of an area of approximately 5,500 m²
- 1.4.4 The possible locations of sewage treatment works has been conducted with respect to the following primary principles:
- (a) Minimum land resumption process and costs
 - (b) Minimum engineering works on cutting and filling of major slopes
 - (c) Minimum environmental disruption and impacts to the environment on water, noise, air, ecology, archaeology, cultural heritage and landscape
 - (d) Minimum planning impacts and implications to the change of land use with due considerations on the planning intentions, land use, proximity to residential houses and future developments of the land
- 1.4.5 In formulating different feasible locations for the proposed STW, 4 locations in the vicinity of South Lantau were studied in the report. A plan showing the four studied locations is provided in **Figure 4**. The four studied locations, namely Option 1 to 4, were reviewed in respect of technical feasibility, public concerns, current zonings in OZP, accessibility and availability of land.
- 1.4.6 Option 1, which is adjoining to current Mui Wo STW, has sufficient land for accommodation of the proposed STW. From drainage, sewerage and structural points of view, it is feasible to construct the proposed STW at Option 1. However, Option 1 is situated far away from the catchment area between Pui O and Shui Hau. Hence, a long trunk sewerage system of about 13 km together with 8 additional sewage pumping stations was required to transfer sewage from South Lantau to Mui Wo. Highest risk of septicity and leakage problems will be arisen in long rising mains which cause high potential of odour problem at the sewage pumping station and lead to highest operation and maintenance requirement. In addition, village representatives did not support Option 1 since it would cause Mui Wo to take up sewage generated from South Lantau. This may inevitably increase the pollution load of Silvermine Bay. In this connection, Option 1 is not selected for the proposed STW.
- 1.4.7 Option 2 (i.e. the Site) located near Pui O and San Shek Wan has sufficient land for accommodation of the STW. From drainage, sewerage and structural point of view, it is feasible to construct the proposed STW at Option 2. As the site has been currently used by

CLP Power Hong Kong Limited as temporary depot, the area of site formation for construction of the STW can be minimized and therefore the possible impacts to the surrounding environment will be reduced. Moreover, it was located away from villages, residential and other sensitive areas with sufficient buffer zones so that there are negligible impacts to the villages. A copy of minutes recording that village representatives of San Shek Wan and Pui O San Wai and Pui O Lo Uk agreed with the selection of Option 2 is enclosed in **Annex A**. In view of the above, the Site is selected for the proposed STW.

- 1.4.8 Option 3, which is located at Ma Po Ping, has sufficient land for accommodation of the proposed STW. From drainage, sewerage and structural points of view, it is feasible to construct the proposed STW at Option 3. However, the discharge location is at about 0.9 km from the boundary of the Tong Fuk gazetted beach and at the outer part of Shui Hau Wan. There is also a horseshoe crab habitat at Shui Hau. As a result, there is a high risk of affecting the existing environment and habitat. Moreover, if this site is selected, an additional STW located in San Shek Wan is required in the sewerage system for proper collection and treatment of the sewage so as to reduce the risk of sewage septicity and odour problem. In this connection, Option 3 is not selected for the proposed STW.
- 1.4.9 Option 4, which located at Cheung Sha, has sufficient land for accommodation of the proposed STW. It is technically feasible for construction of the proposed STW. However, the proposed STW is close to villages and residential areas so that more mitigation measures including acoustic insulation, deodourizing facilities and landscaping works are required. If this site is selected, an additional STW located in Ma Po Ping is also required in the sewerage system for proper collection and treatment of the sewage so as to reduce the risk of sewage septicity and odour problem. Moreover, this area is lack of flexibility for further expansion and extension for site formation. In this connection, Option 4 is not selected for the proposed STW.
- 1.4.10 In view of the above, Option 2 (i.e. the Site) is considered as the optimum option in comparison with other options with due regard to various factors including land resumption, engineering works, environmental disruption and planning issues for the construction. Therefore Option 2 is the preferred option for construction of the proposed STW for proper treatment and disposal of sewage generated from South Lantau

2. Site Context

2.1 Location

- 2.1.1 The Site is situated in South Lantau, to the north of Pui O Wan and adjacent to the South Lantau Road. The location plan and site plan of the Site are shown in **Figures 1** and **2** respectively.

2.2 Existing Site Condition

- 2.2.1 The Site is of an area of approximately 5,500 m². The Site covers (i) the area currently used as a temporary depot by CLP Power Hong Kong Limited under a short term tenancy no. STT CX 1429 and (ii) a nature terrain at Pui O. Photos of the Site are shown in **Figure 5**.

2.3 Surrounding Land Uses

- 2.3.1 The surrounding areas are predominantly rural in character. To the northeast of the Site is Lo Uk Tsuen. To the south is Pui O Wan. To the further west is San Shek Wan. **Figure 1** and **Figure 6** shows the surrounding land uses of the Site.

2.4 Accessibility

- 2.4.1 The proposed STW abuts on the South Lantau Road, which leads to Tung Chung Road. Lockable gate at the STW will be opened to provide access to maintenance vehicles during the routine operation and maintenance.

2.5 Land Status

- 2.5.1 The Site is now a Government Land.

3. Planning Context

3.1 Statutory Plan

- 3.1.1 The Site covers an area of approximately 5,500 m². The Site is currently zoned “Coastal Protection Area” (“CPA”) on the Approved South Lantau Coast OZP No. S/SLC/19. The zoning of the Site and its surrounding area is shown at **Figure 7**. The planning intention of the “CPA” zone is *“to conserve, protect and retain the natural coastlines and the sensitive coastal natural environment, including attractive geological features, physical landform or area of high landscape, scenic or ecological value, with a minimum of built development. It is also intended to safeguard the beaches and their immediate hinterland and to prevent haphazard ribbon development along the South Lantau Coast. There is a general presumption against development in this zone. In general, only developments that are needed to support the conservation of the existing natural landscape or scenic quality of the area or are essential infrastructure projects with overriding public interest may be permitted.”*. An extract of the Schedule of Uses attached to the Notes for the OZP is at **Table 3.1**.
- 3.1.2 According to the Town Planning Board (TPB)’s *Definition of Terms/Broad Use Terms Used in Statutory Plans*, the proposed STW falls within the definition of “sewage treatment/screening plant”, which means “any place or premises where sewage and other liquid wastes are treated or screened before discharge.” According to the Notes attached to

the OZP, there is no provision for “sewage treatment/screening plant” under the “CPA” zone. To facilitate the implementation of the Project, amendment of the OZP is necessary.

**Table 3.1 – Schedule of Uses Attached to Notes for
Approved South Lantau Coast OZP
No. S/SLC/19 for “Coastal Protection Area”**

S/SLC/19

- 9 -

COASTAL PROTECTION AREA

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
Agricultural Use (other than Plant Nursery)	Barbecue Spot
Bathing Beach	Field Study/Education/Visitor Centre
Country Park*	Government Use
Nature Reserve	Holiday Camp
Nature Trail	House (Redevelopment only)
On-Farm Domestic Structure	Pier
Picnic Area	Public Convenience
Wild Animals Protection Area	Public Utility Installation
	Radar, Telecommunications Electronic Microwave Repeater, Television and/or Radar Transmitter Installation
	Tent Camping Ground
	Utility Installation for Private Project

* Country Park means a country park or special area as designated under the Country Parks Ordinance (Cap. 208). All uses and developments require consent from the Country and Marine Parks Authority and approval from the Town Planning Board is not required.

Planning Intention

This zone is intended to conserve, protect and retain the natural coastlines and the sensitive coastal natural environment, including attractive geological features, physical landform or area of high landscape, scenic or ecological value, with a minimum of built development. It is also intended to safeguard the beaches and their immediate hinterland and to prevent haphazard ribbon development along the South Lantau Coast.

There is a general presumption against development in this zone. In general, only developments that are needed to support the conservation of the existing natural landscape or scenic quality of the area or are essential infrastructure projects with overriding public interest may be permitted.

4. Details of Rezoning Proposal

4.1 Proposed Zoning

- 4.1.1 The Site of area about 5,500 m² is currently zoned “Coastal Protection Area” on the Approved South Lantau Coast OZP No. S/SLC/19.
- 4.1.2 On the OZP, it is proposed to rezone the Site (about 5,500 m²) at South Lantau Coast to “Other Specified Uses” (“OU”) annotated “Sewage Treatment Works” to make provision for the proposed STW associated with underground sewers. A comparison of the existing and proposed zonings on the OZP is shown in **Figure 8**.

5. Indicative Development Proposal

5.1 Indicative Master Layout Plan

- 5.1.1 To facilities the TPB’s consideration of the subject rezoning proposal, a schematic development proposal was prepared. The area of the Site is about 5,500 m². The Indicative Master Layout Plan (MLP) is shown in **Figure 9**.
- 5.1.2 The MLP, layout plans and sections for the proposed STW associated with underground sewers are shown in **Figures 9 to 14** and the indicative development schedule is shown in **Table 5.1**. The proposed STW consists of 2 above ground storeys and 1 underground storey. As shown in **Figures 11 and 12**, the at/above ground storeys accommodate sludge thickening & dewatering rooms, sludge transfer room, general office, chemical dosing room, air compressor room, control room, transformer room, dry goods and spare parts room, LV switch room, inlet pump room, preliminary treatment room, membrane maintenance room, deodorization room, shower and toilet room, etc. The proposed STW is bounded by the proposed boundary walls. The proposed STW will be fenced off by a 3 m high fence wall with a lockable gantry located in the western side for maintenance vehicle access. A 6 m width access road will be provided within the proposed STW at the ground floor. Routine operation works such as extraction of sludge (by-product of sewage treatment) to maintenance vehicles for disposal off site will be carried out within the proposed STW. The proposed STW will be accessed by maintenance vehicles via the South Lantau Road. The height of above ground structures of the proposed STW will be limited to about 14 m.

Table 5.1 – Indicative Development Schedule for the Proposed Sewage Treatment Works

Land Use	Units/Size
Total Site Area	5,500 m ²
Development Area (see Figure 9)	4,200 m ²
No. of Structure	2
No. of Storey (above ground)	2
No. of Storey (below ground)	1
Proposed Height of Structure	14 m (max.)
GFA (above ground)	5,400 m ²
GFA (underground)	2,200 m ²
Total GFA	7,600 m ²
Traffic Generation	2 vehicles/day (maintenance/operation vehicles)

- 5.1.3 As shown in **Figures 13** and **14**, the underground structures of the proposed STW accommodate permeate pump area, E.Q. tanks, anoxic tanks, aerobic tanks, Membrane Bio-reactor tanks, emergence tanks, sludge holding tank, outfall tank, reclaimed water tank, etc. The underground structures will be accessed by staircase within the above ground structures.

The sewage collected to the proposed STW will be properly treated by the technology namely “Membrane Bio-reactor” (N.B. a compact and advanced secondary treatment process that can warrant a high quality of effluent with a minimum footprint) up to the established standards stipulated in the Water Pollution Control Ordinance. The effluent will then be discharged to the outer bay of Pui O Wan/Chi Ma Wan through a submarine outfall. The submarine outfall as shown on **Figure 3** is outside the site.

- 5.1.4 Construction of the proposed STW is tentatively scheduled to be commenced in 2018 for completion in 2023.

5.2 Landscape Proposal

- 5.2.1 A tree survey was undertaken within the Site. The estimated numbers of trees affected as well as the range of tree diameter at breast height, the overall height and the dominant species of the trees within the site were recorded. Based on the results of tree survey, estimated approximately 200 trees with DBH range 20 – 50 cm and a height range of 5 – 8 m, are affected in the proposed sites. The dominant tree species are *Acacia confusa*, *Daphniphyllum calycinum*, *Mallotus paniculatus*, *Lophostemon confertus* and *Ficus hispida*. At detailed design stage, the Project will aim at avoiding tree felling as far as practicable, but if unavoidable, a tree felling application will be submitted to the relevant authorities for approval in accordance with the relevant guidelines/requirements. The loss of trees will be compensated at a ratio of 1:1 according to DEVB TC(W) No. 7/2015.

- 5.2.2 The landscape design has been carefully formulated with an aim mainly to:

- creating a landscape design commensurate with the specific site conditions and the proposed STW;
- ensuring the proposed STW will be blended/integrated with the surrounding areas; and
- minimising the visual impact of the proposed STW.

- 5.2.3 The Executive Summary of the South Lantau Sewerage Works Environmental Impact Assessment (EIA) is shown in **Annex B**. Section 3.7 of **Annex B** is on landscape and visual aspects. The specific details relevant to the proposed STW are given in Sections 6.1.1 – 6.1.4 below.

5.3 Environmental Considerations

- 5.3.1 An odour control system will be provided to ensure that potential air quality impact from the proposed STW on the surrounding areas is kept to the minimum and be complied with the established guidelines and standards. The exhaust air will be properly collected and treated with deodourizers prior to discharge into the atmosphere. The deodourizing systems includes a bio-trickling filter and a chemical scrubber respectively for the exhaust air from sewage treatment and sludge treatment. The ultimate goal is to achieve removal efficiency of at least 99.5%.

- 5.3.2 As the machines/equipment of the proposed STW will be housed in the completely enclosed rooms/buildings of the STW with suitable installation of noise remedies as appropriate, there will be no unacceptable noise impact during the operation of the proposed STW. Nevertheless, quieter equipment will be installed and noise emission points of the fixed plant equipment will be located away from the noise sensitive receivers as far as practicable.
- 5.3.3 Enhanced architectural features will be incorporated into the design of the STW with an aim to integrating the structures with the surrounding environment. For instance, light earthy tone colours such as shades of green, grey, brown and/or off-white will be used for external surfacing of the STW to reduce the visibility of the structures. To enhance the landscaping design, vertical planting, planting at grade and green roof will be provided at the STW. Indicative master layout plan for the proposed landscaping design is shown in **Figure 9**.

5.4 Drainage and Sewerage Proposal

- 5.4.1 A drainage system for the proposed STW within the Site will be properly designed and provided. The proposed stormwater drains from the STW will be properly connected to the nearby drainage system.
- 5.4.2 Sewage generated from the proposed STW together with sewage collected from South Lantau area will be properly treated by the proposed STW.

5.5 Utilities and Fire Services

Water Supply

- 5.5.1 Water supply for the proposed STW will be required for the following main operations:
- construction of the proposed STW;
 - plant operation (mixing of chemicals, cleansing of equipment, etc.); and
 - fire fighting facilities.
- 5.5.2 There are existing freshwater mains in 100 mm diameter along South Lantau Road in the vicinity of the Site. The adequacy of the existing water supply network will be checked with the Water Supplies Department (WSD) at the detailed design stage. Application for the water supply will be submitted to WSD during detailed design stage.
- 5.5.3 Some of the sewage treatment processes require fresh water supply, e.g. cooling of pumps, chemical mixing and distribution, etc. The actual water demand is subject to selection of equipment and will be determined at the detailed design stage. It is expected that the water demand will be minimal.

Electricity

- 5.5.4 For the electricity supply, the proposed STW would require two independent electrical feeders supply to the Site. This dual electrical supply is required for providing a robust power supply to the STW with duty and standby sources. In addition to providing power to the proposed electrical & mechanical equipment and control system of the STW, the electricity supply will support the operation of emergency lighting and other fire services installations within the STW. Power supply will be provided from electricity cables along South Lantau Road. The demand and connection of power cables will be designed and agreed with CLP Power Hong Kong Limited during detailed design stage.

Fire Services

- 5.5.5 Fire services requirements, including water supplies for fire fighting and fire services installations will be determined at the detailed design stage and provided to the satisfaction of the Director of Fire Services.

5.6 Other Technical Considerations

Site Formation

- 5.6.1 The proposed STW will be constructed with an excavated basin about 10 m below ground. One basement level will be constructed to accommodate the underground structures of the proposed STW. While construction of the basement is the major construction activity requiring special consideration, other works such as construction of superstructure, ancillary drainage and road works, etc. will follow the usual working methods.

Traffic

- 5.6.2 The proposed STW is located off the South Lantau Road and the construction works will not require major traffic diversion or affect any existing right-of-way. Traffic generation at construction stage will be temporary and limited to a small number of vehicles delivering plants and construction materials. Long-term traffic generation will be arisen from operation/maintenance vehicles with a frequency of about twice per day or less. In view of the limited traffic flow generation, it is anticipated that the traffic impact on South Lantau Road during both the construction and operation stages of the proposed STW is minimal.

6 Environmental Impact and technical assessments

6.1 Environmental Impact Assessment

At present, there is no public sewerage in South Lantau. Sewage from this unsewered area is now treated and disposed of by means of private on-site treatment facilities (such as septic tanks and soakaway systems). These facilities are however often ineffective in removing pollutants due to their proximity to watercourse and inadequate maintenance. Sewage from these unsewered areas has therefore been identified as a source of water pollution to the nearby watercourses as well as the receiving waters of Southern Water Control Zone. With provision of the proposed STW in South Lantau, sewage generated from this area will be properly collected, treated and disposed. The capacity of the STW will be designed to cope with the population growth and future development in the area. Discharge of low quality effluent to the receiving water body will be reduced. Therefore, the proposed STW will bring about improvement to the environment and hygiene of South Lantau.

According to the Environmental Impact Assessment Ordinance, an EIA has been conducted to evaluate the potential environmental impacts arisen during construction and operation of the Project. The executive summary of EIA is enclosed at **Annex B**.

The EIA study concludes that with incorporation of the recommended mitigation measures and the proper implementation of the EM&A programme, the project will not impose adverse impacts on the neighbouring environment during construction and operational phases. The major findings and recommendations related to the proposed STW is summarised below.

Landscape and Visual Impact

- 6.1.1 The potential impacts to the landscape and visual sensitive receivers caused by the presence of the STW have been assessed in EIA Report. Based on the results of tree survey, estimated approximately 200 trees with DBH range 20 – 50 cm and a height range of 5 – 8 m, are affected in the proposed sites. The dominant tree species are *Acacia confusa*, *Daphniphyllum calycinum*, *Mallotus paniculatus*, *Lophostemon confertus* and *Ficus hispida*. Moreover, there are no Old and Valuable Tree (OVT) or potential OVT identified on site at this stage. The impacts have been identified and analysed to be in compliance with the criteria and guidelines stated in the EIAO TM Annexes 10 and 18 respectively.
- 6.1.2 The assessment has covered a wide range of potential landscape impacts including the alteration of the landscape caused by the introduction of the STW in the rural landscape and the impacts on existing and planned sensitive receivers during construction and operation of the STW. Besides mitigation measures for protection, preservation, transplantation and compensation of any felled trees, other landscape and visual mitigation measures are proposed including reuse of top soil, detailed design considerations to reduce landscape footprint and blend visibility of structures with the surrounding environment. Vertical greening and green roof and light control are also recommended as mitigation measures to minimize visual impacts and enhance overall greenery provision. At detailed design stage, the Project will aim at avoiding tree felling as far as practicable, but if unavoidable, a tree felling application will be submitted to the relevant authorities for approval in accordance with the relevant guidelines/requirements. The loss of trees will be compensated at a ratio of 1:1 according to DEVB TC(W) No. 7/2015.

6.1.3 With implementation of these appropriate mitigation measures, the residual landscape impacts are considered to be insignificant by year 10 of operation when all soft landscaping has reached maturity. The residual visual impacts are considered to be slight at worst by year 10 of operation. Details of the landscape and visual impact assessment extracted from the South Lantau Sewerage Works EIA report is enclosed in **Annex C**.

6.1.4 Following consideration of the low user numbers in these areas and the analysis of the residual impacts, the overall landscape and visual impact is assessed as acceptable with mitigation.

Air Quality Impact

6.1.5 The potential impacts to air quality caused by construction and operational activities of this STW have been assessed in EIA Report. The impacts have been identified and analysed to be in compliance with the criteria and guidelines stated in the EIAO TM Annexes 4 and 12 respectively.

6.1.6 Air Sensitive Receivers (ASRs) were identified and the potential impacts arising from the construction and operation phases of the STW to the ASRs have been evaluated.

6.1.7 With the implementation of standard mitigation measures, no adverse impact associated with potential dust nuisance from dust generating activities is anticipated during the construction phase. Gaseous emissions from the construction plant are also minimal and no adverse impact to the ASRs is anticipated.

6.1.8 Potential odour impacts from the operation of the San Shek Wan STW have been assessed. With the proper implementation of the proposed plant design, provision of adequate ventilation and appropriate deodorization systems, the predicted 5-second odour levels would comply with odour criterion stipulated in the EIAO-TM at all the identified ASRs and within the assessment area of the Project. Hence, no unacceptable air quality impact is expected to arise during operation phase.

Noise Impact

6.1.9 The potential impacts of noise caused by construction and operational activities of this Project have been assessed in EIA Report. The impacts have been identified and analysed to be in compliance with the criteria and guidelines stated in the EIAO TM Annexes 5 and 13 respectively.

6.1.10 Noise Sensitive Receivers (NSRs) were identified and the potential impacts arising from the construction and operation phases of the Project to the NSRs have been evaluated.

6.1.11 Potential noise impacts arising from the construction and operation phases have been evaluated and it was considered that potential noise impacts arising from the Project are expected to be acceptable with the implementation of recommended mitigation measures.

Ecological Impact

6.1.12 The potential impacts to ecology caused by construction and operational activities of this Project have been assessed in EIA Report. The impacts have been identified and analysed to

be in compliance with the criteria and guidelines stated in the EIAO TM Annexes 8 and 16 respectively.

- 6.1.13 During the construction phase, construction activities may cause direct ecological impacts including habitat loss and vegetation removal, whereas indirect impacts on wildlife may include disturbances and changes in water quality. Loss of habitats is expected to occur in habitats of low and low to moderate ecological values, and mixed woodland of moderate ecological value will be lost due to the construction of the San Shek Wan STW and the associated access roads. Impact to mixed woodland and associated flora of conservation importance (the Incense Tree *Aquilaria sinensis*) will be compensated by woodland compensation and transplantation, respectively.
- 6.1.14 Potential impacts of increased human activities and other disturbances due to the Project construction would not be significant given regular checks on construction site practices and boundaries will be conducted. In addition, in view of the availability of surrounding similar habitats, the potential impact on wildlife especially on the species of conservation importance as a result of habitat fragmentation and isolation is considered to be minimal.
- 6.1.15 Mitigation measures will be set out to reduce ecological impacts, such as avoidance, woodland compensation and transplanting, regular checks in construction site practices and boundaries, which will reduce potential disturbance to the surrounding environment. With the implementation of the proposed mitigation measures, no adverse residual impact due to the construction of the STW is anticipated.

Water Quality Impact

- 6.1.16 The potential impacts to water quality caused by construction and operational activities have been assessed in EIA Report. The impacts have been identified and analysed to be in compliance with the criteria and guidelines stated in the EIAO TM Annexes 6 and 14 respectively.
- 6.1.17 Sensitive receivers potentially affected by construction and operational activities of the STW have been identified and the potential impacts have been evaluated. The key sensitive receivers include the commercial fisheries spawning and nursery habitats, ecologically sensitive areas, gazetted beaches and water intakes. The assessment, utilising water quality and hydrodynamic models, has examined the potential impacts caused by operational activities including the discharge of treated effluent.
- 6.1.18 The use of secondary (biological) treatment with Membrane Bio-reactor (MBR) at San Shek Wan STW is warranted to maintain superior effluent quality from the STW for the protection of water quality sensitive receivers and beneficial uses in the Southern Water Control Zone. Therefore, unacceptable adverse water quality impact associated with the STW's normal operation is not envisaged.

Fisheries Impact

- 6.1.19 The potential impacts to commercial fisheries caused by construction and operational activities of this STW have been assessed in EIA Report. The impacts have been identified and analysed to be in compliance with the criteria and guidelines stated in the EIAO TM Annexes 9 and 17 respectively.

- 6.1.20 Fisheries sensitive receivers have been identified and the key sensitive receivers include the recognised spawning and nursery areas of commercial fisheries resources in South Lantau. Findings of the desktop review of baseline conditions of commercial fisheries resources and fishing operations suggest that the Project Area is of low importance to the Hong Kong fishing industry.
- 6.1.21 Potential impacts of treated effluent and emergency sewage discharge from the operation of the proposed STW have been assessed. Effluent discharged from the STW will comply with the relevant statutory standards and requirements. In case of emergency discharge of untreated sewage, the potential water quality changes were predicted to occur only for a very short period and localised to the proximity of the discharge locations, and would return to the levels under normal operations within 1 - 2 days and to WQO levels within 12 hours, unacceptable adverse impacts to fisheries in the long term are not anticipated. Thus, no unacceptable fisheries impacts are expected to arise from project operation.
- 6.1.22 No fisheries-specific mitigation measures are required during construction or operation activities as impacts to the fisheries resources and fishing operations are small and of short duration.

Waste Management

- 6.1.23 The potential impacts to waste management caused by construction and operational activities of this STW have been assessed in EIA Report. The impacts have been identified and analysed to be in compliance with the criteria and guidelines stated in the EIAO TM Annexes 7 and 15 respectively.
- 6.1.24 The key potential impacts during the construction phase are related to wastes generated from site formation, excavation and construction. The storage, handling, collection, transport, disposal and/or re-utilisation of these materials and their associated environmental impacts have been the primary focus of the assessment.
- 6.1.25 Potential impacts as a result of the waste produced during the construction and operation phase have been reduced to an acceptable level through the adoption of specific mitigation measures and in particular through the establishment and implementation of a Waste Management Plan (WMP), which becomes part of the Environmental Management Plan according to the requirements as stipulated in ETWB TC(W) No. 19/2005.

6.2 Drainage Impact Assessment

- 6.2.1 A Drainage Impact Assessment (DIA) has been conducted for the Project at the Site.
- 6.2.2 Some site formation works are required for the construction of STW, which would slightly increase the surface runoff. However, the increased amount of runoff is considered insignificant due to the small area of site formation. Nevertheless, proper permanent drainage system will be provided to ensure that the surface runoff will be adequately discharged to the existing drainage system.
- 6.2.3 Measures to prevent the erosion and sediment transportation to downstream drainage system are required during construction. Appropriate provisions will be incorporated into the works contract to require the contractor to take appropriate measures so as to ensure that the

existing drainage system around the Site will not be blocked and the performance of the drainage system can be maintained.

- 6.2.4 Temporary drainage systems will be provided if necessary during the construction stage. Temporary diversion of the flow path will be carried out within dry season as far as practicable. DSD Technical Note No. 14/2000 will be adhered to in case temporary flow diversions and temporary works affecting the capacity of existing drainage system are required during construction.
- 6.2.5 In conclusion, the flood level return period of the existing drainage system remains unchanged. As such, no significant drainage impact is anticipated on the existing drainage system.

6.3 Water Supply Assessment

- 6.3.1 The requirements of water supply for the proposed STW were discussed in **Section 5.5**. The water demand of the STW is expected to be minimal when compared with that for fire services and will not affect the overall fresh water demand. Moreover, part of the effluent from the proposed STW will be reclaimed for reuse in irrigation, toilet flushing, cleansing of equipment, etc. within the STW. As a result, the proposed STW is not expected to cause impact on water supply. Nonetheless, the adequacy of the existing water supply network will be checked with the WSD at the detailed design stage. Application for the water supply will be submitted to WSD for approval during detailed design stage.

6.4 Site Formation Assessment

- 6.4.1 The proposed STW consists of basement at level of about +42 mPD (N.B. the basement will enable accommodating the major/massive equipment underground so as to minimize the height of the superstructures as far as practicable) while the existing site is at a level of about +50 mPD. Therefore, excavated for the site formation works will be required. The construction of basement is the major site activity and will require special consideration. If needed, retaining walls will be properly designed and constructed. The selection of excavation approach will be further determined at the detailed design stage.
- 6.4.2 Based on the results of the ground investigation works carried out, the subsoil profile of the Site comprises a layer (up to about 20 m thick) of residual soil, underlain by moderately decomposed Tuff (Grade III rock) down to about 30 m depth from the surface. In view of the presence of sound rock in depth, the excavation would not cause instability of the site or surrounding environment. Nevertheless, appropriate provisions will be incorporated into the works contract to require the contractor to closely monitor the adjacent ground and implement precautionary measures to avoid unacceptable ground movement as appropriate.

6.5 Traffic Impact Assessment

- 6.5.1 Traffic Impact Assessment (TIA) has been conducted to estimate the likely traffic flow generated by the Project and to forecast the background traffic flow in order to address the potential traffic impacts arising from the Project during the construction and operation stages.
- 6.5.2 Routine operation of the proposed STW will be maintained by an automatic control system. Sludge produced from the treatment process will be disposal off site by maintenance vehicles at a frequency of twice per day or less. As such, the traffic impact generated by the

proposed STW will be minimal. It is estimated that the no. of construction vehicles generated will be about 1 truck/hr for the proposed STW.

- 6.5.3 Traffic calculation has been computed according to Transport Planning & Design Manual. The results of assessments indicated the traffic impact is insignificant and all of the critical junctions will be operating within their capacity.
- 6.5.4 During construction, the contractor will be required to propose detailed Temporary Traffic Arrangement (TTA) for agreement with the relevant authorities prior to commencement of the works. A Transport Management and Liaison Group will also be established to oversee the implementation and effectiveness of the TTA with a view to ensuring the proposed works will not cause adverse traffic impact in this area.

7. Public Consultation

- 7.1.1 The Islands District Council, Rural Committee and the relevant villages have been consulted for the Project and the proposed STW. A summary of the consultations relevant to the proposed STW is shown in **Table 7.1**. Copies of the minutes of meetings of the consultations are enclosed in **Annex A**.

Table 7.1 – Summary of the Public Consultations

Relevant Party	Date of Consultation
Islands District Council	18 July 2011
South Lantau Rural Committee	3 August 2010
San Shek Wan	6 September 2010
Pui O San Wai and Pui O Lo Uk	1 September 2010

- 7.1.2 In summary, the Islands District Council, Rural Committee and the relevant villages support the implementation of the Project and the proposed STW.

8. Justifications

8.1 Improvement to the Environment and Hygiene Condition of South Lantau

- 8.1.1 At present, domestic sewage generated from South Lantau were directly discharged into watercourses after treatment by septic tanks and soakaway systems in village houses. The facilities are often ineffective in removing pollutants due to their close proximity to watercourse and inadequate maintenance. Sewage from this unsewered area has therefore been identified as a source of water pollution to the nearby watercourses as well as the receiving waters of Southern Water Control Zone. The proposed STW and the associated sewerage works will provide proper collection, treatment and disposal of sewage generated from this unsewered area. Upon completion of the sewerage system, the existing development will be requested to connect to the sewer for proper collection and conveyance. Therefore, the proposed works will bring about improvement to the living quality of South Lantau and the hygiene conditions of the community at large.

8.2 Availability of Land and Site Selection Criteria

- 8.2.1 The Site is the most preferred site having due regard to the engineering feasibility, environmental impact, public aspiration, etc. as mentioned in Section 1.4 above. The Site is a Government land which is temporary allocated to CLP Power Hong Kong Limited as a maintenance depot under the Short Term Tenancy STT CX1429. According to the tenancy, the government can give three-month notice in advance for termination of the tenancy and reverting the land to the government. In this regard, we have liaised with District Lands Office/Islands of Lands Department and the land acquisition process is underway. We have also informed CLP Power Hong Kong Limited for such arrangement.

8.3 Minimum Disruption to Existing/Planned Uses

- 8.3.1 The Site has been partly allocated to CLP Power Hong Kong Limited for use as a temporary maintenance depot. Therefore, the Site is partly located on the disturbed area and rezoning the Site for use of the proposed STW will have minimal disruption to the existing land use. The Site is at a certain distance from the existing/planned village houses and the possible impact to the adjoining existing/planned village houses will be minimal.

8.4 Compatible with Surrounding Land Uses

- 8.4.1 The surrounding areas of the Site are slope terrains and South Lantau Road. The proposed STW, which is a compacted 2-storey building, is considered not incompatible with the surrounding land uses and rural character. To enhance the compatibility of the proposed STW with the trees on the existing slope terrains, the STW will be designed with enhanced architectural features to blend it with the surrounding environment. Also, green/soft landscape features such as green roof, planting at grade, etc. will be provided in the STW.

8.5 Insignificant Visual and Landscape Impact

- 8.5.1 As discussed in Section 6.1 above, mitigation measures for protection, preservation, transplantation and compensation of any felled trees, other landscape and visual mitigation measures are proposed including reuse of top soil, detailed design considerations to reduce landscape footprint and blend visibility of structures with the surrounding environment. Vertical greening and green roof and light control are also recommended as mitigation measures to minimize visual impacts and enhance overall greenery provision.
- 8.5.2 With implementation of these appropriate mitigation measures, the residual landscape impacts are considered to be insignificant by year 10 of operation when all soft landscaping has reached maturity. The residual visual impacts are considered to be slight at worst by year 10 of operation. Therefore landscape and visual impacts are considered to be acceptable with mitigation measures.

8.6 No Insurmountable Environmental Impacts

- 8.6.1 The proposed rezoning is to facilitate the development of the proposed STW. The possible environmental concerns would therefore mainly on the possible noise and air impacts arisen from the proposed STW.
- 8.6.2 With implementation of appropriate mitigation measures including installation of deodorizing systems for exhaust air from the STW, housing the equipment/machinery in the completely enclosed rooms/buildings with suitable installation of noise remedies as appropriate, the environmental impacts will be minimal and there will be no insurmountable environmental impacts.

8.7 Insignificant Traffic Impact

- 8.7.1 The proposed STW is located off the South Lantau Road and the construction works will not require major traffic diversion or affect any existing right-of-way. Traffic generation at construction stage will be temporary and limited to a small number of vehicles delivering plants and construction materials. Long-term traffic generation will be arisen from operation/maintenance vehicles with a frequency of about twice per day or less. In view of the limited traffic flow generation, it is anticipated that the traffic impact on South Lantau Road during both the construction and operation stages of the proposed STW is minimal.

8.8 Insignificant Drainage Impact

- 8.8.1 As discussed in Section 6.2 above, the increased amount of surface runoff due to site formation works for the STW is considered insignificant due to the small area of site formation. Nevertheless, proper permanent drainage system will be provided to ensure that the surface runoff will be adequately discharged to the existing drainage system. Also,

appropriate provisions will be incorporated into the works contract to require the contractor to take appropriate measures so as to ensure that the existing drainage system around the Site will not be blocked and the performance of the drainage system can be maintained. In view of the above, no adverse drainage impact is anticipated.

8.9 Insignificant Water Supply Impact

- 8.9.1 As discussed in Section 6.3 above, the water demand of the STW is expected to be minimal and will not affect the overall fresh water demand. Moreover, part of the effluent from the proposed STW will be reclaimed for reuse in irrigation, toilet flushing, cleansing of equipment, etc. within the STW. As such, the water supply impact is considered insignificant.

8.10 No Insurmountable Site Formation Issues

- 8.10.1 As mentioned in Section 6.4 above, the excavation for site formation of the proposed STW will not cause instability of the Site or surrounding environment. Nevertheless, appropriate provisions will be incorporated into the works contract to require the contractor to closely monitor the adjacent ground and implement precautionary measures to avoid unacceptable ground movement as appropriate. No insurmountable site formation issue is expected.

8.11 Supported by the Local Community

- 8.11.1 The proposed STW at the Site is supported by the local community through public consultation with the Islands District Council, Rural Committee and the relevant villages.

8.12 Better Utilization of Scarce Land Resources

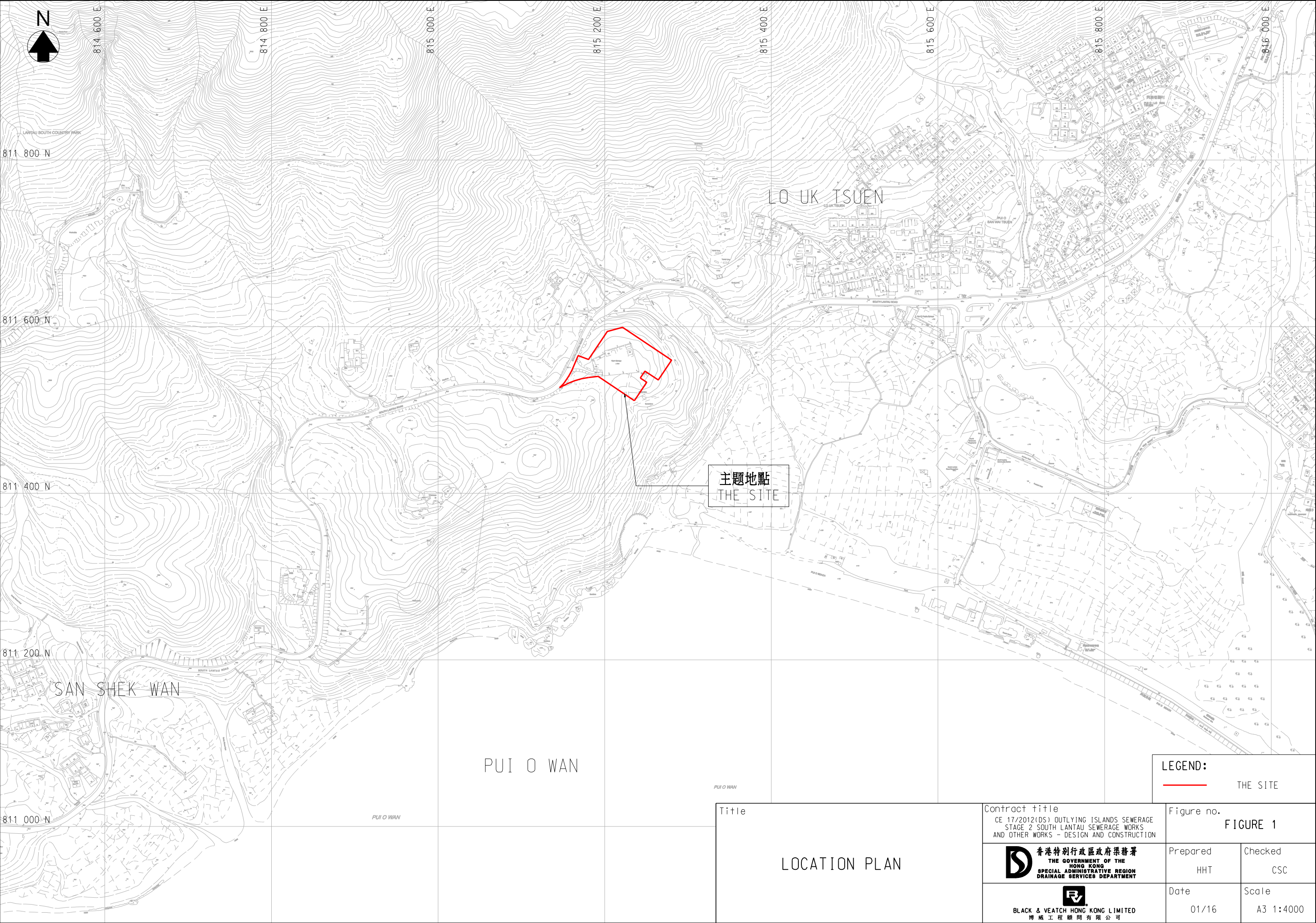
- 8.12.1 The proposed STW is located at disturbed land currently being temporarily used by CLP Power Hong Kong Limited as maintenance depot and nature slopes which are all outside developed/village areas or areas with potential development in South Lantau. Hence, the proposed rezoning will not undermine the utilization of limited land resources.

9. Conclusion and Recommendation

- 9.1.1 The Site is the preferred site for the development of the proposed STW. With the provision of the proposed STW, sewage generated from South Lantau will be properly collected, treated and disposed. This will reduce the water pollution problem in South Lantau, and bring about improvement to the surrounding environment and the sanitary conditions in the area.
- 9.1.2 Based on the information given above, the Board is suggested to give favourable consideration and amend the OZP as proposed to facilitate the construction of the proposed STW at the Site.

END OF TEXT


Figures

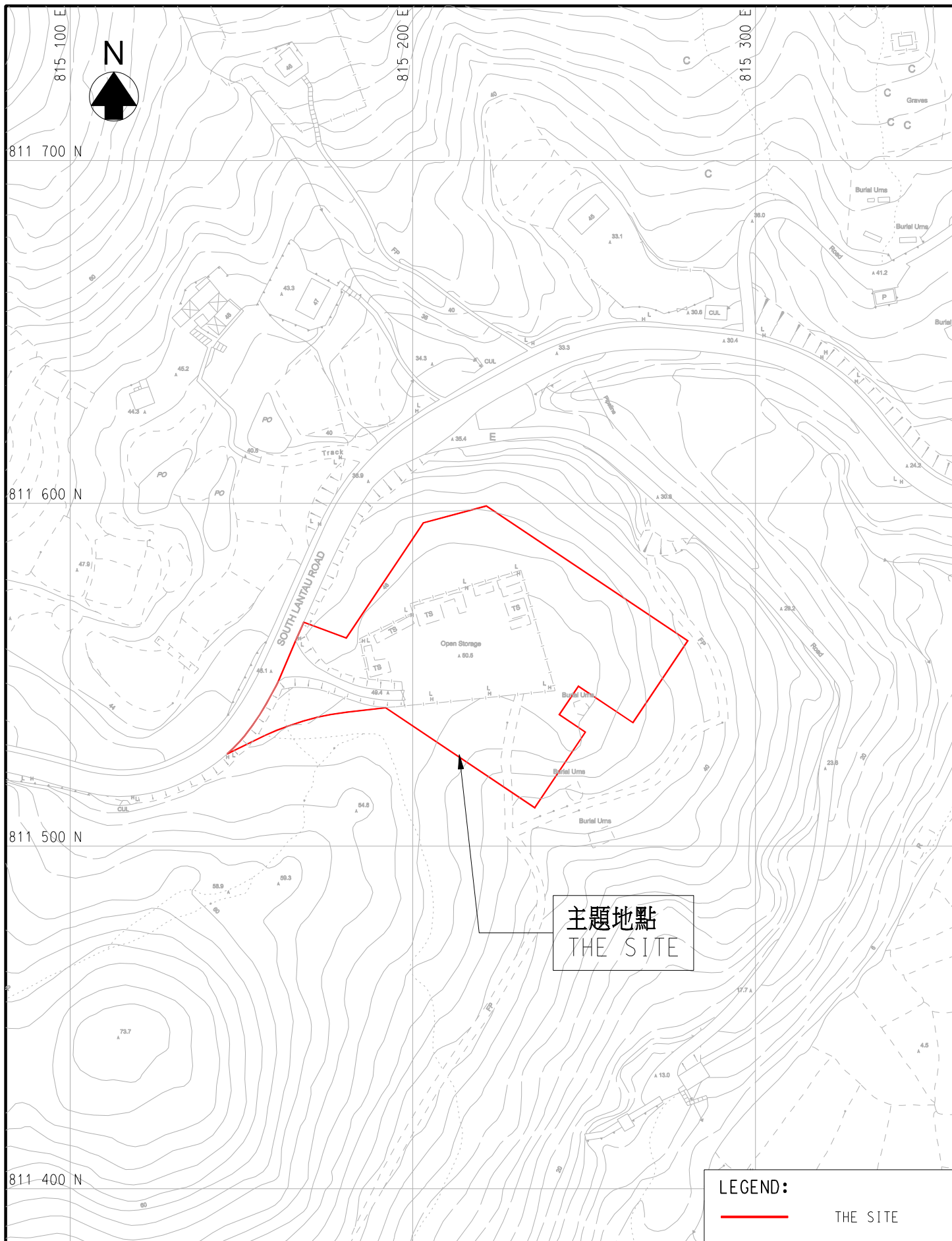


Title

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HONG KONG
SPECIAL ADMINISTRATIVE REGION
DRAINAGE SERVICES DEPARTMENT

 BLACK & VEATCH HONG KONG LIMITED
博威工程顧問有限公司

LEGEND:
 THE SITE



Drawing Title

SITE PLAN

Contract Title

離島污水收集系統第2階段
南大嶼山污水收集系統工程及其餘工程—設計及建造
OUTLYING ISLAND SEWERAGE STAGE 2 SOUTH LANTAU SEWERAGE
WORKS AND OTHER WORKS DESIGN AND CONSTRUCTION



香港特別行政區政府渠務署
THE GOVERNMENT OF THE
HONG KONG
SPECIAL ADMINISTRATIVE REGION
DRAINAGE SERVICES DEPARTMENT



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Figure no.

FIGURE 2

Prepared

HHT

Checked

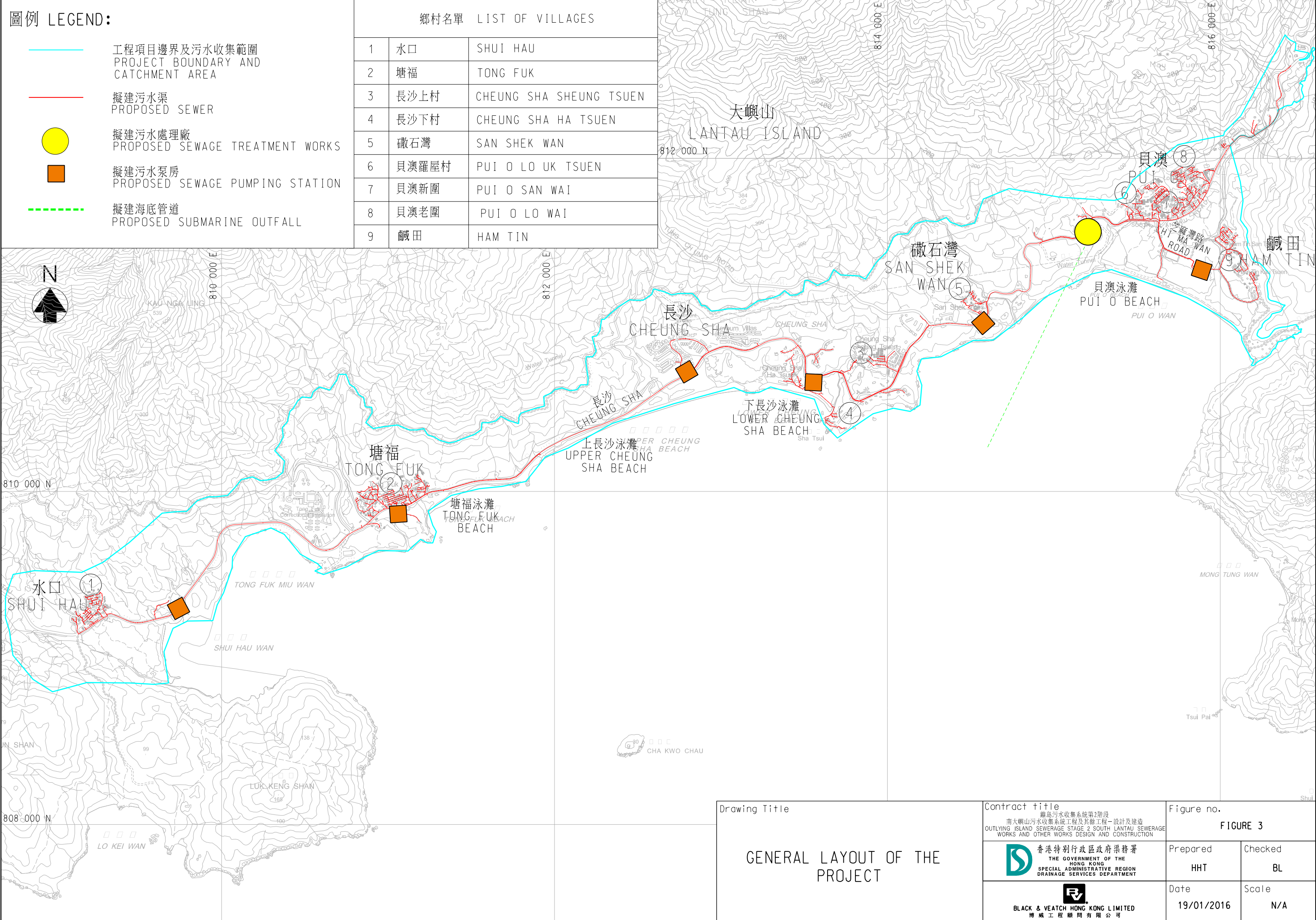
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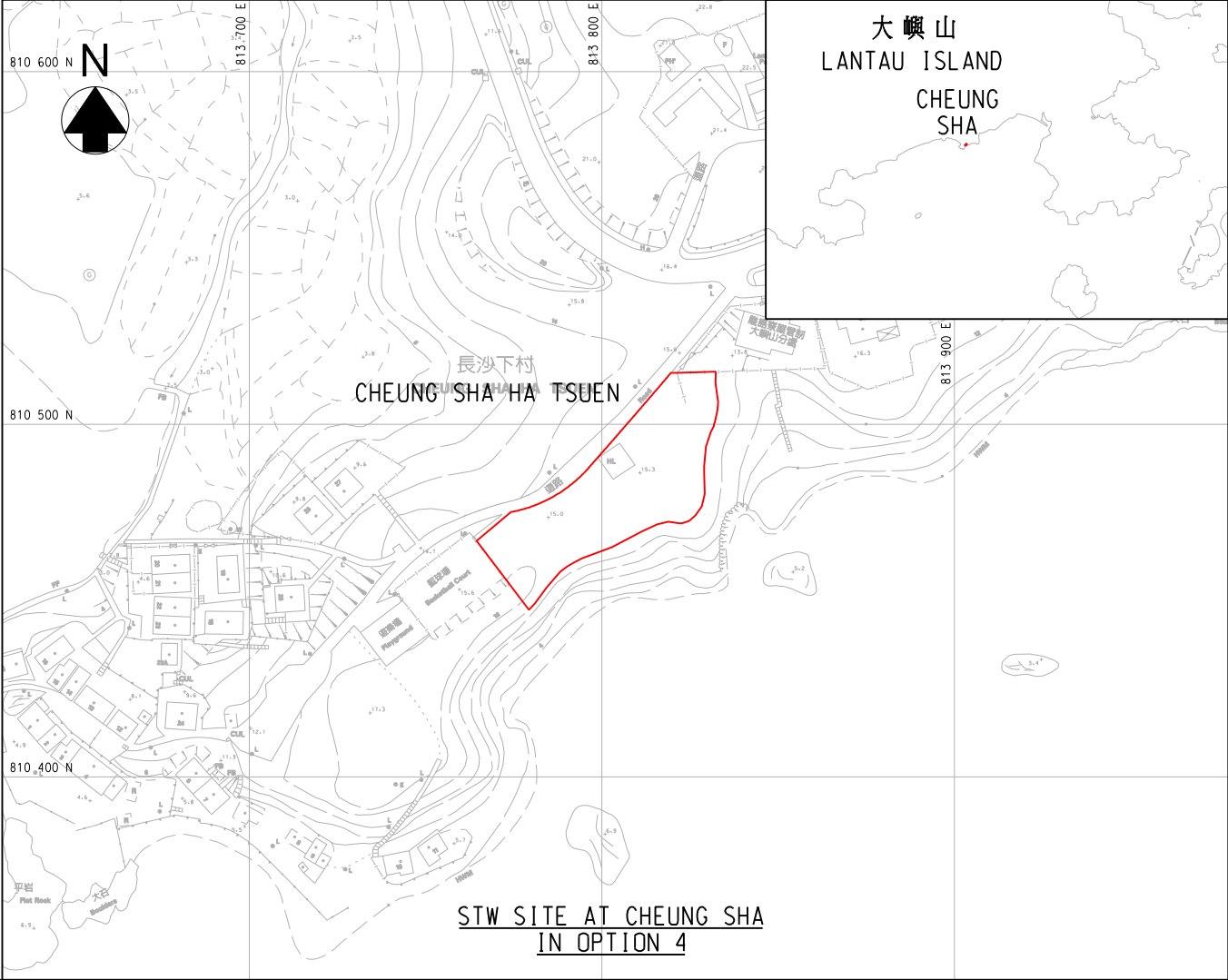
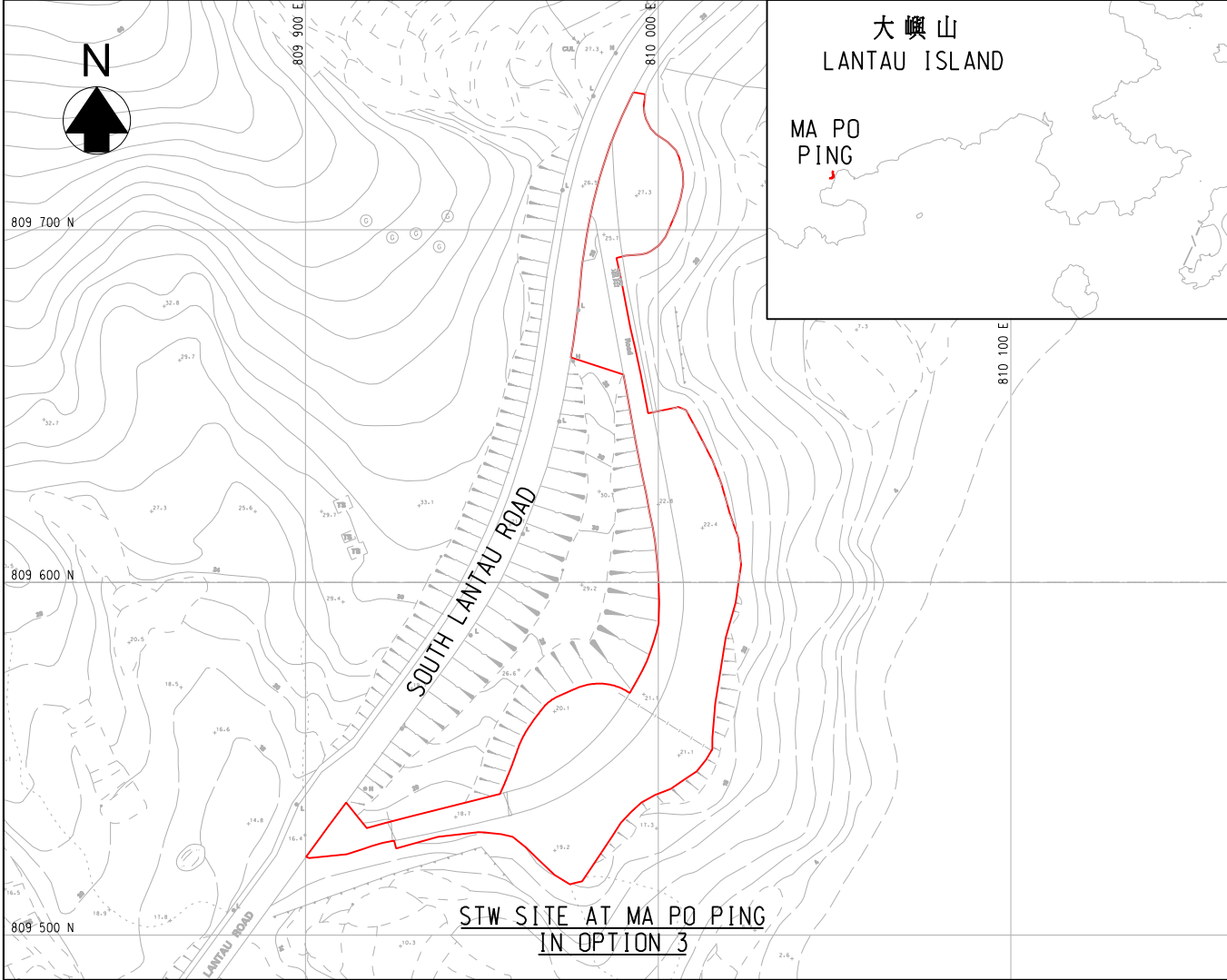
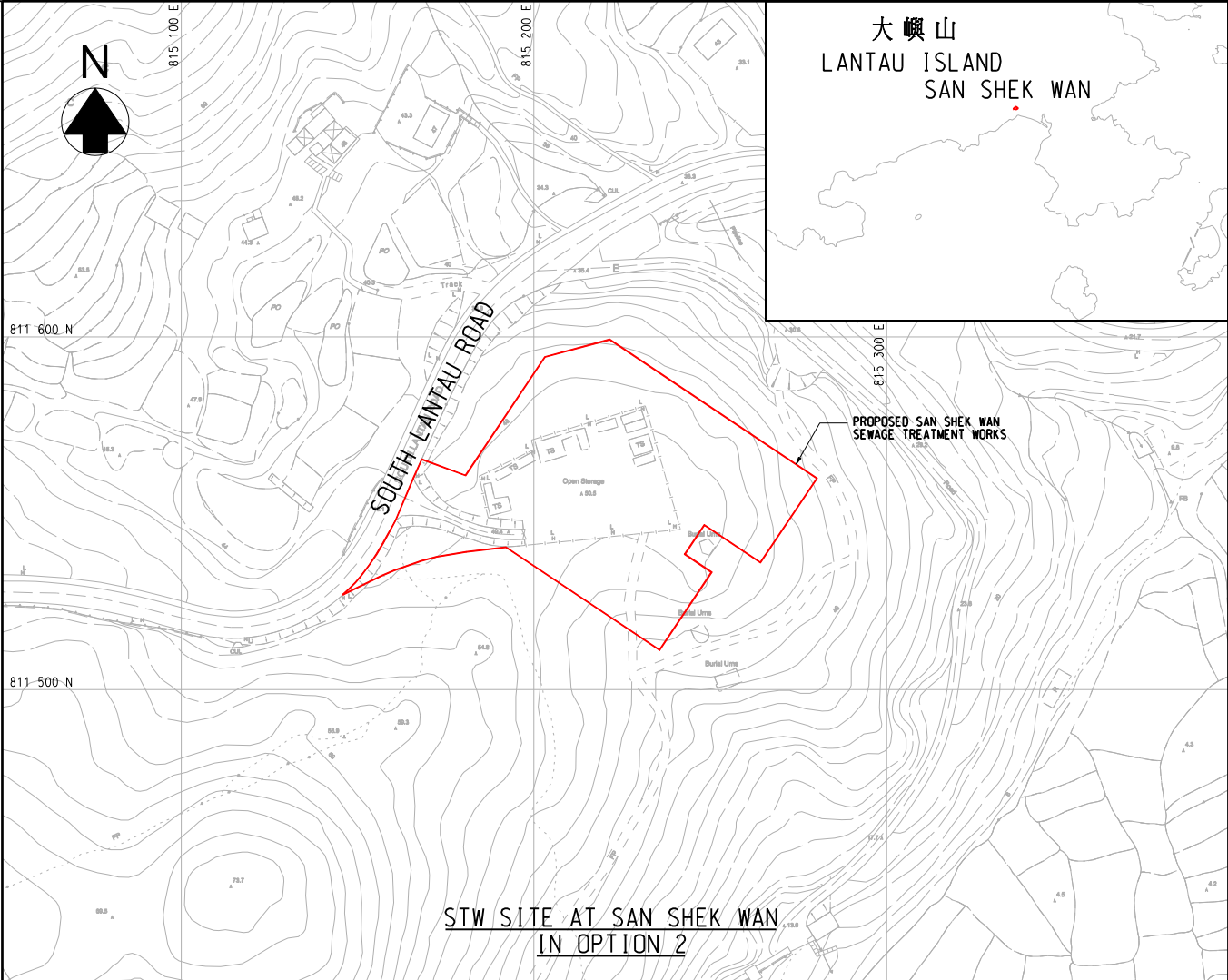
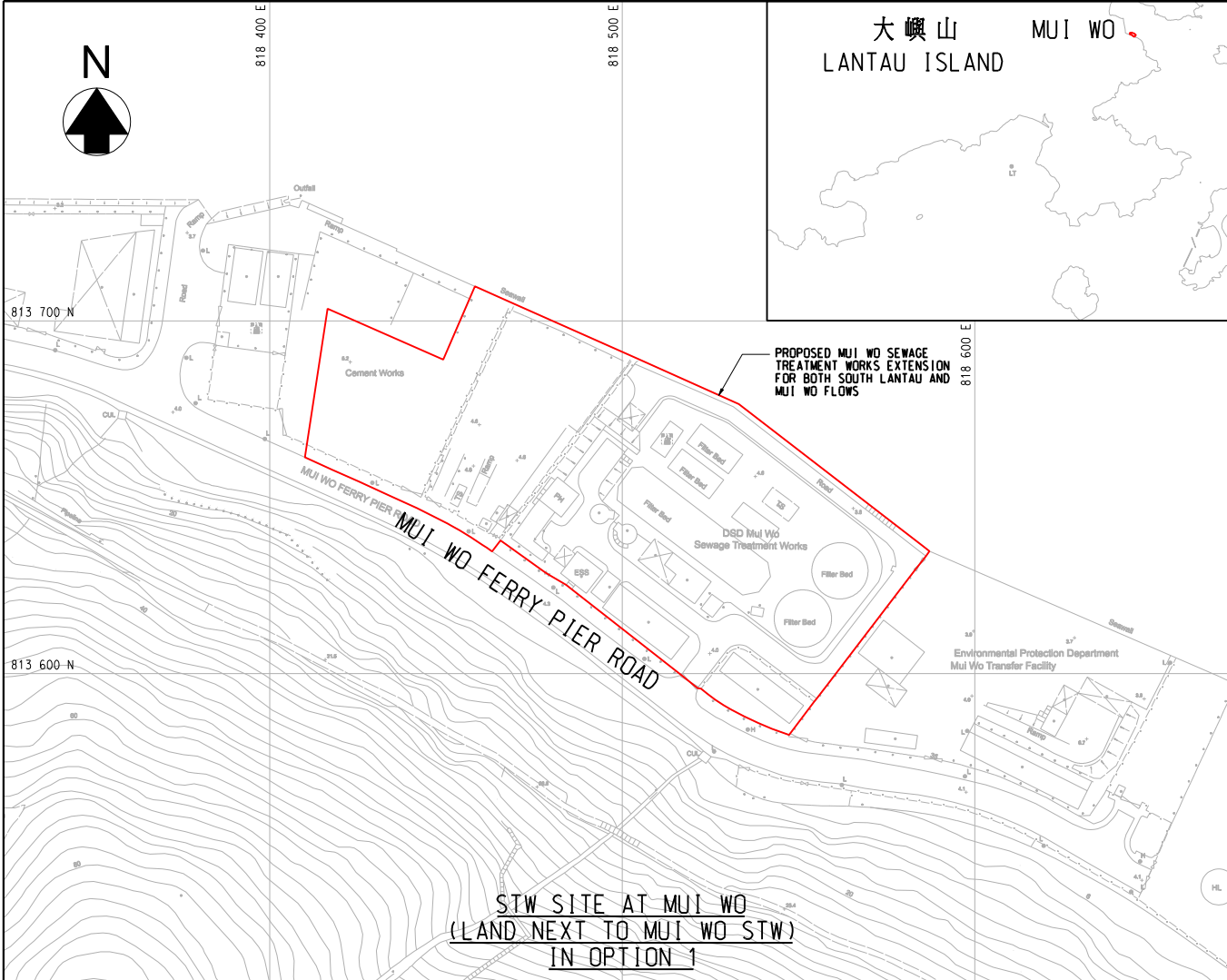
Date

01/16

Scale

A4 1:1500





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LEGENDS:

BOUNDARY OF STW

Revision	Date	Description	Initial	
	Designed	Checked	Drawn	Checked
Initial	HHT	BL	SZ	CSC
Date	JAN2016	JAN2016	JAN2016	JAN2016
Approved				

PRELIMINARY

Contract no.
CE 17/2012 (DS)

Contract title
OUTLYING ISLANDS SEWERAGE STAGE 2
SOUTH LANTAU SEWERAGE WORKS
AND OTHER WORKS –
DESIGN AND CONSTRUCTION

Drawing title
POTENTIAL SITES FOR
SEWAGE TREATMENT WORKS

Drawing no.
FIGURE 4

Revision
–

Scale
1 : 1000

香港特別行政區政府渠務署
THE GOVERNMENT OF THE
HONG KONG
SPECIAL ADMINISTRATIVE REGION
DRAINAGE SERVICES DEPARTMENT



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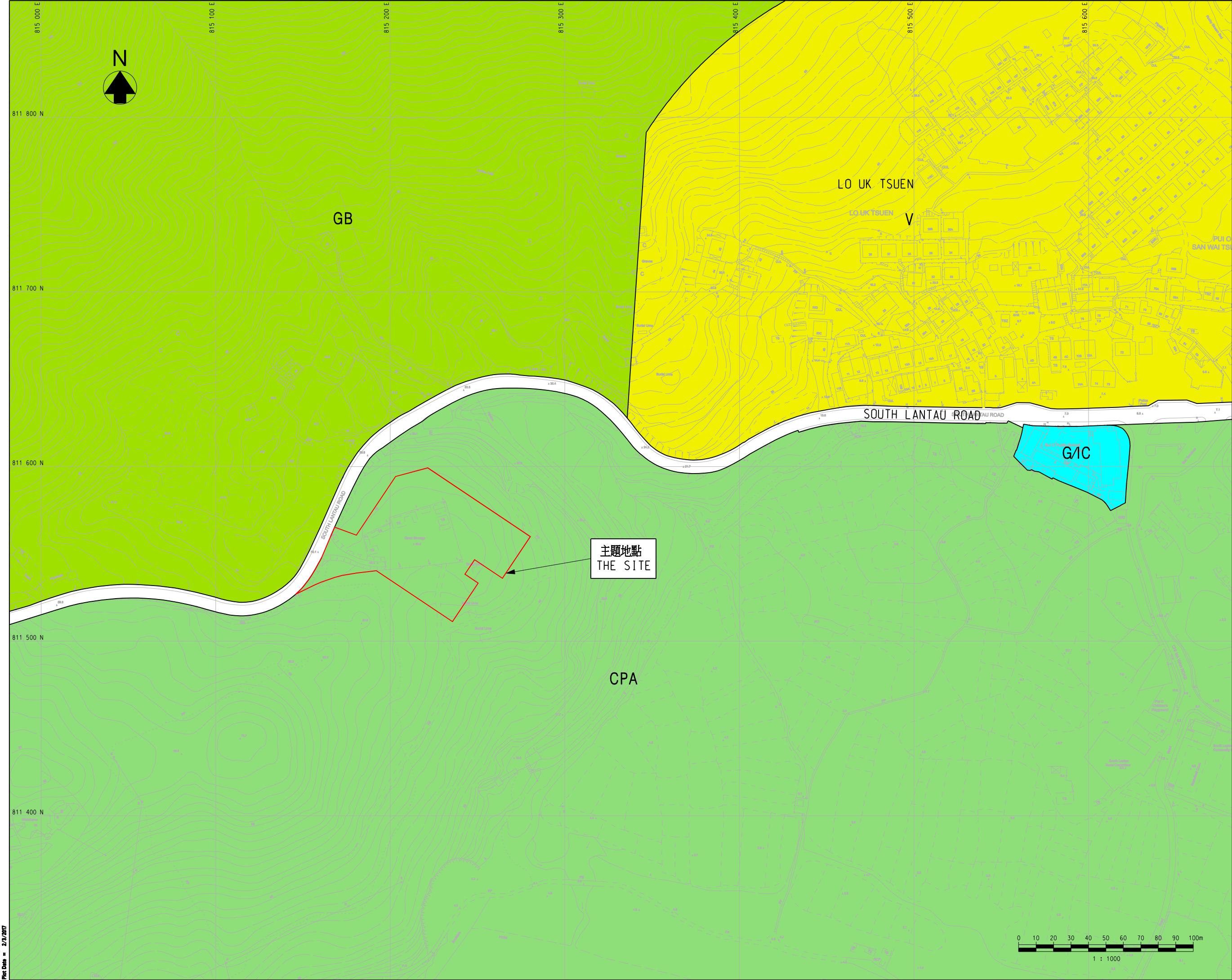


主題地點
THE SITE



(1)



Drawing Title PHOTOS SHOWING THE EXISTING SITE CONDITIONS AND LAND USE	Contract title 離島污水收集系統第2階段 南大嶼山污水收集系統工程及其餘工程－設計及建造 OUTLYING ISLAND SEWERAGE STAGE 2 SOUTH LANTAU SEWERAGE WORKS AND OTHER WORKS DESIGN AND CONSTRUCTION		Figure no. FIGURE 5	
	 香港特別行政區政府渠務署 THE GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION DRAINAGE SERVICES DEPARTMENT		Prepared HHT	Checked BL
	 BLACK & VEATCH HONG KONG LIMITED 博威工程顧問有限公司		Date 01/16	Scale N.T.S.

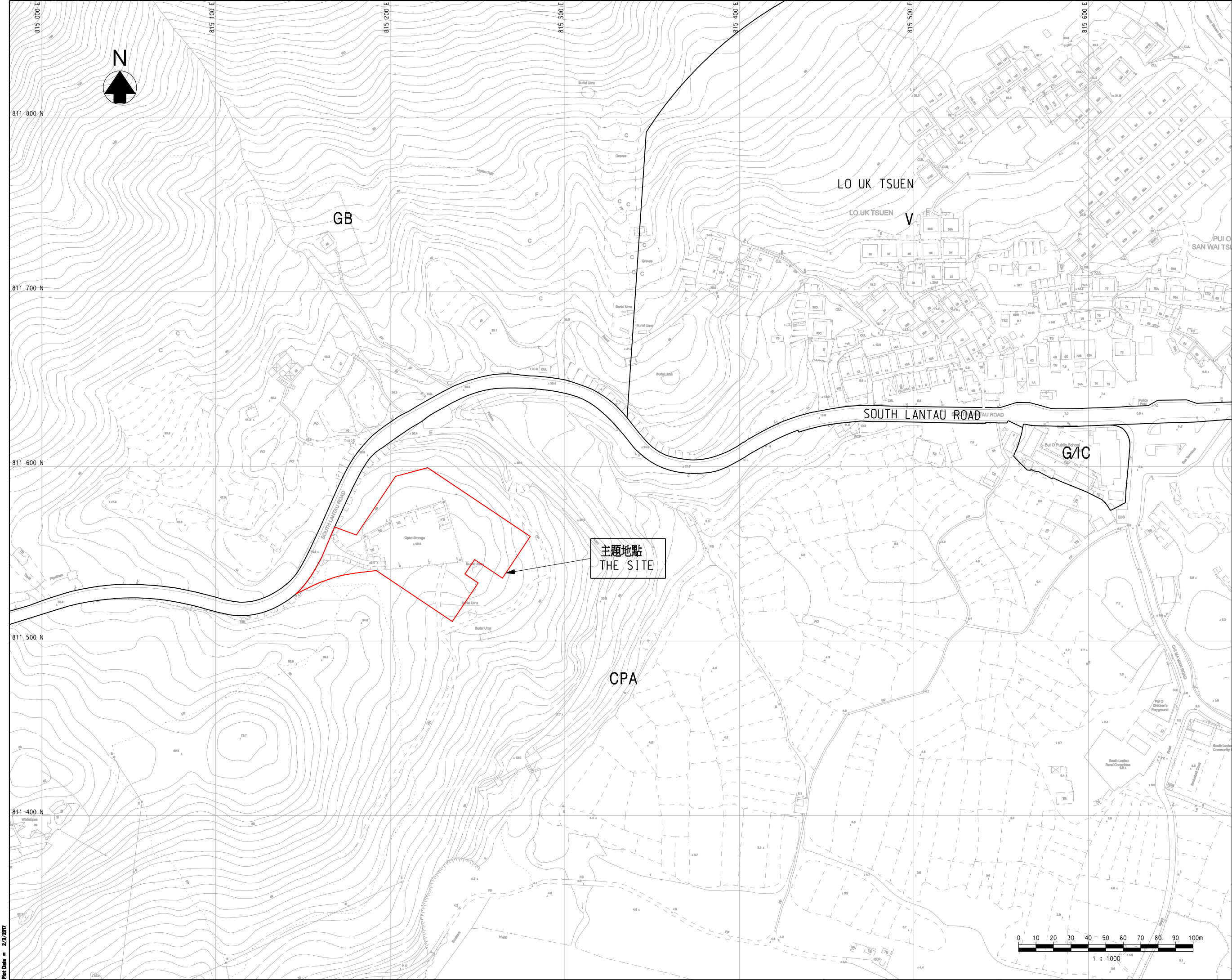


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LEGENDS:

V	VILLAGE
GB	GREENBELT
CPA	COASTAL PROTECTION AREA
GIC	GOVERNMENT, INSTITUTION OR COMMUNITY

Revision	Date	Description		Initial
	Designed	Checked	Drawn	Checked
Initial	HHT	BL	SZ	CSC
Date	JAN2016	JAN2016	JAN2016	JAN2016
Approved				
PRELIMINARY				
Contract no. CE 17/2012 (DS)				
Contract title OUTLYING ISLANDS SEWERAGE STAGE 2 SOUTH LANTAU SEWERAGE WORKS AND OTHER WORKS – DESIGN AND CONSTRUCTION				
Drawing title SURROUNDING LAND USE				
Drawing no. FIGURE 6				Revision –
Scale 1 : 1000				
<div>香港特別行政區政府渠務署 THE GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION DRAINAGE SERVICES DEPARTMENT</div> <div>BLACK & VEATCH HONG KONG LIMITED 博威工程顧問有限公司</div>				



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LEGENDS:

- V

VILLAGE
- GB

GREENBELT
- CPA

COASTAL PROTECTION AREA
- G/C

GOVERNMENT, INSTITUTION
OR COMMUNITY

Revision	Date	Description			Initial
	Designed	Checked	Drawn		Checked
Initial	HHT	BL	SZ		CSC
Date	JAN2016	JAN2016	JAN2016		JAN2016

Approved

PRELIMINARY

Contract no.
CE 17/2012 (DS)

Contract title
OUTLYING ISLANDS SEWERAGE STAGE 2
SOUTH LANTAU SEWERAGE WORKS
AND OTHER WORKS –
DESIGN AND CONSTRUCTION

Drawing title
EXTRACT FROM SOUTH
LANTAU COAST OUTLINE
ZONING PLAN NO. S/SLC/19

Drawing no.
FIGURE 7

Revision

–

Scale
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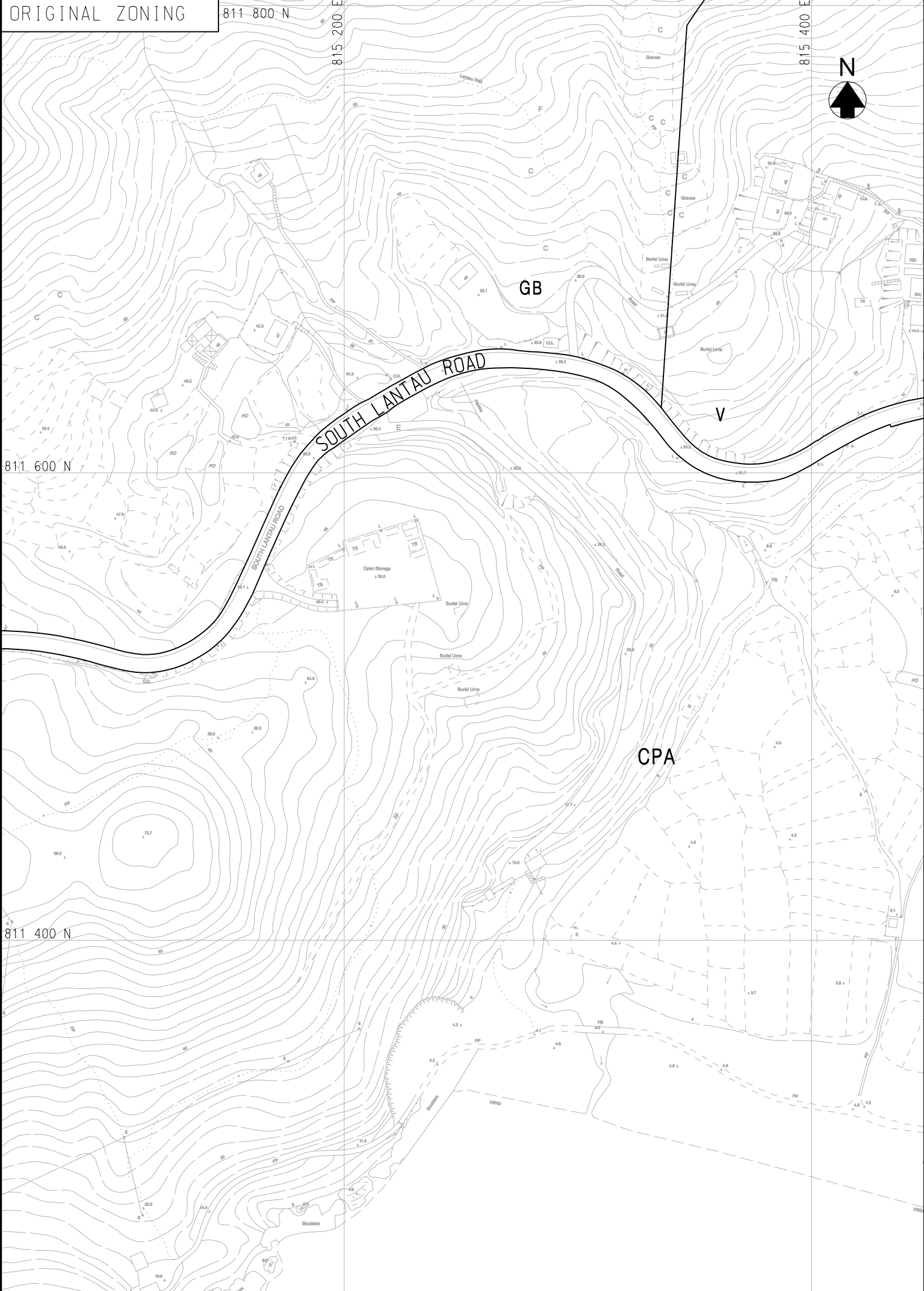
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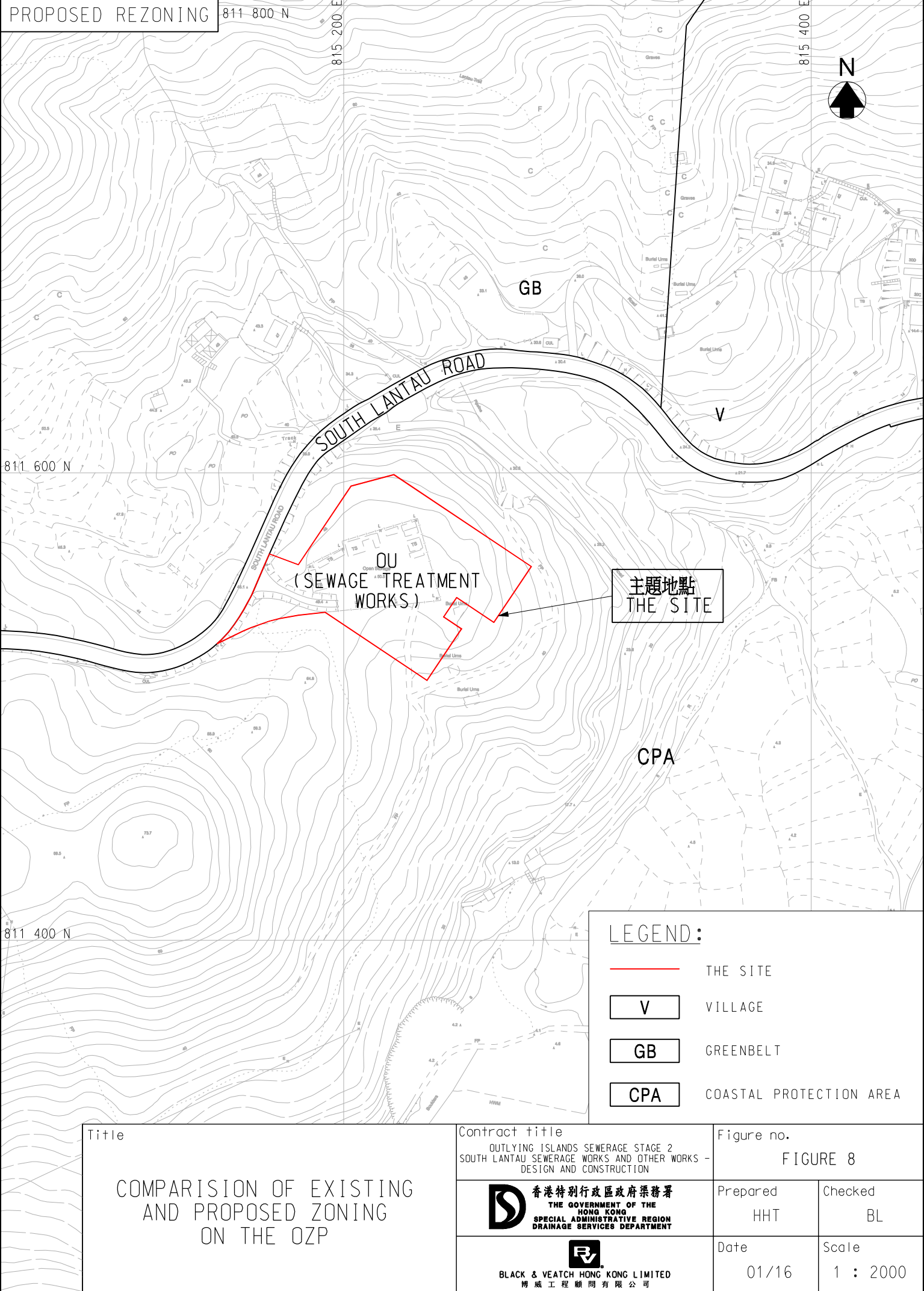
Plot Date = 2/3/2017

CAD Filename = y:\daily work\20170120a\503211a\FIGURE 7.dgn

ORIGINAL ZONING



PROPOSED REZONING



主題地點
THE SITE

- LEGEND:
- THE SITE
 - V VILLAGE
 - GB GREENBELT
 - CPA COASTAL PROTECTION AREA

Title

COMPARISON OF EXISTING
AND PROPOSED ZONING
ON THE OZP

Contract title

OUTLYING ISLANDS SEWERAGE STAGE 2
SOUTH LANTAU SEWERAGE WORKS AND OTHER WORKS -
DESIGN AND CONSTRUCTION

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SPECIAL ADMINISTRATIVE REGION
DRAINAGE SERVICES DEPARTMENT

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Figure no.

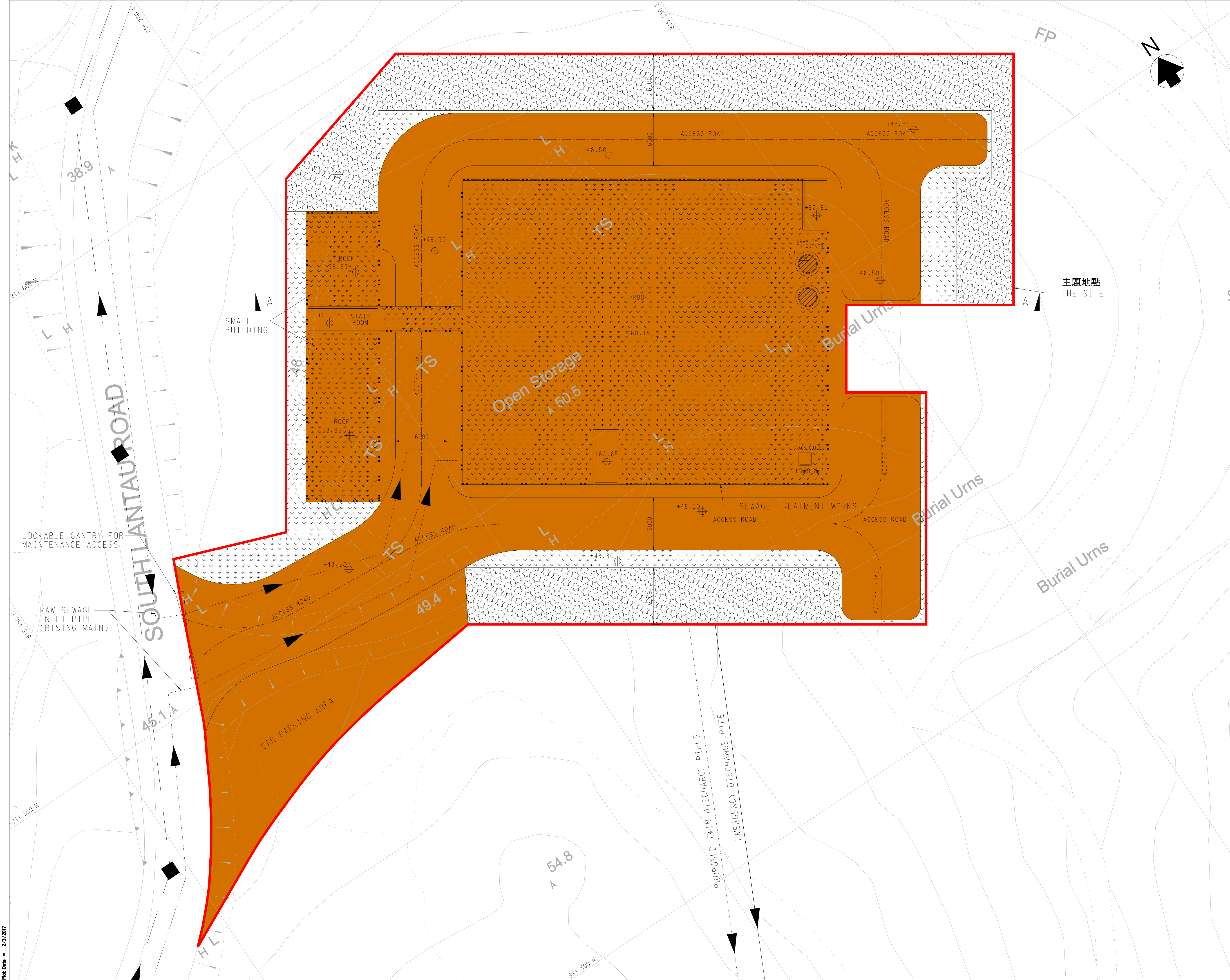
FIGURE 8

Prepared
HHT

Checked
BL

Date
01/16

Scale
1 : 2000



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- LEGENDS:
- PROPOSED SEWER AND MANHOLE
 - PROPOSED RISING MAIN
 - COMPENSATED MIXED WOODLAND
 - PROPOSED LANDSCAPE AREA
 - ACCESS ROAD
 - THE SITE
 - DEVELOPMENT AREA

Revision	Date	Description	Initial
	Designed	Checked	Drawn
Initial	HHT	BL	SZ
Date	JAN2016	JAN2016	JAN2016
Approved			

Contract no. CE 17/2012 (DS)

Contract title
OUTLYING ISLANDS SEWERAGE STAGE 2
SOUTH LANTAU SEWERAGE WORKS
AND OTHER WORKS -
DESIGN AND CONSTRUCTION

Drawing title
INDICATIVE MASTER LAYOUT PLAN

Drawing no.	Revision
FIGURE 9	-

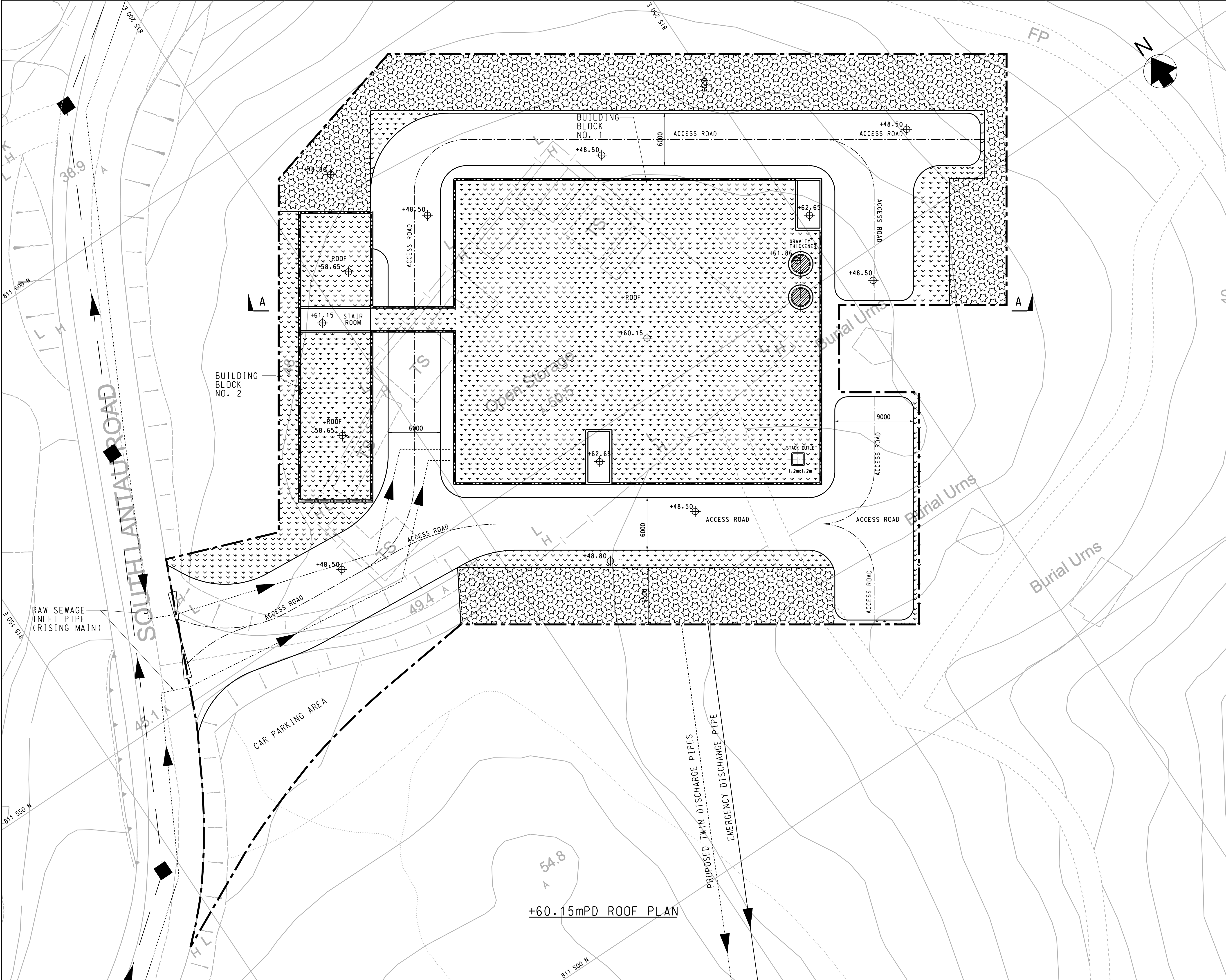
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Plot Date = 2/3/2017

CAD Filename = y:\daily work\20170120a\503271a\FIGURE 10.dgn



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NOTE:

BUILDING BLOCK NO. 1: OPERATION BUILDING
BUILDING BLOCK NO. 2: ADMINISTRATION BUILDING

LEGENDS:

- WORKS LIMIT
- PROPOSED SEWER AND MANHOLE
- PROPOSED RISING MAIN
- COMPENSATED MIXED WOODLAND
- PROPOSED LANDSCAPE AREA
- ACCESS ROAD

Revision	Date	Description			Initial
	Designed	Checked	Drawn	Checked	
Initial	CJ	EY	SZ	CSC	
Date	JAN2016	JAN2016	JAN2016	JAN2016	
Approved					

Contract no.
CE 17/2012 (DS)

Contract title
OUTLYING ISLANDS SEWERAGE STAGE 2
SOUTH LANTAU SEWERAGE WORKS
AND OTHER WORKS -
DESIGN AND CONSTRUCTION

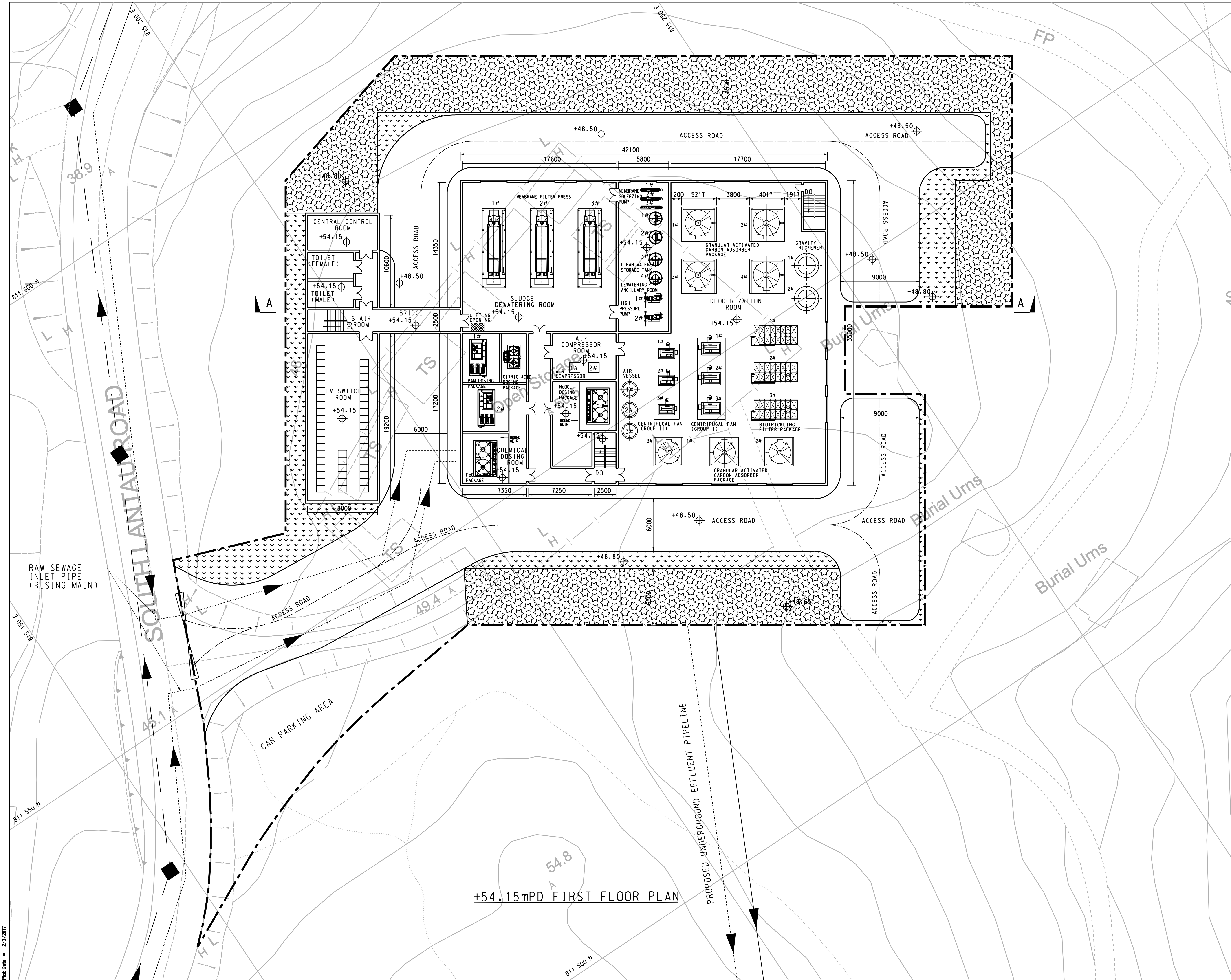
Drawing title
SAN SHEK WAN
SEWAGE TREATMENT WORKS
+60.15mPD ROOF PLAN

Drawing no.	Revision
FIGURE 10	-

Scale
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A3 1 : 400

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LEGENDS:

- WORKS LIMIT
- PROPOSED SEWER AND MANHOLE
- PROPOSED RISING MAIN
- COMPENSATED MIXED WOODLAND
- PROPOSED LANDSCAPE AREA
- ACCESS ROAD
- ROLLING DOOR

Revision	Date	Description	Initial
	Designed	Checked	Drawn
Initial	CJ	EY	SZ
Date	JAN2016	JAN2016	JAN2016
Approved			

Contract no.
CE 17/2012 (DS)

Contract title
OUTLYING ISLANDS SEWERAGE STAGE 2
SOUTH LANTAU SEWERAGE WORKS
AND OTHER WORKS -
DESIGN AND CONSTRUCTION

Drawing title
SAN SHEK WAN
SEWAGE TREATMENT WORKS
+54.15mPD
FIRST FLOOR PLAN

Drawing no.	Revision
FIGURE 11	-

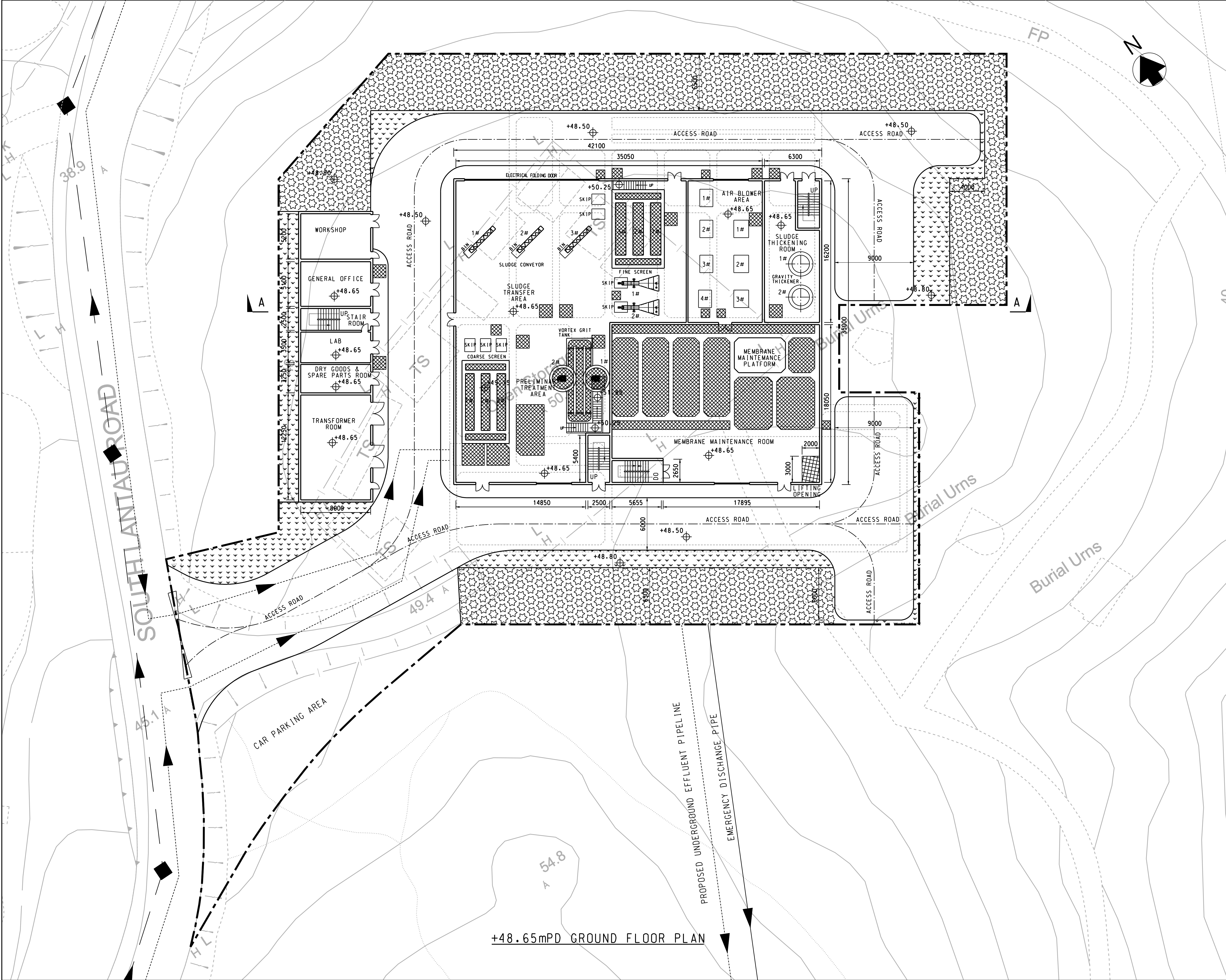
Scale
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A3 1 : 400

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CAD Filename = y:\daily work\20170120a\503271a\FIGURE 12.dgn



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LEGENDS:

- WORKS LIMIT
- PROPOSED SEWER AND MANHOLE
- PROPOSED RISING MAIN
- COMPENSATED MIXED WOODLAND
- PROPOSED LANDSCAPE AREA
- ACCESS ROAD
- COVER
- ROLLING DOOR

Revision	Date	Description			Initial
	Designed	Checked	Drawn		Checked
Initial	CJ	EY	SZ		CSC
Date	JAN2016	JAN2016	JAN2016		JAN2016
Approved					

Contract no.
CE 17/2012 (DS)

Contract title
OUTLYING ISLANDS SEWERAGE STAGE 2
SOUTH LANTAU SEWERAGE WORKS
AND OTHER WORKS -
DESIGN AND CONSTRUCTION

Drawing title
SAN SHEK WAN
SEWAGE TREATMENT WORKS
+48.65mPD
GROUND FLOOR PLAN

Drawing no.	Revision
FIGURE 12	-

Scale
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A3 1 : 400

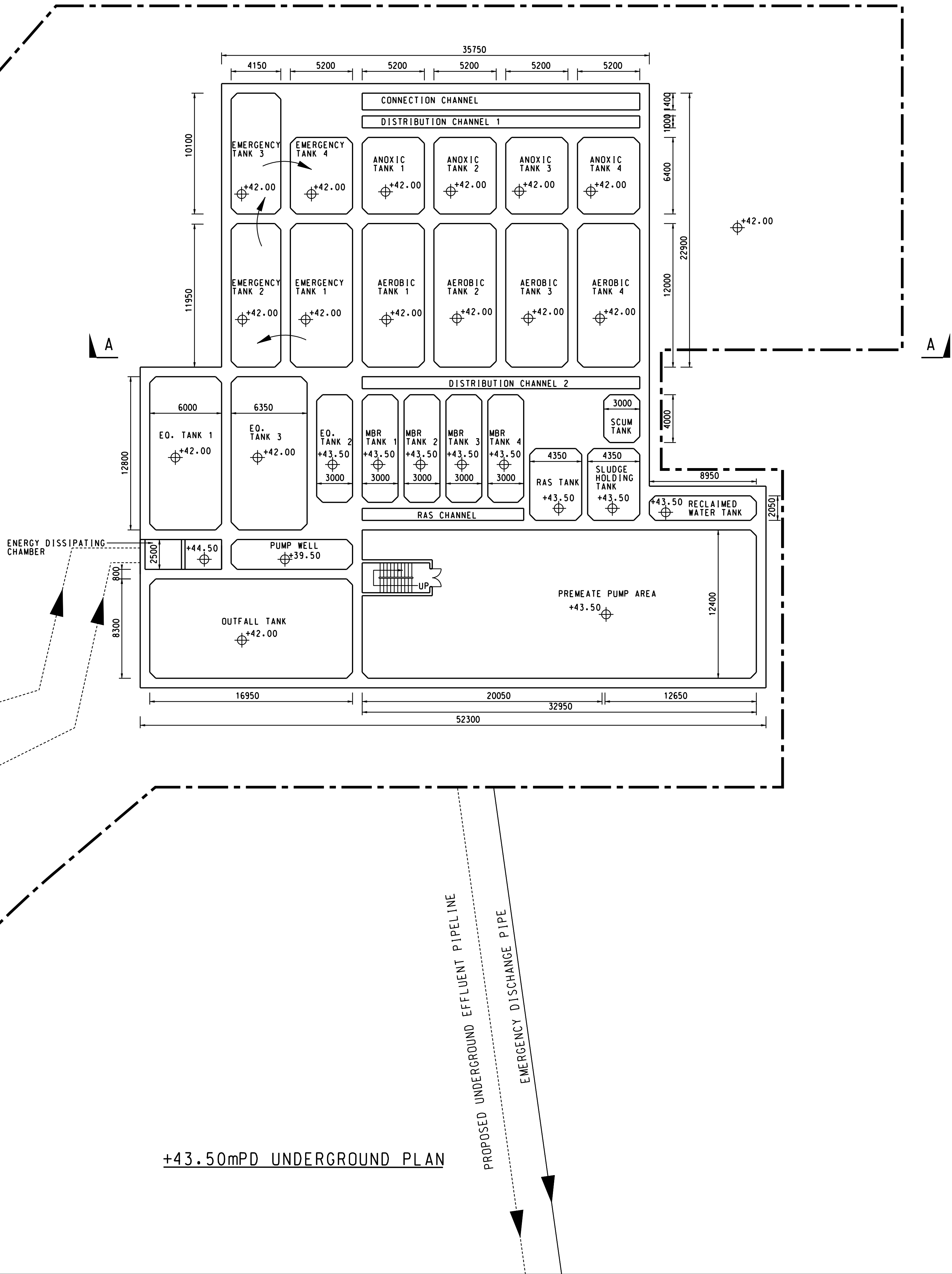
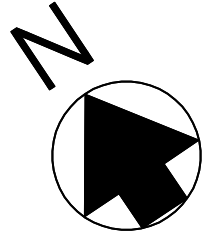
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Plot Date = 2/3/2017

LEGENDS:

- WORKS LIMIT
- PROPOSED SEWER AND MANHOLE
- PROPOSED RISING MAIN



Revision	Date	Description			Initial
	Designed	Checked	Drawn		Checked
Initial	CJ	EY	SZ		CSC
Date	JAN2016	JAN2016	JAN2016		JAN2016

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Contract no.
CE 17/2012 (DS)

Contract title
OUTLYING ISLANDS SEWERAGE STAGE 2
SOUTH LANTAU SEWERAGE WORKS
AND OTHER WORKS -
DESIGN AND CONSTRUCTION

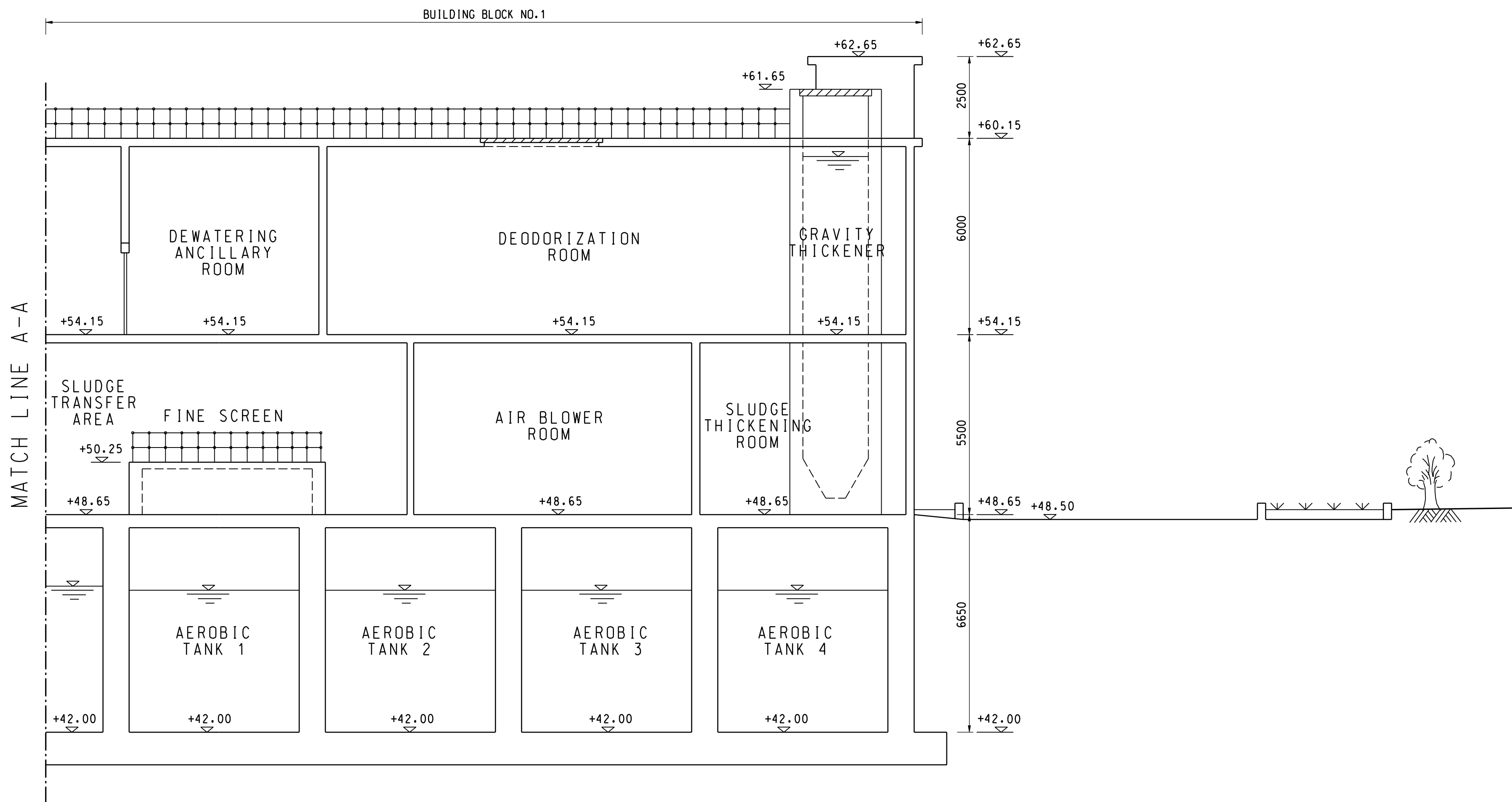
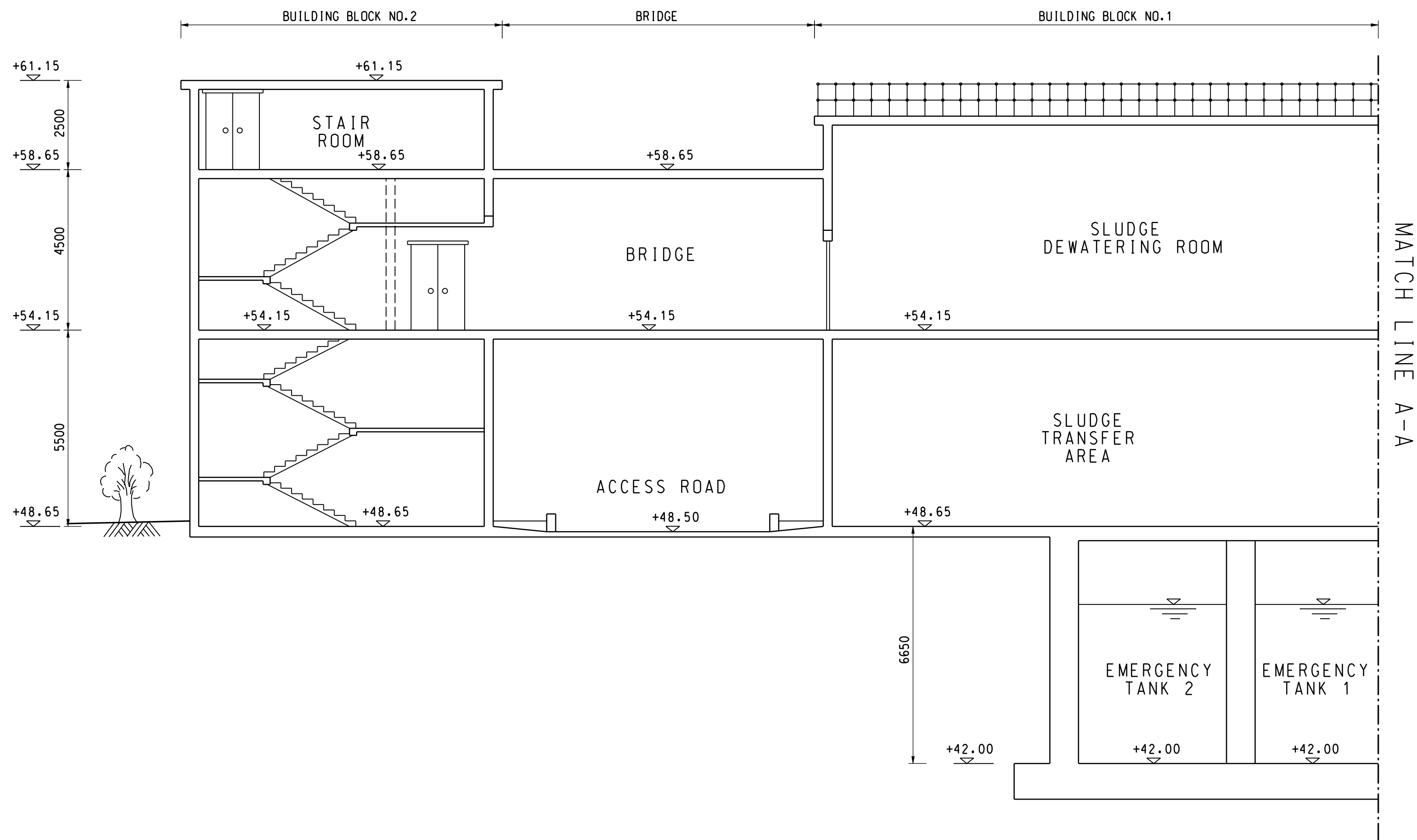
Drawing title
SAN SHEK WAN
SEWAGE TREATMENT WORKS
+43.50mPD UNDERGROUND
PLAN

Drawing no.	Revision
FIGURE 13	-

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SECTION A-A
SCALE A1 1:100
A3 1:200

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Initial	CJ	DJ	SZ	HH	
Date	JAN2016	JAN2016	JAN2016	JAN2016	

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Contract no.
CE 17/2012 (DS)

Contract title
OUTLYING ISLANDS SEWERAGE STAGE 2
SOUTH LANTAU SEWERAGE WORKS
AND OTHER WORKS -
DESIGN AND CONSTRUCTION

Drawing title
SECTION A-A

Drawing no.
FIGURE 14

Revision
-

Scale
A1 1:100
A3 1:200

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Annex A

**Copies of the Relevant Extract of Minutes of
Meetings of the Public Consultation**

定 稿

離島區議會旅遊漁農及環境衛生委員會會議記錄

日期: 2011 年 7 月 18 日(星期一)

時間: 下午 2 時正

地點: 香港中環統一碼頭道 38 號海港政府大樓 14 字樓

離島區議會會議室

出席者

李桂珍女士(主席)

老廣成先生(副主席)

周玉堂先生, BBS

周轉香女士, BBS, JP

翁志明先生

李志峰先生, BBS

張國光先生

張 富先生

王少強先生

黃漢權先生

鄭國威先生

余麗芬女士

容詠嫦女士

黃福根先生

馬鎮添先生

林有嫻女士

鄧家彪先生

梁兆棠先生

黃開榆先生

李國強先生

黃敬全先生

何威業先生

羅維洪先生

黃頌行先生

張志榮先生

應邀出席者

鄧日輝先生	淨化海港計劃部高級工程師/4	渠務署
區志廣先生	淨化海港計劃部工程師/3	渠務署
陳烈偉先生	淨化海港計劃部工程師/7	渠務署
林秀生先生	高級工程師/顧問工程管理 3	渠務署
黎建雄先生	工程師/顧問工程管理 3	渠務署
劉榮輝先生	排污基建組高級環境保護主任/3	環境保護署
陳興球先生	排污基建組環境保護主任/33	環境保護署
陳英健先生	項目經理	艾奕康有限公司
周志深先生	總工程師	博威工程顧問有限公司
高淑貞女士	高級項目經理	博威工程顧問有限公司
鄧國強先生	高級工程師/顧問工程管理(6)	水務署
鄭詩雅小姐	工程師/顧問工程管理(11)	水務署
卓文婉小姐	高級交通規劃師	艾奕康有限公司
周文聰先生	駐地盤工程師	艾奕康有限公司
鄧國斌先生	工程師	艾奕康有限公司
梁玉珍女士	離島區副康樂事務經理 2	康樂及文化事務署

列席者

莫華勳先生	新大嶼山巴士(一九七三)有限公司	
周淑敏女士	新渡輪有限公司	
鄭永輝先生	離島區環境衛生總監	食物環境衛生署
廖耀偉先生	高級環境保護主任(區域南)5	環境保護署
郭樹志先生	水警海港警區警民關係主任	香港警務處
黎桃珠女士	大嶼山警區社區聯絡主任	香港警務處
藍子川先生	工程師	土木工程拓展署
黃志德先生	高級運輸主任/離島	運輸署
楊柳菁博士	郊野公園主任(大嶼山)	漁農自然護理署
譚雨川先生	民政事務助理專員	離島民政事務處
姚祖望先生	高級工程督察	離島民政事務處
謝翎翔先生(秘書)	行政主任(區議會)2	離島民政事務處

因事缺席者

陳連偉先生		
釋智慧大和尚, BBS		
王舜義先生		
余漢坤先生, JP		
賴子文先生		
黃威文先生	行政助理/地政(離島地政處)	地政總署
洪忠興先生	香港旅遊發展局	

歡迎辭

主席歡迎各委員及政府部門代表出席會議，並介紹離島民政事務處民政事務助理專員譚雨川先生，他接替已調職的黃俊濤先生。

2. 委員備悉陳連偉議員、王舜義議員、余漢坤議員、釋智慧大和尚、賴子文委員、離島地政處及香港旅遊發展局的代表因事未能出席會議。

I. 通過 2011 年 5 月 23 日的會議記錄

3. 主席表示，上述會議記錄已收錄政府部門及委員就初稿提出的修訂建議，並詢問委員是否還有其他修訂建議。

4. 委員沒有提出其他修訂建議，並一致通過上述會議記錄。

(張富議員及容詠嫦議員於議題討論期間進入會場。)

II. 離島污水收集系統第 2 階段-南丫鄉村污水收集系統第 2 期 (文件 TAFEHC 26/2011 號)

5. 主席歡迎介紹文件的嘉賓：

渠務署： 高級工程師
鄧日輝先生；

工程師
區志廣先生；

工程師
陳烈偉先生；

環境保護署： 高級環境保護主任(排污基建)
劉榮輝先生；

環境保護主任(排污基建)
陳興球先生；以及

艾奕康有限公司： 項目經理
陳英健先生。

6. 鄧日輝先生利用投影片介紹文件的內容。
7. 周玉堂議員支持該文件，並認為污水收集系統長遠有助改善區內的環境衛生。
8. 余麗芬議員讚揚渠務署就該工程所進行的前期工作，包括諮詢鄉事委員會、村代表、當地居民及外籍人士等。另一方面，她認為工程於 2017 年才竣工，時間較長，希望渠務署加快工程進度。她亦希望渠務署重新考慮興建大灣污水泵房的地點，以減少日後泵房操作時對居民的影響。此外，有居民擔心工程在開坑挖掘時會影響附近村屋的地基及發出噪音，以及關注污水渠的走線，雖然渠務署已提供路線圖，但居民未必能完全明白工程的內容，因此她希望渠務署稍後可安排職員向居民進行講解。

(會後註：渠務署已應余麗芬議員的要求，於2011年8月16日向南丫島北段鄉事委員會主席、副主席、特別代表及有關村代表講解部份污水渠的走線及進行實地視察。如有需要，渠務署亦樂意就其他污水渠的走線向鄉事委員會、村代表及居民再作講解。同時，渠務署亦在同日與有關村代表就大灣污水泵房的選址交換意見，並正研究其他選址的可行性。)

9. 委員沒有其他意見，並備悉及通過上述文件。

(周淑敏女士於議題討論期間進入會場。)

(鄧日輝先生、區志廣先生、陳烈偉先生、陳興球先生及陳英健先生於是項議題討論完畢後離開會場。)

III. 離島污水收集系統第 2 階段－南大嶼山污水收集系統工程 (文件 TAFEHC 27/2011 號)

10. 主席歡迎介紹文件的嘉賓：

環境保護署： 高級環境保護主任(排污基建)
劉榮輝先生；

渠務署：高級工程師/顧問工程管理
林秀生先生；

工程師/顧問工程管理
黎建雄先生；

博威工程顧問有限公司：高級項目經理
高淑貞女士；以及

總工程師
周志深先生。

11. 林秀生先生表示，該工程項目主要包括為南大嶼山地區(範圍包括由東面的貝澳／鹹田至西面的水口)建造一個公共污水收集系統，以收集該區範圍內所產生的污水，及在磡石灣興建一所污水處理廠，以把污水處理至合乎法定標準的水平，希望藉此改善南大嶼山地區的居住環境和保護附近海灘的水質。

12. 周志深先生利用投影片介紹文件的內容。

13. 張富議員表示原則上支持推行該工程，但希望在鹹田區內擬建的污水渠可伸延至鹹田村廟宇附近的十多間房屋。

14. 林秀生先生表示，現時該工程項目仍在初步設計及研究的階段。待環境影響評估研究完成後，渠務署計劃於明年爭取撥款進行詳細的設計，屆時會進一步探討污水渠的設計，以期克服因地勢問題而造成的技術困難，使污水渠可盡量伸延到這些房屋。同時渠務署會繼續與居民保持緊密溝通，細心聆聽居民的意見，以顧及居民的需要。

15. 李國強委員支持進行該工程，並希望工程可盡快開展。此外，他建議主席以旅遊漁農及環境衛生委員會(“旅環會”)的名義發信給相關部門，查詢有關“翻新梅窩景貌改善工程”以及“南大嶼山越野單車徑網絡”的工程時間表。

16. 鄭國威議員讚揚渠務署在南丫島及南大嶼山建造污水收集系統的計劃，同時希望渠務署可盡快改善長洲的污水收集系統。

17. **委員沒有其他意見，並備悉及通過上述文件。**

離島區議會
旅遊漁農及環境衛生委員會
文件 TAFEHC 27/2011 號

工務工程計劃第 4331DS 號
離島污水收集系統第 2 階段 — 南大嶼山污水收集系統工程

1. 目的

- 1.1 本文件旨在向離島區議會簡介工務工程計劃第 4331DS 號 — 「離島污水收集系統第 2 階段 — 南大嶼山污水收集系統工程」，並諮詢各位議員的意見，希望各位議員支持該項工程。

2. 背景

- 2.1 目前，整個南大嶼山地區仍然未有公共污水收集系統。區內所產生的污水主要是依靠各村屋的私人污水設施處理（多為附有滲濾系統的化糞池）。但因缺乏維修及靠近河道，污水處理成效一般不高，造成水質污染，影響公眾衛生。為了改善區內環境衛生、配合該區未來之發展及保護南大嶼山水域的水質，環境保護署於 2008 年完成顧問研究，檢討了南大嶼山地區的整體污水收集系統計劃。研究建議為該區建造一個污水收集及處理系統，覆蓋範圍由東面的貝澳/鹹田，至西面的水口。當中包括在範圍以內的 9 條鄉村（見下文第 3.1(i)段）敷設污水渠、沿嶼南路及芝麻灣道興建污水輸送系統、及於礮石灣興建一所污水處理廠，以妥善處理該區所產生的污水。

3. 工程內容

- 3.1 擬建工程主要包括（見附圖一）：

- (i) 在水口、塘福、長沙上村、長沙下村、礮石灣、貝澳羅屋村、貝澳新圍、貝澳老圍、及鹹田村，共 9 條鄉村敷設長約 16 公里的鄉村污水渠，以收集各村屋的污水；
- (ii) 沿嶼南路（由水口至貝澳一段）及芝麻灣道（由貝澳至鹹田村一段）敷設長約 12 公里的污水主幹渠及建造 6 所污水泵房，以輸送污水到擬建的礮石灣污水處理廠；及
- (iii) 在礮石灣興建一所污水處理廠，把污水處理至符合排放標準的水平。經處理後的污水會經一條長約 1.1 公里的海底管道排放出海。

- 3.2 渠務署正為工程進行初步研究及環境影響評估（下稱「環評」）工作。有關工作預計於 2013 年完成。隨後我們會為工程進行詳細設計及制定施工時間表。

4. 工程相關的事宜

- 4.1 對環境的影響 — 長遠來說，該項工程將會改善南大嶼山地區的環境衛生。但鑑於工程需要建造一些基礎設施，包括污水渠、泵房及污水處理廠，我們正根據《環境影響評估條例（第 499 章）》進行詳細的環評研究。如有需要，我們會制定適當的紓緩措施，以盡量減低施工期間及當有關設施用後對環境的影響。
- 4.2 對交通的影響 — 爲了減少施工時對村民的不便，我們會盡量把鄉村污水渠敷設在村內的通道底下。至於敷設在嶼南路及芝麻灣道底下直徑較大的污水主幹渠，我們考慮會以分段形式進行。在技術可行的情況下，我們亦考慮會採用無坑挖掘的方法建造，務求令施工期間對附近交通的影響減至最少。
- 4.3 村屋的污水渠接駁工程 — 當工程完成後，環境保護署便會根據《水污染管制條例(第 358 章)》，通知有關村屋業主須於指定時間內在其私人土地範圍內自費建造終端沙井及相關的村屋污水渠接駁工程，以便把村屋內所產生的所有污水經相關的接駁渠及終端沙井接駁至附近的公共污水渠接駁點。隨後，業主亦須自行把化糞池廢除。由於所涉及的接駁工程是在私人地界內進行，所以有關工程必須由各業主自行及自費建造，而業主亦須負責保養/維修有關設施（見附圖二）。爲方便業主日後進行接駁工程，我們會把公共污水渠盡量伸延到各村屋的私人地界邊沿，並在適當位置預留接駁點讓業主日後自行進行接駁工程。當接駁工程完成後，居民便與全港所有享用公共排污服務的市民一樣，須繳交排污費。排污費是根據用戶的用水量及既定的收費率計算。現時住宅用戶一般排污費的收費率爲每立方米用水量 \$ 1.71 元，而每 4 個月用水期的首 12 立方米用水量是免收排污費。有關排污費的詳情亦可瀏覽渠務署網頁：www.dsd.gov.hk。
- 4.4 土地事宜 — 我們會盡量使用政府土地進行工程，但礙於地理環境的限制，部份工程可能無可避免需要在私人土地內進行，因此工程亦有可能涉及徵收私人土地。不過我們會盡量減少所需徵收土地的面積，以減少對居民的滋擾。

5. 諮詢

- 5.1 渠務署於 2010 年 8 月就該項工程諮詢了南大嶼山鄉事委員會，並得到鄉事委員會的支持。隨後我們亦陸續透過村代表到各鄉村進行了諮詢工作，各鄉村亦原則上支持推行該項工程。
- 5.2 歡迎各位議員就該工程提出意見，以便我們繼續就該項工程進行研究。

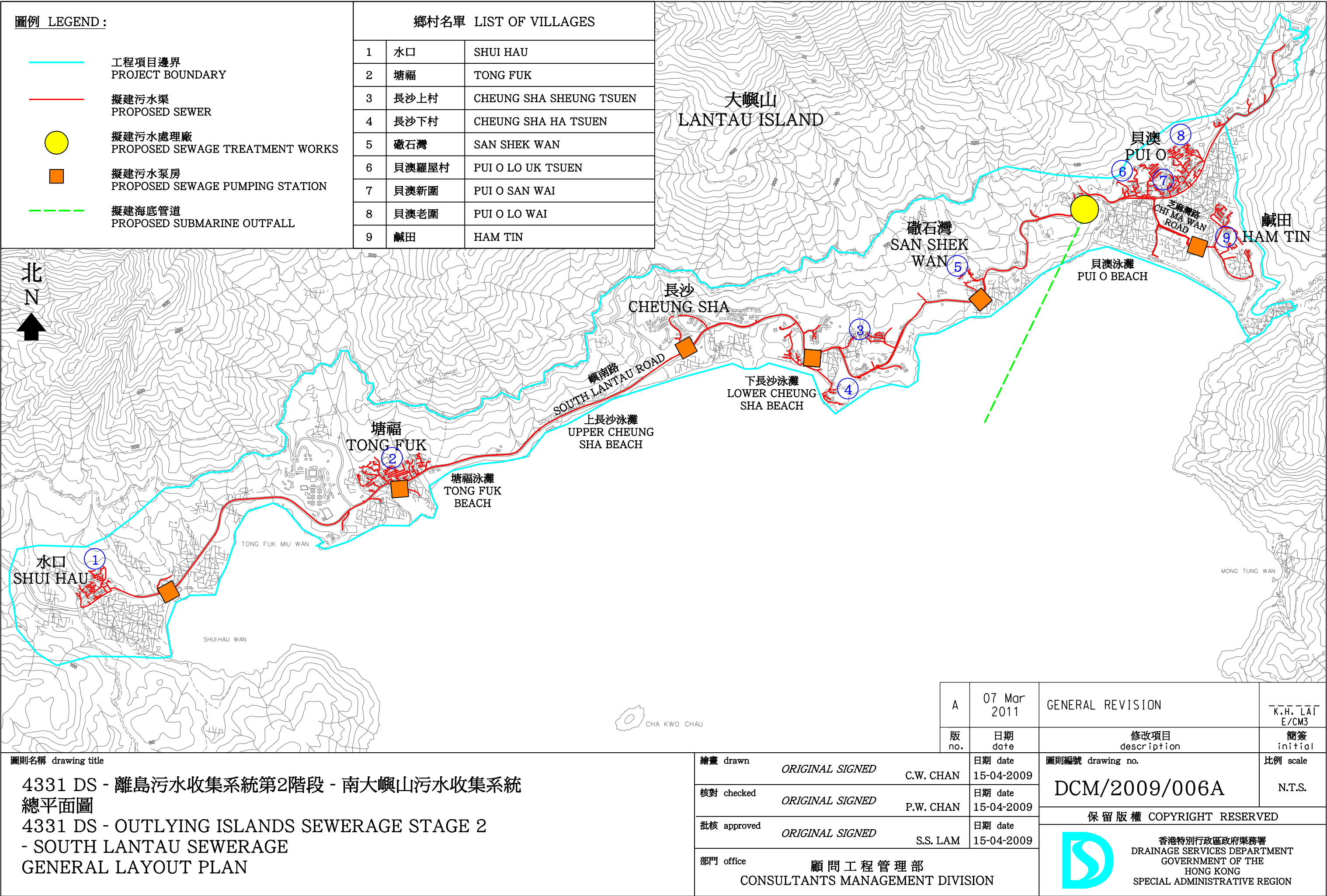
渠務署

2011 年 7 月 18 日

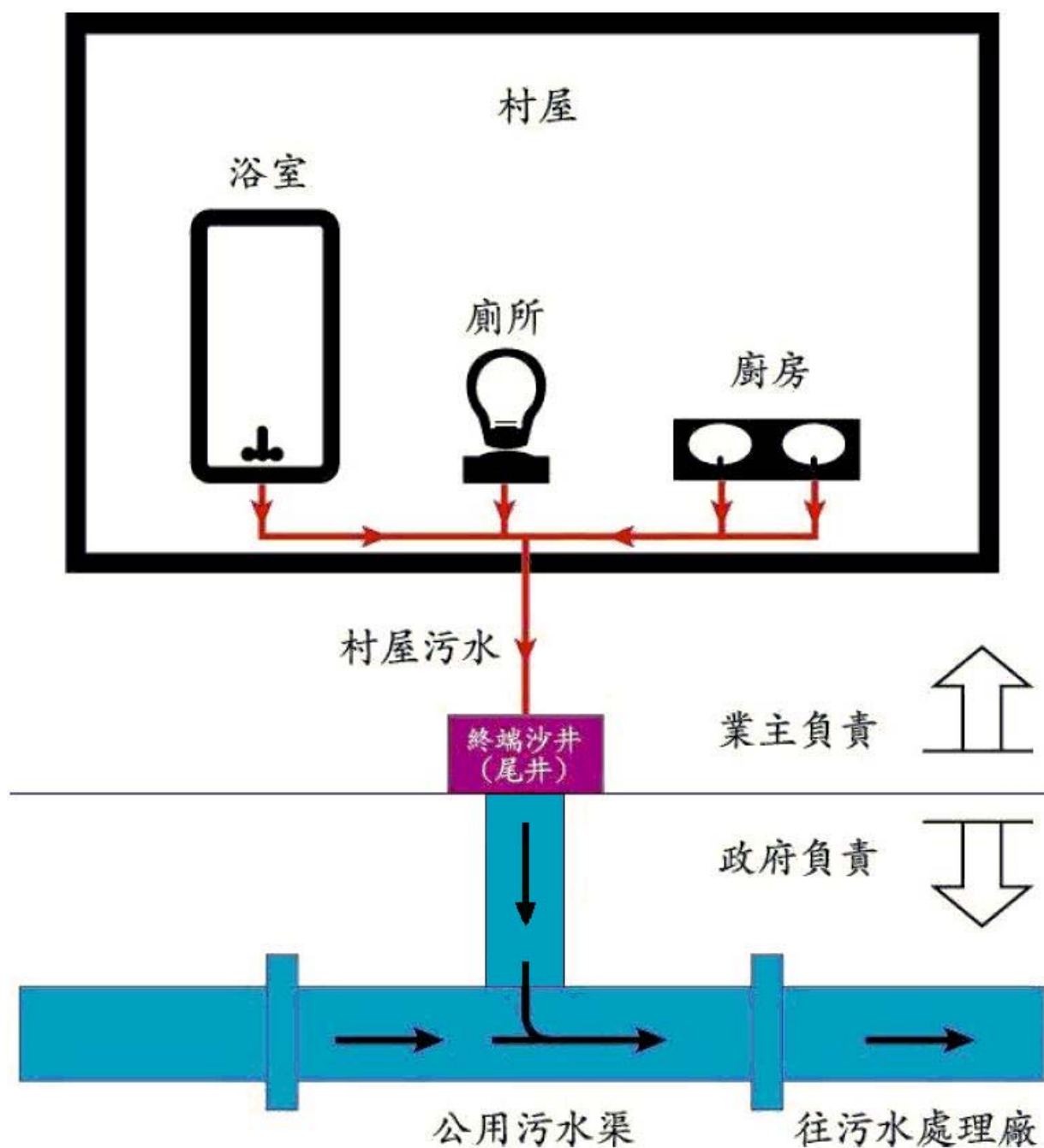
附件

附圖一： 工程總平面圖

附圖二： 村屋接駁污水渠示意圖



村屋接駁污水渠示意圖





Drainage Services Department
Consultants Management Division
42nd floor, Revenue Tower, 5 Gloucester Road,
Wan Chai, Hong Kong.

渠務署
顧問工程管理部
香港灣仔告士打道 5 號
稅務大樓 42 樓

本署檔號 Our Ref: (14) in DSD CM 8/CE0955/45 Pt. I
來函檔號 Your Ref:
電話 Telephone: (852) 2594 7281
圖文傳真 Fax: (852) 2827 8526

新界
大嶼山
貝澳羅屋村 1 號
大嶼山南區鄉事委員會

張主席、各委員及村代表：

工務計劃項目第 4331DS 號
離島污水收集系統第 2 階段 — 南大嶼山污水收集系統工程
大嶼山南區鄉事委員會諮詢會議

謝謝各位出席二零一零年八月三日「離島污水收集系統第 2 階段 — 南大嶼山污水收集系統工程」的諮詢會議。現附上一份會議紀錄，以供參考。

如對上述工程有任何查詢或意見，歡迎致電 2594 7281 與本署工程師黎建雄先生或致電 2601 1000 與博威工程顧問有限公司的鍾成興先生或周志深先生聯絡。

渠務署顧問工程管理部總工程師

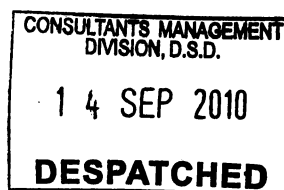
(黎建雄 黎建雄 代行)

附件：大嶼山南區鄉事委員會諮詢會議紀錄

副本連附件送：

離島民政事務處 (聯絡組)	(經辦人：梁佩儀女士)	(傳真：2815 2291)
離島地政處	(經辦人：李鎮威先生)	(傳真：2850 5104)
環境保護署 (排污基建組)	(經辦人：曾嘉文女士)	(傳真：2519 0572)
博威工程顧問有限公司	(經辦人：高淑貞女士)	(傳真：2601 3988)

二零一零年九月十三日



工務計劃項目第4331DS號
離島污水收集系統第二階段 - 南大嶼山污水收集系統工程 - 勘測研究

大嶼山南區鄉事委員會諮詢會議 - 會議紀錄

日期： 2010 年 8 月 3 日 (星期二)
 時間： 上午 11:00 至 下午 1:00
 地點： 大嶼山南區鄉事委員會 (貝澳羅屋村 1 號)

出席：

鄉事委員會署理主席	張富先生	(貝澳老圍原居民代表)
鄉事委員會副主席	毛銀福先生	(礮石灣原居民代表)
鄉事委員會執行委員	張勁之先生	(鹹田原居民代表)
	邱維新先生	(長沙下村居民代表)
	陳信有先生	(塘福原居民代表)
	陳德昌先生	(水口原居民代表)
鄉事委員會委員	溫東日先生	(貝澳老圍原居民代表)
	張樹若先生	(貝澳老圍居民代表)
	何桂成先生	(貝澳新圍原居民代表)
	何威業先生	(貝澳新圍居民代表)
	羅德義先生	(貝澳羅屋村原居民代表)
	羅玉堂先生	(貝澳羅屋村居民代表)
	張玉華先生	(鹹田居民代表)
	劉柒有先生	(長沙上村原居民代表)
	鄧觀生先生	(塘福居民代表)
鄉事委員會秘書	張永紅女士	
長沙下村村民	吳福勝先生	

渠務署 / 顧問工程管理部 (渠務署)

- 陳志明先生 / 署理高級工程師
- 黎建雄先生 / 工程師

民政事務總署 / 離島民政事務處 (民政處)

- 梁佩儀女士 / 聯絡主任 (梅窩 / 大嶼山南)
- 何慕濂女士 / 聯絡主任 (梅窩 / 大嶼山南)

博威工程顧問有限公司 (博威)

- 高淑貞女士 / 項目經理
- 周志深先生 / 總工程師
- 鍾成興先生 / 助理工程師

事項	議事內容
1	會議目的
1.1	張富先生感謝各位委員、村代表及居民抽空參與本諮詢會議，並說明本會議的目的是讓渠務署向南大嶼山南區鄉事委員會簡介南大嶼山污水收集系統工程及諮詢鄉事委員會對該項工程的意見。

工務計劃項目第4331DS號
離島污水收集系統第二階段 - 南大嶼山污水收集系統工程 - 勘測研究
大嶼山南區鄉事委員會諮詢會議 - 會議紀錄

事項	議事內容
2	<u>工程項目的背景</u>
2.1	渠務署表示於 2008 年 6 月，環境保護署(簡稱「環保署」)曾就南大嶼山污水收集系統的建議方案向大嶼山南區鄉事委員會簡介及諮詢，最後鄉事委員會一致支持於礮石灣附近興建一所污水處理廠以集中處理從南大嶼山一帶所產生的污水。後來，環保署委託渠務署就此方案的相關工程進行研究。
2.2	渠務署現已聘請博威工程顧問有限公司(簡稱「博威」)為該項工程的工程顧問，負責該項工程的勘測研究及初步設計工作。
3	<u>工程項目簡介</u>
3.1	<p>博威向各委員、村代表及居民簡介該項工程。有關簡介如下：</p> <ul style="list-style-type: none"> (i) 工程的目的是為南大嶼山地區提供公共污水收集系統，以取代現有的化糞池系統，從而改善區內的環境衛生。 (ii) 工程的覆蓋範圍包括貝澳老圍、貝澳新圍、貝澳羅屋村、貝澳泳灘、鹹田新村、鹹田舊村、礮石灣、長沙上村、長沙下村、長富街、上長沙泳灘、下長沙泳灘、塘福泳灘、塘福及水口。工程內容包括於上述鄉村敷設鄉村污水渠，沿嶼南路敷設污水主幹渠，於地勢較低的地區興建污水泵房及相關壓力污水管，及於礮石灣附近興建一所污水處理廠。 (iii) 渠務署將會根據《環境影響評估條例(第 499 章)》對此項工程進行詳細的環境影響評估及制定適當的環境影響紓緩措施。 (iv) 為了收集相關數據及資料作進一步評估及研究，渠務署將會於 2010/2011 年期間在此項工程範圍內進行一系列的土地勘測研究及調查。 (v) 工程規劃及設計將會盡量避免徵收私人土地，但礙於技術及地勢等因素限制下，有時亦無可避免須要徵收部分私人土地。如有需要，渠務署會先諮詢有關的村代表及居民。 (vi) 該項公共污水收集系統將會由政府負責建造、操作、保養及維修。當工程完成後，村屋的業主便需要把村屋污水渠接駁到附近的公共污水渠，其工程主要包括建造一個終端沙井及把村屋內的污水渠經終端沙井接駁到公共污水渠。終端沙井及村屋內的污水渠將會由村屋的業主負責建造、保養及維修。 (vii) 當村屋成功接駁到公共污水渠後，有關村屋的業主便需要繳交排污費。

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大嶼山南區鄉事委員會諮詢會議 - 會議紀錄

事項	議事內容
4	<u>提問及回應</u>
4.1	與會人士就此項工程向渠務署提出多方面的提問。有關提問及渠務署的答覆如下：
4.1.1	<u>收地事宜</u> <p>(i) 村代表對徵收土地表示關注，並詢問徵收私人土地的標準及範圍。渠務署回應指出，工程設計將會盡量避免徵收私人土地。即使在無可避免的情況下，所需要徵收的私人土地亦會盡量減至最少。在這個原則下，渠務署亦會與地政署商討盡量顧及餘下私人地段的整體性，以免將土地切割成小塊。</p> <p>(ii) 村代表查詢若村民不同意土地徵收的安排，而令村內其它村屋未能得到公共污水渠的接駁，渠務署會有何安排。渠務署回應指出，渠務署及顧問公司會嘗試盡量游說相關土地業權持有人接受徵收土地的安排。若土地業權持有人堅持不接受，渠務署會評估該項徵收土地的效益及反對的理據；在平衡公眾利益與私人權益的保障後，便會將有關個案呈交特首匯同行政會議考慮，以作最後裁決。</p>
4.1.2	<u>村屋的污水渠接駁事宜</u> <p>(i) 村代表詢問是否每間村屋都需建造一個終端沙井。渠務署回應，爲了釐清村屋業主與政府之間的保養及維修責任，每間接駁到公共污水渠的村屋一般都需要建造一個獨立的終端沙井。另外，終端沙井內的 U 形渠亦有阻隔細菌由公共污水收集系統進入村屋的重要功能。因此，每間村屋均需建造一個終端沙井的安排亦有助保障居住環境衛生。</p> <p>(ii) 村代表查詢是否村內每一條走道都會敷設污水支渠以便村屋業主進行接駁。渠務署回應，在工程詳細設計時及動工前會進一步諮詢村代表及村民合適的接駁點。但礙於技術、地勢及私人土地等問題，部份村屋可能未能接駁到公共污水收集系統而需要繼續使用現有的化糞池。</p> <p>(iii) 村代表擔心鄉村通道狹窄，未必能容納村屋的終端沙井。渠務署解釋，終端沙井經過特別設計，體積比現有化糞池細小，而且由於建造該公共污水收集系統是爲了取代現有的化糞池系統，所以現有的化糞池到時候可以拆除，騰出空間以建造終端沙井。此外，每間村屋需建造一個終端沙井的安排已十分普遍地實行在其它鄉村，一直以來並無重大問題，因此村民不用擔心。</p>

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大嶼山南區鄉事委員會諮詢會議 - 會議紀錄

事項	議事內容
	<p>(iv) 村代表表示，部份村屋實在無足夠私人土地建造終端沙井，這些村屋的化糞池現時亦建於屋外的政府土地上。村代表詢問這些村屋的污水渠接駁會如何安排。渠務署表示，根據過往經驗，地政署有可能會就這些特殊個案與渠務署商討，因應個別的實際情況作酌情處理，即考慮容許業主於最接近有關村屋範圍而可行之政府土地上，建造終端沙井及相關的接駁喉管。由於這些設施並沒有公用成份，所以它們仍需由相關業主負責建造及保養。</p> <p>(v) 村代表查詢村屋業主可否拒絕接駁至公共污水收集系統。渠務署表示，在一般情況下，若村屋附近已提供接駁點接駁至公共污水收集系統，環保署會致函要求有關業主進行相關的污水渠接駁工程。有關業主須根據政府的指引及規格，在既定的位置及時間內，完成建造終端沙井及污水渠接駁工程，並須負責日後維修和保養這些設施，以及拆除舊有的污水處理設施(如化糞池等)。在工程期間，環保署及渠務署會盡力協助業主解決接駁污水渠工程上遇到的問題。根據《水污染管制條例(第 358 章)》，若業主未能在通知書指定的日期內完成有關的污水渠接駁工程，而又未能提出足夠理據解釋，即屬違法。根據上述法例，環保署有權向有關業主提出檢控。不過，若現場環境實際上存在接駁困難，例如村屋距離公共污水收集系統太遠或需要經過其它私人土地才可以完成接駁，環保署可能會考慮實際的情況而決定是否要給予更多時間讓業主進行接駁或豁免個別村屋的污水渠接駁工程。</p>
4.1.3	<p><u>污水泵房的選址事宜</u></p> <p>(i) 長沙下村村代表及村民指出村內其中一個擬建污水泵房的選址(即位於大嶼山南分區警察總部對面、鄰近長沙下村籃球場的空地)，是現時村內唯一大型活動選址，亦將會申請為停車場用地；認為位於下長沙泳灘旁的一個擬建泵房已能應付村內需要，要求更改該擬建污水泵房的選址。就上述污水泵房的選址問題，渠務署答應會另行再安排會議，與村代表及村民到長沙下村作實地查察及討論。</p> <p>(ii) 塘福村代表亦認為擬建塘福村污水泵房的選址(即毗鄰塘福村巴士總站西面的空地)現為停車場用途，要求渠務署另覓選址。渠務署亦答應會為塘福村泵房的選址問題另行再安排會議，與村代表到塘福村實地考察及討論。</p> <p>(iii) 鑑於現時地政署在各污水泵房位置所張貼的通告(即臨時土地申請用作土地勘测工程)內所定的反對期即將屆滿，村代表查詢有關當局會否就擬建泵房位置的問題上與村民未達成共識前，展開土地勘测工程。渠務署回應時指出，現有機制有足夠彈性提供給居民與該署進行詳細討論，如泵房的選址最後有所更改，渠務署會向地政署取消現時選址的申請，並為新的選址再作安排，不會強行進行工程，因此居民不用擔心。</p>

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大嶼山南區鄉事委員會諮詢會議 - 會議紀錄

事項	議事內容
4.1.4	<u>環境事宜</u> (i) 村代表擔心當污水泵房及污水處理廠落成後，會對區內空氣質素有所影響。渠務署指出，該署會根據《環境影響評估條例(第 499 章)》對此項工程進行詳細的環境影響評估及制定適當的環境影響紓緩措施，以確保施工期間及當有關設施啓用後對環境的影響能符合既定的標準和準則。在一般情況下，擬建的污水泵房及污水處理廠將會採取密封式設計，廠房內亦會安裝除臭設施，因此將不會對附近環境造成重大影響。如有需要，渠務署亦會嘗試安排村代表參觀運作中的污水泵房，以消除居民的疑慮。
5	總結
5.1	經討論後，大嶼山南區鄉事委員會署理主席張富先生總結討論的結果，表示大嶼山南區鄉事委員是支持政府進行南大嶼山污水收集系統工程，但渠務署需要就擬建的污水泵房的選址，再進一步諮詢有關的村代表及村民，並與各村代表實地視察，給予各村有關污水收集系統設計的具體圖則以作參考。
5.2	本會議於下午一時結束。

- 完 -

Attachment 2 - 4 pages



Drainage Services Department
Consultants Management Division
42nd floor, Revenue Tower, 5 Gloucester Road,
Wan Chai, Hong Kong.

渠務署
顧問工程管理部
香港灣仔告士打道5號
稅務大樓42樓

本署檔號 Our Ref: (16) in DSD CM 8/CE0955/45 附1
來函檔號 Your Ref:
電話 Telephone: (852) 2594 7281
圖文傳真 Fax: (852) 2827 8526

10 NOV -3 17:25

新界
大嶼山
磡石灣村3號地下
磡石灣原居民代表—毛銀福先生 及 村民—毛金堂先生

兩位毛先生：

ACTION REQUIRED BY	CKH	CSC	SNC
FILE	2888/		
REPLY	BY	DATE	
TO SEE			
			YWT

工務計劃項目第4331DS號
離島污水收集系統第二階段 — 南大嶼山污水收集系統工程 — 勘測研究

磡石灣村諮詢會議 — 會議紀錄

謝謝你們出席二零一零年九月六日「離島污水收集系統第二階段 — 南大嶼山污水收集系統工程 — 磡石灣村諮詢會議」。現附上一份會議紀錄，以供你們及村民參考。

如對上述工程有任何查詢或意見，歡迎致電 2594 7281 與本署工程師黎建雄先生或致電 2601 1000 與博威工程顧問有限公司的鍾成興先生或周志深先生聯絡。

渠務署顧問工程管理部總工程師
(黎建雄 總 代行)

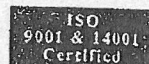
附件：磡石灣村諮詢會議紀錄

副本連附件送：

大嶼山南區鄉事委員會 (經辦人：主席—張富先生)
離島民政事務處 (聯絡組) (經辦人：梁佩儀女士)
離島地政處 (經辦人：蕭仲賢先生)
環境保護署 (排污基建組) (經辦人：曾嘉文女士)
博威工程顧問有限公司 (經辦人：高淑貞女士)

二零一零年十一月五日

我們的抱負是提供世界級的污水和雨水處理排放服務，以促進香港的可持續發展
Our 260100 is to provide world-class wastewater and stormwater drainage services enabling the sustainable development of Hong Kong



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磡石灣村諮詢會議 — 會議紀錄

日期： 2010 年 9 月 6 日 (星期一)
時間： 上午 10:30 至上午 11:30
地點： 磡石灣村公所
出席： 磡石灣村原居民代表 — 毛銀福先生
磡石灣村村民 — 毛金堂先生
渠務署 / 顧問工程管理部代表 (渠務署) — 黎建雄先生 / 工程師
博威工程顧問有限公司代表 (博威) — 周志深先生 / 總工程師
— 鍾成興先生 / 助理工程師

事項	議事內容
1	<u>會議目的</u>
1.1	渠務署感謝村代表及村民抽空參與本諮詢會議，並說明本會議的目的是繼 2010 年 8 月 3 日舉行的大嶼山南區鄉事委員會諮詢會議後，就「離島污水收集系統第二階段 — 南大嶼山污水收集系統工程」的細節，進一步諮詢村民的意見。
2	<u>工程簡介</u>
2.1	<p>渠務署聘請的博威工程顧問有限公司(簡稱「博威」)展示了在磡石灣村範圍內擬建工程的初步設計草圖，並向村代表及村民介紹工程的細節及整體計劃。有關簡介如下：</p> <p>(i) 工程包括在磡石灣村建造一個鄉村污水收集系統。渠務署會在村內的走道下敷設鄉村污水渠，以收集由各村屋排放出來的污水，並取替現時村屋的污水處理設施、例如化糞池。</p> <p>(ii) 上述鄉村污水收集系統將會接駁到擬建的磡石灣污水泵房，該污水泵房的現選址是位於磡石灣村村口對面、即中電變壓站旁邊的空地。污水會再由磡石灣污水泵房經沿嶼南路興建的污水主幹渠輸送到擬建的磡石灣污水處理廠作妥善處理及排放。該污水處理廠的選址為現時中電用作臨時倉庫的政府土地。</p> <p>(iii) 當工程完成後，村屋的業主便須要自行把村屋污水渠接駁到附近的鄉村污水渠，其工程主要包括建造一個終端沙井及把村屋內的污水渠經過終端沙井接駁到鄉村污水渠。終端沙井及上游接駁村屋的污水渠將會由村屋的業主負責建造、保養及維修。</p> <p>(iv) 當村屋成功接駁到公共污水渠後，有關村屋的業主便須要繳交排污費。</p>
3	<u>討論內容</u> 經上述簡介後，村代表及村民與渠務署及博威的討論如下：

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礮石灣村諮詢會議 — 會議紀錄

事項	議事內容
3.1	<u>村屋污水渠的接駁事宜</u>
(i)	村代表詢問是否每間村屋均需建造一個終端沙井，而建造終端沙井及相關的接駁污水渠工程的費用大概多少？
(ii)	渠務署回應時表示，為了釐清村屋業主與政府之間的保養及維修責任，每間接駁到公共污水渠的村屋一般都需要建造一個獨立的終端沙井。另外，終端沙井內的 U 形渠亦有阻隔細菌由公共污水收集系統進入村屋的重要功能。因此，每間村屋均需建造一個終端沙井的安排亦有助保障居住環境衛生。其實這樣的安排已十分普遍地實行在其它鄉村，一直以來並無重大問題，因此村民不用擔心。
(iii)	渠務署繼續表示，建造終端沙井及相關的污水渠接駁工程(即把村屋內的污水渠經過終端沙井接駁到公共鄉村污水渠)所需的費用會因應每間村屋的實際情況有所不同，不能一概而論。但根據過往經驗，建造一個終端沙井及相關接駁工程的費用一般大約為數千至一萬元不等。
(iv)	村代表詢問是否所有村屋都能夠接駁至公共污水收集系統？
(v)	渠務署表示會盡量把鄉村污水收集系統伸延到每間村屋，但礙於技術、地勢及私人土地等問題，部份村屋可能未能接駁到公共污水收集系統而需要繼續使用現有的化糞池。不過，渠務署會盡力克服這些困難，務求使公共污水收集系統的覆蓋範圍更大，能讓更多村民受惠。
3.2	<u>礮石灣污水泵房的選址事宜</u>
(i)	鑑於村民現正與運輸署磋商於現時礮石灣污水泵房的選址設置一個新巴士站以方便村民出入，村代表希望擬建的污水泵房能夠遷往其它地方，例如位於現時選址以南過了大河、在礮石灣 1 號村屋斜對面的位置。
(ii)	就上述建議，渠務署及博威連同村代表及村民到該位置進行實地視察。渠務署會考慮是否把礮石灣污水泵房遷往該新址，並把結果告知村代表。 (會後註：經過考慮及評估後，發現該新址位處河道旁邊的斜坡上，土質十分鬆軟而且土地面積亦不足以興建污水泵房及相關設施。另外新址毗鄰大河，泵房日後的運作將受到不必要的限制。因此渠務署認為該新址並不適合興建污水泵房。至於村民擔心泵房的原定位置會與擬建的礮石灣新巴士站有衝突。渠務署已經向運輸署查詢，得知泵房的原定選址不會阻礙新巴士站的工程。基於上述的考慮，渠務署建議按照原定計劃 — 即是在原址(位於礮石灣村村口對面、中電變壓站旁邊的空地)興建礮石灣污水泵房。若村民仍有任何意見，歡迎隨時再與渠務署代表黎建雄先生或博威聯絡。)

工務計劃項目第4331DS號
離島污水收集系統第二階段 — 南大嶼山污水收集系統工程 — 勘測研究
磡石灣村諮詢會議 — 會議紀錄

事項	議事內容
4	<u>總結</u>
4.1	經討論後，村代表及村民表示磡石灣村是支持渠務署推行「離島污水收集系統第二階段 — 南大嶼山污水收集系統工程」。
4.2	渠務署感謝磡石灣村對該工程的支持。
4.3	與會人仕沒有其它事宜。本會議於上午 11:30 結束。

- 完 -

工務計劃項目第4331DS號
離島污水收集系統第二階段 — 南大嶼山污水收集系統工程 — 勘測研究

貝澳新圍村及貝澳羅屋村諮詢會議 — 會議紀錄

日期： 2010 年 9 月 1 日 (星期三)
時間： 上午 10:30 至下午 12:45
地點： 貝澳新圍村公所
出席： 貝澳新圍村原居民代表 — 何桂成先生
貝澳新圍村居民代表 — 何威業先生
貝澳羅屋村原居民代表 — 羅德義先生
貝澳羅屋村居民代表 — 羅玉堂先生
渠務署 / 顧問工程管理部代表 (渠務署) — 黎建雄先生 / 工程師
博威工程顧問有限公司代表 (博威) — 周志深先生 / 總工程師
— 鍾成興先生 / 助理工程師

事項	議事內容
1	<u>會議目的</u>
1.1	渠務署感謝各位村代表抽空參與本諮詢會議，並說明本會議的目的是繼 2010 年 8 月 3 日舉行的大嶼山南區鄉事委員會諮詢會議後，就「離島污水收集系統第二階段 — 南大嶼山污水收集系統工程」的細節，進一步諮詢村民的意見。
2	<u>工程簡介</u>
2.1	<p>渠務署聘請的博威工程顧問有限公司(簡稱「博威」)展示了在貝澳新圍村及貝澳羅屋村範圍內擬建工程的初步設計草圖，並向各位村代表介紹工程的細節及整體計劃。有關簡介如下：</p> <p>(i) 工程包括分別在貝澳新圍村及貝澳羅屋村建造一個鄉村污水收集系統。渠務署會在村內的走道下敷設鄉村污水渠，以收集由各村屋排放出來的污水，並取替現時村屋的污水處理設施、例如化糞池。</p> <p>(ii) 上述鄉村污水收集系統將會接駁到沿嶼南路興建的污水主幹渠。經過污水主幹渠，污水便會輸送到擬建的貝澳污水泵房。該污水泵房的選址為貝澳老圍村公所斜對面、鄰近貝澳二號抽水站的政府土地。污水會再由貝澳污水泵房經壓力喉管輸送到擬建的礮石灣污水處理廠作妥善處理及排放。該污水處理廠的選址為現時中電用作臨時倉庫的政府土地。</p> <p>(iii) 當工程完成後，村屋的業主便須要自行把村屋污水渠接駁到附近的鄉村污水渠，其工程主要包括建造一個終端沙井及把村屋內的污水渠經過終端沙井接駁到鄉村污水渠。終端沙井及上游接駁村屋的污水渠將會由村屋的業主負責建造、保養及維修。</p> <p>(iv) 當村屋成功接駁到公共污水渠後，有關村屋的業主便須要繳交排污費。</p>

貝澳新圍村及貝澳羅屋村諮詢會議 — 會議紀錄

事項	議事內容
3	<p><u>討論內容</u></p> <p>經上述簡介後，村代表與渠務署及博威的討論如下：</p>
3.1	<p><u>制定鄉村污水渠的路線及收地事宜</u></p>
(i)	<p>村代表表示由於貝澳新圍村及貝澳羅屋村是位於山腰地帶，所以村內大多數房屋都是興建在梯級式的平台上。因此，村代表希望渠務署在草擬污水渠的路線時能夠考慮當地的實際環境及地理形勢。另外，如果需要徵收部份私人土地以建造污水渠，村代表希望渠務署能夠顧及私人土地的完整性。</p>
(ii)	<p>渠務署回應時表示在制定鄉村污水渠的路線時，渠務署會考慮各方面的因素，例如工程對環境的影響、技術的可行性等等，而地理形勢亦是其中一項將會考慮的因素。因此村民可以放心，渠務署會盡量因應地理環境及村民的意見去設計污水渠的路線。</p>
(iii)	<p>渠務署繼續表示工程設計將會盡量避免徵收私人土地，故此污水渠會盡量敷設在現時的政府土地。即使在無可避免的情況下需要徵收私人土地，所需徵收的土地亦會盡量減至最少。在這個原則下，渠務署亦會與地政署商討盡量顧及餘下私人地段的整體性。</p>
(iv)	<p>為了進一步了解貝澳新圍村及貝澳羅屋村的地理環境，村代表隨同渠務署及博威在這兩條鄉村範圍內進行實地視察，並即時就鄉村污水渠的路線提出了意見。渠務署會考慮村代表的意見以制定污水渠的路線，並會把設計圖則給予村代表以作參考。</p>
3.2	<p><u>擬建礮石灣污水處理廠的事宜</u></p>
(i)	<p>鑑於村民有機會在貝澳新圍村及貝澳羅屋村旁邊的山嶺上鳥瞰擬建的礮石灣污水處理廠，村代表擔心該污水處理廠會造成視覺上的影響。因此村代表希望渠務署在設計污水處理廠時，可以加入園林種植及景觀設計以融和周圍環境。</p>
(ii)	<p>渠務署表示擬建的礮石灣污水處理廠將會加入景觀及園林綠化設計，以盡量把污水處理廠融入大自然環境之中，減低對村民視覺上的影響。如有需要，渠務署會把該污水處理廠的初步景觀及園林設計資料，給予村代表以作參考。</p>
4	<p><u>總結</u></p>
4.1	<p>經討論後，村代表表示貝澳新圍村及貝澳羅屋村是支持渠務署推行「離島污水收集系統第二階段 — 南大嶼山污水收集系統工程」。</p>
4.2	<p>渠務署感謝貝澳新圍村及貝澳羅屋村對該工程的支持。</p>
4.3	<p>與會人仕沒有其它事宜。本會議於下午 12:45 結束。</p>

Annex B

Executive Summary of South Lantau Sewerage Works EIA report

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Figure

[Figure 1.1 Outlying Islands Sewerage Stage 2 – South Lantau Sewerage – General Layout Plan](#)

1 INTRODUCTION

1.1 Background

The Environmental Protection Department (EPD) completed the Outlying Islands Sewerage Master Plan (SMP) Study in 1994 and drew up a SMP for Lantau Island and other outlying islands. The proposed sewerage works of the SMP were divided into two stages. The proposed sewerage works for South Lantau falls under the Stage 2 Works.

The Stage 2 Works of the SMP were subsequently reviewed by EPD under the Outlying Islands Sewerage Master Plan Stage 2 Review (SMP Review Study) in 2001. The proposed sewerage works for South Lantau were further reviewed in 2008 under the Review of Sewerage Scheme for South Lantau (Review Study).

According to the Review Study, the proposed sewerage works for South Lantau would serve the unsewered areas of Shui Hau, Tong Fuk, Cheung Sha, San Shek Wan, Pui O and Ham Tin. The above sewerage works, namely Outlying Islands Sewerage Stage 2 – South Lantau Sewerage Works, are hereinafter referred to as the Project. The Project is to be implemented under Public Works Programme Item No. 4331DS – “Outlying Islands Sewerage Stage 2 – South Lantau Sewerage Works”.

The Drainage Services Department (DSD) is responsible for undertaking the Project. Black & Veatch Hong Kong Limited (B&V) was commissioned by the DSD under the study “Outlying Islands Sewerage Stage 2 – South Lantau Sewerage Works and Other Works – Design and Construction” (Agreement No. CE 17/2012 (DS)) to provide consultancy services in design and construction supervision for the Project. Environmental Resources Management (ERM) was the sub-consultant of B&V to undertake the Environmental Impact Assessment (EIA) of the Project.

The *EIA Report* addresses potential environmental impacts associated with the construction and operation of the Project. This *Executive Summary* summarises the key findings of the EIA.

1.2 Purpose & Nature of the Project

The purpose of this Project is to construct and operate a sewerage system for proper collection, treatment and disposal of the sewage arising from South Lantau, which includes the areas in Shui Hau, Tong Fuk, Cheung Sha, San Shek Wan, Pui O and Ham Tin.

The proposed Project is proposed to be implemented as follows:

- **Village sewerage works.** It mainly comprises the construction of about 16 km long village sewerage to nine unsewered villages at Shui Hau, Tong Fuk, Cheung Sha Upper Village, Cheung Sha Lower Village, San Shek Wan, Pui O San Wai, Pui O Lo Wai, Pui O Lo Uk and Ham Tin in South Lantau for proper collection of sewage generated from these villages and conveyance to the trunk sewerage system mentioned below.
- **Trunk sewerage works.** It comprises the construction of trunk sewerage system, including about 7.5 km long trunk sewer, six sewage pumping stations associated

with about 7.5 km long twin rising mains along South Lantau Road for conveyance of sewage from the village sewerage system to the proposed San Shek Wan Sewage Treatment Works (STW).

- **San Shek Wan STW and associated submarine outfall.** It comprises the construction of a secondary STW at San Shek Wan with a design capacity of about 5,800 m³/day associated with facilities for effluent reuse within the STW and an about 1.1 km long submarine outfall for proper treatment and disposal of sewage.

The general layout plan of the Project is illustrated in [Figure 1.1](#).

The following components of the Project are regarded as Designated Projects under the Environmental Impact Assessment Ordinance (Cap. 499) (EIAO):

- A dredging operation which is less than 500 m from the nearest boundary of an existing or planned coastal protection area (*Item C.12 of Part I of Schedule 2 of EIAO*);
- Sewage treatment works with an installed capacity of more than 5,000 m³ per day and a boundary of which is less than 200 m from the nearest boundary of an existing or planned residential area, site of special scientific interest, site of culture heritage, bathing beaches, etc. (*Item F.2 of Part I of Schedule 2 of EIAO*);
- Sewage pumping stations with an installed capacity of more than 2,000 m³ per day and a boundary of which is less than 150 m from an existing or planned residential area, site of special scientific interest, site of culture heritage, bathing beaches, etc. (*Item F.3 of Part I of Schedule 2 of EIAO*);
- An activity for the reuse of treated sewage effluent from a treatment plant (*Item F.4 of Part I of Schedule 2 of EIAO*); and
- A submarine sewage outfall (*Item F.6 of Part I of Schedule 2 of EIAO*).

1.3 Purpose of this EIA Report

The purpose of this EIA study is to provide information on the nature and extent of environmental impacts arising from the construction and operation of the Project. This information will contribute to decisions by the Director of Environmental Protection (DEP) on:

- the overall acceptability of any adverse environmental consequences that are likely to arise as a result of the Project;
- the conditions and requirements for the detailed design, construction and operation of the Project to mitigate against adverse environmental consequences; and
- the acceptability of residual impacts after the proposed mitigation measures are implemented.

This *EIA Report* is prepared in accordance with the EIA Study Brief No. ESB-209/2009 and the Technical Memorandum of the Environmental Impact Assessment Process (EIAO-TM).

The specific objectives of the EIA Study are described in Clause 2 of the EIA Study Brief, and the detailed requirements of the EIA Study are set out in Clause 3 of the EIA Study Brief. As specified in the EIA Study Brief, the EIA Study has addressed the key environmental issues associated with the construction and operation of the Project.

1.4 Justification for the Need of the Project

In the South Lantau, there is currently no public sewerage system available. Most of the local premises are equipped with septic tanks or other private sewerage facilities for sewage treatment. If these are not properly operated or controlled, partially treated sewage may be disposed of indirectly into the nearby river courses through soakaway mechanism of the septic tanks. These septic tanks are maintained by their private owners and have been operated for many years. If they are not properly maintained or constructed (e.g. insufficient desludging), or sufficiently separated from nearby water bodies, sewage generated from these premises may overflow or be indirectly discharged to the environment thus affect the surrounding areas and cause pollution to the nearby river courses. To reduce the risk of such pollution and for improvement of environmental hygiene, the Government proposes to implement this Project to provide a public sewerage system for proper collection, treatment and disposal of the sewage for South Lantau. This sewerage scheme will serve nine villages/areas in South Lantau, namely Shui Hau, Tong Fuk, Cheung Sha Lower Village, Cheung Sha Upper Village, San Shek Wan, Pui O Lo Uk Tsuen, Pui O San Wai, Pui O Lo Wai and Ham Tin within the Project Catchment Area.

Upon completion and commissioning of this Project, sewage will be collected from the Project Catchment Area and conveyed to the proposed STW for central and proper treatment to the required environmental standards and disposal via a submarine outfall to outer bay of Pui O. This will reduce the risk and the pollution impacts due to overflow from insufficient desludging, thus safeguard the water of the adjacent beaches / stream courses along the South Lantau coast, and enhance living quality and environmental hygiene. It is anticipated that the overall village environment and environmental conditions within the Project Catchment Area can also be improved after commissioning of the works.

If this Project is not implemented, South Lantau will continue to rely on the septic tanks and private sewerage facilities for treatment of the sewage arising from the area. Consequently, it would be hard to avoid the risk of improper discharge causing pollution to the nearby river courses and coastline, deterioration in environmental hygiene and environmental nuisance.

2 PROJECT DESCRIPTION

2.1 Project Location

The catchment of the Project is located in the southern coast of Lantau Island and surrounded by the Lantau South Country Park. The Project Catchment Area covers the unsewered areas of South Lantau including traditional villages (Shui Hau, Tong Fuk, Cheung Sha Lower Village, Cheung Sha Upper Village, San Shek Wan, Pui O Lo Uk Tsuen, Pui O San Wai, Pui O Lo Wai and Ham Tin), residential developments, individual village houses, tourist spots and recreational facilities (bathing beaches, BBQ and camp sites, water sports centers, hiking trails, guesthouses, hostels and executive holiday houses), a correctional institution (Tong Fuk Correction Institution), schools, government institutions and utility facilities. South Lantau Road is the major access road of the Project Catchment Area.

2.2 Project Components and Layout

Table 2.1 presents a summary of the project details.

Table 2.1 – Summary of Project Description

Project Consideration	Details
Proposed Sewerage Scheme	<ul style="list-style-type: none"> Village sewerage works including gravity pipes and manholes in the unsewered areas of Shui Hau, Tong Fuk, Cheung Sha, San Shek Wan, Pui O and Ham Tin in South Lantau Trunk sewerage works including trunk sewers and twin rising mains along the South Lantau Road and Chi Ma Wan Road, and six sewage pumping stations in Shui Hau, Tong Fuk, Cheung Fu Street, Cheung Sha, San Shek Wan and Pui O Sewage treatment works including a secondary sewage treatment plant at San Shek Wan associated with facilities for effluent reuse within the STW and a submarine sewage outfall for discharging treated effluent to the outer bay of Pui O/Chi Ma Wan
San Shek Wan Sewage Treatment Works (STW)	<ul style="list-style-type: none"> Design flow = 5,800 m³/day Average Dry Weather Flow (ADWF) Installed capacity = 17,400 m³
Treatment Objectives of San Shek Wan STW	<ul style="list-style-type: none"> Marine disposal of treated effluent via the submarine outfall Internal reuse of the reclaimed water for non-potable use within the San Shek Wan STW
Treatment Process at San Shek Wan STW	Membrane Bioreactor (MBR)
Shui Hau Sewage Pumping Station	<ul style="list-style-type: none"> Design flow = 620 m³/day Average Dry Weather Flow (ADWF)
Tong Fuk Sewage Pumping Station	<ul style="list-style-type: none"> Design flow = 1,880 m³/day Average Dry Weather Flow (ADWF)
Cheung Fu Street Sewage Pumping Station	<ul style="list-style-type: none"> Design flow = 2,470 m³/day Average Dry Weather Flow (ADWF)
Cheung Sha Sewage Pumping Station	<ul style="list-style-type: none"> Design flow = 920 m³/day Average Dry Weather Flow (ADWF)
San Shek Wan Sewage Pumping Station	<ul style="list-style-type: none"> Design flow = 3,840 m³/day Average Dry Weather Flow (ADWF)
Pui O Sewage Pumping Station	<ul style="list-style-type: none"> Design flow = 1,960 m³/day Average Dry Weather Flow (ADWF)

Project Consideration	Details
Project Footprint	<ul style="list-style-type: none"> About 16 km of gravity pipes, 7.5 km of trunk sewers and 7.5 km of twin rising mains (the concerned road surface will be reinstated for public use) Ranged between 100 – 300 m² for each sewage pumping station About 280 m² and 1,620 m² for the administration building and operation building of San Shek Wan STW (building area) About 1,100 m for the length of submarine outfall
Construction Cut & Fill Requirements	
Gravity pipes, manholes, trunk sewers and twin rising mains	<ul style="list-style-type: none"> Excavated materials = about 200,000 m³ Fill materials = about 169,000 m³ Surplus materials = about 31,000 m³
Sewage pumping station (for a total of six)	<ul style="list-style-type: none"> Excavated materials = about 16,000 m³ (about 2,670 m³ each) Fill materials = about 7,300 m³ Surplus materials = about 8,700 m³
Sewage Treatment Works	<ul style="list-style-type: none"> Excavated materials = about 30,000 m³ Fill materials = about 2,000 m³ Surplus materials = about 28,000 m³
Area of Seabed Affected by Installation of Outfall Diffuser	About 1,300 m ² (39m x 33m)
Marine Dredging Volume (<i>in situ</i> volume)	About 4,700 m ³
Project Operation	<ul style="list-style-type: none"> Sludge generation = approx. 2.56 m³ per day Treated Effluent discharged = 5,800 m³ per day Other solid wastes from regular cleaning/ maintenance activities = 2,600 m³ per year

2.3 Project Programme

The proposed works are expected to be implemented in three works packages as follows:

- Package A comprises the construction of a sewage treatment works at San Shek Wan associated with facilities for effluent reuse and submarine outfall, a sewage pumping station in Pui O and sewerage to the unsewered areas of Pui O area. Construction works is anticipated to commence in mid 2017 for completion in early 2023.
- Package B the provision of sewerage to the unsewered areas of Ham Tin, San Shek Wan, Cheung Sha Upper & Lower Village and Cheung Fu Street region. Construction works is anticipated to commence in mid 2018 for completion in mid 2023. It involves construction of village sewers, a total of three sewage pumping stations in San Shek Wan, Cheung Sha and Cheung Fu Street region, and the associated twin rising mains for collection and conveyance of sewage to the proposed San Shek Wan STW for proper treatment and disposal.
- Package C comprises the provision of sewerage to the unsewered areas of Tong Fuk and Shui Hau. Construction works is anticipated to commence in early 2019 for completion in early 2024. It involves construction of village sewers, a total of two sewage pumping stations in Tong Fuk and Shui Hau, and the associated twin rising

mains for collection and conveyance of sewage to the proposed San Shek Wan STW for proper treatment and disposal.

2.4 Consideration of Alternative Sites, Development Options, Construction Methods & Sequences

An assessment was conducted to investigate the environmental considerations of alternative sites, development options, construction methods and sequences for this Project. The results of assessment are as follows:

- Numbers and locations of Sewage Pumping Station (SPS): Alternative sites and combinations of SPS have been considered, and where technically feasible, deep sewer option has been considered to minimize the total number of proposed SPS and hence the Project's physical footprint. Most of the sites of the proposed SPS have been selected in locations far away from existing village houses where practical to reduce potential impacts on sensitive receivers. In summary, six trunk SPS are proposed in Shui Hau, Tong Fuk, Cheung Fu Street, Cheung Sha, San Shek Wan and Pui O. The footprint of these six SPS has also been optimized taking into account the land take at each location. The omission of three SPS and the effluent pumping station from the original scheme proposed in the Review Study have significantly reduced the physical footprint and hence potential environmental impacts associated with this Project.
- Location of Sewage Treatment Works (STW): This site of the STW at San Shek Wan is adjacent to the South Lantau Road and is currently occupied by the China Light and Power Company as a depot under a short term tenancy. Owing to the limited availability of suitable lands and environmental and planning constraints in South Lantau, the site has been thoughtfully considered as the most suitable site for the STW. The footprint of the site has been minimized as far as practicable by housing the major and large scale facilities/equipment underground. The STW will also be designed with landscape and green features to blend in with the surrounding environment.
- Sewage Treatment Options for San Shek Wan STW: A review of five different biological treatment processes for the proposed STW had been carried out. Membrane Bioreactor (MBR) is recommended for its compact footprint, excellent effluent quality, the least amount of sludge generation and the highest reclaimed water reuse potential. It is adopted as the design of this Project.
- Alternative Construction Methods – Sewers and rising mains: Open-cut excavation in section-by-section will be the predominant method for the proposed sewerage construction works. This method is the most straight-forward method to avoid prolonged construction duration and hence reduces potential disturbance to the environment, local traffic and the public. Where practical, trenchless construction method will also be considered for laying of the proposed sewers and rising mains crossing major roads, road junctions or sensitive locations if necessary to minimize potential impacts to existing traffic or public.
- Alternative Construction Methods – submarine outfall: non-dredged method (Horizontal Directional Drilling (HDD)) has been proposed with a view to reducing the extent of marine dredging and hence the potential impacts on water quality, marine ecology and fisheries of the South Lantau area.

Based on the review and consideration of project alternatives, the preferred scheme taken forward to this EIA study is to provide village sewerage for unsewered villages/areas in South Lantau, trunk sewerage, and a STW at San Shek Wan associated with a submarine outfall for proper collection, treatment and disposal of sewage generated from this area.

3 KEY FINDINGS OF THE ENVIRONMENTAL IMPACT ASSESSMENT

The potential environmental impacts associated with the Project are summarised in the following sections.

3.1 Air Quality

The air quality impact assessment has assessed construction and operation phase impacts of the Project in accordance with the criteria and guidelines stated in the EIAO–TM Annexes 4 and 12, and Air Pollution Control Ordinance (APCO) (Cap. 311). The Study Area for the air quality impact assessment is generally defined by a distance of 500 m from the boundary of the Project Site. A total of 43 Air Sensitive Receivers (ASRs) were identified.

Potential impacts of dust, gaseous emission from diesel-driven construction equipment and odour emissions from construction activities have been evaluated. With implementation of standard construction practices and mitigation measures, no unacceptable impact on ASRs is anticipated.

Potential odour impacts from the operation of the sewage pumping stations and the San Shek Wan STW have been assessed. With the implementation of good management practices and proper odour control measures, no unacceptable impact has been predicted to occur during the operation phase.

Regular site inspections and audits are recommended to be undertaken during the construction phase to verify that proposed mitigation measures are properly implemented. During operation phase, a commissioning test is recommended to be conducted to ascertain the effectiveness of the odour control measures at San Shek Wan STW and the proposed sewage pumping stations. Odour patrol is also proposed during the period of maintenance or cleaning of the activated carbon filter at Cheung Sha SPS.

3.2 Noise

The potential impacts of noise caused by construction and operation activities of this Project have been assessed in this EIA Report. The impacts have been identified and analysed to be in compliance with the criteria and guidelines stated in the EIAO-TM Annexes 5 and 13. In accordance with the EIA Study Brief Section 3.4.5.2 of the Project, the Study Area for the noise assessment includes all areas within 300 m from the Project Boundary. A total of 26 Noise Sensitive Receivers (NSRs) were identified.

For the construction of village sewers and trunk sewers/rising main, construction noise control measures such as use of quiet construction plant, movable noise barriers, noise insulation sheet and scheduling of construction activities, have been recommended. Predicted mitigated noise levels are in the range of 44 to 92 dB(A) at the representative NSRs. In view of the close proximity of some of the NSRs to the works sites, non-compliances of the daytime construction noise criteria due to construction of village sewers and trunk sewers/rising mains would exist even with the implementation of all practical mitigation measures. However, as the trunk sewers/rising mains and the village sewers will be constructed in segments of up to 40 m and 30 m in length respectively, it is anticipated that the noise exceedances will only occasionally arise on isolated locations during the maximum 2 months period required to

construct each segment. Based on the above, the residual impacts are anticipated to be localised, temporary, reversible, only lasted for a relatively short period of time, and the actual impact can be minimized through proper phasing of works and properly managed construction schedule. Regular noise monitoring at NSRs as part of the Environmental Monitoring and Audit (EM&A) programme during the construction stage is recommended. A systematic EM&A programme will be carried out to ensure proper implementation of both construction phase mitigation measures and the construction schedule of the works of trunk sewers/rising mains and village sewers.

Potential noise impacts from the operation of the SPS and the San Shek Wan STW have been assessed. The operational fixed plant noise levels at the representative NSRs are predicted to comply with the noise criteria. Attenuation measures, if required, will be provided to the fixed plant items for achieving the compliance of EIAO-TM noise criteria during the design stage. Regular noise monitoring at NSRs as part of the EM&A programme during testing and commissioning stage is also recommended.

3.3 Water Quality

The water quality impact assessment has assessed construction and operation phase impacts of the Project in accordance with the criteria and guidelines stated in the EIAO-TM Annexes 6 and 14, and applicable assessment standards/ criteria. The assessment, utilising water quality and hydrodynamic computational models, has mainly examined the potential impacts caused by marine dredging works and land-based activities during construction phase of SPSs and STW, and effluent discharge from the operation of SPSs and STW during operation phase.

Non-dredged method with localised minor dredging will be adopted as the preferred option for the construction of the proposed submarine outfall to reduce potential impacts of the marine dredging works on water quality, marine ecology and fisheries of the South Lantau area.

Computational modelling has been conducted to predict potential water quality impacts from the localized marine dredging for the construction of submarine outfall, including sediment solids (SS) elevation, sedimentation, dissolved oxygen (DO) depletion, release of nutrient, heavy metal and trace organic pollutants. The estimated dredged volume is about 4,700 m³. Full compliance of the relevant assessment criteria is predicted at all identified water sensitive receivers, thus unacceptable adverse impacts to water quality is not anticipated.

The use of secondary (biological) treatment with Membrane Bio-reactor (MBR) at San Shek Wan STW is warranted to maintain superior effluent quality from the STW for the protection of water quality sensitive receivers and beneficial uses in the Southern Water Control Zone. Therefore, unacceptable adverse water quality impact associated with the Project's normal operation is not envisaged. Discharge of untreated sewage in the event of emergency is rare given the adequate control measures (inclusive of standby units, standby power supply and emergency storage tanks) will be in place at the STW and SPSs. Nonetheless, the potential impact on water quality from emergency discharge was studied to allow the assessment of this unlikely event. The results indicated that the emergency discharge would have some changes on local water quality but water quality is predicted to resume to ambient levels within 1-2

day after the cessation of emergency discharge. Hence no long-term residual water quality impacts are anticipated in case of emergency discharge of untreated sewage.

Water quality monitoring is recommended for the construction and operation phases. The specific monitoring requirements are detailed in the EM&A Manual associated with the EIA Report. An Emergency Response Plan shall be prepared and implemented during the operation of this Project.

3.4 Waste Management

The potential impacts to waste management caused by construction and operational activities of this Project have been assessed in this EIA Report. The impacts have been identified and analysed to be in compliance with the criteria and guidelines stated in the EIAO-TM Annexes 7 and 15. Legislative requirements and assessment criteria relevant to the waste management assessment have also been presented.

The wastes arising during the construction and operation phases include excavated material, construction and demolition material, marine sediments from dredging works, general refuse from daily operations, chemical waste from maintenance of plant and equipment and sludge from the STW operation. The quantity, quality and timing of these waste arising have been identified. It is estimated that the quantities of excavated materials to be generated from the construction of the sewage pumping stations (for a total of six), sewage treatment works, and gravity pipes, manholes, trunk sewers and twin rising mains are approximately 16,000 m³, 30,000 m³ and 200,000 m³ respectively. The reuse of inert excavated material will be maximised during the backfilling works where practicable, and surplus excavated material which is approximately 67,700 m³ will be disposed of off-site at public fill reception facilities. The total quantity of marine sediments generated will be approximately 4,700 m³. Approximately a total of 784 m³ of inert C&D materials and 196 m³ of non-inert C&D materials will be generated from the construction of civil structures and buildings at the project site. During operation phase, typical waste types will be generated from the operational activities at STW and SPSs. Dewatered sludge from STW operation at the rate of 3m³ per day will be removed for disposal at landfills or at the Sludge Treatment Facility in Tuen Mun. It is estimated that very small amount (about hundred litres) of used chemical wastes will be generated each month during the project operation for maintenance work, and they will be managed with good site practices. Other solid wastes from screening and grit removal (about 1m³ per day) will be compacted and disposed at the Mui Wo Transfer Facility for disposal at landfills.

With good site practices, the potential environmental impacts associated with the storage, handling, collection, transport and disposal of the identified waste arising from the Project will be within acceptable limits set out in the EIAO-TM. Therefore, no adverse waste management implications are anticipated.

Regular site inspections and audits will be undertaken during the construction phase to verify that proposed mitigation measures are properly implemented.

3.5 Ecology

The EIA has assessed the impacts on terrestrial and aquatic ecological resources associated with the construction and operation of the Project as per the criteria and guidelines stated in the EIAO-TM Annexes 8 and 16.

A total of 15 habitat types were identified within the Study Area. They are terrestrial habitats (i.e. Fung Shui woodland, mixed woodland, plantation, shrubland-grassland, cultivated land, marsh, stream/channel and urbanised/disturbed area) and coastal habitats (i.e. mangrove, rocky shore, sandy shore, sand flat, subtidal hard bottom and soft bottom habitats and coastal/marine waters). Within the footprint of the SPSs and STW, the habitat composition included urbanised/disturbed area, cultivated land, plantation, shrubland-grassland and mixed woodland. A number of recognized ecologically important / sensitive sites are located within the Study Area. These include Lantau South Country Park, Coastal Protection Area, Green Belt, the mangroves in Pui O, Fung Shui woodlands in Tong Fuk and Shui Hau, proposed Site of Special Scientific Interest (SSSI) in Shui Hau Wan, Ecologically Important Streams (EIS) in Pui O and Tong Fuk and horseshoe crab nursery ground in Shui Hau.

Regarding the species of conservation importance, seven flora species (i.e. Incense Tree *Aquilaria sinensis*, Hong Kong Pavetta *Pavetta hongkongensis*, Silver-back Artocarpus *Artocarpus hypargyreus*, Water Shamrock *Marsilea quadrifolia* and Water Spangles *Salvinia natans*, Luofushan Joint-fir *Gnetum luofuense* and *Zoysia sinica*), one mammal species (i.e. Japanese Pipistrelle *Pipistrellus abramus*), five bird species (i.e. Reef Egret *Egretta sacra*, Black Kite *Milvus migrans*, Collared Scops Owl *Otus lettia*, Greater Coucal *Centropus sinensis* and Hwamei *Garrulax canorus*), one amphibian species (i.e. Chinese Bullfrog *Hoplobatrachus chinensis*), one reptile species (i.e. Copperhead Racer *Elaphe radiata*), seven fish species (i.e. Japanese eel *Anguilla japonica*, Predaceous Chub *Parazacco spilurus*, Eye-spotted puffer *Takifugu ocellatus*, Sleepy goby *Psammogobius biocellatus*, Indo-pacific tropical sand goby *Favonigobius reichei*, Small snakehead *Channa asiatica* and Spotty band goby *Glossogobius olivaceus*), one crustacean species (*Pseudosesarma patshuni*), one hard coral species (i.e. *Oulastrea crispata*) and one horseshoe crab species (i.e. *Tachypleus tridentatus*) were recorded during the field baseline surveys. But, none of these species were found within the boundary of Project, except for the Incense Tree *Aquilaria sinensis* which was recorded at San Shek Wan SPS Alternative Site and San Shek Wan STW.

Construction impacts to marine ecological resources (i.e. natural rocky shore and subtidal hard bottom habitats) and marine sensitive receivers (i.e. Shui Hau sandflat) will largely be avoided by adopting non-dredging method (i.e. HDD method) for constructing the submarine outfall, proper planning design and execution of the works (i.e. optimisation of project construction schedule/ sequence, using good engineering/ industry practice, timely completion of construction works to reduce impact duration, etc.).

During the construction phase, construction activities may cause direct ecological impacts including habitat loss and vegetation removal, whereas indirect impacts on wildlife may include disturbances and changes in water quality. Loss of habitats is expected to occur in habitats of low and low to moderate ecological values, and approximately 0.52 – 0.55 ha of mixed woodland of moderate ecological value will be lost due to the construction of the proposed and alternative San Shek Wan SPSs, and the San Shek Wan STW and their

associated access roads. Impact to mixed woodland and associated flora of conservation importance (the Incense Tree *Aquilaria sinensis*) will be compensated by woodland compensation and transplantation, respectively.

Potential impacts of increased human activities and other disturbances due to the Project construction would not be significant given regular checks on construction site practices and boundaries will be conducted. In addition, in view of the availability of surrounding similar habitats, the potential impact on wildlife especially on the species of conservation importance as a result of habitat fragmentation and isolation is considered to be minimal.

The EIA sets out mitigation measures to reduce ecological impacts, such as avoidance, woodland compensation and transplanting, regular checks in construction site practices and boundaries, which will reduce potential disturbance to the surrounding environment. With the implementation of the proposed mitigation measures, no adverse residual impact due to the land-based and marine-based construction of proposed sewers, rising mains, SPSs and STW and submarine outfall is anticipated.

3.6 Fisheries

The EIA has assessed the impacts to fisheries resources and fishing operations associated with the construction and operation of the Project as per the criteria and guidelines stated in the EIAO-TM Annexes 9 and 17.

The desktop review of baseline conditions of commercial fisheries resources and fishing operations indicate that the fishing ground within the Project's boundary is considered as of low commercial value and the waters of the Project area as of low importance to Hong Kong fishing industry.

Potential impacts of direct disturbance to fisheries resources and habitat, and permanent and temporary loss of fishing grounds, underwater sound and changes in water quality from construction activities have been considered. Potential impacts to fisheries resources and fishing operations during the construction phase may arise from the permanent loss of approximately 0.13 ha of within the physical footprint of the diffuser, the temporary disturbance to marginally larger marine construction works area, and underwater sound and changes in water quality from construction activities. There will be no permanent loss of fisheries production in the water column arising from the installation of outfall diffuser. No unacceptable impacts to fisheries are anticipated. Marine construction works will be designed to reduce potential impacts on water quality which will, in turn, reduce impacts on fisheries resources.

Potential impacts of treated effluent and emergency sewage discharge from the operation of the proposed Project have been assessed. Effluent discharged from the STW will comply with the relevant statutory standards and requirements. Potential impacts of treated effluent discharge are expected to be localized in the vicinity of the outfall which is about 10 km away from the Cheung Sha Wan FCZ, thus no unacceptable impact due to low DO or elevated TIN levels has been identified on the aquaculture activity as the FCZ. In case of emergency discharge of untreated sewage, the potential water quality changes were predicted to occur only for a very short period and localised to the proximity of the discharge locations, and

would return to ambient levels within 1 - 2 days, unacceptable adverse impacts to fisheries in the long term are not anticipated. Nonetheless, standby equipment, standby power supply and emergency storage will be provided at each of the SPS and STW. The standby equipment and standby power supply will maintain continuous operation of the system when the duty equipment or main power supply is broken down. In extreme situation when both the duty and standby equipment or standby power supply failed, sewage will be bypassed to the emergency storage tanks to prevent overflow. As such, discharge of untreated sewage in the event of emergency is of extreme low likelihood. Thus, no unacceptable fisheries impacts are expected to arise from project operation.

Monitoring activities designed to detect and mitigate any unacceptable impacts to water quality during construction phase are also expected to serve to protect against unacceptable impacts to fisheries. No fisheries-specific monitoring measures are required during construction or operation activities.

3.7 Landscape and Visual

The EIA has assessed the landscape and visual impacts associated with the construction and operation of the Project as per the criteria and guidelines stated in the EIAO-TM Annexes 10 and 18, and EIAO Guidance Note No. 8/2010.

For the proposed sewers works, the proposed village sewers, trunk sewers and rising mains will mainly be laid underground along the existing carriageway, footpaths and village alleys. The construction works will be carried out section-by-section in localized areas with a short period of time in order to reduce the disturbance to the surrounding areas and nearby residents. The works area will be reinstated to its original conditions and not considered to cause significant operational visual impact. The main causes of landscape and visual impact would be due to the small built structures of the SPSs, and STW.

A total of 10 Landscape Resources (LRs) and four Landscape Character Areas (LCAs) have been identified within the study area. The magnitudes of change on the LCAs and LRs during construction and operation are expected vary from negligible to intermediate. Appropriate landscape measures are proposed to mitigate these landscape impacts and the significance of residual landscape impacts assessed. After mitigation at Day 1 of operation, slight landscape impact significance will be experienced by LR3, LR4 and LR5, while LR1 will experience moderate landscape impact significance. But with the maturing of soft landscape mitigation vegetation, residual impact significance of all LRs and LCAs will reduce to insignificant by Year 10 of operation, except LR1, which will be reduced to slight.

Visually, some residential VSRs around Tong Fuk (H2), Cheung Sha (H3), Pui O (H5), Ham Tin (H6) and near lower Cheung Fu Street (H7) are predicted to experience moderate visual impacts, as are the Travellers on South Lantau Road (T1) largely due to laying of the pipe works associated with the Project and these impacts will remain moderate even upon implementation of some mitigation. By Day 1 of operation however, most of these impacts will reduce to slight if the suggested mitigation measures are implemented, with the exception of viewers around Tong Fuk (H2) and Cheung Fu Street (H7) where the impact will remain moderate at Day 1. By Year 10, all residual visual impacts are considered to be insignificant with the implementation of suitable mitigation measures, with the exception of the impact on

the residents of Tong Fuk who will still experience slight impact due to the SPS as well as a house in front of the proposed Cheung Fu Street Trunk SPS on lower Cheung Fu Street where the impact is considered slight as the current view of a planted garden area would change to a view of the proposed SPS..

Based on the results of tree survey, approximately 400 trees are affected in the proposed sites. At detailed design stage, the Project will aim at avoiding tree felling as far as practicable, but if unavoidable, a tree felling application will be submitted to the relevant authorities for approval in accordance with the relevant guidelines/requirements. The loss of trees will be compensated at a ratio of 1:1 according to DEVB TC(W) No. 7/2015.

Besides mitigation measures for protection, preservation, transplantation and compensation of any felled trees, other landscape and visual mitigation measures are proposed including reuse of top soil, detailed design considerations to reduce landscape footprint and blend visibility of structures with the surrounding environment. Vertical greening and green roof and light control are also recommended as mitigation measures to minimize visual impacts and enhance overall greenery provision.

With implementation of these appropriate mitigation measures, the residual landscape impacts are considered to be insignificant by year 10 of operation when all soft landscaping has reached maturity. The residual visual impacts are considered to be slight at worst by year 10 of operation.

Therefore landscape and visual impacts are considered to be acceptable with mitigation measures.

3.8 Cultural Heritage

The EIA has assessed the cultural heritage impact associated with the construction and operation of the Project as per the criteria and guidelines stated in the EIAO-TM Annexes 10 and 19.

A desktop review supplemented by geophysical survey in the study area of Marine Archaeological Investigation (MAI) suggested that no underwater archaeological or cultural heritage features on or below the seabed is located. Therefore, no impact on marine archaeological resources is anticipated.

A desktop review supplemented by field surveys identified a number of sites of cultural heritage within the Study Area. These include built heritage features comprising two Grade 3 and one proposed Grade 3 historic building, one nil grade historic building, 38 historic built structures, 14 historic graves and one historic landscape feature. Also, four sites of archaeological interest were identified. Within the proposed Project Site, the Cheung Sha site of archaeological interest is area of medium to low archaeological potential, and Shui Hau, Tong Fuk, Pui O sites of archaeological interest are of low archaeological potential.

Out of all the identified built heritage features, potential impact to a total of 20 built heritage features have been identified and appropriate mitigation measures have been recommended for the concerned built heritage features to avoid and minimise potential impacts from

construction activities. These mitigation measures include refinement of proposed alignment of sewers, baseline condition survey and baseline vibration impact assessment to be conducted by a qualified building surveyor and a qualified structural engineer prior to construction commencement, control of mechanical equipment operation, use of handheld tools within 20 m from concerned built heritage features and adoption of proper protection measures for works close to concerned built heritage features.

Potential archaeological impact has been identified at an area with medium archaeological potential and four areas with low archaeological potential. Appropriate mitigation measures such as a Communication Plan, proper site staff briefing and survey-cum-rescue excavation have been recommended to be conducted before the commencement of the excavation of the proposed alignment to mitigate the impacts.

With the implementation of the recommended mitigation measures, it is anticipated that there would be no construction and operational residual impacts and the adverse cultural heritage impact is anticipated to be within acceptable level.

3.9 Environmental Monitoring and Audit

Environmental monitoring and audit requirements have been identified and recommended to ensure the effectiveness of the recommended mitigation measures. These requirements are specified in the EM&A Manual. The monitoring requirements cover the area of odour monitoring, noise, water quality and cultural heritage. Regular site audits throughout the construction and operation of the Project have also been recommended to ensure that all the proposed mitigation measures are fully implemented.

4 KEY ENVIRONMENTAL OUTCOMES OF THE PROJECT

4.1 Environmental Benefits of the Project and the Environmental Protection Measures Recommended

At present, there is no public sewerage in South Lantau. Sewage from this unsewered area is now treated and disposed of by means of private on-site treatment facilities (such as septic tanks and soakaway (STS) systems). These facilities are however often ineffective in removing pollutants due to their proximity to watercourse and inadequate maintenance. Sewage from these unsewered areas has therefore been identified as a source of water pollution to the nearby watercourses as well as the receiving waters of Southern Water Control Zone. With implementation of this Project which involves provision of village and trunk sewerage system, and a sewage treatment works, sewage generated from this area will be properly collected, treated and disposed. The capacity of the sewerage system will be designed to cope with the population growth and future development. Discharge of low quality effluent to the receiving water body will be reduced in South Lantau. Furthermore, hygiene problems within the catchment area arising from the use of STS systems will be largely reduced with the provision of public sewers to currently unsewered villages, villa, bungalows, residential areas, beach facilities, public institutions, etc., where practicable.

4.2 Population and Environmentally Sensitive Area Protected

The marine waters near South Lantau and the two ecologically important streams at Tong Fuk and Pui O are protected by the provision of a public sewerage system with adequate capacity to cope with population growth and future development as a result of proper collection, treatment and disposal of sewage generated from the area. The residential areas, villages, villa, bungalows, beach facilities, public institutions, etc. which are currently unsewered are also protected by provision of sewers under this Project.

4.3 Environmentally Friendly Designs Recommended

The proposed sewerage system is designed to be environmentally friendly and the essential elements of the environmentally friendly design comprise the following:

- The trunk sewers and rising mains are proposed to be constructed underneath the South Lantau Road to minimize disturbance to sensitive receivers and natural habitats which are mainly located at the hilly area and coastal lines alongside the South Lantau Road;
- Trenchless construction method where practicable would be adopted to laid the trunk sewers and rising mains underneath the South Lantau Road and at locations crossing road junctions or watercourses that will reduce disturbance to the road users and surrounding environment;
- The laying of trunk and village sewers will be implemented in non-overlapping workfronts that can reduce disturbance to the local public due to concurrent works;
- The elimination of three SPS and the effluent pumping station as a result of review on the Review Study significantly reduce the Project's physical footprint and hence potential environmental impacts on sensitive receivers;

- Submersible type pumping stations are proposed to minimize the scale and size of above-ground structures, and hence reduce the footprint of the SPS;
- Compacted sewage treatment process, MBR is recommended for the STW that can reduce the footprint and the amount of sludge generation to a minimum. At the same time, it can provide superior quality of effluent and the highest reclaimed water reuse potential. The overall footprint of the STW can hence be reduced to minimize encroachment on surrounding environment;
- The scale and size of above-ground structure of the STW are minimized by housing large scale facilities underground that results in a single multi-storey structure for enclosing all the necessary equipment;
- The provision of standby parts, standby power supply and emergency storage for each of the SPS and STW will improve the reliability of the sewerage system, while the provision of deodorization units inside the SPS and STW could reduce the possible odour impact to the adjacent sensitive receivers;
- The SPS and STW will be designed with landscape and green features to blend them in with the adjacent environment. Green roof will be designed for the STW and more trees will be planted within the SPS and STW to enhance greenings and improve visual appearances;
- Non-potable reuse of effluent within the STW will be proposed to reduce the consumption of water;
- The alignment and length of the submarine outfall are at sufficient distances from sensitive receivers to reduce potential impacts on water quality and marine ecology; and
- The use of HDD for construction of submarine outfall will significantly reduce the extent of seabed dredging and dredging volume, thereby reduce the marine footprint of this Project and the potential impacts on water quality and marine ecology.

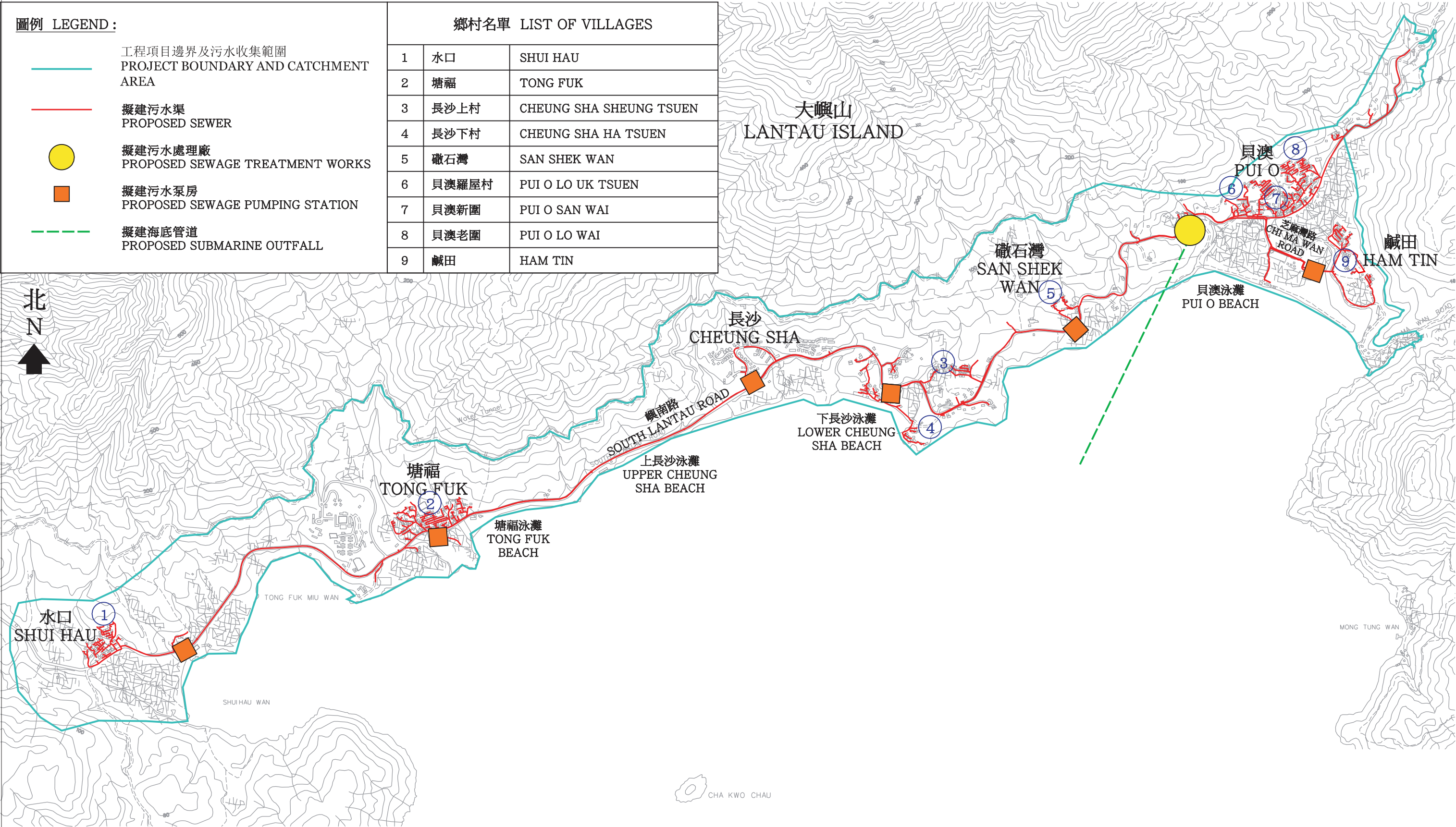
4.4 Key Environmental Problems Avoided

Potential deterioration of marine waters near South Lantau due to the unavailability of proper sewage collection, treatment and disposal will be avoided by provision of a sewerage system of adequate design and capacity to cope with population growth and future development in the area. Furthermore, the hygiene problems arising from the use of STS systems will be largely relieved by provision of public sewers to currently unsewered villages, villa, bungalows, residential areas, beach facilities, public institutions, etc., where practicable.

5 OVERALL CONCLUSION

Upon completion of the Project, there will be improvement in environmental hygiene of the South Lantau. The EIA study concludes that with incorporation of the recommended mitigation measures and the proper implementation of the EM&A programme, the Project will not impose adverse impacts on the neighbouring environment during construction and operational phases.

Figure



Title Outlying Islands Sewerage Stage 2 – South Lantau Sewerage – General Layout Plan	OUTLYING ISLANDS SEWERAGE STAGE 2 SOUTH LANTAU SEWERAGE WORKS - INVESTIGATION		Figure no. Figure 1.1	
	 香港特別行政區政府渠務署 THE GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION DRAINAGE SERVICES DEPARTMENT	Prepared KK	Checked JN	
		Date 29/05/2012	Scale N/A	

Annex C

**Extracted Landscape and Visual Impact
Assessment with photomontage for the
Proposed San Shek Wan Sewage Treatment
Works**

Landscape and Visual Impact Assessment

The landscape and visual impact assessment has been conducted for the proposed San Shek Wan STW. Potential landscape and visual impacts have been assessed in accordance with the criteria and guidance set out in the EIAO Guidance Note No. 8/2010 and the EIAO-TM, in particular Annexes 10 and 18 of the EIAO-TM and other relevant legislations.

The landscape impact assessment considers the potential impacts of the works on the existing landscape and particularly on the landscape resources within 500 m of the works site.

1. Landscape Impact Assessment

A small area of woodland and plantation are impacted by the proposed San Shek Wan STW. Estimated approximately 200 trees with DBH range 20 – 50 cm and a height range of 5 – 8 m, are affected in the proposed sites. The dominant tree species are *Acacia confusa*, *Daphniphyllum calycinum*, *Mallotus paniculatus*, *Lophostemon confertus* and *Ficus hispida*.

(a) Landscape resources (LRs)

There is several landscape resources (LRs) found in the application site:

Woodland:

This LR is affected by the San Shek Wan STW of the Project. Trees with DBH range of 15 – 80cm and height range of 5 – 12m of varying maturity and quality will be affected. The construction work is not expected to affect the overall high quality vegetation of this LR. Only a very small fraction of this LR within the Study Area will be affected by the Project and overall at **construction** the magnitude of change is considered **small**. During **operation**, the land will have been reinstated, but the trees will still be lost and therefore the magnitude of change at **operation** will remain **small**.

Plantation:

The proposed San Shek Wan STW will cause impact on this LR. Trees with DBH range of 15 – 50cm and height range of 3 – 6m of varying maturity and quality will be affected. Given the number of trees affected at the building sites however, despite a relatively small area being impacted, the magnitude of change is considered **intermediate** at construction and operation.

Urban/Village Area:

Only 0.17 ha of this LR with low to medium landscape quality is affected by the STW structures of the Project. Trees with DBH range of 20 – 70cm and height range of 4 – 14m of varying maturity and quality will be affected. Few trees are found in this LR and are not considered to affect the magnitude of change. During **construction**, given the excavation works to lay pipes, the project is considered to have low compatibility with this LR and the magnitude of change, at worst, will be **intermediate**. At **operation** however, most of the impact experienced during construction will have gone as the land with pipes underneath will have been reinstated and the Project is considered compatible with this LR. Therefore at operation the magnitude of change is considered **small**.

(b) Mitigation measures

Mitigation measures follow the principle of the mitigation pyramid, which is firstly to undertake all means to avoid impacts, then reduce any unavoidable impacts to as low as practicable and finally to mitigate any remaining impacts.

Mitigation measures are proposed to be considered during design, construction and operation. Mitigation measures can be relevant to both construction and operation phases of the Project. For example detailed design measures will be implemented during construction but will aim to reduce both construction and operation impacts.

Details of the mitigation measures are mentioned in Part (c) of Section 2.

2. Visual Impact Assessment

In accordance with Annex 18 of the EIAO-TM, the visual impact assessment analyses the potential visual impacts of the works. It is evaluated by an understanding of the existing visual qualities within the region that can be visually affected by a development. In the assessment, the area that can be visually affected is referred to as the visual envelope which forms the visual impact assessment area. The impact assessment has been conducted with respect to the existing views and visual amenity of the site and the representative Visual Sensitive Receivers (VSRs) identified within the visual envelope. Each VSR assessed in the impact assessment is detailed below and the plan of the location of the VSR and vantage points (VP) is shown in **Figure 1**.

(a) Identification Visually Sensitive Receivers and Vantage Points:

- **VSR H5 – Residents around Pui O.** This VSR includes residents of Pui O Lo Uk Tsuen, Pui O San Wai, Pui O Lo Wai and surrounding. Houses near South Lantau Road mainly face south or southeast and distant from the San Shek Wan STW. In addition, most views to the the proposed San Shek Wan STW would be obscured by

the existing vegetations. Only a few houses at elevated sections of Pui O Lo Uk Tsuen and Pui O San Wai have partial views west towards the STW. The existing quality of views for these residents is of high quality, taking into account the estuary at Pui O and the traditional low rise houses of Ham Tin as well as the naturally vegetated South Lantau uplands. Overall this VSR has **high** sensitivity. **Figure 2** shows the existing view from Pui O and the photomontages of the proposed works (i.e. San Shek Wan STW) with and without mitigation measures implemented

- **VSR R4 – Beach users and users of the Football pitch at Pui O.** The proposed San Shek Wan STW site may be partially visible in the distance. Similarly, users of the football pitch may partially see the STW. Overall, this VSR is considered to have **low** sensitivity. **Figure 3** shows the existing view from Pui O beach and the photomontages of the proposed works (i.e. San Shek Wan STW) with and without mitigation measures implemented
- **VSR T1 – Travellers on South Lantau Road.** This VSR represents travellers on South Lantau Road. Viewers are principally in vehicles, either private cars or public buses, and their views of STW would be partial and transient. This VSR is considered to have **low** sensitivity. **Figure 4** shows the existing view from South Lantau Road and the photomontages of the proposed works (i.e. San Shek Wan STW) with and without mitigation measures implemented

Representative photographs of the above visual sensitive receivers are also shown in **Figure 5**.

(b) Magnitude of Visual Change:

As the viewer moves further away from the STW (the major visual element of the proposed development) the magnitude of visual change decreases until the structures are no longer noticeable within the view. The proposed STW site is mostly small and snugly fit into nearby land features and is screened from view by existing vegetation and structures. Based on the locations of the selected VSRs, VPs have been selected for photomontage preparation and these help illustrate the possible visual impacts experienced by the range of VSRs. They support information provided in the text and have been selected to illustrate representative vantage points which, in combination, give an impression of what the STW will look like in general. Photomontages are shown in **Figure 2** to **Figure 4**. The magnitude of change for each VSR is given in Table 1.

Table 1 – Magnitude of Visual Change

ID No.	Type of VSR	Location of VSR	Approx. Min. Distance between VSRs and STW site (m)	Scale of Development	Degree of visibility of any SPS and/or sewer & rising mains installation/ Potential Blockage Of View (for the worst affected viewer)	Compatibility of Works (Construction/ Operation)	Duration of Impacts	Reversibility of Change	Magnitude of Change (Negligible / Small / Intermediate / Large)	
									Construction	Operation
H5	Residential	Residents around Pui O	120 to STW	Small	STW only partially visible	Fair/ Good	Temporary/ Permanent	Largely reversible/ Irreversible	Small	Small
R4	Recreational	Beach users and users of the Football pitch at Pui O	200 to STW	Small	STW partially visible. Relatively small extent of field of vision.	Fair/ Good	Temporary/ Permanent	Largely reversible/ Irreversible	Small	Small
T1	Travelling	Travellers on South Lantau Road	20	Small	STW partially visible. Medium extent of field of vision. Viewers are principally in vehicles and their views will be partial and transient.	Fair/ Good	Temporary/ Permanent	Largely reversible/ Irreversible	Intermediate	Intermediate

During construction, some residential around Pui O are predicted to experience moderate visual impacts. By Day 1 of operation, most of these impacts will reduce to slight if the suggested mitigation measures are implemented. By Year 10, all residual visual impacts are considered to be insignificant with the implementation of suitable mitigation measures described below.

(c) Mitigation Measures

Mitigation measures are proposed to be considered during design, construction and operation. Mitigation measures can be relevant to both construction and operation phases of the works. The relevant mitigation measures are briefly described below:

- Detailed Design Considerations

Visibility of structures will be reduced and blend with the existing environment as far as possible. The footprint of the proposed STW is compressed to a practical minimum taking into account functional, operational and maintenance needs so as to cause minimum land conversion impact. The visibility of the proposed above ground structures is also reduced. In addition, the form, textures, finishes and colours of the proposed structure will be compatible with the existing surroundings as far as possible. Light earthy tone colours such as shades of green, shades of grey, shades of brown and off-white would be utilized where technically feasible to reduce the visibility of the STW.

- Vertical Greening and Green Roof

Vertical greening to soften hard surfaces of the external walls of the STW, and roof greening to enhance landscape and visual quality will be adopted.

- Tree Protection and Preservation

Trees/ woodland within the Project Site will be protected and preserved as far as possible in accordance with DEVB TC(W) No. 7/2015.

- Tree Transplantation

Should removal of trees be unavoidable due to construction impacts, trees will be transplanted or felled according to Clause 3.97 of the General Specification of Civil Engineering Works – Section 3 Landscape Softworks and Establishment Works. Transplantation must be carried out prior to site formation works and be treated with establishment works immediately after transplanting, for a period of no less than 12 months.

- Compensatory Tree Planting

Where loss of existing trees is unavoidable, compensatory planting of trees should be provided in accordance with DEVB TC(W) No. 7/2015 to compensate for those trees felled. Complete compensatory planting at least 3-6 months before construction completion, followed by 12 months establishment period after construction completion.

The selection of planting species shall be made with reference to the species identified in the Tree Survey and preferably be native to Hong Kong or the South China region. As stated in DEVB TC(W) No. 7/2015, as far as possible, implementation of compensatory planting should be of a ratio not less than 1:1 in terms of quality and quantity within the site, i.e. the total numbers and the aggregated girth size of compensatory trees within the site and off-site, should not be less than that of the tree(s) to be felled. In addition, the quality of compensatory trees should be at least of

“heavy standard” and further details regarding soil specification and ground surface treatment of recipient locations of the compensatory tree will be provided in a Detailed Landscape Design and Planting Plan which should detail the location of compensatory planting.

- **Buffer Planting**

Tall screen/buffer trees and shrubs shall be planted to screen the proposed built structure of the STW. This measure will improve compatibility with the surrounding environment.

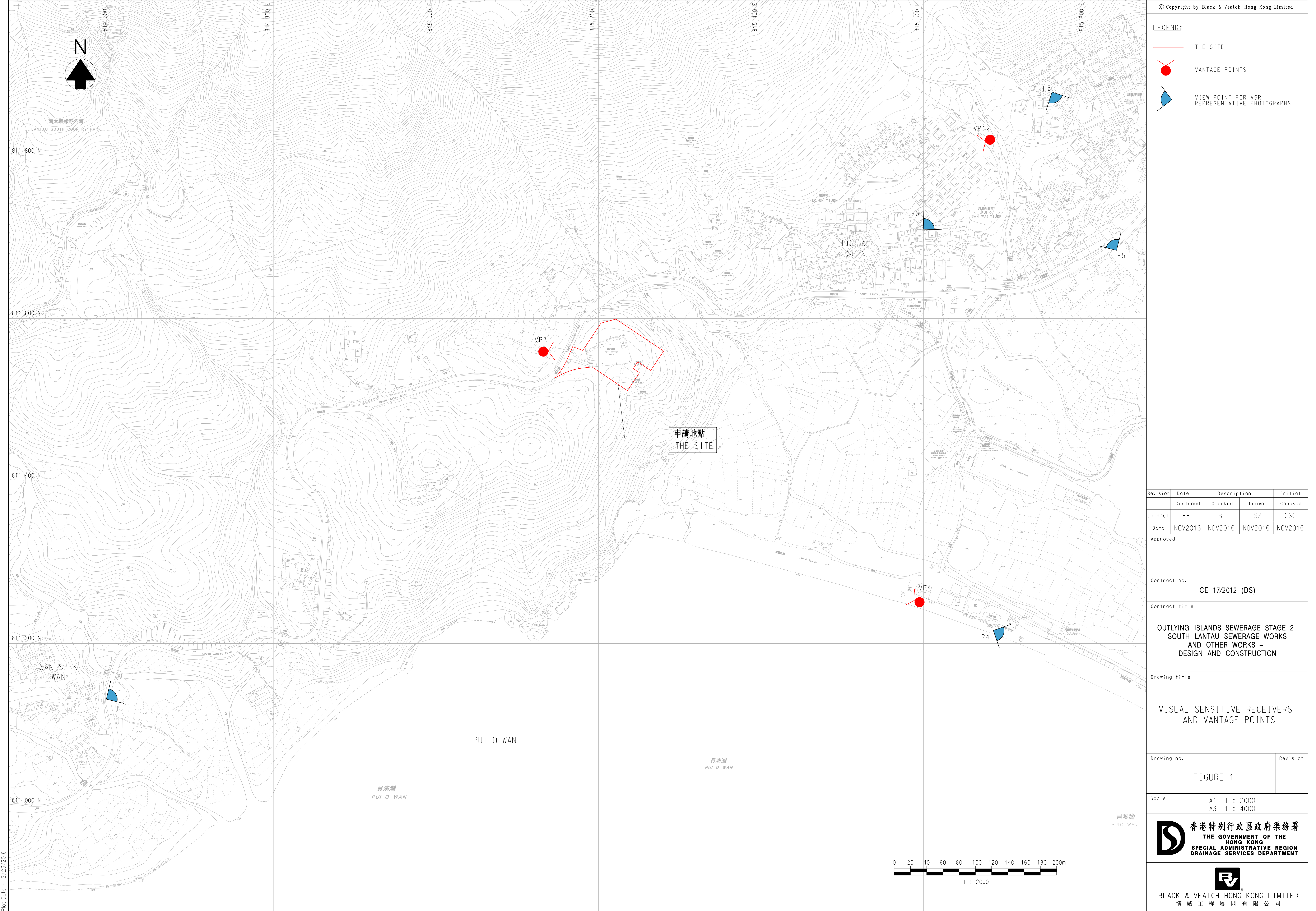
- **Light Control**

Control of night time lighting glare shall be implemented to minimize glare impact to adjacent VSRs during construction, and operation as necessary.

3. Conclusion

According to Annexes 10 and 18 of the EIAO-TM, the visual impacts have been assessed and are considered acceptable with implementation of the mitigation measures.

Figures



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- LEGEND:
- THE SITE
 - VANTAGE POINTS
 - VIEW POINT FOR VSR REPRESENTATIVE PHOTOGRAPHS

Revision	Date	Description			Initial
	Designed	Checked	Drawn		Checked
Initial	HHT	BL	SZ		CSC
Date	NOV2016	NOV2016	NOV2016		NOV2016
Approved					

Contract no.
CE 17/2012 (DS)

Contract title
OUTLYING ISLANDS SEWERAGE STAGE 2
SOUTH LANTAU SEWERAGE WORKS
AND OTHER WORKS -
DESIGN AND CONSTRUCTION

Drawing title
VISUAL SENSITIVE RECEIVERS
AND VANTAGE POINTS

Drawing no.	Revision
FIGURE 1	-

Scale
A1 1 : 2000
A3 1 : 4000

 香港特別行政區政府渠務署
THE GOVERNMENT OF THE
HONG KONG
SPECIAL ADMINISTRATIVE REGION
DRAINAGE SERVICES DEPARTMENT

 BLACK & VEATCH HONG KONG LIMITED
博威工程顧問有限公司

Plot Date = 12/23/2016

CAD Filename = Y:\Daily Work\20161220g\FIGURE 1.dgn



VP12 - Existing View

Proposed San Shek Wan STW



VP12 - Photomontage with no mitigation

<p>Title</p> <p>View from VP12 (1 of 2)</p> <p>(Photomontage)</p>	<p>OUTLYING ISLANDS SEWERAGE STAGE 2 SOUTH LANTAU SEWERAGE WORKS - INVESTIGATION</p>		<p>Figure no. Figure 2</p>	
	<p> 香港特別行政區政府渠務署 THE GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION DRAINAGE SERVICES DEPARTMENT</p>		<p>Prepared KK</p>	<p>Checked FEZ</p>
	<p> BLACK & VEATCH HONG KONG LIMITED 博威工程顧問有限公司</p>		<p>Date 27/06/2016</p>	<p>Scale N/A</p>

Proposed San Shek Wan STW





VP12 - Photomontage with mitigation at Day 1

Proposed San Shek Wan STW



VP12 - Photomontage with mitigation at Year 10

Title View from VP12 (2 of 2) (Photomontage)	OUTLYING ISLANDS SEWERAGE STAGE 2 SOUTH LANTAU SEWERAGE WORKS - INVESTIGATION		Figure no. Figure 2	
	 香港特別行政區政府渠務署 THE GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION DRAINAGE SERVICES DEPARTMENT		Prepared KK	Checked FEZ
	 BLACK & VEATCH HONG KONG LIMITED 博威工程顧問有限公司		Date 27/06/2016	Scale N/A

Wildslopes House

Pui O Beach



VP4 - Existing View

Proposed San Shek Wan STW



VP4 - Photomontage with no mitigation

Title View from VP4 (1 of 2) (Photomontage)	OUTLYING ISLANDS SEWERAGE STAGE 2 SOUTH LANTAU SEWERAGE WORKS - INVESTIGATION		Figure no. Figure 3	
	 香港特別行政區政府渠務署 THE GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION DRAINAGE SERVICES DEPARTMENT		Prepared KK	Checked FEZ
	 BLACK & VEATCH HONG KONG LIMITED 博威工程顧問有限公司		Date 14/05/2012	Scale N/A

Proposed San Shek Wan STW



VP4 - Photomontage with mitigation at Day 1

Proposed San Shek Wan STW



VP4 - Photomontage with mitigation at Year 10

Title View from VP4 (2 of 2) (Photomontage)	OUTLYING ISLANDS SEWERAGE STAGE 2 SOUTH LANTAU SEWERAGE WORKS - INVESTIGATION		Figure no. Figure 3	
	 香港特別行政區政府渠務署 THE GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION DRAINAGE SERVICES DEPARTMENT		Prepared KK	Checked FEZ
	 BLACK & VEATCH HONG KONG LIMITED 博威工程顧問有限公司		Date 30/04/2013	Scale N/A

South Lantau Road

Road leading up to current CLP facility



VP7 - Existing View

Proposed San Shek Wan STW



VP7 - Photomontage with no mitigation

Title View from VP7 (1 of 2) (Photomontage)	OUTLYING ISLANDS SEWERAGE STAGE 2 SOUTH LANTAU SEWERAGE WORKS - INVESTIGATION		Figure no. Figure 4	
	 香港特別行政區政府渠務署 THE GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION DRAINAGE SERVICES DEPARTMENT		Prepared KK	Checked FEZ
	 BLACK & VEATCH HONG KONG LIMITED 博威工程顧問有限公司		Date 14/05/2012	Scale N/A

Proposed San Shek Wan STW





VP7 - Photomontage with mitigation at Day 1

Proposed San Shek Wan STW



VP7 - Photomontage with mitigation at Year 10

Title	OUTLYING ISLANDS SEWERAGE STAGE 2 SOUTH LANTAU SEWERAGE WORKS - INVESTIGATION		Figure no. Figure 4	
	 香港特別行政區政府渠務署 THE GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION DRAINAGE SERVICES DEPARTMENT	 BLACK & VEATCH HONG KONG LIMITED 博威工程顧問有限公司	Prepared KK	Checked FEZ
			Date 29/06/2016	Scale N/A

View from VP7 (2 of 2)
(Photomontage)



H5 Residents around Pui O



T1 Travellers on South Lantau



R4 Beach users and users of the Football pitch at Pui O

<p>Title</p> <p>Representative Photographs of Visual Sensitive Receivers</p>	<p>OUTLYING ISLANDS SEWERAGE STAGE 2 SOUTH LANTAU SEWERAGE WORKS - INVESTIGATION</p>		<p>Figure no. Figure 5</p>	
	<p> 香港特別行政區政府渠務署 THE GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION DRAINAGE SERVICES DEPARTMENT</p>		Prepared	Checked
	<p> BLACK & VEATCH HONG KONG LIMITED 博威工程顧問有限公司</p>		Date June 2016	Scale -