



Building the elevated viaduct over Sydney's vital water pipelines.

Viaduct clears Warragamba Pipelines

The skyline over Luddenham is rapidly transforming as construction teams working on the Sydney Metro – Western Sydney Airport project achieve another significant milestone: the completion of the elevated viaduct over the Warragamba pipelines.

This critical achievement puts the project on track to connect the viaduct with Luddenham Metro Station by the end of the year.

Given that the Warragamba pipelines supply 80% of Sydney's water, ensuring the safety of this vital infrastructure was a top priority.

Sydney Metro worked closely with WaterNSW and its delivery partner, a joint venture of CPB Contractors and United Infrastructure (CPBUI JV), to meticulously plan the construction to take place during the winter months when water usage was lower.

The project team employed a 300 tonne crawler crane and a custom-built gantry system, known as the Underslung Temporary Beam, to lift and position the large precast concrete segments that form the viaduct.

With the Surface Civil and Alignment Works project team, operating with high efficiency, each segment was carefully manoeuvred into place, making what could have been a challenging task appear almost effortless. Day by day, the crews aligned and stressed the two spans – each consisting of 13 segments – safely over the pipelines.

Thanks to the coordinated efforts of the road transport crew, a steady supply of concrete segments was on hand, allowing the team to maintain momentum and keep the project on schedule.

Now that the pipelines have been successfully cleared, the focus shifts to connecting the viaduct with the future Luddenham Metro Station, paving the way for track installation early next year.

As the Sydney Metro – Western Sydney Airport project continues to advance, these milestones bring the region closer to a modern, efficient metro railway connecting communities and travellers with the new Western Sydney International (Nancy-Bird Walton) Airport and the growing region.



Sydney Metro elevated viaducts: 1,101 segments set in concrete



The team at the Newcastle Precast Yard has successfully delivered 1,101 precast segments for the viaducts.

In just 18 months, a dedicated team at a precast facility in Buchanan, located 20 minutes outside of Newcastle, NSW, has successfully completed manufacturing the 1,101 concrete segments crucial for building the 3.2 kilometres of elevated viaducts for the Sydney Metro – Western Sydney Airport project.

Each segment, weighing between 45 and 65 tonnes and measuring up to 10.85 metres wide, 3.2 metres long, and 2.4 metres high, was crafted using advanced engineering techniques to ensure the highest standards were met.

The manufacturing process required 21,500 cubic metres, or 50,525 tonnes, of concrete, and 6,102 tonnes of reinforced steel, which was used to strengthen the segments.

Manufacturing began in March 2023, and at peak production, more than 20 segments were being cast each week.

These segments are being carefully transported to various locations along the Sydney Metro – Western Sydney Airport project alignment, ensuring a continuous supply for the ongoing construction of the three elevated viaducts. The final segment is expected to arrive in early November 2024.

Once installed, these segments will form the deck of the viaducts, and will be supported by 84 piers, capitals, and six abutments.

In total, the construction of substructure required 38,500 cubic metres, or 90,475 tonnes, of concrete, ensuring the strength and durability of the three viaducts.

Construction of the Sydney Metro – Western Sydney Airport project, Surface Civil and Alignment Works is being delivered by a joint venture of CPB Contractors and United Infrastructure.

A lift for sustainability

Sydney Metro – Western Sydney Airport, Station Boxes and Tunnelling project team can claim the Australian-first use of a 250 tonne electric crawler crane. The Liebherr machine is an eco-friendly solution – a plus for sustainability. Unlike diesel cranes, the electric one operates with zero emissions and in total silence, reducing construction noise for the community. The site supervisor has been quoted as saying the crane, ‘Drives just like a Tesla.’

The crane can be plugged into the mains power supply to charge and then run for 8–10 hours on its battery. Going electric benefits the environment, as the crane can save 18,750 litres of diesel fuel per year and reduce carbon emissions by about 50,000 kilograms. The machine was part of a month-long trial to collect real-time data on a construction site before being used on other construction sites across Australia.

The crane has been used at the Claremont Meadows Services Facility site to transport segments and other materials down to the tunnels.



The electric crane in operation at the Claremont Meadows Services Facility site.

Final touches on metro tunnels

Excavation of 39 cross passages that connect Sydney Metro–Western Sydney Airport's 9.8-kilometre twin tunnels every 250m is now complete, providing safe emergency access between the tunnels.

The cross passages are situated in the tunnels at either end of the alignment, between Airport Business Park Station and Bradfield Metro Station in the south, and Orchard Hills Station and St Marys Station in the north.

A concrete floor is being poured along the tunnels to form a foundation for the metro rail tracks. This activity is due to finish later this year.

Crews are also finalising waterproofing and concrete works at the Orchard Hills, Bringelly, Claremont Meadows and Airport Terminal sites.



One of the tunnels between Airport Terminal Station and Bradfield Station with a floor ready for the metro rail tracks to be installed.

Farewell to tunnel boring machines



A TBM shield is lifted onto a truck at the St Marys Metro Station site.



A truck transporting TBM Marlene's front shield is escorted through a narrow section of Queen Street, St Marys.

The Queen Street shopping strip at St Marys was abuzz with activity recently, as late-night truck convoys transported oversized tunnel boring machine (TBM) parts away from the new metro station site.

Months of detailed planning and preparation were required to successfully retrieve TBMs Catherine and Marlene after they completed their 4.3-kilometre tunnelling journey from Orchard Hills to St Marys. Trucks, crane lifts and police escorts were required to move the TBM parts through St Marys, along with co-operation from the community to clear parked cars to make space.

Cutterheads, shields and gantries were lifted and secured onto trucks and slowly and carefully driven along Queen Street. The tight left-hand turn onto the Great Western Highway required police to briefly stop traffic, so the trucks could head towards the M7 Motorway and continue their journey north.

At the Bradfield Metro Station site, TBMs Eileen and Peggy were gradually craned out of the station box and onto oversized trucks, before being escorted from the southern site along The Northern Road.

The massive job of demobilising all four TBMs was completed on 30 July, when the final piece left the Bradfield Metro Station site.

New station designs unveiled

The proposed designs for four metro stations were shared recently as part of the Stage Two, Stations, Systems, Trains, Operations and Maintenance (SSTOM) Place, Urban Design and Corridor Landscape Plan (PUDCLP).

The PUDCLP is a summary document capturing the design development of permanent built works, landscape design and consultation processes which have been incorporated into the progressive design.

The SSTOM PUDCLP was delivered in two stages to allow foundation works to commence at some sites.

Stage One was exhibited in late 2023 with information on the Stabling and Maintenance Facility and the Luddenham Metro Station building.

Stage Two featured the St Marys Metro Station and precinct, Orchard Hills Metro Station and Precinct, Luddenham Metro Station Precinct, Bradfield Metro Station Precinct, the corridor landscaping and active transport.

Parklife Metro is responsible for preparing and delivering the SSTOM PUDCLP to address the requirements as part of the project's Conditions of Approval.

The Stage Two SSTOM PUDCLP was on public exhibition from 12 August to 15 September 2024.

To view the virtual engagement room visit: sstom-pudclp.interactivetour.com.au



Artist's impressions of the St Marys, Orchard Hills, Luddenham and Bradfield Metro Stations (subject to change).

Station sites surge ahead with concrete pours

Construction works are progressing both above and below ground, with key milestones reached at all station sites, the Stabling and Maintenance Facility (SMF), and within the tunnels.

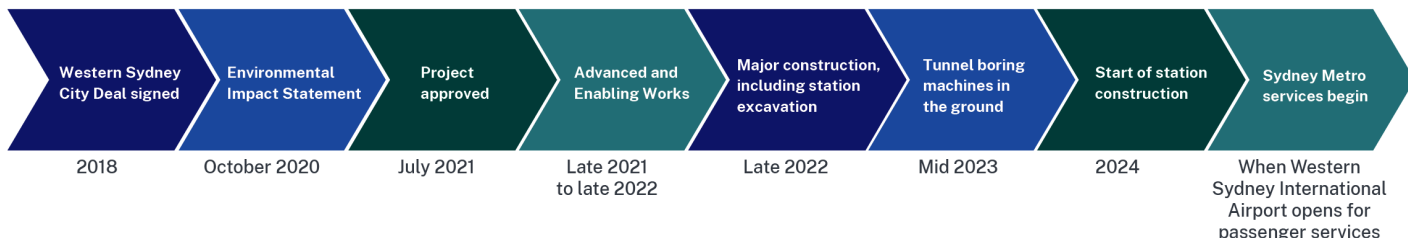
Significant progress has been made at the station boxes at St Marys, Orchard Hills, Airport Terminal, and Bradfield. Groundwork has been completed, and teams have now started waterproofing and pouring concrete for the station floors and walls. At the ground-level stations of Luddenham and Airport Business Park, foundation work has been finalised, and concrete is currently being poured for the base slabs.

The SMF site, where trains will be maintained, is progressing, with foundations being set for the maintenance and control centre buildings, and concrete pours underway for the electrical substation. Civil works have commenced within the tunnels, as the team prepares for the first rail delivery in November.



The team is progressing with concrete pours for the base slab and walls at all station sites.

Sydney Metro – Western Sydney Airport project timeline



Out and about in the community

People are at the heart of everything we do.

The team at the Sydney Metro – Western Sydney Airport project places great importance on engaging with the local community, recognising that active involvement is essential for the success of large infrastructure projects. As part of its commitment to community engagement, the Sydney Metro – Western Sydney Airport project team regularly hosts events along the project alignment, participates in local festivals, and organises local pop-ups.

One of the standout initiatives was the Community Weekend held on 6-7 July 2024, where Sydney Metro and its contractors — CPB Contractors, United Infrastructure, Parklife Metro, and CPB Contractors Ghella — hosted more than 1,000 community members. The weekend featured guided bus tours of key construction sites, including the Sydney Metro Bridge over the M12 Motorway and the emerging Luddenham and Bradfield stations.



More than 1,000 community members enjoyed the guided bus tours at the Community Day in July 2024.



If you see us out and about in the community, feel free to come and say hello!

The event also offered cultural and educational activities, such as Indigenous workshops and historical displays, strengthening community ties while showcasing the project's progress.

In addition to hosting events, Sydney Metro actively engages with the public at key local festivals. At the Penrith Show (24-25 August) and the St Marys Spring Festival (7 September), community teams interacted with more than 1,000 people, sharing updates on surface works, tunnelling, and future station designs.

These engagements not only provide essential project updates but also foster meaningful dialogue, ensuring that community voices are heard and helping to build anticipation for the project's completion.

Tickets now available for Community bus tours.



After the overwhelming success of the Community Weekend held in July, the contractors delivering the Sydney Metro – Western Sydney Airport project are excited to announce another community day on 27 October 2024. The event will take place at the Station Boxes and Tunnelling Compound on Kent Road in Orchard Hills, offering residents another chance to experience the progress of Australia's largest public transport project.

The day will feature exclusive bus tours, giving participants a sneak peek at significant project milestones, including the Orchard Hills Station Box, and the impressive viaduct spanning Blaxland Creek. These tours will offer residents a unique opportunity to witness the scale and complexity of the construction up close. To book your ticket scan the above QR code above.

Mulgoa Public School is all set for summer!

As summer approaches, Mulgoa Public School students have even more to look forward to with the addition of a new undercover area and permanent soccer goals, thanks to a generous donation from CPB Contractors United Infrastructure (CPBUI JV).

The new 12x12 metre shaded area, featuring three heavy-duty umbrellas, provides a safe and comfortable space for students to learn, play, and relax while staying protected from the harsh Australian sun. These wind and UV-resistant structures ensure students have shelter from the elements, whether it's rain, hail, or shine.

In addition to the shaded area, CPBUI JV also donated two permanent soccer goals, along with soccer balls and nets, enhancing outdoor play and promoting physical activity. The goals are a welcome addition to the school's recreational facilities and will be used for both playtime and sports activities.

To celebrate, Mulgoa Public School hosted a friendly soccer match where the students showed their skills, soundly defeating the Sydney Metro and CPBUI JV teams in a fun-filled game.



Mulgoa Public School students celebrate triumphant win against Sydney Metro and CPBUI JV teams.

STEM careers on show



The careers display attracted keen interest from the students.

More than 100 secondary and primary students got a taste of what it would be like to work in construction at a recent Science, Technology, Engineering, and Mathematics (STEM) careers night at Glenmore Park High School.

The Station Boxes and Tunnelling team demonstrated surveying, safety and environmental equipment to show the students some of the tasks they do as part of their jobs. The engineers fielded an array of questions from the budding STEM students.

Dressing up in PPE was a real highlight with the students keen to get their photo taken in construction gear.

The evening was also a great opportunity for our female engineers and staff to inspire young girls to consider a STEM career, particularly in engineering.

Spreading the love

Parklife Metro has established a new partnership with ReLove through its community benefits program.

In the lead up to Sydney's City2Surf in early August, Parklife Metro team members were focused on raising money for ReLove. The team raised more than \$12,000 for the charity. Parklife Metro will add an additional \$10,000 through a donation and volunteering.

ReLove rescues furniture and whitegoods from their corporate partners and community and delivers it directly to people who have been impacted by domestic violence, people experiencing homelessness and people seeking asylum. They currently support 15 families per week by providing everything they need to make a house a home.



The team raised more than \$12,000 to help families affected by domestic violence.

Every Day Matters

The Station Boxes and Tunnelling contractor CPB Contractors Ghella (CPBG) went to Bringelly Public School to support a NSW Department of Education initiative to boost school attendance, called 'Every Day Matters'. CPBG sponsored an award presentation in April 2024, which rewarded students for consistent attendance.

The project supplied a class award plaque, which is taken home in turn by children to encourage their own and their family's commitment to attendance. Movie tickets were also given to children with consistent attendance for use during the school holidays.



Students learnt why it is important to attend school every day.

Paws for a Cause: Assistance Dogs Australia finds a new home

Assistance Dogs Australia (ADA) now calls western Sydney home, with Stage One of its National Training Centre opening last month near our Orchard Hills construction site.

Parklife Metro has donated \$10,000 towards training costs, volunteering and advocacy. It will also continue to review opportunities to further promote ADA in western Sydney.

ADA trains support dogs for people with physical (mobility) disability, autism, post-traumatic stress disorder and educational support needs.

Their dogs are placed completely free of charge with clients across Australia. As ADA receives no government funding, they rely solely on the generosity and philanthropy of individuals and organisations.

Volunteers, as well as community donations and funding from corporate and philanthropic organisations, allow them to continue to provide the services free of charge to the community. For more information please visit www.assisteddogs.org.au



Teaming up to make tails wag and lives change!



President of the Penrith Community Men's Shed Bill Dawson receives new tools and equipment from CPBG's Sustainability Manager, Emma Kline.

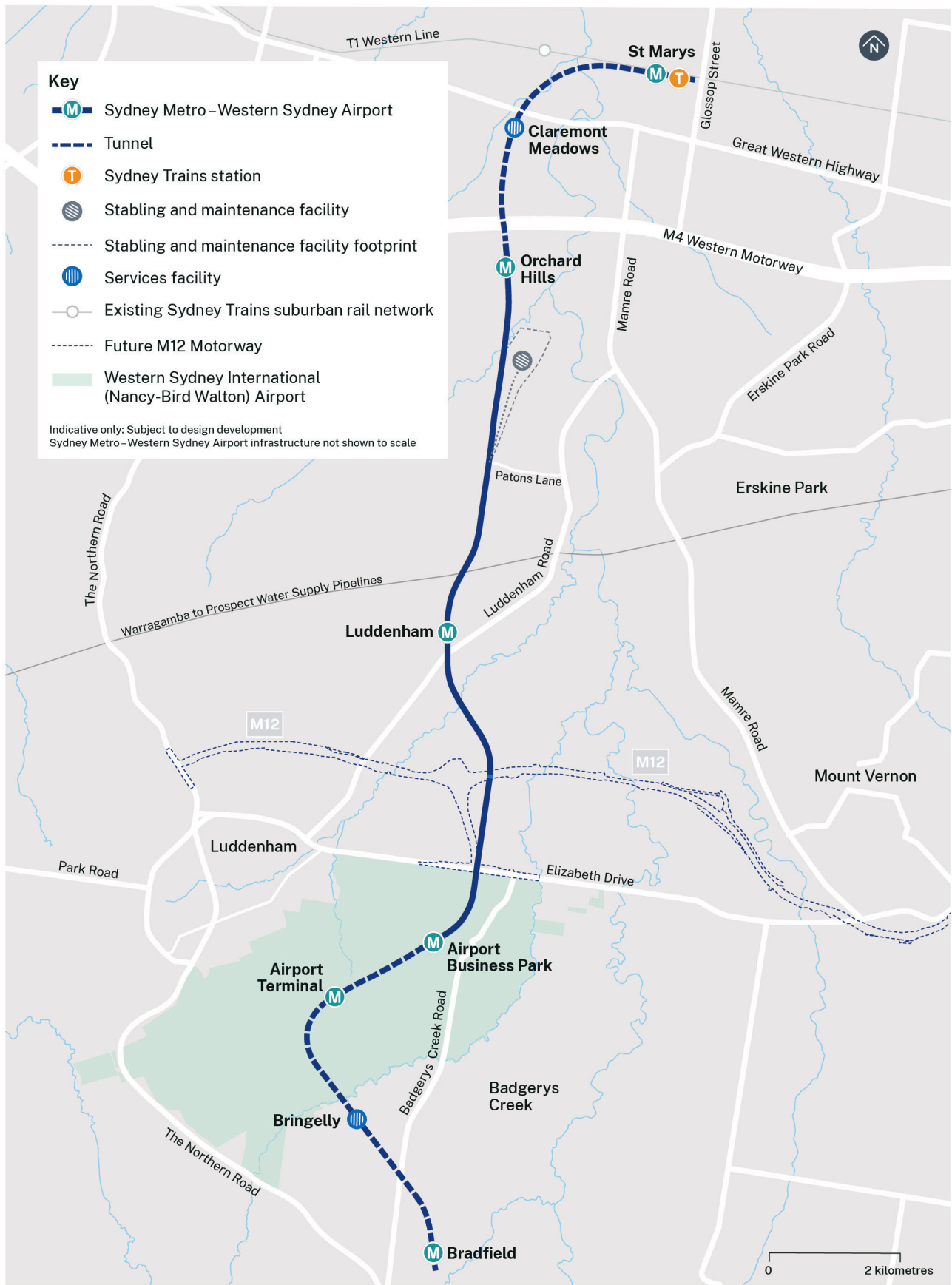
Hand in hand with Men's Shed

Members of the Caddens Community Men's Shed received a special delivery of woodworking tools and equipment in early July.

CPB Contractors Ghella (CPBG) supplied the items as one of its community benefits initiatives. The members were extremely appreciative of the support for their worthy organisation. The Men's Shed is a place in the community where men can socialise and get involved in activities that help improve their health and wellbeing.

CPBG's Orchard Hills team also came up with a recycling initiative earlier this year donating used gloves and safety glasses to the Men's Shed. A plus for safety but also a tick for sustainability, as it provides ongoing benefits to the community while reducing project waste.

To find out more about joining Men's Shed visit www.facebook.com/penrithcommunitymensshed.



Contact us

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

1800 717 703 Community Information Line open 24 hours

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