

Part 1 Presentation

## Highlight about the new TKO Bridge & Lam Tin Tunnel Projects

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For a CPD talk hosted by  
Towngas Engineering Academy

23 March 2022

The overall projects comprise of 5 major components, that is

1. Lam Tin Interchange,
2. Tseung Kwan O–Lam Tin Tunnel,
3. TKO Interchange,
4. Connecting roadway to TKO new town and
5. TKO Cross Bay link.

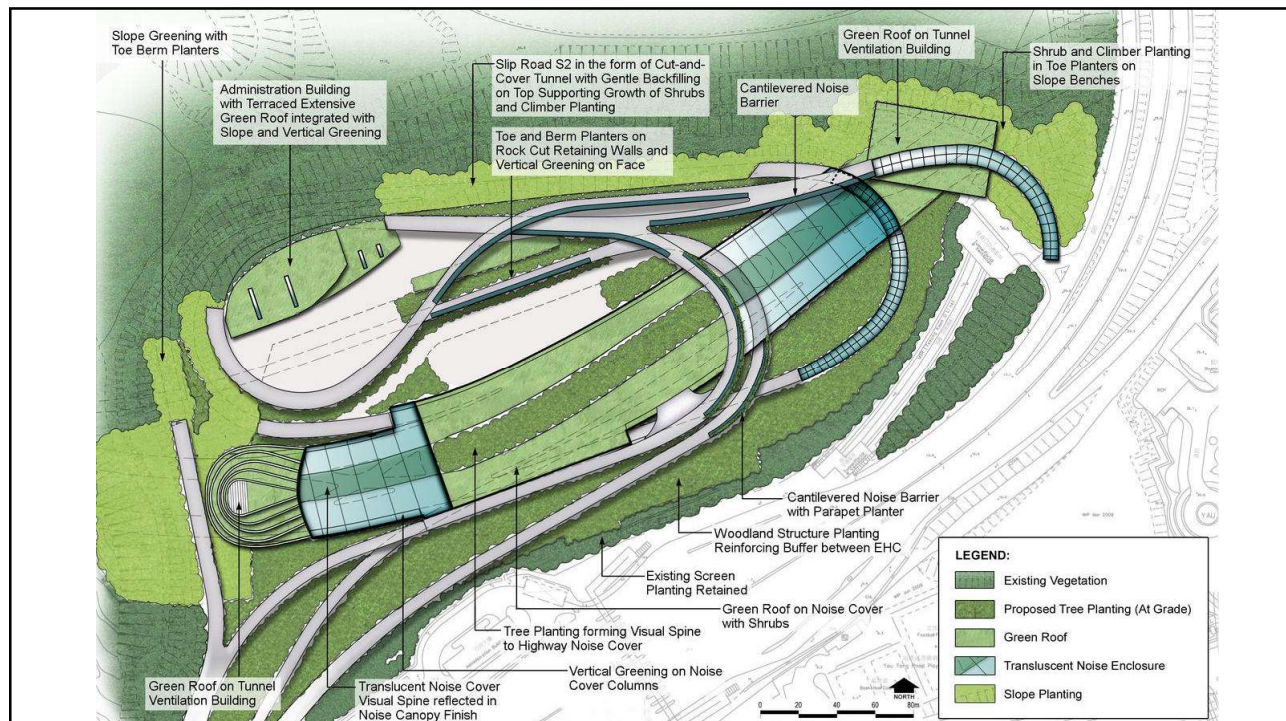
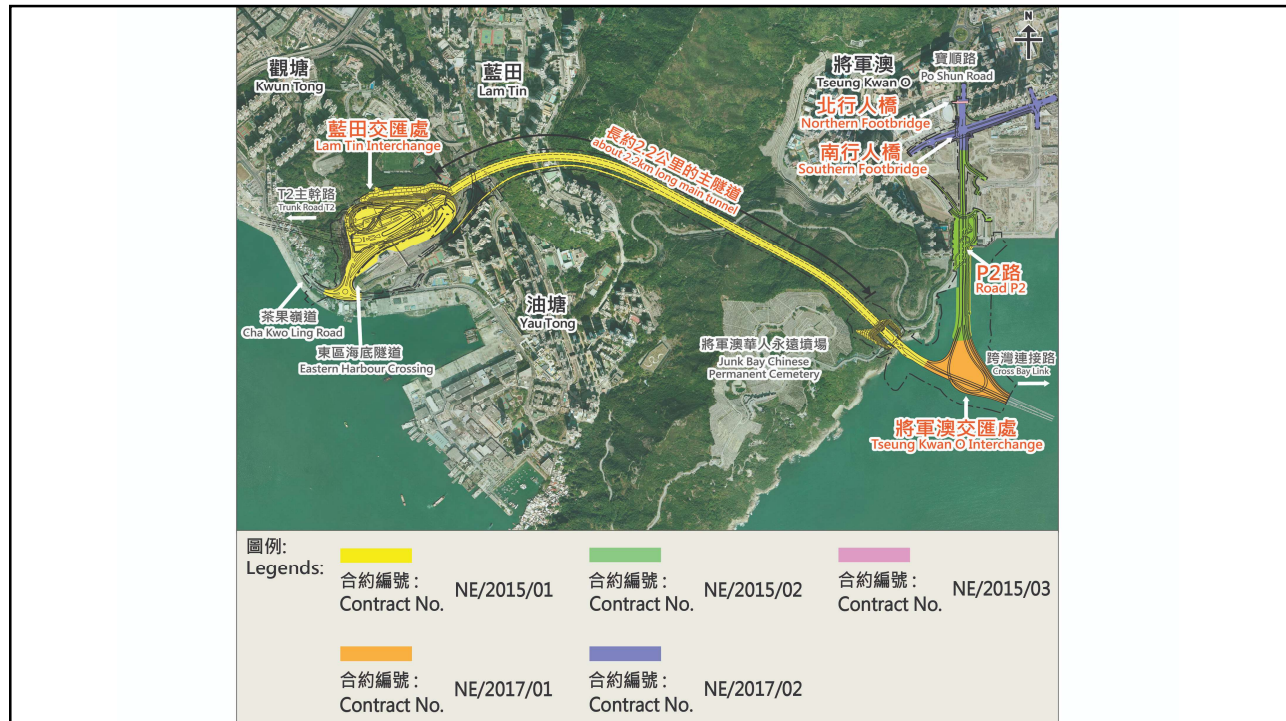
These projects involved a great variety of civil work operations, they included:

- huge amount of rock/slope cuttings,
- tunnelling works,
- bridge and elevated carriageway in various construction forms,
- large-size prefabricated components and heavy lifting,
- large number of marine works and reclamation, and
- complicated traffic diversion arrangement.

Works on the Yau Tong/Lam Tin side  
– Lam Tin Interchange

<https://www.youtube.com/watch?v=yUkOAlMq0Ig>

<https://www.youtube.com/watch?v=zBHkqBxtnpI>







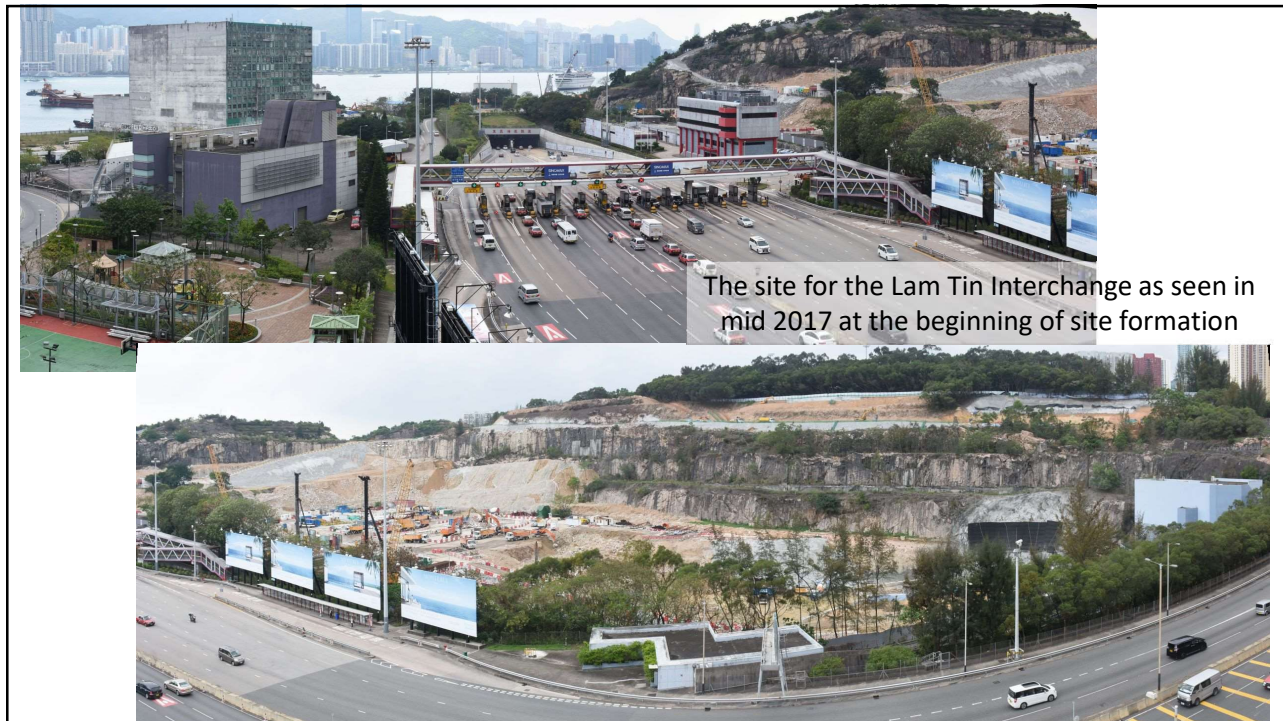
The site before commencement  
of the project (2005)



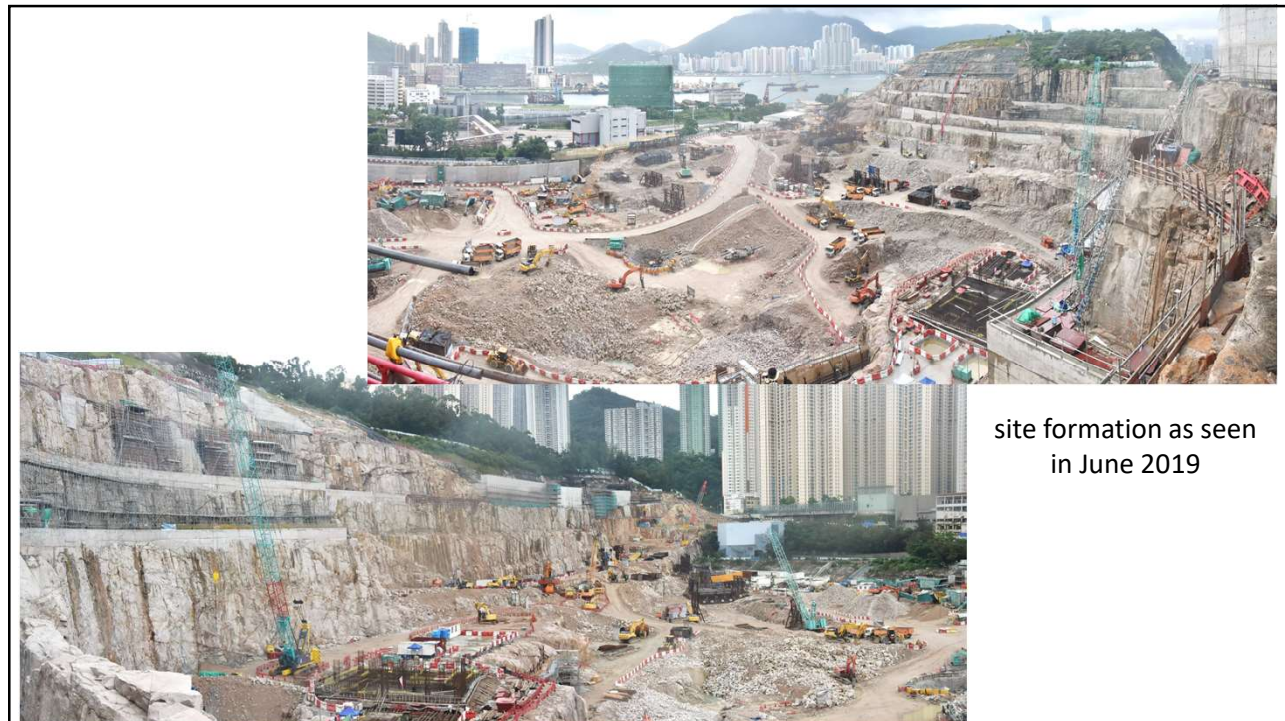


The site for the Lam Tin Interchange as seen in early 2017 at the beginning of site formation





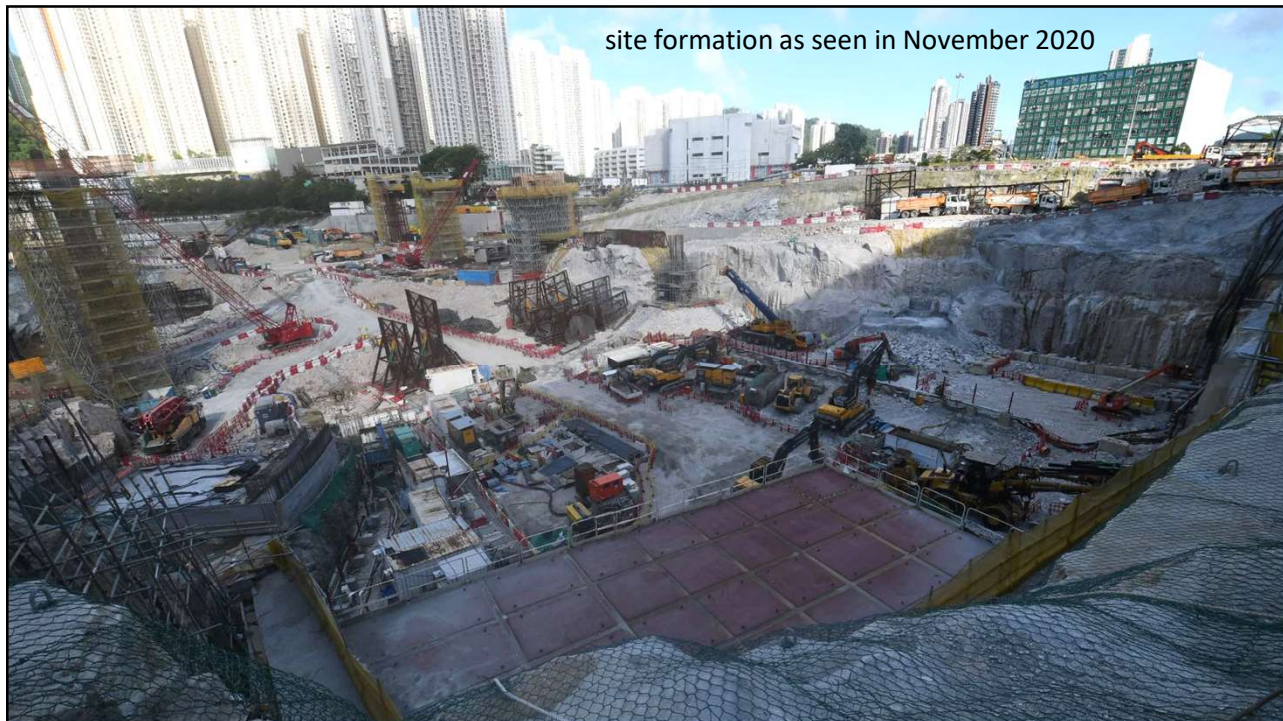




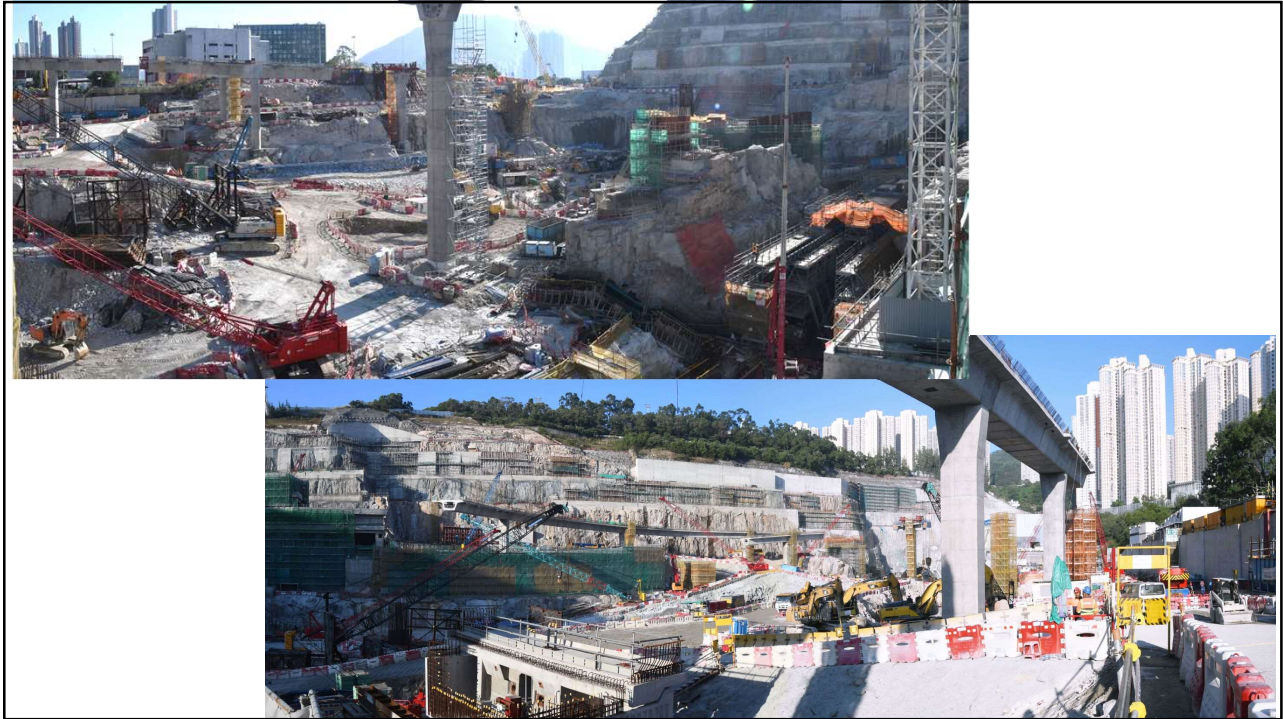












site formation as seen in  
November 2020



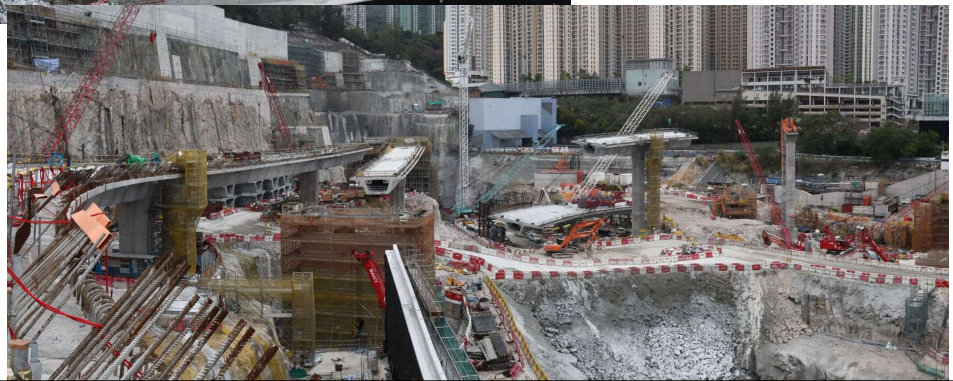




site formation and construction of part of the carriageway as seen in March 2021



site formation and construction of part of the carriageway as seen in March 2021





Close-up view to see the scale and complication of the site formation  
(main slope cutting in rock and to form the geometry to accommodate the facilities)



Close-up view to see the scale and complication of the site formation (main slope cutting in rock)

January 201



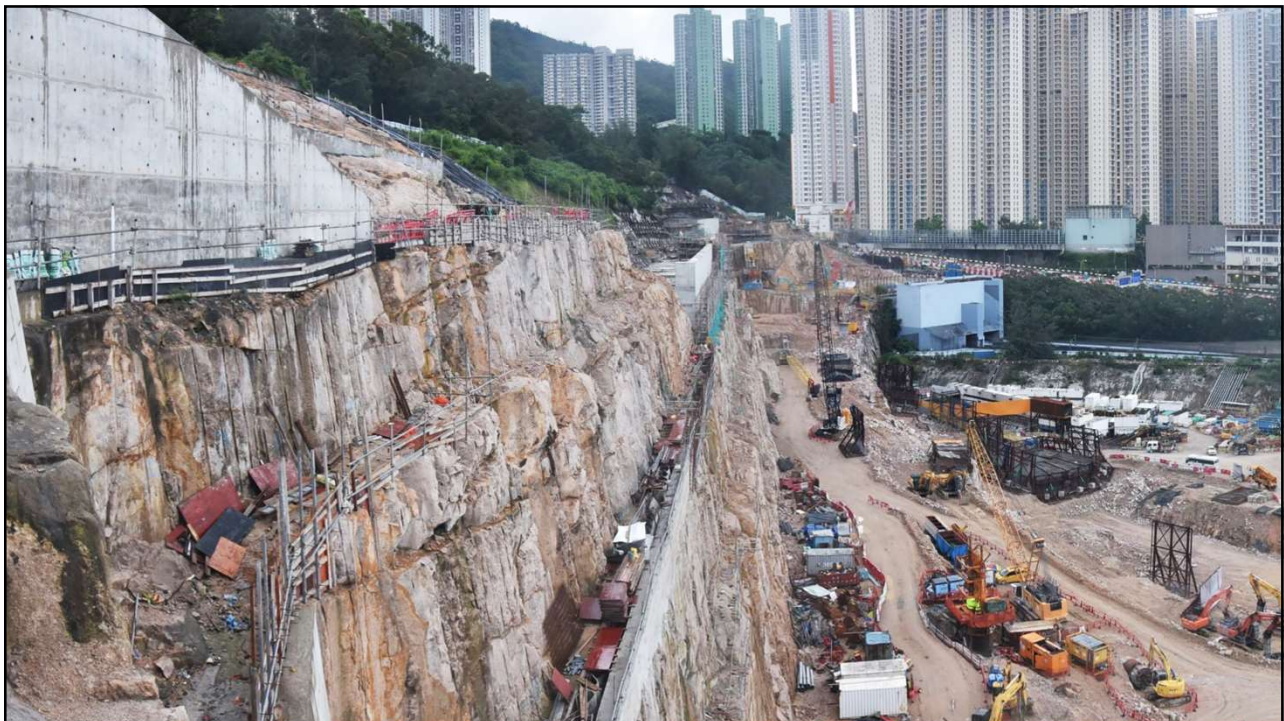
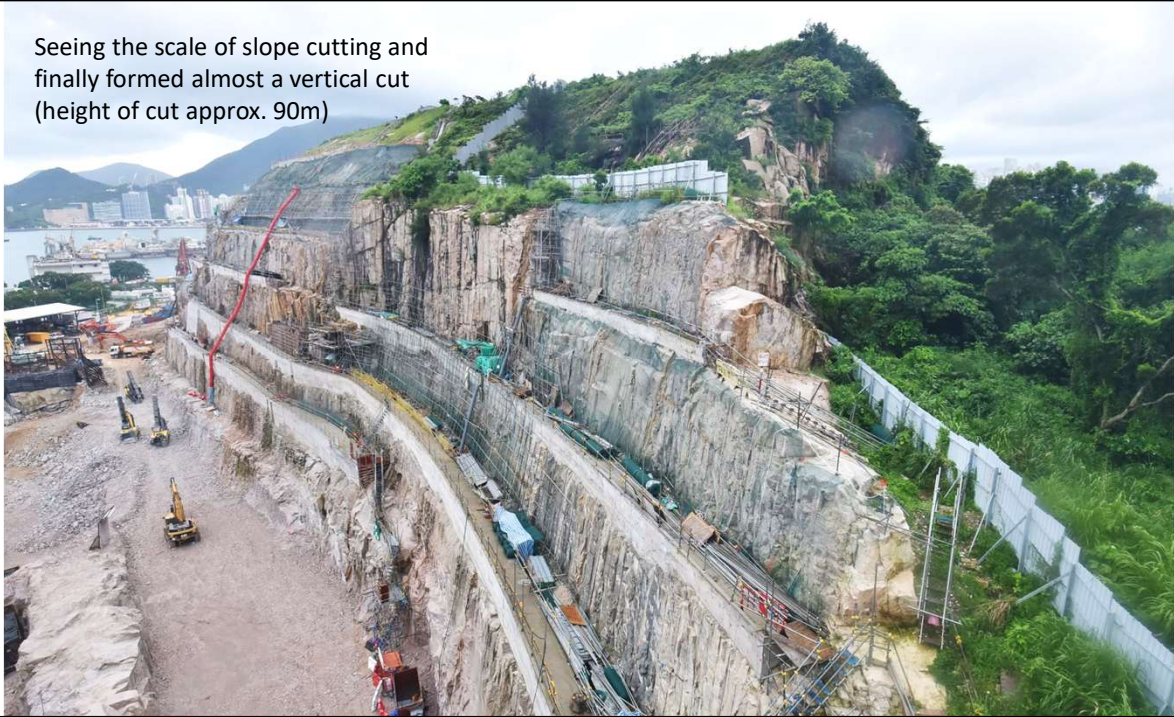
Close-up view to see the scale and complication of the site formation (main slope cutting in rock)

Forming of temporary accessway  
for slope/rock cutting operations

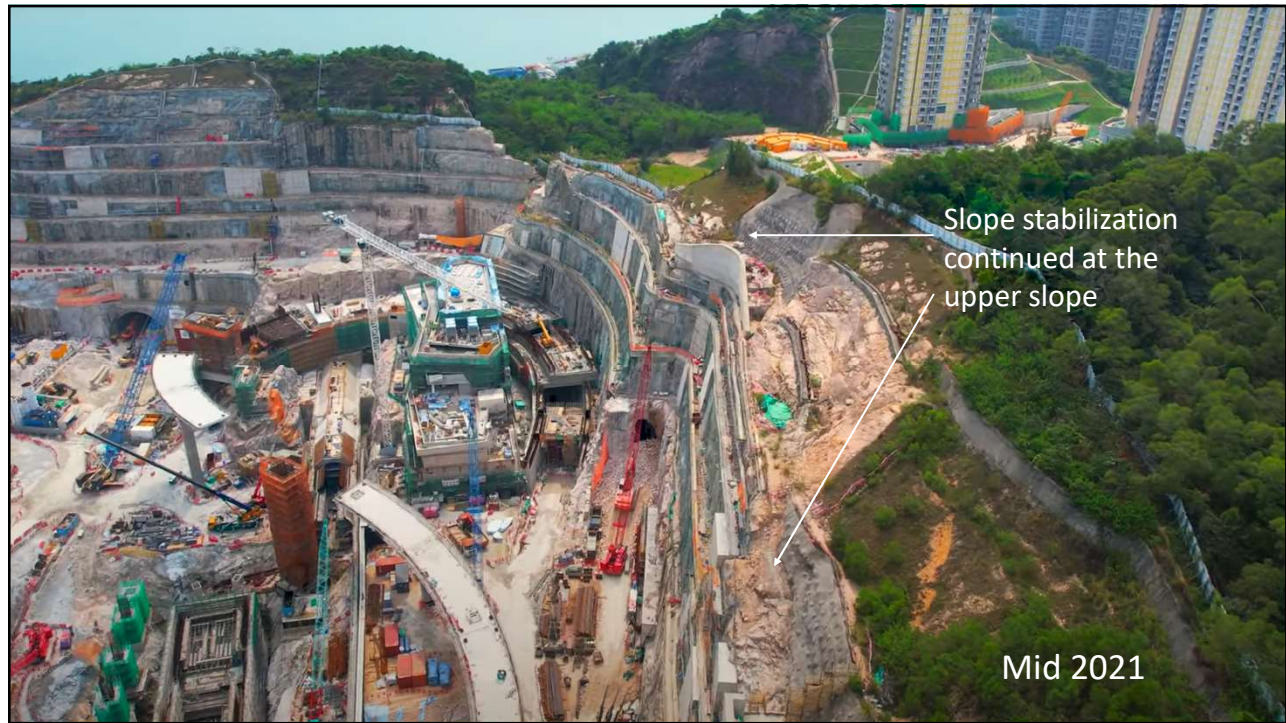




Seeing the scale of slope cutting and finally formed almost a vertical cut (height of cut approx. 90m)



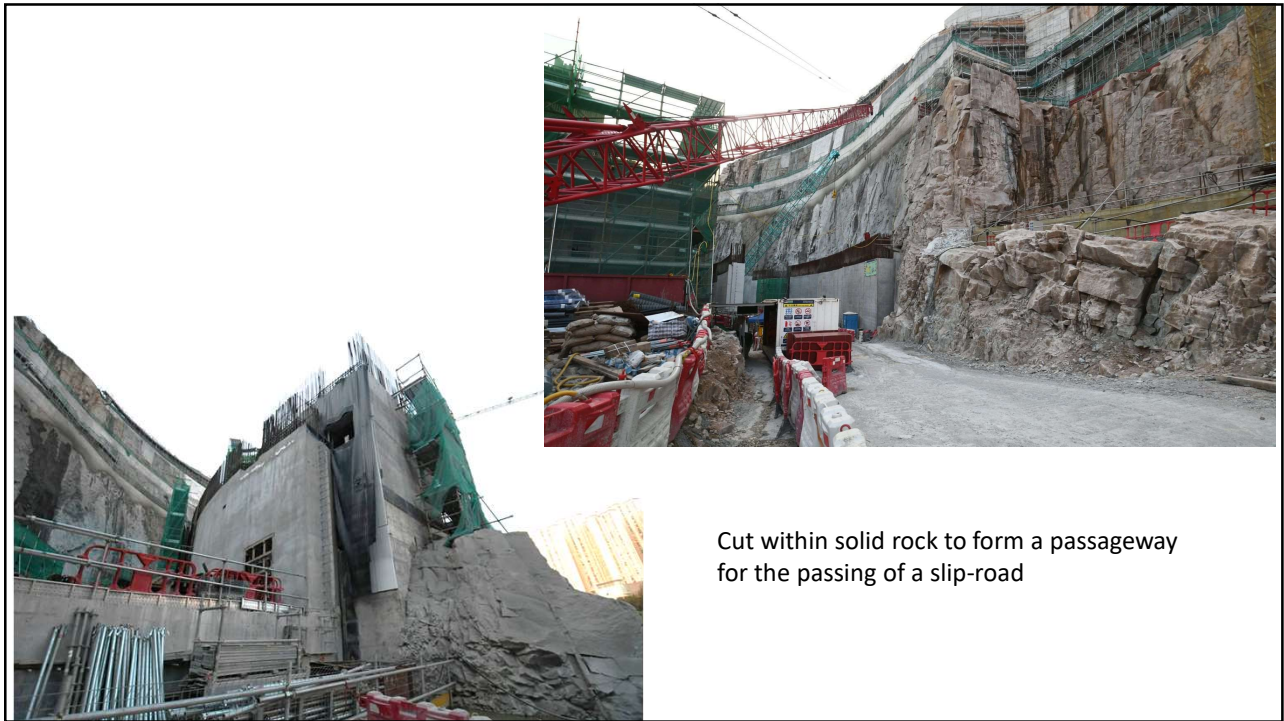
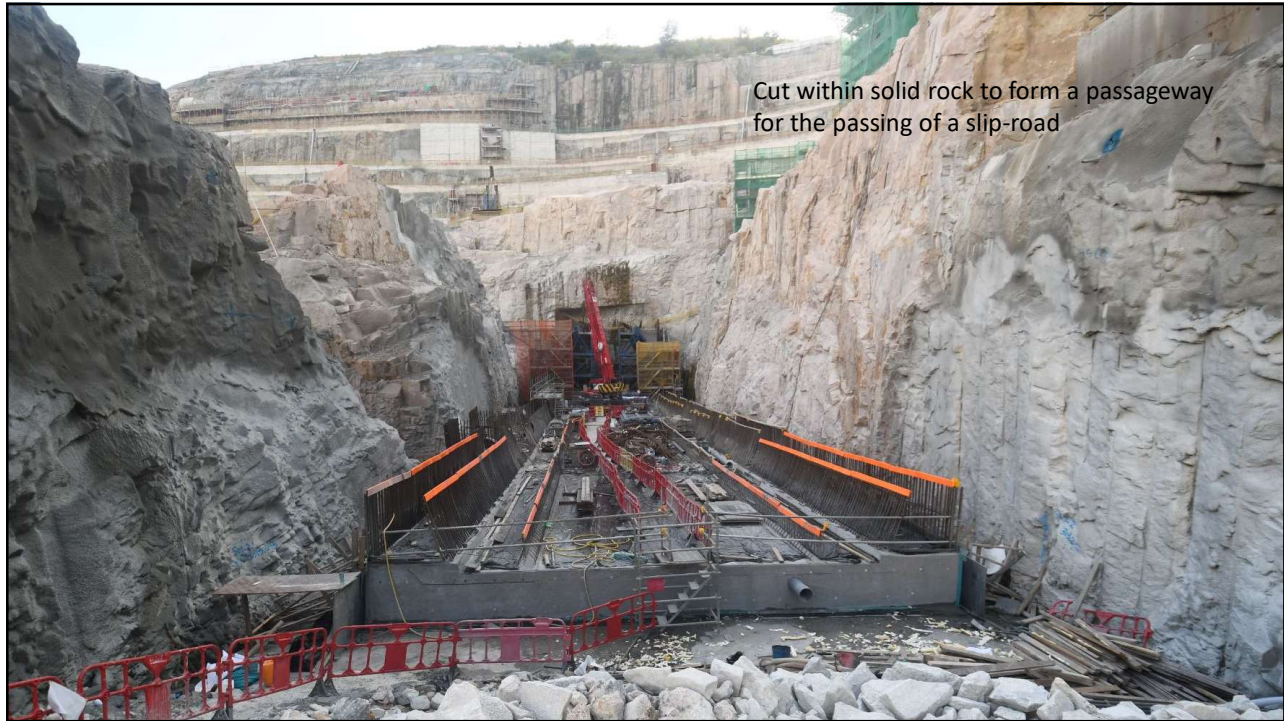




















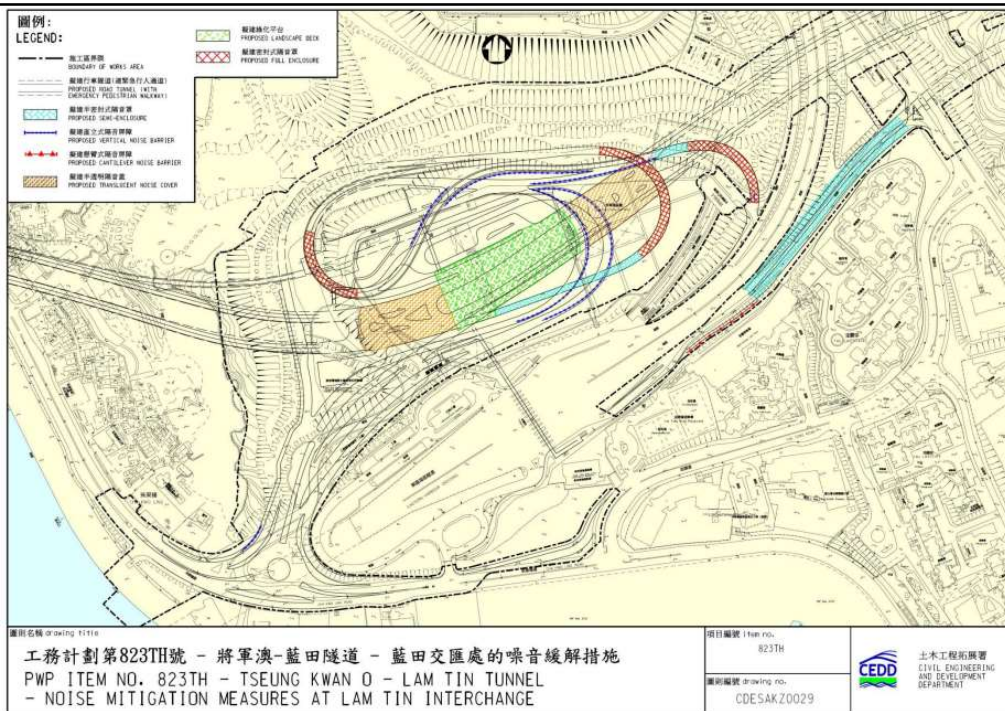
Stabilizing large area  
of vertical cut/slope



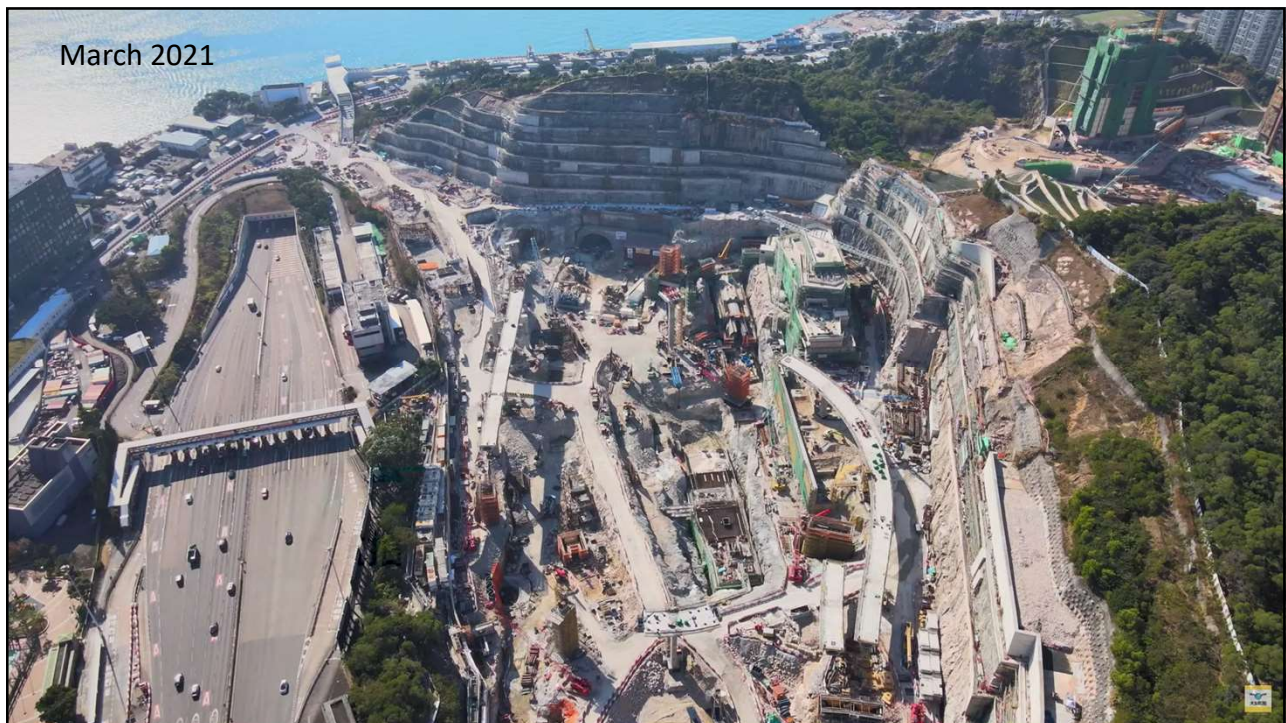
Temporary access roadway and pier  
for the disposal of spoil materials



## Construction of the slip road and carriageway system within the Lam Tin Interchange







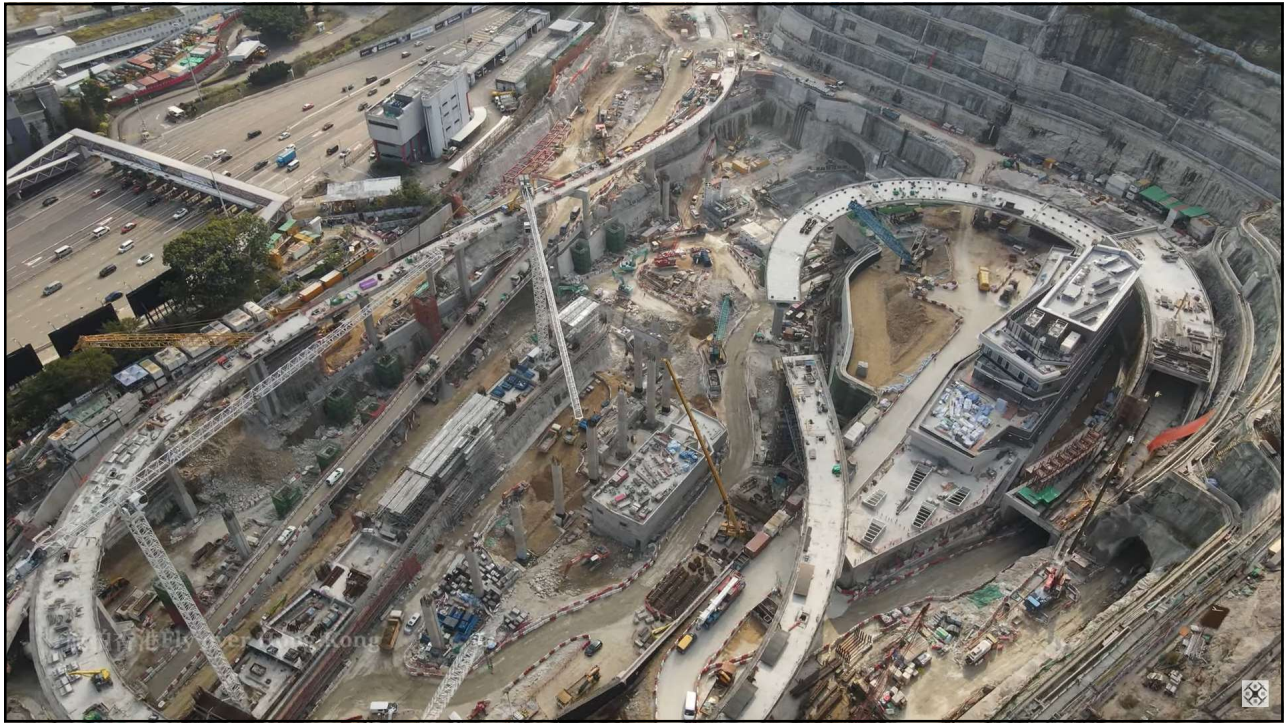




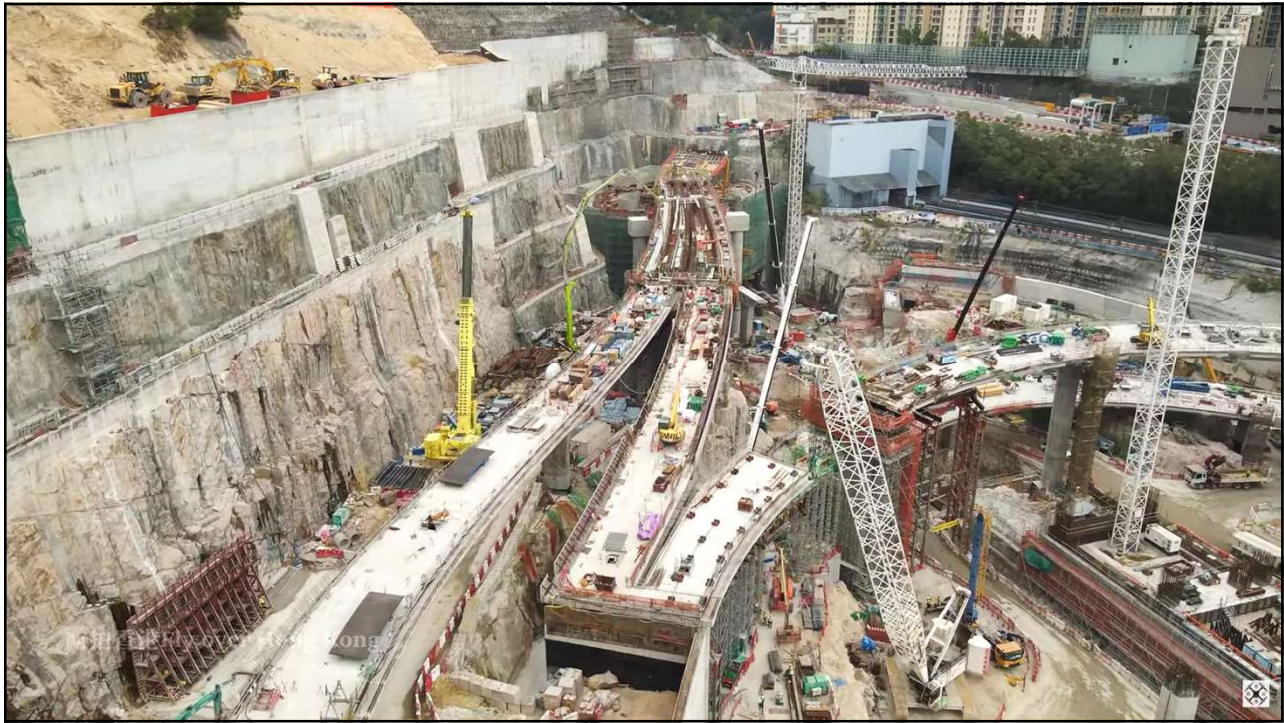












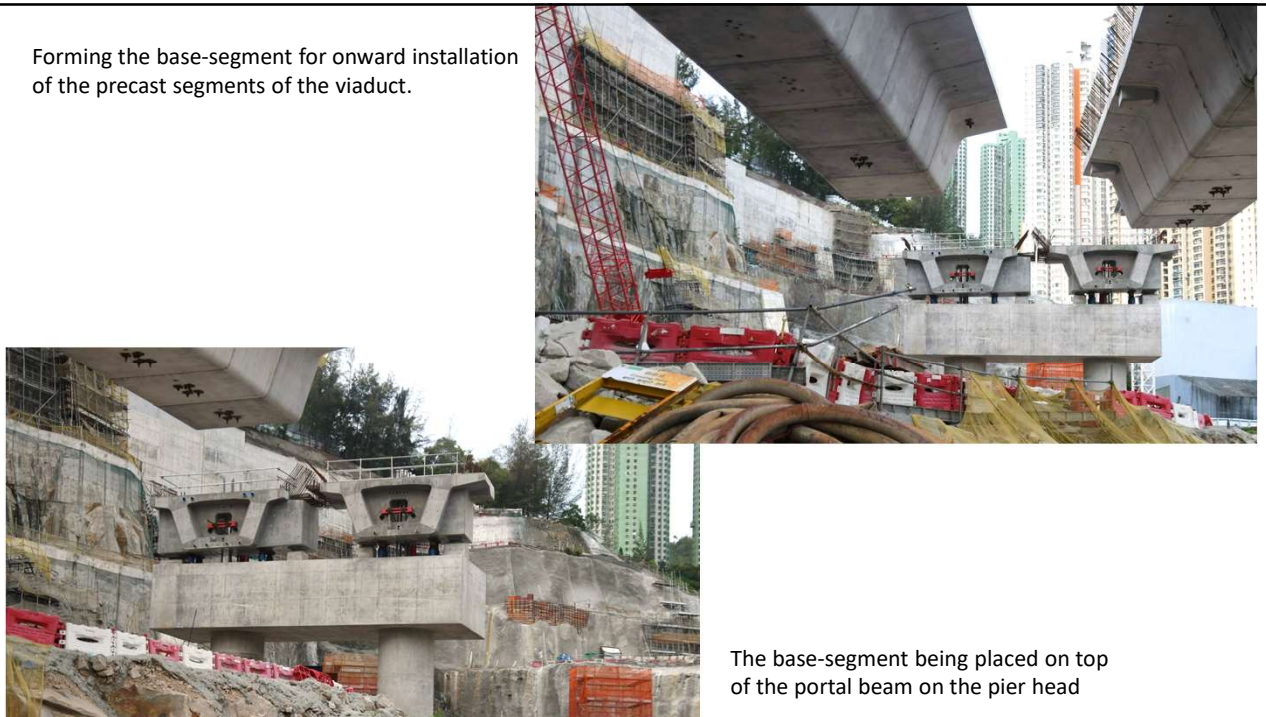






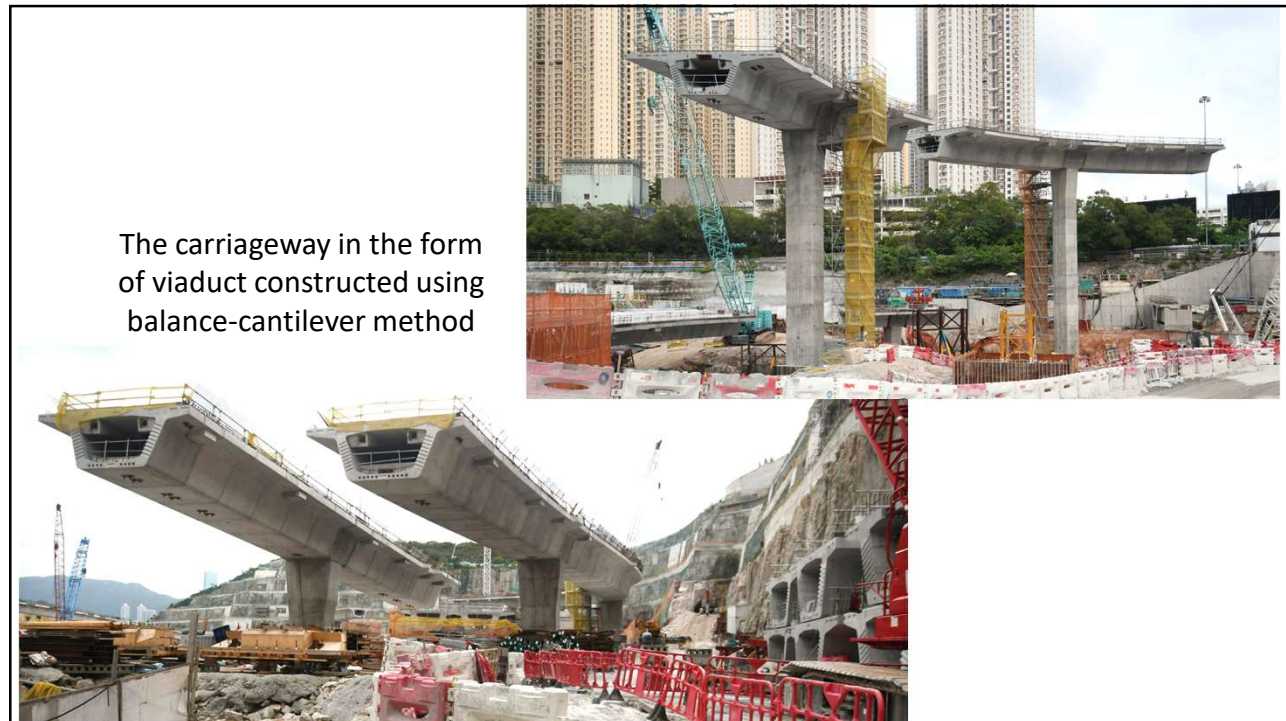
## Various ways and process to construct the carriageway and viaduct

Forming the base-segment for onward installation of the precast segments of the viaduct.

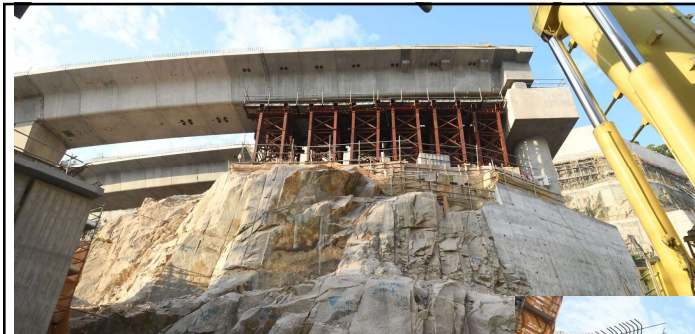


The base-segment being placed on top of the portal beam on the pier head

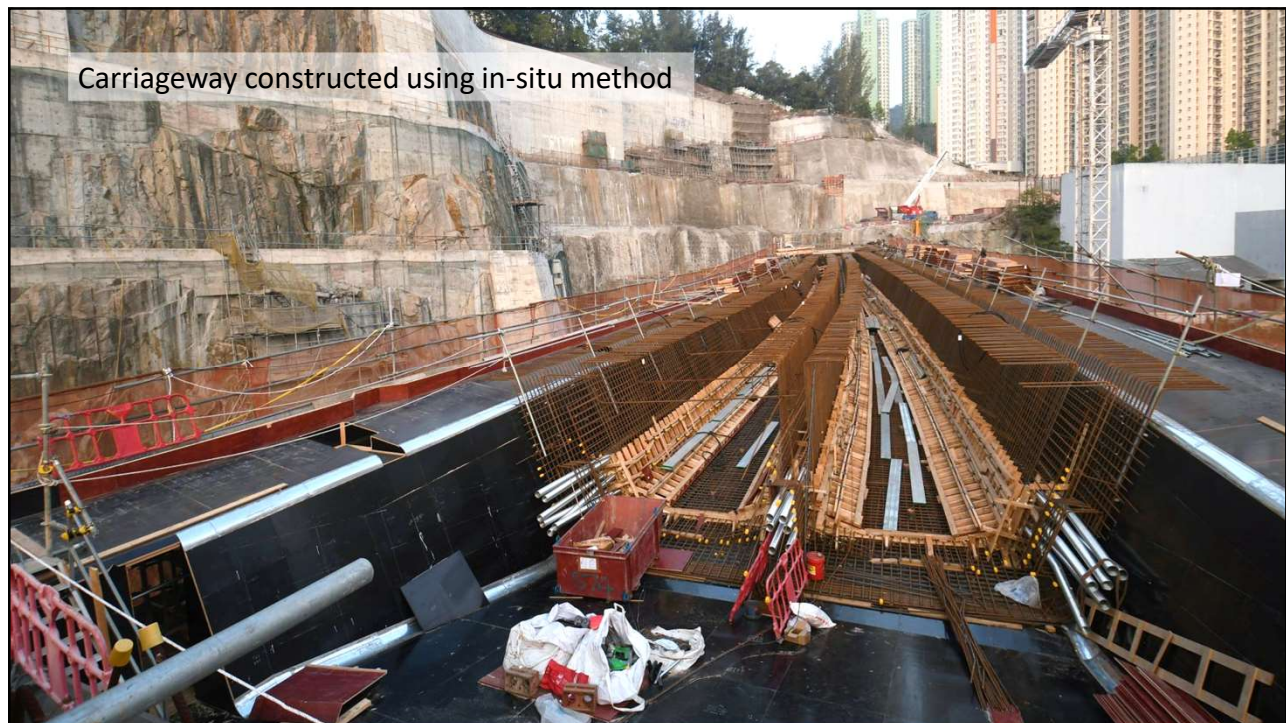
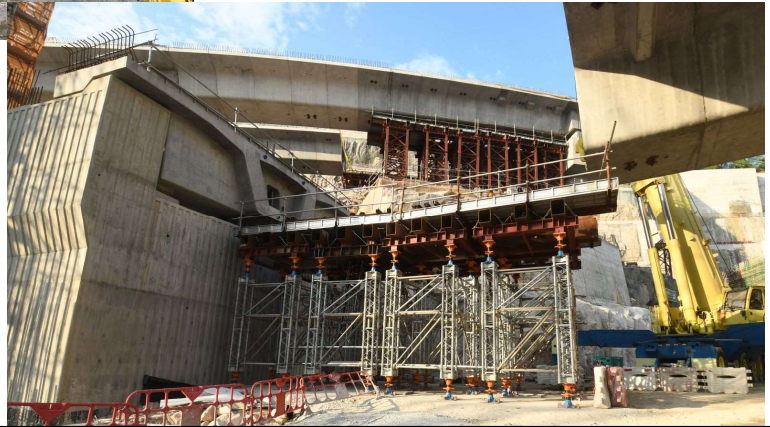








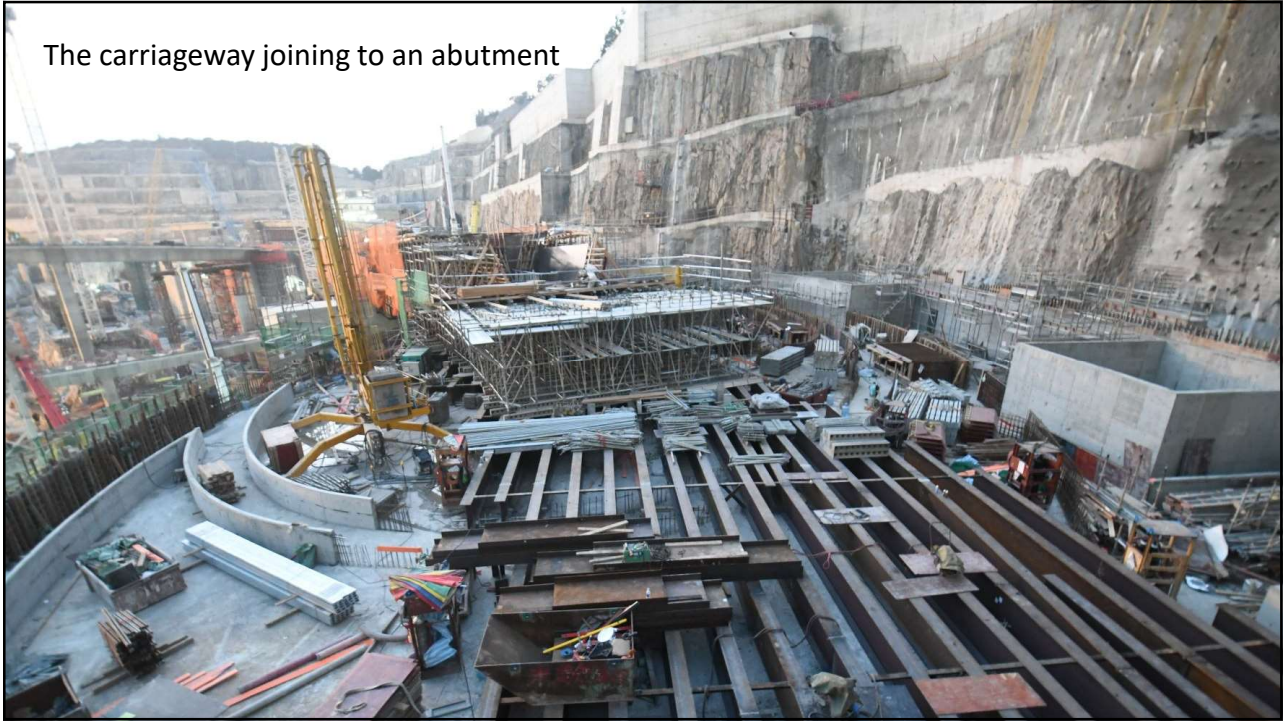
Carriageway constructed using precast segments placed on props



Carriageway constructed using in-situ method

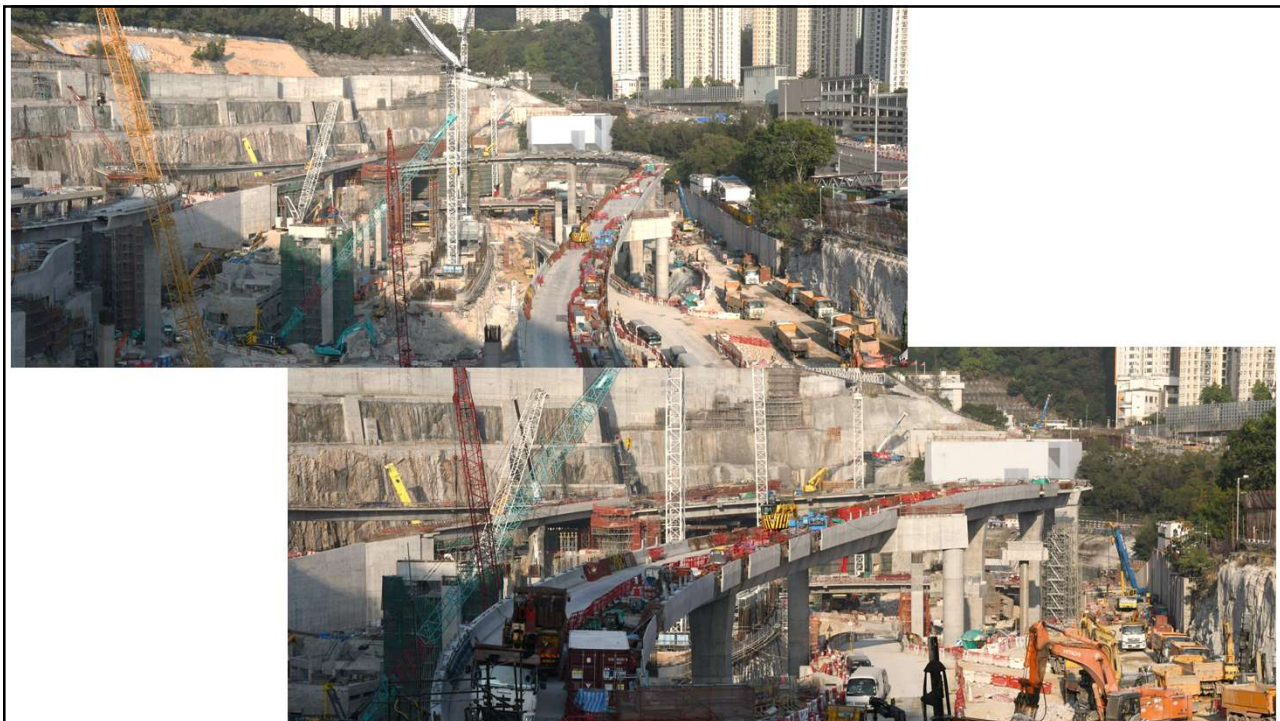


The carriageway joining to an abutment



The carriageway/viaduct  
joining to an abutment













## Forming the Tseung Kwan O-Lam Tin Tunnel

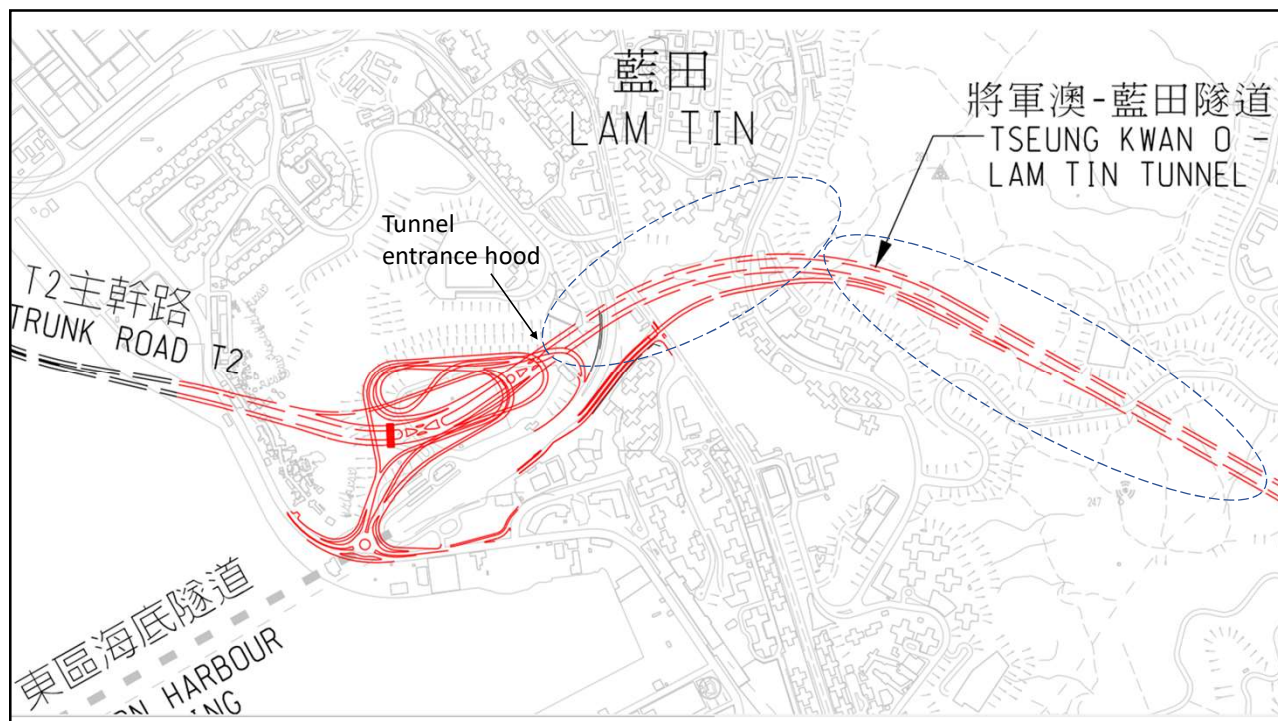
The new TKO Tunnel is an overall name for the entire project. Just talking about the tunnel construction, in fact it consists a number of tunnels forming a transportation complex. It involves:

1. The main TKO-Lam Tin Tunnel (total about 2.2 km) linking the portal on the West (Lam Tin) and East (TKO) side.
2. Provisional tunnel portal for receiving the T2 tunnel
3. A tunnel (about 400m) leading to the entrance of EHC for vehicles coming from TKO side.
4. A series of minor tunnels forming part of the slip-road network.



The main TKO-Lam Tin Tunnel linking the portal  
on the West (Lam Tin) and East (TKO) side.

*Tunnel is constructed using tradition drill-&-blast method*







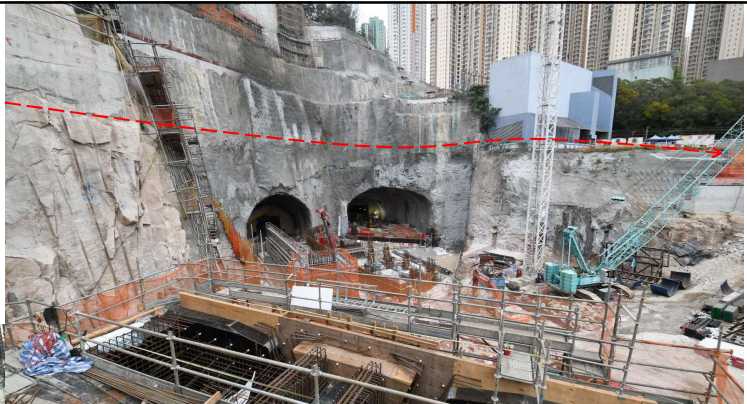




Work entrance to the main tunnel  
as seen in mid 2017



Previous MTR tunnel track from Lam Tin Station  
towards EHC (re-aligned and abandoned after  
the operation of the TKO line)



Tunnel portal/entrance at the Lam Tin  
Interchange as seen in November 2020

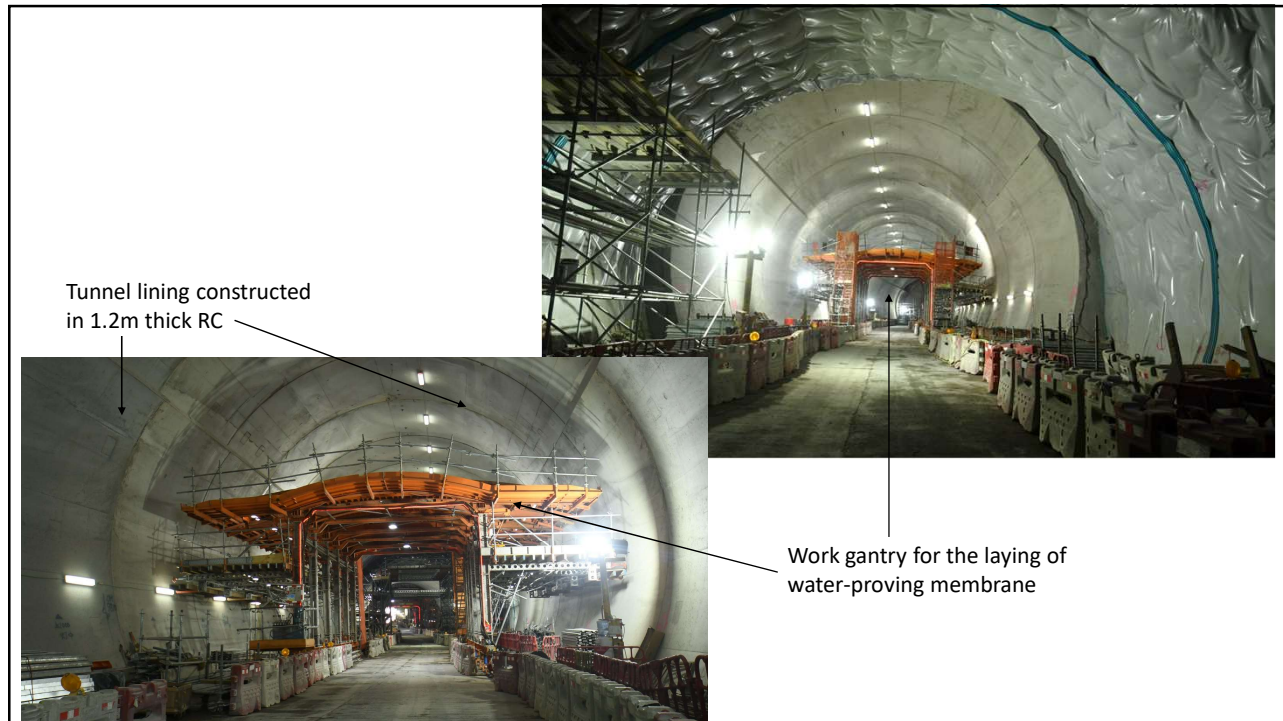






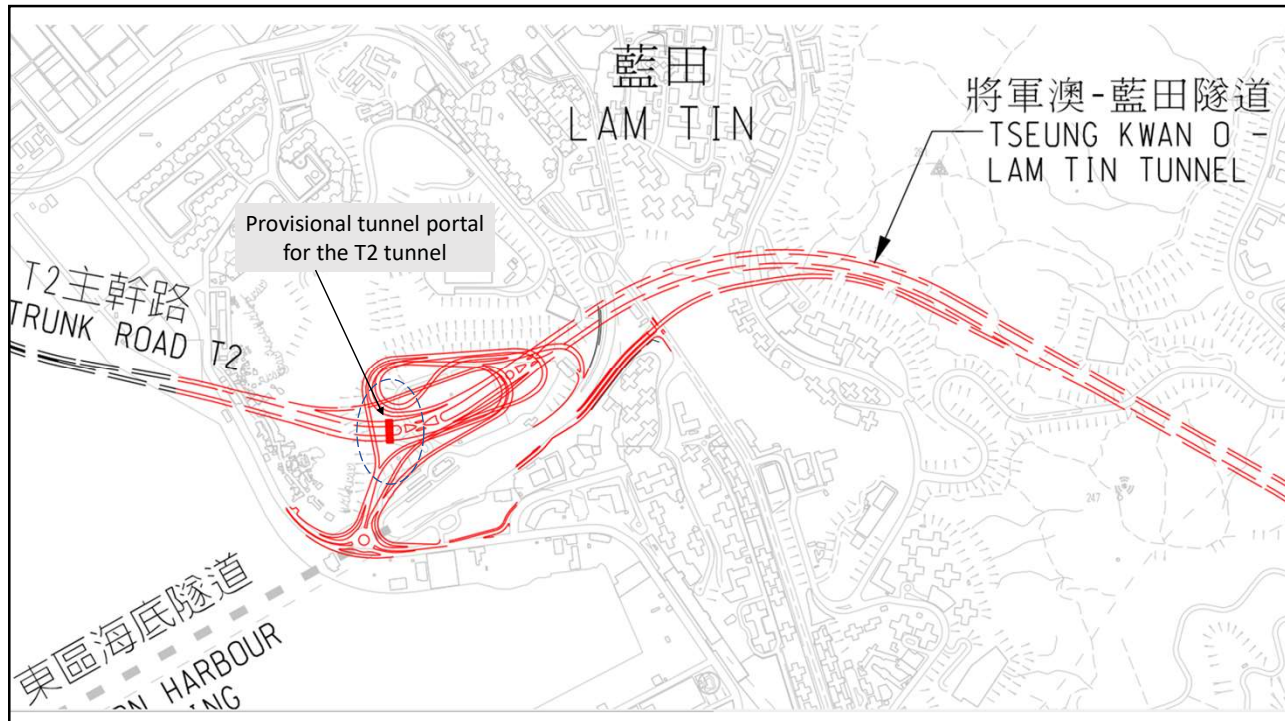






Provisional tunnel portal for the T2 tunnel





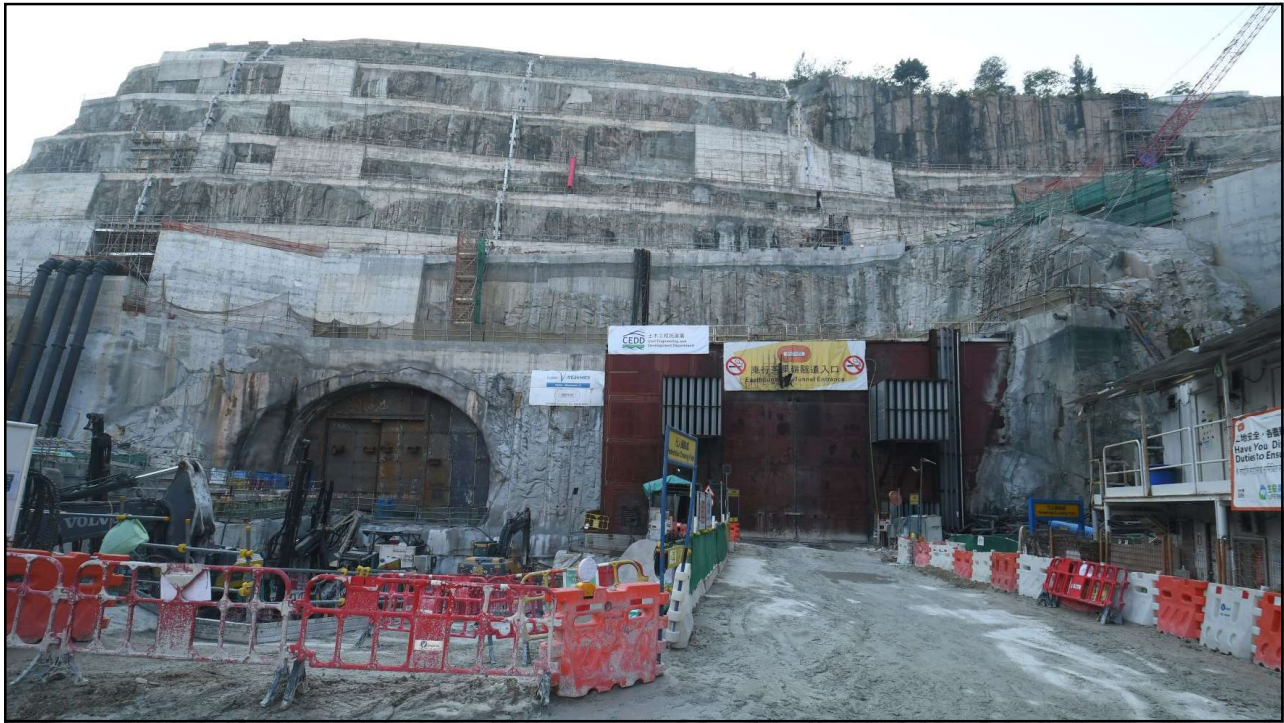






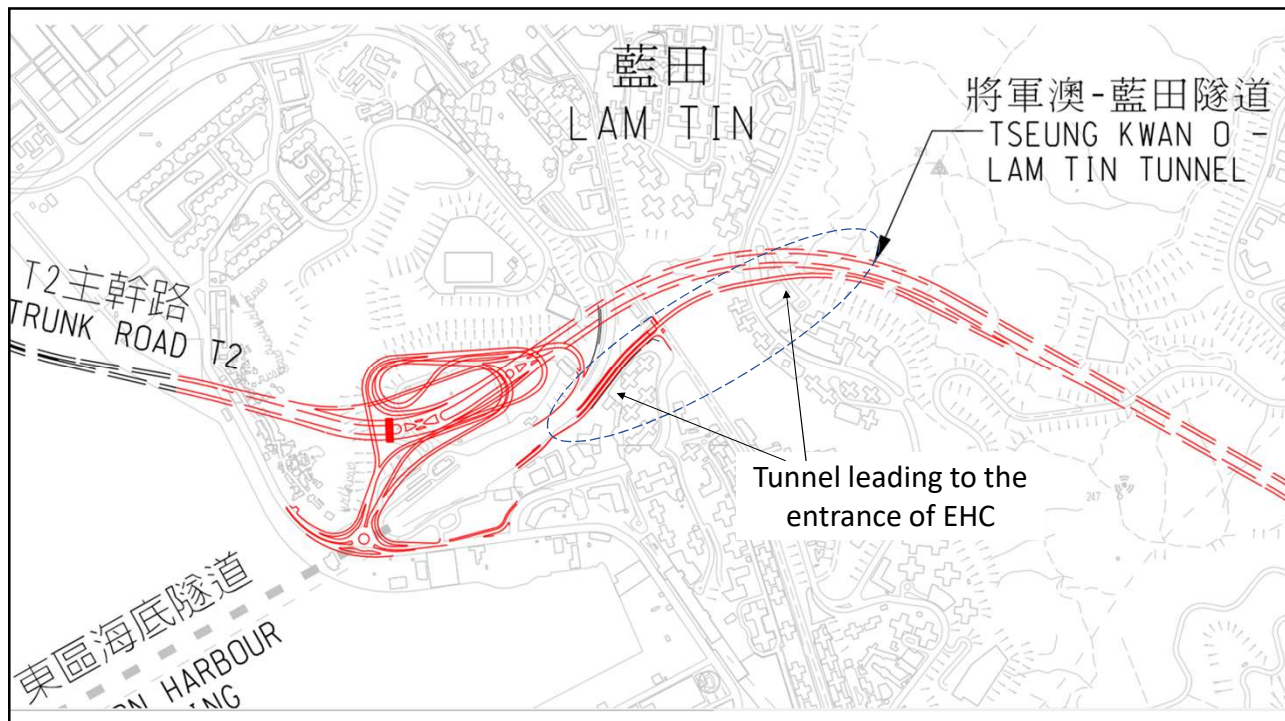








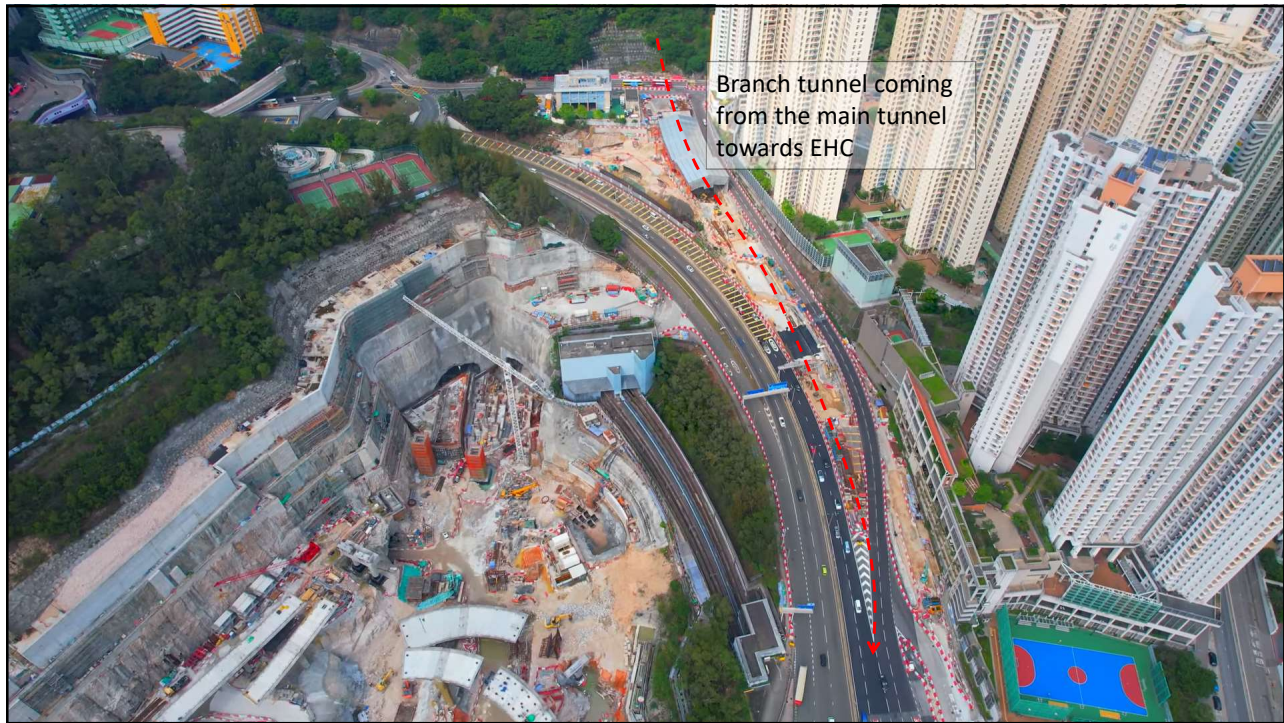
Tunnel linking to the entrance of EHC













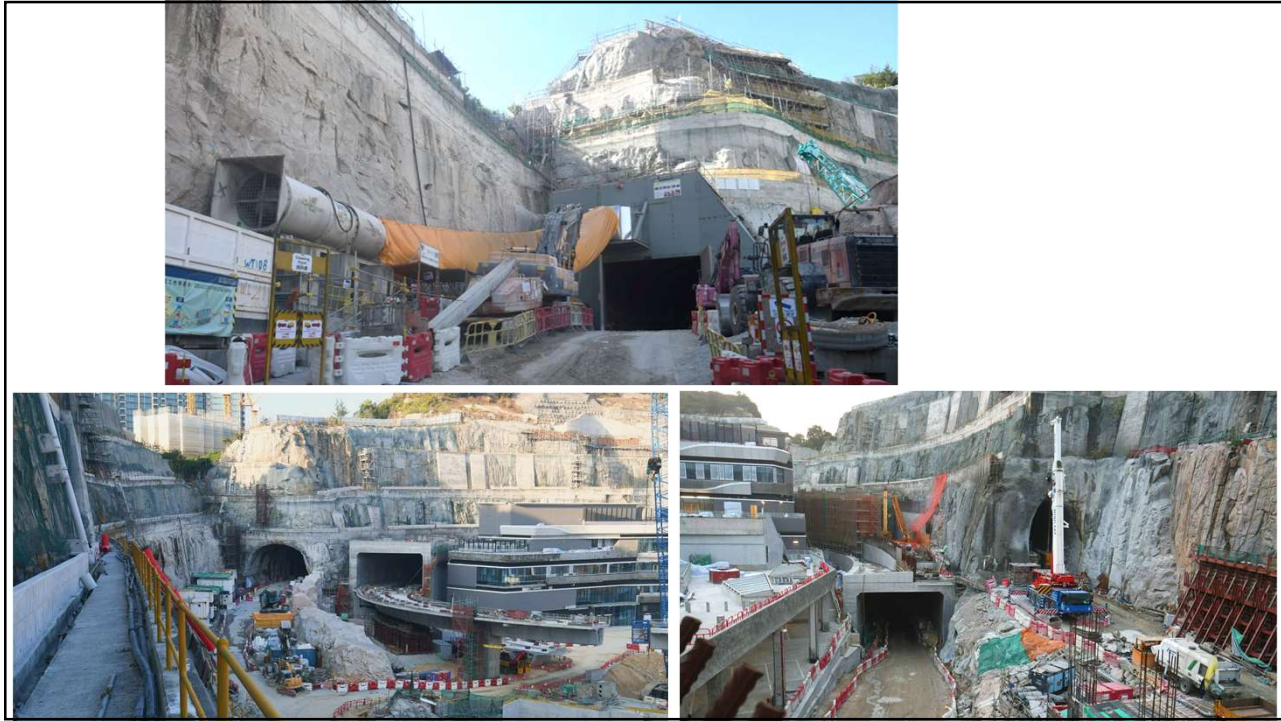




Series of minor tunnels forming  
part of the slip-road network.







End of Part 1 Presentation