

#### DOMAIN COMMUNITY REFERENCE GROUP

Meeting #22

Wednesday 6 May, Online Meeting



### **WORKS UPDATE**



#### METROTUNNEL ANZAC STATION PROGRAM

_	May	June	July	August
Tunnel boring machine delivery and assembly	•••••			
Middle Box initial excavation and roof slab pour	• • • • • • • • • • • • • • • • • • • •	•••••	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •
Anzac Station entrance construction - Shrine of Remembrance		• • • • • • • • • • • • • • • • • • • •		
Tunnelling - TBM Millie		• • • • • • • • • • • • • • • • • • • •		
Tunnelling - TBM Alice	0.	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •
South box excavation beneath the roof slab			0	•





#### **MIDDLE BOX**

- Works continuing in the middle box to construct the roof slab
- This includes:
  - Excavating to roof slab level (pour 1 complete)
  - Putting down a blinding layer of concrete (pour 1 complete)
  - Installing steel reinforcement (commenced)
  - · Pouring concrete slab
- · The roof slab will be done in three pours, similar to how the south box was constructed
- Whilst the TBMs pass under the middle box, works will pause to ensure structural integrity is not compromised.





### METROTUNNEL MIDDLE BOX



Excavation to roof slab level

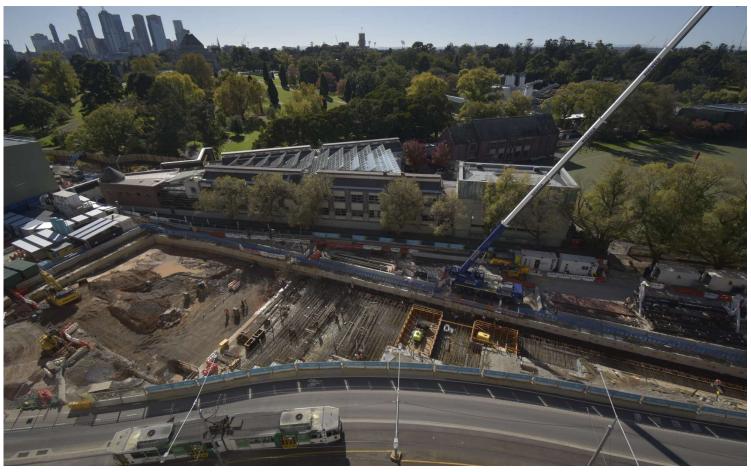




Installation of steel reinforcements

## METROTUNNEL

### MIDDLE BOX







#### STATION ENTRANCE CONSTRUCTION



- The team will commence to remove the concrete slab that was beneath the bentonite plant
- Services in the area are in the process of being relocated before the surface area is levelled later in May
- The area needs be levelled to accommodate the initial piling works scheduled to commence in the coming months



### **TUNNELLING UPDATE**



#### **TBM UPDATE**

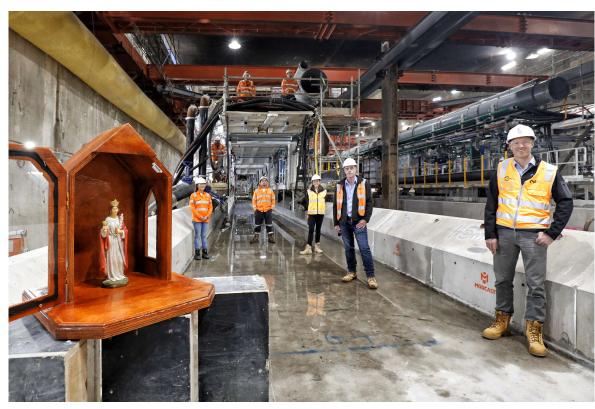


- TBM Millie began tunnelling in April, to date 51 metres of tunnel has been excavated
- TBM Alice is in its final stages of testing and commissioning and will begin her drive to South Yarra later this month
- TBM Millie has now paused tunnelling for the installation of the remaining three gantries, which can be connected now as the machine has moved forward and created more room for their installation underground



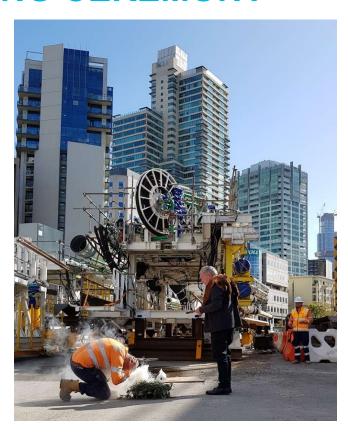


#### **TBM BLESSING & SMOKING CEREMONY**



Saint Barbara statue blessed prior to launch





Wurundjeri Elder Uncle Ron Jones performing a smoking ceremony before launch



#### **TBM MILLIE**

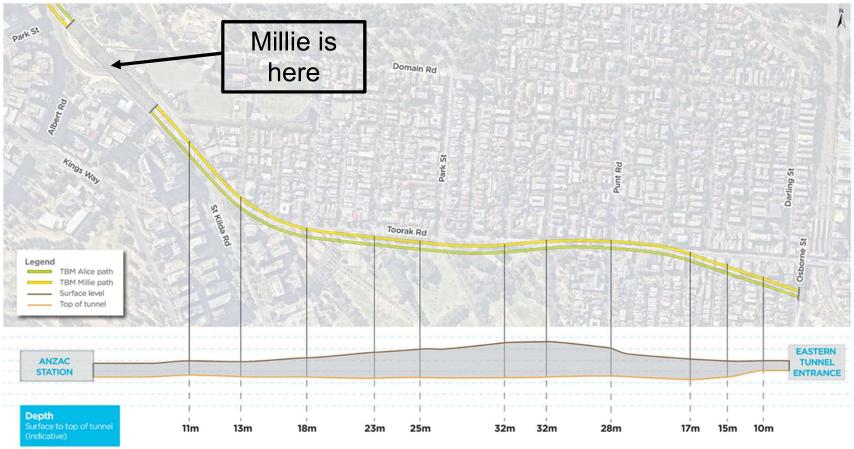


- Currently, TBM Millie has travelled approximately 51 meters and is tunnelling under the middle box
- Millie will break through the rear of the south box in June and begin forming the first section of the eastbound Metro Tunnel from Domain





#### METROTUNNEL TBM'S CURRENT LOCATION





# TUNNELLING SUPPORT SITE – EDMUND HERRING OVAL



#### **SOIL JOURNEY**



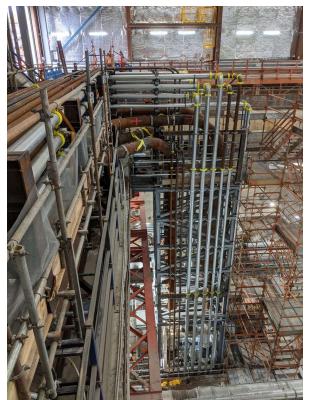
- Tunnelling is now underway and the soil from the TBMs is making its way to the purpose-built site at the former Edmund Herring Oval
- The soil is transported via a series of pipes that wind their way from inside the tunnels, up to surface level, out of the sheds, under the footpath and up to Edmund Herring Oval
- Every 6m, the tunneling team will stop excavation to add new lengths of pipe to the TBM



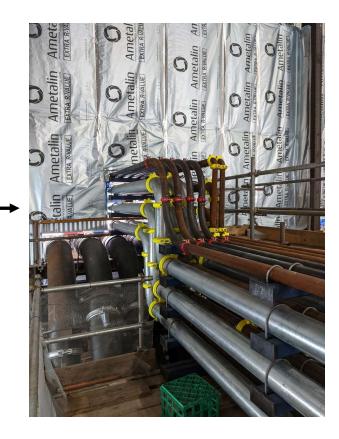
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#### A NETWORK OF PIPES





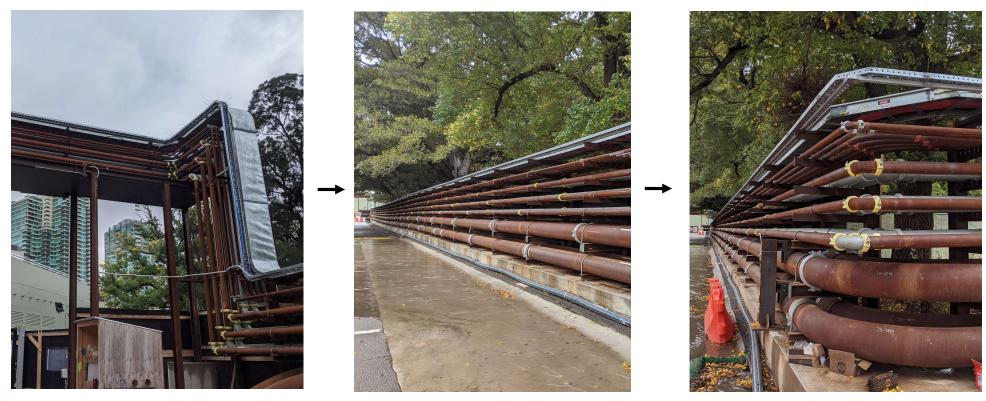








#### METROTUNNEL A NETWORK OF PIPES



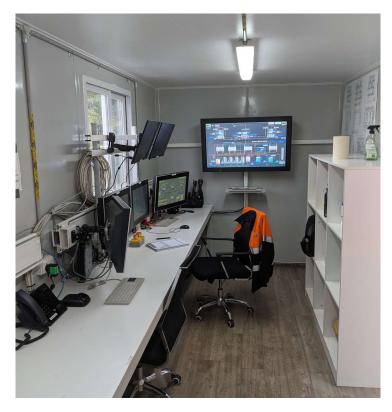
Along Domain Road and into Edmund Herring Oval





#### TREATMENT PLANT





Soil first arrives at the treatment plant where it is separated from the bentonite and water, whilst the



#### **INSIDE THE TREATMENT PLANT**







Vibrator screens and cyclones (green) are used to filter soil



#### **MOVING MATERIAL**





Once filtered, larger materials are sent along this conveyor belt to the disposal bins





#### **FILTER PRESSES**





The finer material is sent on to the filter presses, where it is compressed to remove additional moisture,

creating briquettes which are trucked from site





#### **RE-USE/RECYCLE**





The water and bentonite extracted during this this filtration process is piped back into tanks for future re-use.



#### **WHEEL WASH**

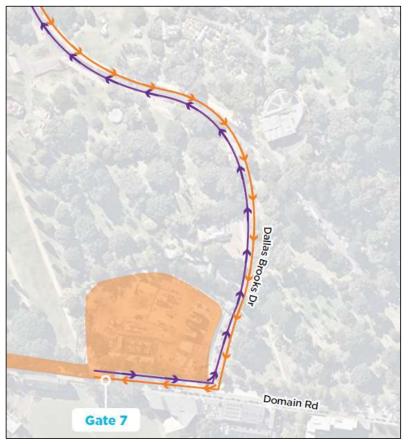


To ensure the local roads remain clean trucks will go through a permanent wheel wash before exiting site





#### **SOIL REMOVAL FROM SITE**



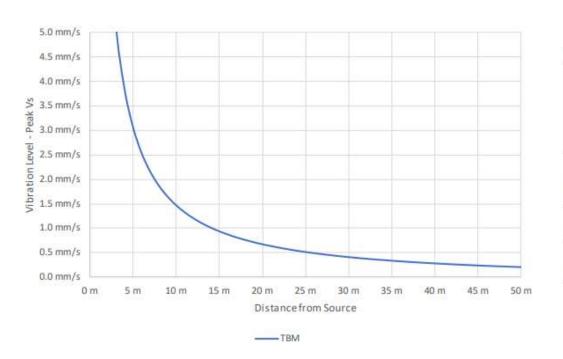
- Soil will be trucked away from Edmund Herring Oval via Dallas Brooks Drive, Birdwood Avenue and Linlithgow Avenue to reduce impact on local residents (primary route)
- On average, there will be 20 trucks taking 6 loads per shift
- The project is working closely the Shrine of Remembrance and Melbourne Grammar School to limit the impact of increased truck activity



# TUNNELLING NOISE AND VIBRATION



## TBM MODELLING – NV8 VIBRATION (STRUCTURES)



#### **EPR NV8 Criteria**

#### Table NV8-1: Short-term vibration on structures

Type of structure	Vibration at the foundation, mm/s (Peak Component Particle Velocity)			Vibration at horizonta plane of highest floor at all frequencies	
	1 - 10 Hz	10 - 50 Hz	50 - 100 Hz¹	mm/s (Peak Component Particle Velocity)	
Type 1: Buildings used for commercial purposes, industrial buildings and buildings of similar design	20	20 - 40	40 - 50	40	
Type 2: Dwellings and buildings of similar design and/or occupancy	5	5 - 15	15 - 20	15	
Type 3: Structures that have a particular sensitivity to vibration e.g. heritage buildings	3	3 - 8	8 -10	8	





#### METROTUNNEL VIBRATION MONITOR

The monitors used to measure vibration from the TBM against our modelled data





### DOMAIN NOISE MONITORING



#### **TUNNELLING - NIGHT**

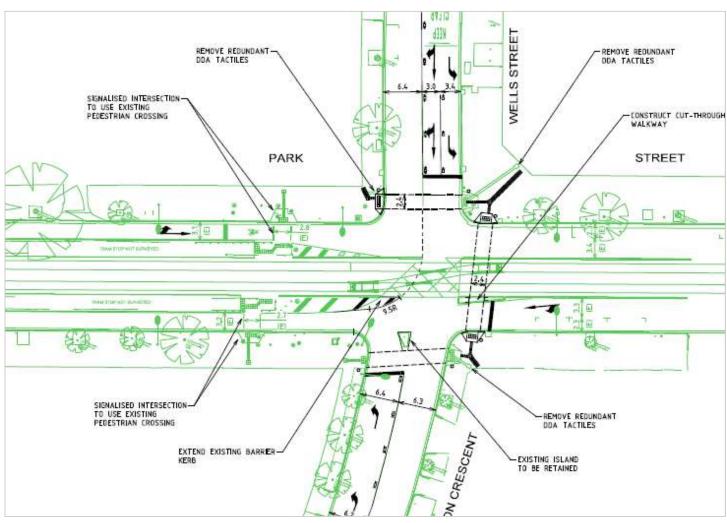
- TBM support infrastructure (EHO) operating
- CNVIA predicts between 62db 65db for key sensitive receivers surrounding Domain
- Monitoring undertaken onsite:
  - Hallmark = 56dBa
  - The Botanica = 56dBa
  - The Domain = 62dBa
- Notes:
  - Trams dominant noise source
  - Street sweeper



# PARK AND WELLS STREET SIGNALISATION



#### PARK AND WELLS STREET SIGNALISATION

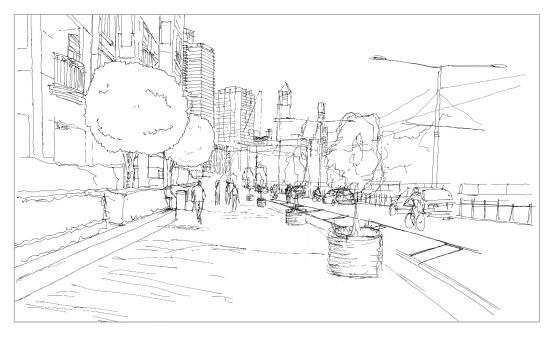




# TREE AND PLANTER BOX INSTALLATION



#### ST KILDA ROAD PLANTER BOXES



- 10 portable trees in planter boxes will be placed in front of The Botanica and 390 St Kilda Road
- Tristaniopsis Laurina 'Luscious' is an Australian native around 2.3m tall with large dark green leaves
- The trees will be placed in tanks with a Colorbond Ironstone finish
- The City of Port Phillip will maintain the trees and repurpose them elsewhere when no longer required



# METRO TUNNEL CREATIVE PROGRAM

#### DOMAIN POP-UP PARK

- Extra signage and increased cleaning and sanitisation due to Covid-19
- Feedback closed April 17 engagement report is being developed and will be put online and shared with interested parties
- Creative Program is now working with RPV and City of Melbourne on next steps either:
  - 1. Extend permits for the park to continue operating for the rest of 2020.
  - 2. Remove and store the park's modules and reinstall during the summer months.
  - 3. Move the park modules to a different location.



### **QUESTIONS**