



Artist impression of the Luddenham Station (subject to change).

## Next stage of station works

Sydney Metro is Australia's biggest public transport project, transforming Sydney with a world-class metro. The city-shaping 23-kilometre new railway – from St Marys to the Aerotropolis (the new Western Sydney suburb of Bradfield), via new Western Sydney International (Nancy Bird Walton) Airport – will become the transport spine for Greater Western Sydney, connecting communities and travellers with the new airport and the growing region.

As 2023 drew to a close, significant progress was made along the Sydney Metro – Western Sydney Airport corridor, marking several milestones. Above ground, the installation of 243 segments out of a total 1101 for the 3.5-kilometre elevated viaduct between Orchard Hills and Luddenham was completed.

Simultaneously, below ground operations saw the assembly and launch of four Tunnel Boring Machines – Eileen and Peggy for the southern tunnels, Catherine and Marlene for the northern tunnels – initiating tunnel construction.

Among these important advancements, the Stations, Systems, Trains, Operations, and Maintenance (SSTOM) project team began mobilisation and early works following progressive site access, marking the start of the project's final component.

SSTOM will deliver six new metro stations at St Marys,

Orchard Hills, Luddenham, Airport Business Park, Airport Terminal and Aerotropolis. It will also deliver 12 new metro trains and core rail systems, build the Stabling and Maintenance Facility (SMF) at Orchard Hills, and manage the operation and maintenance of the Western Sydney Airport line for 15 years.

A critical element for SSTOM last year was inviting local community, businesses and key stakeholders to provide feedback on the Stage One Place, Urban Design and Corridor Landscape Plan (PUDCLP).

The SSTOM PUDCLP, being delivered in two stages, illustrates and documents the permanent above ground works and landscape designs at each station (except the two airport stations).

Stage One PUDCLP went on public exhibition in November 2023, detailing the designs for the Luddenham Station building and the SMF.

Stage Two PUDCLP, will be released in mid-2024 and will focus on St Marys Station and Precinct, Orchard Hills Station and Precinct, Luddenham Station Precinct, Aerotropolis Station and Precinct, as well as the corridor and landscaping.

We will keep you updated for further details on the Stage Two PUDCLP, inviting community members to have their say.



Australian Government



# Breaking stereotypes: women making their mark in construction

More women are working in construction and making their mark in what was once a male-dominated field. By putting themselves up for opportunities that have come their way, three women from the Stations, Systems, Trains, Operations and Maintenance (SSTOM) team have provided some examples of the skills and roles involved in the making of Sydney Metro.

Pippa Harrison is a trailblazer who went from heels to a hardhat, halfway around the world. With a degree in English and Communications, Pippa established a career in magazine publishing in the UK.

Little did she know, her journey would lead her to the vibrant world of construction. Transitioning from publications like Vogue and New Idea, to business development and change management, Pippa found her niche in social procurement – a vital aspect of sustainability within construction.

While procurement is about the supply of goods and services, social procurement is about supporting local communities and representing under-represented individuals, ensuring everyone has a fair chance at economic participation.

For Pippa, this means doing everything she can to build relationships with local businesses and supplier and establishing opportunities with training colleges, schools and universities to make a real impact in the communities we operate in.

Best advice received? Take initiative and ask for opportunities.

Then there's Martha Pimenta, whose story is one of taking a leap of faith. Arriving in Australia from the Philippines as a graduate in electrical engineering, Martha's career path took a surprising turn into civil construction. Martha splits her time between the office and construction sites, embracing the challenges and the dynamic nature of her role.

She gets to solve complex problems on a daily basis while seeing a construction project come to life. In fact, no day is the same and she wouldn't have it any other way!

Her advice to women? Take a chance on yourself, enjoy the journey, and never underestimate your potential. It's a rollercoaster ride where every day brings new opportunities for growth and learning.

And let's not forget Jenny Harms, whose eclectic background – from hospitality on the Great Barrier Reef to forklifts and banking – culminated in a role as a management system administrator.

Jenny's story is a testament to the power of putting yourself forward and trying new things. Opportunities are there if you look for them, and Jenny proves that with hard work and willingness to learn new things, you never know where you might end up.

Jenny's advice to her daughter? Find your voice and put yourself forward.

The reasons for women to consider a career in construction are as diverse as the industry itself. From endless opportunities for advancement to lucrative salaries, the construction sector offers a plethora of benefits. Whether you want to build things, project manage or make a social impact, there's a place for you in this ever-evolving field. Beyond the steel caps and concrete structures, the future is for everyone to build.

*"It's a rollercoaster ride where every day brings new opportunities for growth and learning."*

*- Martha, Site Engineer*



SSTOM team members Martha Pimenta, Jenny Harms and Pippa Harrison.

# Viaduct segment construction reaches halfway mark

Another key Sydney Metro –Western Sydney Airport project milestone has been reached with more than half the precast segments manufactured for its 3.5-kilometre elevated viaduct.

Constructed at a specialised facility in Buchanan, the segments are made of reinforced concrete, and precisely engineered for seamless integration. Each segment measures an impressive 10.85 metres wide, up to 3.2 metres long, and 2.4 metres high, with weights ranging from 45 to 65 tonnes.

As of 15 March 2024, there were 424 segments erected, and 717 segments cast (65 per cent of the total).

The viaduct will link Orchard Hills to Luddenham, and pass through areas like Blaxland Creek, Patons Lane and the Warragamba pipeline.



Installation of one of the 1101 viaduct bridge segments.

## Fauna crossing enhances environmental sustainability

Fauna crossings have been constructed at key locations across the Sydney Metro –Western Sydney Airport alignment including Patons Lane North, Patons Lane South to Warragamba Pipe, north of Blaxland Creek, and at an Unnamed Creek. These structures are essential for allowing local wildlife safe passage beneath metro lines.

The fauna crossings are more than just construction features; they are vital in preserving the natural habits and movements of wildlife, minimising disruptions to their habitats. This is especially important in preventing accidents on the tracks, enhancing the safety of both animals and the metro system.



Fauna crossings provide wildlife safe passage under the metro lines.



Construction progress of Western Sydney Airport Bridge.

## Western Sydney Airport Bridge closer to completion

Significant progress has been made on the Western Sydney Airport Bridge, with the recent completion of its parapets or side barriers. These crucial components, each weighing 3-4 tonnes, were precast at Ozcast yard in Condell Park.

This achievement follows the successful installation of super T girders and the bridge deck. The project now moves to backfilling the abutments and carrying out earthworks along the alignment.

The final step will involve laying the bridge approach slabs. Once finished, this bridge will greatly enhance transportation and connectivity in the area.

Did you know?

Metro driverless trains travel at 100km/h.

Trains will travel in both directions every five minutes during peak periods.

There will be 12 new driverless trains for the Sydney Metro – Western Sydney Airport line.

# Western Sydney Airport tunnels halfway

Four tunnel boring machines (TBMs) have completed more than 50 per cent of the 9.8-kilometre tunnels between St Marys and the Aerotropolis station sites.

TBMs Catherine and Marlene have both achieved their first breakthroughs at the Claremont Meadows services facility shaft, as they build the twin 4.3-kilometre tunnels between Orchard Hills and St Marys.

These milestones saw each TBM successfully complete 2.1 kilometres of tunnel. Both machines have relaunched to construct their remaining 2.2-kilometre sections to St Marys.

The TBMs left behind a concrete tunnel as they crossed the 16-metre-diameter shaft. The exposed tunnel rings were demolished when both machines cleared the site.

The 21-metre-deep shaft is being used to supply materials needed to build the cross passages, which run between the twin tunnels, and the tunnel floor. This includes steel, waterproofing material and concrete.

TBMs Eileen and Peggy are making good progress as they continue building the 5.5-kilometre southern tunnel between the Airport Business Park and Aerotropolis sites.



TBM Marlene arrived at Claremont Meadows in January 2024.



Claremont Meadows Facility TBM breakthrough.

## Sydney Metro milestone at Airport Terminal Station

A significant milestone was achieved with completion of the station box at the Sydney Metro Airport Terminal in mid-December 2023. It was a massive job to build the structure, which is 200 metres long, 25 metres wide and 25 metres deep.

Earthworks started at the site in September 2022 followed by piling to form the box foundations. Major excavation got underway in mid-February 2023, which involved removal of about 293,000 tonnes of rock (about 47 Olympic swimming pools). The structure was lined with about 8500 tonnes of concrete (about 1.5 Olympic swimming pools).

In mid-2023, as part of the tunnelling works to Aerotropolis, TBM's Eileen and Peggy made their way to the Airport Terminal station box.



The Airport Terminal Station was completed in mid-December 2023.

### Sydney Metro – Western Sydney Airport project timeline



# Out and about in the community

At the end of 2023, Sydney Metro - Western Sydney Airport contractors were on a mission to make a difference in the lives of those who needed it most.



Parklife Metro facilitated a toy drive for the Haven Women's Refuge, a vital support network for women and children escaping domestic violence in Western Sydney as well as the Nepean Hospital. They had an outstanding response, with more than 170 toys and books donated by their team.

Parklife Metro partnered with DARE Disability Support, to help wrap some of the gifts. DARE is a dedicated provider of quality services for individuals with disabilities in the Blue Mountains, Nepean, Hawkesbury and surrounding communities.



CPB Contractors Ghella ran a successful donation drive for Platform Youth Services to help bring some festive joy to homeless youth.

The charity supports homeless and struggling youth in the Blue Mountains, Penrith and Hawkesbury regions. At least 28,000 young people in Australia are without a home on any given night.

Staff donated gifts and essentials, including food and toiletries, to help bring warmth and joy to young people in need and show them they were not forgotten during the holiday season.



CPB Contractors and United Infrastructure collected more than 600 gifts that were donated to families during the December Domestic Violence (DV) West Christmas Appeal.

The collection included a wide array of items toys, household essentials, school supplies, and specially tailored vouchers for mothers and Christmas dinners.

Managing crisis accommodation centres, transitional homes, and supporting families, DV West plays a vital role in addressing domestic violence issues.

## Show time at Camden and Luddenham shows

The Sydney Metro-Western Sydney Airport project communications teams attended the Luddenham and Camden Shows in March 2024. More than 900 show-goers visited the Sydney Metro stand across the two events, to find out more about the project.

In early February 2024, the new mobile community information centre van was used by the Sydney Metro-Western Sydney Airport project communications team at Market Warriors, Bonnyrigg.



*If you see us within your community, drop in to say hello and find out more about the project!*

### Contact us

If you have any questions or would like more information please contact our project team:

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### Aerotropolis

Drainage works inside the station box started in early February 2024. Over the coming months, piling and concreting work will start to build the metro station base.



### Bringelly

TBMs Eileen and Peggy are on their way to the Bringelly services facility site. Upon arrival, it will mark 65 per cent completion of their tunnelling job.



### Airport Terminal

Above ground piling work, essential for the foundation of the five-level metro station, is scheduled for this month. This includes drilling 96 piles using approximately 600 tonnes of reinforcement steel for the pile cages, and about 1600 tonnes of concrete.

Below ground, the temporary shaft is the new tunnelling support site for TBMs Eileen and Peggy. The spoil conveyor brings rock to the surface which is transported away on trucks. Segments are also being supplied to the TBMs via the shaft.



### Airport Business Park

Above ground, major earthworks are underway to excavate around 30,000 tonnes of existing material off site and compact the ground in two layers to form the piling rig platforms. There will be 178 piles required, using 260 tonnes of reinforcement steel for pile cages and 1738 tonnes of concrete.

Below ground, tunnelling support infrastructure is being removed from the site, including the spoil conveyor which carried the excavated rock from the tunnels to the surface.



### Luddenham

Piling will soon commence to support structures for the elevated station platform located 11 metres above ground level. Following piling, ground slab preparation will commence with waterproofing, and the concrete base slabs will be poured.

### Viaduct progress

Significant progress has been made on the construction of the 3.5-kilometre elevated viaducts. The team has completed all 84 piers and capitals forming the substructure or foundation. Additionally, 35 out of the 87 spans have been erected. These will form the superstructure that will support the metro train as it traverses from Orchard Hills to the Airport.



### Stabling and Maintenance Facility

Spanning nearly 200,000 square metres, the foundation of the SMF comprises 750,000 tonnes of repurposed sandstone sourced from the M6 Motorway and WestConnex projects, alongside an equal amount of site-excavated shale and clay. The reuse of resources from other major infrastructure projects demonstrates a commitment to sustainable practices.



### Orchard Hills

Above ground, piling works for Orchard Hills is underway. Initial works include the drilling of 128 piles, placement of pile cages and concreting. This requires more than 300 tonnes of reinforcement steel and almost 1700 tonnes of concrete to support the station levels.



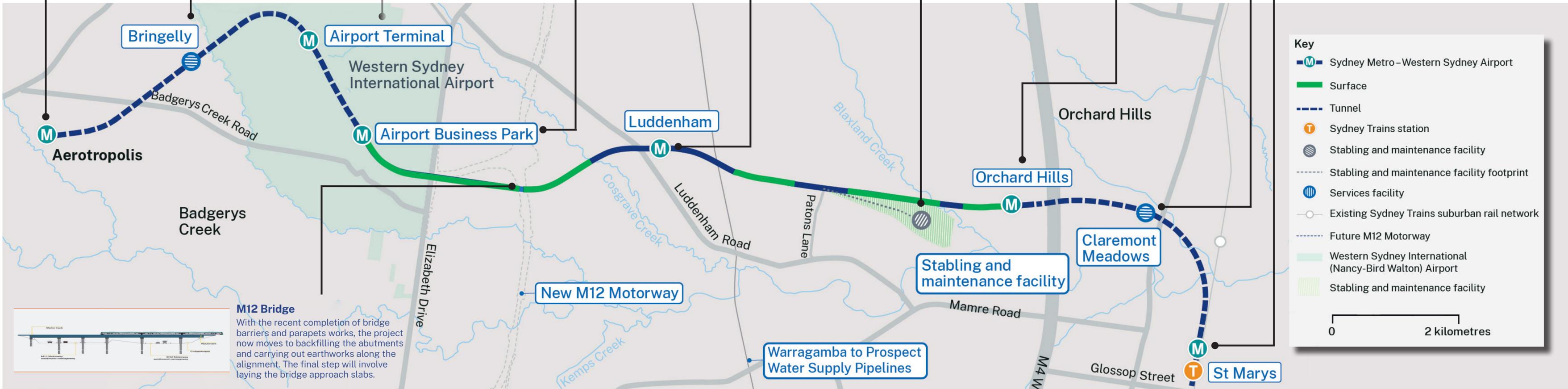
### Claremont Meadows

TBMs Catherine and Marlene recently broke through into the services facility shaft. Concrete tunnels, which were left behind as they crossed the shaft, will need to be demolished.



### St Marys

Piling works for St Marys Station is underway. Around 960 tonnes of reinforcement steel will be used for the pile cages, and approximately 2926 tonnes of concrete. Once piling is completed, work will commence to build the structural walls, from the platform level to surface level.



### M12 Bridge

With the recent completion of bridge barriers and parapets works, the project now moves to backfilling the abutments and carrying out earthworks along the alignment. The final step will involve laying the bridge approach slabs.