

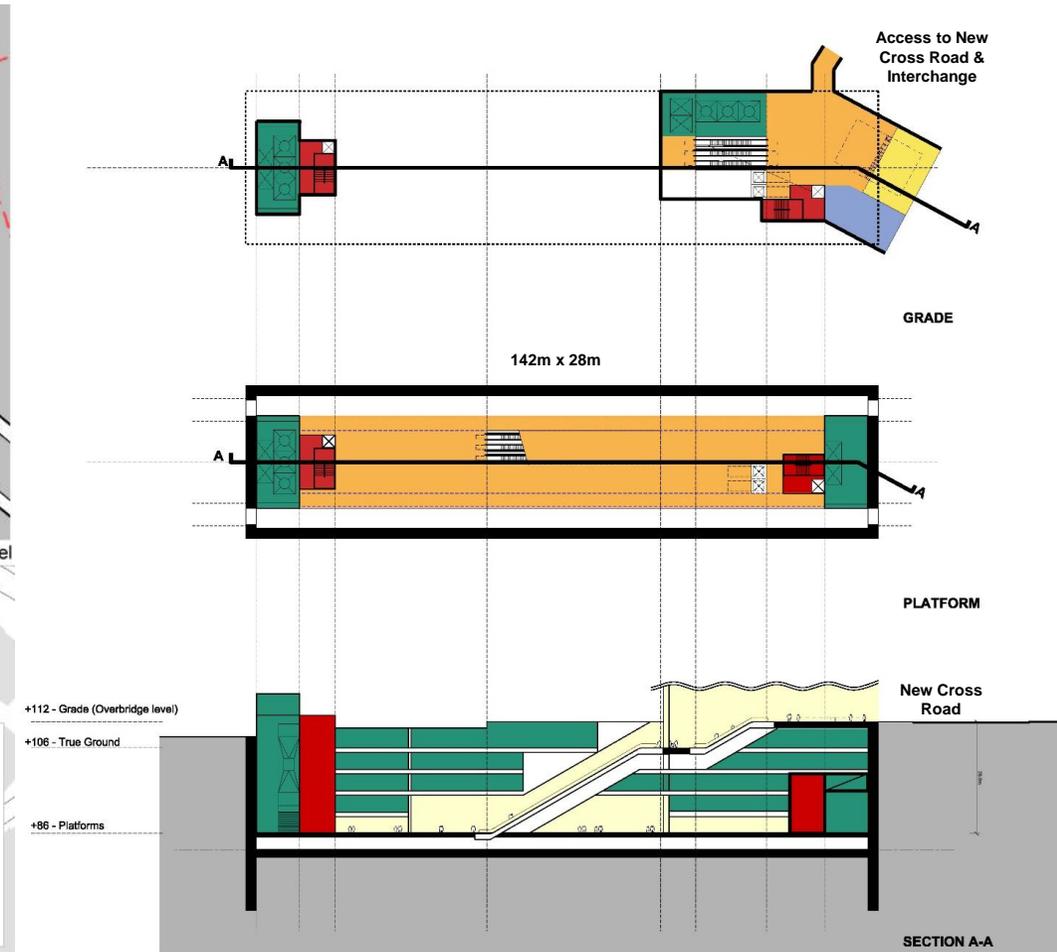
Bakerloo Line Extension New Cross Gate Station

Sainsbury's/Mount Anvil Progress Meeting
11th April 2018

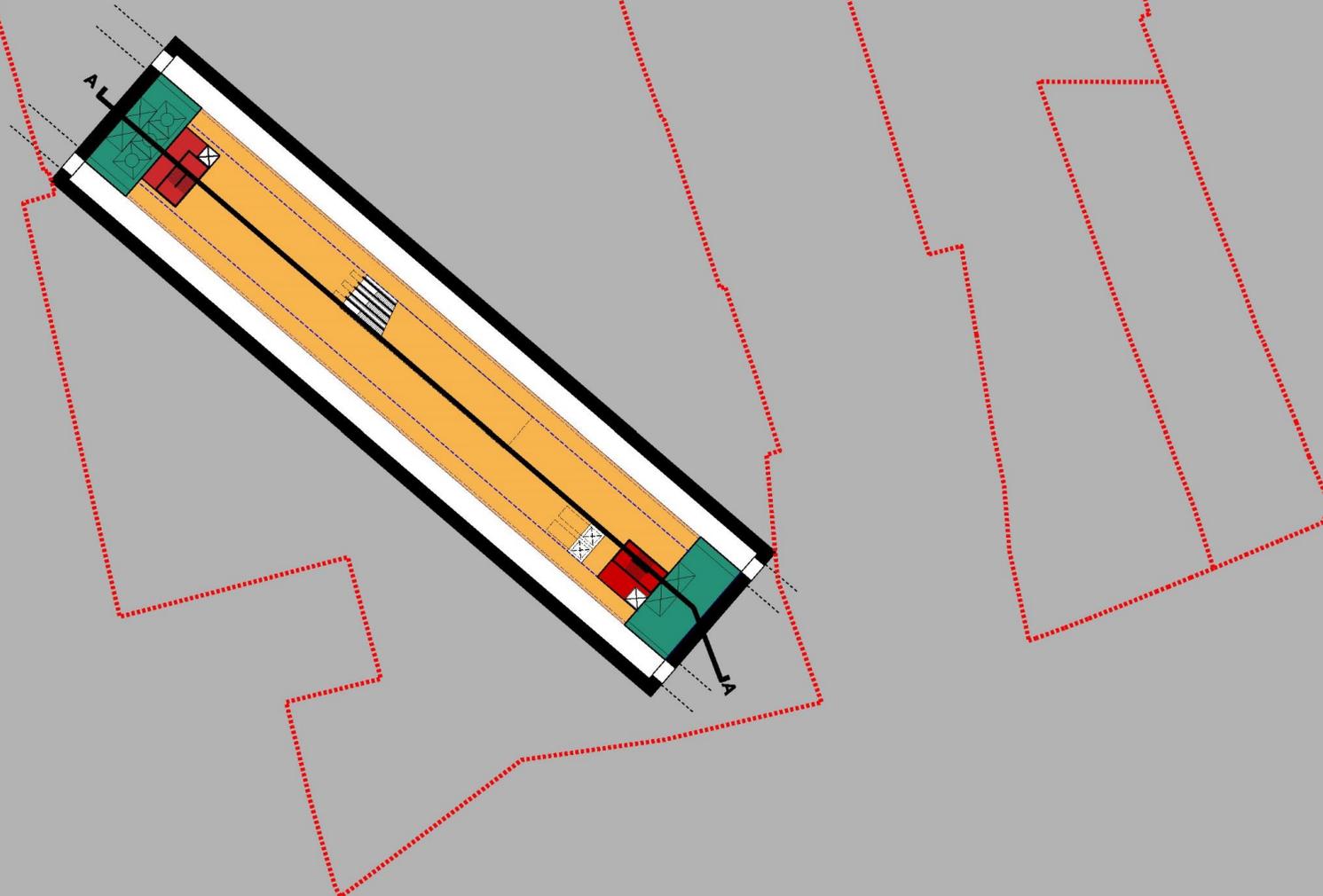
Agenda

- Introduction
- TfL Update:
 - Option 1 Box Construction
 - Option 3 Mined Construction
 - Option 3a (S/MA Mined Construction)
- Sainsbury's and Mount Anvil Update

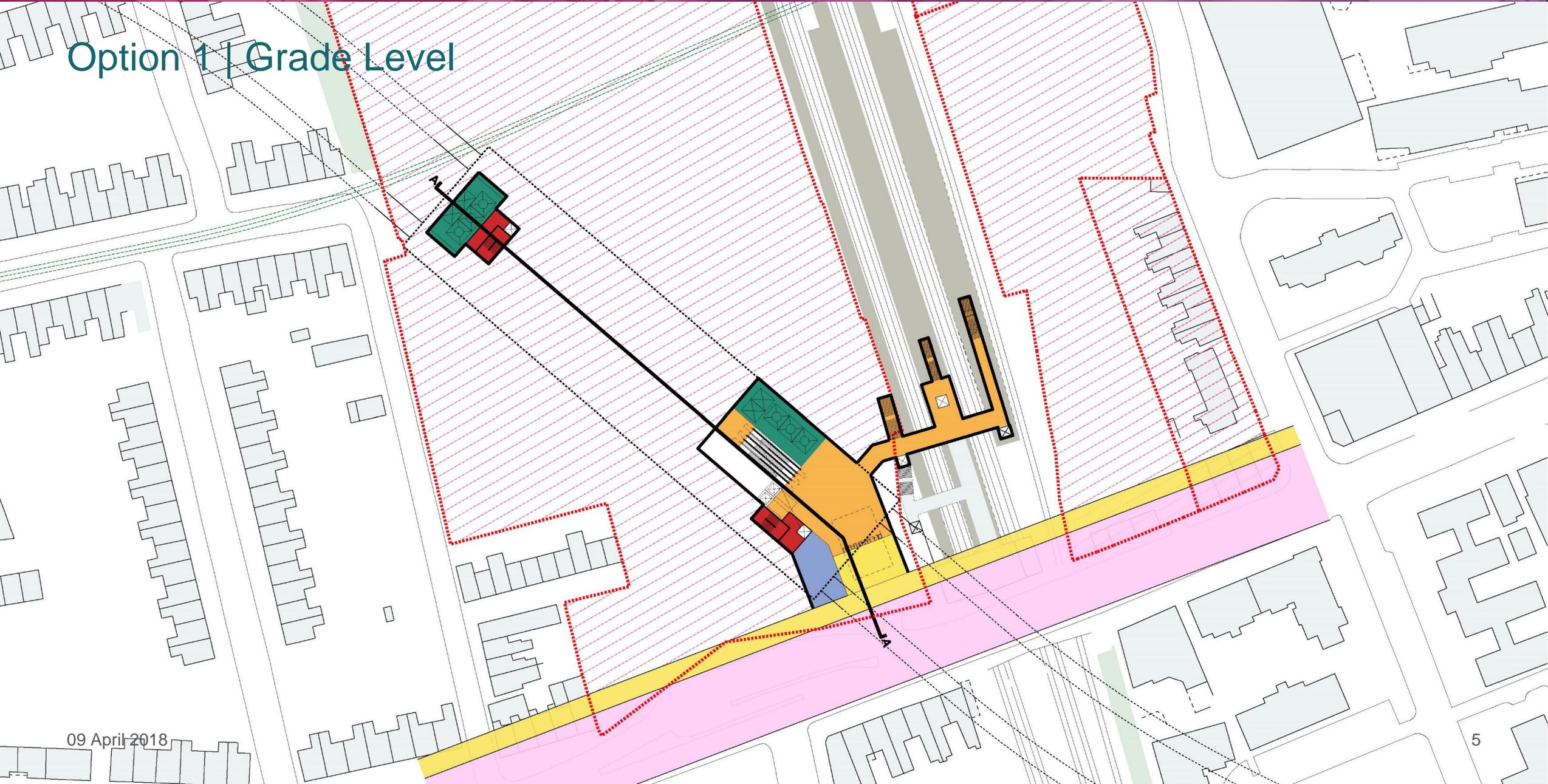
Option 1 – Overview



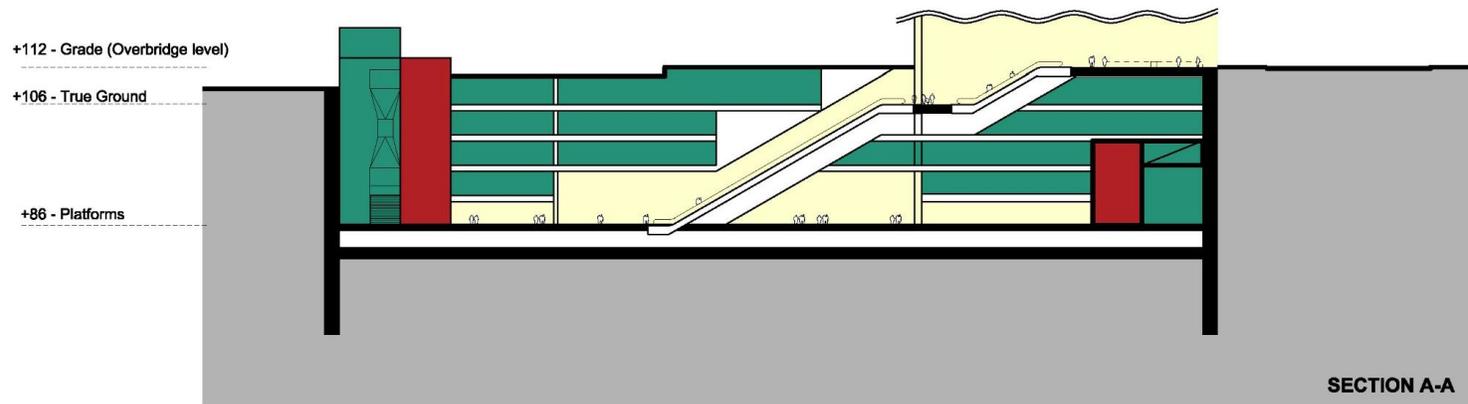
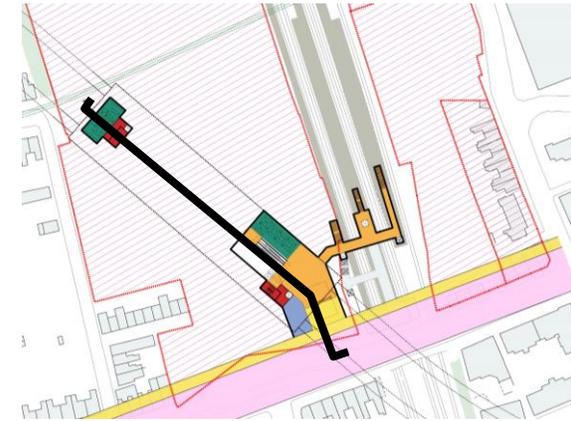
Option 1 | Platform Level



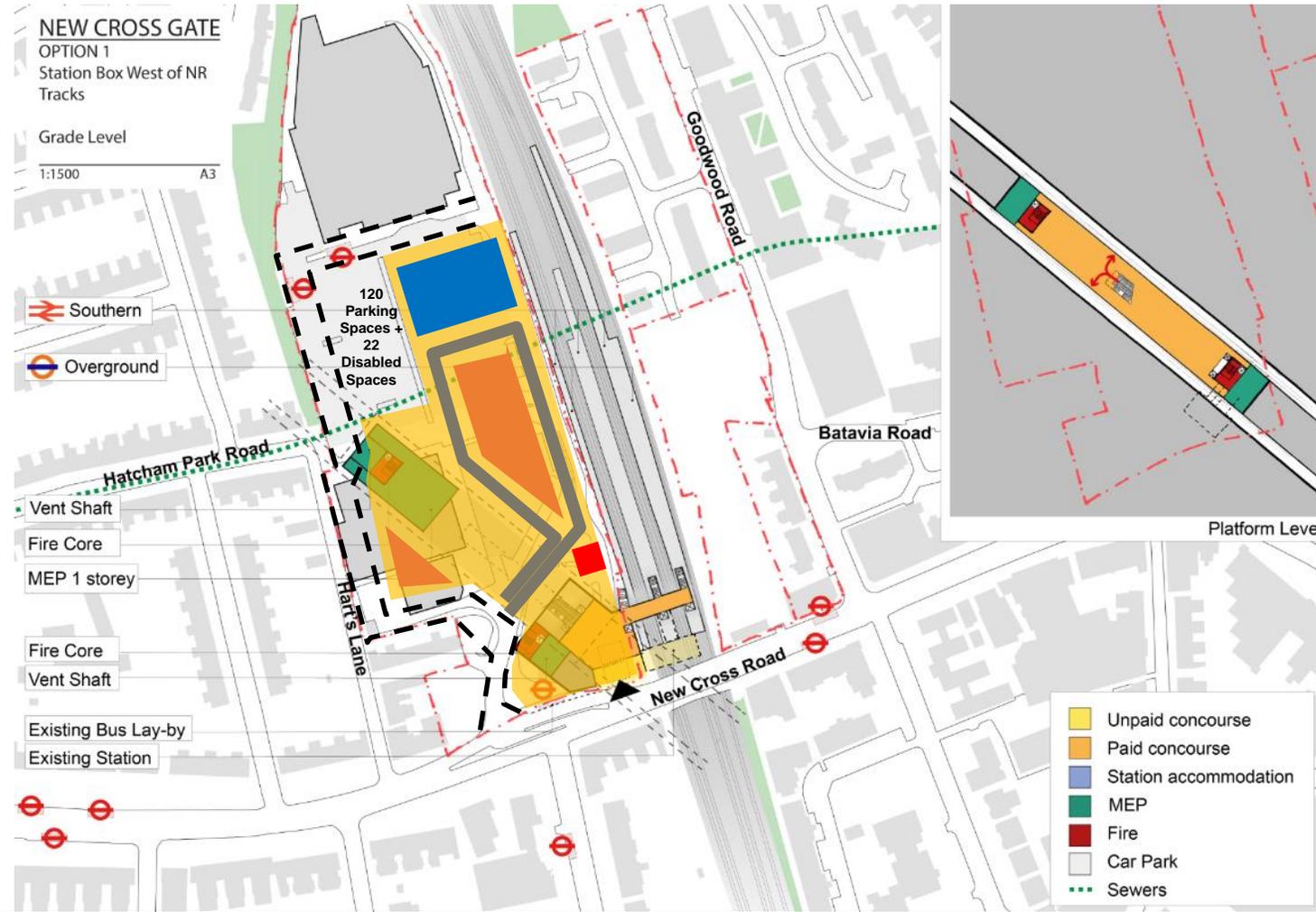
Option 1 | Grade Level



Option 1 | Section



Option 1 – Worksite Requirements

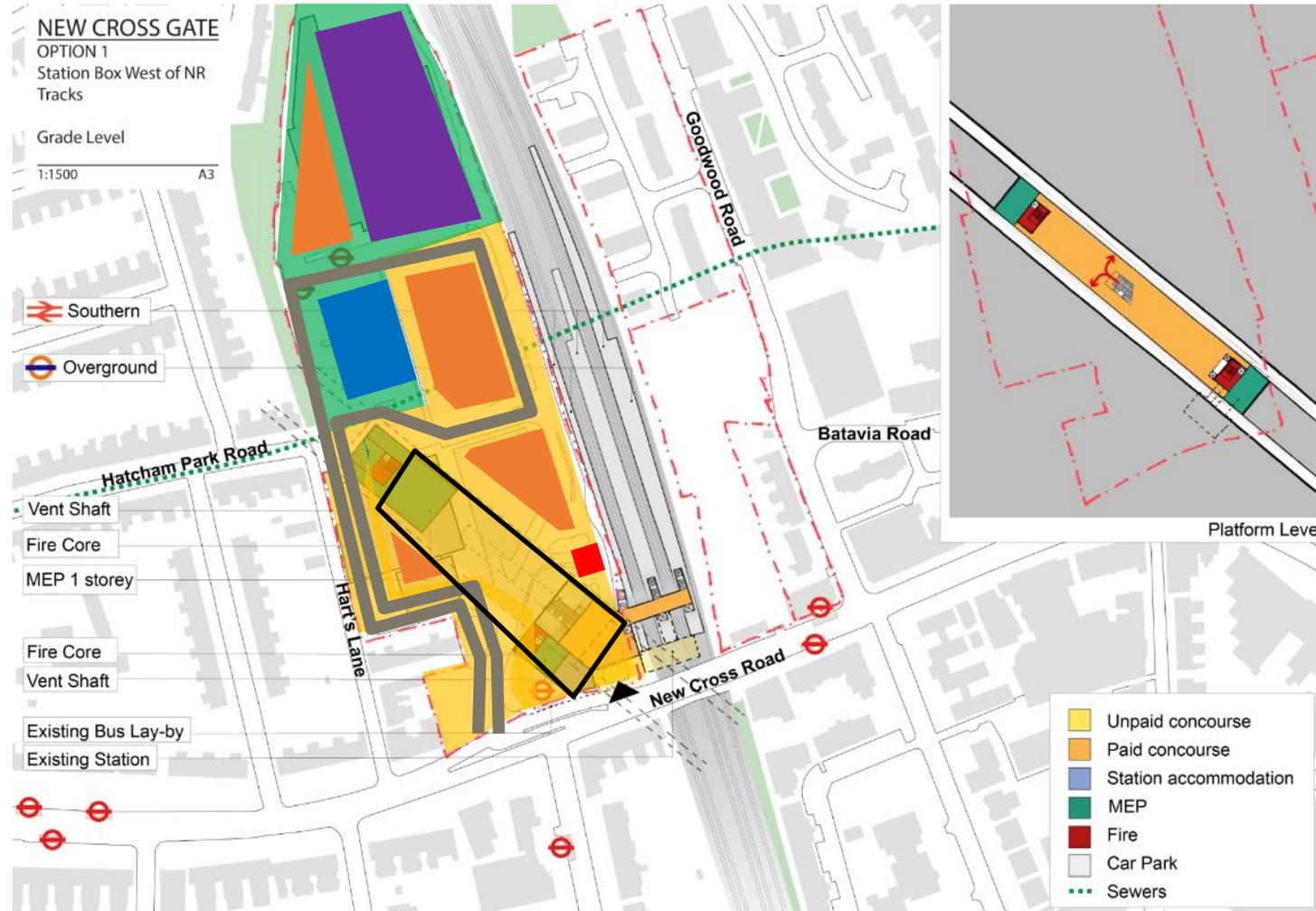


Key

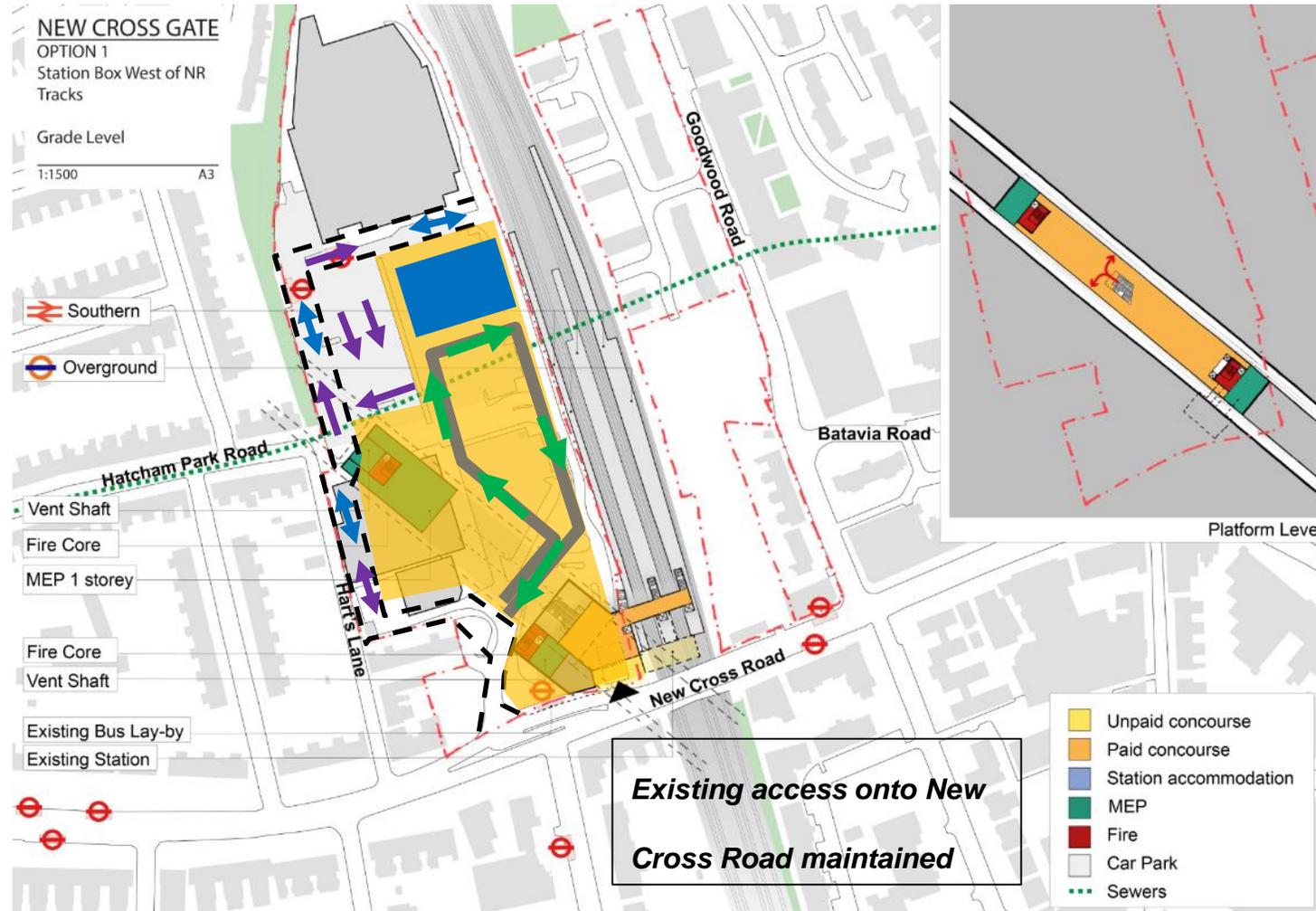
- Construction worksite
- Satellite worksite
- Welfare
- Haul Road
- Crane
- Materials Storage
- Slurry Treatment Plant
- Sainsbury's Access
- TBM Launch Site

Note:
The access and space provision shown for Sainsbury's store is our best estimate at this stage of planning and design to provide the fullest accommodation possible, whilst ensuring the proposed BLE station works can be undertaken.

Option 1 – Worksite Requirements (Satellite Site)



Option 1 – Vehicle Movements



Key

- ↔ Store vehicles
- ↔ Store public
- ↔ Construction traffic

Note:
The access and space provision shown for Sainsbury's store is our best estimate at this stage of planning and design to provide the fullest accommodation possible, whilst ensuring the proposed BLE station works can be undertaken.

Option 1 – Construction Methodology

- *Diaphragm walls/Contiguous piles for station box structure;*
- *Top-down construction method likely due to space constraints.*



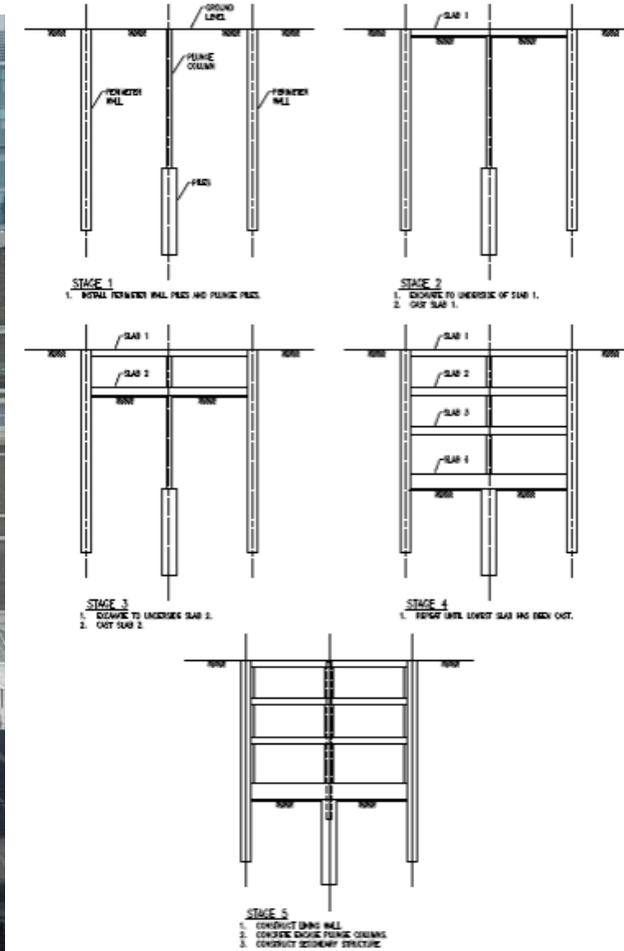
Secant piled wall



Diaphragm wall



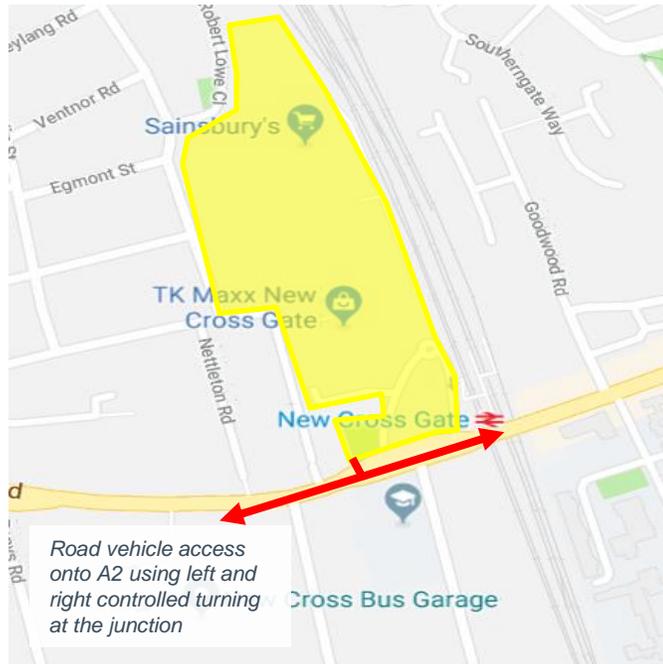
Diaphragm wall construction



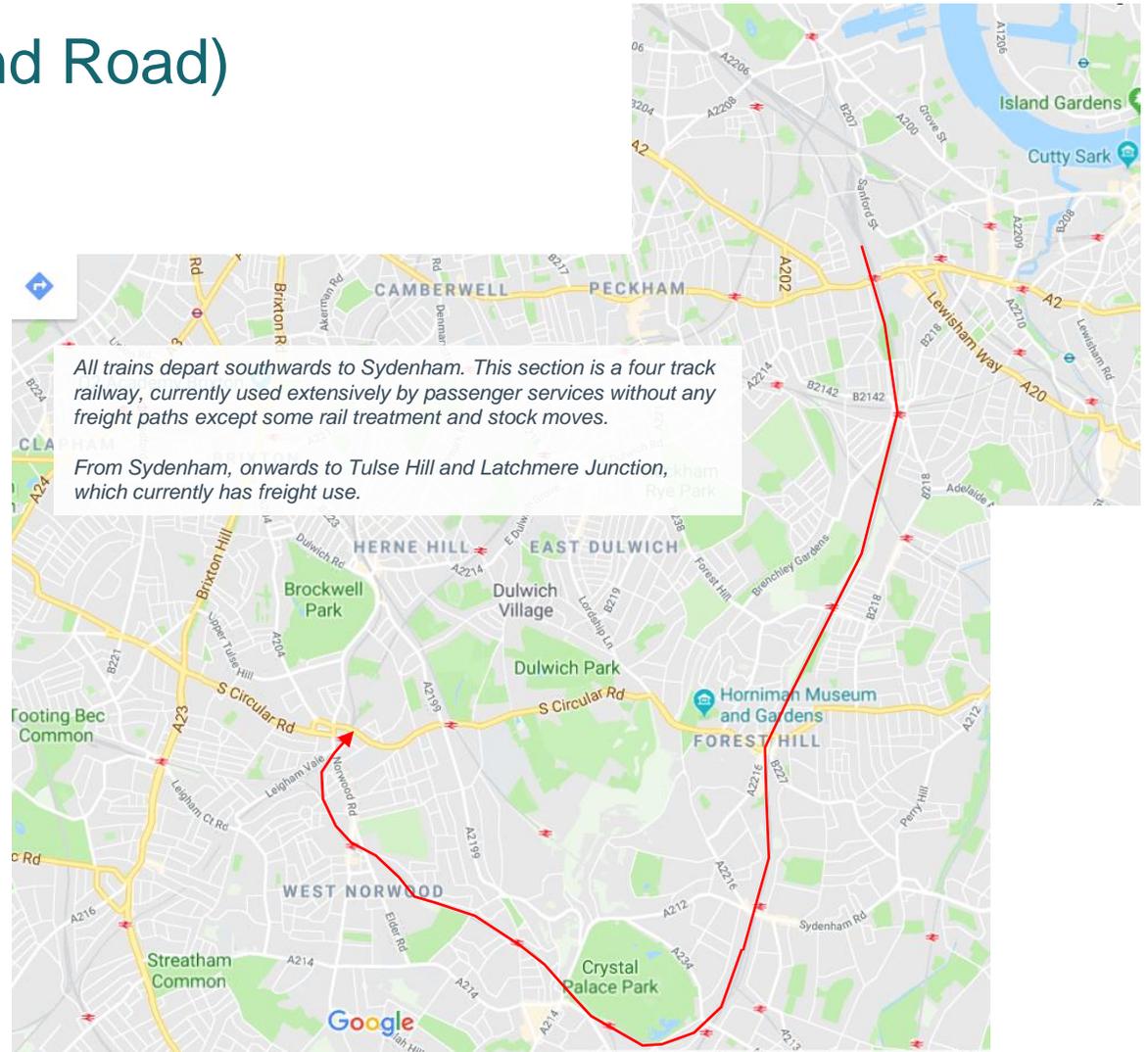
Option 1 – Construction Logistics (Rail)



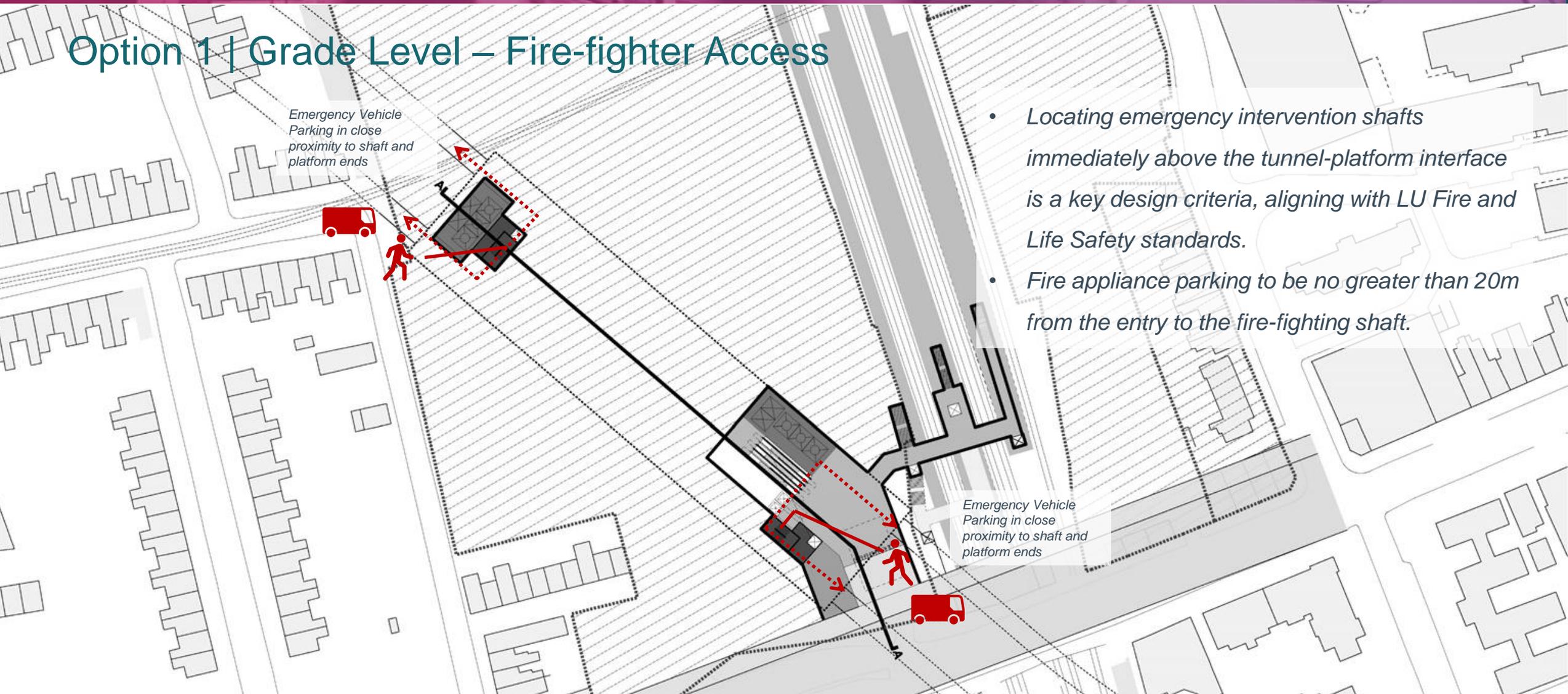
Option 1 – Construction Logistics (Rail and Road)



During BLE works, the current arrangement of junctions across the frontage of the site would change. In particular, it is likely that a single entrance would be managed, with the set up of signalised junctions amended to facilitate right turn out for efficient bus stand movements accommodated at the front of the BLE site.

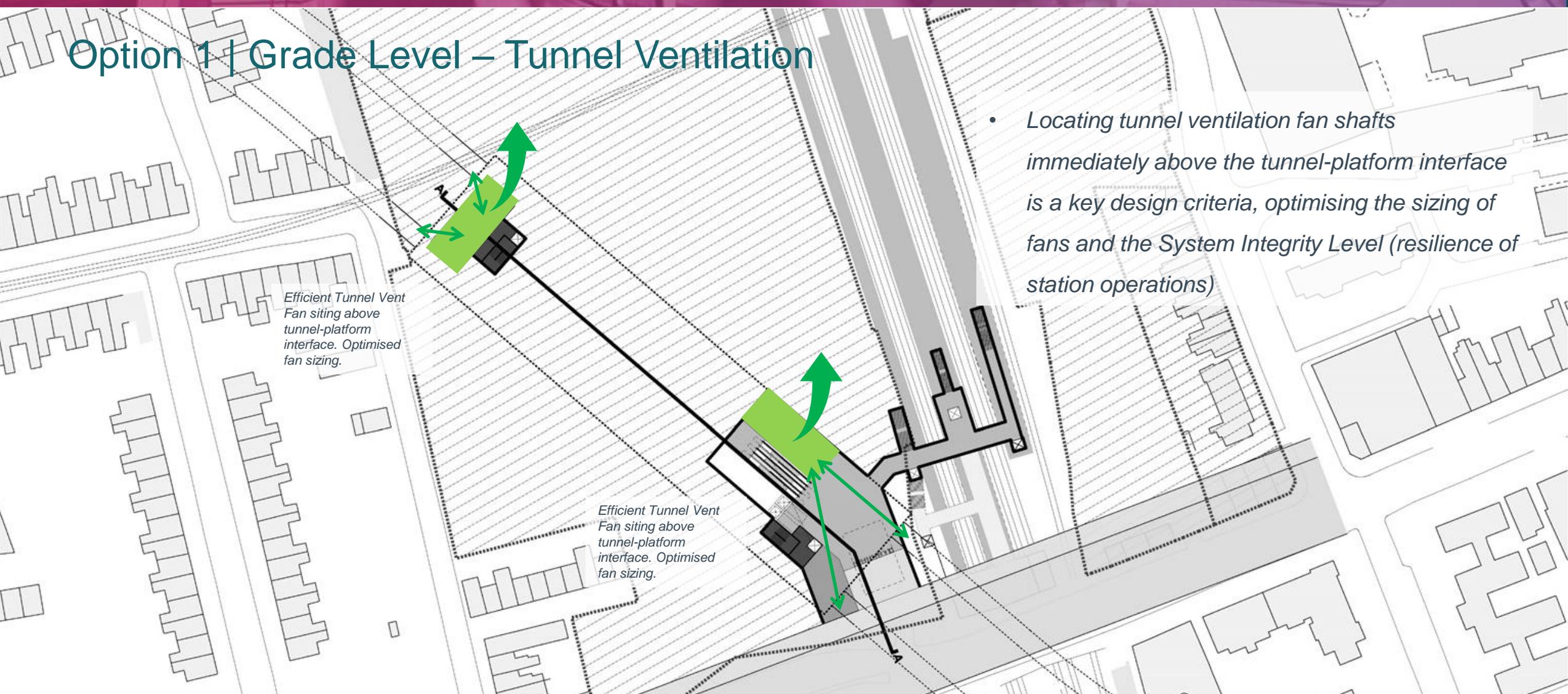


Option 1 | Grade Level – Fire-fighter Access



- Locating emergency intervention shafts immediately above the tunnel-platform interface is a key design criteria, aligning with LU Fire and Life Safety standards.
- Fire appliance parking to be no greater than 20m from the entry to the fire-fighting shaft.

Option 1 | Grade Level – Tunnel Ventilation

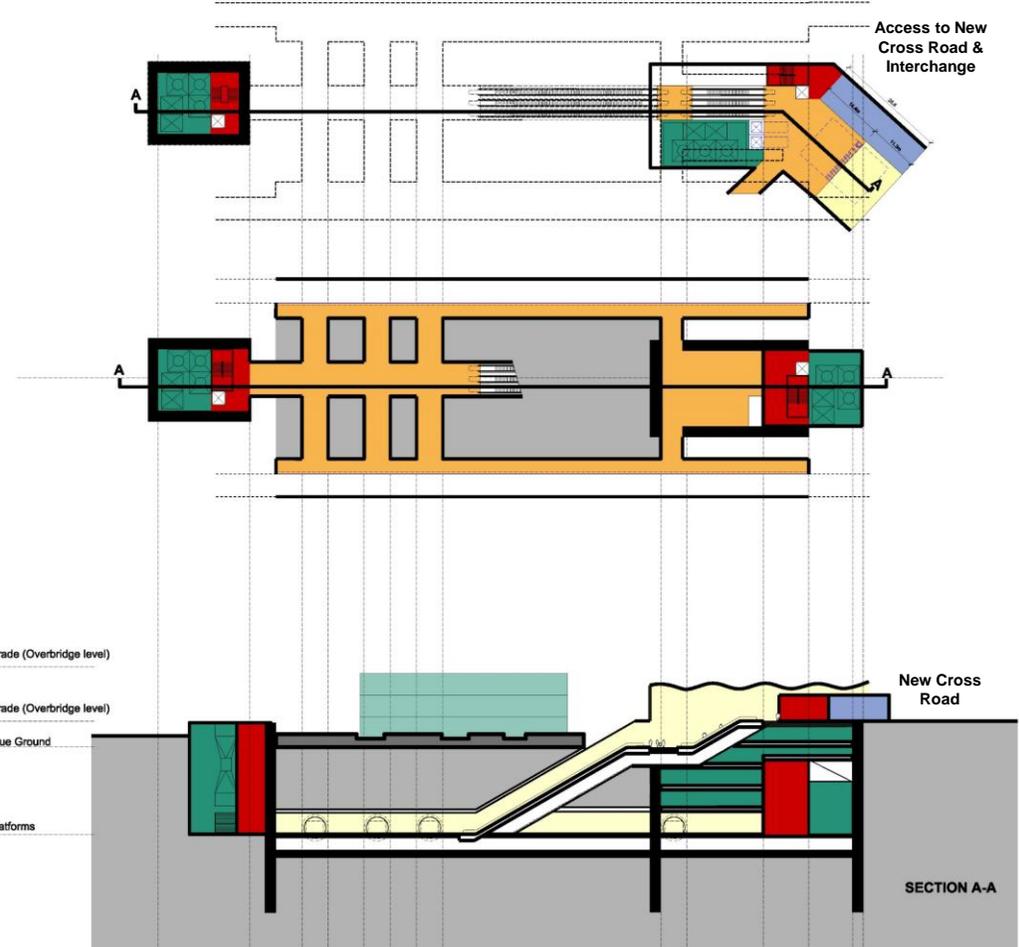


Efficient Tunnel Vent
Fan siting above
tunnel-platform
interface. Optimised
fan sizing.

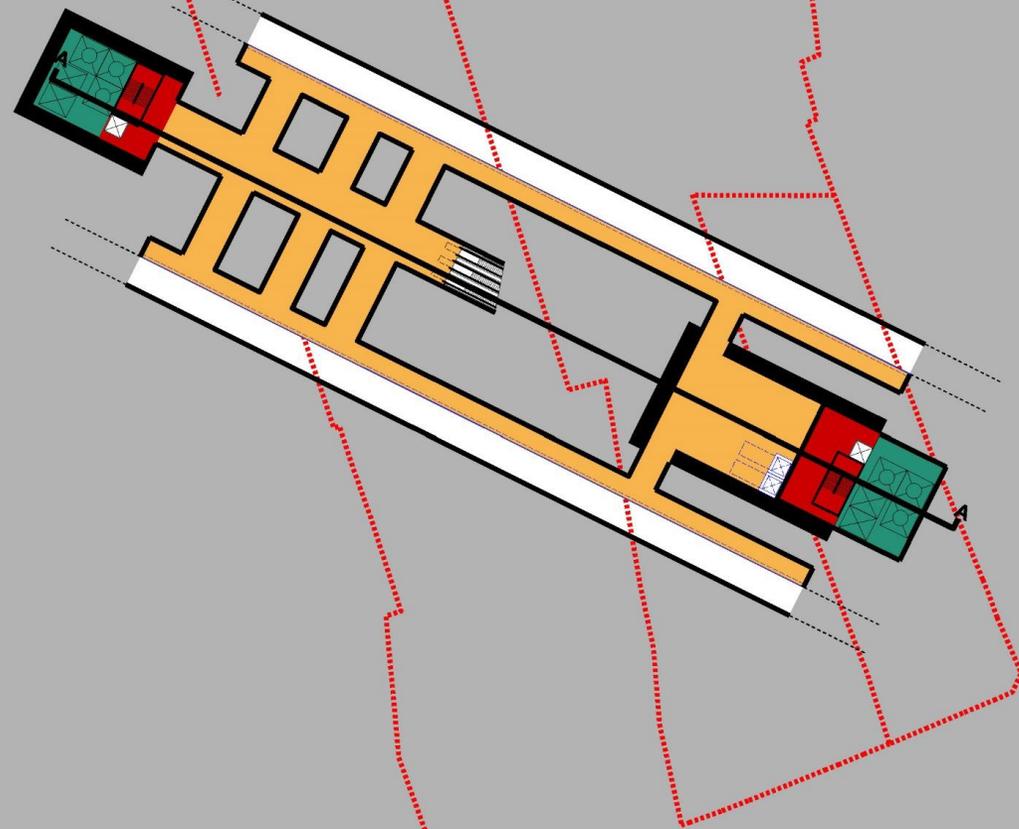
Efficient Tunnel Vent
Fan siting above
tunnel-platform
interface. Optimised
fan sizing.

- *Locating tunnel ventilation fan shafts immediately above the tunnel-platform interface is a key design criteria, optimising the sizing of fans and the System Integrity Level (resilience of station operations)*

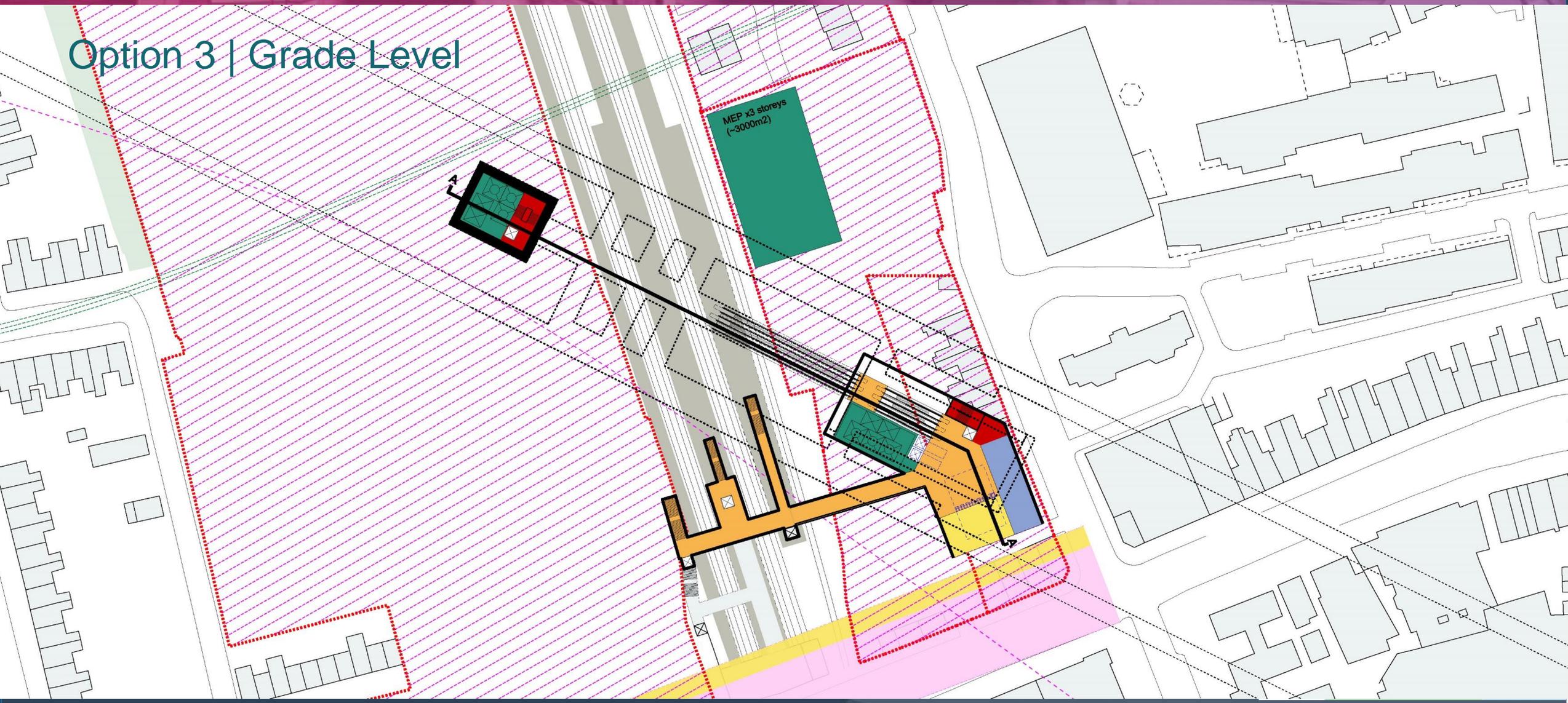
Option 3 | Summary



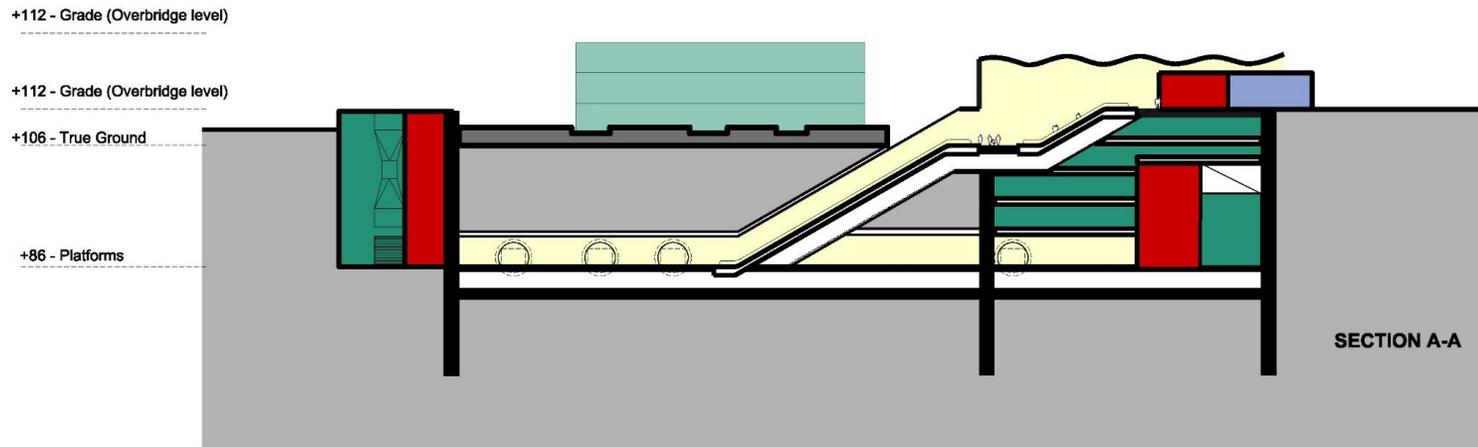
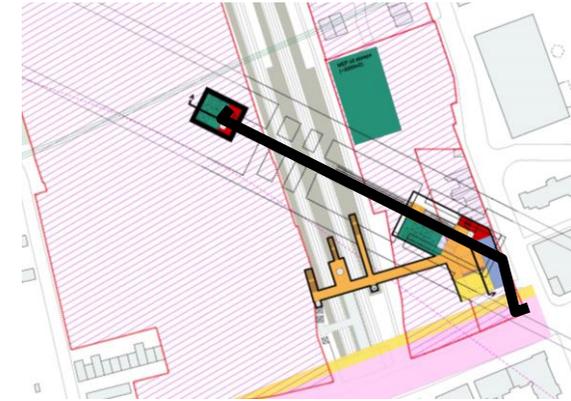
Option 3 | Platform Level



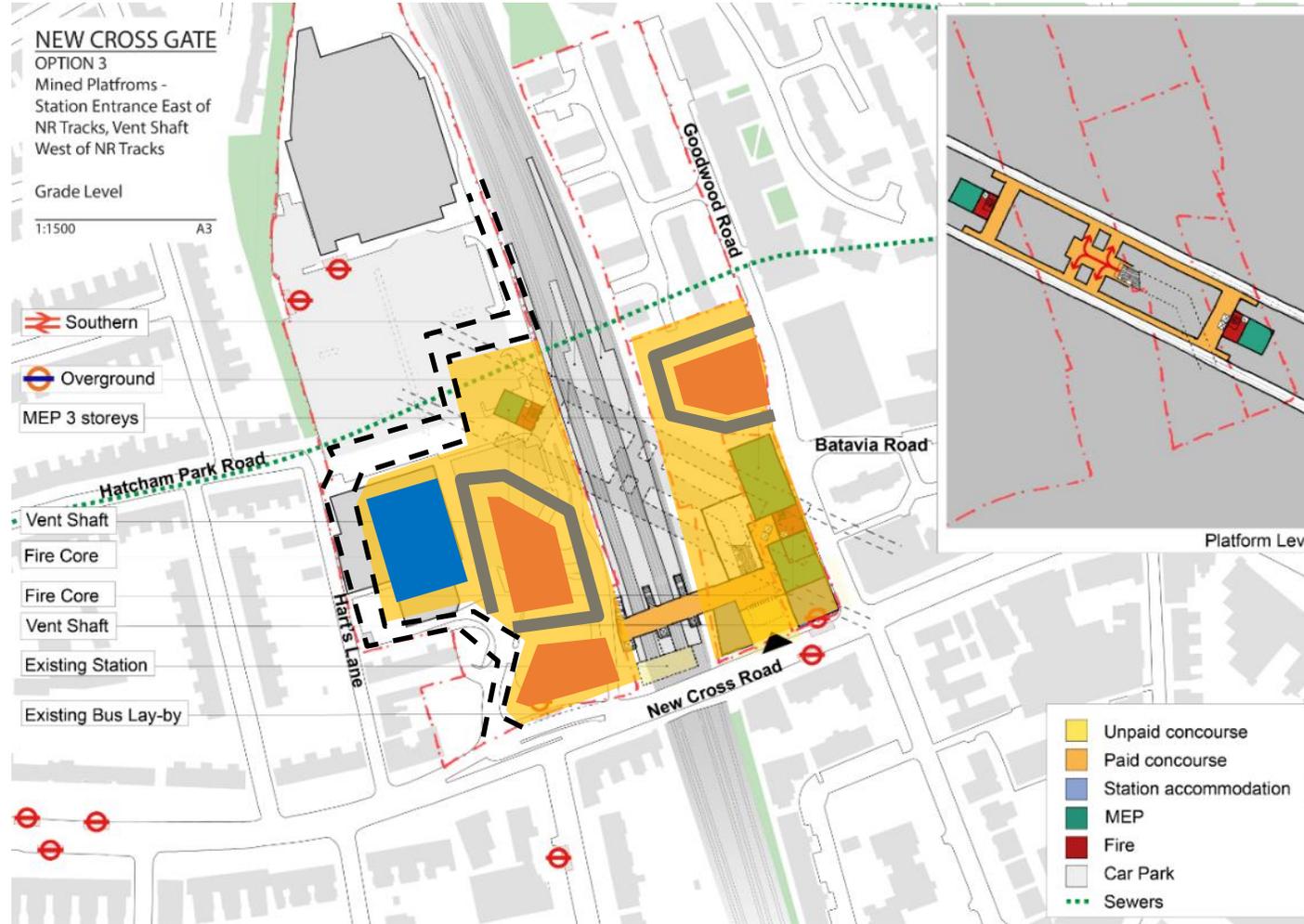
Option 3 | Grade Level



Option 3 | Section



Option 3 – Worksite Requirements



Key

- Construction worksite
- Satellite worksite
- Welfare
- Haul Road
- Crane
- Materials Storage
- Slurry Treatment Plant
- Sainsbury's Access
- TBM Launch Site

*Note:
The access and space provision shown for Sainsbury's store is our best estimate at this stage of planning and design to provide the fullest accommodation possible, whilst ensuring the proposed BLE station works can be undertaken.*

Option 3 – Worksite Requirements (Satellite Site)



Key

- Construction worksite
- Satellite worksite
- Welfare
- Haul Road
- Crane
- Materials Storage
- Slurry Treatment Plant
- Sainsbury's Access
- TBM Launch Site

*Note:
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Option 3 – Vehicle Movements



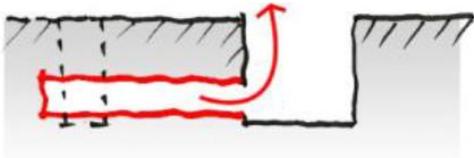
Key

- ↔ Store vehicles
- ↔ Store public
- ↔ Construction traffic

*Note:
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Option 3 – Construction Methodology

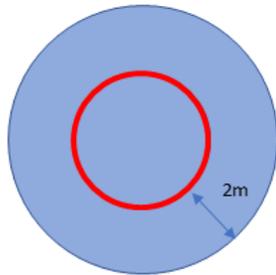
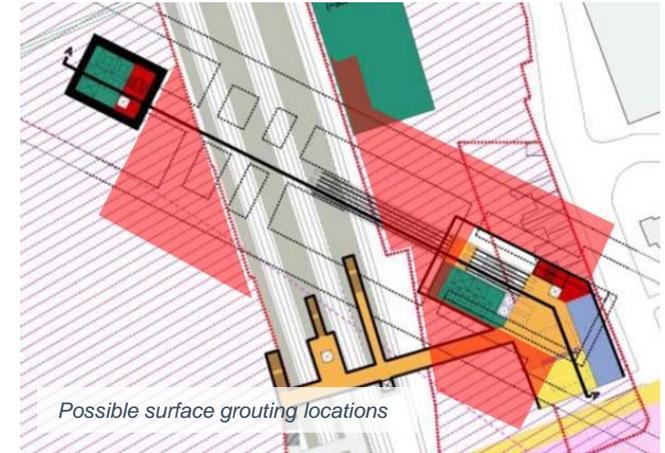
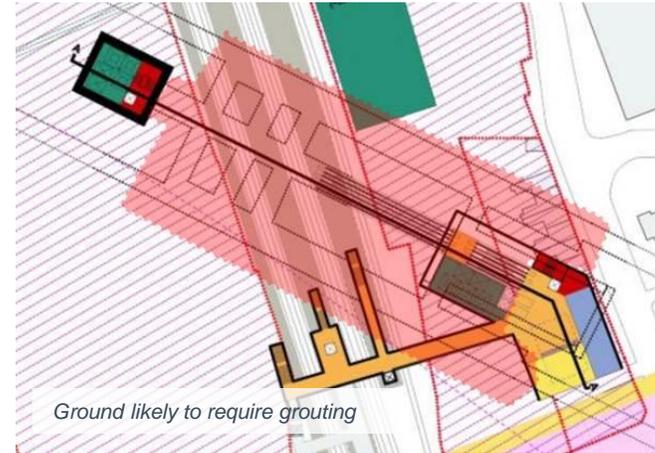
- *Diaphragm wall shaft for access;*
- *Spray concrete lining (SCL) of tunnels*
- *Mining in one direction;*
- *Ground improvement will be required to reduce possibility of settlement.*



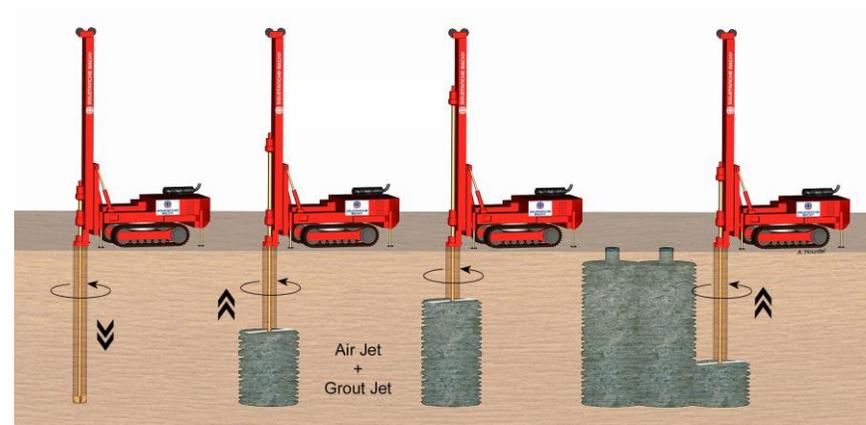
Single-direction
mining

Option 3 – Ground Improvement

- *Permeation grouting or jet grouting;*
- *Most efficient to grout from ground level;*
- *Likely requirement for inclined bores from either side of the railway.*



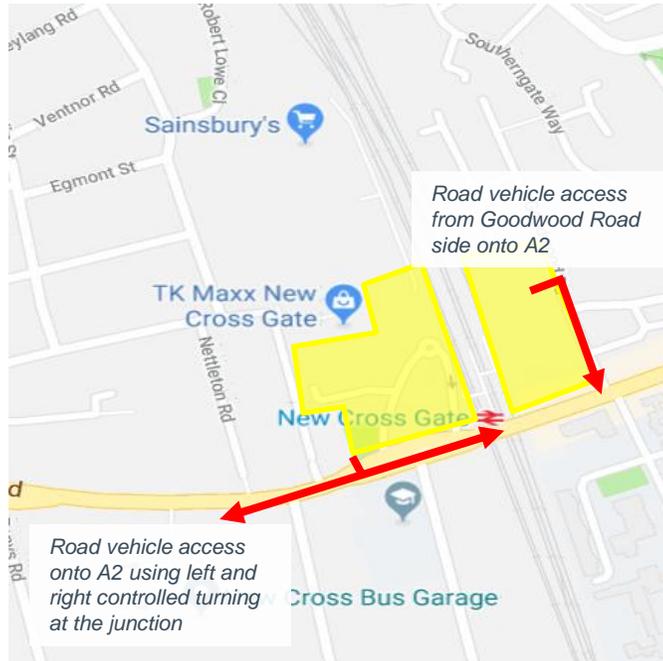
Minimum 2m annulus around any such tunnel to be treated by grouting



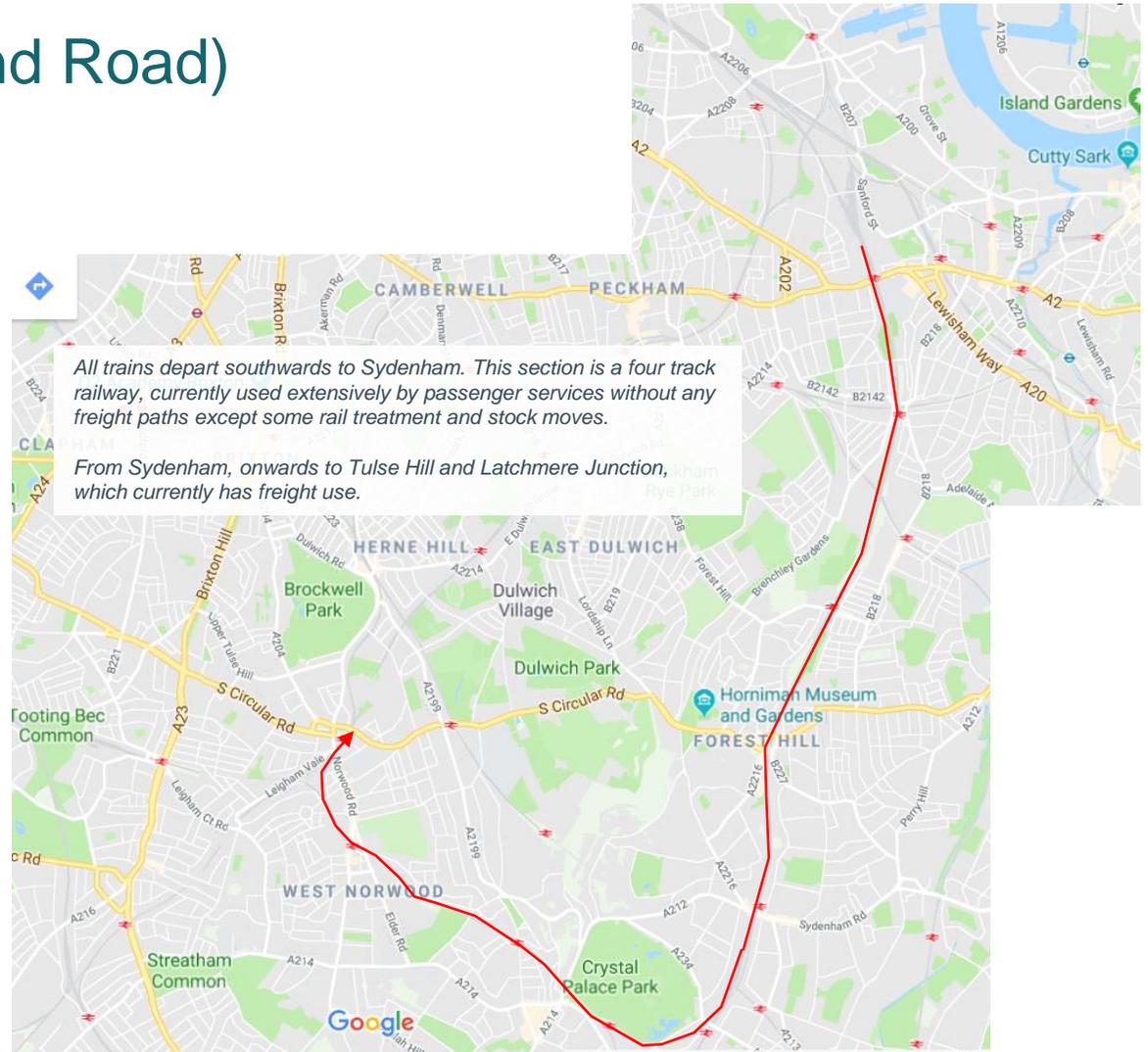
Option 3 – Construction Logistics (Rail)



Option 3 – Construction Logistics (Rail and Road)



The Goodwood Road site access is on a residential road which has left turn only onto the A2.



Option 3 | Grade Level – Fire-fighter Access

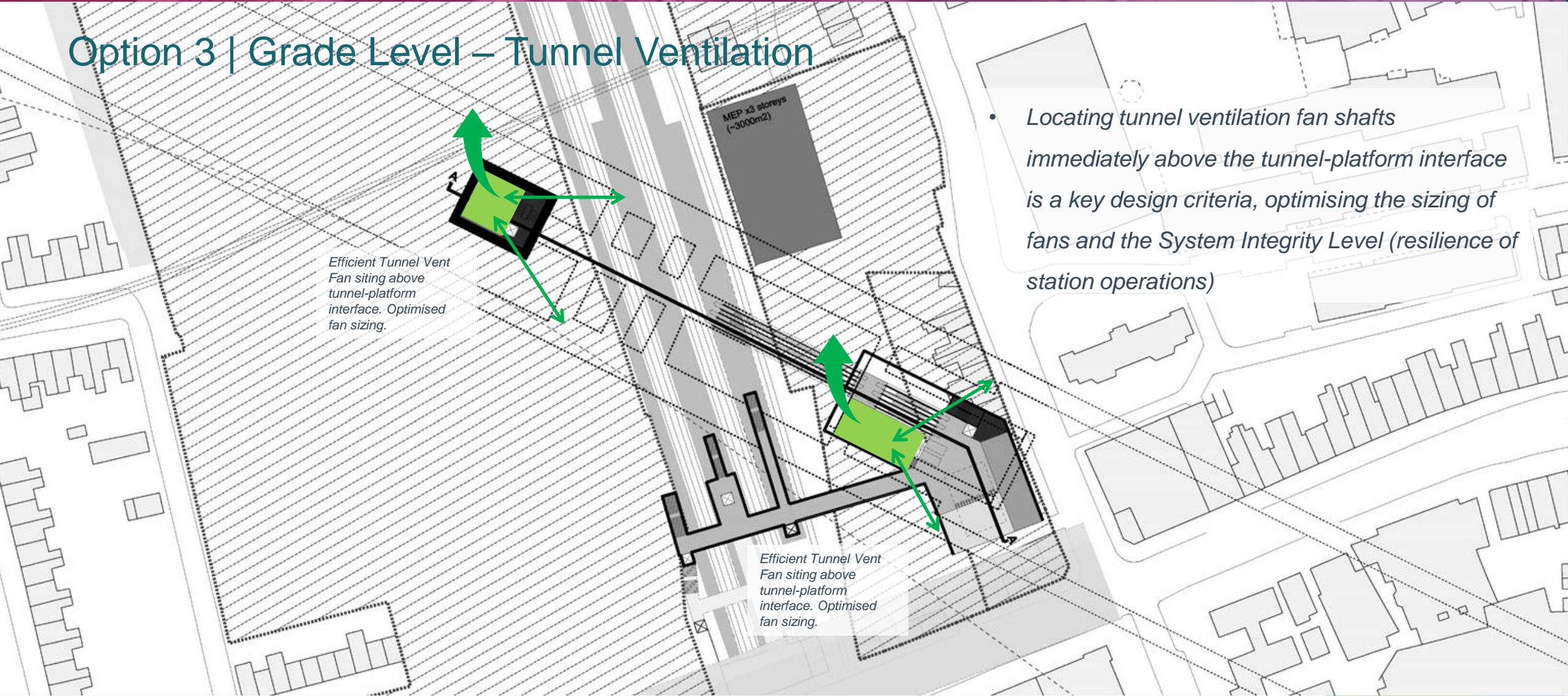
Emergency Vehicle
Parking in close
proximity to shaft and
platform ends

MEP x3 storeys
(~3000m²)

- Locating emergency intervention shafts immediately above the tunnel-platform interface is a key design criteria, aligning with LU Fire and Life Safety standards.
- Fire appliance parking to be no greater than 20m from the entry to the fire-fighting shaft.

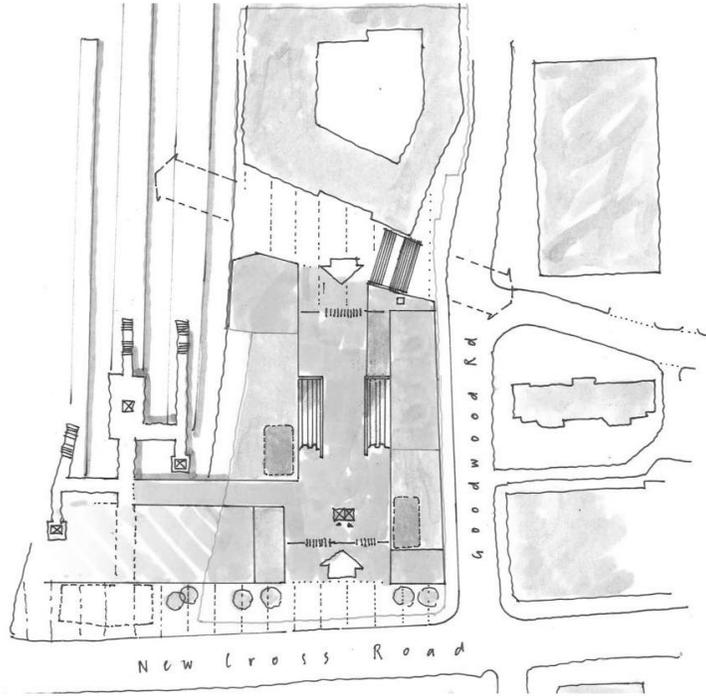
Emergency Vehicle
Parking in close
proximity to shaft and
platform ends

Option 3 | Grade Level – Tunnel Ventilation

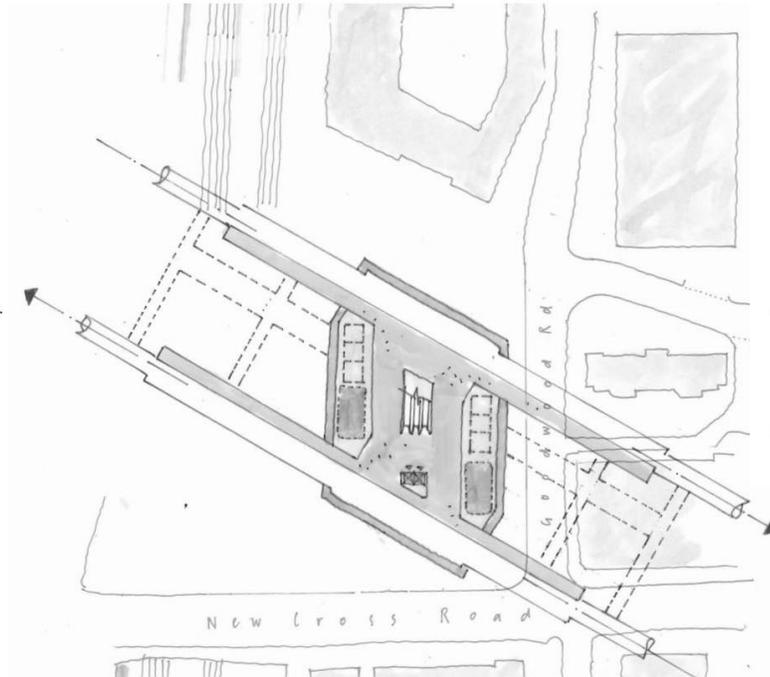


- Locating tunnel ventilation fan shafts immediately above the tunnel-platform interface is a key design criteria, optimising the sizing of fans and the System Integrity Level (resilience of station operations)

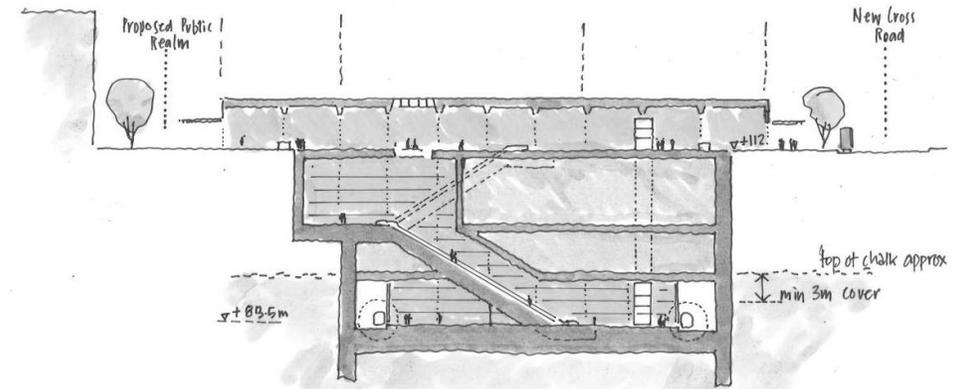
Option 3a – S/MA Proposal Overview



Grade Level



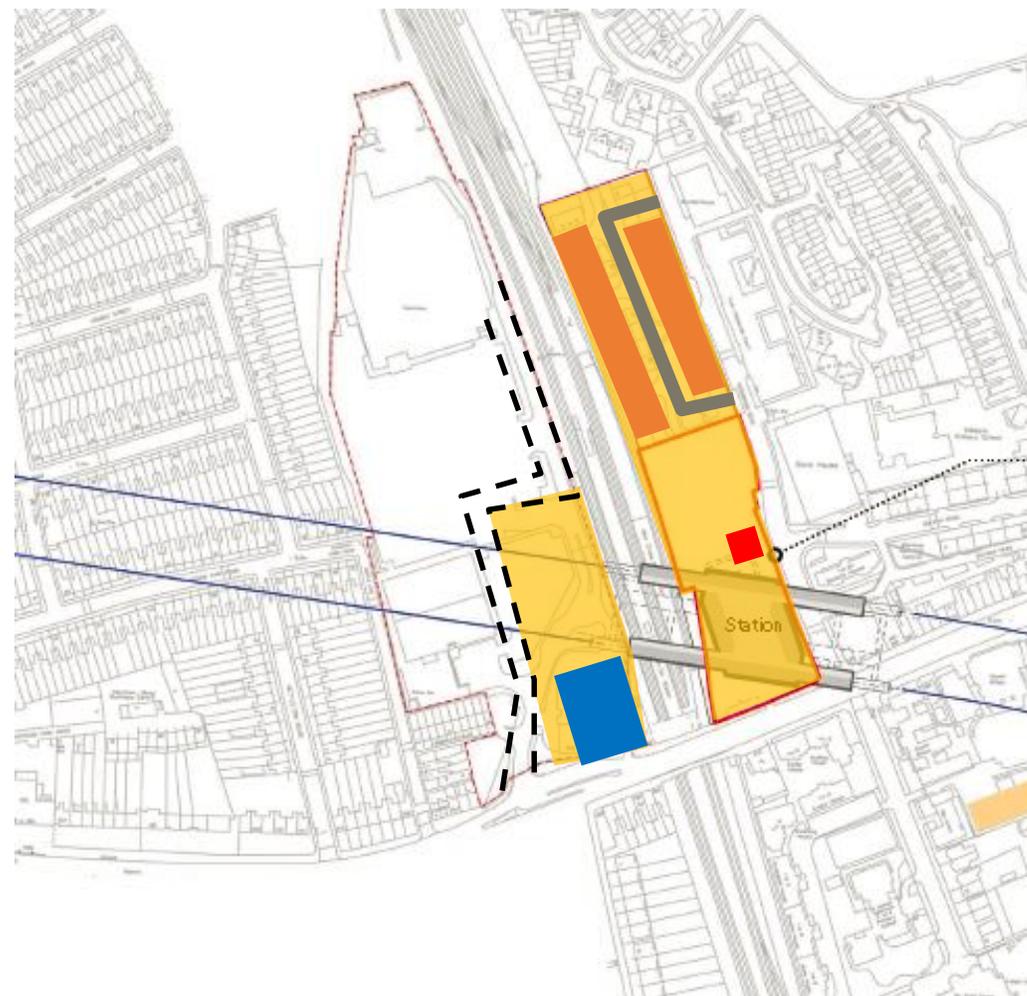
Platform Level



Section

Option 3a – Worksite Requirements

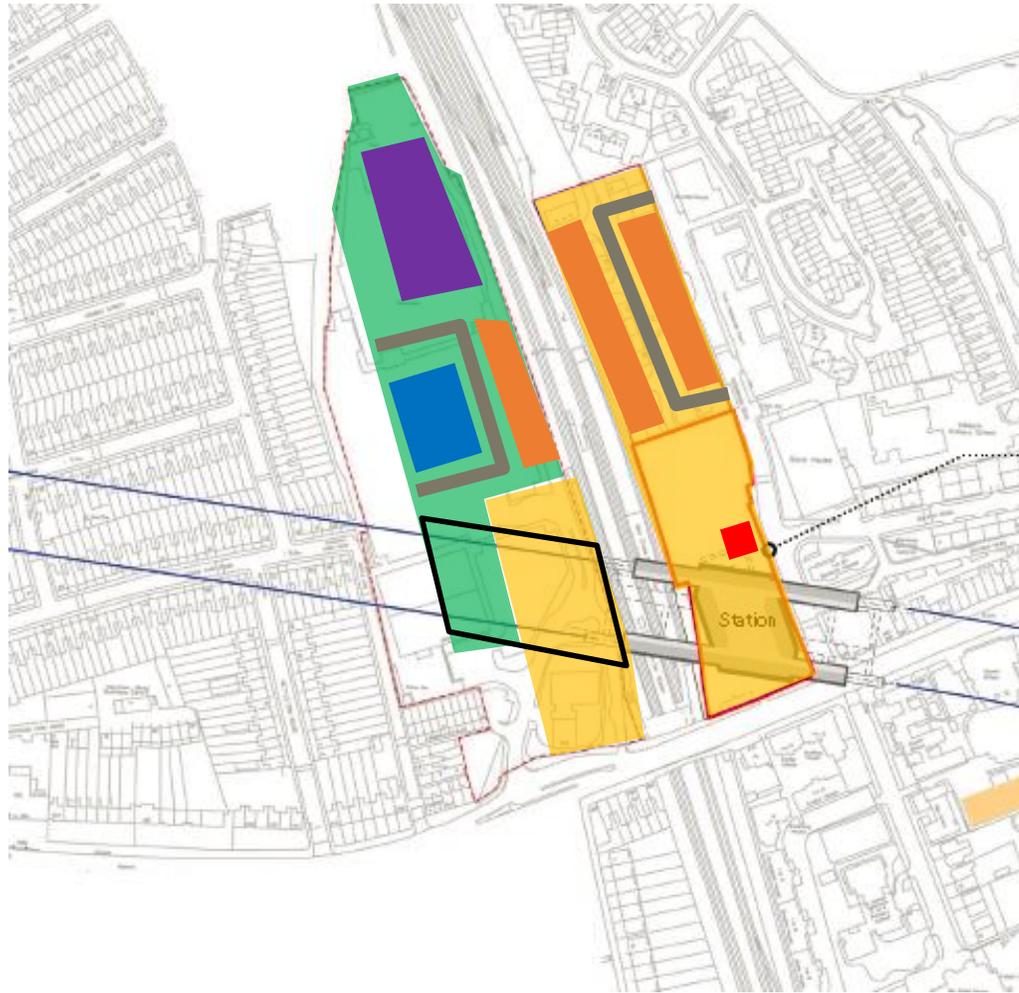
- Option 3a includes a single shaft for providing construction access to the platform level and the tunnel interface. The result is the requirement to acquire the Wandle Housing site for storage and construction operations.
- Option 3 allows the construction to be divided evenly between the west and east sites, allowing the Wandle Housing to remain.



Key	
	Construction worksite
	Satellite worksite
	Welfare
	Haul Road
	Crane
	Materials Storage
	Slurry Treatment Plant
	Sainsbury's Access
	TBM Launch Site

Option 3a – Worksite Requirements (Satellite Site)

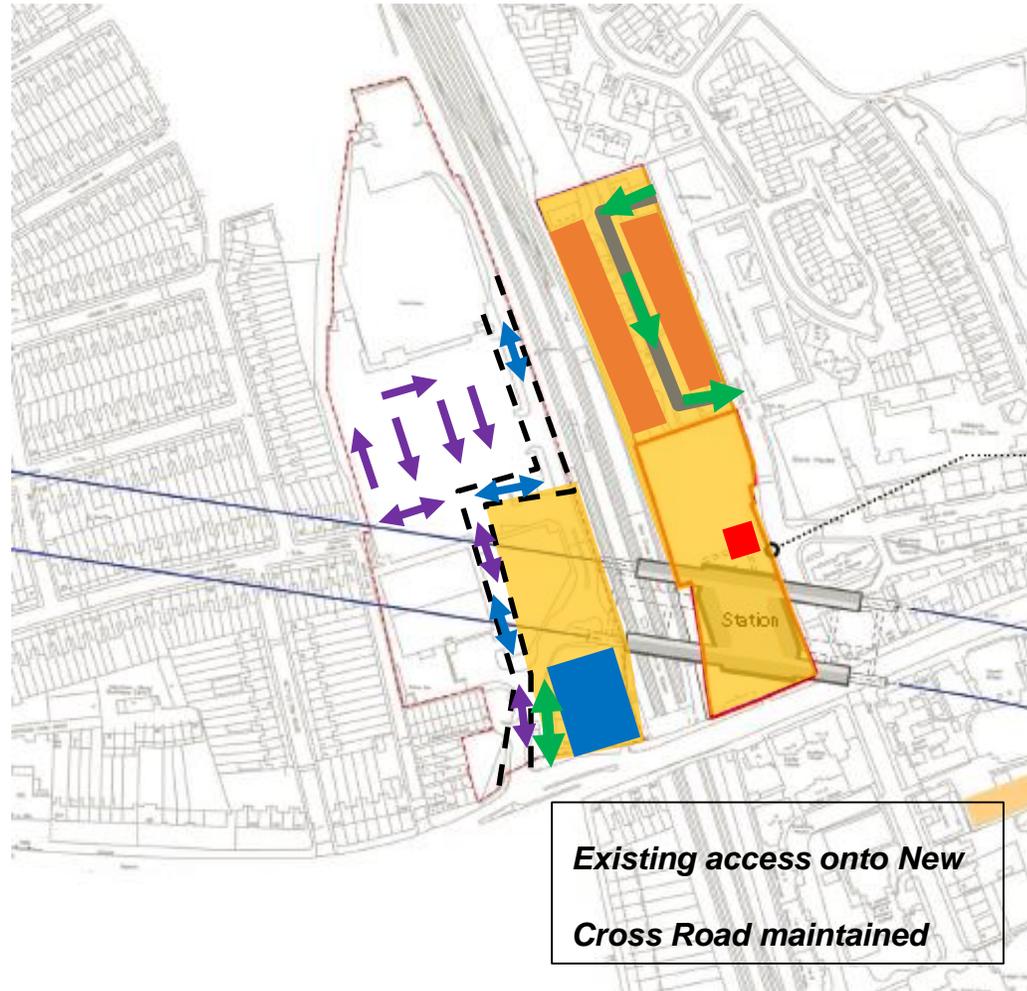
- As a satellite construction site, the west site is extended to the north, allowing efficient rail access to the Cold Blow Lane loop.



Key

- Construction worksite
- Satellite worksite
- Welfare
- Haul Road
- Crane
- Materials Storage
- Slurry Treatment Plant
- Sainsbury's Access
- TBM Launch Site

Option 3a – Vehicle Movements



Key

- ↔ Store vehicles
- ↔ Store public
- ↔ Construction traffic

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Option 3a – Ground Improvement

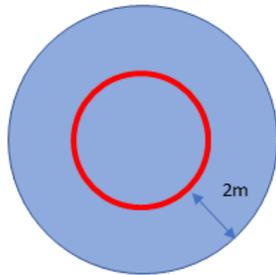
- *Permeation grouting or jet grouting;*
- *Most efficient to grout from ground level;*
- *Likely requirement for inclined bores from either side of the railway;*
- *6 month road closures to the east of the site.*



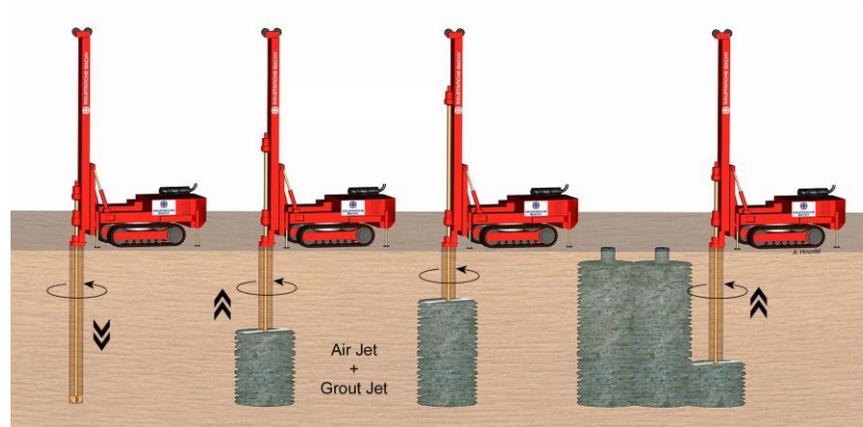
Ground likely to require grouting



Possible surface grouting locations; 6 month road closures required.



Minimum 2m annulus around any such tunnel to be treated by grouting

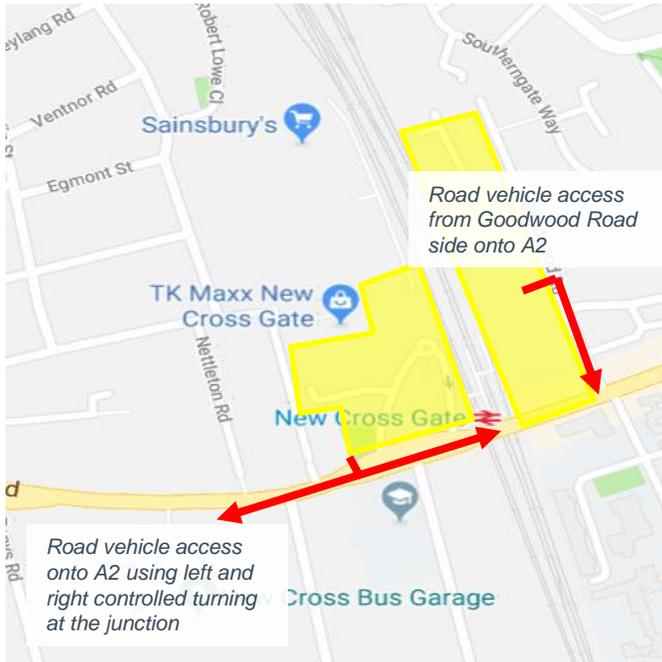


Inclined jet grouting rig

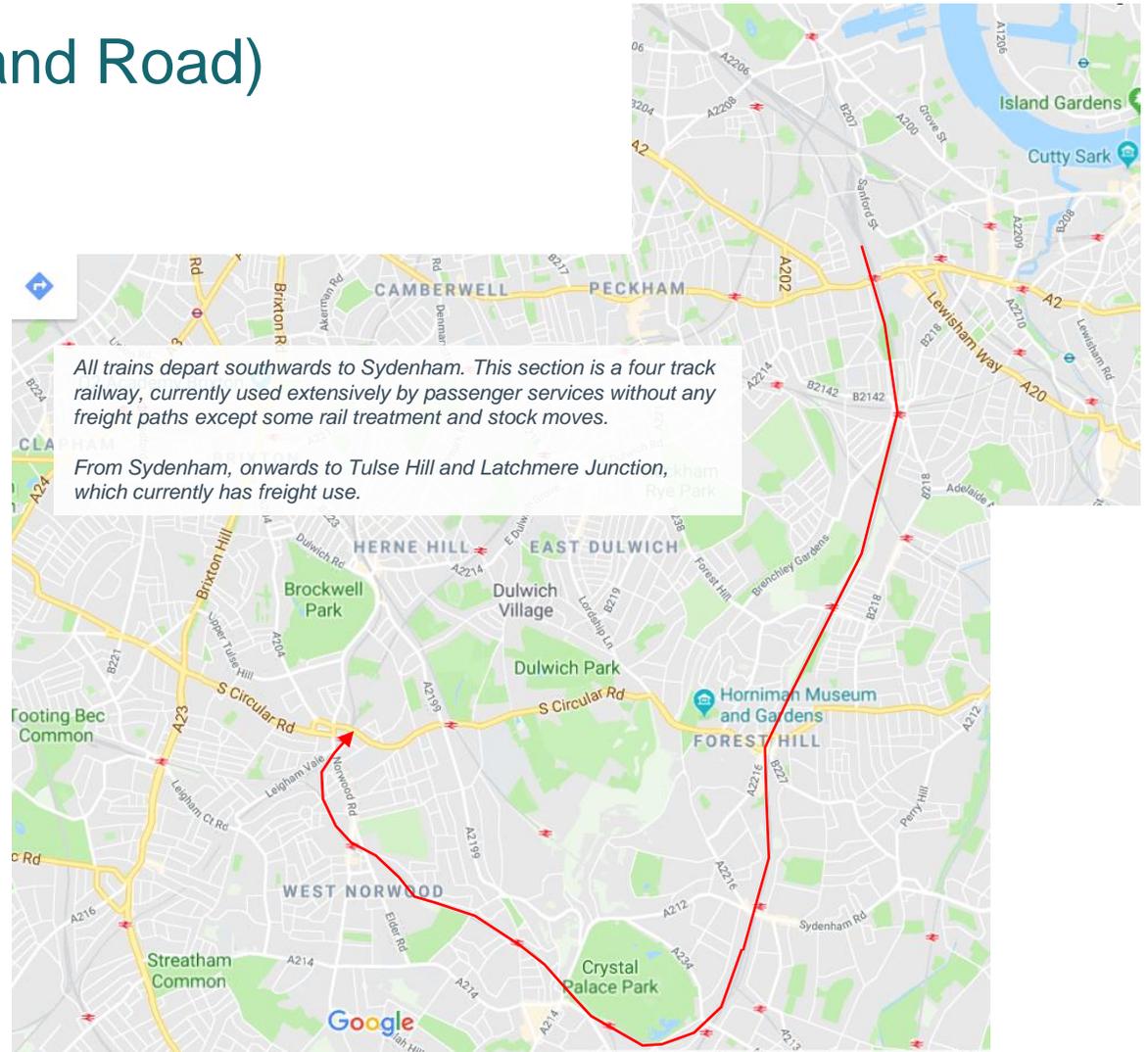
Option 3a – Construction Logistics (Rail)



Option 3a – Construction Logistics (Rail and Road)

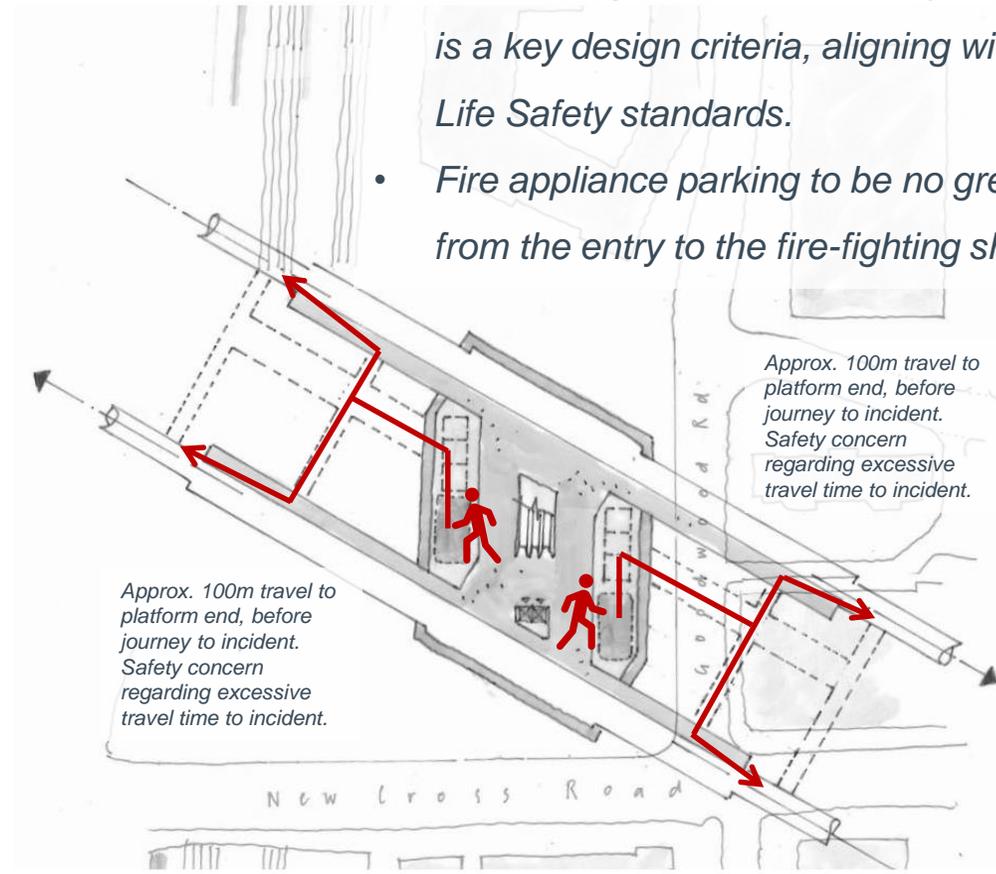
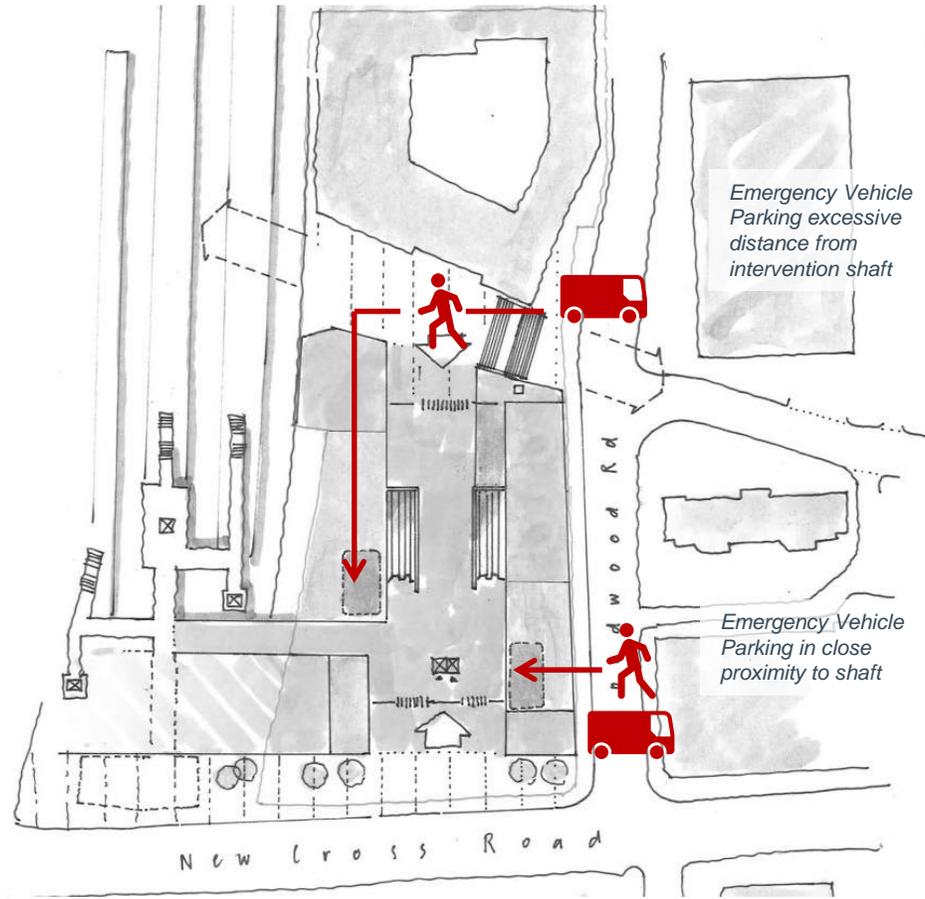


The Goodwood Road site access is on a residential road which has left turn only onto the A2.



Option 3a – Fire-fighting Access

- Locating emergency intervention shafts immediately above the tunnel-platform interface is a key design criteria, aligning with LU Fire and Life Safety standards.
- Fire appliance parking to be no greater than 20m from the entry to the fire-fighting shaft.



Option 3a – Tunnel Ventilation

