Annex A

33/F, Revenue Tower, 5 Gloucester Road, Wan Chai, Hong Kong
香港灣仔告士打道 5 號稅務大樓 33 樓

ACE-EIA Paper 2/2016
For advice on 20 May 2016

Environmental Impact Assessment Ordinance (Cap. 499)
Environmental Impact Assessment Report

Site Formation and Associated Infrastructural Works for Development of Columbarium, Crematorium and Related Facilities at Sandy Ridge Cemetery

PURPOSE

This paper presents the key findings and recommendations of the Environmental Impact Assessment (EIA) report for Site Formation and Associated Infrastructural Works for Development of Columbarium, Crematorium and Related Facilities at Sandy Ridge Cemetery (hereafter known as "the Project") submitted under section 6(2) of the Environmental Impact Assessment Ordinance (EIAO) (Application No. EIA-236/2016). The Civil Engineering and Development Department (CEDD) (the applicant) and their consultants will present the EIA report at the meeting of EIA Subcommittee.

ADVICE SOUGHT

2. Members' views are sought on the findings and recommendations of the EIA report. The Director of Environmental Protection (DEP) will take into account comments from the public and the Advisory Council on the Environment (ACE) in deciding whether or not to approve the EIA report under Section 8(3) of the EIAO.

BACKGROUND

3. The existing Sandy Ridge Cemetery was constructed in 1949 and remained in use as a cemetery since then. In July 2010, the Sandy Ridge Cemetery site was identified as one of the 24 potential sites for columbarium development to meet the growing territorial demand beyond 2024.

4. CEDD conducted a feasibility study on the site formation and associated infrastructural works for the development of crematorium and columbarium (C&C) facilities at Sandy Ridge Cemetery. The study confirmed that the Project is a designated project under the EIAO.

5. The applicant submitted the EIA report for the Project for approval. The DEP, in conjunction with the relevant authorities, considered that the EIA report met the requirements in the EIA Study Brief and the Technical Memorandum on EIA Process (TM), for the purpose of exhibiting the report for public inspection, under Section 7(4) of the EIAO.

NEED FOR THE PROJECT

6. With a growing and ageing population, there is a genuine need for new C&C facilities in Hong Kong. The Project is to carry out site formation and associated infrastructural works for the C&C facilities at Sandy Ridge Cemetery. The proposed C&C facilities will provide about 200,000 niches, a crematorium with 10 cremators and associated facilities including a funeral parlour and visitor service centre to cater for the growing public demand.

ENVIRONMENTAL BENEFITS

7. The EIA report assessed that the Project will fully comply with the EIAO requirements with no adverse residual environmental impacts. There are also opportunities, at the Project's design, construction and operation stages, for incorporating positive environmental elements into the Project. These include, provision of shuttle bus services at MTR stations (by other party) during festive period to minimize air quality impacts from additional road traffic; provision of public sewerage network and stormwater drainage system to improve water quality of watercourses in the area; maintaining the groundwater flow to minimize the hydrological impacts in wet woodland; and, improvement to the environment of the

dwellings affected by traffic noise along Sha Ling Road and Lin Ma Hang Road through the use of noise barriers and low noise road surfacing materials.

DESCRIPTION OF THE PROJECT

8. The Project is to carry out site formation and associated infrastructure works for the development of C&C and related facilities at Sandy Ridge Cemetery. The site is currently zoned 'Other Specified Uses (Cemetery, Columbarium, Crematorium and Funeral Related Uses)'. The location of the Project is shown in **Figure 1**. The scope of the Project comprises the following key elements:

(i) site formation and associated works of about 8 hectares of land and associated drainage, sewerage and landscaping works

(ii) widening of about 900m of the existing Sha Ling Road and about 1.4km of the existing Lin Ma Hang road including associated noise barriers;

(iii) construction of about 600m of new internal roads including a 300m long section of viaduct connecting the crematorium platform with Man Kam To Road;

(iv) construction of pick-up and drop-off area/locations for shuttles bus at the C&C facilities; and provision of temporary pick-up and drop-off points (which only involve street furniture such as railing, planter, etc.) at MTR Kwu Tung Station, Sheung Shui Landmark North Public Transport Interchange, MTR Fanling Station and lay-by at Pak Wo Road near Flora Plaza during festive periods; and

(v) use of the existing temporary barging point at Siu Lam with location as shown in **Figure 2**.

9. The Project covers the following work elements that are Designated Project (DP) under Schedule 2 of the EIAO:

(i) Item A.8: A road bridge of 300m in length between abutments"; and
(ii) Item I.1 (b)(vii): A drainage channel discharging into an area which is less than 300m from the nearest boundary of the Conservation Area at Yuen Leng Chai.

10. The Project is for the site formation and associated infrastructural works only. The future crematorium facility to be constructed after completion of the Project is also a DP under Item N.4 in Schedule 2 Part I of the EIAO and will be the subject of a separate EIA study to be conducted at a later stage (by other party).

CONSIDERATION OF ALTERNATIVE DESIGNS

11. The EIA report has considered various key design elements to optimize the development of the Project, including alternatives for platform configuration, road networks, and off-site pick-up and drop-off locations. The environmental benefits and dis-benefits of the various alternatives have been evaluated. The recommended design has been chosen with a view to avoiding or minimizing environmental impacts where practicable. Some of the key environmental benefits arising from the recommended design as compared with the original design are highlighted below.

Avoidance and Minimization of Impacts

(i) By avoiding direct encroachment onto the wet woodland, the recommended platform design reduces the loss of woodland and grassland by 1 ha and 6 ha respectively. The footprint of the Project also avoids four seasonal watercourses directly feeding to the wet woodland and 4 clan graves. **Figure 3** shows the overall reduction in footprint and improvements of the recommended design as compared with the original design;

(ii) by reducing the scale of existing terrain cutting, the recommended platform design and road network will reduce the C&D materials generated from 706,000m3 to 481,800m3; and

(iii) by providing pick-up and drop-off areas for shuttle buses on site and at MTR stations, the originally proposed Choi Yuen Road widening and the pedestrian link from Lo Wu MTR Station are no longer required and hence the scale and consequent adverse impact of the Project are reduced.

SPECIFIC ENVIRONMENTAL ASPECTS TO HIGHLIGHT

Noise Impacts

12. With the implementation of direct mitigation measures including noise barriers and low noise road surface, road traffic noise impact arising from the Project will comply with the noise criterion of 70dB(A). Although the cumulative traffic noise impact would exceed the criterion at some village houses totaling 30 dwellings near Sha Ling Road, Man Kam To Road and San Uk Ling, the exceedances at these dwellings are due to traffic on existing roads, with insignificant contribution from the Project roads. During construction, noise impacts from the Project will be mitigated to within the 75dB(A) criterion with measures such as quiet plant, movable noise barriers, full enclosure, etc. in place.

Ecological Impacts

13. Terrestrial ecological impacts from Project construction and operation will be limited to loss of habitats of relatively low ecological value. The EIA report predicts about 10.4 ha of upland grassland, and about 1.2 ha of woodland will be lost as a result of the Project. To minimize the direct impacts to habitats, a Grassland Reinstatement Plan for an area of about 0.9 ha; a Woodland Enhancement Proposal of about 0.6 ha; and, a flora survey and transplantation plan for affected individuals of floral species of conservation importance are recommended.

14. To minimize indirect impacts due to hydrological changes on the ecology of the wet woodland and seasonal watercourses, the EIA report proposes to adopt a smaller diameter bored pile system for the platform foundation to allow groundwater to pass through. The recommended platform design will not result in significant changes to the water flows leading to the downstream woodland.

Landscape and Visual Impacts

15. Within the works area, approximately 1,400 existing trees will be retained and 1,300 trees will be affected. For the affected trees, approximately 1,100 are found within the Sandy Ridge Project boundary and approximately 200 along Lin Ma Hang Road.

16. Trees survey indicates that the affected trees are primarily common trees except for two Bombax ceiba (木棉樹) with Diameter at Breast Height (DBH) larger than 1m and two Aquilaria sinensis (土沉香). There are no LCSD

Registered Old and Valuable Trees. The two Aquilaria sinensis will be relocated and one Bombax ceiba will be retained. The other Bombax ceiba at the proposed Sha Ling Road viaduct section is not avoidable and will be felled. Other affected trees with high to medium amenity value and good survival rate (approx. 14 in number) will be transplanted as far as technically possible; the remaining trees will be felled.

17. The EIA report recommends compensatory planting of approximately 200 light standard trees, 45 heavy standard trees, and 16,000 mix species whips for woodland creation.

Other Environmental Impacts

18. Other environmental impacts include air quality, water quality, land contamination, waste management, and cultural heritage impacts are relatively minor and have been fully addressed in the EIA report. With the implementation of recommended mitigation measures, the Project will comply with the relevant requirements under the TM.

Barging Point at Siu Lam

19. Surplus inert C&D materials will be transported to the existing barging point in Siu Lam, which was previously used by the Express Rail Link (XRL) project. Minor construction works for tipping halls and ramps will be required. The maximum number of barge movement is 2 round trips per day. The scale and the operation mode of the barging point will be similar to that of the XRL, and there were no public complaints against the barging point in the past 10 years during its operation. With the implementation of recommended mitigation measures including vehicle washing facilities, water spraying system and dust curtain at the unloading points, adverse environmental impact is not anticipated.

ENVIRONMENTAL MONTIORING AND AUDIT (EM&A)

20. The EIA report includes an EM&A Manual which recommends an EM&A programme during the construction and operation phases of the Project. Key recommended EM&A requirements cover air quality, noise, water quality, waste management, land contamination, ecology, landscape and visual and cultural heritage.

PUBLIC CONSULTATION

21. The applicant has made the EIA report, EM&A Manual and Executive Summary available for public inspection under the EIAO from 5 April to 4 May 2016. During this inspection period, a total of 4 public comments were received by the Environmental Protection Department. The main concerns raised are on the need for widening Lin Ma Hang Road, and ecological aspects including habitat fragmentation and loss of seasonal watercourse. The public comments will be summarized in a gist to be provided to Members separately.

May 2016
Environmental Assessment Division
Environmental Protection Department

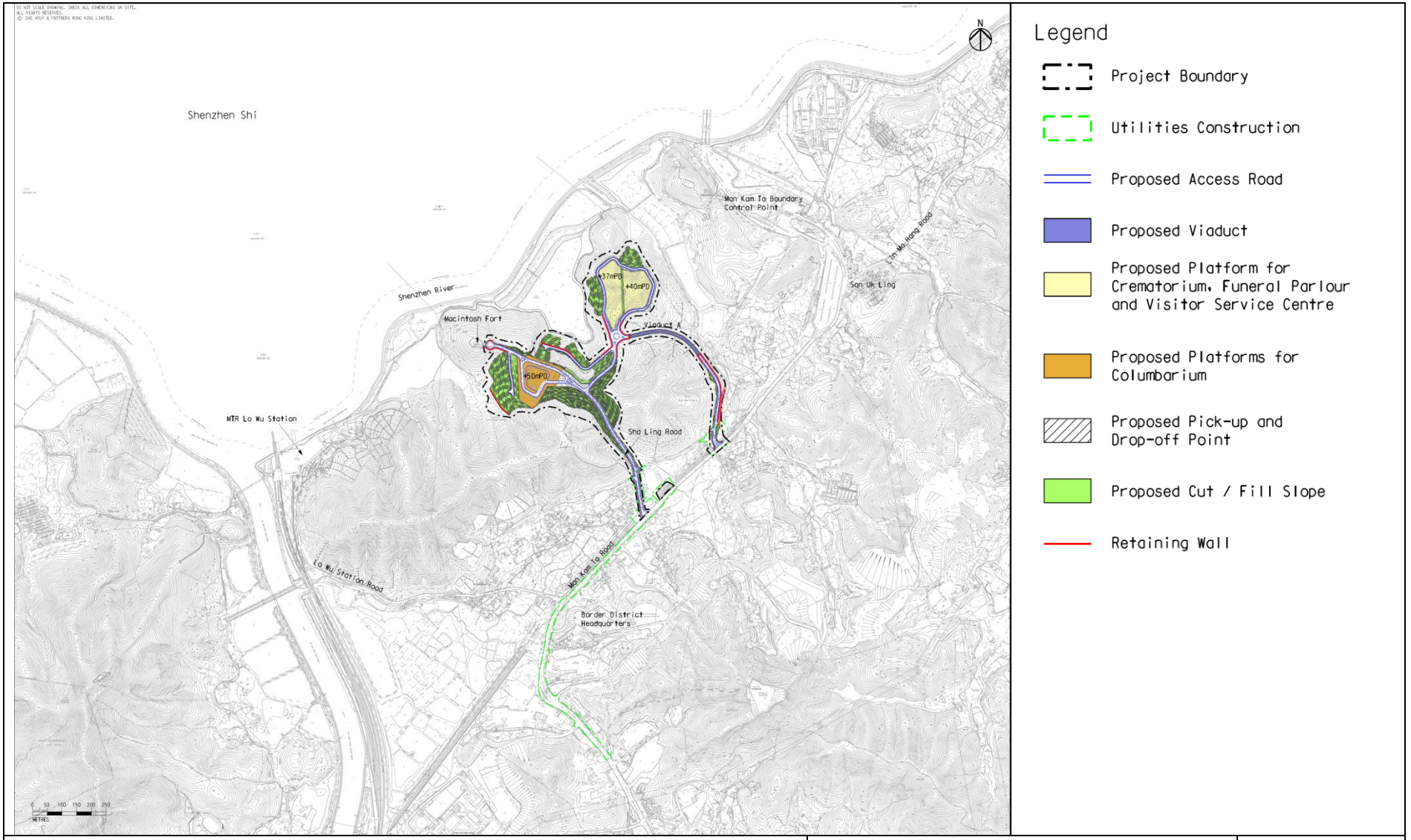

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Figure 1: Project Location Plan of Sandy Ridge Cemetery		

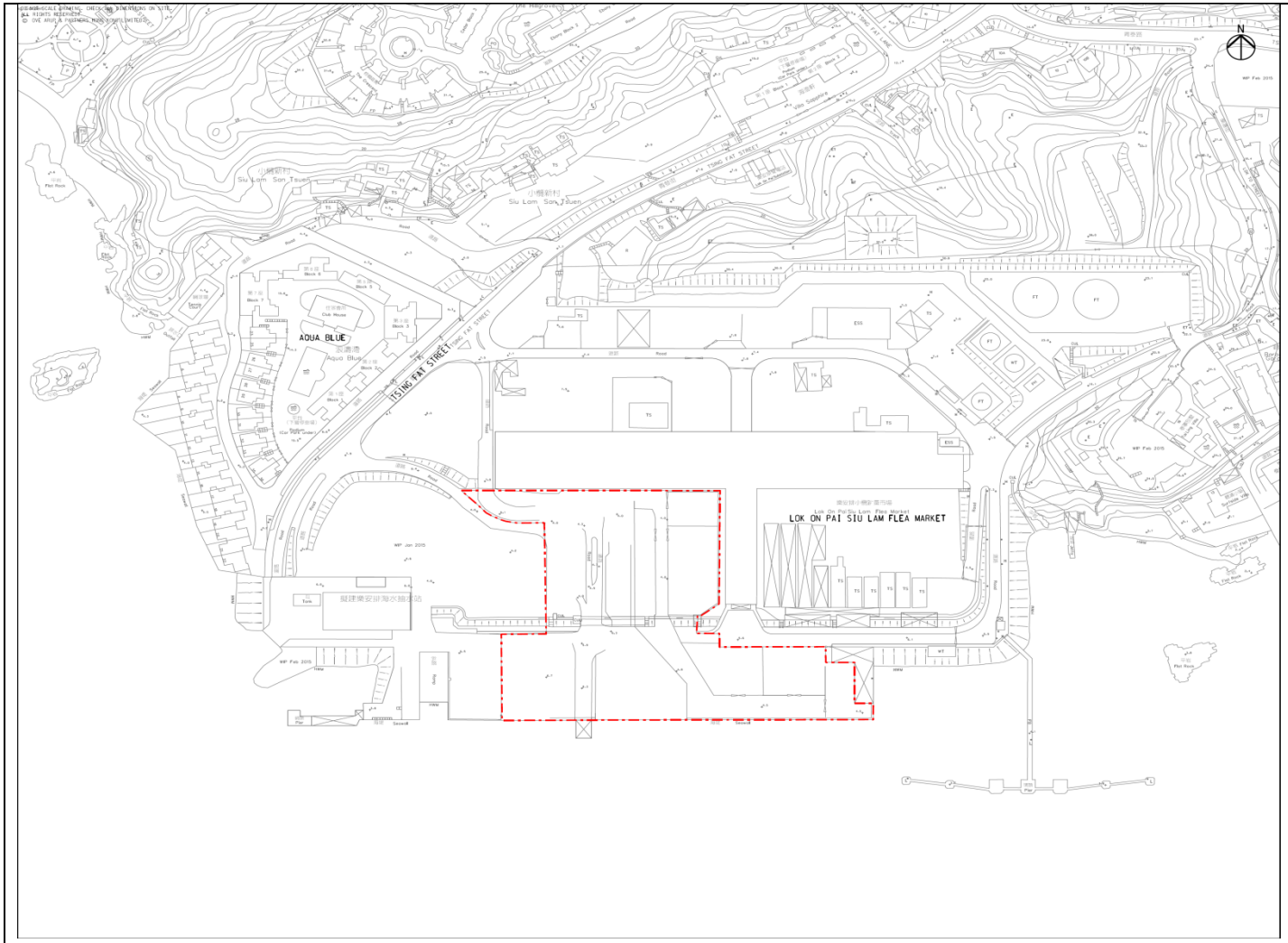

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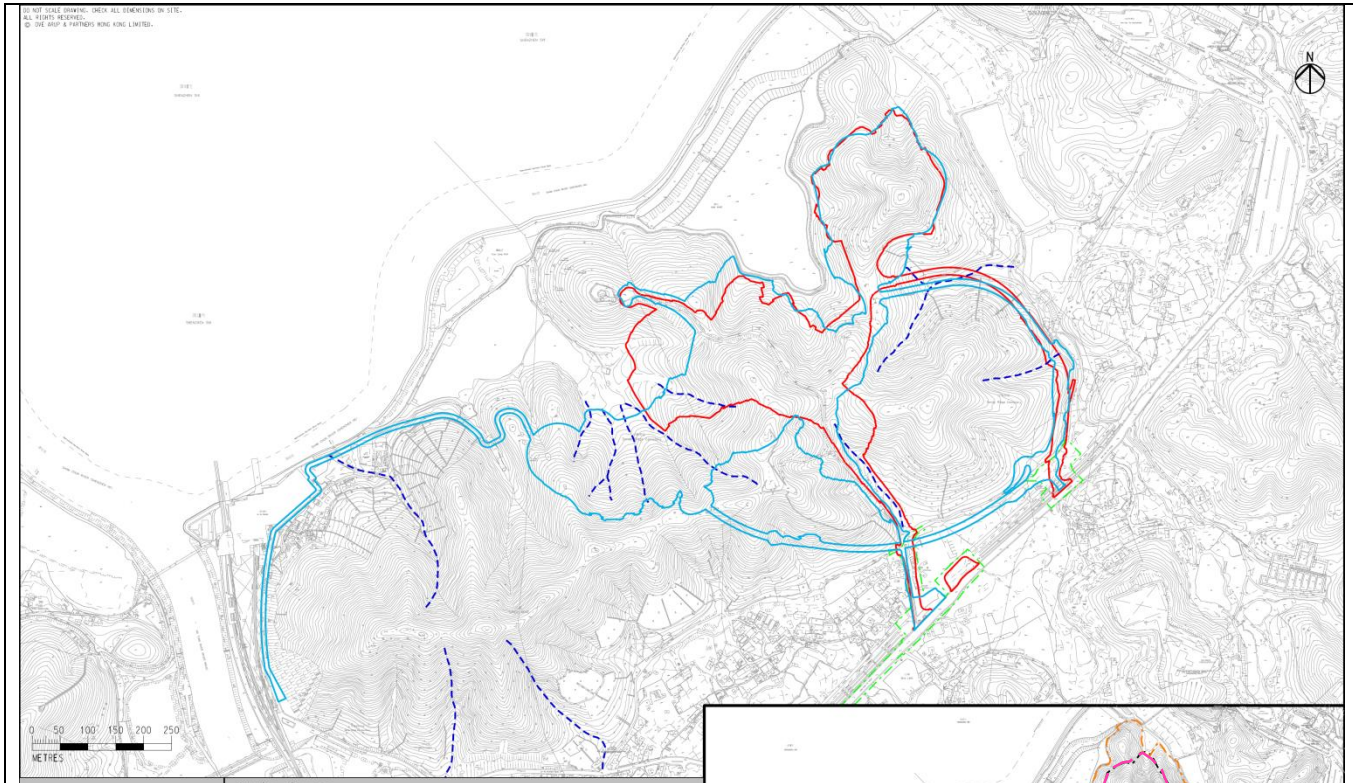
Figure 2: Temporary Barging Point at Siu Lam		



	Design changes
Optimization of Platform Configuration	• Shift platform to avoid direct impacts on wet woodland and seasonal watercourses directly feeding the wet woodland. (Figure 2.2b)
	• Increase the separation distance between the western toe of the slope and the wet woodland by installing a retaining wall and a hammer head arrangement for the emergency access. (Figure 2.2b)
	• Redesign platform to avoid direct impacts on clan graves. (Figure 2.3)
Optimization of Road Network and Pedestrian Link	• Upgrade the existing Sha Ling Road. The road tunnel and five of the viaducts in Option A would not be required.
	• Original pedestrian link near MTR Lo Wu Station would not be required.
Arrangement for Pick-up / Drop-off at MTR Station*	• Adopt multiple pick-up / drop-off locations at a number of MTR Stations. Major road improvement and excavation works would not be required.
	• Choi Yuen Road widening would not be required.

*: Pick-up / Drop-off locations are off-site and not shown in this figure.

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Figure 3: Comparison of original design in EIA Study Brief and current design in EIA Study