RAMBOLL ENVIRON

Ref.: AACWBIECEM00_0_8828L.16

8 December 2016
By Post and Fax (2570 8013)

Chun Wo – CRGL – MBEC Joint Venture
Box 25024,
King's Road Post Office,
Hong Kong

Attention: Mr. David Lau

Dear Sir,

Re: FEP-07/364/2009/D
Contract No. HY/2009/19
Central – Wan Chai Bypass – Tunnel (North Point Section) & Island Eastern Corridor Link

Landscape Plan (Revision 5)

Reference is made to your submission of the Landscape Plan (Revision 5 dated 2 December 2016) to us through E-mail on 2 December 2016 for our review and comment.

Please be informed that we have no further comments on the captioned submission. We write to verify the captioned submission in accordance with Condition 2.13 of FEP-07/364/2009/D.

Please feel free to contact the undersigned should you have any queries.

Yours sincerely,

David Yeung
Independent Environmental Checker

c.c.	HyD	Mr. Eddy Wu	by fax: 2714 5289
	CEDD	Mr. Stephen Lo	by fax: 2577 5040
	AECOM	Mr. Peter Poon	by fax: 3912 3010
	LAM	Mr. Raymond Dai (ETL)	by fax: 2882 3331

Q:\Projects\AACWBIECEM00\Corr\AACWBIECEM00_0_8828L.16.doc

Ramboll Environ Hong Kong Limited 英環香港有限公司
21/F, BEA Harbour View Centre, 56 Gloucester Road, Wan Chai, Hong Kong Tel: 852.3465 2888 Fax: 852.3465 2899
www.Ramboll-Environ.com

Lam Geotechnics Limited
Ground Investigation & Instrumentation Professionals

華益土力有限公司

Ref : G1525/CS/L291/Chun Wo-CRGL-MBEC JV
Date : 07 December 2016

Chun Wo - CRGL - MBEC Joint Venture **By Post and Fax (3757 8901)**
5C, Hong Kong Spinners Industrial Building Phase I
601-603 Tai Nan West Street,
Cheung Sha Wan,
Kowloon,
Hong Kong

Attn: Mr. David Lau, Project Manager

Dear Sir,

Contract No. HY/2009/19
Central – WanChai Bypass Tunnel
(North Point Section) and Island Eastern Corridor Link
Landscape Plan (Rev. 5)

Referring to the captioned information dated 02 December 2016 received through email on 02 December 2016, we have reviewed your submitted details and hereby certify the submission in accordance with Condition 2.13 & 2.14 of FEP-07/364/2009/D.

Should you have any enquiry, please feel free to contact the undersigned at 2839 5666.

Yours faithfully,

Raymond Dai
Environmental Team Leader

c.c.

HyD	- Mr. Eddy Wu	(By Fax: 2714 5289)
AECOM	- Mr. Peter Poon	(By Fax: 3153 5812)
AECOM	- Mr. Frankie Fan	(By Fax: 2587 1877)
Ramboll ENVIRON	- Mr. David Yeung	(By Fax: 3548 6988)

11/F, Centre Point, 181-185 Gloucester Road, Wanchai, Hong Kong
Tel: (852) 2882-3939 Fax: (852) 2882-3331
Website: www.lamgeo.com Email: info@lamgeo.com

Responses to Comments from Planning Department dated 25 November 2016
Ref: (7) in EP2/H4/S3/15 Pt. 43

Comments received:		**Responses:**
(a)	It is noted that the consultant has updated paragraph 1 in page 3 of Appendix F to include Seaview Estate as VSR affected by the proposed noise barriers / screening / semi-enclosure of Island Eastern Corridor. The consultant should also update paragraph 2 in page 6 of Section 8.1 accordingly.	Noted and paragraph 2 in page 6 of Section 8.1 has been updated.

俊和-中國中鐵-中鐵大橋局聯營
CHUN WO - CRGL - MBEC JOINT VENTURE

LANDSCAPE PLAN

For

Contract No.: HY/2009/19

Central – Wan Chai Bypass
Tunnel (North Point Section)
and
Island Eastern Corridor Link

(Pursuant to the Further Environmental Permit - No. FEP-07/364/2009/D)

Revision:	5	Prepared by:	Approved by:
Date:	02/12/16		
		M.H. Isa	David Lau
		Environmental Officer	Site Agent

C2, 5/F., Hong Kong Spinners Industrial Building, 601-603 Tai Nan West Street,
Cheung Sha Wan, Kowloon, Hong Kong.

REGISTRY OF NOISE MANAGEMENT PLAN AMENDED

Rev. No.	Amendment Date	Amendment Section	Content	Amended by
0	04 Jul 2011	Initial Revision		M.H. Isa
1	01 Mar 2012	Section 9.0	Attachment of Implementation Schedule	M.H. Isa
2	26 Feb 2013	Section 1.2	Scope of Work	M.H. Isa
		Section 5.3	Tree Preservation, Protection and Transplanting	
		Section 8.0	Control of Impact	
3	17 Dec 2013	Section 5.3	Tree Preservation, Protection and Transplanting (last 2 paragraph)	M.H. Isa
4	21 Mar 2016	One of the reason for fine-tuning the Landscape Plan is to alignment with the requirements of FEP-07/364/2009/D		M.H. Isa
		List of Content	Section 5.0, 8.0, 9.0, 10.0, Appendix F and Appendix G	
		Section 1.0	Introduction (Updated the revision of FEP)	
		Section 1.2	Scope of Work (Omitted the last 2 lines)	
		Section 5.0	Construction Stage Implementation Programme (Title of section 5.0 changed)	
		Section 5.3	Tree Preservation, Protection and Transplanting (The first 2 bullet points fine-tuned to better reflect the Landscape Plan)	
		Section 6.0	Design and Fixing Details of Hoarding (To align with Noise Management Plan Rev. 4 approved on 10 Mar 2016)	
		Section 7.3	Tree Preservation, Protection and Transplanting (Deleted last 2 paragraphs and added a new one)	
		Section 8.0	Operation Stage Implementation Programme (New section added)	
		Section 9.0	Control of Impact (Previously Section 8.0 and revised after 8.0(viii))	
		Section 10.0	On Site Supervision (Previously Section 9.0 and amended the last line to read as 'Refer to Appendix G for the implementation Schedule)	
		Appendix F (New Appendix added)	Design Consideration, Details and Material Specification of the Semi-enclosures and Barriers	
		Appendix G (New Appendix added)	Implementation Schedule	
5	03 Jun 2016	Section 5.3 & 7.3	Tree Preservation, Protection and Transplanting	M.H. Isa
		Section 3.0	Visual Sensitive Receivers	
	23 Aug 2016	Section 2.0	Landscape Mitigation Measures	M.H. Isa
		Appendix E	Location Plan of Trees to Retain / Transplant	
		Section 1.0	Introduction	
		Appendix F	Design Consideration, Details and Material Specification of the Semi-enclosures and Barriers	
	02 Dec 2016	Section 8 subsection 8.1	Operation Stage Implementation Programme	

LIST OF CONTENTS

APPENDICES

1.0 Introduction

The purpose of this plan is to demonstrate design details, locations, implementation programme, maintenance and management schedules in accordance with the Condition 2.13 and 2.14 of the Further Environmental Permit No. FEP-07/364/2009/D.

The current landscape proposal is conforming to the findings of the approved EIA Report. The recommended landscape mitigation measures mentioned in section 2.0 will be followed by means of regular maintenance and inspections with tree specialist at monthly interval. Tree transplanted will be kept in a nursery for regular maintenance.

1.1 Project Description

This designated Project (HY/2009/19) is a part of the CWB project, which shall provide relief to the existing congestion along the East-West corridor and cater for the anticipate growth of traffic on Hong Kong Island.

1.2 Scope of Work

The scope of the Project mainly includes:

- Construction of a 300-metre-long tunnel at North Point;
- Construction of an approach road to the tunnel;
- Modification of the section of Island Eastern Corridor between Hing Fat Street and Po Leung Kuk Yu Lee Mo Fan Memorial School;
- Modification of the junction of Victoria Park Road and Hing Fat Street;
- Demolition of Rumsey Street Flyover eastbound in Central;
- Sub-structure works of the East Ventilation Building and the foundation works of the Administration Building; and
- Associated works including landscaped deck, noise barriers, noise semi-enclosures, road drainage and landscaping works.
- The Preservation and Protection of Existing Trees

2.0 Landscape Mitigation Measures

The proposed landscape mitigation measures during construction phase are listed below:

- Tree Transplant, compensatory tree planting for trees felled and to protect existing trees to be retained during construction (**Refer Appendix E**)

3.0 Visual Sensitive Receivers

The following visual sensitive receivers (VSRs) are likely to be affected during the construction phase of the project:

- C36 (Citicorp Centre);
- C37 (Victoria Centre);
- C52 (AIA Tower);
- C53 (Newton Hotel);
- C54 (Electric Centre);
- C54A (Sea View Estate);
- C/R14 (Viking Garden);
- C/R15 (50-52 Hing Fat Street);
- C/R16 (Mayson Garden Building);
- C/R17 (Gordon House);
- C/R18 (Belle House);
- GIC12 (Electric Road);
- R4 (Harbour Heights);
- R5 (Residential Properties fronting King Wah Road);
- R6 (City Garden);
- R7 (Provident Centre).

The above VSRs are mapped in **Appendix B**.

4.0 Source of Landscape / Visual Impacts

Sources of night-time lighting impact during construction phase would include:

- Site Investigations;
- Removal of existing dolphins;
- Installation of temporary piles and marine piling;
- Construction of box culvert at Watson Road;
- Surcharge activity at Portion V;
- Bored pile construction on land;
- Open-cut construction of tunnel;

- Substructure works for East Ventilation Building and foundation work to Administration Building;
- Construction of Diaphragm Wall;
- Concreting activities;
- Construction site traffic;
- Solar powered lighting including other lighting at site office; and
- [1]Signal sensor light on yellow marker buoys which are laid to mark the position of the anchors extending from the working vessels.

  (1= Referring to Marine Department Notice No. 154 & 192 of 2010 and 23of 2011 .)

5.0 Construction Stage Implementation Programme

5.1 Decorative Screen Hoarding:

- Decorative screen hoarding will be erected between Watson Road and Oil Street (below the elevated road) and extending beyond Oil Street towards City Garden while typical hoarding of 2.4m high will also be erected at the above mentioned location but on backfilled areas near the sea. The tentative programme will be from 04 Aug 2011 to 28 Apr 2017. The location of the hoarding is shown in **Appendix C**.
- Any existing decorative screen hoarding handed over after site possession will be maintained.

5.2 Night-time Lighting:

- Night-time lighting control tentatively scheduled from 28 Apr 2011 till 28 Apr 2017.

5.3 Tree Preservation, Protection and Transplanting:

- Tree preservation and transplanting will be carried out in accordance with the Development Bureau Technical Circular 'DEVB TC(W) No. 7/2015 – Tree Preservation', which has been scheduled tentatively from 10 Nov 2011 till 28 Apr 2017.
- During construction, tree(s) affected by the Project works would be transplanted and exiting trees to be retained would be protected. For any tree felled, compensatory tree(s) will be planted in accordance with the relevant technical circular DEVB TC(W) No. 7/2015.

Summary table for "Construction Phase Landscape and Visual Mitigation Measures" is attached after section 9.0

A tree monitoring report is submitted regularly for the trees transplanted and is a separate submission. Appendix E refers to the trees to be transplanted / retained. For any tree fell or any compensating tree planting in the future. This will be included / updated in the Plan.

Tree preservation schedule and summary of protection method/measures is described in section 7.3

As the approved EIA has not identified any trees for this contract therefore trees felling, retained, etc. follows contracts requirement as shown in Appendix E.

As per comments from Planning Department (PlanD), progress photos would be forwarded to PlanD on bi-monthly basis by the contractor via regular submission for the tree reports.

6.0 Design and Fixing Details of Hoarding

The layout, alignment and design details of decorative screen hoarding are shown in **Appendix D**. The Landscape Plan will be amended accordingly from time to time to reflect the graphical design of the decorating screen hoardings in the future (refer to Noise Management Plan for details).

7.0 Maintenance and Management Schedule

7.1 Decorative Screen Hoarding:

Daily cleaning and weekly inspection will be carried out to prevent accumulation of debris and to maintain the apparent quality of the hoarding. Any damage found will be made good.

7.2 Night-time Lighting:

Floodlights will be checked every night to ensure that they are diverted away from sensitive receivers where practical.

Lighting installed for safety and security reasons will not cause disturbance to the public. Lighting, if needed, will be directed towards the work areas and away from the sensitive receivers where practical.

7.3 Tree Preservation, Protection and Transplanting:

The service of a specialist contractor "Pegasus Greenland Ltd." has been employed for tree transplanting to the designated nursery approved by the Engineer.

The specialist contractor employed will prepare and submit a Tree Survey Report for approval by the Engineer for subsequent submission to Planning Department which will include the survey schedules, location plans for the trees and their receptor sites, methodology of transplanting, photos showing trees to be transplanted and the like. Details shall be referred in separate submission.

During construction, tree(s) affected by the Project works would be transplanted and existing trees to be retained would be protected. (Refer to **Appendix E** for any tree to be transplanted / retained. Also included in the **Appendix E** are the tree schedule and the location of the nursery for trees to be transplanted). For any tree felled, compensatory tree(s) will be planted in accordance with the relevant technical circular DEVB TC(W) No. 7/2015.

8.0 Operation Stage Implementation Programme

8.1 Under the Environmental Permit (EP-364/2009/D), to minimize road traffic impact to sensitive receivers, noise barriers/screening/semi-enclosures will be built on the Central-Wan Chai Bypass project.

The noise barriers/screening/semi-enclosures of Island Eastern Corridor (IEC) will mainly affect visual sensitive receivers (VSR) of lower floors of Victoria Centre, Harbour Heights, Seaview Estate, City Garden, Provident Centre and nearby schools in North Point. Amenity planting along the eastbound and westbound of IEC with vertical greening of semi-enclosures above the planter, together with other mitigation measures mentioned below during the construction and operation phases, it is considered the visual impacts of noise barriers/screening/semi-enclosures are slight on VSRs in North Point.

8.2 Mitigation Measures

To mitigate visual impact due to semi-enclosures and barriers constructed under the project. The semi-enclosures and barriers will compose of:

(i) Transparent panels, translucent panels and/or green roof with translucent skylight in the upper part where appropriate; and

(ii) Green panels with planters in the lower part where appropriate.

For details and material specifications, refer to **Appendix F**.

For the design of landscape deck, the detail design is still under consideration by Highways Department and the Engineer. Once it is formalised, the Landscape Plan will then be amended accordingly.

Due to the maintenance concern of the green panel during the operation phase, an alternative arrangement for a portion of green panel at the outer side of eastbound bridge has been proposed and the detailed explanatory note has been attached in **Appendix F**.

9.0 Control of Impact

The following measures will be implemented where practicable to minimise impact:

(i) Control of night-time lighting – Carefully planning of any night-time work will be adopted to minimize the use of unnatural lighting;

(ii) The need of using equipment headlights / lightings will be assessed for optimum usage and to minimize the number of unnatural lighting;

(iii) Where lightings are needed, these will be aimed away from the visual sensitive receivers where necessary;

(iv) For floodlights mounted on the barges, the direction of light will be oriented to open sea facing downwards and away from the visual sensitive receivers where possible;

(v) Signal sensor light would be attached on buoys for ensuring safe navigation;

(vi) Solar powered lighting including other lighting at the site office will be oriented away from VSRs.

(vii) Erection of decorative screen hoarding comparable with the surrounding setting.

(viii) During construction, tree(s) affected by the Project works would be transplanted and exiting trees to be retained would be protected. For any tree felled, compensatory tree(s) will be planted in accordance with the relevant technical circular No. 7/2015.

The construction phase mitigation measures are in compliance with relevant requirements in the EIA Report. The Landscape Plan will be amended accordingly from time to time to reflect the graphical design of the decorating screen hoardings in the future (refer to Noise Management Plan for details).

Hard landscape work is expected to complete tentatively in July 2017 followed by the soft landscape work.

10.0 On Site Supervision

The lighting impact will be monitored and assessed by designated person during night-time construction work. Upon any public concerns or complaints, lights will be repositioned, redirected or shielded where necessary.

Refer to **Appendix G** for the Implementation Schedule.

CHUN WO - CRGL - MBEC
JOINT VENTURE

LANDSCAPE PLAN

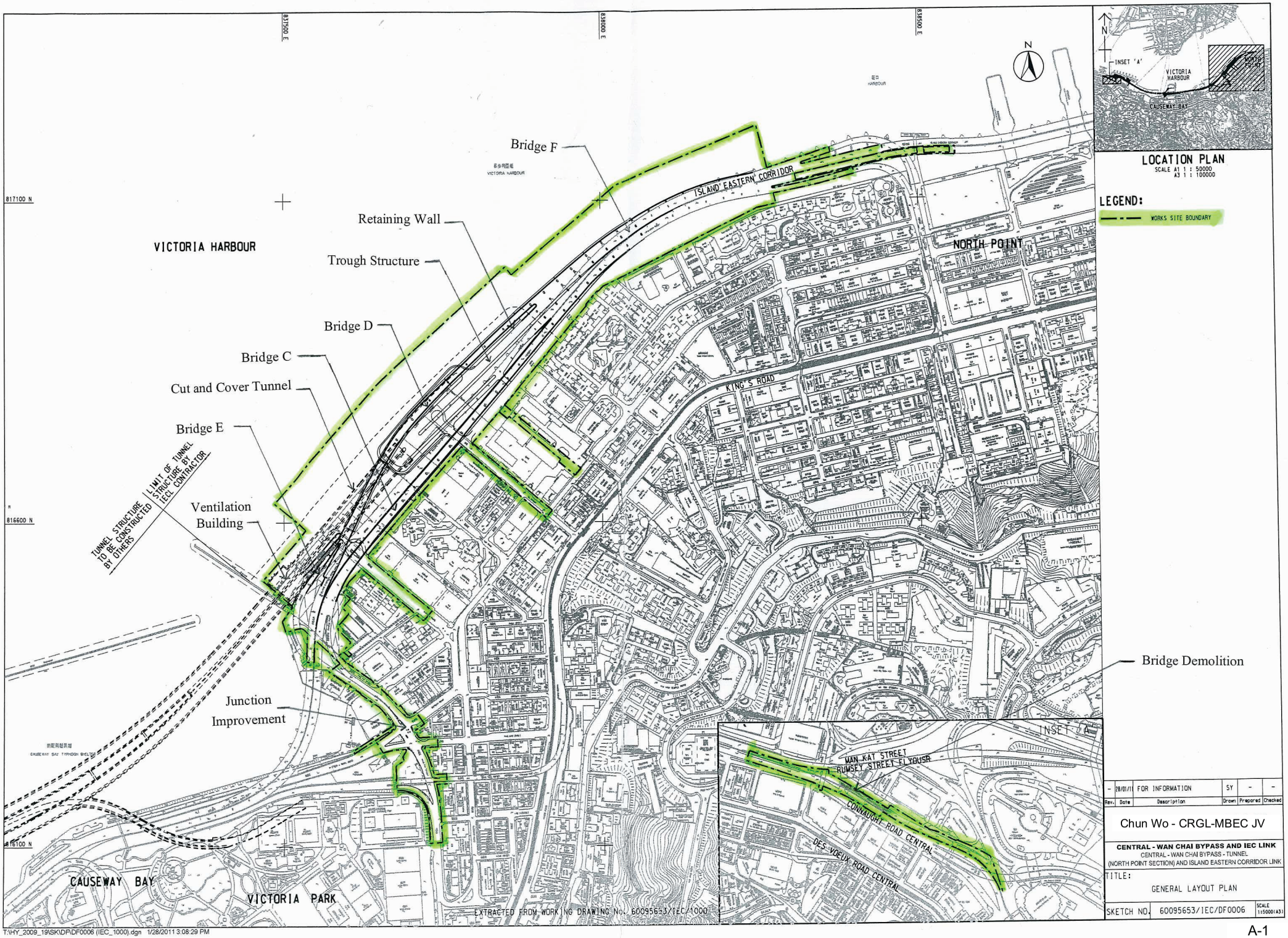
FOR

Contract No.: HY/2009/19

Central – Wan Chai Bypass
Tunnel (North Point Section)
and
Island Eastern Corridor Link

Appendix A

Project Site Boundary



LOCATION PLAN
SCALE A1 1 : 50000
A3 1 : 100000

LEGEND:

WORKS SITE BOUNDARY

Rev.	Date	Description	Drawn	Prepared	Checked
-	28/01/11	FOR INFORMATION	SY	-	-

Chun Wo - CRGL-MBEC JV

CENTRAL - WAN CHAI BYPASS AND IEC LINK
CENTRAL - WAN CHAI BYPASS - TUNNEL (NORTH POINT SECTION) AND ISLAND EASTERN CORRIDOR LINK

TITLE:
GENERAL LAYOUT PLAN

SKETCH NO. 60095653/IEC/DF0006 SCALE 1:5000(A3)

T:\HY_2009_19\SK\DP\DF0006 (IEC_1000).dgn 1/28/2011 3:08:29 PM

CHUN WO - CRGL - MBEC
JOINT VENTURE

LANDSCAPE PLAN

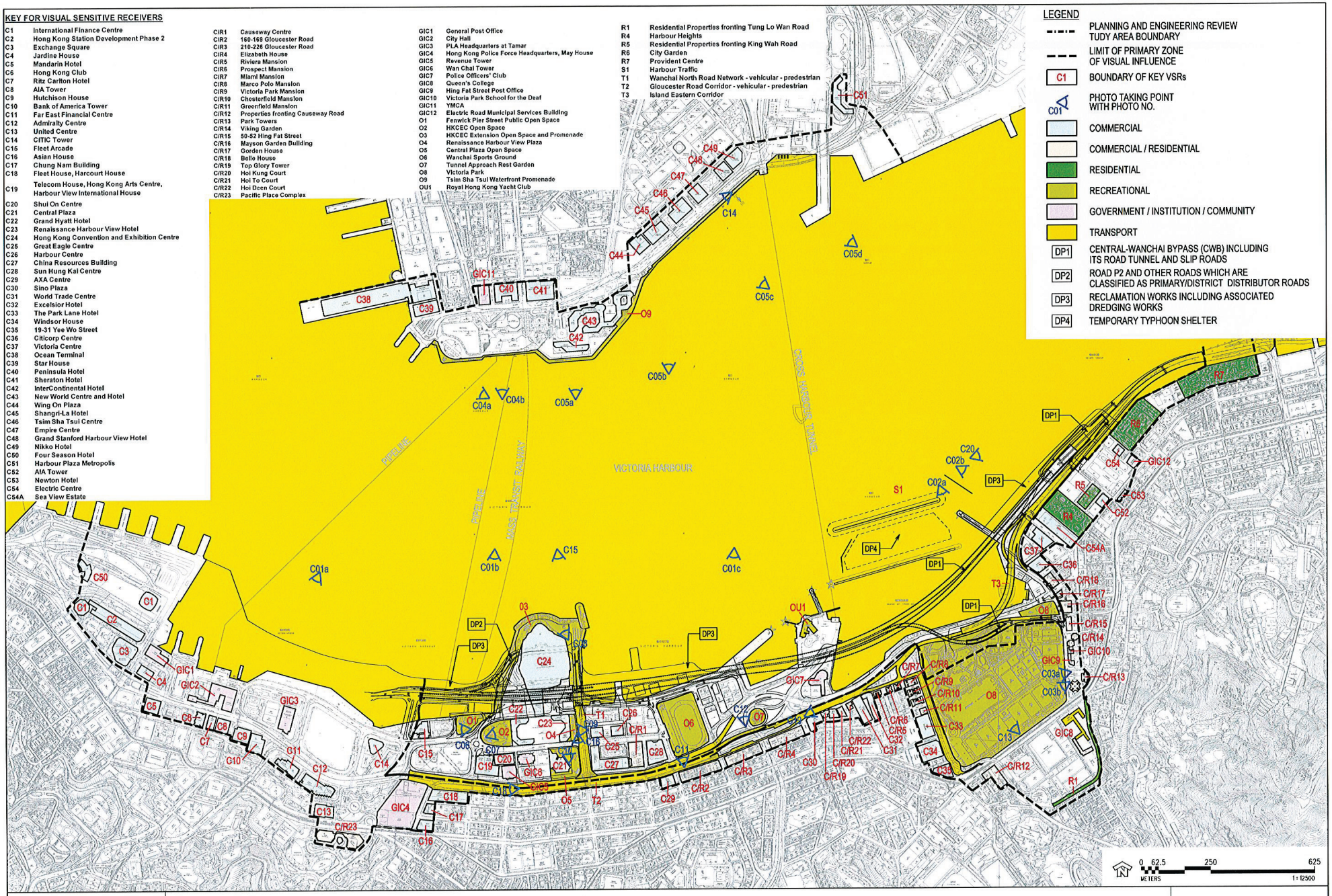
FOR

Contract No.: HY/2009/19

Central – Wan Chai Bypass
Tunnel (North Point Section)
and
Island Eastern Corridor Link

Appendix B

Location Plan of Visual Sensitive Receivers



MAUNSELL | AECOM

Maunsell Consultants Asia Ltd

WAN CHAI DEVELOPMENT PHASE II - PLANNING AND ENGINEERING REVIEW

KEY VSRs AND PRIMARY ZONE OF VISUAL influence DURING CONSTRUCTION

FIGURE 10.4

6/9/2007 10:38:02

FILE : d:\wanchai\DGN\FIGURE 10-4.dgn

CHUN WO - CRGL - MBEC
JOINT VENTURE

LANDSCAPE PLAN

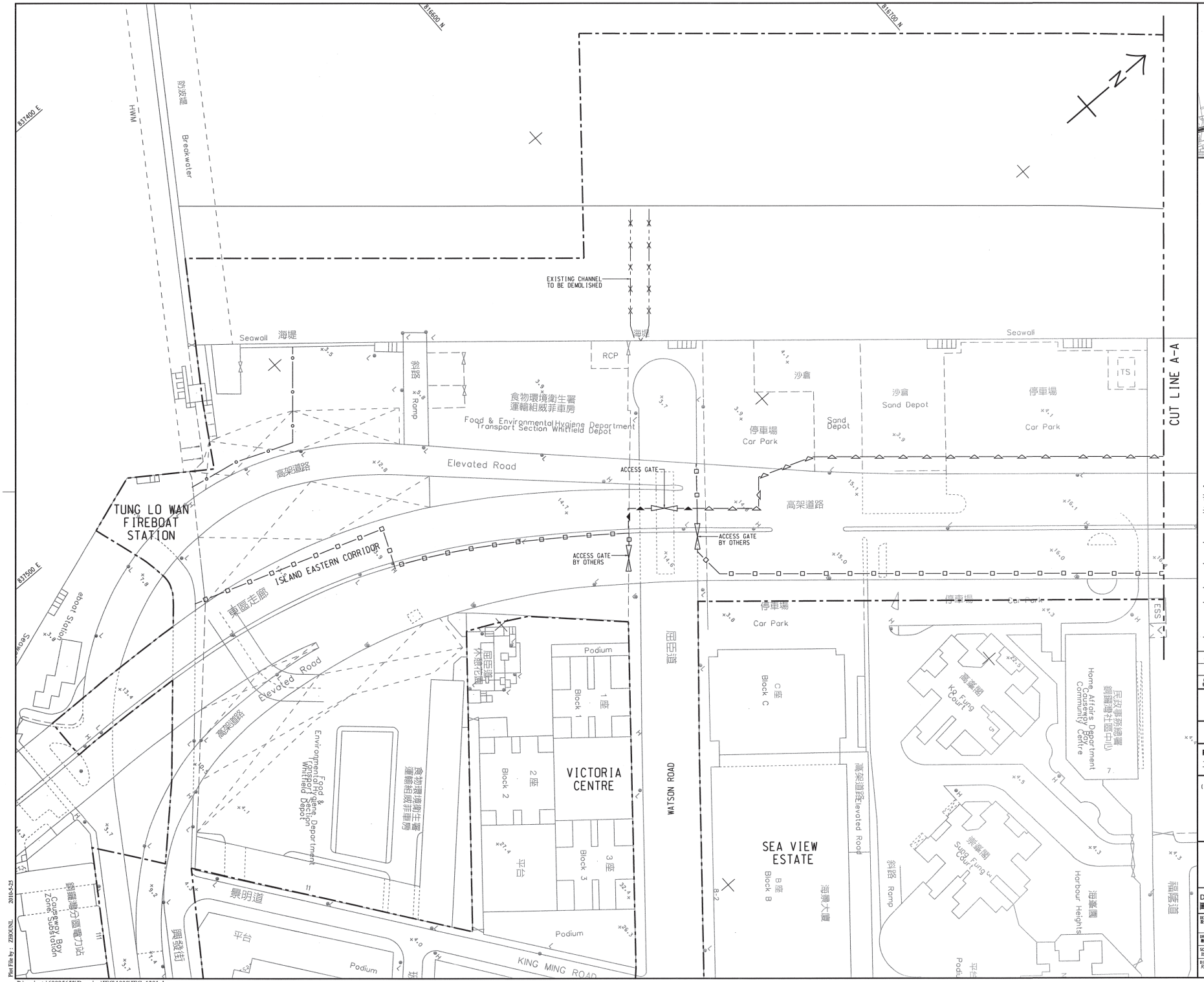
FOR

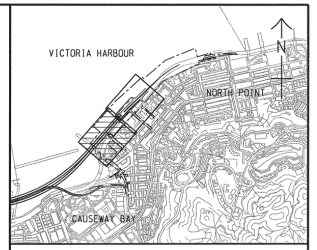
Contract No.: HY/2009/19

Central – Wan Chai Bypass
Tunnel (North Point Section)
and
Island Eastern Corridor Link

Appendix C

Location Plan of Decorative Screen Hoarding





KEY PLAN

SCALE A1 1 : 20000
A3 1 : 40000

NOTES:

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DRAWINGS NOS. 60095653/IEC/1302 AND 1311 TO 1314.
2. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE SPECIFIED.
3. EXACT LOCATION AND EXTENT OF HOARDING SHALL BE CONFIRMED WITH THE ENGINEER.
4. THE EXACT LOCATION AND DIMENSIONS OF ENTRANCE GATE SHALL BE CONFIRMED WITH THE ENGINEER.
5. PRIOR TO POSSESSION OF POTION II AS SPECIFIED IN DRAWING NO. 60095653/IEC/1055, OIL STREET SHALL REMAIN OPEN TO PUBLIC AND THE CONTRACTOR SHALL NOT ERECT ANY HOARDING OR GATE ON THE CARRIAGEWAY OF OIL STREET.
6. THE CONTRACTOR SHALL ALLOW AND MAINTAIN ACCESS OF HARBOUR GRAND HONG KONG INTO POTION IX AS SPECIFIED IN DRAWING NO. 60095653/IEC/1055, THROUGHOUT THE ENTIRE COURSE OF CONSTRUCTION.
7. THE CONTRACTOR SHALL UPKEEP AND MAINTAIN ALL EXISTING HOARDINGS. UPON AGREEMENT OF THE ENGINEER, THE CONTRACTOR COULD REVISE, REALIGN OR REMOVE THE HOARDINGS SET UP BY OTHERS PROVIDED THAT THE CONDITIONS OF ENVIRONMENTAL PERMIT ARE COMPLIED.
8. ALL HOARDINGS SHALL BE REMOVED BY THE CONTRACTOR UPON COMPLETION OF THE WORKS AND IN COMPLIANCE WITH THE CONDITIONS OF ENVIRONMENTAL PERMIT EP - 364/2009 ENCLOSED IN PS APPENDIX 25.5.
9. SPECIAL HOARDING WITH HEIGHT UP TO THE SOFFIT OF THE BRIDGE DECK AREA SHALL BE INSTALLED DURING THE DEMOLITION AND CONSTRUCTION OF ADJACENT TUNNEL APPROACH RAMP STRUCTURE. THE CONTRACTOR SHALL TAKE INTO ACCOUNT OF THE SPECIAL HOARDING CONSTRUCTION IN PREPARATION OF THE CONSTRUCTION PROGRAMME.

LEGEND:

- SITE BOUNDARY
- ROAD TUNNEL (WITH EMERGENCY PEDESTRIAN WALKWAY)
- F/P FOOTPATH
- A/M AMENITY AREA
- HOARDINGS (DETAILS REFER TO HyO STANDARD DRG. NO. H6110 AND H6111)
- SPECIAL HOARDINGS(DETAILS REFER TO DRG. NO. 60095653/IEC/1311-1314)
- TYPICAL HOARDINGS ERECTED BY OTHERS
- SPECIAL HOARDINGS ERECTED BY OTHERS
- ACCESS GATE (DETAILS REFER TO CEDD STANDARD DWG. C1007)
- AESTHETIC PANEL ERECTED BY OTHERS

REV. 修訂	DESCRIPTION 內容摘要	DESIGNED 設計	CHECKED 審核	DATE 日期
A	WORKING DRAWING	ALCF	BCC	DEC 10
-	TENDER DRAWING	ALCF	BCC	MAY 10

Highways Department 路政署
Major Works Project Management Office

CENTRAL - WAN CHAI BYPASS AND IEC LINK

PWP ITEM NO. 工務計劃項目編號 **579 TH**

CENTRAL - WAN CHAI BYPASS - TUNNEL (NORTH POINT SECTION) AND ISLAND EASTERN CORRIDOR LINK

HOARDING LAYOUT PLAN

SHEET 1 OF 2

AECOM

DRG.NO. 圖紙編號 **60095653/IEC/1301A**

DESIGNED BY 設計 ALCF	CONTRACT NO. 合約編號 HY/2009/19	P. Dir. APPROVED 批准人 CW	
DRAWN BY 繪圖 LHC	STATUS 狀態 **WORKING DRAWING**		
SCALE 比例 A1 1 : 500 A3 1 : 1000			
DIMENSIONS ARE IN 尺寸單位 METRES			

Plot File by : ZHOUNL 2010-5-25

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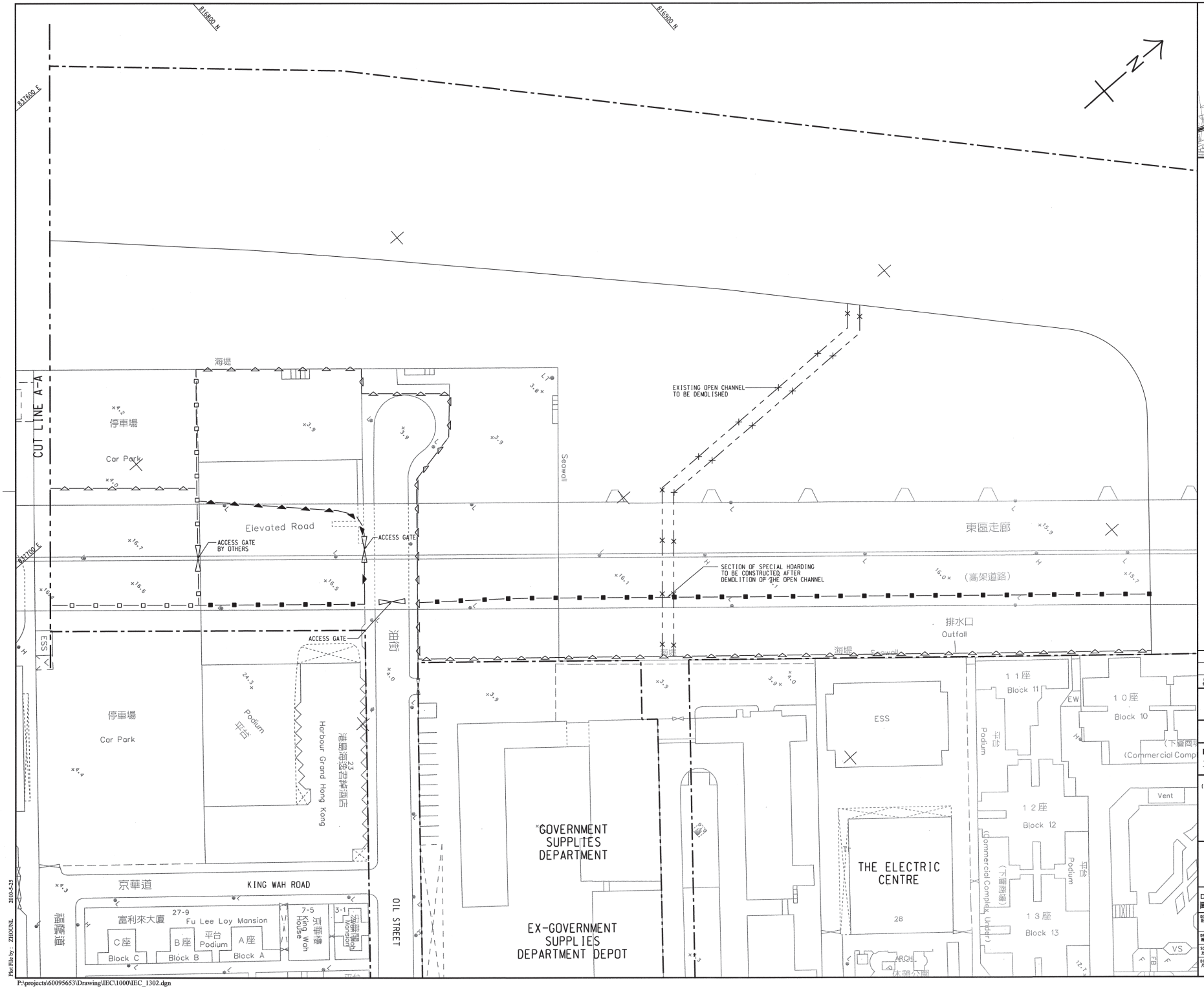

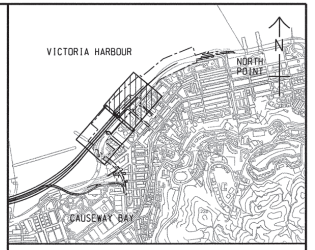

KEY PLAN
SCALE A1 1 : 20000
A3 1 : 40000

NOTES:

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DRAWINGS NO. 60095653/IEC/1301.
2. FOR NOTES AND LEGEND REFER TO DRG. NO. 60095653/IEC/1301.

REV. 版訂	DESCRIPTION 內容摘要	ORIGINATED 繪圖	CHECKED 審查	DATE 日期
A	WORKING DRAWING	ALCF	BCC	DEC 10
-	TENDER DRAWING	ALCF	BCC	MAY 10

Highways Department 路政署
Major Works Project Management Office

CENTRAL - WAN CHAI BYPASS AND IEC LINK

PWP ITEM NO.
工務計劃項目編號 579 TH

CENTRAL - WAN CHAI BYPASS - TUNNEL (NORTH POINT SECTION) AND ISLAND EASTERN CORRIDOR LINK

HOARDING LAYOUT PLAN

SHEET 2 OF 2

AECOM

DRG.NO. 圖紙編號 60095653/IEC/1302A

DESIGNED BY 設計	CONTRACT NO. 合約編號	P. Dir. APPROVED 批准人
ALCF	HY/2009/19	CW
DRAWN BY 繪圖	STATUS 狀態	
YMZ	WORKING DRAWING	
SCALE 比例 A1 1 : 500 A3 1 : 1000		
DIMENSIONS ARE IN 尺寸單位 METRES		

Plot File by : ZHOUNL 2010-5-25

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CHUN WO - CRGL - MBEC
JOINT VENTURE

LANDSCAPE PLAN

FOR

Contract No.: HY/2009/19

Central – Wan Chai Bypass
Tunnel (North Point Section)
and
Island Eastern Corridor Link

Appendix D

Design Details of Decorative Screen Hoarding

GENERAL:

1.1 THIS DRAWING IS TO BE READ IN CONJUNCTIONS WITH THE CONTRACT SPECIFICATION AND PARTICULAR REQUIREMENTS AS SHOWN ON INDIVIDUAL DRAWINGS.

1.2 UNLESS OTHERWISE SPECIFIED, THESE GENERAL NOTES ARE APPLICABLE TO SPECIAL SITE HOARDING ONLY.

1.3 ALL REFERENCES OF STANDARD DRAWING SHALL BE REFERRED TO THE LATEST VERSION OF THAT STANDARD DRAWING.

DIMENSIONS AND LEVELS:

2.1 ALL REFERENCES OF STANDARD DRAWING SHALL BE REFERRED TO THE LATEST VERSION OF THAT STANDARD DRAWING.

2.2 LEVELS ARE IN METRES RELATIVE TO HONG KONG PRINCIPAL DATUM (mPD) UNLESS OTHERWISE NOTED.

2.3 CHAINAGES ARE IN METRES.

2.4 DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.

2.5 SETTING OUT DIMENSIONS, LEVELS, COORDINATES ARE TO BE CALCULATED BY THE CONTRACTOR. NO INFORMATION SHOULD BE SCALED PHYSICALLY OR ELECTRONICALLY FROM THE DRAWINGS OR FILES.

CONCRETE:

3.1 ALL REFERENCES OF STANDARD DRAWING SHALL BE REFERRED TO THE LATEST VERSION OF THAT STANDARD DRAWING.

FOOTING	GRADE 40/20, COVER 45MM
PRECAST CONCRETE BLOCK	GRADE 30/20, COVER 35MM
BLINDING LAYER	GRADE 10/20

3.2 CONCRETE GRADES SPECIFIED ARE THE REQUIRED MINIMUM 28 DAYS CHARACTERISTIC STRENGTHS IN MPA AND THE MAXIMUM SIZE OF AGGREGATE IN mm. THE REACTIVE ALKALI OF CONCRETE EXPRESSED AS THE EQUIVALENT SODIUM OXIDE PER CUBIC METRE OF CONCRETE SHALL NOT EXCEED 3KG.

3.3 CONSTITUENT MATERIALS, MIX DESIGN AND TESTING REQUIREMENTS ARE DEFINED IN THE HONG KONG GOVERNMENT GENERAL SPECIFICATION FOR CIVIL ENGINEERING WORKS 2006 EDITION.

3.4 CONCRETE FINISHES FOR PRECAST CONCRETE BLOCK SHALL BE U3 OR F3, AND FOR FOOTING SHALL BE U2 OR F2 IN ACCORDANCE WITH THE HONG KONG GOVERNMENT GENERAL SPECIFICATION FOR CIVIL ENGINEERING WORKS 2006.

3.5 BLINDING CONCRETE SHALL BE 75MM THICK UNLESS SHOWN OTHERWISE.

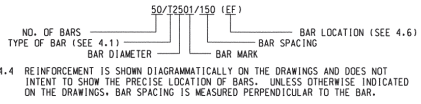
REINFORCEMENT:

4.1 STEEL REINFORCEMENT SHALL COMPLY WITH CONSTRUCTION STANDARD CS2 : 1995 OF HONG KONG.

SYMBOL	TYPE OF BAR
R	MILD STEEL BAR OF GRADE 250
T	HIGH YIELD DEFORMED BAR OF GRADE 460
F	FABRIC TO BS4483. SPECIFIED CHARACTERISTIC STRENGTH OF STRUCTURAL MESH FABRIC fy TO BE 425N/mm² SPECIFIED CHARACTERISTIC STRENGTH OF WRAPPING MESH FABRIC fy TO BE 250N/mm²

4.2 STEEL REINFORCEMENT SHALL COMPLY WITH THE REQUIREMENTS OF CONSTRUCTION STANDARD CS2:1995 AND SHALL BE BENT IN ACCORDANCE WITH BS8666:2005.

4.3 REINFORCEMENT NOTATION IS AS FOLLOWS:



4.4 REINFORCEMENT IS SHOWN DIAGRAMMATICALLY ON THE DRAWINGS AND DOES NOT INTENT TO SHOW THE PRECISE LOCATION OF BARS. UNLESS OTHERWISE INDICATED ON THE DRAWINGS, BAR SPACING IS MEASURED PERPENDICULAR TO THE BAR.

4.5 TOP OR NEAR SIDE BARS SHOWN AS ——————
ALL OTHER BARS SHOWN AS – – – – –

4.6 ABBREVIATIONS:

T	TOP
B	BOTTOM

4.7 BARS SHALL BE LAPPED AT THE LOCATIONS SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ENGINEER IF BARS ARE TO BE LAPPED ELSEWHERE.

4.8 MINIMUM ANCHORAGE LENGTHS FOR STRAIGHT BARS ARE AS FOLLOWS:

BAR DIAMETER	CONCRETE GRADE: fcu>=40MPa		CONCRETE GRADE: fcu<40MPa	
	ANCHORAGE LENGTH		ANCHORAGE LENGTH	
	TENSION	COMPRESSION	TENSION	COMPRESSION
10	350	280	415	330
12	420	340	495	395
16	560	450	660	530
20	700	565	825	660
25	875	705	1030	825
32	1115	900	1315	1055
40	1395	1125	1645	1315

4.9 MINIMUM LAP LENGTH FOR VARIOUS BAR SIZES ARE AS FOLLOWS UNLESS SHOWN OTHERWISE ON THE DRAWINGS:

BAR DIAMETER	CONCRETE GRADE: fcu>=40MPa						CONCRETE GRADE: fcu<40MPa					
	A MIN LAP LENGTH		1.4 * A		2.0 * A		B MIN LAP LENGTH		1.4 * B		2.0 * B	
	TENSION	COMPRESSION	TENSION	COMPRESSION	TENSION	COMPRESSION	TENSION	COMPRESSION	TENSION	COMPRESSION	TENSION	COMPRESSION
10	400	350	560	490	800	750	415	350	585	490	830	700
12	450	390	630	550	900	780	495	395	700	555	990	790
16	560	470	785	660	1120	940	660	530	925	745	1320	1060
20	700	565	980	795	1400	1130	825	660	1155	925	1650	1320
25	875	705	1225	990	1750	1410	1030	825	1445	1155	2060	1650
32	1115	900	1565	1260	2230	1800	1315	1055	1845	1480	2630	2110
40	1395	1125	1955	1575	2790	2250	1645	1315	2305	1845	3290	2630

THE LAP LENGTH SHOULD BE 1.4A OR 1.4B IF ANY OF THE FOLLOWING CONDITION APPLIES:

(a) THE NOMINAL COVER TO THE LAPPED BARS FROM THE TOP OF THE SECTION AS INTENDED TO BE CAST IS LESS THAN TWICE THE BAR SIZE.

(b) THE CLEAR DISTANCE BETWEEN THE LAP AND ANOTHER PAIR OF LAPPED BARS IS LESS THEN 150mm.

(c) A CORNER BAR IS BEING LAPPED AND THE NOMINAL COVER TO EITHER FACE IS LESS THAN TWICE THE BAR SIZE.

WHERE CONDITIONS (a) AND (b) OR CONDITIONS (a) AND (c) APPLY THE LAP LENGTH OF 2.0A OR 2.0B SHOULD BE USED.

4.10 WELDING OF REINFORCEMENT SHALL NOT BE PERMITTED WITHOUT APPROVAL OF THE ENGINEER.

STEELWORKS:

5.1 ALL DIMENSIONS AND LEVELS INCLUDING AS CONSTRUCTED HOLDING DOWN BOLT POSITIONS AFFECTING NEW STEELWORK SHOULD BE CHECKED ON SITE BY THE CONTRACTOR INCORPORATED ONTO WORKSHOP DRAWINGS.

5.2 HOT ROLLED SECTION TO COMPLY WITH THE STANDARDS AS STIPULATED IN THE SPECIFICATIONS SHOULD NOT BE REPLACED WITH OTHER SECTIONS COMPLYING WITH OTHER STANDARDS UNLESS APPROVED BY THE ENGINEER.

5.3 UNLESS OTHERWISE SPECIFIED, ALL STRUCTURAL STEEL MEMBERS AND ALL STRUCTURAL HOLLOW SECTION SHALL COMPLY WITH BS EN 10025:1993 AND BS EN 10210 PART 1 AND PART 2 RESPECTIVELY.

MEMBERS	GRADE
5.3.1 HOLLOW SECTIONS	:GRADE S355JOH OR EQUIVALENT
5.3.2 SECTIONS OTHER THAN HOLLOW SECTIONS	:GRADE S355JO OR EQUIVALENT
5.3.3 PLATES FOR STRUCTURAL ELEMENTS	:GRADE S355JO OR EQUIVALENT
5.3.4 PLATES FOR NONSTRUCTURAL ELEMENT	:GRADE S355JO OR EQUIVALENT
5.3.5 CONNECTION BOLTS	:STAINLESS STEEL GRADE A4-80(BS EN ISO 3506-1 & 2)

5.4 IN ACCORDANCE WITH BS EN 10025:1993,THE CONTRACTOR IS RESPONSIBLE FOR DETEMINING THE NOTCH TOUGHNESS AND THE CHARPY IMPACT REQUIREMENTS OF THE STEEL. (i.e. SELECTION OF STEEL SUBGRADE). THE STEEL SHOULD SATISFY THE REQUIREMENTS OF CLAUSE 2.4.4 OF BS 5950 : PART 1 : 1990 BASED ON A MINMUM TEMPERATURE OF 10° C.

THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT THE STEEL HAS ADEQUATE THROUGH THICKNESS PROPERTIES TO SATISFY THE THROUGH THICKNESS PROPERTIES AND WELDING SEQUENCE THAT THE MATERIAL, AT OR ADJACENT TO WELDED LOCATIONS, IS FREE OF LAMINATIONS CENTERLINE SEGEGATION OR OTHER CRACE LINE INDICATIONS ON COMPLETION OF WELDING. THE CONTRACTOR IS RESPONSIBLE FOR DETERMININING THE QUALITY CLASS OF STEEL WITH ENHANCED THROUGH THICKNESS PROPERTIES (EN 10164) WHICH MAY BE REQUIRED COMPATIBLE WITH HIS CHOSEN METHOD OF WORKING.

NOT LESS THAN THREE WEEKS PRIOR TO ORDERING THE STEEL, THE CONTRACTOR SHOULD SUBMIT A REPORT FOR REVIEW, WHICH DOCUMENTS THE SUBGRADE SELECTION AND THE STRATEGY (MATERIAL SELECTION, WELDING PROCEDURE AND INSPETION) WHICH WOULD BE IMPLEMENTED FOR CONTROLLING THE THROUGH THICKNESS STRESS DURING WELDING AND ENSURING THAT THE ABOVE CRITERIA ARE SATISFIED.

5.5 STAINLESS STEEL SHALL COMPLY WITH THE STANDARDS AS STIPULATED IN THE SPECIFICATIONS

5.6 ALL STAINLESS STEEL BOLTS AND RETAINING SCREWS SHALL BE GRADE A4-80 STAINLESS STEEL TO BS EN ISO 3506-1 & 2 WITH COMPATIBLE STAINLESS STEEL WASHERS. A NYLON OR OTHER APPROVED PLASTICS WASHER IS TO BE PROVIDED BETWEEN THE SURFACES OF ANY DIFFERENT METAL SUCH AS ALUMINIUM ALLOY, STAINLESS STEEL AND GALVANIZED STEEL.

5.7 UNLESS OTHERWISE SPECIFIED IN THE DRAWINGS, ALL FASTENERS SHALL BE STAINLESS STEEL BOLTS OR HSFG BOLTS AS APPROVED BY THE ENGINEER. HSFG BOLTS SHALL BE PROTECTED WITH ELECTROPLATED ZINC PLATE FOR THE BOLTS AND CADMIUM PLATE FOR THE NUTS TO BS 3382.

5.8 THE DIAMETER OF A BOLT HOLE SHALL BE 2mm LARGER THAN THE NOMINAL DIAMETER OF THE BOLT, UNLESS SHOWN OTHERWISE.

5.9 THE THREAD OF ALL RETAINING (BOLTS WITHOUT NUTS) SHOULD BE COATED WITH AN EPOXY RESIN ADHESIVE IMMEDIATELY PRIOR TO TIGHTENING. MANUFACTURERS DETAILS OF THE ADHESIVE SHOULD BE AGREED WITH THE ENGINEER.

5.10 AT SLOTTED HOLE CONNECTIONS EITHER SELF LOCKING NUTS SHOULD BE USED OR THE BOLTS NUTS SHOULD BE COATED WITH EPOXY RESIN ADHESIVE IMMEDIATELY PRIOR TO TIGHTENING.

5.11 ALL WELDING SHALL BE CARRIED OUT BY CERTIFIED WELDERS AS DESCRIBED IN THE SPECIFICATION.

5.12 WELDING FOR CARBON MANGANESE STEEL SHALL COMPLY WITH BS EN,1011-1:1998 AND BS EN 1011-2:2001 CONTINUOUS FILLET WELD SHALL BE USED 6mm UNLESS OTHERWISE SPECIFIED. WELD SHALL BE GRADE E51 ELECTRODES WITH CAPACITY OF 255N/mm .

5.13 THE SYMBOLS FOR WELDING ARE IN ACCORDANCE WITH BS EN 13622.

5.14 BUTT WELDS ARE TO BE COMPLETED PENETRATION WELDS PRODUCED BY METHODS APPROVED BY THE ENGINEER AFTER DEMONSTRATION AT PROCEDURE TRIALS.

5.15 WELDING CONSUMABLES SHOULD PRODUCE DEPOSITED WELD METAL HAVING MECHANICAL PROPERTIES NOT INFERIOR THE MINIMA OF THE PARENT METAL.

5.16 TOLERANCES ARE IN ACCORDANCE WITH THE SPECIFICATION.

5.17 THE CONTRACTOR SHOULD BE RESPONSIBLE FOR THE PROVISION OF ALL PACKING TO ACHIEVE ADEQUATE TOLERANCE AT THE CONNECTIONS.

5.18 STEELWORK IS CORROSION PROPECTED AS DESCRIBED IN THE SPECIFICATION.

5.19 CORROSION PROTECTION IS APPLIED TO THE INSIDE SURFACES OF ALL HOLES.

5.20 DETAILS OF PAINT ARE USED SHOULD BE APPROVED BY THE ENGINEER PRIOR TO APPLICATION TO THE STEELWORK.

5.21 STEEL WHICH IS CAST-IN SHOULD REMAIN UNPAINTED. THE STEEL SHOULD BE BLAST CLEANED (EITHER PRIOR TO OR AFTER FABRICATION) TO THE STANDARDS AS STIPULATED IN THE SPECIFICATIONS.

5.22 IMMEDIATELY PRIOR TO ERECTION ALL STEELWORK SHOULD BE SPRAY WASHED WITH WATER AND DETERGENT, THEN SPRAY RINSED WITH CLEAN WATER.

PRECAST CONCRETE BLOCK:

6.1 PRECAST CONCRETE BLOCKS SHALL BE REINFORCED WITH STEEL FABRIC TO B.S. 4483 TYPE A 393 ON ALL SIDES.

6.2 PRECAST CONCRETE BLOCKS SHALL BE SET ON GROUND WITH AN ALLOWABLE BEARING CAPACITY GREATER THAN 350 kPa UNLESS PERMITTED BY THE ENGINEER. PLATE LOAD TESTS SHALL BE CARRIED OUT TO VERIFY THE SOIL BEARING CAPACITY TO THE SATISFACTION OF THE ENGINEER.

6.3 THE CONTRACTOR SHALL DESIGN AND PROVIDE THE LIFTING EYES TO THE PRECAST CONCRETE BLOCK. THE DETAILS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION.

EXTERIOR DESIGN OF HOARDING:

7.1 PURSUANT TO THE PARTICULAR SPECIFICATION, THE CONTRACTOR SHALL PROVIDE 3 ALTERNATIVE OPTIONS OF AESTHETIC PROFESSIONAL GRAPHIC DESIGNS FOR THE SPECIAL HOARDING.

SPECIAL HOARDINGS:

8.1. FOR STANDARD HOARDINGS, DETAILS SHALL BE REFERRED TO HyD STANDARD DRAWINGS H6110 AND H6111.

8.2. FOR SPECIAL HOARDING, REFER TO DRAWINGS 60095653/IEC/1312-1314.

A. THE SPECIAL HOARDING, SHALL BE ERECTED UP TO THE BRIDGE DECK SOFFIT OF THE EXISTING ISLAND EASTERN CORRIDOR, LEAVING 300mm (MAX.) BETWEEN THE DECK SOFFIT AND THE TOP OF HOARDING.

B. ALL FRAME WORKS OF THE SPECIAL HOARDINGS SHALL BE GRADE S355JO TO EN 10025 AND PAINTED WITH PAINT SYSTEM A STATED IN CLAUSE 18.63 OF C.S. 2006.

NOTE:

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH DNG. NO. 60095653/IEC/1301 & 1302 AND 1312-1314.

REV. 修訂	DESCRIPTION 內容摘要	ORIGINATED 繪製	CHECKED 核對	DATE 日期
A	WORKING DRAWING	ALCF	BCC	DEC 10
-	TENDER DRAWING	ALCF	BCC	MAY 10

Highways Department 路政署
Major Works Project Management Office

CENTRAL - WAN CHAI BYPASS AND IEC LINK

PWP ITEM NO. 工務計劃項目編號 579 TH

CENTRAL - WAN CHAI BYPASS - TUNNEL (NORTH POINT SECTION) AND ISLAND EASTERN CORRIDOR LINK

GENERAL NOTES FOR SPECIAL HOARDING

AECOM

DRG.NO. 圖紙編號 60095653/IEC/1311A

DESIGNED BY 設計 ALCF	CONTRACT NO. 合約編號 HY/2009/19	P. DIV. APPROVED 批准人 CW
DRAWN BY 繪圖 YMZ	STATUS 狀態 WORKING DRAWING	
SCALE 比例 N.T.S.		
DIMENSIONS ARE IN 尺寸單位 MILLIMETRES	© COPYRIGHT RESERVED 版 權 所 有	

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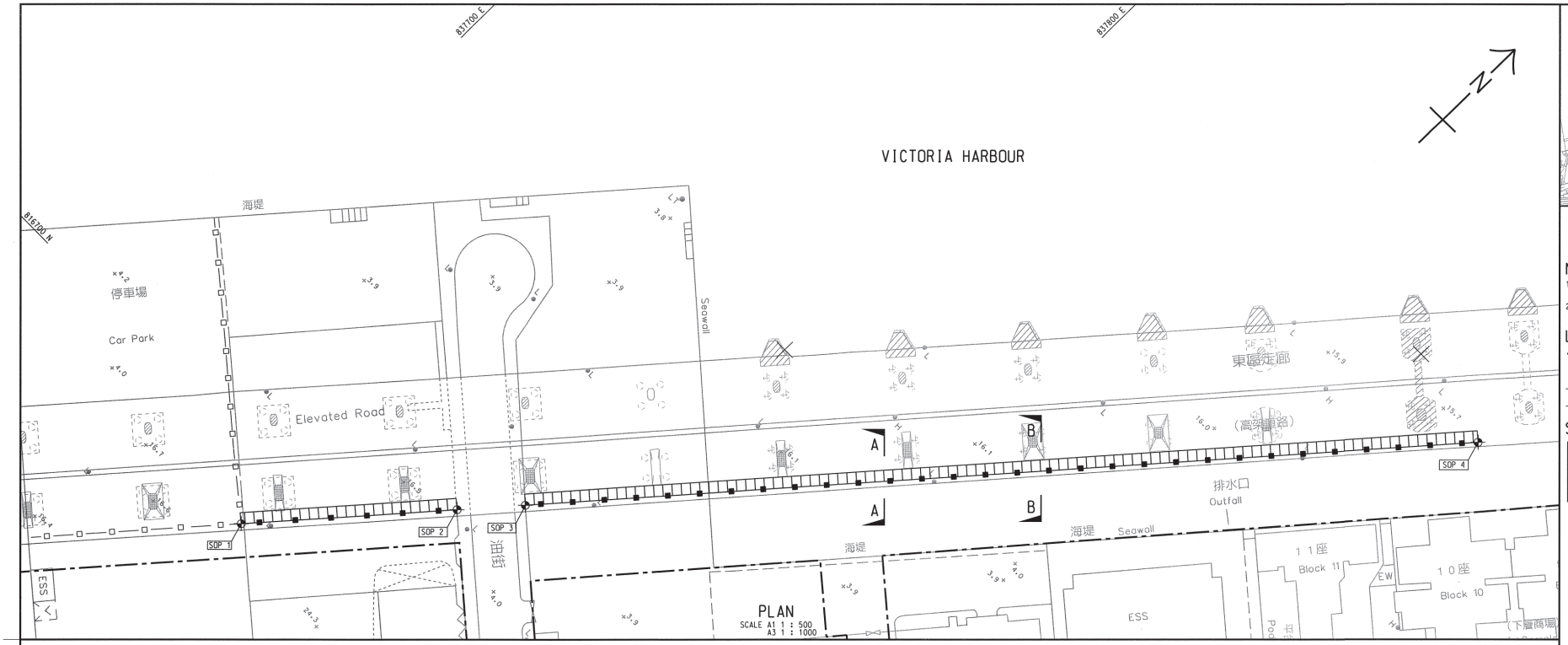
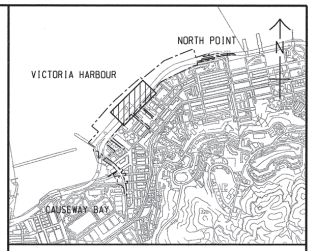




KEY PLAN
SCALE A1 1 : 20000
A3 1 : 40000

NOTES:

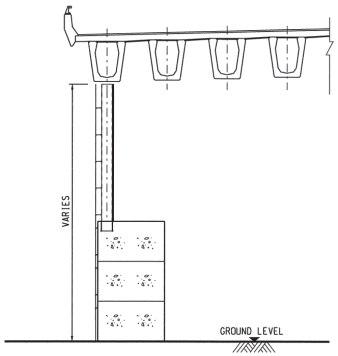
1. FOR GENERAL NOTES, PLEASE REFER TO DRG. NO. 60095653/IEC/1311.
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH DRG. NO. 60095653/IEC/1311 AND 1313-1314.

LEGEND:

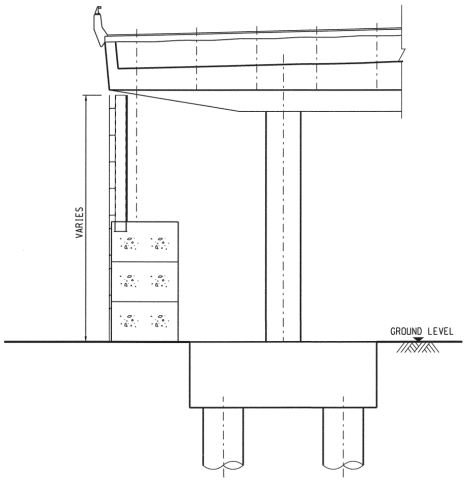
- SITE BOUNDARY
- SETTING OUT POINT
- PROPOSED SPECIAL HOARDING
- SPECIAL HOARDING BY OTHERS

SETTING OUT POINTS:

	EASTING	NORTHING
SOP 1	837742.786	816686.796
SOP 2	837774.220	816723.165
SOP 3	837784.162	816734.672
SOP 4	837922.884	816895.220



SECTION A - A
TYPICAL SECTION FOR HOARDING
SCALE A1 1 : 100
A3 1 : 200



SECTION B - B
TYPICAL SECTION FOR HOARDING
AT EXISTING PIER LOCATION
SCALE A1 1 : 100
A3 1 : 200

REV. 版別	DESCRIPTION 內容摘要			DATE 日期
A	WORKING DRAWING	ALCF	BCC	DEC 10
-	TENDER DRAWING	ALCF	BCC	MAY 10

Highways Department 路政署
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CENTRAL - WAN CHAI BYPASS AND IEC LINK

PWP ITEM NO.
工務計劃項目編號 579 TH

CENTRAL - WAN CHAI BYPASS - TUNNEL
(NORTH POINT SECTION) AND ISLAND EASTERN CORRIDOR LINK

LAYOUT AND SECTIONS OF SPECIAL HOARDING

AECOM

DRG.NO. 圖紙編號 60095653/IEC/1312A

DESIGNED BY 設計	ALCF	CONTRACT NO. 合約編號	HY/2009/19
P. DIR. APPROVED 批准人	CW	DRAWN BY 繪圖	LJ
STATUS 狀態	WORKING DRAWING	SCALE 比例	A1 AS SHOWN A3 AS SHOWN
DIMENSIONS ARE IN 尺寸單位	METRES		

Plot File by : ZHOUNL 2010-5-25

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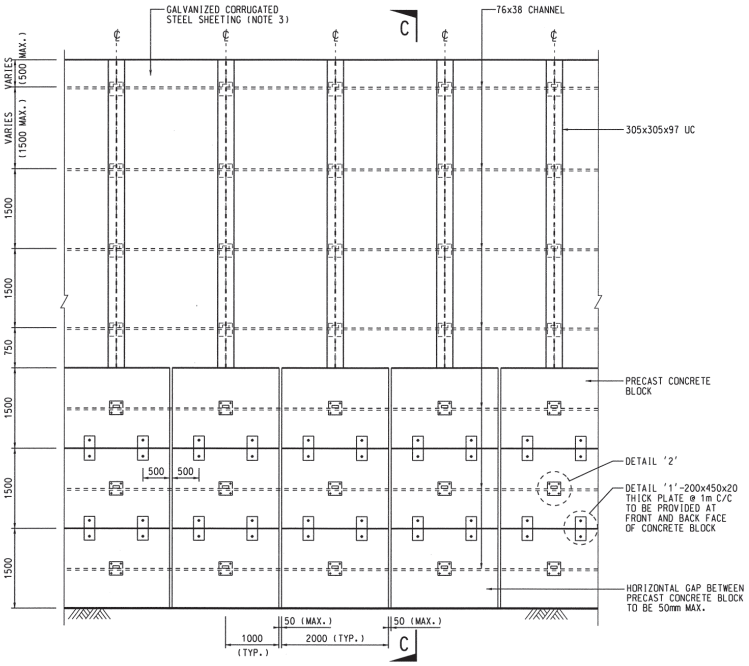
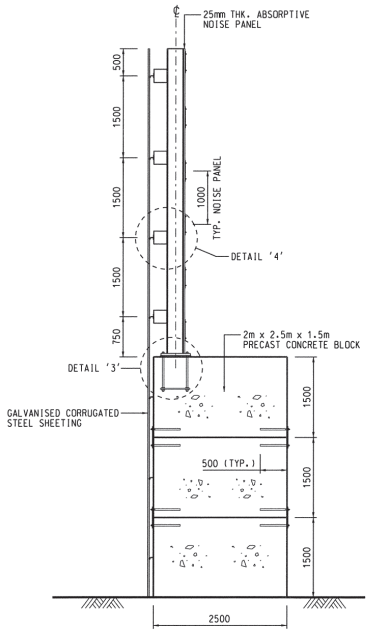
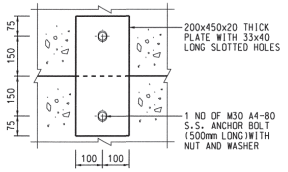


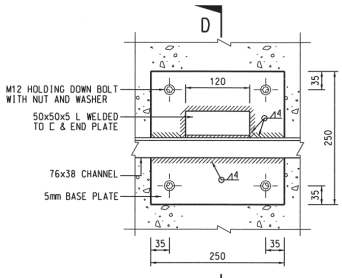
ELEVATION
SCALE A1 1 : 50
A3 1 : 100



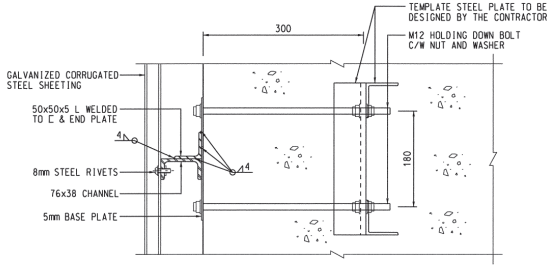
SECTION C - C
SCALE A1 1 : 50
A3 1 : 100



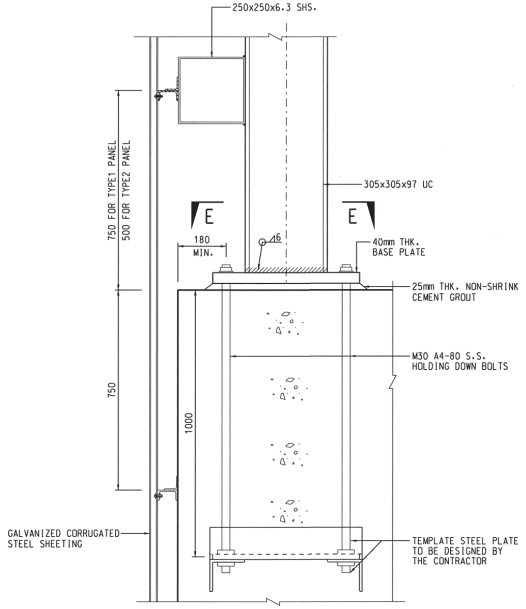
DETAIL '1'
SCALE A1 1 : 10
A3 1 : 20



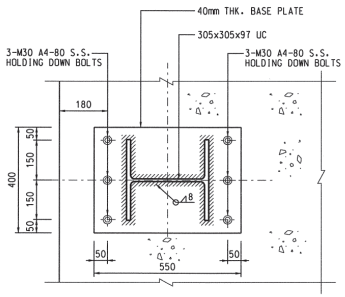
DETAIL '2'
SCALE A1 1 : 5
A3 1 : 10



SECTION D - D
SCALE A1 1 : 5
A3 1 : 10



DETAIL '3'
SCALE A1 1 : 10
A3 1 : 20



SECTION E - E
SCALE A1 1 : 10
A3 1 : 20

NOTES:

1. REFER TO DRAWING 60095653/IEC/1311 FOR GENERAL NOTES.
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH DRG. NO. 60095653/IEC/1311-1312 AND 1314.
3. CORRUGATED STEEL SHEETING SHALL HAVE SECTION MODULUS NOT LESS THAN 4000mm³/m. THE SHEETING SHALL BE TO BS3083 8/3 G350.

REV. 修訂	DESCRIPTION 內容摘要	DESIGNED 設計	CHECKED 審核	DATE 日期
A	WORKING DRAWING	ALCF	BCC	DEC 10
-	TENDER DRAWING	ALCF	BCC	MAY 10

Highways Department 路政署
Major Works Project Management Office

CENTRAL - WAN CHAI BYPASS AND IEC LINK

PWP ITEM NO.
工務計劃項目編號 579 TH

CENTRAL - WAN CHAI BYPASS - TUNNEL (NORTH POINT SECTION) AND ISLAND EASTERN CORRIDOR LINK

DETAILS OF SPECIAL HOARDING

SHEET 1 OF 2

AECOM

DRG.NO. 圖紙編號 60095653/IEC/1313A

DESIGNED BY 設計 ALCF	CONTRACT NO. 合約編號 HY/2009/19	P. DIV. APPROVED 批准人 CW
DRAWN BY 繪圖 LJ	STATUS 狀態 WORKING DRAWING	
SCALE 比例 A1 AS SHOWN A3 AS SHOWN		
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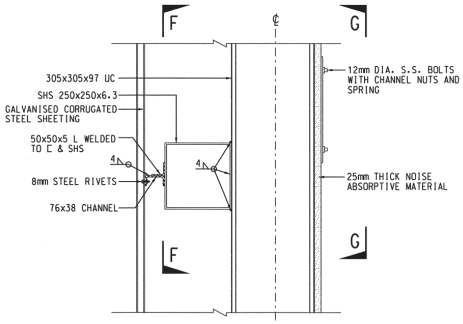
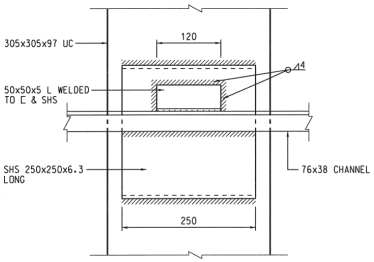


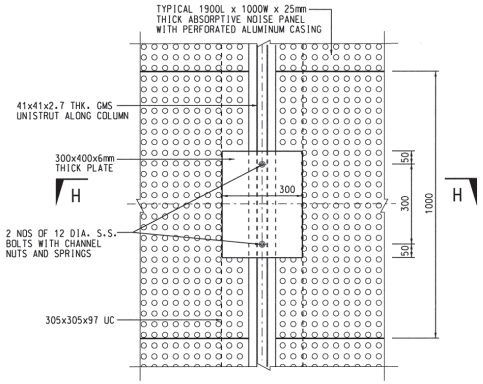
DETAIL '4'

SCALE A1 1 : 10
A3 1 : 20



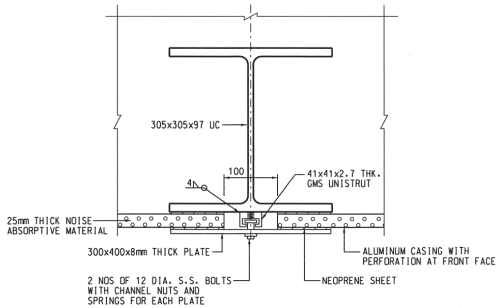
SECTION F - F

SCALE A1 1 : 5
A3 1 : 10



ELEVATION G - G

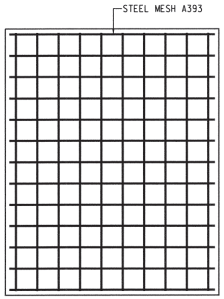
SCALE A1 1 : 10
A3 1 : 20



SECTION H - H

FIXING DETAIL FOR ABSORPTIVE NOISE PANELS

SCALE A1 1 : 5
A3 1 : 10



CONCRETE BLOCK REINFORCEMENT

(STEEL MESH A393 TO BE PROVIDED FOR ALL SIX SIDES OF CONCRETE BLOCK)

SCALE A1 1 : 25
A3 1 : 50

NOTES:

1. REFER TO DRAWING 60095653/IEC/1311 FOR GENERAL NOTES.
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH DRG. NO. 60095653/IEC/1311-1313.
3. THE NOISE ABSORPTIVE MATERIAL SHALL BE AN APPROVED TYPE OF ROCKWOOL HAVING A SUPERFICIAL DENSITY OF NO LESS THAN 14 KG/m2 AND A THICKNESS OF 25mm.
4. THE CONTRACTOR SHALL DESIGN THE ALUMINUM CASING THAT HOUSES THE NOISE ABSORPTIVE MATERIAL BASED ON THE USE OF 1mm THICK ALUMINUM SHEET WITH PERFORATION AT THE FRONT (FACING THE TEMPORARY CARPARK) AND 3mm THICK ALUMINUM BACKING PLATE. THE GRADE OF ALUMINUM SHALL BE GRADE 5083. 6082(T6) OR 3003H18.
5. THE PERFORATION OF THE ALUMINUM SHEET AT THE FRONT SHALL BE 36%.

REV. 編訂	DESCRIPTION 內容摘要	CHK'D 核對	APP'D 認可	DATE 日期
A	WORKING DRAWING	ALCF	BCC	DEC 10
-	TENDER DRAWING	ALCF	BCC	MAY 10

Highways Department 路政署
Major Works Project Management Office

CENTRAL - WAN CHAI BYPASS AND IEC LINK

PWP ITEM NO.
工務計劃項目編號 579 TH

CENTRAL - WAN CHAI BYPASS - TUNNEL (NORTH POINT SECTION) AND ISLAND EASTERN CORRIDOR LINK

DETAILS OF SPECIAL HOARDING

SHEET 2 OF 2

AECOM

DRG.NO. 圖紙編號 60095653/IEC/1314A

DESIGNED BY 設計	ALCF	CONTRACT NO. 合約編號	HY/2009/19
DRAWN BY 繪圖	YMZ	P. Dir. APPROVED 批准人	CW
SCALE 比例	A1 AS SHOWN A3 AS SHOWN	STATUS 階段	WORKING DRAWING
DIMENSIONS ARE IN 尺寸單位	MILLIMETRES		

Plot File by : ZHOUNL 2010-5-25

P:\projects\60095653\Drawing\IEC\1000\IEC_1314.dgn

GENERAL:

1.1 THIS DRAWING IS TO BE READ IN CONJUNCTIONS WITH THE CONTRACT SPECIFICATION AND PARTICULAR REQUIREMENTS AS SHOWN ON INDIVIDUAL DRAWINGS.

1.2 UNLESS OTHERWISE SPECIFIED, THESE GENERAL NOTES ARE APPLICABLE TO SPECIAL SITE HOARDING ONLY.

1.3 ALL REFERENCES OF STANDARD DRAWING SHALL BE REFERRED TO THE LATEST VERSION OF THAT STANDARD DRAWING.

DIMENSIONS AND LEVELS:

2.1 ALL REFERENCES OF STANDARD DRAWING SHALL BE REFERRED TO THE LATEST VERSION OF THAT STANDARD DRAWING.

2.2 LEVELS ARE IN METRES RELATIVE TO HONG KONG PRINCIPAL DATUM (mPD) UNLESS OTHERWISE NOTED.

2.3 CHAINAGES ARE IN METRES.

2.4 DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.

2.5 SETTING OUT DIMENSIONS, LEVELS, COORDINATES ARE TO BE CALCULATED BY THE CONTRACTOR. NO INFORMATION SHOULD BE SCALED PHYSICALLY OR ELECTRONICALLY FROM THE DRAWINGS OR FILES.

CONCRETE:

3.1 ALL REFERENCES OF STANDARD DRAWING SHALL BE REFERRED TO THE LATEST VERSION OF THAT STANDARD DRAWING.

FOOTING	GRADE 40/20, COVER 45MM
PRECAST CONCRETE BLOCK	GRADE 30/20, COVER 35MM
BLINDING LAYER	GRADE 10/20

3.2 CONCRETE GRADES SPECIFIED ARE THE REQUIRED MINIMUM 28 DAYS CHARACTERISTIC STRENGTHS IN MPA AND THE MAXIMUM SIZE OF AGGREGATE IN mm. THE REACTIVE ALKALI OF CONCRETE EXPRESSED AS THE EQUIVALENT SODIUM OXIDE PER CUBIC METRE OF CONCRETE SHALL NOT EXCEED 3KG.

3.3 CONSTITUENT MATERIALS, MIX DESIGN AND TESTING REQUIREMENTS ARE DEFINED IN THE HONG KONG GOVERNMENT GENERAL SPECIFICATION FOR CIVIL ENGINEERING WORKS 2006 EDITION.

3.4 CONCRETE FINISHES FOR PRECAST CONCRETE BLOCK SHALL BE U3 OR F3, AND FOR FOOTING SHALL BE U2 OR F2 IN ACCORDANCE WITH THE HONG KONG GOVERNMENT GENERAL SPECIFICATION FOR CIVIL ENGINEERING WORKS 2006.

3.5 BLINDING CONCRETE SHALL BE 75MM THICK UNLESS SHOWN OTHERWISE.

REINFORCEMENT:

4.1 STEEL REINFORCEMENT SHALL COMPLY WITH CONSTRUCTION STANDARD CS2 : 1995 OF HONG KONG.

SYMBOL	TYPE OF BAR
R	MILD STEEL BAR OF GRADE 250
T	HIGH YIELD DEFORMED BAR OF GRADE 460
F	FABRIC TO BS4483. SPECIFIED CHARACTERISTIC STRENGTH OF STRUCTURAL MESH FABRIC fy TO BE 425N/mm² SPECIFIED CHARACTERISTIC STRENGTH OF WRAPPING MESH FABRIC fy TO BE 250N/mm²

4.2 STEEL REINFORCEMENT SHALL COMPLY WITH THE REQUIREMENTS OF CONSTRUCTION STANDARD CS2:1995 AND SHALL BE BENT IN ACCORDANCE WITH BS8666:2005.

4.3 REINFORCEMENT NOTATION IS AS FOLLOWS:

50/T2501/150 (EF)

- 50 — NO. OF BARS
- T — TYPE OF BAR (SEE 4.1)
- 25 — BAR DIAMETER
- 01 — BAR MARK
- 150 — BAR SPACING
- (EF) — BAR LOCATION (SEE 4.6)

4.4 REINFORCEMENT IS SHOWN DIAGRAMMATICALLY ON THE DRAWINGS AND DOES NOT INTENT TO SHOW THE PRECISE LOCATION OF BARS. UNLESS OTHERWISE INDICATED ON THE DRAWINGS, BAR SPACING IS MEASURED PERPENDICULAR TO THE BAR.

4.5 TOP OR NEAR SIDE BARS SHOWN AS ——————
ALL OTHER BARS SHOWN AS – – – – –

4.6 ABBREVIATIONS:

T	TOP
B	BOTTOM

4.7 BARS SHALL BE LAPPED AT THE LOCATIONS SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ENGINEER IF BARS ARE TO BE LAPPED ELSEWHERE.

4.8 MINIMUM ANCHORAGE LENGTHS FOR STRAIGHT BARS ARE AS FOLLOWS:

BAR DIAMETER	CONCRETE GRADE: fcu>=40MPa		CONCRETE GRADE: fcu<40MPa	
	ANCHORAGE LENGTH		ANCHORAGE LENGTH	
	TENSION	COMPRESSION	TENSION	COMPRESSION
10	350	280	415	330
12	420	340	495	395
16	560	450	660	530
20	700	565	825	660
25	875	705	1030	825
32	1115	900	1315	1055
40	1395	1125	1645	1315

4.9 MINIMUM LAP LENGTH FOR VARIOUS BAR SIZES ARE AS FOLLOWS UNLESS SHOWN OTHERWISE ON THE DRAWINGS:

BAR DIAMETER	CONCRETE GRADE: fcu>=40MPa						CONCRETE GRADE: fcu<40MPa					
	A MIN LAP LENGTH		1.4 * A		2.0 * A		B MIN LAP LENGTH		1.4 * B		2.0 * B	
	TENSION	COMPRESSION	TENSION	COMPRESSION	TENSION	COMPRESSION	TENSION	COMPRESSION	TENSION	COMPRESSION	TENSION	COMPRESSION
10	400	350	560	490	800	750	415	350	585	490	830	700
12	450	390	630	550	900	780	495	395	700	555	990	790
16	560	470	785	660	1120	940	660	530	925	745	1320	1060
20	700	565	980	795	1400	1130	825	660	1155	925	1650	1320
25	875	705	1225	990	1750	1410	1030	825	1445	1155	2060	1650
32	1115	900	1565	1260	2230	1800	1315	1055	1845	1480	2630	2110
40	1395	1125	1955	1575	2790	2250	1645	1315	2305	1845	3290	2630

THE LAP LENGTH SHOULD BE 1.4A OR 1.4B IF ANY OF THE FOLLOWING CONDITION APPLIES:

(a) THE NOMINAL COVER TO THE LAPPED BARS FROM THE TOP OF THE SECTION AS INTENDED TO BE CAST IS LESS THAN TWICE THE BAR SIZE.

(b) THE CLEAR DISTANCE BETWEEN THE LAP AND ANOTHER PAIR OF LAPPED BARS IS LESS THEN 150mm.

(c) A CORNER BAR IS BEING LAPPED AND THE NOMINAL COVER TO EITHER FACE IS LESS THAN TWICE THE BAR SIZE.

WHERE CONDITIONS (a) AND (b) OR CONDITIONS (a) AND (c) APPLY THE LAP LENGTH OF 2.0A OR 2.0B SHOULD BE USED.

4.10 WELDING OF REINFORCEMENT SHALL NOT BE PERMITTED WITHOUT APPROVAL OF THE ENGINEER.

STEELWORKS:

5.1 ALL DIMENSIONS AND LEVELS INCLUDING AS CONSTRUCTED HOLDING DOWN BOLT POSITIONS AFFECTING NEW STEELWORK SHOULD BE CHECKED ON SITE BY THE CONTRACTOR INCORPORATED ONTO WORKSHOP DRAWINGS.

5.2 HOT ROLLED SECTION TO COMPLY WITH THE STANDARDS AS STIPULATED IN THE SPECIFICATIONS SHOULD NOT BE REPLACED WITH OTHER SECTIONS COMPLYING WITH OTHER STANDARDS UNLESS APPROVED BY THE ENGINEER.

5.3 UNLESS OTHERWISE SPECIFIED, ALL STRUCTURAL STEEL MEMBERS AND ALL STRUCTURAL HOLLOW SECTION SHALL COMPLY WITH BS EN 10025:1993 AND BS EN 10210 PART 1 AND PART 2 RESPECTIVELY.

MEMBERS	GRADE
5.3.1 HOLLOW SECTIONS	:GRADE S355J0H OR EQUIVALENT
5.3.2 SECTIONS OTHER THAN HOLLOW SECTIONS	:GRADE S355J0 OR EQUIVALENT
5.3.3 PLATES FOR STRUCTURAL ELEMENTS	:GRADE S355J0 OR EQUIVALENT
5.3.4 PLATES FOR NONSTRUCTURAL ELEMENT	:GRADE S355J0 OR EQUIVALENT
5.3.5 CONNECTION BOLTS	:STAINLESS STEEL GRADE A4-80(BS EN ISO 3506-1 & 2)

5.4 IN ACCORDANCE WITH BS EN 10025:1993, THE CONTRACTOR IS RESPONSIBLE FOR DETEMINING THE NOTCH TOUGHNESS AND THE CHARPY IMPACT REQUIREMENTS OF THE STEEL. (i.e. SELECTION OF STEEL SUBGRADE). THE STEEL SHOULD SATISFY THE REQUIREMENTS OF CLAUSE 2.4.4 OF BS 5950 : PART 1 : 1990 BASED ON A MINMUN TEMPERATURE OF 10° C.

THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT THE STEEL HAS ADEQUATE THROUGH THICKNESS PROPERTIES TO SATISFY THE THROUGH THICKNESS PROPERTIES AND WELDING SEQUENCE THAT THE MATERIAL AT OR ADJACENT TO WELDED LOCATIONS, IS FREE OF LAMINATIONS CENTERLINE SEGEGATION OR OTHER CRACE LINE INDICATIONS ON COMPLETION OF WELDING. THE CONTRACTOR IS RESPONSIBLE FOR DETERMININING THE QUALITY CLASS OF STEEL WITH ENHANCED THROUGH THICKNESS PROPERTIES (EN 10164) WHICH MAY BE REQUIRED COMPATIBLE WITH HIS CHOSEN METHOD OF WORKING.

NOT LESS THAN THREE WEEKS PRIOR TO ORDERING THE STEEL, THE CONTRACTOR SHOULD SUBMIT A REPORT FOR REVIEW, WHICH DOCUMENTS THE SUBGRADE SELECTION AND THE STRATEGY (MATERIAL SELECTION, WELDING PROCEDURE AND INSPETION) WHICH WOULD BE IMPLEMENTED FOR CONTROLLING THE THROUGH THICKNESS STRESS DURING WELDING AND ENSURING THAT THE ABOVE CRITERIA ARE SATISFIED.

5.5 STAINLESS STEEL SHALL COMPLY WITH THE STANDARDS AS STIPULATED IN THE SPECIFICATIONS

5.6 ALL STAINLESS STEEL BOLTS AND RETAINING SCREWS SHALL BE GRADE A4-80 STAINLESS STEEL TO BS EN ISO 3506-1 & 2 WITH COMPATIBLE STAINLESS STEEL WASHERS. A NYLON OR OTHER APPROVED PLASTICS WASHER IS TO BE PROVIDED BETWEEN THE SURFACES OF ANY DIFFERENT METAL SUCH AS ALUMINIUM ALLOY, STAINLESS STEEL AND GALVANIZED STEEL.

5.7 UNLESS OTHERWISE SPECIFIED IN THE DRAWINGS, ALL FASTENERS SHALL BE STAINLESS STEEL BOLTS OR HSFG BOLTS AS APPROVED BY THE ENGINEER. HSFG BOLTS SHALL BE PROTECTED WITH ELECTROPLATED ZINC PLATE FOR THE BOLTS AND CADMIUM PLATE FOR THE NUTS TO BS 3382.

5.8 THE DIAMETER OF A BOLT HOLE SHALL BE 2mm LARGER THAN THE NOMINAL DIAMETER OF THE BOLT, UNLESS SHOWN OTHERWISE.

5.9 THE THREAD OF ALL RETAINING (BOLTS WITHOUT NUTS) SHOULD BE COATED WITH AN EPOXY RESIN ADHESIVE IMMEDIATELY PRIOR TO TIGHTENING. MANUFACTURERS DETAILS OF THE ADHESIVE SHOULD BE AGREED WITH THE ENGINEER.

5.10 AT SLOTTED HOLE CONNECTIONS EITHER SELF LOCKING NUTS SHOULD BE USED OR THE BOLTS NUTS SHOULD BE COATED WITH EPOXY RESIN ADHESIVE IMMEDIATELY PRIOR TO TIGHTENING.

5.11 ALL WELDING SHALL BE CARRIED OUT BY CERTIFIED WELDERS AS DESCRIBED IN THE SPECIFICATION.

5.12 WELDING FOR CARBON MANGANESE STEEL SHALL COMPLY WITH BS EN 1011-1:1998 AND BS EN 1011-2:2001 CONTINUOUS FILLET WELD SHALL BE USED 6mm UNLESS OTHERWISE SPECIFIED. WELD SHALL BE GRADE E51 ELECTRODES WITH CAPACITY OF 255N/mm .

5.13 THE SYMBOLS FOR WELDING ARE IN ACCORDANCE WITH BS EN 13622.

5.14 BUTT WELDS ARE TO BE COMPLETED PENETRATION WELDS PRODUCED BY METHODS APPROVED BY THE ENGINEER AFTER DEMONSTRATION AT PROCEDURE TRIALS.

5.15 WELDING CONSUMABLES SHOULD PRODUCE DEPOSITED WELD METAL HAVING MECHANICAL PROPERTIES NOT INFERIOR THE MINIMA OF THE PARENT METAL.

5.16 TOLERANCES ARE IN ACCORDANCE WITH THE SPECIFICATION.

5.17 THE CONTRACTOR SHOULD BE RESPONSIBLE FOR THE PROVISION OF ALL PACKING TO ACHIEVE ADEQUATE TOLERANCE AT THE CONNECTIONS.

5.18 STEELWORK IS CORROSION PROPECTED AS DESCRIBED IN THE SPECIFICATION.

5.19 CORROSION PROTECTION IS APPLIED TO THE INSIDE SURFACES OF ALL HOLES.

5.20 DETAILS OF PAINT ARE USED SHOULD BE APPROVED BY THE ENGINEER PRIOR TO APPLICATION TO THE STEELWORK.

5.21 STEEL WHICH IS CAST-IN SHOULD REMAIN UNPAINTED. THE STEEL SHOULD BE BLAST CLEANED (EITHER PRIOR TO OR AFTER FABRICATION) TO THE STANDARDS AS STIPULATED IN THE SPECIFICATIONS.

5.22 IMMEDIATELY PRIOR TO ERECTION ALL STEELWORK SHOULD BE SPRAY WASHED WITH WATER AND DETERGENT, THEN SPRAY RINSED WITH CLEAN WATER.

PRECAST CONCRETE BLOCK:

6.1 PRECAST CONCRETE BLOCKS SHALL BE REINFORCED WITH STEEL FABRIC TO B.S. 4483 TYPE A 393 ON ALL SIDES.

6.2 PRECAST CONCRETE BLOCKS SHALL BE SET ON GROUND WITH AN ALLOWABLE BEARING CAPACITY GREATER THAN 350 kPa UNLESS PERMITTED BY THE ENGINEER. PLATE LOAD TESTS SHALL BE CARRIED OUT TO VERIFY THE SOIL BEARING CAPACITY TO THE SATISFACTION OF THE ENGINEER.

6.3 THE CONTRACTOR SHALL DESIGN AND PROVIDE THE LIFTING EYES TO THE PRECAST CONCRETE BLOCK. THE DETAILS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION.

EXTERIOR DESIGN OF HOARDING:

7.1 PURSUANT TO THE PARTICULAR SPECIFICATION, THE CONTRACTOR SHALL PROVIDE 3 ALTERNATIVE OPTIONS OF AESTHETIC PROFESSIONAL GRAPHIC DESIGNS FOR THE SPECIAL HOARDING.

SPECIAL HOARDINGS:

8.1. FOR STANDARD HOARDINGS, DETAILS SHALL BE REFERRED TO HyD STANDARD DRAWINGS H6110 AND H6111.

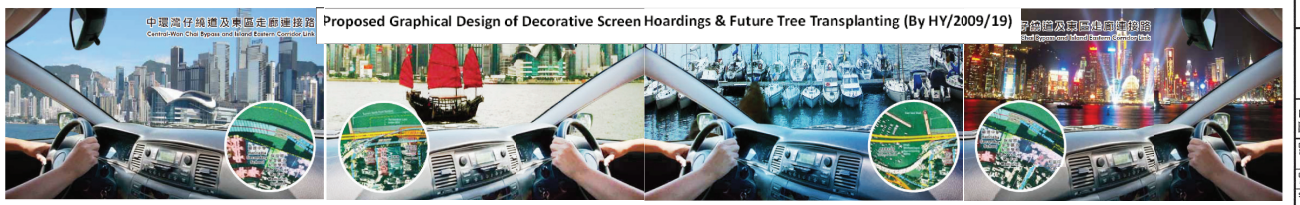
8.2. FOR SPECIAL HOARDING, REFER TO DRAWINGS 60095653/IEC/1312-1314.

A. THE SPECIAL HOARDING, SHALL BE ERECTED UP TO THE BRIDGE DECK SOFFIT OF THE EXISTING ISLAND EASTERN CORRIDOR, LEAVING 300mm (MAX.) BETWEEN THE DECK SOFFIT AND THE TOP OF HOARDING.

B. ALL FRAME WORKS OF THE SPECIAL HOARDINGS SHALL BE GRADE S355J0 TO EN 10025 AND PAINTED WITH PAINT SYSTEM A STATED IN CLAUSE 18.63 OF C.S. 2006.

Proposed Graphical Design of Decorative Screen Hoardings & Future Tree Transplanting (By Others)

Proposed Graphical Design of Decorative Screen Hoardings & Future Tree Transplanting (By HY/2009/19)



NOTE:

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH DNG. NO. 60095653/IEC/1301 & 1302 AND 1312-1314.

REV. 修訂	DESCRIPTION 內容摘要	DESIGNED 設計	CHECKED 審核	DATE 日期
A	WORKING DRAWING	ALCF	BCC	DEC 10
-	TENDER DRAWING	ALCF	BCC	MAY 10

Highways Department 路政署
Major Works Project Management Office

CENTRAL - WAN CHAI BYPASS AND IEC LINK

PWP ITEM NO. 工務計劃項目編號 579 TH

CENTRAL - WAN CHAI BYPASS - TUNNEL (NORTH POINT SECTION) AND ISLAND EASTERN CORRIDOR LINK

GENERAL NOTES FOR SPECIAL HOARDING

AECOM

DRG.NO. 圖紙編號 60095653/IEC/1311A

DESIGNED BY 設計	ALCF	CONTRACT NO. 合約編號	HY/2009/19
P. DIV. APPROVED 批准人	CW		
DRAWN BY 繪圖	YMZ	STATUS 狀態	WORKING DRAWING
SCALE 比例	N.T.S.		
DIMENSIONS ARE IN 尺寸單位	MILLIMETRES		

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俊和-中國中鐵-中鐵大橋局聯營
CHUN WO - CRGL - MBEC JOINT VENTURE

LANDSCAPE PLAN

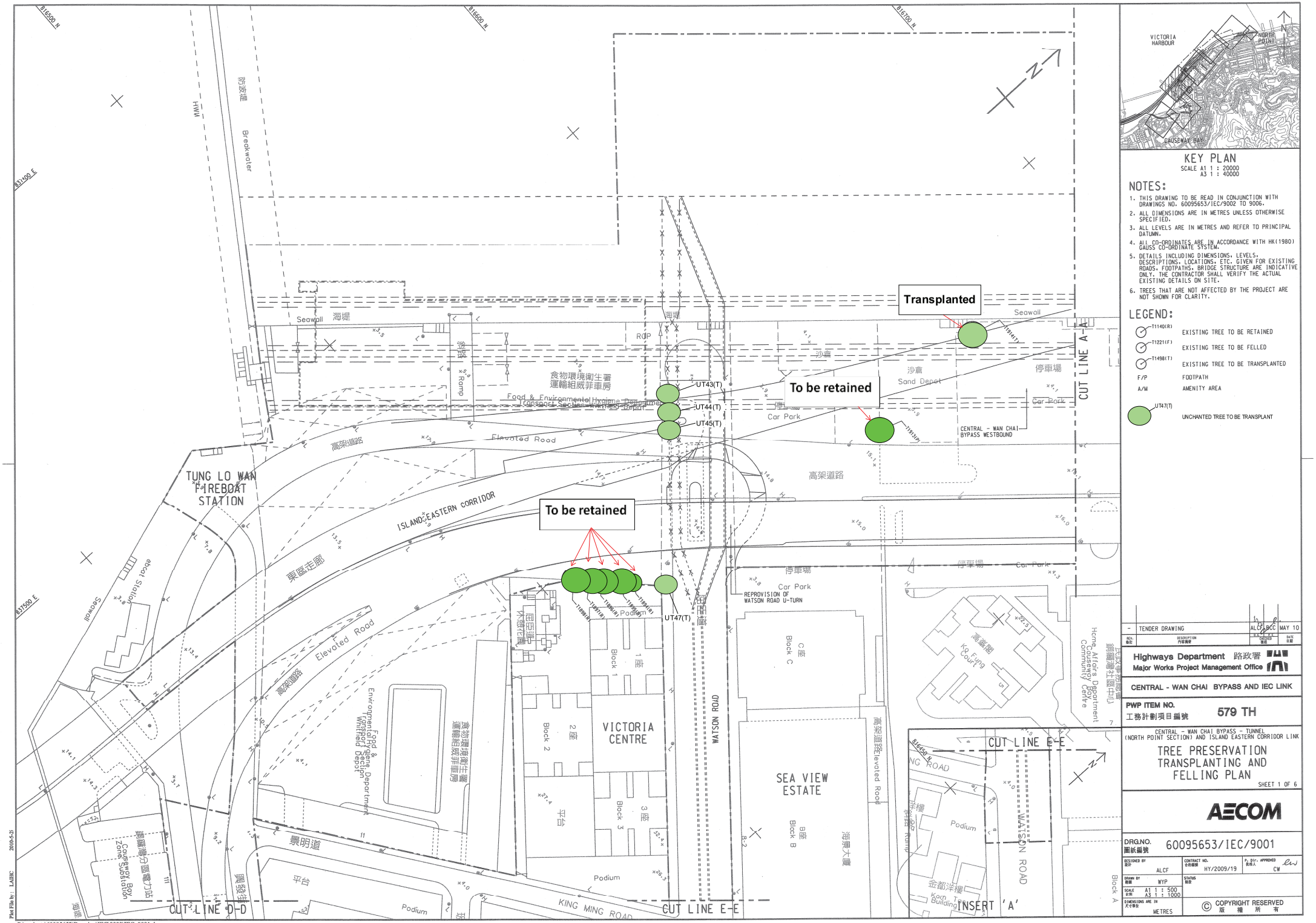
FOR

Contract No.: HY/2009/19

Central – Wan Chai Bypass
Tunnel (North Point Section)
and
Island Eastern Corridor Link

Appendix E

Location Plan of Trees to Retain / Transplant



KEY PLAN

SCALE A1 1 : 20000
A3 1 : 40000

NOTES:

1. THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWINGS NO. 60095653/IEC/9002 TO 9006.
2. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE SPECIFIED.
3. ALL LEVELS ARE IN METRES AND REFER TO PRINCIPAL DATUMN.
4. ALL CO-ORDINATES ARE IN ACCORDANCE WITH HK(1980) GAUSS CO-ORDINATE SYSTEM.
5. DETAILS INCLUDING DIMENSIONS, LEVELS, DESCRIPTIONS, LOCATIONS, ETC. GIVEN FOR EXISTING ROADS, FOOTPATHS, BRIDGE STRUCTURE ARE INDICATIVE ONLY. THE CONTRACTOR SHALL VERIFY THE ACTUAL EXISTING DETAILS ON SITE.
6. TREES THAT ARE NOT AFFECTED BY THE PROJECT ARE NOT SHOWN FOR CLARITY.

LEGEND:

- T1140(R) — EXISTING TREE TO BE RETAINED
- T1221(F) — EXISTING TREE TO BE FELLED
- T1498(T) — EXISTING TREE TO BE TRANSPLANTED
- F/P — FOOTPATH
- A/M — AMENITY AREA
- UT47(T) — UNCHANTED TREE TO BE TRANSPLANT

REV. 修訂	DESCRIPTION 內容摘要	CHECKED 核查	DATE 日期
-	TENDER DRAWING	ALC BCC	MAY 10

Highways Department 路政署
Major Works Project Management Office

CENTRAL - WAN CHAI BYPASS AND IEC LINK

PWP ITEM NO. 工務計劃項目編號 579 TH

CENTRAL - WAN CHAI BYPASS - TUNNEL (NORTH POINT SECTION) AND ISLAND EASTERN CORRIDOR LINK

TREE PRESERVATION TRANSPLANTING AND FELLING PLAN

SHEET 1 OF 6

AECOM

DRG.NO. 圖紙編號 60095653/IEC/9001

DESIGNED BY 設計 ALCF	CONTRACT NO. 合約編號 HY/2009/19	P. DIV. APPROVED 批核人 CW
DRAWN BY 繪圖 WYP	STATUS 狀況	
SCALE 比例 A1 1 : 500 A3 1 : 1000		
DIMENSIONS ARE IN 尺寸單位 METRES	© COPYRIGHT RESERVED 版權所有	

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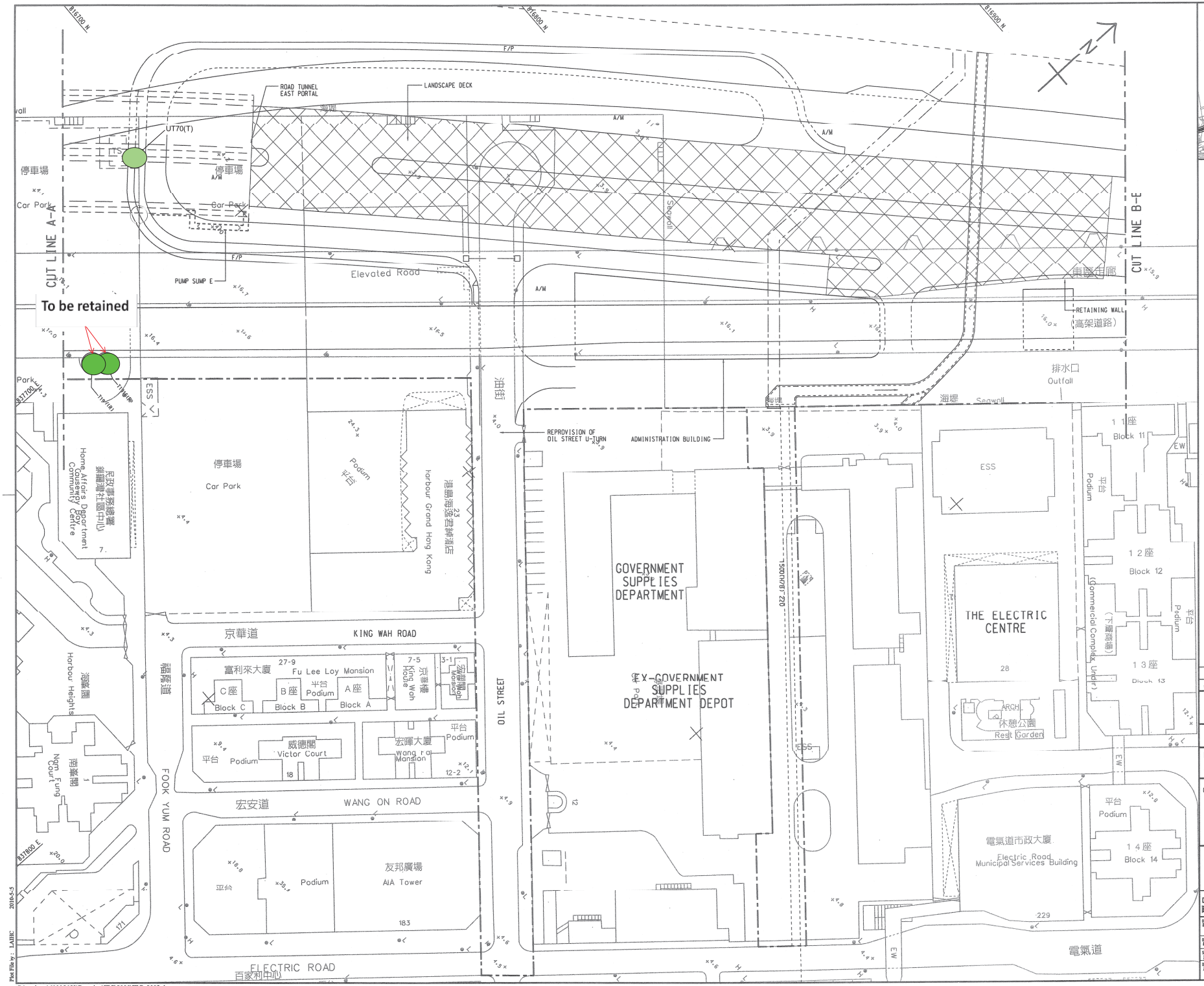

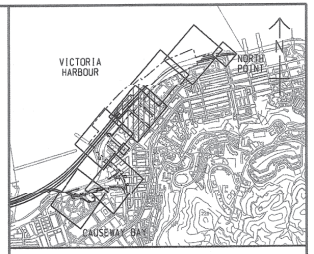

KEY PLAN
SCALE A1 1 : 20000
A3 1 : 40000

NOTES:

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DRAWINGS NO. 60095653/IEC/9001, 9003 TO 9006.
2. FOR NOTES AND LEGEND REFER TO DRG. NO. 60095653/IEC/9001.

UT70(T) UNCHANTED TREE TO BE TRANSPLANT

REV. 修訂	DESCRIPTION 內容摘要	DRAWN 繪圖	DATE 日期
-	TENDER DRAWING	ALCC	MAY 10

Highways Department 路政署
Major Works Project Management Office

CENTRAL - WAN CHAI BYPASS AND IEC LINK

PWP ITEM NO. 工務計劃項目編號 579 TH

CENTRAL - WAN CHAI BYPASS - TUNNEL (NORTH POINT SECTION) AND ISLAND EASTERN CORRIDOR LINK

TREE PRESERVATION TRANSPLANTING AND FELLING PLAN

SHEET 2 OF 6

AECOM

DRG.NO. 圖紙編號 60095653/IEC/9002

DESIGNED BY 設計	CONTRACT NO. 合約編號	P. DIV. APPROVED 批准人
ALCF	HY/2009/19	CW
DRAWN BY 繪圖 WYP	STATUS 狀況	
SCALE 比例 A1 1 : 500 A3 1 : 1000		
DIMENSIONS ARE IN 尺寸單位 METRES	© COPYRIGHT RESERVED 版權所有	

Plot File by : LAXHC 2010-5-5

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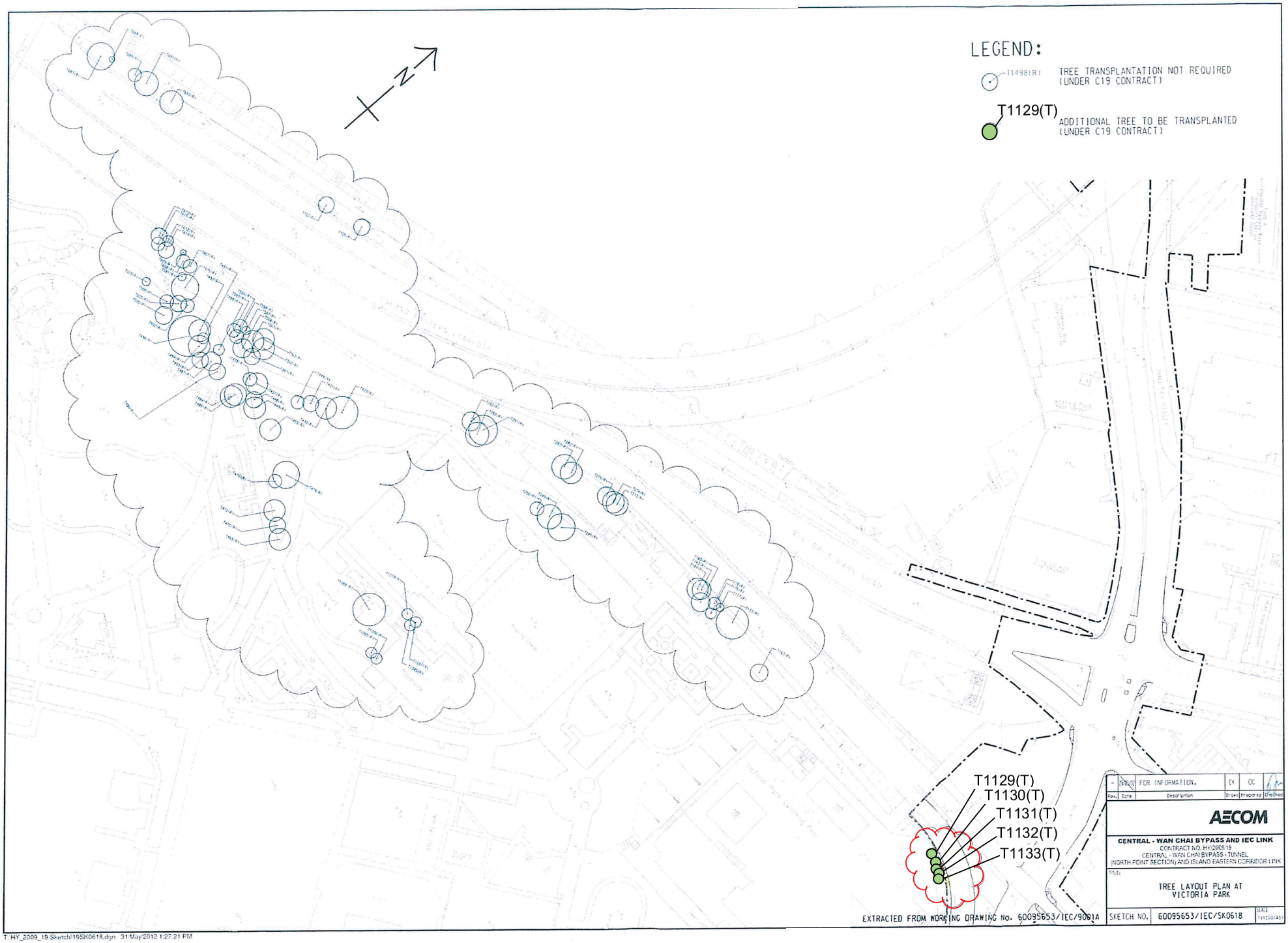

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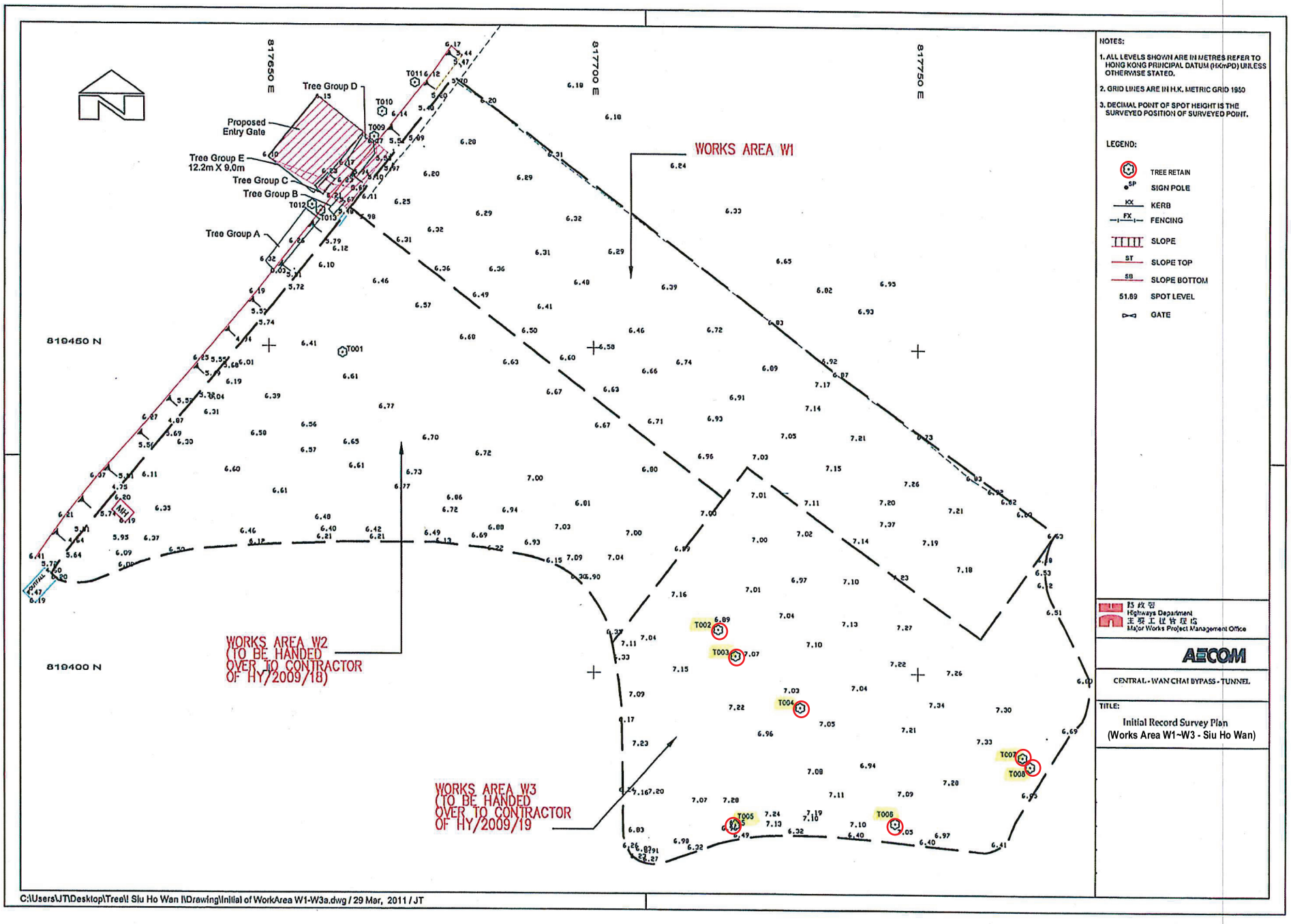
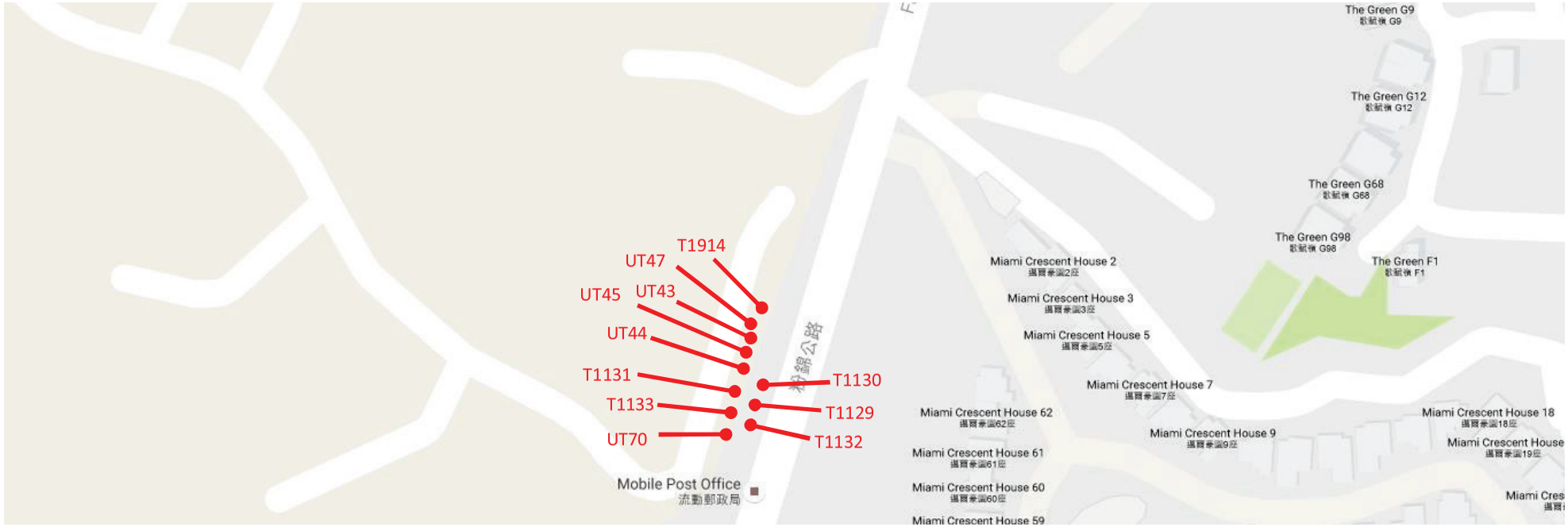

817650 E
817700 E
817750 E
819450 N
819400 N
Tree Group D
Proposed Entry Gate
Tree Group E 12.2m X 9.0m
Tree Group C
Tree Group B
Tree Group A
T001
T002
T003
T004
T005
T006
T007
T008
T009
T010
T011
T012
T013
WORKS AREA W1
WORKS AREA W2 (TO BE HANDED OVER TO CONTRACTOR OF HY/2009/18)
WORKS AREA W3 (TO BE HANDED OVER TO CONTRACTOR OF HY/2009/19
NOTES:
1. ALL LEVELS SHOWN ARE IN METRES REFER TO HONG KONG PRINCIPAL DATUM (HKmPD) UNLESS OTHERWISE STATED.
2. GRID LINES ARE IN H.K. METRIC GRID 1980
3. DECIMAL POINT OF SPOT HEIGHT IS THE SURVEYED POSITION OF SURVEYED POINT.
LEGEND:
TREE RETAIN
SIGN POLE
KERB
FENCING
SLOPE
SLOPE TOP
SLOPE BOTTOM
51.89 SPOT LEVEL
GATE
Highways Department
Major Works Project Management Office
AECOM
CENTRAL - WAN CHAI BYPASS - TUNNEL
TITLE:
Initial Record Survey Plan
(Works Area W1~W3 - Siu Ho Wan)
C:\Users\JT\Desktop\Tree\I Siu Ho Wan I\Drawing\Initial of WorkArea W1-W3a.dwg / 29 Mar, 2011 / JT



Tsiu Keng Nursery (DD100) Fan Kam Road

Project: Central - Wan Chai Bypass - Tunnel (North Point Section) and Island Eastern Corridor Link

Tree Schedule

Tree No.	Botanical Name	Chinese Name	DBH (mm)	Height (m)	Spread (m)	Form Good Fair Poor	Health Good Fair Poor	Amenity Value High Medium Low	Action Provied by Client Retain Transplant Fell	Original Location	Holding Nursery Location	Date of transplant to nursery	Remarks
UT43	*Koelreuteria bipinnata*	複葉欒樹	160	-	-	-	-	M	T	Watson Road North Point	Tsiu Keng Nursery (DD100)	15-Jan-14	Removed, to be replaced
UT44	*Koelreuteria bipinnata*	複葉欒樹	140	7.5	4	P	P	M	T			15-Jan-14	Beehive observed; Transplanted to Tsiu Keng Nursery on 15 January 2014.
UT45	*Koelreuteria bipinnata*	複葉欒樹	120	-	-	-	-	M	T			15-Jan-14	Removed, to be replaced
UT47	*Koelreuteria bipinnata*	複葉欒樹	100	-	-	-	-	M	T			15-Jan-14	Removed, to be replaced
UT70	*Macaranga tanarius*	血桐	170	5	3	F	F	L	T	FEHD Depot		24-Oct-11	Wound on branch; Replaced on 28 October 2014
T1914	*Ficus microcarpa*	細葉榕	400	6	3	F	F	M	T	Private lot at Oil Street North Point		15-Jan-14	Transplanted to Tsiu Keng Nursery on 15 January 2014.
T1129	*Livistona chinensis*	蒲葵	260	5	6	F	F	M	T	Tsing Fung Street Tin Hau		15-Jan-14	Transplanted to Tsiu Keng Nursery on 15 January 2014.
T1130	*Livistona chinensis*	蒲葵	240	7	5	F	P	M	T			15-Jan-14	Transplanted to Tsiu Keng Nursery on 15 January 2014.
T1131	*Livistona chinensis*	蒲葵	250	6	5	F	F	M	T			15-Jan-14	Transplanted to Tsiu Keng Nursery on 15 January 2017.
T1132	*Livistona chinensis*	蒲葵	240	6	6	F	F	M	T			15-Jan-14	Transplanted to Tsiu Keng Nursery on 15 January 2017.
T1133	*Livistona chinensis*	蒲葵	240	6	6	F	F	M	T			15-Jan-14	Transplanted to Tsiu Keng Nursery on 15 January 2014.

Total no. of trees: 8

Project: Central - Wan Chai Bypass - Tunnel (North Point Section) and Island Eastern Corridor Link

Tree Schedule									
Tree No.	Botanical Name	Chinese Name	DBH (mm)	Height (m)	Spread (m)	Form Good Fair Poor	Health Good Fair Poor	Action (provided by client) Retain Transplant Fell	Remarks
T002	*Macaranga tanarius*	血桐	188	5	5	F	P	R	Epicormics spourts; exposed dead wood.
T003	*Macaranga tanarius*	血桐	172	5	8	F	F	R	Epicormics spourts.
T004	*Acacia confusa*	台灣相思	239	6	5	F	F	R	Dead branches; double trunk; exposed root.
T005	*Acacia confusa*	台灣相思	249	6	5	P	F	R	Dead branches; exposed root; leaning; multi trunk; vines, imbalanced crown.
T006	*Acacia auriculiformis*	耳果相思	232	8	5	P	P	R	Bark crack; broken branches; dead branches; exposed root; leaning; vines, hanger.
T007	*Acacia confusa*	台灣相思	167	8	5	P	F	R	Dead branches; double trunk, hanger.
T008	*Acacia confusa*	台灣相思	131	7	4	P	F	R	Dead branches; slightly leaning.
T1894	*Psidium guajava*	番石榴	196	-	-	-	-	F	Felled on 19th September 2015
T1895	*Macaranga tanarius*	血桐	245	6	6	F	F	R	Sprouts, contact with building, dead branch, mechanical damage of branch
T1896	*Macaranga tanarius*	血桐	221	6	6	F	F	R	Sprouts, contact with building, dead branch, pest found
T1897	*Ficus virens*	黃葛樹	630	14	9	F	F	R	Wound, dead branch; Excessive epicormics
T1898	*Ficus virens*	黃葛樹	530	14	9	F	F	R	Dead branch, unbalanced tree crown
T1913	*Ficus microcarpa*	細葉榕	470	6	8	F	F	R	Wound on root
T1916	*Aleurites moluccana*	石栗	362	12	10	F	F	R	Pruned; Material within protection area; Cross branches; Dieback
T1917	*Ficus microcarpa*	垂葉榕	423	12	11	F	F	R	Pruned; Cavity; Wound.

Total no. of tree: 14

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LANDSCAPE PLAN

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Central – Wan Chai Bypass
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Appendix F

Design Consideration, Details and Material Specification of the Semi-enclosures and Barriers

Contract No. HY/2009/19
Central – Wan Chai Bypass – Tunnel (North Point Section)
and Island Eastern Corridor Link

Green Panel Design Development Explanatory Notes for Landscape Plan Deposition

Background

Contract HY/2009/19 (the Contract) is one of the contracts of the Central-Wan Chai Bypass (the CWB) Project that will provide a new trunk road running along the northern shore of Hong Kong Island. The Contract comprises 300m of cut and cover tunnel and reconstruction of part of the Island East Corridor (IEC) to form the new Island East Corridor Link (IECL) connecting the north point access of the tunnel and the existing IEC. In order to reduce the traffic noise nuisance to the neighbouring residents between Victoria Centre and Provident Centre, the Contract will provide some 1.3km long noise barrier works at the IECL. The scope of noise barrier works includes, among others, the construction of 550m cantilever noise barriers at the new eastbound bridge of the IECL between Watson Road and City Garden.

The cantilever noise barrier design comprises three different types of barriers at various sections of the IECL eastbound bridge:-

1. Types A1 and A2 : 130m long 5.5m high barrier with 4.5m cantilever length at 45 degrees to the horizontal;
2. Type B : 90m long 5.5m high barrier with 1m cantilever length at 45 degrees to the horizontal ; and
3. Type C: 330m long 3.5m high vertical barrier.

In order to mitigate the visual nuisance to local residents, green panels are provided on the outer side of the cantilever noise barriers facing the residential area (i.e. not facing the inside carriageway). The green panel seats on the concrete parapet and rises to a height of 2m above the road surface level of the elevated vehicular bridge. The extent of cantilever noise barrier is shown on Figure 1.

Figure 1 – Extent of Green Panel of Cantilever Noise Barrier at New Eastbound Bridge

Sections of 3 types of cantilever noise barriers mounting with green wall panel at outer side are shown on Figure 2.

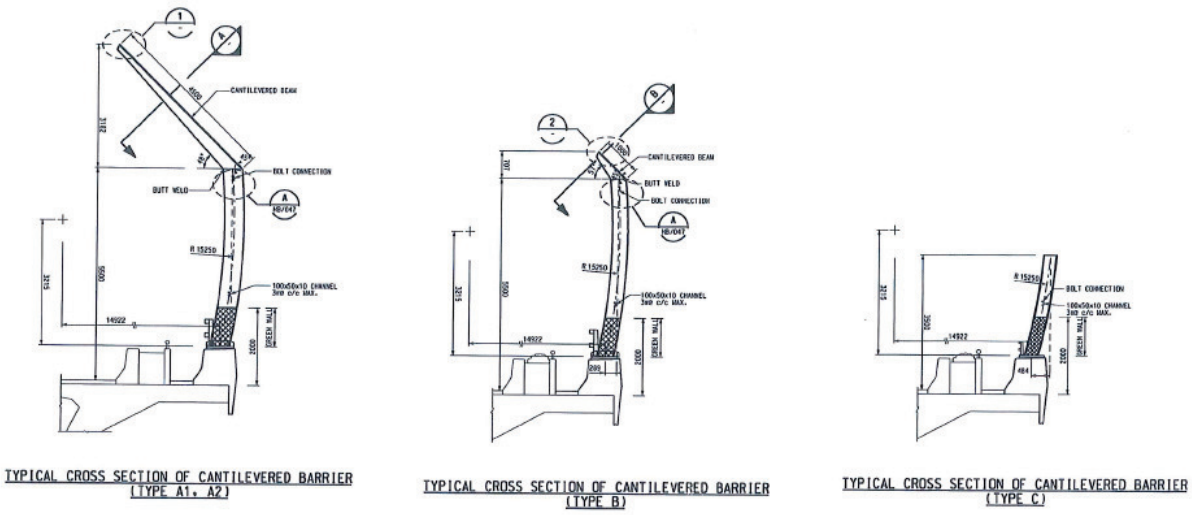


Figure 2 – Sections of 3 Types of Cantilever Noise Barrier

Requirements of Green Panel

Clause 2.15 of the Environmental Permit No. EP-364/2009/D under Measures to Mitigate Landscape and Visual Impact section specifies:-

"The landscape plan(s) to be submitted under Condition 2.14 of this Permit shall include measures to mitigate the landscape and visual impact of the road traffic noise semi-enclosure and barriers. The noise semi-enclosures and barriers shall mainly compose of:

(a) transparent panels, translucent panels and/or green roof with translucent skylight in the upper part where appropriate; and

(b) green panels with planters in the lower part where appropriate."

An advisory note in Section 10.9.12 of the approved Environmental Impact Assessment (EIA) report states that the proposed noise barriers/screening/semi-enclosures of IEC will mainly affect VSR of lower floors of Victoria Centre, Seaview Estate, Harbour Heights, City Garden, Provident Centre and nearby schools in North Point.

In accordance with these two environmental documents, green panel should be installed above parapet facing local residents to soften the visual impact to the edge of the IECL structures.

Maintenance Concerns of Green Panel

In accordance with figures 4d, 4e and 4g of Environmental Permit No. EP-364/2019/D, the green panel along the IECL eastbound bridge shall be constructed at the external side of the cantilever noise barrier facing residential areas whereas the planter along the IEC eastbound bridge is located at the inner side of noise barrier. As shown in Figure 2 above, there will be a maintenance walkway in the inner side of noise barrier, which is separated from the carriageway by roadside barriers and planters. There will be no access at bridge deck level for the maintenance of the green panel. It would be very difficult for maintenance plant to access from the carriageway to the green panel at the outer side of eastbound bridge by crossing over the cantilever noise barriers.

The noise barrier panels were designed to be sitting one by one with interlock system so that the removal of bottom green panel for maintenance would require the removal of all the panels above involving at least 2 traffic lanes closure of IECL. The closure of 2 traffic lanes closure of IECL was unlikely to be carried out at a frequent manner as this will induce enormous impacts to the road users.

Maintenance of green panel using scissor lifting platform supporting on ground is possible for the short-term. In the long term when the ground level area is turned into a landscaped seafront in accordance with the future development plan, the plant access via the open space underneath the bridge for maintenance of green panel would be undesirable as it would impose constraints to the future development of open space.

In contrast with the green panels along IECL westbound bridge, the maintenance walkway is located at the outer side of the noise semi-enclosure, the above maintenance difficulties are irrelevant to the green panel along IECL westbound bridge. Hence, no design review of green panel along IECL westbound bridge is required.

Design Development of Green Panel along IECL Eastbound Bridge

In accordance with the relevant clauses in the approved EIA report and EP, the requirements of green panel are one of the measures to mitigate the landscape and visual impacts and its purpose was to soften the IECL structures. It is more important for the appearance of green panel to blend with the global landscape theme of this project at this location and not inducing any adverse landscape or visual effect to these stakeholders. Several green panel options including real species planting, artificial greening and graphic film were explored. It is found

that withering or aging of these materials would have adverse landscape and visual impacts on the understanding that no frequent maintenance could be carried out due to no proper maintenance access to the outer side of the noise barriers.

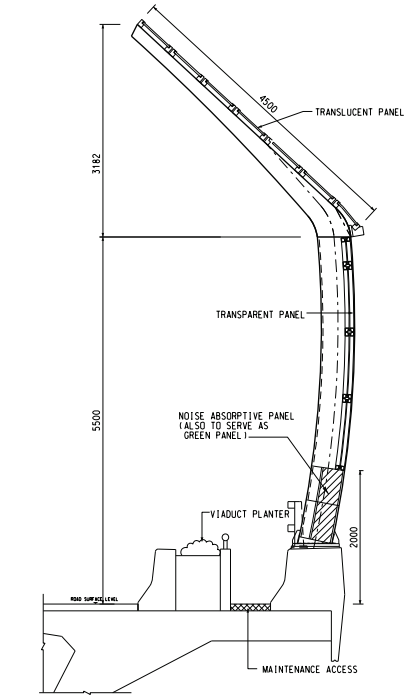
To tackle the above issues, the design development is to combine the green panel with noise absorptive panel into a unique panel of noise barrier so that the mitigation requirements in terms of noise, landscape and visual as specified in EP could be met. As the conforming design of noise absorptive panel itself could comply with the noise mitigation requirement in the EP, the design development focuses on the appearance of noise absorptive panel for landscape and visual enhancement. The design of green colour box covering the noise absorptive panel blended with project global landscape theme is developed to soften the visual and landscape impact of bridge structures.

Meeting amongst HyD, ET Leader, IEC and AECOM held on 7 October 2015 advised that the above design development of noise panel at the bottom row of noise barrier together with the landscape deck and planters could serve the landscape and visual mitigation purpose. ET Leader and IEC considered that the proposed design and features will be able to produce a combined effect in landscape and visual mitigation as described in Section 10.9.12 of the approved EIA report so as to satisfy the EIA and EP requirements. The minutes of this meeting is attached with this explanatory notes.

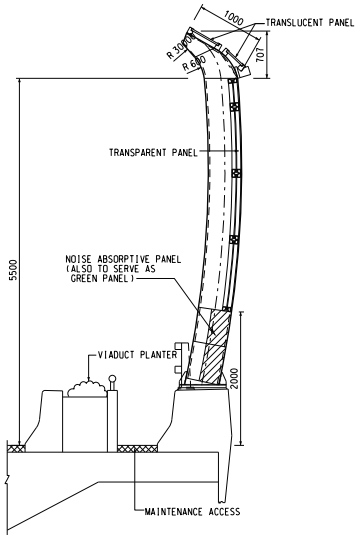
The extent and location of green panel of noise barrier along IECL Eastbound Bridge, together with the scope of design development are shown on the attached Sketch no. 60095653/IEC/SK1896.

Conclusion

In view of the design development of green panel of noise barrier along IECL eastbound bridge blending with the global landscape theme of this Contract together with the landscape deck and planters could serve the landscape and visual mitigation purpose so as to satisfy the EIA and EP requirements, this explanatory notes is to be deposited together with the landscape plan to the Environmental Protection Department (EPD) as stipulated in the EP. The design of green panel of noise semi-enclosure along IECL westbound bridge would remain unchanged.



TYPICAL CROSS SECTION OF NOISE BARRIER
- TYPE A1



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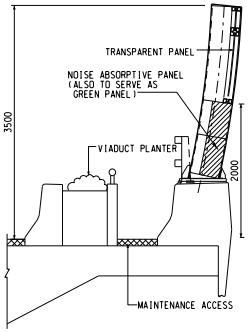
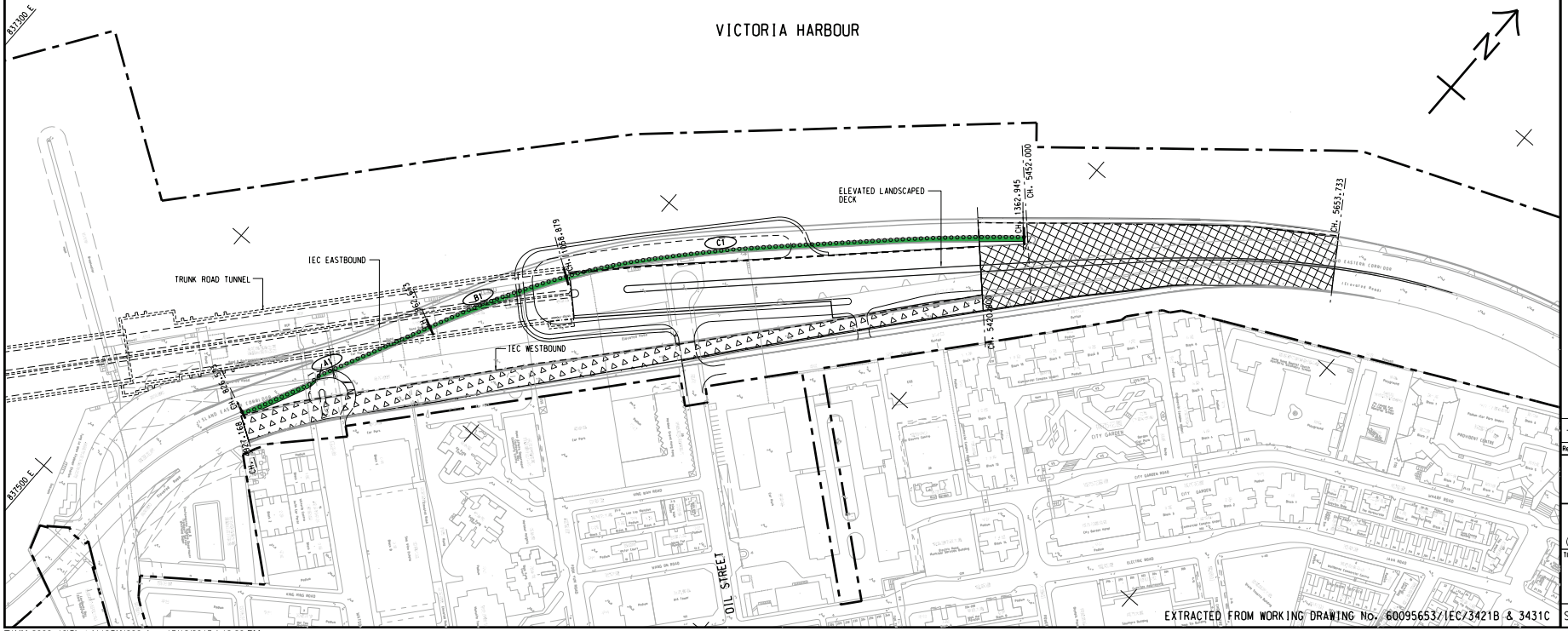
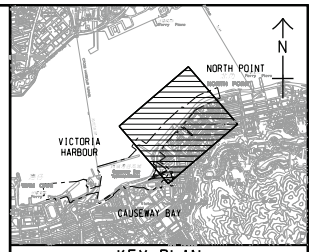
- TYPE B1



TYPICAL CROSS SECTION OF NOISE BARRIER
- TYPE C1



EXTRACTED FROM WORKING DRAWING No. 60095653/IEC/3421B & 3431C



KEY PLAN
SCALE A1 1 : 30000
A3 1 : 60000

NOTE:

1. FOR GENERAL NOTES, REFER TO DRG. NO. 60095653/IEC/3420.

LEGEND:

- A1 — 5.5M HIGH CANTILEVERED BARRIER WITH 4.5M CANTILEVER AT 45°
- B1 — 5.5M HIGH CANTILEVERED BARRIER WITH 1M CANTILEVER AT 45°
- C1 — 3.5M HIGH VERTICAL NOISE BARRIER
- SITE BOUNDARY
- SINGLE NOISE SEMI - ENCLOSURE
- DOUBLE NOISE SEMI - ENCLOSURE
- EXTENT OF GREEN PANEL DESIGN DEVELOPMENT ALONG IECL EASTBOUND BRIDGE

Rev.	Date	Description	Drawn	Prepared	Checked
-	15/12/15	GENERAL REVISION.	VS	KYL	

AECOM

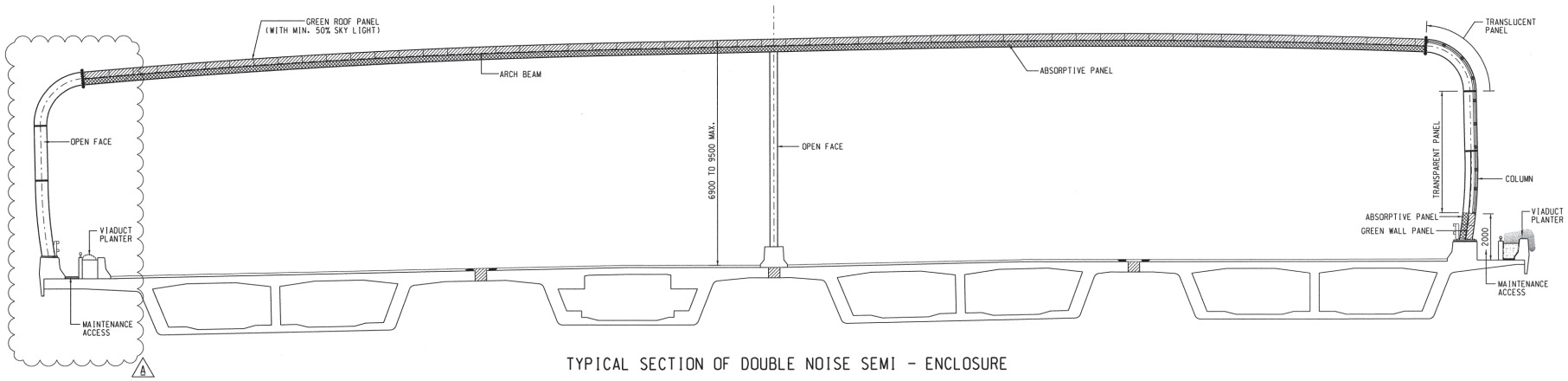
CENTRAL - WAN CHAI BYPASS AND IEC LINK
CONTRACT NO. HY/2009/19
CENTRAL - WAN CHAI BYPASS - TUNNEL (NORTH POINT SECTION) AND ISLAND EASTERN CORRIDOR LINK

TITLE:
PERMANENT NOISE BARRIER AND NOISE ENCLOSURE GENERAL LAYOUT

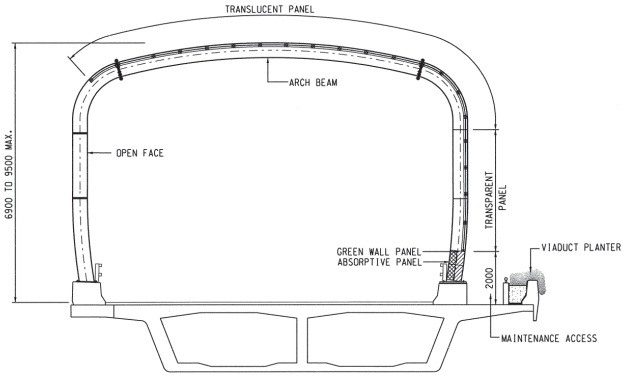
SKETCH NO. 60095653/IEC/SK1896

SCALE 1:1500 (A1) 1:3000 (A3)

T:\HY_2009_19\Sketch\19SK1896.dgn 15/12/2015 4:12:29 PM



TYPICAL SECTION OF DOUBLE NOISE SEMI - ENCLOSURE



TYPICAL SECTION OF SINGLE NOISE SEMI - ENCLOSURE

NOTES:

1. THE NOISE SEMI - ENCLOSURE SHALL BE DESIGNED BY THE CONTRACTOR.
2. ALL DESIGN REQUIREMENTS OF NOISE SEMI - ENCLOSURE SHALL COMPLY WITH PS SECTION 30.
3. THE DETAILS AND ARRANGEMENT OF NOISE BARRIER/NOISE SEMI-ENCLOSURE SHOWN ON THIS DRAWING ARE FOR CONTRACTOR'S REFERENCE ONLY.

A

REV. 修訂	DESCRIPTION 內容摘要	BY	CHECKED 核對	DATE 日期
B	WORKING DRAWING	ALCF	BCC	DEC 10
A	TENDER ADDENDUM NO.1	ALCF	BCC	JUN 10
-	TENDER DRAWING	ALCF	BCC	MAY 10

Highways Department 路政署
Major Works Project Management Office

CENTRAL - WAN CHAI BYPASS AND IEC LINK

PWP ITEM NO.
工務計劃項目編號 579 TH

SCHEMATIC PERMANENT NOISE ENCLOSURE CROSS SECTIONS

AECOM

DRG.NO. 圖紙編號 60095653/IEC/3432B

DESIGNED BY 設計 ALCF	CONTRACT NO. 合約編號 HY/2009/19	P. Dir. APPROVED 簽發人 CW	
DRAWN BY 繪圖 SW	STATUS 現況 WORKING DRAWING		
SCALE 比例 A1 1 : 100 A3 1 : 200			
DIMENSIONS ARE IN 尺寸單位 MILLIMETRES	© COPYRIGHT RESERVED 版權所有		

Plot File by : SUM 7/2/2010

P:\projects\60095653\Drawing\IEC\3000\IEC_3432.dgn

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CHUN WO - CRGL - MBEC JOINT VENTURE

LANDSCAPE PLAN

FOR

Contract No.: HY/2009/19

Central – Wan Chai Bypass
Tunnel (North Point Section)
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Island Eastern Corridor Link

Appendix G

Implementation Schedule

Implementation Schedule for Landscape and Visual

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages				Relevant Legislation and Guidelines	Implementation status	Cross-Reference to Landscape Plan
				Des	C	O	Dec			
Construction Phase										
For the Whole Project										
Table 10.5	CM1 Topsoil, where identified, shall be stripped and stored for re-use in the construction of the soft landscape works, where practical.	Work site / During Construction Phase	Contractor	√	√			EIAO TM	Will be implemented if identified	--
Table 10.5	CM2 Existing trees to be retained on site shall be carefully protected during construction.	Work site / During Construction Phase	Contractor	√	√			EIAO TM	Implemented	Section 2.0, 5.3, 7.3 &9.0(viii)
Table 10.5	CM3 Trees unavoidably affected by the works shall be transplanted where practical.	Work site / During Construction Phase	Contractor	√	√			EIAO TM	In progress	Section 2.0, 5.3, 7.3 &9.0(viii)
Table 10.5	CM4 Compensatory tree planting shall be provided to compensate for felled trees.	Work site / During Construction Phase	Contractor	√	√			EIAO TM	Will be implemented if tree felling is needed	Section 2.0, 5.3, 7.3 &9.0(viii)
Table 10.5	CM5 Control of night-time lighting.	Work site / During Construction Phase	Contractor		√			EIAO TM	Implemented	Section 2.0, 5.2, 7.2 & 9.0(i)(ii)(iii)(iv)(v)(vi)
Table 10.5	CM6 Erection of decorative screen hoarding compatible with the surrounding setting.	Work site / During Construction Phase	Contractor		√			EIAO TM	In progress	Section 2.0, 5.1, 7.1, 8.1, 8.2 &9.0(vii)

For DP1 – CWB (Within the Project Boundary)										
Table 10.5	CM1 Topsoil, where identified, shall be stripped and stored for re-use in the construction of the soft landscape works, where practical.	Work site / During Construction Phase	Contractor		√			EIAO TM	Will be implemented if identified	--
Table 10.5	CM2 Existing trees to be retained on site shall be carefully protected during construction.	Work site / During Construction Phase	Contractor	√	√			EIAO TM	Implemented	Section 2.0, 5.3, 7.3 &9.0(viii)
Table 10.5	CM3 Trees unavoidably affected by the works shall be transplanted where practical.	Work site / During Construction Phase	Contractor	√	√			EIAO TM	In progress	Section 2.0, 5.3, 7.3 &9.0(viii)
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Table 10.5	CM5 Control of night-time lighting	Work site / During Construction Phase	Contractor		√			EIAO TM	Implemented	Section 2.0, 5.2, 7.2 & 9.0(i)(ii)(iii)(iv)(v)(vi)
Table 10.5	CM6 Erection of decorative screen hoarding compatible with the surrounding setting.	Work site / During Construction Phase	Contractor		√			EIAO TM	In progress	Section 2.0, 5.1, 7.1, 8.1, 8.2 &9.0(vii)