

Appendix 2.1

Comparison Table

Comparison between the original scheme for development proposals of WDII and CWB under previous approved EIA¹ and the present scheme under the current EIA:-

	Original Scheme under Previous Approved EIA¹	Present Scheme under the Current EIA
Previous Related Studies and Project History		
Wan Chai Development Phase II Comprehensive Feasibility Study (Application No. EIA-058/2001 & EIAO Register No. AEIAR-042/2001) & Central - Wan Chai Bypass and Island Eastern Corridor Link (Application No. EIA-057/2001 & EIAO Register No. AEIAR-041/2001)	<p>The Wan Chai Development Phase II Comprehensive Feasibility Study (the WDIICFS) was commissioned by the then Territory Development Department in June 1999. The main purpose of that assignment was to make provision for key transport infrastructure and facilities along the north shore of Hong Kong Island, in Wan Chai and Causeway Bay. Under the WDIICFS, a Trunk Road layout was derived, comprising the CWB running along the Wan Chai shoreline in tunnel, and the IECL running behind the Causeway Bay Typhoon Shelter on elevated roadway, connecting to the existing elevated IEC. New land was proposed along the Wan Chai and Causeway Bay shoreline, primarily for the construction of the Trunk Road and other key infrastructure, and also to provide an attractive waterfront with a new public promenade. A total reclamation area of some 28.5 ha along the existing Wan Chai and Causeway Bay shorelines was envisaged under the WDIICFS, from the interface with the CRIII project on the west side of the Hong Kong Convention and Exhibition Centre (HKCEC) Extension, to the east of the Causeway Bay Typhoon Shelter.</p>	<p>The Trunk Road and the associated land use proposals for the WDII project were incorporated in a draft Wan Chai North Outline Zoning Plan No. S/H25/1 (the draft OZP) which was gazetted under the Town Planning Ordinance on 19 April 2002. At the same time, the road works and reclamation proposed under the WDII project were gazetted under the Roads (Works, Use and Compensation) Ordinance and Foreshore and Sea-bed (Reclamations) Ordinance respectively.</p> <p>Objections to the draft OZP were received (during 9/2002 to 2/2003) and considered by the Town Planning Board, which decided to propose amendments to the draft OZP to meet or partially meet some of the objections.</p> <p>In February 2003, the Society for the Protection of the Harbour Limited sought a judicial review of the decisions of the Town Planning Board made on 6 December 2002 and 14 February 2003 in connection with the draft Wan Chai North OZP and its compliance with the Protection of the Harbour Ordinance (PHO). The High Court handed down its judgment on 8 July 2003, whereby the decisions of the Town Planning Board made on 6 December 2002 and 14 February 2003 in respect of the draft OZP were quashed. The Court also ordered the Town Planning Board to reconsider the draft OZP and the objections thereto. As this interpretation of the PHO would apply to all future planning of harbour- front areas which included reclamation, and due to the great general and public importance of the case, the Town Planning Board appealed directly to the Court of Final Appeal (CFA).</p>

¹ Two previous EIA studies considered in this comparison table are:-

- (i) the EIA carried out on the development proposals under the WDIICFS, which was approved under the Environmental Impact Assessment Ordinance (EIAO) in 2001 (Application No. EIA-058/2001); and
- (ii) the EIA carried out in parallel with the WDIICFS under a Project Review Study of the Trunk Road (CWB&IECL), which was approved under the EIAO in 2001 (Application No. EIA-057/2001).

	Original Scheme under Previous Approved EIA ¹	Present Scheme under the Current EIA
		<p>In October 2003, the Town Planning Board considered the findings of a preliminary planning assessment on the draft OZP conducted by Planning Department according to the High Court's judgment on the judicial review and requested Government to conduct a comprehensive review of the planning and engineering proposals of the WDII project.</p> <p>On 9 January 2004, the CFA handed down its judgment on the judicial review. The CFA ruled that the presumption against reclamation in the PHO can only be rebutted by establishing an overriding public need for reclamation (the "Overriding Public Need Test"), and that there must be cogent and convincing materials available to enable the decision-maker to be satisfied that the test is fulfilled for rebutting the presumption against reclamation.</p> <p>Following the Town Planning Board request for a review of the WDII proposals and in the light of the CFA judgment, Government has undertaken to conduct a planning and engineering review of the development and reclamation proposals for the WDII project (the WDII Review). The WDII Review commenced in March 2004.</p>
Development Proposals		
Extent of Reclamation	Total 28.5 ha	Reduced to 12.7 ha
- HKCEC	Around 5.7 ha of reclamation at the west of HKCEC and the water channel	Reduced to 5.3 ha
- Wan Chai	Around 9.3 ha of reclamation along Wan Chai shoreline	Reduced to 4.1 ha
- Causeway Bay	Around 13.5 ha of reclamation at ex-PCWA basin, breakwater from the Kellett Island Marina and Causeway Bay Typhoon Shelter (CBTS)	No permanent reclamation at ex-PCWA basin and CBTS.
- North Point	No reclamation at North Point	Around 3.3 ha of reclamation along North Point shoreline
Trunk Road Layout		
Length of road tunnel section (between west portal and east portal)	2.3km approximately	3.5km approximately

	Original Scheme under Previous Approved EIA ¹	Present Scheme under the Current EIA
Length of elevated road section (from east portal ramp to existing IEC)	1.2km approximately	Trunk road connects directly to the existing IEC beyond the tunnel section
- HKCEC	Trunk Road is in the form of tunnel With three slip roads connecting to Wan Chai North	Similar to original scheme, Trunk Road is in the form of tunnel Also with three slip roads connecting to Wan Chai North
- Wan Chai	Trunk Road in tunnel emerges from below ground to the tunnel portal near the ex-PCWA basin and turns into elevated structure across the RHKYC site	Trunk Road stays in tunnel and goes underneath ex-PCWA basin, carpark of RHKYC and rock anchors of CHT approach ramp
- Causeway Bay	Trunk Road in elevated structure runs across the reclaimed CBTS and connect to existing IEC The existing IEC from Victoria Park to around Watson Road will be demolished Slip roads carrying traffic from Causeway Bay to Trunk Road and vice versa are in elevated structure	Trunk Road stays in tunnel below the CBTS Slip road carrying traffic from Causeway Bay to Trunk Road is in tunnel
- North Point	The existing IEC from Victoria Park to around Watson Road will be demolished and reconstructed for the connection with the Trunk Road in elevated structure	Trunk Road in tunnel emerges from below ground to the tunnel portal at the North Point waterfront and turns into elevated structure for connection to existing IEC The existing IEC E/B from around Watson Road to the tunnel portal, the existing IEC W/B from around Oil Street to the tunnel portal and the existing Hing Fat Street Slip Road will be demolished and reconstructed for the connection with the Trunk Road
At-Grade Road Layout	Road P2 above Trunk Road Tunnel from CRIII boundary through the water channel and connected to realigned Hung Hing Road	Road P2 above Trunk Road Tunnel from CRIII boundary through the water channel and connected to realigned Hung Hing Road
	With Road P2 Flyover	Without Road P2 Flyover
	Reprovisioned Hung Hing Road Flyover over the tunnel portal area at the reclaimed ex-PCWA basin	Without modification of Hung Hing Road Flyover
Major Land Uses	Waterfront related commercial & leisure uses at HKCEC marine basin and Wan Chai waterfront	Waterfront related commercial & leisure uses at Wan Chai waterfront, none at HKCEC marine basin
	Possible commercial development at existing Fleet Arcade and Wan Chai West Sewage Screening Plant (WCWSSP) sites	Possible HKAPA Extension at existing WCWSSP site Possible Visual Arts Education Centre at the existing open space adjacent to WCWSSP site

	Original Scheme under Previous Approved EIA ¹	Present Scheme under the Current EIA
	Central Ventilation Building in the vicinity of the existing MTR vent shaft	Central Ventilation Building in the vicinity of the existing MTR vent shaft
	Helipad at existing Expo Drive East Ferry Pier	Helipad at existing Expo Drive East Ferry Pier
	Public open space with underground exhibition and support facilities and public car park at Wan Chai waterfront	Public open space along the Wan Chai waterfront
	CDA development with PTI underneath and with provisions for NIL Exhibition Station underground at existing Wan Chai PTI and Indoors Game Hall & Training Pool (IGH&TP) site Reprovisioned IGH&TP at the north of existing Wan Chai Sports Ground	Underground NIL & SCL Exhibition Station and associated facilities at existing Wan Chai PTI, Reprovisioned Wan Chai PTI at existing IGH&TP site Reprovisioned IGH&TP at the superstructure of the NIL & SCL Exhibition Station
	Kellett Island Marina outside the existing ex-PCWA basin with the reprovisioned Noonday Gun at the tip of the breakwater for the Marina	Noonday Gun is retained at its original location
	WCESSP and extension along the southern portion of the ex-PCWA basin	Water recreation related uses (e.g. possible Harbor Education Centre and Water Sports Centre) around the ex-PCWA basin
	Harbour Museum at Wan Chai waterfront	Nil
	Reprovisioned Wan Chai Salt Water Pumping Station (SWPS) at the reclaimed ex-PCWA basin and adjacent to the Hung Hing Road Flyover	Reprovisioned Wan Chai SWPS at the southern portion of the Wan Shing Street site
	Reprovisioned RHKYC at part of the reclaimed ex-PCWA basin	RHKYC is retained at its original location
	Wan Chai Ferry Pier at the Wan Chai waterfront	Wan Chai Ferry Pier at the Wan Chai waterfront
	Hotel/Commercial development at the southwest corner of the reclaimed CBTS	Nil
	Leisure and Entertainment Complex with integrated landscaped deck from Victoria Park to waterfront at the southeast corner of the reclaimed CBTS and the abandoned A King Shipyard site	Nil

	Original Scheme under Previous Approved EIA ¹	Present Scheme under the Current EIA
	Tin Hau Temple at the eastern end of the reclaimed CBTS	Tin Hau Temple at the existing abandoned A King Shipyard site
	East Ventilation Building cum Administration Building at the Wan Chai waterfront, adjacent to the WCESSP	East Ventilation Building at the North Point waterfront, adjacent to the CBTS eastern breakwater Vent shaft of East Ventilation Building at the eastern breakwater of the CBTS Administration Building underneath the existing elevated IEC W/B, near the seaward end of Oil Street
	Two landscaped decks: one landscaped deck extends from Victoria Park to waterfront at the southeast corner of the reclaimed CBTS and the abandoned A King Shipyard site and integrated with the Leisure and Entertainment Complex, another landscaped deck is located at the west of the Victoria Park and connects the Victoria Park to the waterfront underneath the proposed IEC Link and the reclaimed CBTS.	Three landscaped decks: one landscaped deck is located at the west of HKCEC, one extends from the Exhibition Station site to the Wan Chai waterfront, and another landscaped deck connects the Victoria Park knoll to the Causeway Bay promenade.
	Nil	Open spaces along the North Point waterfront
Reprovisioning Facilities		
- Cross Harbour Watermains	From Wan Chai North to TST	Same as original scheme
- Sewage Outfall	At Wan Chai North, connected to Wan Chai East Sewage Screening Plant (WCESSP)	Same as original scheme
- Moorings and Anchorage Area at CBTS	Reprovisioned at the proposed Kellett Island Marina Temporary reprovisioning at ex-PCWA basin	No permanent reprovisioning of moorings and anchorage area at CBTS Temporary reprovisioning at temporary typhoon shelter
- RHKYC	Reprovisioning of RHKYC at reclaimed ex-PCWA basin and CBTS	RHKYC is not affected
- Noonday Gun	Reprovisioning of Noonday Gun to the breakwater of Marina	Noonday Gun is not affected
- WSD Salt Water Pumping Station	Reprovisioned to reclaimed land near RHKYC, along the new promenade	Reprovisioned to vacant site at Wan Shing Street
- Cooling Water Pumping Stations	Reprovisioned to pumping stations at the HKCEC extension, new Wan Chai waterfront and new waterfront inside CBTS	Reprovisioned to pumping stations at the HKCEC extension, new Wan Chai waterfront. Pumping stations at CBTS remain unchanged

	Original Scheme under Previous Approved EIA ¹	Present Scheme under the Current EIA
- Facilities at Victoria Park	Slip road connection intrudes into the North Pavilion Garden. Two landscaped decks intrude into the Victoria Park, one at the east, one at the west.	Slip road connection does not intrude into the North Pavilion Garden. It intrudes into part of the northern portion of the Victoria Park, affecting the bowling green and the nursery compound.
Drainage System	Interceptor culvert diverting the stormwater discharge outside the CBTS	Drainage system within the CBTS remains unchanged
Ventilation and Administration Building	The West Ventilation Building is at Central Interchange.	The West Ventilation Building is at Central Interchange. Its design such as number of ventilation fan and discharge pollutant remain unchanged.
	Central Ventilation Building in the vicinity of the existing MTR vent shaft (emission rate: NO _x : 0.855g/s, RSP: 1.959E-02g/s)	Central Ventilation Building in the vicinity of the existing MTR vent shaft (emission rate: NO _x : 3.966g/s, RSP: 3.003E-01g/s)
	East Ventilation Building cum Administration Building at the Wan Chai waterfront, adjacent to the WCESSP (emission rate: NO _x : 0.7048g/s, RSP: 2.885E-01g/s)	East Ventilation Building at the North Point waterfront, adjacent to the CBTS eastern breakwater Emission from the East Ventilation Building will be discharged from a Vent shaft at the eastern breakwater of CBTS Administration Building underneath the existing elevated IEC W/B, near the seaward end of Oil Street (emission rate: NO _x : 2g/s, RSP: 2.258E-02g/s)
	The tunnel ventilation system is a longitudinal type integrated with smoke extraction system	The tunnel ventilation system is a semi-transverse ventilation system
Locations of tunnel Portal	The Western Portal is at the Rumsey Street.	The Western Portal is at the Rumsey Street.
	Portals for Slip Road 1, 2 and 3 are near HKCEC.	Portals for Slip Road 1, 2 and 3 are near HKCEC. Slip Road 8 Portal is near Victoria Park Road
	Eastern Portal is near Royal Hong Kong Yacht Club	Eastern Portal is at North Point
Pedestrian Linkages to the waterfront	Elevated walkway from the open spaces at the north of the possible commercial development at existing Fleet Arcade and WCWSSP sites to the waterfront at the west of HKCEC	At-grade pedestrian crossing from the open spaces at the north of the possible HKAPA Extension to the waterfront at the west of HKCEC
	Fenwick Pier Street Footbridge modified for the proposed Road P2 Flyover	Without the Road P2 Flyover, no modification of Fenwick Pier Street Footbridge is required

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	Nil	Landscaped deck at the west of HKCEC
	Elevated walkway linking the CDA development with PTI underneath and with provisions for NIL Exhibition Station underground to the public open spaces at the Wan Chai waterfront	Landscaped deck from the Exhibition Station site to the Wan Chai waterfront At-grade pedestrian crossings along Tonnochy Road and Fleming Road
	Covered walkway along the reprovisioned Hung Hing Road Flyover to the Wan Chai waterfront	Wan Shing Street Flyover to the Wan Chai waterfront
	Elevated walkway linking the Hotel/ Commercial development at the southwest corner of the reclaimed CBTS to World Trade Centre	Nil
	Elevated walkway from the west of Victoria Park to the reclaimed CBTS	Existing footbridge Landscaped deck from the Victoria Park knoll to the Causeway Bay promenade
	Landscaped deck linking the Leisure and Entertainment Complex to the east of the Victoria Park	At-grade pedestrian crossing across Victoria Park Road to the North Pavilion Garden of Victoria Park
Consideration of Alternatives and Review of Previous WDIICFS/CWB&IECL Assessment		
The need of Project	The Project provides essential land for the construction of the Trunk Road, the NIL, the SCL and other key transport infrastructure. The road and rail routes are required to relieve congestion on the strategic east-west routes through Central, Wan Chai and Causeway Bay and on the public transport system, and their implementation is a core element of Government's transport planning strategy.	The Project provides essential land for the construction of key transport infrastructure including the Trunk Road and the NIL and SCL. The road and rail routes are required to relieve congestion on the strategic east-west routes through Central, Wan Chai and Causeway Bay and on the public transport system, and their implementation is a core element of Government's transport planning strategy.
	The Project also provides opportunity to create an attractive waterfront for the enjoyment of the public. At present, large parts of the Wan Chai and Causeway Bay waterfront are inaccessible to the public or are difficult to access. The land formed through this Project will be used to regenerate the waterfront into an attractive public resource that could be used for a wide range of recreational and tourism-related uses and functions, with easy access from the urban hinterland. In so doing, the waterfront will become, as it should, an integral element of the public asset currently provided by the harbour.	The Project also provides opportunity to create an attractive waterfront for the enjoyment of the public. At present, large parts of the Wan Chai, Causeway Bay and North Point waterfront are inaccessible to the public or are difficult to access. The land formed through this Project will be used to regenerate the waterfront into an attractive public resource that could be used for a wide range of recreational and tourism-related uses and functions, with easy access from the urban hinterland. In so doing, the waterfront will become, as it should, an integral element of the public asset currently provided by the harbour

	Original Scheme under Previous Approved EIA ¹	Present Scheme under the Current EIA
Consideration of Different Development Options including Designs/Construction Methods		
Truck Road Alignment	<p><u>Alignment</u> Option A: Tunnel and Flyover Scheme; Option B: Flyover Scheme; Option C: Flyover Scheme with Alignment close to the Shoreline; Option D: Flyover Scheme with Alignment along the Breakwater; Option E: Tunnel Scheme with Alignment close to the Shoreline; Option F: Cut and Cover and Tunnel Scheme with Alignment close to the Breakwater; Option G: Immersed Tunnel Scheme; and Option H: At Grade Road Scheme</p>	<p><u>Alignment</u> Offshore alignment; Inland alignment; Foreshore alignment Trunk Road Tunnel Variation 1 Trunk Road Tunnel Variation 2 Trunk Road Tunnel Variation 3 Flyover Option</p>
WDII Reclamation	<p>Total reclamation 28.5ha.</p> <p><u>No reclamation</u> (i) Not able to meet the need for the Truck Road. (ii) No land formation for construction of NIL and SCL (iii) No improvement of waterfront</p>	<p>Total reclamation 12.7ha.</p> <p><u>No reclamation</u> (i) Not able to meet the need for the Truck Road. (ii) No land formation for construction of NIL and SCL (iii) No improvement of waterfront</p>
Development Scheme	<p>At all stages of the consultation process, Option A was supported over the alternative options. In overall terms, the land use proposals associated with the Trunk Road Option A were considered to offer the optimal land use strategy for WDII and the minimum extent of reclamation.</p>	<p>There were many common land use concepts proposed for the harbour-front to enhance its vibrancy and attractiveness. These are mainly reflected in the following activity nodes:</p> <ul style="list-style-type: none"> ➤ a Cultural Node at the Hong Kong Convention and Exhibition Centre (HKCEC) area; ➤ a Green Leisure Zone at the Wan Chai waterfront; provision of water features has also been proposed; ➤ a Water Sports/Activity Node at the ex-Public Cargo Working Area (PCWA) basin; ➤ a Heritage Zone at the CBTS; ➤ a Green Leisure Zone at the North Point waterfront.
Construction Details	<p>A number of existing waterfront facilities will be affected/relocated/reprovisioned under the Project.</p>	<p>A number of existing waterfront facilities will be affected/relocated/reprovisioned under the Project.</p>

	Original Scheme under Previous Approved EIA¹	Present Scheme under the Current EIA
	<p>Seawall construction will, in general, comprise wave energy absorbing caisson seawall units (where exposed to harbour waves) and concrete blockwork walls (where sheltered from harbour waves), constructed on dredged foundations for stability reasons. Seawall trench dredging will be carried out by grab dredgers, which will also be used for filling the trenches with sand and rock fill for the seawall foundations.</p> <p>The use of marine sand fill is proposed, with fill placed behind the enclosing seawalls of each reclamation stage.</p> <p>The construction method for the Trunk Road tunnel will adopt diaphragm walling for the permanent tunnel walls and top down construction for the tunnel slabs. Where the tunnel crosses the immersed tube MTR Tsuen Wan Line (to the west of the HKCEC Extension), piled foundations will be constructed on each side of the MTR tunnel and precast sections of the Trunk Road tunnel will be used to span across the MTR line.</p>	<p>Seawall construction will, in general, comprise wave energy absorbing caisson seawall units (where exposed to harbour waves) constructed on dredged foundations for stability reasons. Seawall trench dredging will be carried out by grab dredgers, which will also be used for filling the trenches with sand and rock fill for the seawall foundations.</p> <p>The use of marine sand fill is proposed, with fill placed behind the enclosing seawalls of each reclamation stage.</p> <p>The construction method for the Trunk Road tunnel will adopt diaphragm walling for the permanent tunnel walls and top down construction for the tunnel slabs. Where the tunnel crosses the immersed tube MTR Tsuen Wan Line (to the west of the HKCEC Extension), piled foundations will be constructed on each side of the MTR tunnel and precast sections of the Trunk Road tunnel will be used to span across the MTR line.</p>
Use of Relevant Findings of Approved EIA Reports and Relevant Studies		
<p>Wan Chai Development Phase II Comprehensive Feasibility Study (Application No. EIA-058/2001 & EIAO Register No. AEIAR-042/2001)</p>	<p>The findings of this approved EIA report is presented in the Environmental Issues below.</p> <p>The EIA Report for the development of WDII has predicted that the Project will generally comply with all environmental standards and legislation after the proposed construction and operational stage mitigation measures are implemented (refer to environmental issues below). This EIA has also demonstrated the general acceptability of the residual impacts from the Project and the protection of the population and environmentally sensitive resources.</p>	<p>The EIA for the development of WDII has predicted that the Project will generally comply with all environmental standards and legislation after the proposed construction and operational stage mitigation measures are implemented (refer to environmental issues below). This EIA has also demonstrated the general acceptability of the residual impacts from the Project and the protection of the population and environmentally sensitive resources.</p>

	Original Scheme under Previous Approved EIA¹	Present Scheme under the Current EIA
Central - Wan Chai Bypass and Island Eastern Corridor Link (Application No. EIA-057/2001 & EIAO Register No. AEIAR-041/2001)	The findings of this approved EIA report is presented in the Environmental Issues below. The EIA Report for this development has predicted that the Project will generally comply with all environmental standards and legislation after the proposed construction and operational stage mitigation measures are implemented. This EIA has also demonstrated the general acceptability of the residual impacts from the Project and the protection of the population and environmentally sensitive resources.	As the original scheme for the Trunk Road through CRI and CRIII has not changed, the findings of the approved EIA report for this section remain valid. The EIA for the CWB within the study area of WDII has predicted that the Project will generally comply with all environmental standards and legislation after the proposed construction and operational stage mitigation measures are implemented (refer to environmental issues below). This EIA has also demonstrated the general acceptability of the residual impacts from the Project and the protection of the population and environmentally sensitive resources.
Central Reclamation Phase III - Studies, Site Investigation, Design and Construction (Application No. EIA-055/2001 & EIAO Register No. AEIAR-040/2001)	The findings of this approved EIA Report have been incorporated in the approved EIA report. Please see the Environmental Issues below. The EIA Report for this development has predicted that the Project will generally comply with all environmental standards and legislation after the proposed construction and operational stage mitigation measures are implemented. This EIA has also demonstrated the general acceptability of the residual impacts from the Project and the protection of the population and environmentally sensitive resources.	As the original scheme for the Trunk Road through CRI and CRIII has not changed, the findings of the approved EIA report for this section remain valid.
Hong Kong Convention and Exhibition Centre Atrium Link Extension (Application No. EIA-120/2006 & EIAO Register No. AEIAR-100/2006)	N/A	The findings of this Approved EIA Report have been incorporated and updated in this current WDII and CWB EIA report. The results of this EIA will generally comply with all environmental standards and legislation after the proposed construction and operational stage mitigation measures are implemented. Please see the Environmental Issues below.

	Original Scheme under Previous Approved EIA ¹	Present Scheme under the Current EIA
Environmental Issues		
Noise	<p>Construction Phase Potential construction impacts were predicted arising from the construction of the Project and other concurrent projects at the nearby noise sensitive receivers (NSRs), ranging from 59 to 89dB(A) if without mitigation. Mitigation measures composed of quiet plant, movable noise barriers, reduction in number of plant and on-time operation of some PME were proposed to alleviate the impacts to be within the acceptable levels.</p> <p>Operational Phase <i>Road traffic noise:</i> In the original scheme, the Trunk Road in tunnel emerges from below ground to the tunnel portal near the ex-PCWA basin and turns into elevated structure across the RHKYC site. Then, the Trunk Road in elevated structure runs across the reclaimed CBTS and connects to existing IEC. Slip roads carrying traffic from Causeway Bay to Trunk Road and vice versa are in elevated structure. Adverse road traffic noise impact on the NSRs at Causeway Bay and Tin Hau areas was predicted from these proposed open road sections. Direct mitigation measures such as vertical barriers, cantilevered barriers and semi-enclosures were proposed along the Trunk Road and its associated slip roads to protect the NSRs.</p>	<p>Construction Phase Similar to the original scheme, potential construction impacts would be expected arising from the construction of the Project and other concurrent projects at the nearby NSRs, ranging from 57 to 101 dB(A) if without mitigation. Mitigation measures including quiet plant, PME grouping, movable and temporary noise barriers are proposed to alleviate the impacts to be within the acceptable levels. With the exception of NSRs N11, N17, N18 and N20 where the buffer distance is limited, the predicted construction noise levels arising from the Project at all representative NSRs would comply with the EIAO-TM construction noise criteria.</p> <p>Operational Phase <i>Road traffic noise:</i> In the present scheme, the Trunk Road stays in tunnel and goes underneath ex-PCWA basin, carpark of RHKYC, rock anchors of CHT approach ramp and below the CBTS. It emerges from below ground to the tunnel portal at the North Point waterfront and turns into elevated structure for connection to existing IEC. Slip road carrying traffic from Causeway Bay to Trunk Road is in tunnel. Owing to the extension of tunnel design, adverse road traffic noise impact from the proposed Trunk Road on the NSRs at Causeway Bay area is not expected. Nevertheless, adverse impact is still expected at the NSRs at Tin Hau and North Point areas due to the open sections of the associated slip road and the connection to existing IEC. Recommended mitigation measures include: (1) about 500m length of a noise semi-enclosure covering the westbound slip road from the IEC; (2) about 230m length of a noise semi-enclosure covering the main carriageways (eastbound and westbound) of the CWB and IEC; (3) about 135m length of 5.5m high cantilevered noise barrier with 3m cantilever inclined at 45°; about 95m length of 5.5m high cantilevered noise barrier with 1m cantilever inclined at 45° and 350m length of 3.5m vertical noise barrier on the eastbound slip road to the IEC. Besides, the openable windows of the re-provisioned Tin Hau Temple, if any, should be properly orientated with a view to avoiding the direct line of sight on the existing Victoria Park Road as far as practicable.</p>

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	<p>Ventilation noise: The ventilation noise assessment was carried out based on the equipment schedule under normal condition. Since the land uses around the proposed East Ventilation Building (EVB), Central Ventilation Building (CVB) and West Ventilation Building (WVB) within the zones of noise criteria exceedance were commercial, infrastructural or open space, no adverse impacts were expected.</p>	<p>Ventilation noise: Apart from EVB, the locations of CVB and WVB are the same as those of the original scheme. The EVB in the present scheme is located at the North Point waterfront, adjacent to the CBTS eastern breakwater instead of at the Wan Chai waterfront, adjacent to the WCESSP in the original scheme. The ventilation noise assessment was carried out based on the latest equipment schedule in terms of capacities and numbers of exhaust fans under congestion condition (i.e. worst case scenario). Victoria Centre, being the nearest affected NSR, is located outside the noise exceedance zone of the proposed EVB based on the proposed equipment schedule and silencers. Besides, the ventilation louvres would be located at northern facade of EVB facing seawards. Thus, no adverse impacts would be expected.</p>
	<p>Helicopter Noise: No impact was expected during normal operations.</p>	<p>Helicopter Noise: Similar to the original scheme, the proposed permanent helicopter landing pad in the present scheme is proposed at the northeast of HKCEC Extension. It has been confirmed by Government Flying Service that the operation parameters for the proposed helipad, which was adopted in the previously approved <i>EIA Report on Wan Chai Development Phase II</i>, are still valid for this EIA study. In this regard, no impact is expected during normal operations.</p> <p>It is understood that the proposed permanent helipad might also be used for commercial helicopter services based on the principle that government operations shall have absolute priority in the use of helipad over commercial operations at all times. However, in view of the considerable buffer distance between the NSRs and the helipad (i.e. about 530m), adverse helicopter noise impact would not be anticipated. Furthermore, CEDD has separately commissioned a detailed helipad assessment to conduct noise impact assessment and prepare an optimal layout for helipad.</p>

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	<p>PTI Noise: PTI was not proposed under the scope of the Project.</p>	<p>PTI Noise: A re-provisioned PTI would be located to the north of Causeway Centre and Sun Hung Kai Centre. Without mitigation measures, it is expected there would be potential noise impact arising from operation of PTI on Causeway Centre. To mitigate the noise impact, covering of the whole bus bay areas would be recommended to be incorporated into the design of PTI. The roof cover structure should be designed such that the cover would completely block the line of sight from the NSRs. Considering the idling vehicles at the bus bay areas would be substantially screened by a cover, no adverse PTI noise impact on the nearby NSRs would be expected. The re-provisioned PTI will be subject to the detailed design and it will be implemented with the construction of the Exhibition Station for Northern Island Line/Shatin Central Link. The noise impact arising from the PTI will be further assessed in the relevant EIA study for NIL/SCL.</p>
Air Quality	<p>Construction Phase Construction of seawall and filling works, materials handling, wind erosion, truck haulage on unpaved roads are major sources of dust impact. Dust nuisance was also expected during excavation and backfilling of the tunnel construction. No on-site concrete batching activity would be taken place within the construction site. Exceedances of both 1-hour and 24-hour TSP objectives were predicted at almost all ASRs if without mitigation. With the implementation of dust suppression measures such as watering, limiting trunk speed on site, and the requirements of the Air Pollution Control (Construction Dust) Regulation, no residual air quality impact was anticipated.</p>	<p>Construction Phase The major sources of dust impact under the present scheme are the same as those of the original scheme. Nevertheless, owing to the reduced extent of reclamation and the avoidance of overlapping the reclamation works of CRIII, no exceedance of both 1-hour and 24-hour TSP objectives are predicted if watering with complete coverage of active construction area four times a day. With the implementation of the requirements of the Air Pollution Control (Construction Dust) Regulation and proposed dust suppression measures, no residual air quality impact is anticipated.</p>

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	<p><u>Operational Phase</u> <i>Traffic emission impact:</i> Sources of traffic emission impact include vehicle emissions from open road networks, portal and ventilation building emissions from the Trunk Road, portal emissions from the CHT, existing underpasses along Connaught Road Central, and planned deckovers along Road P1, Road P2 and Connaught Road Central. The predicted air quality impacts on the ASRs were within the Air Quality Objectives.</p>	<p><u>Operational Phase</u> <i>Traffic emission impact:</i> Sources of traffic emission impact include vehicle emissions from open road networks, portal and ventilation building emissions from the Trunk Road, portal emissions from the CHT, portal emissions from deckover over Expo Drive, portal emission from proposed deckover (New Atrium Link) between Expo Drive Central and Convention Avenue, and portal emissions from the planned deckover along Road P2. Similar to the original scheme, no exceedance of the Air Quality Objectives at the ASRs is expected. The air quality underneath the deckovers and tunnel air quality in CWB would comply with EPD Tunnel Air Quality Guideline.</p>
	<p><i>Odour impact:</i> Since permanent reclamation at the CBTS was proposed, odour emission from this enclosed area was not an issue.</p>	<p><i>Odour impact:</i> No permanent reclamation at the CBTS is proposed. During operation phase, this Project will not create any new odour source. However, odour nuisance associated with the Causeway Bay Typhoon Shelter is an existing environmental problem. In order to improve the environment, this Project will take the opportunities to mitigate the potential sources of odour nuisance within the Project area so as to alleviate this existing environmental problem as well as provide an acceptable environment for the future land uses within the project area (including the open space with air sensitive use at the northern breakwater). Enhancement measures include rectification of expedient connections, regular collection of floating debris, dredging to remove sediments at the corner of CBTS and clean up the slime attached on CBTS shoreline seawall. With the implementation of these enhancement measures, the predicted odour levels in the vicinity of CBTS would be reduced significantly. In other words, this Project will alleviate the existing odour problems in the vicinity of CBTS to a large extent by implementing the proposed enhancement measures. However, exceedances of the odour criterion are still predicted at two planned ASRs under worst case condition. Yet the residual odour impact at these two planned ASRs is not persistent with the time of exceedance of the odour criterion at these two planned ASRs expected to be less than 0.2% of time in a year. In view of this infrequent likelihood of occurrence, no unacceptable adverse odour impact would</p>

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		be expected at the planned ASRs within the study area. A 5-year odour monitoring programme during the operation phase is proposed to ascertain the effectiveness of the Enhancement Package and proposed mitigation measures.
Water Quality	<p>Construction Phase Dredging works for construction of seawall would be major sources of water quality impacts. Provided the recommended mitigation measures are implemented, including reduction of dredging rates, the deployment of silt curtains at the dredging and filling areas, and installation of silt screens at selected seawater intakes, there would be no unacceptable residual water quality impact due to the proposed reclamation works.</p>	<p>Construction Phase The major sources of water quality impacts under the present scheme would be the same as those of the original scheme. Mitigation measures including reduction of dredging rates, the deployment of silt curtains at the dredging and filling areas, and installation of silt screens at selected seawater intakes are proposed to alleviate the impacts to be within the acceptable levels.</p>
	<p>Operational Phase Reclamations in the HKCEC, Wan Chai, PCWA and Causeway Bay areas may change the flow regime and water quality along the coastline and in the Victoria Harbour.</p> <p>It is assumed under the original scheme that there would be permanent reclamation in Causeway Bay typhoon shelter and all the existing storm and spent cooling water outfalls within the CBTS would be permanently decommissioned and these outfalls would be diverted outside the typhoon shelter.</p> <p>Based on the water quality modelling results, the future water quality conditions near the coastal area of HKCEC, Wan Chai and Causeway Bay would be improved as compared to the existing situation as the existing embayment areas to the west and to the east of the HKCEC Extension, the HKCEC water channel and CBTS would be reclaimed. The existing storm outfalls would be diverted to the more open water with larger pollutant dispersion capacity.</p>	<p>Operational Phase The current scheme involves a lesser extent of reclamations as compared to the original scheme. Permanent reclamations are proposed in the HKCEC, Wan Chai and North Point areas.</p> <p>Similar to the original scheme, the future water quality conditions near the coastal area of HKCEC and Wan Chai areas under the new reclamation layout would be improved compared to the existing situation as the existing embayment areas to the west and to the east of the HKCEC Extension and the HKCEC water channel will be reclaimed under the Project. The existing storm outfalls would be diverted to the more open water with larger pollutant dispersion capacity.</p> <p>However, the water quality impacts within the embayed area of CBTS during operational phase of the Project are of particular concern. It was assumed under the approved CFSWDII EIA that all the existing storm and spent cooling water outfalls within the Causeway Bay typhoon shelter would be permanently decommissioned and these outfalls would be diverted outside the typhoon shelter. This is deviated from the present scheme that the existing storm and spent cooling water outfalls would remain within the existing CBTS.</p>

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	<p>The model results also indicated that the proposed reclamations would not cause any unacceptable hydrodynamic and water quality impacts within Victoria Harbour.</p>	<p>The model results predicted that there would be some exceedances of the TIN levels in the CBTS. However, these exceedances would not be contributed by the Project as similar degree of TIN exceedances has also been predicted under the existing baseline scenario. It should be noted that the background TIN level in Victoria Harbour is considered high in general. The predicted UIA levels also exceeded the WQO at CBTS which may have implication on the marine ecology as UIA is toxic to marine organisms. The associated water quality impact is however anticipated to be limited as CBTS has low marine ecological value and the plume of UIA would be localized and confined within close proximity to the polluted storm outfalls in the typhoon shelter. Full compliance with the assessment criteria is predicted for other water quality parameters.</p> <p>The model results indicated that the present scheme would not cause any unacceptable hydrodynamic and water quality impacts within Victoria Harbour.</p>
Waste Management	<p><u>Construction Phase</u> The identified waste types included:</p> <ul style="list-style-type: none"> • C&D material from demolition works (approx. 49,800m³); • C&D material from excavation works (approx. 570,000m³); • Dredged sediments (approx. 600,000m³ of contaminated mud, including highly contaminated mud, and 400,000m³ of uncontaminated mud); • Chemical wastes; and • General refuse. <p>The highly contaminated sediment would require Type 3 special disposal arrangements. The use of a geosynthetic container system with negligible loss of material to the marine environment during disposal is recommended.</p>	<p><u>Construction Phase</u> The identified waste types include:</p> <ul style="list-style-type: none"> • C&D material from demolition works (approx. 0.46Mm³); • C&D material from excavation works (approx. 2.455Mm³); • Dredged sediments (approx. 50,000m³ of highly contaminated mud, 700,000m³ of contaminated mud and 400,000m³ of uncontaminated mud); • Chemical wastes; and • General refuse. <p>The highly contaminated sediment would require Type 3 special disposal arrangements. The use of a geosynthetic container system with negligible loss of material to the marine environment during disposal is recommended.</p>
	<p><u>Operational Phase</u> Assessment of the operational phase was not required.</p>	<p><u>Operational Phase</u> Assessment of “potential floating refuse problem” was carried out in accordance with the EIA Study Brief.</p>

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Land Contamination	<p><u>Construction Phase</u> Potential land contamination impacts on the original scheme were identified at the Royal Hong Kong Yacht Club (RHKYC) and A King Marine shipyard. The construction of flyover across RHKYC and the development of entertainment complexes at A King Marine are the potential sources of land contamination impacts.</p>	<p><u>Construction Phase</u> In the present scheme, as the proposed trunk road across RHKYC is more than 20m below ground level, land contamination impacts at RHKYC is therefore not expected.</p> <p>For A King Marine, the site is proposed under the present scheme for the re-provisioning of the floating Tin Hau Temple. Land contamination impacts may occur at the site if excavations, foundation works or other construction activities requiring handling of underlying soil are necessary.</p>
	<p><u>Operational Phase</u> No impact is expected.</p>	<p><u>Operational Phase</u> No impact is expected.</p>
Marine Ecology	<p><u>Construction Phase</u> Permanent loss of 28.5 ha soft bottom benthic habitat and 4,350m artificial intertidal habitats (sloping/vertical seawalls) would be resulted. Considering the low ecological value of the benthic and intertidal communities in the study area, such impact was expected to be minor.</p> <p>No coral was identified in the study area based on desktop study. No field survey for coral was carried out for the original scheme in the approved EIA.</p> <p>Potential change of water quality including elevation of SS, reduction of DO and elevation of nutrients was anticipated. It was predicted that elevation of SS would be up to 20 mg/L at the Victoria Harbour but less than 2.3 mg/L at the far-field ecological sensitive receivers. Due to the low ecological significance of the affected habitats, this impact was considered as minor.</p>	<p><u>Construction Phase</u> Owing to the reduced reclamation extent, the direct loss of marine habitats is smaller compared to the original scheme. In the present scheme, permanent loss of 12.7 ha soft bottom benthic and subtidal habitats and 1 km artificial intertidal habitats (sloping and vertical seawalls) as well as temporary loss of 10.7 ha soft bottom benthic and subtidal habitats and 850 m long artificial intertidal habitat would be resulted. Considering the generally very low ecological value of the affected habitats, no adverse impact on marine ecology is expected.</p> <p>Field survey for coral was carried out for the present scheme under the current EIA study. 19 coral colonies were identified in the survey. With the implementation of proper mitigation measures (coral translocation), no residual impact on corals found within the assessment area is expected to occur.</p> <p>Potential change of water quality including elevation of SS, reduction of DO and elevation of nutrients was anticipated. With the implementation of mitigation measures as suggested in the water quality assessment, elevation of SS within the Victoria Harbour and the far field ecological sensitive receivers would be less than 10 mg/L (except some locations where elevation of SS only marginally exceeded) and 2 mg/L respectively. No adverse impact on marine ecology is expected.</p>

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	<p><u>Operational Phase</u> Minimal change of tidal discharge and current pattern within the Victoria Harbour was predicted. Indirect impact to marine ecology was minor.</p>	<p><u>Operational Phase</u> Minimal change of tidal discharge and current pattern within the Victoria Harbour is predicted. No adverse indirect impact to marine ecology is expected.</p>
Landscape and Visual	<p><u>Construction Phase</u> 28.5 ha of Victoria Harbour will be reclaimed</p> <p>Approximately 842 numbers of trees will be affected.</p> <p>Approximately 0.2 ha of Victoria Park will be affected (for the realigned Victoria Park Road westbound and landscaped decks). Approximately 20 numbers of trees in the Victoria Park will be affected</p> <p>There would be adverse impacts on Fleet Arcade / Wan Chai West Sewage Screening Plant, Fenwick Pier Street Public Open Space, HKCEC Extension Open Space, Wan Chai Ferry Pier, The Royal Hong Kong Yacht Club, The Police Officers' Club, Convention Avenue, Fleming Road, Tonnochy Road, Marsh and Hung Hing Roads / Wan Shing Street, Victoria Harbour.</p> <p>There would be adverse visual impacts of substantial significance on high-rise properties located along the southern and eastern edges of the primary zone of visual influence, the Royal Hong Kong Yacht Club and Hong Kong Police Officers' Club and Fenwick Pier Street Public Open Space.</p>	<p><u>Construction Phase</u> 12.7 ha of Victoria Harbour will be reclaimed</p> <p>Approximately 571 numbers of trees will be affected.</p> <p>Approximately 0.24 ha of Victoria Park will be permanently alienated by the Slip Road. Approximately 216 numbers of trees in the Victoria Park will be affected by the roadworks, approximately 84 numbers of trees will be affected by the reprovisioning of affected facilities in Victoria Park and approximately 15 numbers of trees will be affected by the Landscape Deck across Victoria Park Road. One bowling green court will be permanently alienated by the Slip Road and will be reprovisioned.</p> <p>The impacts on landscape character areas are similar to previous approved EIA.</p> <p>The impacts on VSRs are similar to previous approved EIA.</p>
	<p><u>Operational Phase</u> There will be a continuous waterfront promenade connected from Central to Causeway Bay.</p>	<p><u>Operational Phase</u> The waterfront promenade will be extended from Central to North Point waterfront. However, without any reclamation at the CBTS, the waterfront area around CBTS will be less than the previous EIA. The Wan Chai waterfront area will also be than the previous EIA but new waterfront area will be created at the North Point waterfront.</p>

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	<p>There would be some residual adverse landscape impacts of moderate significance on the landscape character zone RHKYC, Police Officers Club, Shipyard and Fire Station.</p> <p>There would substantial residual adverse visual impacts on the Great Eagle Centre, Harbour Centre and Causeway Centre, Hoi Kung Court, Hoi To Court, Hoi Deen Court, World Trade Centre and Excelsior Hotel, The Hong Kong Police Officer's Club, Planned Waterfront ROS (East of Harbour Museum) and Planned ROS – Causeway Bay Open Space.</p> <p>There would moderate adverse visual impacts on Renaissance Harbour View Hotel and Sun Hung Kai Centre, Sino Plaza and the high-rise properties along Gloucester Road to the east of the Excelsior Hotel, Victoria Mark Mansion, Chesterfield Mansion and Greenfield Mansion, High-rise properties along the eastern edge of the primary ZVI, The Royal Hong Kong Yacht Club, Planned Commercial Development in WDII/28.</p>	<p>The impacts on landscape character zones are similar to previous approved EIA.</p> <p>Without the CDA Development at the Wan Chai waterfront, visual impacts on Great Eagle Centre, Harbour Centre and Causeway Centre will be less than the previous approved EIA. Similarly, without the Planned Hotel/Commercial Development (WDII/28) at the reclaimed southwest corner of the CBTS, visual impacts on Hoi Kung Court, Hoi To Court, Hoi Deen Court, World Trade Centre and Excelsior Hotel, the Police Officer's Club will also be less than the previous approved EIA.</p> <p>Without the CDA Development at the Wan Chai waterfront, visual impacts on Renaissance Harbour View Hotel and Sun Hung Kai Centre, Sino Plaza and the high-rise properties along Gloucester Road to the east of the Excelsior Hotel will be less than the previous approved EIA. Similarly, without the Planned Hotel/Commercial Development (WDII/28) at the reclaimed southwest corner of the CBTS, visual impacts on Victoria Mark Mansion, Chesterfield Mansion and Greenfield Mansion, High-rise properties along the eastern edge of the primary ZVI, The Royal Hong Kong Yacht Club will also be less than the previous approved EIA.</p>
Biogas Risk	Mud was proposed to be left <i>in-situ</i> at the WDII reclamation within the western and eastern corners of the Causeway Bay Typhoon Shelter. As methane gas could be generated under anaerobic conditions, there was the potential for this gas to be released during construction or after development of the reclaimed area. An assessment of the potential biogas risk was therefore carried out.	Since the reclamation would be fully dredged, potential biogas problem is no long to be an issue in the present scheme.

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Cultural Heritage	<p><u>Construction Phase</u> Part of the Trunk Road would pass across the southern part of the Kellett Island Archaeological Site. Potential loss or damage of archaeological deposits was expected.</p> <p>Since there was no marine archaeological material identified within the reclamation area, impact on marine archaeology was not expected.</p> <p>Causeway Bay Typhoon Shelter, Noon Day Gun and Floating Tin Hau temple would be disrupted by the reclamation and IECL permanently.</p>	<p><u>Construction Phase</u> Since the Trunk Road will pass beneath the RHKYC in tunnel (more than 20m below ground), impact of the Kellett Island Archaeological Site is not expected.</p> <p>There is no marine archaeological material identified within the reclamation area (including the reclamation area at North Point). As such, impact on marine archaeology is not expected.</p> <p>Causeway Bay Typhoon Shelter, Noon Day Gun and Floating Tin Hau temple will be disrupted temporarily.</p> <p>Causeway Bay Typhoon Shelter and Noon Day Gun will be preserved and its historical elements will be enhanced. The floating Tin Hau Temple can remain at its present location during operation. However, allowance has been made for the re-provisioning of the temple at the ex-A.King Shipyard site.</p>
	<p><u>Operational Phase</u> No impact was expected.</p>	<p><u>Operational Phase</u> No impact is expected.</p>