

PORT OPERATIONS COMMITTEE

**Designation of Restricted Areas and Special Areas
for Hong Kong Link Road
and Southern Connection of Tuen Mun-Chek Lap Kok Link**

PURPOSE

This paper seeks members' views on the proposed establishment of restricted areas and special areas along the alignments of Hong Kong Link Road ("HKLR") and the Southern Connection of Tuen Mun-Chek Lap Kok Link ("TM-CLKL"). A number of restrictions, including vessel length and height restriction as well as navigational direction of vessels, are proposed to be imposed on these areas to avoid any risk of collision with the bridge structures and hence to ensure marine safety.

BACKGROUND

HKLR

2. The HKLR is a dual 3-lane carriageway of about 12 km long, linking the Hong Kong-Zhuhai-Macao Bridge ("HZMB") Main Bridge at the boundary of Hong Kong Special Administrative Region and the Hong Kong Boundary Crossing Facilities ("HKBCF") located at the northeast waters of the Airport Island. Navigation channels are designed for vessels to pass through the HKLR at the west of the Airport Island and in the Airport Channel. The layouts of HKLR and TM-CLKL are at **Annex A**.

3. At the west of the Airport Island, there are two bridge spans providing two one-way navigation channels with a net navigable width and height of 100 m and 41 m

respectively under each bridge span. These two navigation channels are separated by a 150 m-wide bridge span in the middle. The layout of the navigational channels is shown in **Figure 1**.

4. At the Airport Channel, there is one bridge span providing a two-way navigation channel with a net navigable width and height of 46 m and 12 m respectively under the bridge span. The layout of the navigational channel is shown in **Figure 2**.

TM-CLKL

5. TM-CLKL is a dual 2-lane carriageway of about 9 km long, consisting of Northern Connection and Southern Connection. For the Northern Connection, it connects the HKBCF and Tuen Mun by a sub-sea tunnel. For the Southern Connection, it connects North Lantau and the HKBCF by a viaduct. The Southern Connection is about 3.5 km long.

6. To maintain the existing Tung Chung buoyed channel at the south-east side of the HKBCF, there is one bridge span providing a two-way navigation channel with a net navigable width and height of 110 m and 21 m respectively under the bridge span. The layout of the navigational channel is shown in **Figure 3**.

7. Prior to the commencement of the construction of HKBCF, HKLR and TM-CLKL, Highways Department had conducted consultation with the marine industry through the Marine Department (“MD”)’s consultative committees¹ in 2006 and 2009. The net navigable height and width of the navigation channels will be sufficient for vessels engaged in normal operations to pass through the HKLR and the Southern Connection of TM-CLKL.

¹ In 2006, Port Operations Committee and Provisional Local Vessels Advisory Committee were consulted. In 2009, Local Vessels Advisory Committee, Pilotage Advisory Committee and High Speed Craft Consultative Committee were consulted and Port Operations Committee was consulted again. No adverse comment was received.

8. To ensure the safe passage of vessels through the navigation channels and to prevent accidental damages to the HKLR and the Southern Connection of TM-CLKL by vessels due to collision, it is considered necessary to establish a number of restricted areas and special areas along the alignments of HKLR and the Southern Connection of TM-CLKL, and to impose a number of restrictions, including height restrictions, therein.

PROPOSAL

9. Having regard to a host of technical safety factors, it is proposed to designate a total of seven classes of restricted areas and three special areas along the alignments of the HKLR and the Southern Connection of TM-CLKL. Details are set out below.

HKLR Areas No. 1 to 4

10. Of the seven classes of restricted areas, four classes (i.e. HKLR Area No. 1, HKLR Areas No. 2 (a), (b) and (c), HKLR Area No. 3, and HKLR Areas No. 4 (a), (b), (c), (d) and (e)), will be designated along the alignment of HKLR and subject to height restrictions of 41 m, 12 m, 10 m and 5 m respectively. The locations of these areas are shown at **Annex B** and **Annex C**. The height restrictions corresponding to the respective restricted areas are summarised below.

Restricted Areas	Height Restrictions
HKLR Area No. 1	No vessel which has a height exceeding 41 m above sea level shall enter or pass through HKLR Area No. 1.

Restricted Areas	Height Restrictions
HKLR Areas No. 2 (a), (b) and (c)	No vessel which has a height exceeding 12 m above sea level shall enter or pass through HKLR Areas No. 2 (a), (b) and (c).
HKLR Area No. 3	No vessel which has a height exceeding 10 m above sea level shall enter or pass through HKLR Area No. 3.
HKLR Areas No. 4 (a), (b), (c), (d) and (e)	No vessel which has a height exceeding 5 m above sea level shall enter or pass through HKLR Areas No. 4 (a), (b), (c), (d) and (e).

TM-CLKL Area No. 1 to 3

11. The remaining three restricted areas will be designated along the alignment of the Southern Connection of TM-CLKL and subject to height restrictions of 21 m, 12 m and 6 m respectively. The locations of these areas are shown at **Annex D**. The height restrictions corresponding to the respective restricted areas are summarised below.

Restricted Areas	Height Restrictions
TM-CLKL Area No. 1	No vessel which has a height exceeding 21 m above sea level shall enter or pass through TM-CLKL Area No. 1.
TM-CLKL Areas No. 2 (a) and (b)	No vessel which has a height exceeding 12 m above sea level shall enter or pass through TM-CLKL Areas No. 2 (a) and (b).

Restricted Areas	Height Restrictions
TM-CLKL Area No. 3	No vessel which has a height exceeding 6 m above sea level shall enter or pass through TM-CLKL Area No. 3.

HKLR Special Areas No. 1 to 3

12. For better management of marine traffic and to enhance navigational safety, it is further proposed to establish three special areas, which are all geographically situated within HKLR Area No. 1, as mentioned in paragraph 10 above. The locations of these areas are specified in **Annex B**. The restrictions to be made applicable to these special areas are summarised below.

Special Areas	Restrictions
HKLR Special Area No. 1	No vessel shall enter this area by crossing over the specified south-western boundary. In effect, vessels will only be able to pass through the span of the bridge heading in south-westerly direction.
HKLR Special Area No. 2	No vessel shall enter this area by crossing over the specified north-eastern boundary. In effect, vessels will only be able to pass through the span of the bridge heading in north-easterly direction.
HKLR Special Area No. 3	No vessel which has an overall length exceeding 10 m shall enter this special area.

13. Pursuant to section 3(1) of the Shipping and Port Control Ordinance (Cap. 313), the Shipping and Port Control Regulations (Cap. 313A) applies to all vessels except

local vessels in Hong Kong waters. Separately, the Merchant Shipping (Local Vessels) (General) Regulation (Cap. 548F) applies to all local vessels whether in or beyond Hong Kong waters. As the aforementioned restrictions are proposed to apply to all vessels, including local vessels, legislative amendments to both Cap. 313A and Cap. 548F will be required to effect the designation of the restricted and special areas as well as the proposed restrictions.

Miscellaneous Amendment

14. Separately, to achieve uniformity of expression in relevant legislation, we propose to amend the Chinese text of Regulation 15 of Cap. 313A, so that the Chinese wording will align with that of the relevant sections of Cap. 548F, which was amended in December 2016². The miscellaneous amendments will not affect the existing operation and enforcement of Regulation 15 of Cap. 313A.

15. The proposed amendments shall come into operation on 1 December 2017.

ADVICE SOUGHT

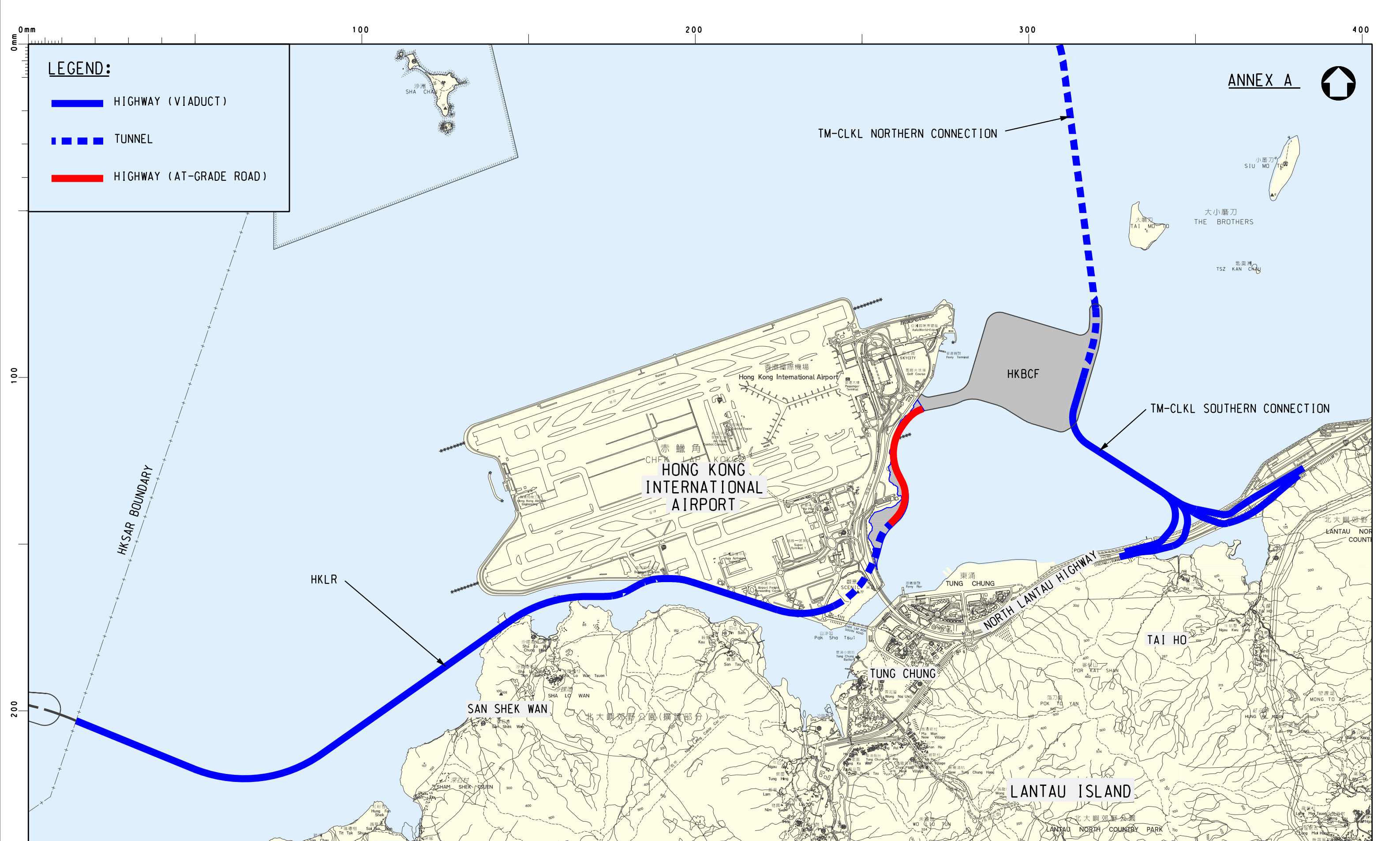
16. Members are invited to provide views on the proposed designation of restricted areas and special areas, and the restrictions proposed to be imposed therein. Subject to members' views, the Government will proceed to consult the Legislative Council Panel on Economic Development on the legislative proposal.

Highways Department

Marine Department

March 2017

² The relevant sections are the new sections 33B(4), 33D(4) and 33F(3) and the amended section 82 of Cap. 548F.



LEGEND:

- HIGHWAY (VIADUCT)
- TUNNEL
- HIGHWAY (AT-GRADE ROAD)

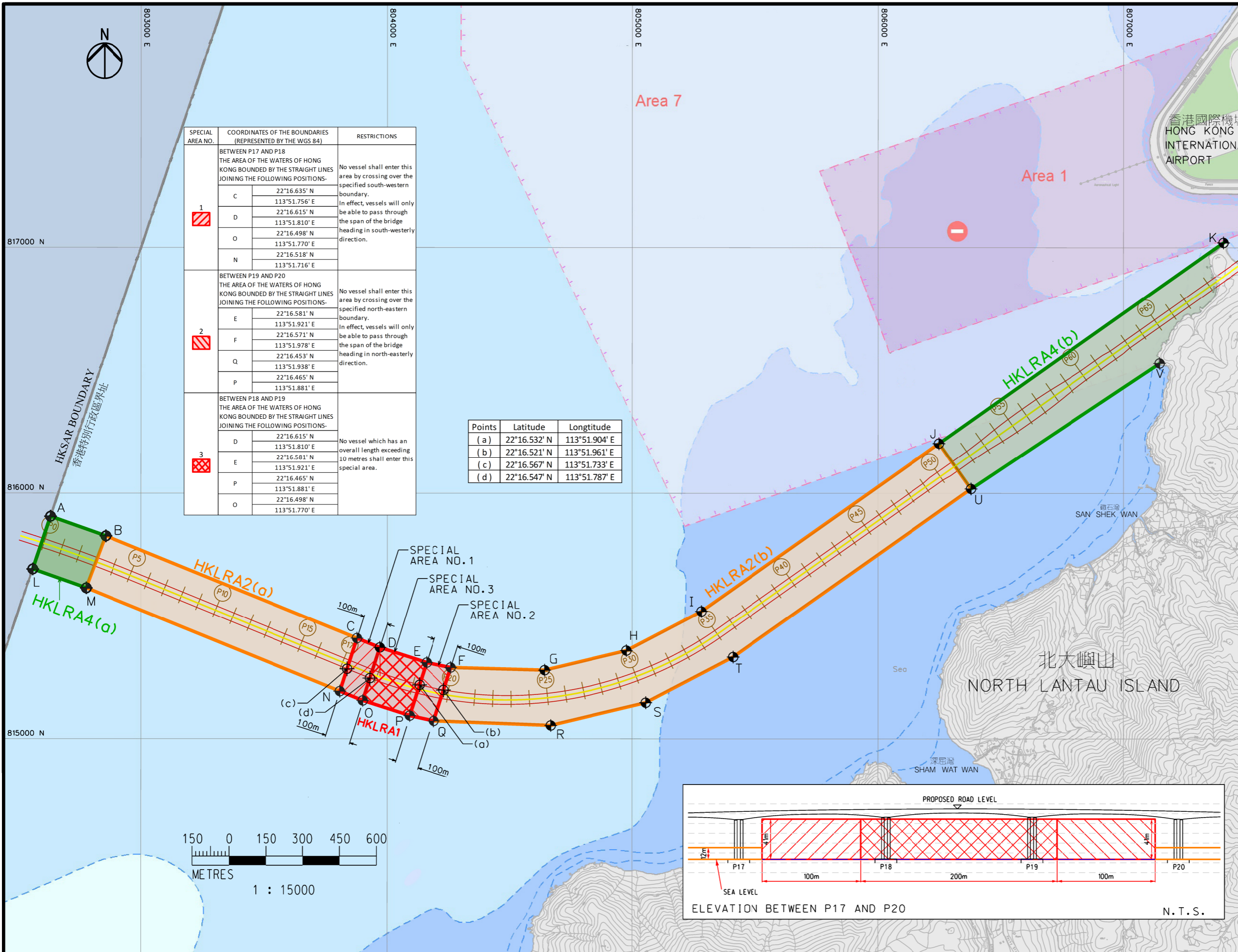
ANNEX A

drawing title <p style="text-align: center; font-weight: bold;">THE LAYOUT OF HONG KONG LINK ROAD (HKLR) AND TUEN MUN-CHEK LAP KOK LINK (TM-CLKL)</p>	designed W Y IP 10/02/17	drawn C K AU 10/02/17	drawing no. HZM6844TH-SK0084	scale 1:37500
	checked	approved	© COPYRIGHT RESERVED	
HONG KONG - ZHUHAI - MACAO BRIDGE HONG KONG PROJECT MANAGEMENT OFFICE			HIGHWAYS DEPARTMENT HONG KONG	

Annex B

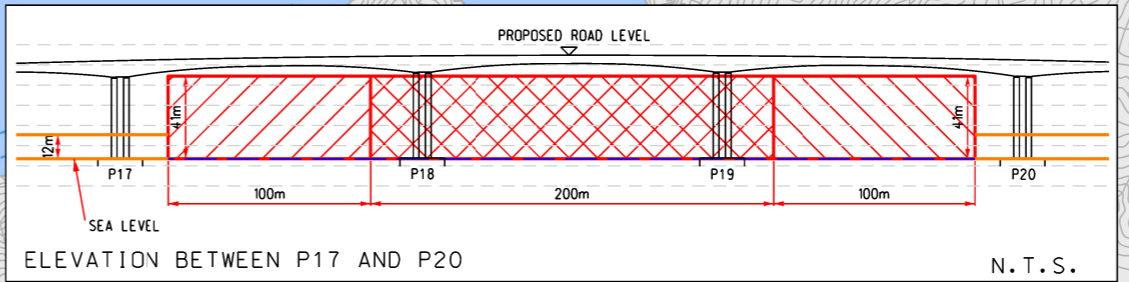
RESTRICTED AREAS IN THE FIFTH SCHEDULE OF THE SHIPPING AND PORT CONTROL REGULATIONS (CAP 313A)

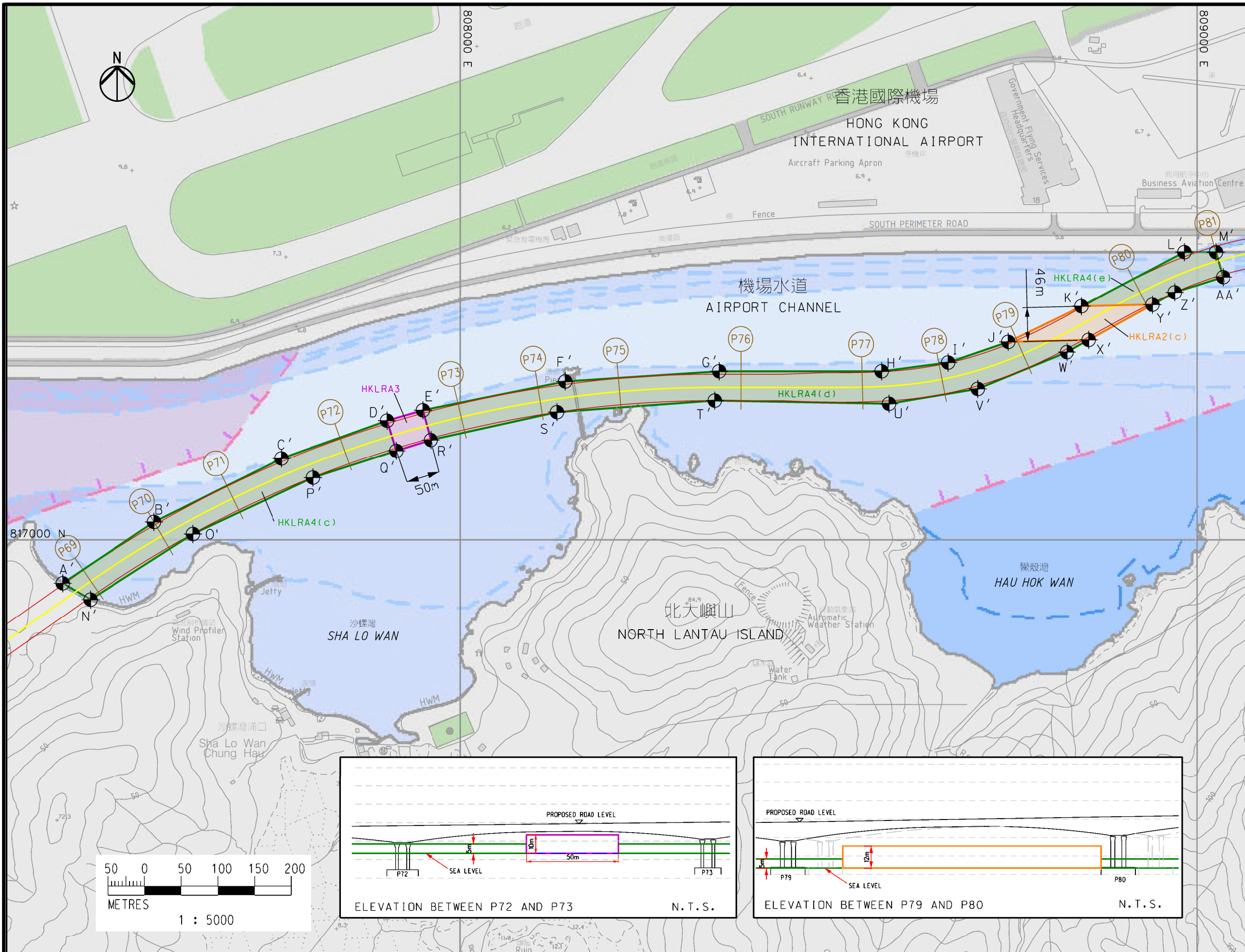
HKLR AREA NO.	COORDINATES OF THE BOUNDARIES (REPRESENTED BY THE WGS 84)	RESTRICTIONS	
1 HKLRA1	BETWEEN P17 AND P20 THE AREA OF THE WATERS OF HONG KONG BOUNDED BY THE STRAIGHT LINES JOINING THE FOLLOWING POSITIONS-	NO VESSEL WHICH HAS A HEIGHT EXCEEDING 41 METRES ABOVE SEA LEVEL SHALL ENTER OR PASS THROUGH	
	C		22°16.635' N 113°51.756' E
	D		22°16.615' N 113°51.810' E
	E		22°16.581' N 113°51.921' E
	F		22°16.571' N 113°51.978' E
	Q		22°16.453' N 113°51.938' E
	P		22°16.465' N 113°51.881' E
	O		22°16.498' N 113°51.770' E
	N		22°16.518' N 113°51.716' E
	2 HKLRA2		BETWEEN P3 AND P17 (i.e. 2(a)) THE AREA OF THE WATERS OF HONG KONG BOUNDED BY THE STRAIGHT LINES JOINING THE FOLLOWING POSITIONS-
B		22°16.860' N 113°51.160' E	
C		22°16.635' N 113°51.756' E	
N		22°16.518' N 113°51.716' E	
M		22°16.745' N 113°51.114' E	
BETWEEN P20 AND P51 (i.e. 2(b)) THE AREA OF THE WATERS OF HONG KONG BOUNDED BY THE STRAIGHT LINES JOINING THE FOLLOWING POSITIONS-			
J		22°17.067' N 113°53.135' E	
U		22°16.967' N 113°53.211' E	
T		22°16.595' N 113°52.648' E	
4 HKLRA4		BETWEEN P0 AND P3 (i.e. 4(a)) THE AREA OF THE WATERS OF HONG KONG BOUNDED BY THE STRAIGHT LINES JOINING THE FOLLOWING POSITIONS-	NO VESSEL WHICH HAS A HEIGHT EXCEEDING 5 METRES ABOVE SEA LEVEL SHALL ENTER OR PASS THROUGH
	A	22°16.903' N 113°51.029' E	
	B	22°16.860' N 113°51.160' E	
	M	22°16.745' N 113°51.114' E	
	L	22°16.787' N 113°50.988' E	
	BETWEEN P51 AND P68 (i.e. 4(b)) THE AREA OF THE WATERS OF HONG KONG BOUNDED BY THE SHORE AND STRAIGHT LINES JOINING THE FOLLOWING POSITIONS-		
	V	22°17.244' N 113°53.658' E	
	U	22°16.967' N 113°53.211' E	
	J	22°17.067' N 113°53.135' E	
	K	22°17.511' N 113°53.809' E	



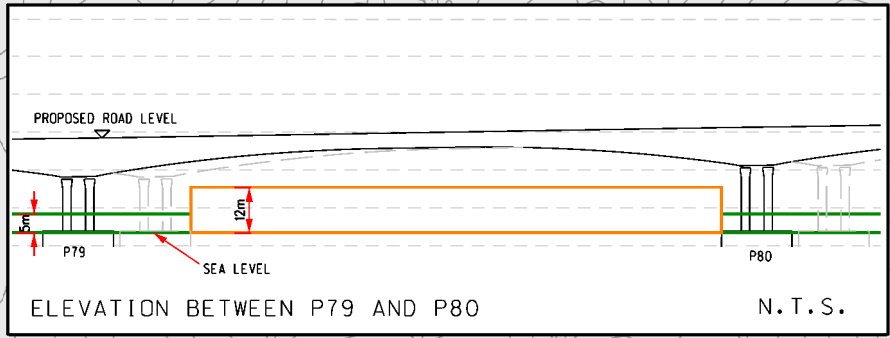
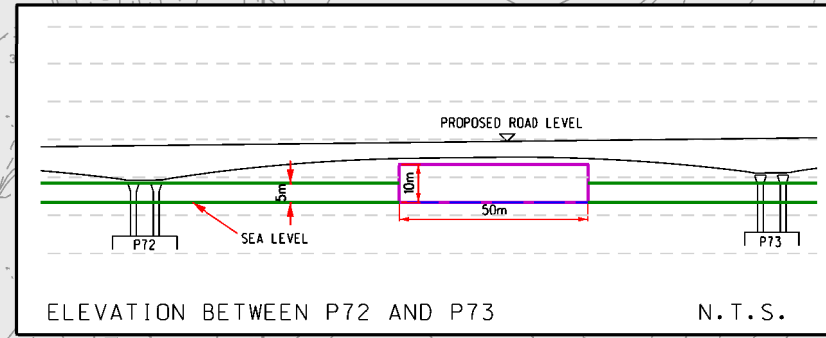
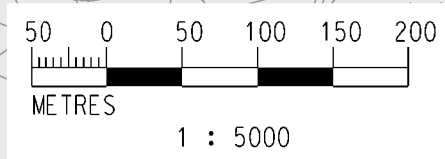
SPECIAL AREA NO.	COORDINATES OF THE BOUNDARIES (REPRESENTED BY THE WGS 84)	RESTRICTIONS	
1	BETWEEN P17 AND P18 THE AREA OF THE WATERS OF HONG KONG BOUNDED BY THE STRAIGHT LINES JOINING THE FOLLOWING POSITIONS-	No vessel shall enter this area by crossing over the specified south-western boundary. In effect, vessels will only be able to pass through the span of the bridge heading in south-westerly direction.	
	C		22°16.635' N 113°51.756' E
	D		22°16.615' N 113°51.810' E
	O		22°16.498' N 113°51.770' E
	N		22°16.518' N 113°51.716' E
	2		BETWEEN P19 AND P20 THE AREA OF THE WATERS OF HONG KONG BOUNDED BY THE STRAIGHT LINES JOINING THE FOLLOWING POSITIONS-
E		22°16.581' N 113°51.921' E	
F		22°16.571' N 113°51.978' E	
Q		22°16.453' N 113°51.938' E	
P		22°16.465' N 113°51.881' E	
3		BETWEEN P18 AND P19 THE AREA OF THE WATERS OF HONG KONG BOUNDED BY THE STRAIGHT LINES JOINING THE FOLLOWING POSITIONS-	No vessel which has an overall length exceeding 10 metres shall enter this special area.
	D	22°16.615' N 113°51.810' E	
	E	22°16.581' N 113°51.921' E	
	P	22°16.465' N 113°51.881' E	
	O	22°16.498' N 113°51.770' E	

Points	Latitude	Longitude
(a)	22°16.532' N	113°51.904' E
(b)	22°16.521' N	113°51.961' E
(c)	22°16.567' N	113°51.733' E
(d)	22°16.547' N	113°51.787' E



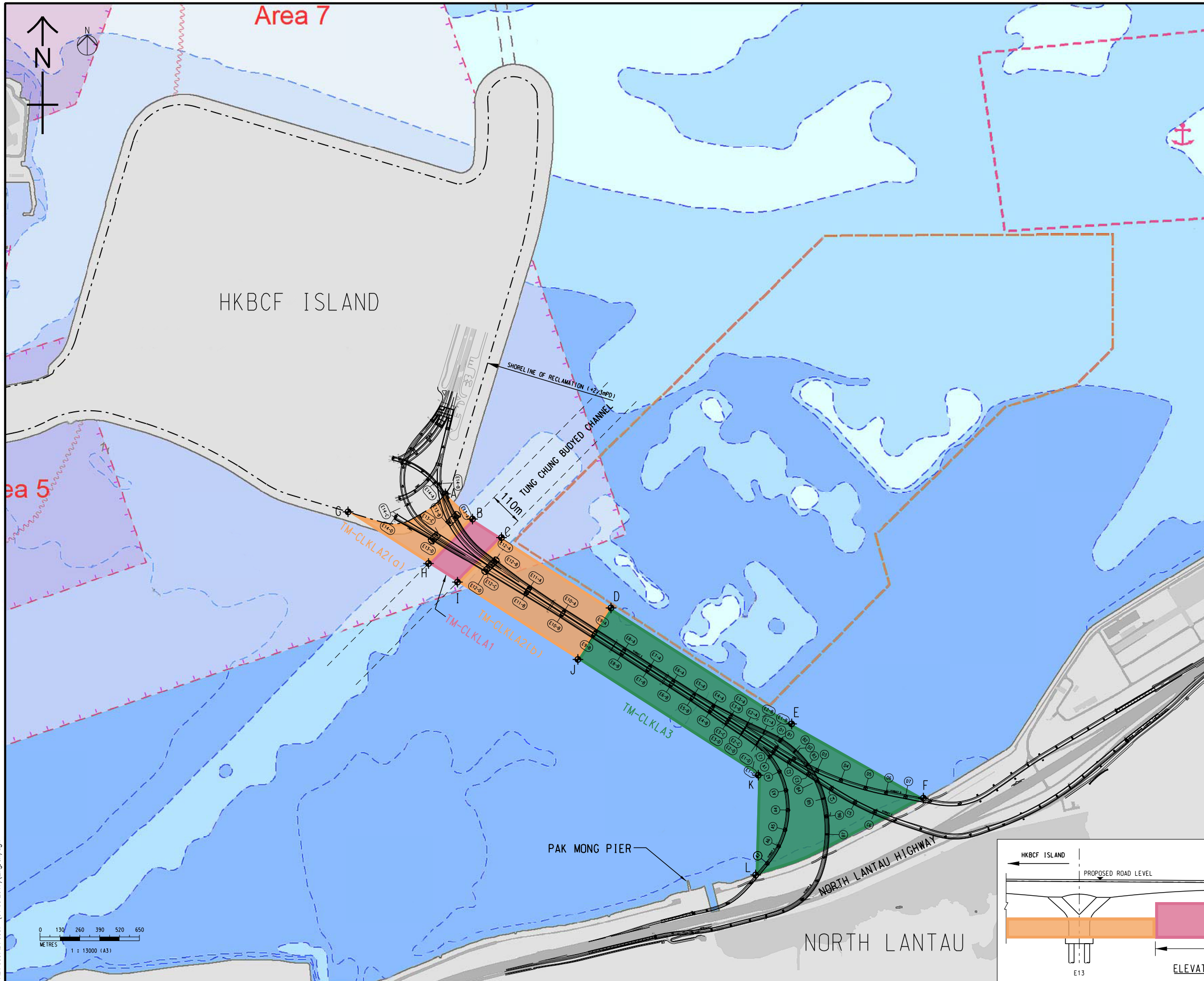


HKLR AREA NO.	COORDINATES OF THE BOUNDARIES (REPRESENTED BY THE WGS 84)	RESTRICTIONS			
2 HKLRA2	BETWEEN P79 AND P80 (i.e. 2(c)) THE AREA OF THE WATERS OF HONG KONG BOUNDED BY THE STRAIGHT LINES JOINING THE FOLLOWING POSITIONS:-	NO VESSEL WHICH HAS A HEIGHT EXCEEDING 12 METRES ABOVE SEA LEVEL SHALL ENTER OR PASS THROUGH			
	Y'		22°17.675' N 113°54.701' E		
	X'		22°17.649' N 113°54.650' E		
	J'		22°17.648' N 113°54.587' E		
	K'		22°17.674' N 113°54.645' E		
3 HKLRA3	BETWEEN P72 AND P73 THE AREA OF THE WATERS OF HONG KONG BOUNDED BY THE STRAIGHT LINES JOINING THE FOLLOWING POSITIONS:-	NO VESSEL WHICH HAS A HEIGHT EXCEEDING 10 METRES ABOVE SEA LEVEL SHALL ENTER OR PASS THROUGH			
	E'		22°17.597' N 113°54.124' E		
	R'		22°17.575' N 113°54.130' E		
	Q'		22°17.567' N 113°54.103' E		
	D'		22°17.589' N 113°54.096' E		
4 HKLRA4	BETWEEN P69 AND P72 (i.e. 4(c)) THE AREA OF THE WATERS OF HONG KONG BOUNDED BY THE SHORE AND STRAIGHT LINES JOINING THE FOLLOWING POSITIONS:-	NO VESSEL WHICH HAS A HEIGHT EXCEEDING 5 METRES ABOVE SEA LEVEL SHALL ENTER OR PASS THROUGH			
	A'		22°17.469' N 113°53.839' E		
	B'		22°17.514' N 113°53.911' E		
	C'		22°17.561' N 113°54.012' E		
	D'		22°17.589' N 113°54.096' E		
	Q'		22°17.567' N 113°54.103' E		
	P'		22°17.547' N 113°54.037' E		
	O'		22°17.505' N 113°53.942' E		
	N'		22°17.457' N 113°53.861' E		
	4 HKLRA4		BETWEEN P73 AND P79 (i.e. 4(d)) THE AREA OF THE WATERS OF HONG KONG BOUNDED BY THE STRAIGHT LINES JOINING THE FOLLOWING POSITIONS:-	NO VESSEL WHICH HAS A HEIGHT EXCEEDING 5 METRES ABOVE SEA LEVEL SHALL ENTER OR PASS THROUGH	
			X'		22°17.649' N 113°54.650' E
			W'		22°17.640' N 113°54.633' E
			V'		22°17.613' N 113°54.563' E
			U'		22°17.602' N 113°54.492' E
T'		22°17.604' N 113°54.355' E			
S'		22°17.595' N 113°54.230' E			
R'		22°17.575' N 113°54.130' E			
E'		22°17.597' N 113°54.124' E			
F'		22°17.618' N 113°54.236' E			
4 HKLRA4	BETWEEN P80 AND P81 (i.e. 4(e)) THE AREA OF THE WATERS OF HONG KONG BOUNDED BY THE STRAIGHT LINES JOINING THE FOLLOWING POSITIONS:-	NO VESSEL WHICH HAS A HEIGHT EXCEEDING 5 METRES ABOVE SEA LEVEL SHALL ENTER OR PASS THROUGH			
	M'		22°17.714' N 113°54.751' E		
	AA'		22°17.696' N 113°54.757' E		
	Z'		22°17.684' N 113°54.718' E		
	Y'		22°17.675' N 113°54.701' E		
	K'		22°17.674' N 113°54.645' E		
	L'		22°17.714' N 113°54.725' E		



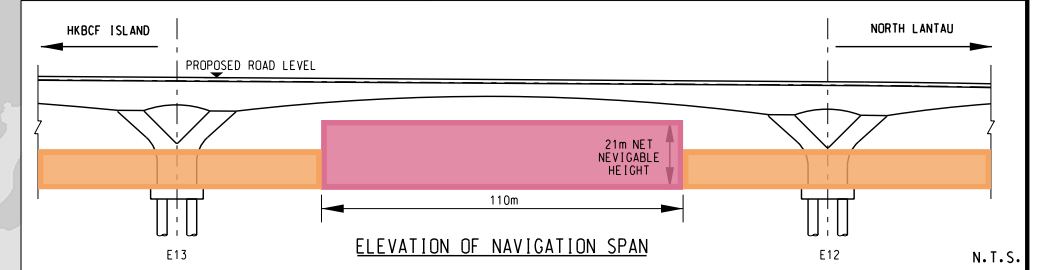
Drawing Title
 THE LOCATIONS OF HONG KONG LINK ROAD (HKLR) AREAS NO. 1 TO 4
 (SHEET 2 OF 2)

Drawn	JL	Date	26/01/2017	Drawing No.	09-SS-2749
Checked	DC	Approved	TS	Status	PRELIMINARY
Rev	Description	Date	Scale	1:5000 IN A3	Rev. C
B	MD'S COMMENT ADDED	14/02			
A	PRELIMINARY	26/01			



Annex D
RESTRICTED AREAS IN THE FIFTH SCHEDULE OF THE SHIPPING AND PORT CONTROL REGULATIONS (CAP 313A)

TM-CLKL AREA NO.	COORDINATES OF THE BOUNDARIES (REPRESENTED BY THE WGS 84)	RESTRICTIONS		
1 TM-CLKLA1	THE AREA OF THE WATERS OF HONG KONG BOUNDED BY STRAIGHT LINES JOINING THE FOLLOWING POSITIONS-	NO VESSEL WHICH HAS A HEIGHT EXCEEDING 21m ABOVE SEA LEVEL SHALL ENTER OR PASS THROUGH.		
	B		22°18.625'N 113°57.607'E	
	C		22°18.592'N 113°57.660'E	
	I		22°18.513'N 113°57.578'E	
	H		22°18.546'N 113°57.523'E	
2 TM-CLKLA2	THE AREA OF THE WATERS OF HONG KONG BOUNDED BY THE SHORE AND STRAIGHT LINES JOINING THE FOLLOWING POSITIONS A, B, H, G (i.e. 2(a))-	NO VESSEL WHICH HAS A HEIGHT EXCEEDING 12m ABOVE SEA LEVEL SHALL ENTER OR PASS THROUGH.		
	A		22°18.670'N 113°57.555'E	
	B		22°18.625'N 113°57.607'E	
	H		22°18.546'N 113°57.523'E	
	G		22°18.638'N 113°57.370'E	
	THE AREA OF THE WATERS OF HONG KONG BOUNDED BY STRAIGHT LINES JOINING THE FOLLOWING POSITIONS C, D, J, I (i.e. 2(b))-			
	C			22°18.592'N 113°57.660'E
	D			22°18.468'N 113°57.871'E
	J			22°18.377'N 113°57.808'E
	I			22°18.513'N 113°57.578'E
3 TM-CLKLA3	THE AREA OF THE WATERS OF HONG KONG BOUNDED BY THE SHORE AND STRAIGHT LINES JOINING THE FOLLOWING POSITIONS-	NO VESSEL WHICH HAS A HEIGHT EXCEEDING 6m ABOVE SEA LEVEL SHALL ENTER OR PASS THROUGH.		
	L		22°17.995'N 113°58.147'E	
	K		22°18.172'N 113°58.151'E	
	J		22°18.377'N 113°57.808'E	
	D		22°18.468'N 113°57.871'E	
	E		22°18.263'N 113°58.215'E	
	F		22°18.132'N 113°58.466'E	



Plot File by: RSTOC1 01-Mar-17
 PATH: K:\TODRAWINGS\DRIFT\DF0637-(01-03-2017) (English).dgn

TITLE

THE LOCATIONS OF TUEN MUN - CHEK LAP KOK LINK (TM-CLKL) AREAS NO. 1-3

REV.	DATE	DESCRIPTION	DRAWN	PREL.	APP.
-	21/02/17	THE LOCATIONS OF TUEN MUN - CHEK LAP KOK LINK (TM-CLKL) AREAS NO. 1-3	GC	TC	SYN

SCALE	1:13000 (A3)	ISSUED DATE	01-03-2017
DRAWN	GC	PREPARED	TC
DRAWING REFERENCE	APPROVED SYN		
SKETCH NO.	NIL		
REV.	DATE	DESCRIPTION	DF0637

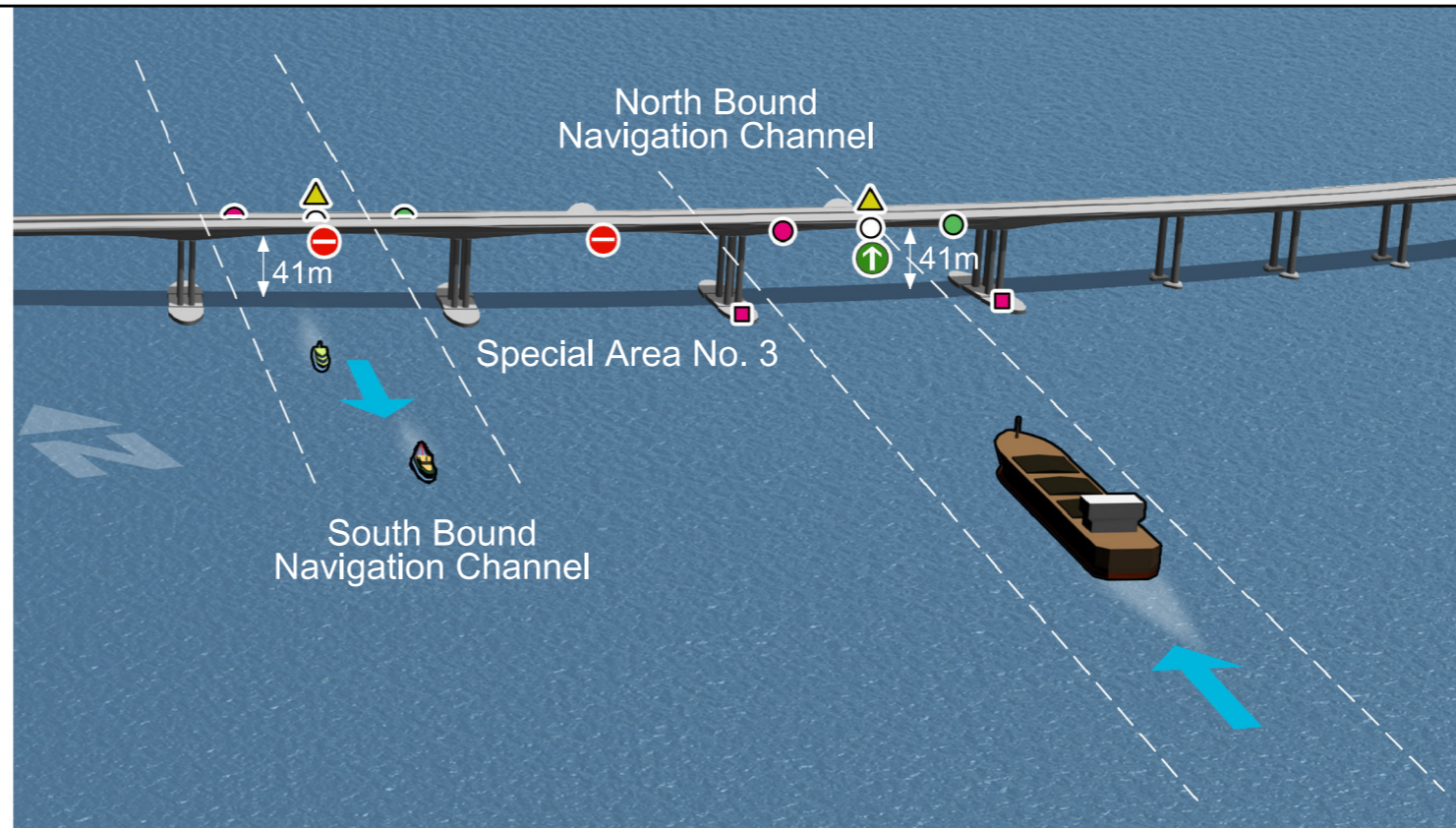
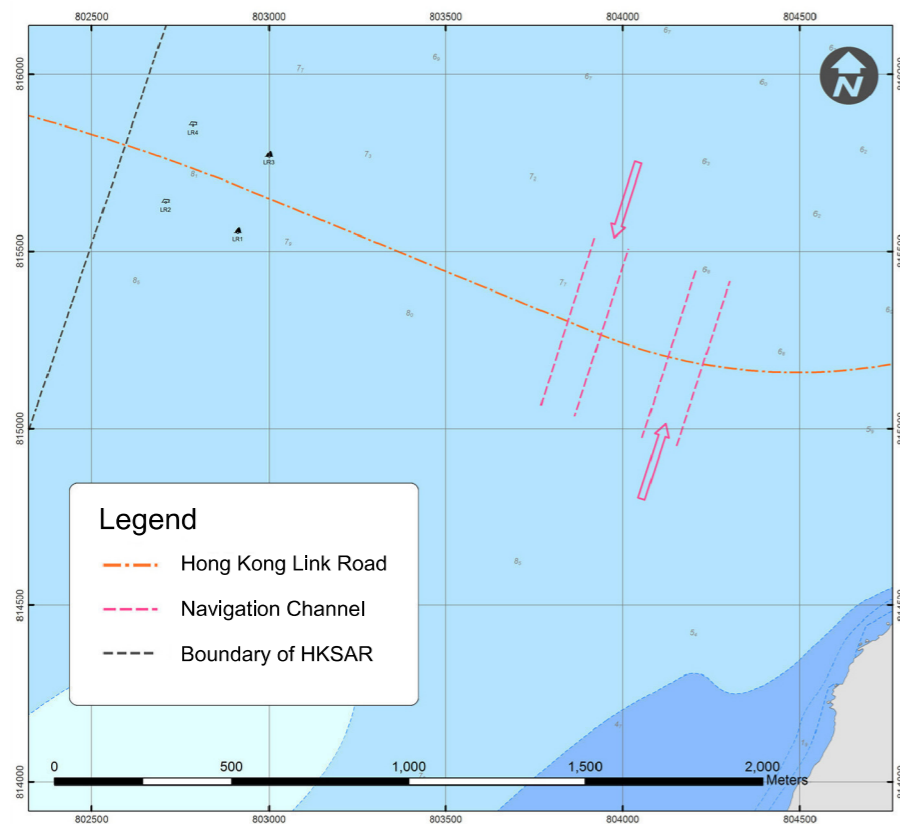


FIGURE 1

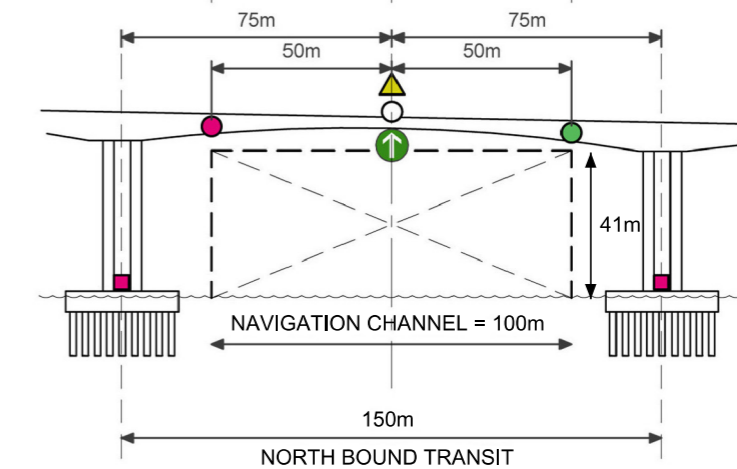
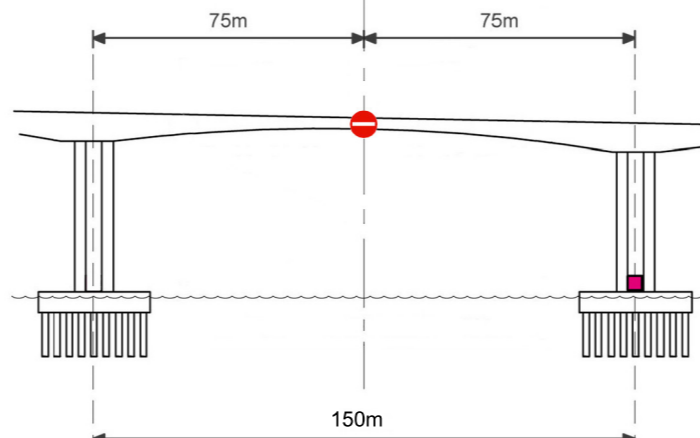
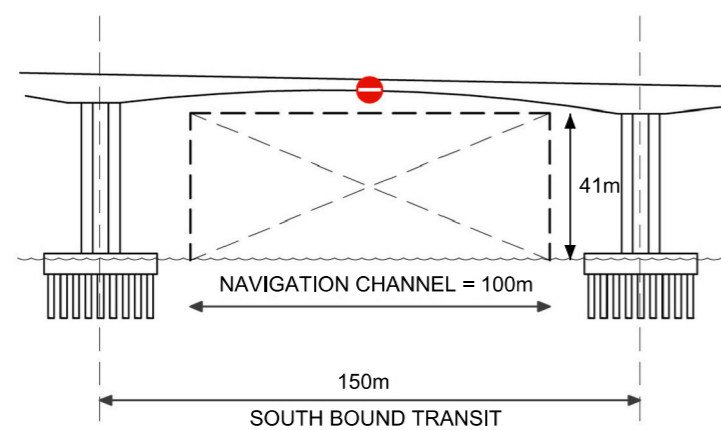
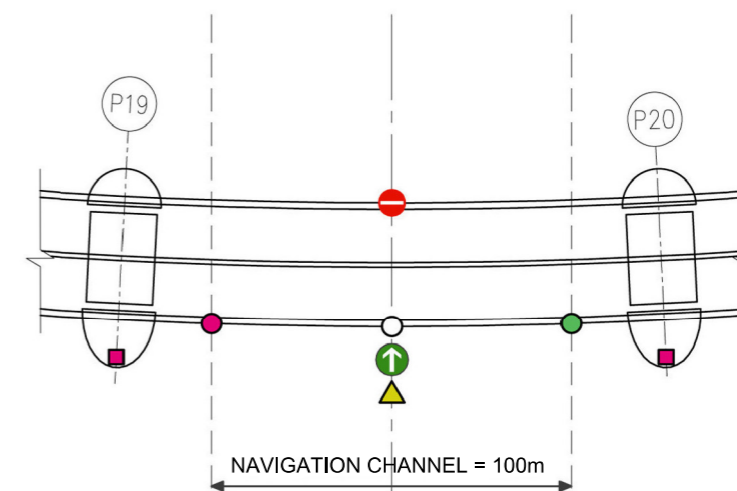
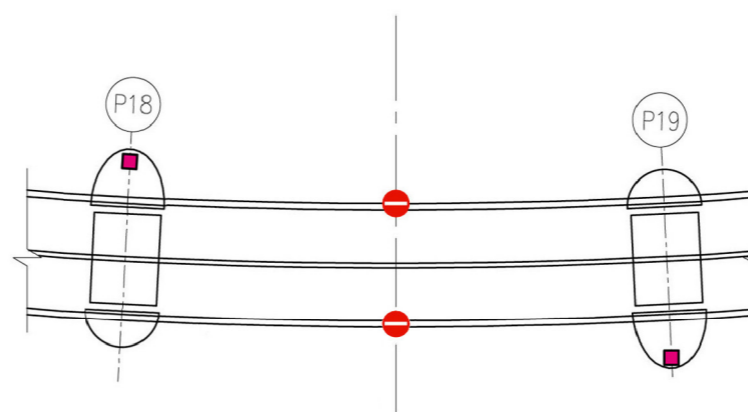
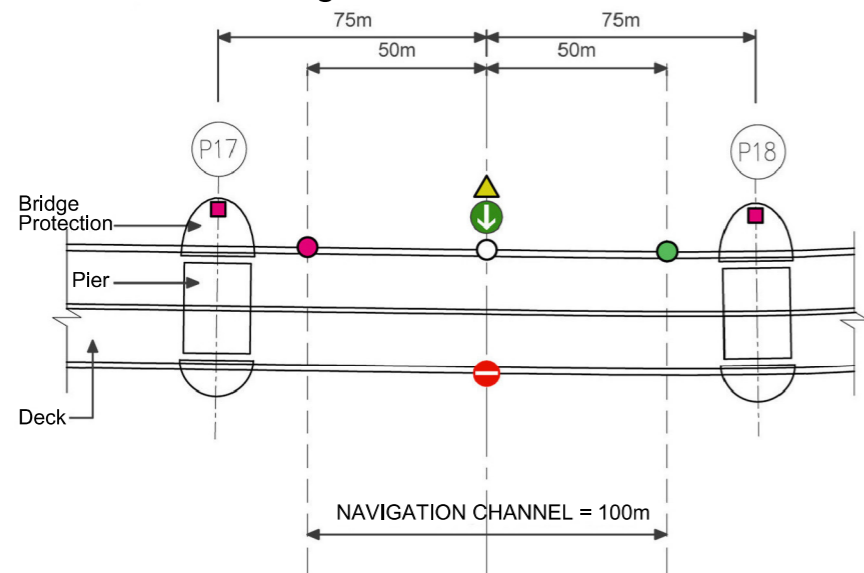
Legend

- Isophase Light 4s
- Fixed Red Lights
- Continuous Quick Flashing Red Light (QR) and Continuous Quick Flashing Green Light (QG) (60 flashes/min)
- ⊘ "No Entry" Sign
- ↑ "Go Ahead" arrow
- ▲ Racon Transponder

South Bound Navigation Channel

Special Area No. 3

North Bound Navigation Channel



Printed by : \$USER\$ 24/02/2017
 Filename : Z:\Drawings\214487\Sketch\E-HY_2011_09-SK195-eng.dgn

Drawing Title

THE LAYOUT OF NAVIGATION SPAN AT HKLR AREA No. 1

Drawn	BC	Date	21/02/2017	Drawing No.	214487/1/SK/195
Checked	DC	Approved	MKC	Status	
Rev	A	PRELIMINARY	21/02	Scale	N. T. S.
		Description	Date		Rev. A

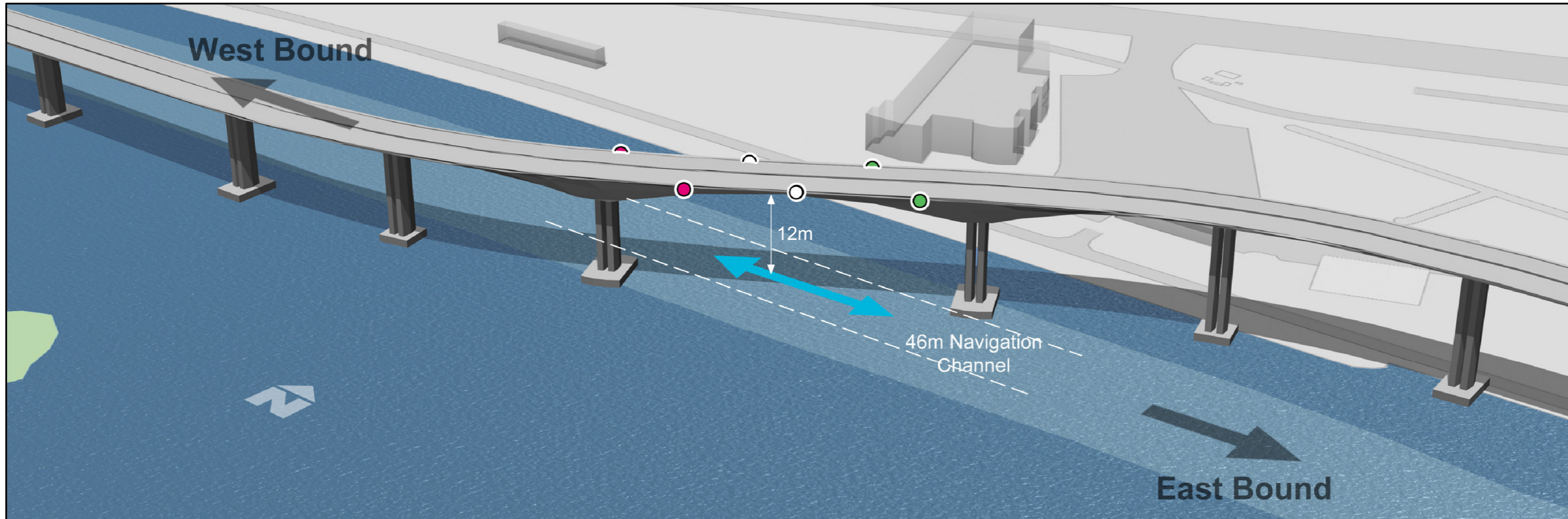
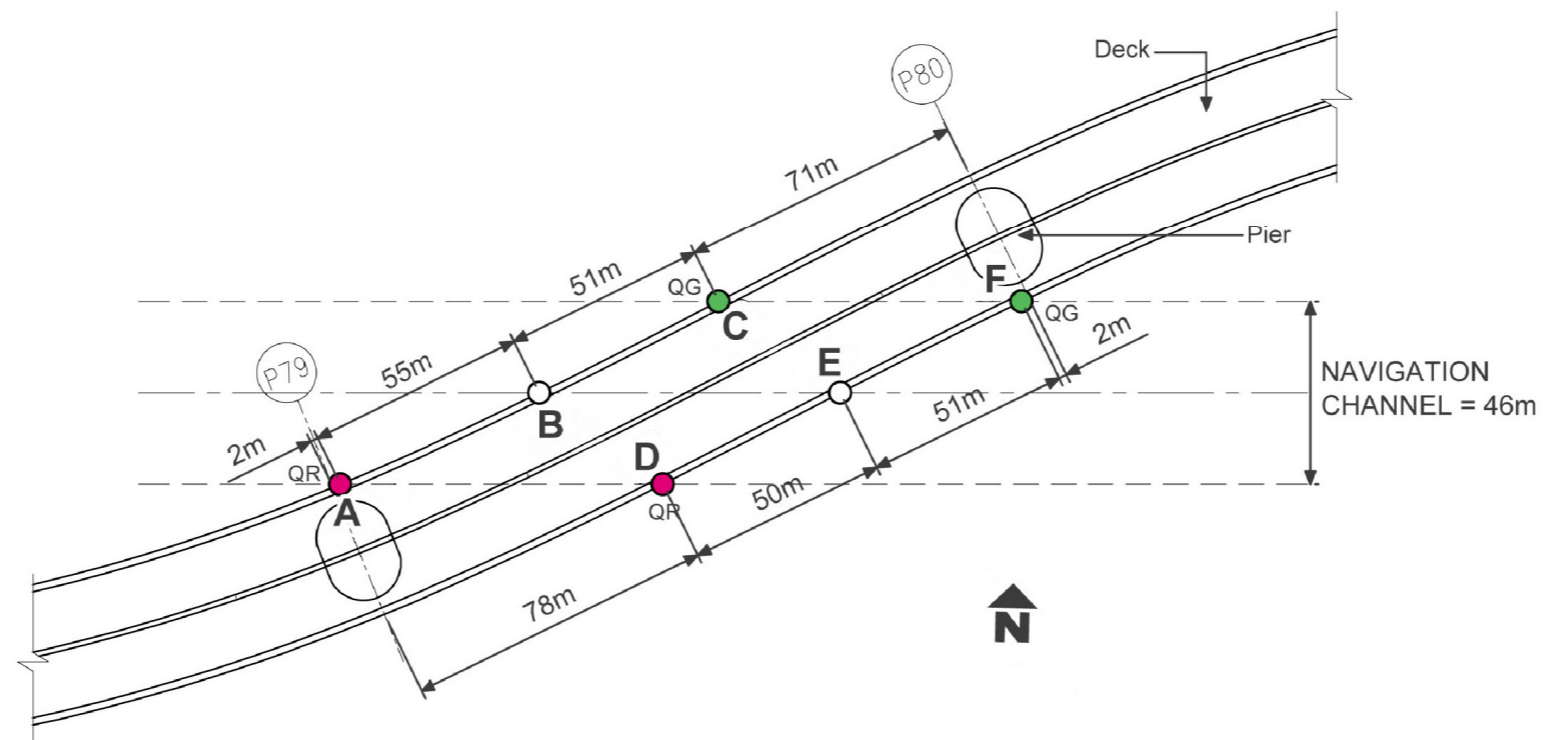


FIGURE 2

Legend

- Isophase Light 4s
- Continuous Quick Flashing Red Light (QR) and Continuous Quick Flashing Green Light (QG) (60 flashes/min)

- QG Continuous Quick Flashing Green Light
- QR Continuous Quick Flashing Red Light
- ISO.4s Isophase (duration of light and darkness equal) at 4s repeat
- A-F** Alphabetic order of lights



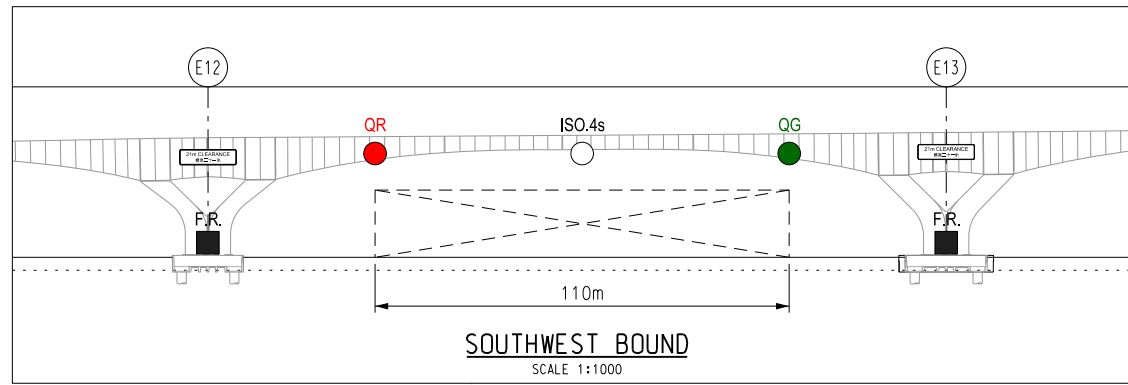
Printed by : \$USER\$ 22/02/2017
 Filename : Z:\Drawings\214487\Sketch\E-HY_2011_09-SK196-eng.dgn

Drawing Title

THE LAYOUT OF NAVIGATION SPAN AT HKLR AREA No. 2(c)

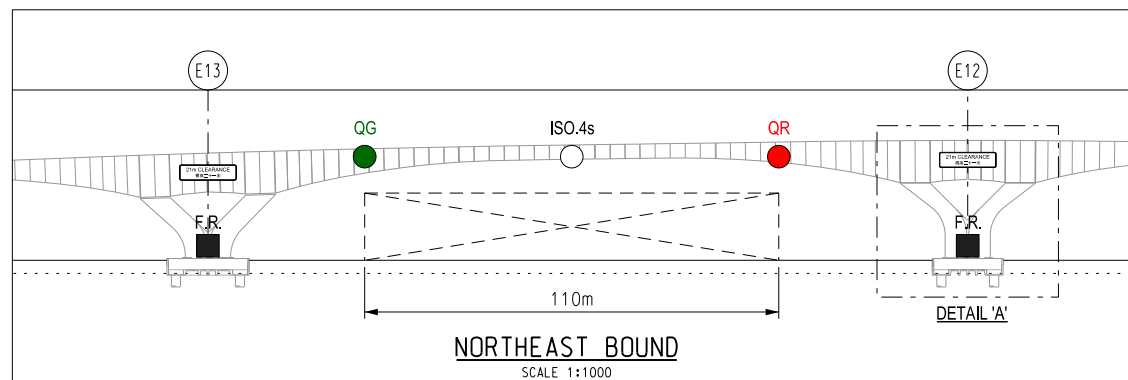
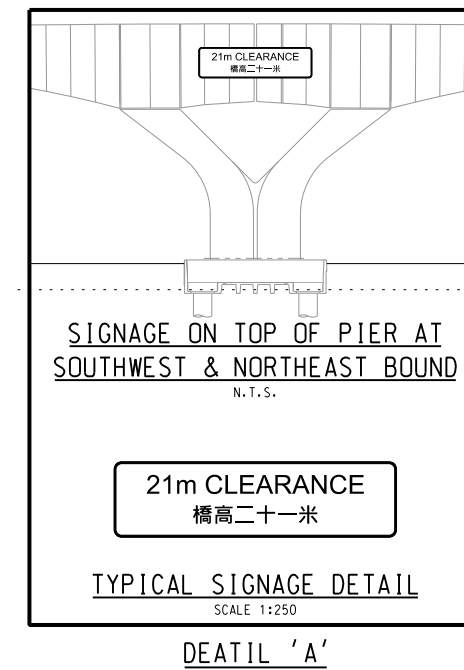
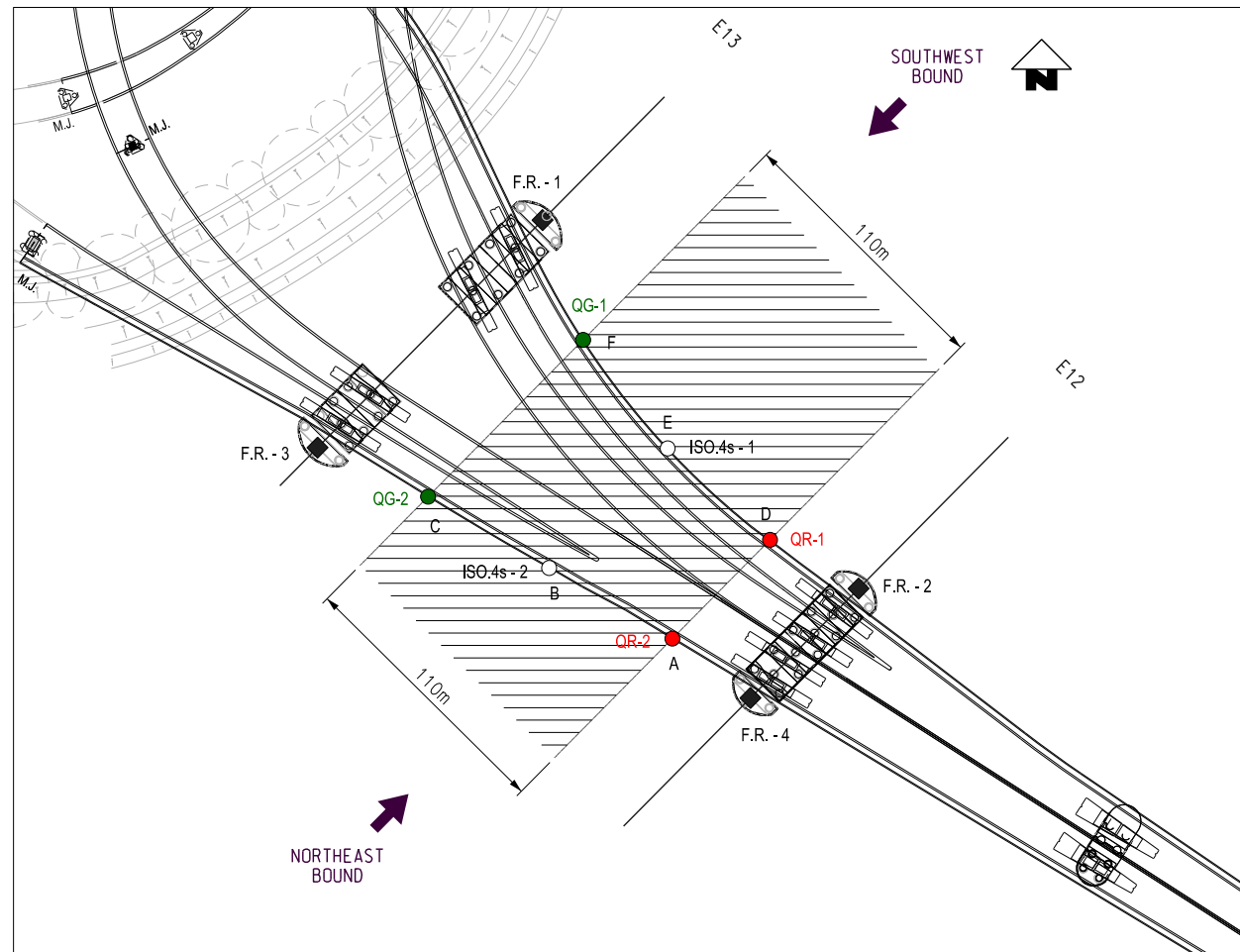
Drawn	BC	Date	21/02/2017	Drawing No.	214487/1/SK/196
Checked	DC	Approved	MKC	Status	
Rev	A	PRELIMINARY	21/02	Scale	N. T. S.
		Description	Date		Rev. A

FIGURE 3



LEGEND :

- ISOPHASE LIGHT 4s
- CONTINUOUS QUICK FLASHING RED LIGHT (QR) AND CONTINUOUS QUICK FLASHING GREEN LIGHT (QG)
- QG CONTINUOUS QUICK FLASHING GREEN LIGHT (UPS POWER)
- QR CONTINUOUS QUICK FLASHING RED LIGHT (UPS POWER)
- ISO.4s ISOPHASE (DURATION OF LIGHT AND DARKNESS EQUAL) AT 4s REPEAT (UPS POWER)
- F.R. FIXED RED LIGHT (SOLAR POWER)
- A-F ALPHABETIC ORDER OF LIGHTS



Plot File by: RSTOC1 23-Feb-17
PATH K:\IT\DRAWINGS\DRAWING\DF0621\FIGURE 3 - (21-02-2017).xdgn

TITLE		THE LAYOUT OF NAVIGATION SPAN AT TM-CLKL AREA NO. 1			SCALE	AS SHOWN (A1)	ISSUED DATE	21-02-2017		
					DRAWN	GC	PREPARED	RC	APPROVED	RC
					DRAWING REFERENCE		NIL			
					SKETCH NO.		DF0621			
REV.	DATE	DESCRIPTION	DRAWN	PRE.	APP.	REV. -				
-	21/02/17	THE LAYOUT OF NAVIGATION SPAN AT TM-CLKL AREA NO. 1	GC	TC	SYN					