

# **Task Force on Harbourfront Developments on Hong Kong Island**

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For discussion  
on 29 February 2016

TFHK/03/2016

## **Reassembly of Queen's Pier**

### **PURPOSE**

This paper seeks Members' comment on the proposal to reassemble Queen's Pier (QP).

### **BACKGROUND**

2. QP was dismantled in 2007 to make ways for the Central reclamation works. In recognition of its historical significance and the wish for its preservation, whilst QP had been taken down, the retainable parts were salvaged and stored at Kau Shat Wan Government Explosives Depot on Lantau Island for future reassembly.

3. The location for reassembling QP has been extensively deliberated under the Urban Design Study for the New Central Harbourfront (UDS) conducted by the Planning Department in 2007<sup>1</sup>, in which two phases of public engagement were conducted. It was provided in the final report of UDS that -

- (a) QP will be reassembled between Central Piers No. 9 and 10 to revive its pier function;
- (b) The exterior design for Central Piers No. 9 and 10 will be refurbished to complement the architectural style of the old QP;
- (c) A ferry plaza is proposed in front of the reassembled QP between Central Piers No. 9 and 10. The plaza can be designed to resemble the atmosphere of the old QP for ceremonial and public gathering activities; and
- (d) Memorial elements will be added at the original site of QP, e.g. through paving and landscaping design, to commemorate the historical significance of QP.

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<sup>1</sup> See the executive summary of the UDS at [http://www.pland.gov.hk/pland\\_en/p\\_study/comp\\_s/UDS/eng\\_v1/images\\_eng/pdf\\_per/exec\\_sum\\_e.pdf](http://www.pland.gov.hk/pland_en/p_study/comp_s/UDS/eng_v1/images_eng/pdf_per/exec_sum_e.pdf)

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The location of the reassembled QP is shown in **Appendix I**.

4. To fulfill Government's commitments in relation to QP, the Civil Engineering and Development Department ('CEDD') has engaged Consultants in June 2014 for review, design and construction supervision of the proposed reassembly works.

## **PUBLIC ENJOYMENT OF THE HARBOURFRONT AT THE REASSEMBLED QP**

5. The reassembled QP will become a public open space for leisure and various activities, adding vibrancy to the harbourfront. The provision of additional berthing space will allow the public to use QP as a pier and provide an additional water-land connection point. The reassembled QP could provide a new vantage point for the public to enjoy the view of the Victoria Harbour. The tuck shop of the old QP will be re-provisioned, providing an additional choice of food and beverage in new Central harbourfront.

## **HOSISTIC DEVELOPMENT OF THE NEW CENTRAL HARBOURFRONT**

6. Under the UDS, the new central harbourfront is divided into 8 key sites. The reassembled QP will situate at Site 8 whereas Site 7, which surrounds Site 8, is recommended to be a waterfront promenade which is mainly public open space. According to the UDS, the design of the adjacent new pier plaza and public open space in Site 7 will be further refined to integrate with the reassembled QP.

7. Upon reassembly, the QP will become a gateway connecting the Central Piers to the new Central harbourfront advance promenade. It can become a new landmark and vantage point to appreciate the Harbour and the harbourfront.

8. As for the original site of QP, a new piazza will be built. The piazza will have design features that are compatible with the history of the old QP including a feature wall to commemorate the history as recommended in the UDS. ArchSD had consulted and obtained support from the Task Force and Central & Western District Council in May 2014.

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## REASSEMBLY OF QUEEN'S PIER

### *Conservation Principles*

9. Taking into account the historical significance of QP, the Consultant engaged a conservation specialist to assess and recommend proposals for the reassembly. With reference to the international charters and principles for conservation, a list of Character Defining Elements (CDEs)<sup>2</sup> of QP was identified and the following conservation principles are recommended for adoption in the reassembly -

- (a) to reuse the salvaged units of QP as far as practicable;
- (b) if the salvaged parts are not suitable for reuse, to reproduce/replace units to the form based on available information and earliest record as far as practicable;
- (c) to meet the current statutory requirements, relevant codes, standards and guidelines; and
- (d) any new elements will be compatible with the heritage character of QP.

10. Based on the above principles, QP would be reassembled and restored according to the original design as far as practicable. Proposed treatment of the salvaged elements/units of QP is set out at **Appendix II**. Most of the CDEs are suitable for refurbishment and reuse except –

- (a) the balustrades which were later installation;
- (b) the fenders which could not meet current standards; and
- (c) the floor finish which was not salvaged at the time of dismantling.

As set out above, the balustrade would be reproduced by units with design based on the earliest record to restore the heritage character of QP. New fenders that meet existing statutory requirements will be installed. As for floor finish, we would suggest adopting the original design based on the earliest record according to the international charters and principles for conservation.

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<sup>2</sup> Character Defining Element (CDE) refers to the materials, forms, location, spatial configurations, uses and cultural associations or meanings that contribute to the heritage value of a historic place, which must be retained to preserve its heritage value. Some examples of CDE are the roof, columns, planters, benches, granite stone cladding on load bearing wall of storerooms, precast landing steps, QP plaques, handrails on stairs, balustrade, bollards, stone kerbs, handrails on planters, fenders.

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11. For non-CDEs, as the navigation function of the navigation lights is no longer required at the reassembled QP location, it will be refurbished for display purpose. Other salvaged units like baluster columns (i.e. metal columns to prevent vehicles from entering the pier) and miscellaneous sundry items will not be reused as they are either incompatible with the functional requirement at the reassembled site or due to their poor condition.

## ***Architectural Design and Technical Details***

12. In the UDS, it was recommended that the exterior of Central Piers 9 & 10 (notably with curved glass roofs) would be refurbished to achieve a coherent design with the reassembled QP. Noting that both QP and Central Piers 9 & 10 have its own architectural styles as they were designed and built at different times, we have worked out three design options for further discussion -

### **(a) Option A – Pitched Roof of Central Piers 9 & 10**

This option will replace the existing curved roofs of Central Piers 9 & 10 with pitched roofs. The pitched roof will be extended to form two interfacing structures with the QP to form a harmonious roof design of the pier cluster. This, however, will require dismantling the existing curved roofs of Central Piers 9 & 10, which only came into use in 2007.

### **(b) Option B – Existing Curved Glass Roof of Central Piers 9 & 10 with Gable Wall Interfacing Structures**

This option will leave the roofs of Central Piers Nos. 9 & 10 intact. It will construct (a) gable walls to serve as a visual transition between Central Piers 9 & 10 and the reassembled QP and serve as new entrances to the Central Piers Nos. 9 & 10, and (b) glazing canopies to connect QP and Central Piers Nos. 9 & 10. This option will provide clear spaces on the pedestrian level as event spaces, and unobstructed access to Central Piers Nos. 9 & 10.

### **(c) Option C – Independent Structures with their Own Characters**

This option is similar to Option B but without the construction of the gable walls. Only minimal modification works to the existing

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covered walkway will be carried out to make way for reassembly of QP.

Illustrative photomontages of the three options are at **Appendix III**.

13. Option A and Option B will achieve different levels of coherent architectural design. Option C will contrast the new and the old. Option A will require the demolition of the existing curved roof of Central Piers No. 9 & 10 and require longer construction time and substantially higher cost (around \$55 million in 2015 figures). Members' views are sought regarding which option / components should be adopted for the final design.

## ***Structural Reassembly***

14. The old QP was a one-storey reinforced concrete (RC) structure supported by a series of RC columns in regular grids with RC bearing walls concealed inside two triangular rooms, a storeroom and a kiosk. Structural appraisal showed that apart from the cantilever beam along roof perimeter, the rest of the structural elements were structurally sound meeting relevant engineering design codes. For the cantilever beam along roof perimeter, application of fibre-reinforced polymer (FRP) wrap is proposed for strengthening but maintaining the outlook of the QP structure. Protective coating will also be applied to enhance the durability of the structural elements.

15. The primary structural reassembly works for QP will involve reconnection of all RC columns to roof slabs on top and new footing at the bottom, stitching of roof segments and construction of bearing walls of the storeroom and kiosk. Different connection methods would be adopted to suit the structural properties at different interface, which include reinforcement bar lapping by welding, use of mechanical couplers or welding the reinforcement to steel plates with slot holes by anchors. The connection methods for each type of structural elements are included in **Appendix IV**. To minimize the need to remove concrete to expose existing reinforcement bars, additional reinforcement bars will be installed by drill-in chemical grout. The structural reassembly methods will be further developed in the detailed design stage.

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## ***Public Landing Steps Arrangement***

16. Given the new location of the reassembled QP, among the five landing steps of QP before demolition, the three at the seaward side could be restored for marine use whilst the two side landing steps at the landward side will have to be closed as they will be land-locked. It is proposed that the two side landing steps be reassembled for display purpose in the reassembled QP. Illustrative photomontage of a possible treatment is at **Appendix V**.

17. As the pair of landing steps at the inner corners between QP and Central Piers 9 & 10 are close to each other, after discussion with the Marine Department, it is proposed that one landing step at each of the inner corners of Central Pier 9 and Central Pier 10 should be closed for the safety of operation. The proposed arrangement is shown at **Appendix VI**.

## **HARBOUR PLANNING PRINCIPLES AND GUIDELINES**

18. The proposed reassembly of QP has taken into account the Harbour Planning Principles and Guidelines particularly in the following ways–

- (a) Preserving Victoria Harbour – the old QP will be reassembled to restore its pier function in accordance to international conservation principles;
- (b) Public Enjoyment – the project will provide a new public space in addition to the provision of additional berthing space for the public;
- (c) Stakeholder Engagement – we will properly engage the community, including HC and DC on the proposal;
- (d) Integrated Planning – The future design of the adjacent new pier plaza and public open space in Site 7 will integrate with the reassembled QP; and
- (e) Vibrant and Accessible Harbour and public enjoyment – Upon reassembly, the QP will provide new berthing space and an additional choice of food and beverage facilitating people to gather in a public open space. It will also provide a thorough way from the Central Piers leading to the Tamar and new Central harbourfront advance promenade.

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## **PUBLIC ENGAGEMENT**

19. After consulting HKTF, CEDD will consult the Central and Western District Council on 10 March 2016. We will also engage the community on the reassembly proposal through setting up a website detailing the proposals, putting up of display boards at selected venues and conducting a survey from March to May in 2016.

## **IMPLEMENTATION TIMETABLE**

20. Subject to the result of consultation, the Government will submit a section 16 application to the Town Planning Board for approval of using the site where the reassembled QP will be located, which is currently zoned as “Open Space”, for “Pier” use. We intend to consult the Legislative Council and seek funding approval by late 2016 and early 2017 for commencing reassembly works in Q3 of 2017. On this basis, it is expected that the QP will be reassembled by Q2 of 2019.

## **ADVICE SOUGHT**

21. Members’ comments on the proposed reassembly of QP are invited.

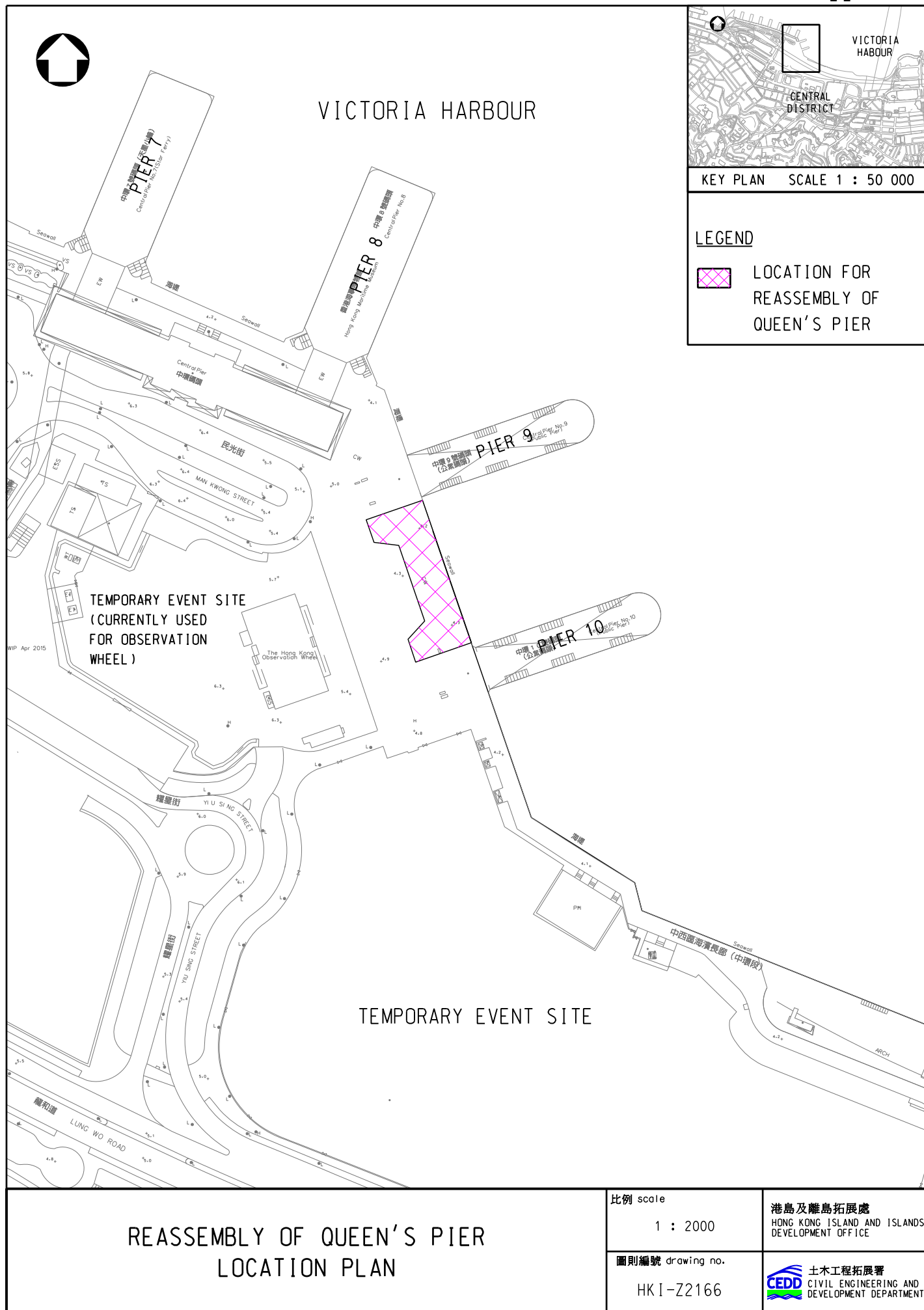
### **Attachments**

Appendix I	:	Location Plan of Reassembly of QP
Appendix II	:	Treatment of QP Elements
Appendix III	:	Architectural Design Options
Appendix IV	:	Structural Connection Methods
Appendix V	:	Glass Decks at Side Landing Steps
Appendix VI	:	Closure of Landing Steps at the Inner Corners

**Development Bureau**

**Civil Engineering and Development Department**

**February 2016**



## Treatment of QP Elements

CDE elements to be refurbished and reused:



Roof



Columns



Planters



Benches



Granite stone cladding on  
load bearing wall



Precast landing steps

## Treatment of QP Elements

CDE elements to be refurbished and reused:



Chinese & English "Queen's Pier" plaques



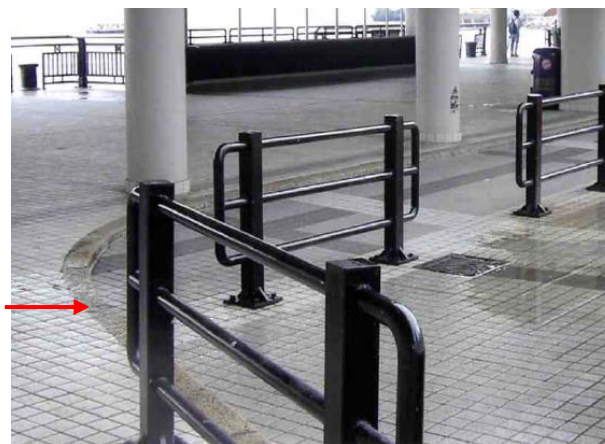
Steel poles for plaques



Bollards



Louvres to store room



Granite stone kerbs

### **Treatment of QP Elements**

CDE elements not to be reused due to non-function structurally:



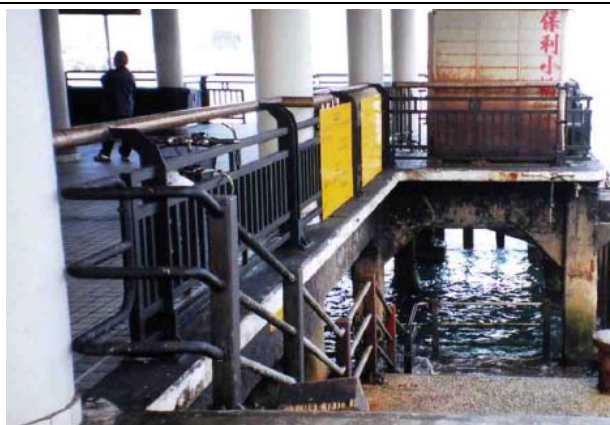
Fenders



Concrete bearing wall

### **Treatment of QP Elements**

CDE elements to be provided with new design with reference to earliest record due to salvaged items are later intervention having different appearance with the earliest records:



Balustrades and Handrails salvaged



Ceiling light fixture salvaged



Balustrades and Handrails to be provided



Ceiling light fixture to be provided

### **Treatment of QP Elements**

Non-salvaged elements to be provided with new design with reference to earliest record:



Floor finish (not salvaged)



Floor finish to be provided

### **Treatment of QP Elements**

Non-CDE elements to be refurbished and reused for display purpose:



Navigation light

Non-CDE elements not to be reused due to poor condition:



Rolling gate and counter at kiosk



Doors at kiosk/storerooms

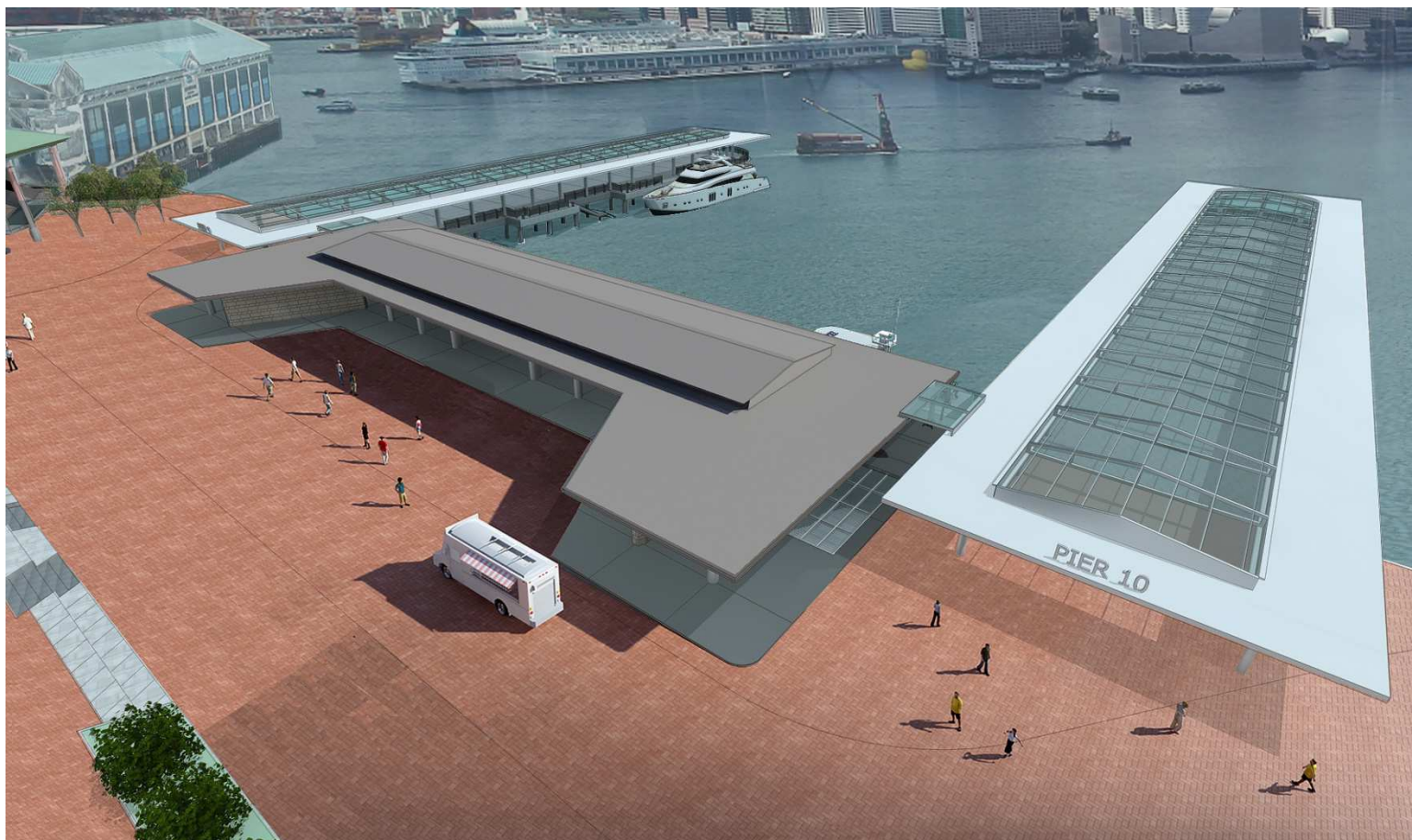
### **Treatment of QP Elements**

Non-CDE elements salvaged but not to be reused due to incompatible functional use at the reassembled location.



Baluster columns

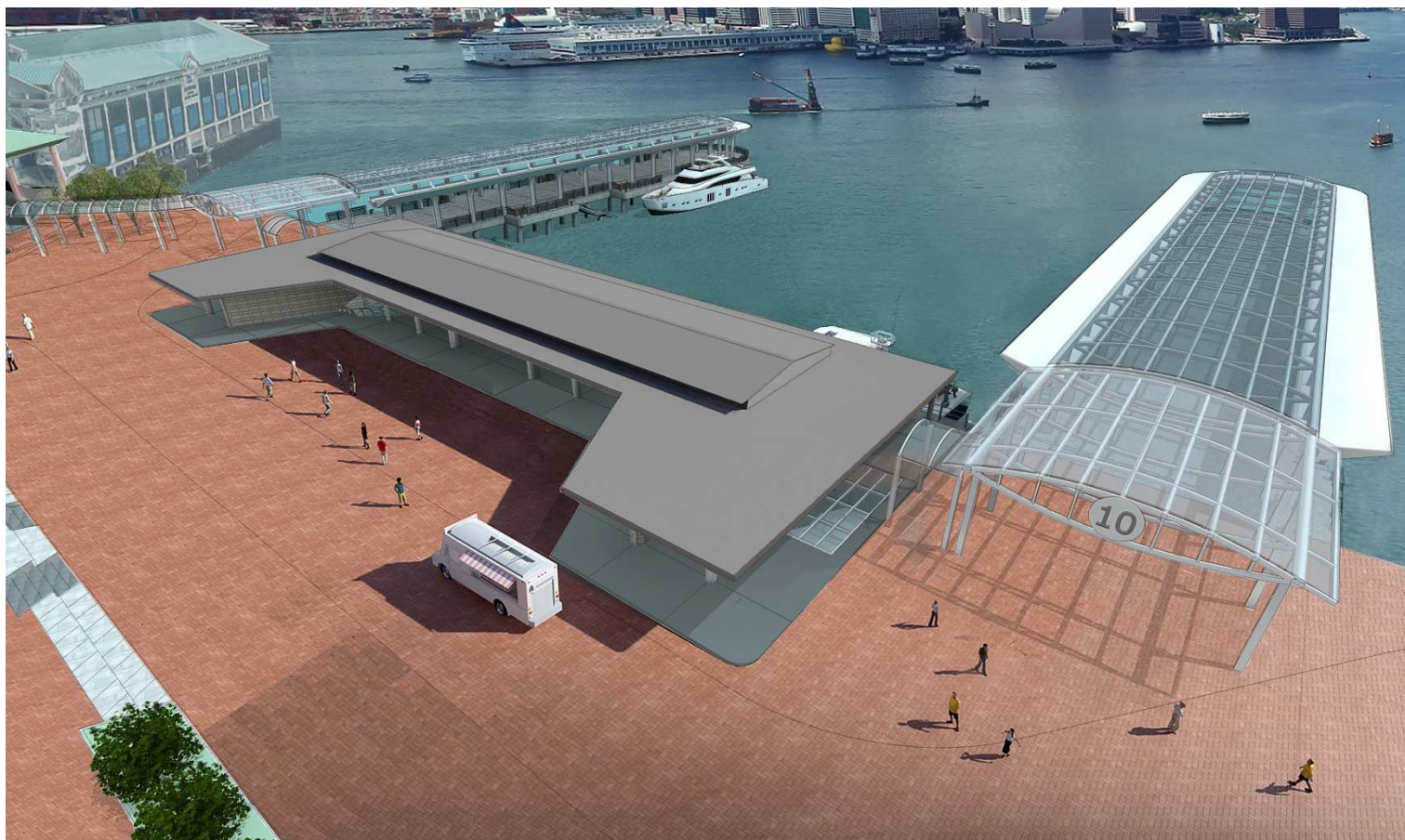
## **Photomontage of Design Options**



**Option A: Pitched Roof of Central Piers 9 & 10**

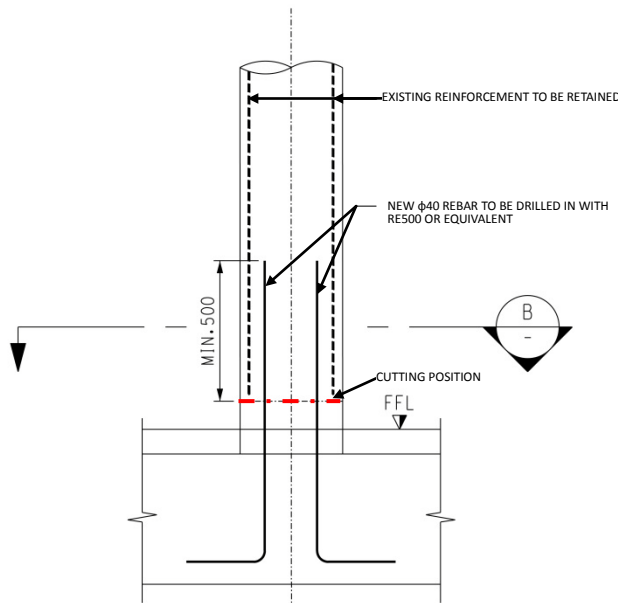


**Option B : Existing Curved Glass Roof of Central Piers 9 & 10 with Gable Wall**



**Option C : Independent Structures with their Own Characters**

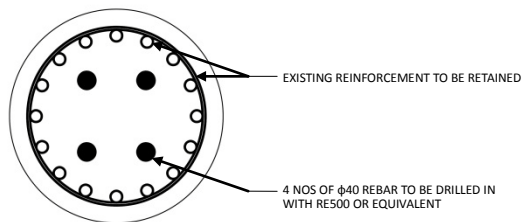
# Structural Reassembly Proposal



## COLUMN BOTTOM / FOOTING CONNECTION

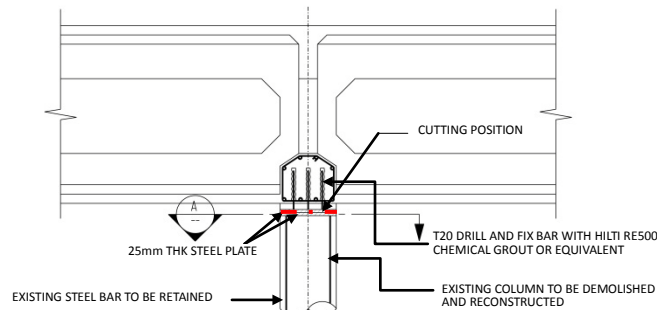
DRILL-IN OF NEW STARTER BARS USING CHEMICAL GROUT WITH MINIMAL CONCRETE REMOVAL

N.T.S



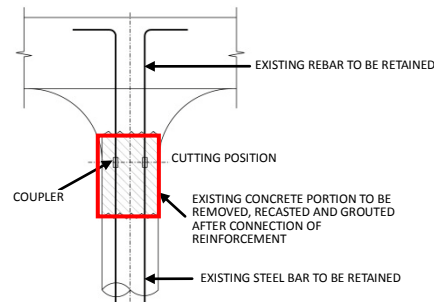
## SECTION B-B

N.T.S



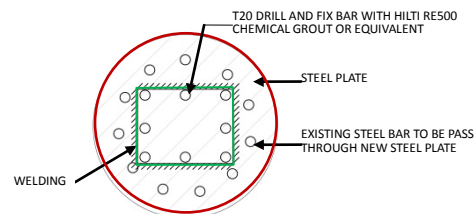
## COLUMN TOP / ROOF CONNECTION (TYPE A)

WELDING OF STEEL PLATES WITH PRE-FITTED HOLES FOR CONNECTION WITH EXISTING REINFORCEMENT FOR MINIMAL CONCRETE REMOVAL



## COLUMN TOP / ROOF CONNECTION (TYPE B)

USE OF "LOCK" TYPE COUPLER FOR MINIMAL CONCRETE REMOVAL



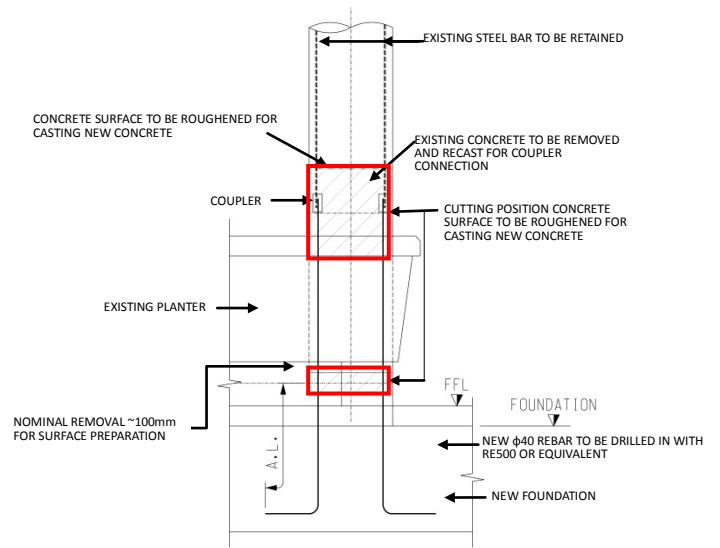
## SECTION A-A

N.T.S



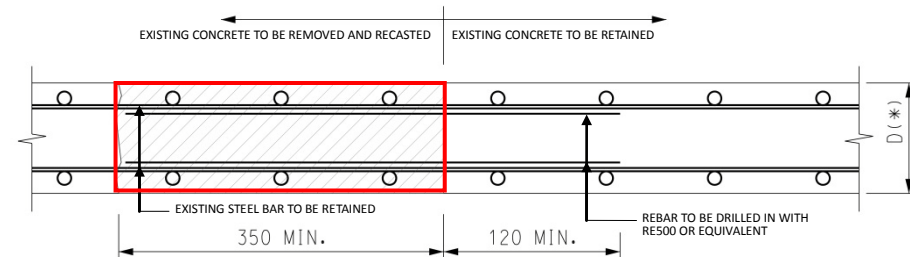
## SECTIONAL VIEW

N.T.S



## COLUMN BOTTOM / PLANTER CONNECTION

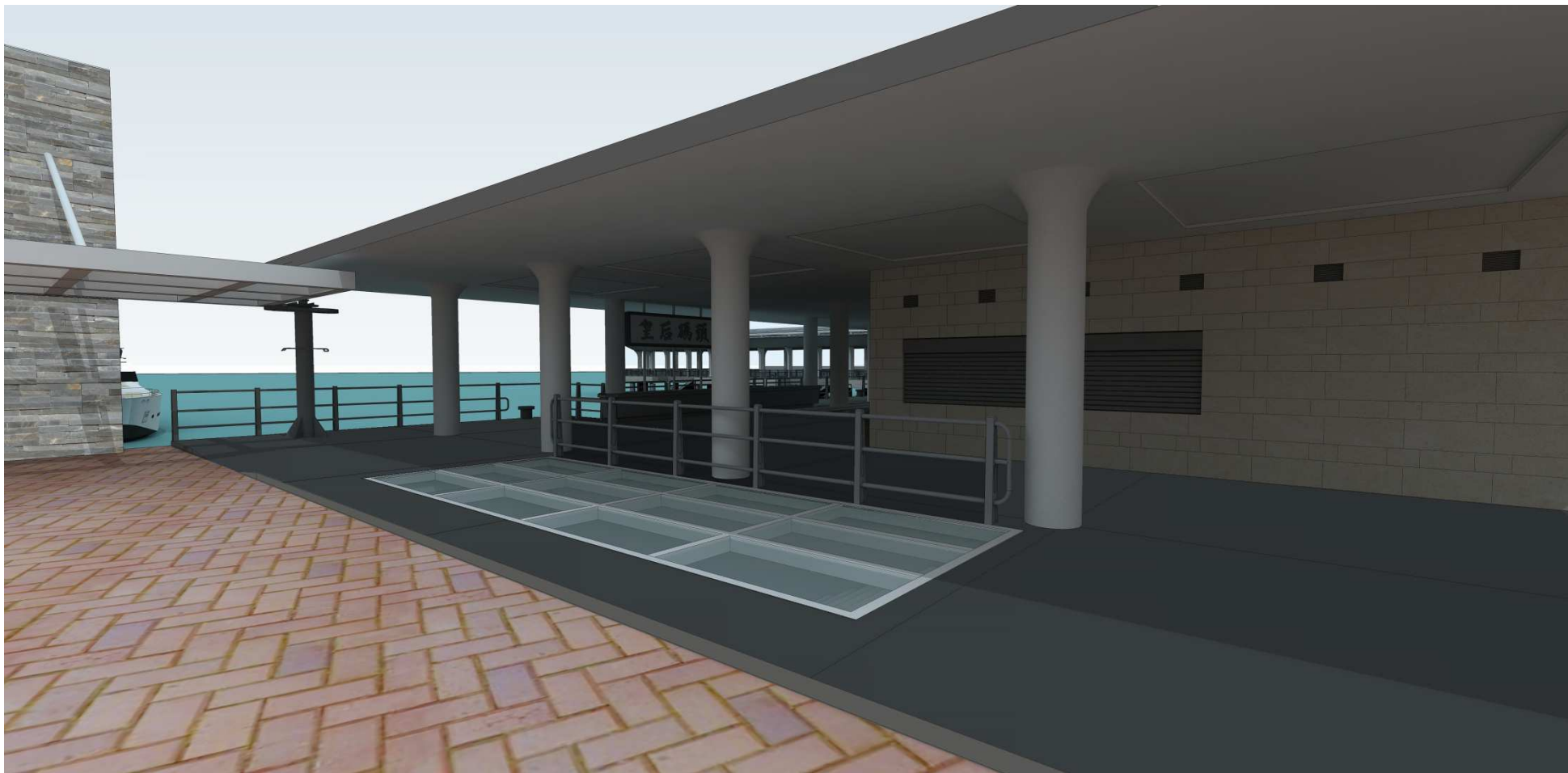
LOCAL CONCRETE REMOVAL AT PLANTER TOP PORTION FOR CONNECTION OF EXISTING REBARS USING COUPLERS PLANTER BOTTOM USING DRILL-IN REBARS WITH CHEMICAL GROUT



## ROOF CONNECTION

PARTIAL CONCRETE REMOVAL AND PARTIAL DRILLING FOR LAP BAR INSTALLATION

N.T.S



**Photomontage of glass deck at side landing step**



### **Proposed Closure of Landing Steps**

**1** Landing Step no.

**1** Landing Step to be closed