

DTSS2 TODAY

Issue 4: Nov 2020



Photo: Lowering of TBM at Shaft M (Portsdown Avenue)

PROJECT PROGRESS

Works for the Deep Tunnel Sewerage System Phase 2 (DTSS2) project resumed progressively in June following the circuit breaker period due to the COVID-19 outbreak. Adhering to strict safe restart guidelines by MOM and BCA, safe management measures were implemented across all work sites to ensure the safety of construction workers.

A total of 19 tunnel boring machines (TBMs) have been delivered to Singapore with 14 TBMs currently in operation about 10 kilometres tunnelled (including Link Sewer constructed by Tunnel Boring Machine). All 12 link sewer contractors have also been appointed.

At TWRP, 2020 has seen the award of S\$1 billion worth of contracts. With the resumption of works, the newly awarded contracts have started site possession and the necessary establishment works while construction activities for the other existing contracts continue.

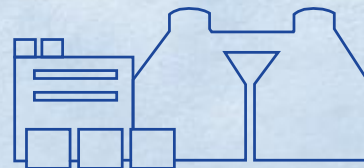
DTSS PHASE 2



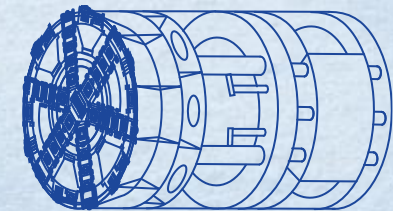
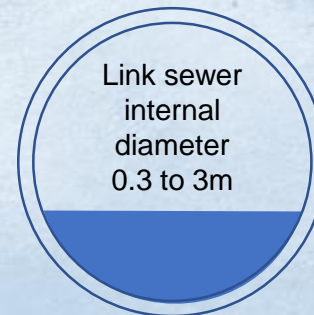
42.61%
Overall Progress



23.2 million
Total Manhours (Overall)



Domestic Used Water
650,000m³/d
Industrial Used Water
150,000m³/d



Tunnel internal
diameter:
3 to 6 m

CONVEYANCE



21.0 million
Man-hours worked

Link Sewer Contracts

12 Contractors



12/12
Contracts Awarded



22%
Construction Progress

Tunnel Contracts

5 Design & Build Contractors

14/19

TBMs in Operation



10.2 kms

Length Tunnelled



50/50

Active Sites



42.8%

Construction Progress

Lowering of TBM Keppel @ Shaft K

* as at 31 Oct 2020

TBM UPDATES

Two more TBMs, *Portstown* and *Farrer*, measuring 7.46m and 5.40m in diameter respectively, were delivered to site at Shaft M (Contract T-10) in August. With this, all 19 TBMs for DTSS2 have arrived safely in Singapore. TBM *Portstown* and TBM *Farrer* will be launched in December 2020 and January 2021 respectively, bringing the total TBMs in operation to 17.

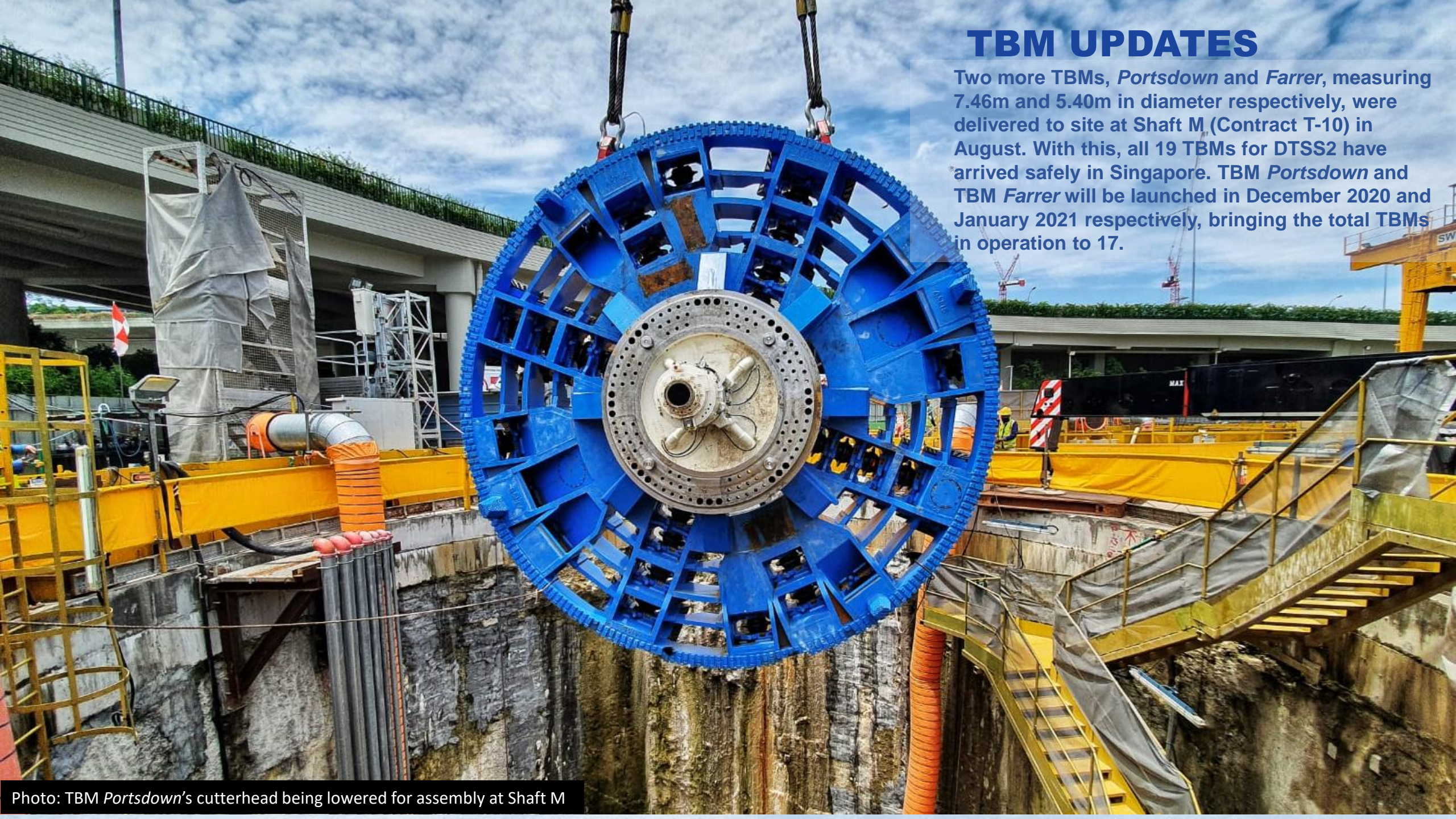


Photo: TBM *Portstown*'s cutterhead being lowered for assembly at Shaft M

TUAS WRP

Contract 4A

Biosolids and Digesters

Contract awarded to CES_SDC Pte. Ltd in Apr 2020. Civil foundation works are in progress.

Contract 2A

Influent Pumping Stations

Started the deep diaphragm walling on three of the five shafts, with the walls for one shaft nearing completion.

Contract 3C

Domestic Liquids Modules – Civil and Building Services Works

Contract awarded to Sinohydro Corporation Limited in Aug 2020. Site establishment works and mobilisation of machinery are underway.

Contract 5A

Plant Monitoring and Control System

Contract awarded to ABB Pte. Ltd in Oct 2020. Network design works is underway.



3.2 million
Man-hours worked



5/18
Contracts Awarded



4.28%
Construction Progress

TWRP Awarded Green Mark Platinum



More than
85%
NEWater recovery

30%
MORE
COMPACT
FOOTPRINT



Powered by renewable,
green energy derived
from biogas, sludge, solid
waste and solar.



TWRP obtained the Building and Construction Authority (BCA)'s Green Mark (Platinum) certification which recognised TWRP for its innovative treatment processes to enhance water recovery, energy efficiency and recovery, as well as environmentally friendly construction efforts. This achievement is a testament to PUB's unrelenting efforts for sustainable design and built environment, and good practices in the construction of TWRP within its compact land area.

Tuas Nexus on Social Media



Minister's Speech



Tuas Nexus Video

TUAS NEXUS IS GREATER THAN THE SUM OF ITS PARTS!

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Being an Engineer and a Dedicated Mother

Angela Ong, Senior Engineer from PUB's DTSS2 Department, shares her experience in the project, and finding the perfect balance as a working mother

Tell us about your role...

My main role is as project officer administering Contract T-11, one of the five Tunnel Design & Build Contracts, which has the most number of shafts (15) in DTSS2. Contract T-11 is also using the Vertical Shaft Sinking Machine (VSM) for the first time in Asia, to carry out shaft excavation and ERSS construction in a more productive and safer manner.

My responsibilities also include administration set up, planning of tunnel alignment, liaising with internal departments and external agencies, tender calling etc. I work closely with consultants and contractors to ensure that we deliver the project safely, timely and in a cost-effective manner.



Angela with Singapore's first Vertical Sinking Machine

How does it feel to be pioneering the VSM technology in Asia for this project?

It is great that the Contract T-11 Contractor, Shanghai Tunnel Engineering Co (Singapore) Pte Ltd took the initiative to introduce this innovative technology to be used in this project. I am thrilled to be able to learn more about the VSM technology and proud to see its successful implementation, and even more so that the DTSS2 project pioneered this technology for the first time in Singapore.

How do you balance between work and as a mother?

As a non-civil trained engineer, it is challenging for me to pick up the technical knowledge related to the ongoing construction works. I have to put in more effort in addition of my hectic schedule in managing the multiple contracts. As a mother of three, my role is extended to be a domestic helper, tutor, arts and crafts teacher, nurse, programme planner, friend, playmate and the list goes on. In the eyes of my lovely children, I am the "Wonder Woman" who knows everything and create magic out of nothing. To keep up with expectations, I rely on Google to keep abreast on the latest trends and unleash my resourcefulness at any time.

Balancing between work commitments and being devoted to my family is very demanding; both physically and mentally.

How do you normally spend your free time?

During weekends, I am mostly at home with my family, spending quality time with them such as helping my kids with their homework or watching a movie together. Occasionally, we would go for nature walks or a swim at the pool, to the playground, shopping and also entertainment arcades.

What is your advice to working moms who aspire to build their careers?

"Seek not the best one but the one that seek the best in you or with you."

Being a modern professional, I do not need someone perfect to be a partner, but a partner who can perfect life together with me, by supporting and providing a listening ear and aim for common goals.

For women who aspire to build their careers while planning to start a family, do make known the intent early and seek support from superiors and colleagues to allow ample time to make arrangements for a replacement or cover.



With husband Alvin and children (L-R) Cayden (aged 7), Deslyn (aged 3) and Bryenn (aged 9)

Brought to you by:



Consultants



Link Sewers



Aik Leong Plumbing Construction Pte Ltd



Swee Hong Limited



Ed. Züblin AG, Singapore Branch



Guan Joo Construction Pte Ltd



Eng Lee Engineering Pte Ltd



Samwoh Corporation Pte Ltd



Eng Lam Contractors Co (Pte) Ltd



Ohin Construction Co Pte Ltd



Megastone Holdings Pte Ltd

Tunnels



Ed. Züblin AG, Singapore Branch



Penta-Ocean and Koh Brothers Joint Venture



Leighton Contractor (Asia) Limited (Singapore Branch)



Nishimatsu Construction Co., Ltd.



Shanghai Tunnel Engineering Co (Singapore) Pte Ltd

Tuas WRP



McConnell Dowell South East Asia Pte Ltd



Koh Brothers-China Harbour Joint Venture



CES_SDC Pte. Ltd.



Sinohydro Corporation Limited



ABB Pte. Ltd.