Appendix F: Urban Design and Landscape Concept





SENSE OF PLACE

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SENSE OF PLACE PURPOSE

The purpose of the Sense of Place Statement (SOPS) is to outline what is culturally essential to the precinct. It will then act as a guide to ensure that any design decision making for the project aligns with these identified values.

PLACE VALUE

METRONET sets out to deliver station precincts with public realm infrastructure that contributes to communities with a sense of belonging and support Perth's growth and prosperity. To achieve this, the Armadale Station Precinct needs to be more than just a space for transport – not a stand-alone area or space that feels anonymous, but a place that feels occupied and 'owned' by the communities it services. It should be a living place, with an authentic character that reflects the spirit of the place and the community. This requires a Sense of Place that the community can connect with, generating local pride and

Achieving an embedded station precinct has benefits for all users, travellers and local community alike. It will make the place safer, cared for, activated by more people and more engaging to spend time.

A distinct Sense of Place, meshed into the urban and social fabric, also has economic benefits. In the current world, urban centres are no longer functioning just for their own 'catchment'. People want experiences, and for that they easily travel outside the traditional localised catchments. Urban centres have the potential to work much like the beaches in Perth. People have their favourite beach that they frequently visit. But they also visit other beaches, because of their different character, atmosphere and amenities.

Embedded station precincts with a distinct Sense of Place contribute to this different experience. They attract people, to visit, work, live and invest in the precinct. This both stimulates the urban economy and creates a competitive advantage for the precinct over others.

THE SENSE OF PLACE STATEMENT:

- Focuses on the feel and experience of the place, not describing planning terminology;
- Needs to be distinct; if the statement could also be applicable for another station precinct in Perth, it is not representing this place sharply enough;
- Is developed based on the analysis of the local character; and
- Is to be used as an inspiration and touchstone for all further design works of the station precinct; all engineering, architectural and landscape designs and detailing contribute to making the Sense of Place a lived experience.
- Is developed as a combination of three qualities. In their interaction they define a unique Sense of Place. Every aspect of the design should somehow relate to all three qualities.
- Follow the delicate balance of being descriptive enough to define a Sense of Place, but be poetic and open enough to offer the flexibility for architects, landscape architects, engineering designers and public artists to interpret.

Source: Byford Rail Extension – Concept Design, 'Armadale Station Precinct Preliminary Place Plan', WSP/PLACE Laboratory (2021) (BRE-MNO-WSP-PL-RPT-0003)



LINE-WIDE SENSE OF PLACE

The Sense of Place Statement is supplemented by themes and stories. This framework for the integration of stories into the engineering, station and public realm design takes a project-wide approach, drawing inspiration and advice from the METRONET NCCD, and the Place Plans as well as desktop research.

Armadale and Byford are in geographic proximity and so there are some stories and values that are shared and some that are specific. This project-wide approach responds to the shared / specific nature of the BRE project.

The SOPS, Themes and Stories are then used to guide the conceptual design of all public realm and built infrastructure supporting the Inner Armadale Line, stations and precinct areas.

The approach ensure the SOPS, Themes and Stories guide interpretive elements, public artwork, landscape design, station architecture, and engineering, revealing and supporting culture, history, landscape and place. This approach to public realm delivery runs across the BRE project using a framework of key themes, and connected and specific projects.







KEY THEMES

The Key Themes for the Byford Rail Extension are high level motifs to which all of the stories can be connected.



CONNECTED STORIES

The Byford Rail Extension project shares common stories, values and public realm treatments that connect both project areas. These are predominately Noongar, paying respect to First Nations people and celebrating their unique culture. They are direct extracts from the METRONET NCCD - Byford Rail Extension. Connected stories will become identifiers for the Byford Rail Extension project.

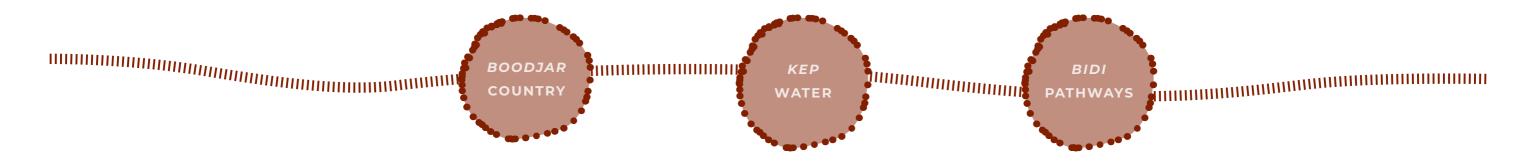


SPECIFIC STORIES

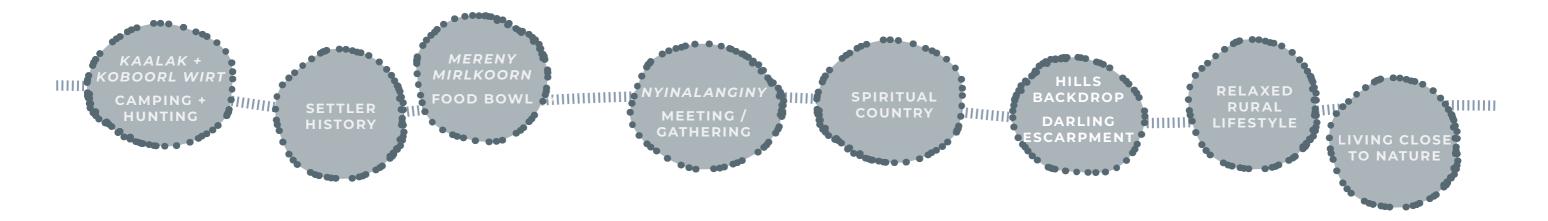
Individual stories, values and public realm treatments that define and belong to Armadale or Byford as a unique place, or community are gathered together under the 'specific' heading. These can be related to each station and its surrounds. Specific works will become local place identifiers for the Byford Rail Extension project.



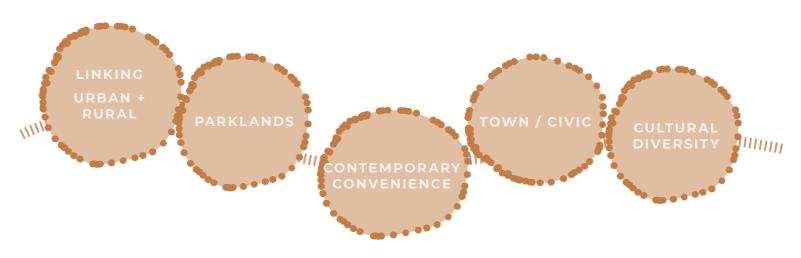
KEY STORIES - ARMADALE + BYFORD



CONNECTED STORIES - ARMADALE + BYFORD



SPECIFIC STORIES - ARMADALE



SENSE OF PLACE STATEMENT ARMADALE

ARMADALE

Within the Metropolitan rail network, Armadale Station currently sits at the end of a heritage line, moving into a bush-like experience. Traveling through the suburban setting, views to the Hills become apparent. Arriving at Armadale Station is arriving in the centre of town. It is a town that is growing into a city, as one of five Strategic Centres in the Perth Metropolitan Area.

Both history and the Hills present themselves straight away, with the old post office in front of the station, the topography of the streets and views to the Hills. It is a place to explore, to wander and discover gems like the specialty shops, the Monument Park playground, Minnawarra Chapel (1903), or the Neerigen Brook. It is also a place that is working hard to overcome challenges.

It is a place of connecting people, to jobs, to education, to past and future, to country, and to each other. All these elements, combined with the themes of the Beenyup NCCD, start to tell a story of place that is essentially Armadale.



HILLS TOWN

/ City With A Town Feel
/ Omnipresent Hills & Trees
/ Of The People
/ Human Scale
/ Civic
/ Contemporary
/ Convenience

Hills Town refers to the city at the foothills of Moorda. Where Fremantle is a 'port town' and Kalamunda a 'hills village', Armadale is the only city centre in the metropolitan area directly connected to the hills. It is a 'city' in function and a 'town' in feel.



CONNECTING

/ Grounded
/ Open & Inviting
/ Bridging Differences
/ Growing
/ Urban + Rural
/ Coastal Plains + Darling Scarp

This is a place of connecting in many different ways - physically linking places, connecting people, advancing from anonymity, relating to past and future, telling stories. The place relates to both 'corroboree grounds' gathering and to rail holding yards, where products were connected to their next destination in Perth and Fremantle.



REVEAL

/ More Than The Eye Can See / Not Obvious / Discover / Surprise

Although it is easy to find your way, Armadale has hidden layers: places to discover, interesting people, diversity of destinations, waves of activities, many things that make the centre attractive to go to, to stay and to revisit. There is always something to explore.

Source: Byford Rail Extension – Concept Design, 'Armadale Station Precinct Preliminary Place Plan', WSP/PLACE Laboratory (2021) (BRE-MNO-WSP-PL-RPT-0003)



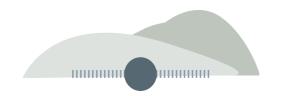


FINAL PLACE PLAN

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PLACE PRINCIPLES



The Place Principles identified here originate from Byford Rail Extension – Concept Design, 'Armadale Station Precinct Preliminary Place Plan', WSP/PLACE Laboratory (2021) (BRE-MNO-WSP-PL-RPT-0003), as their relevance remains unchanged. However, the design responses provided for each are relative to an elevated station solution. Each principle and the key design moves and responses that relate to it are outlined in the opposite page.

HILLS TOWN

The station precinct enhances the Hills Town character of Armadale City Centre, providing scenic views to the Hills, celebrating topography and adding an abundance of trees for shade and cooling.

DESIGN RESPONSE:

- Enhancing the 'bush' character of the rail line (see page 27) by retaining mature trees where possible in the station precinct and adding an abundance of new trees and soft landscaping in and about the station.
- Celebrating the topography in the precinct as a natural part of the public realm, minimising the use of retaining walls, for instance, with the landscaped slope along the west side of the rail to enhance an urban forest edge.
- The new elevated platform allows for vistas to the Darling Scarp, providing a strong visual connection to the Hills.
- Selecting local and natural species for all new trees, further strengthening the Hills connection.



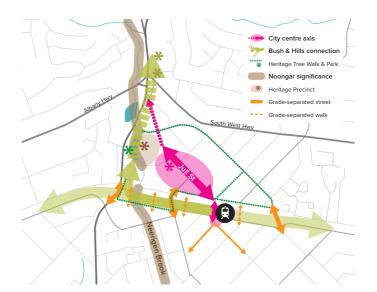


CITY LOOP AND CONNECTIONS

The station precinct contributes to improving loops for people to explore the city with all its diversity, and enhances connectivity across the rail.

DESIGN RESPONSE:

- The connection to Jull St Mall is improved with direct views from the station entrance through to the old post office, and an improved pedestrian experience crossing Commerce Ave.
- Creating an active and narrative-rich parkland route from the station towards Minnawarra Park, adding a new tourism route to the City Centre, and completing the city axis into a full city loop.
- The viaduct removes the at-grade crossings at Church Ave, Armadale Rd and Forrest Rd, greatly improving access to the city centre for all modes of movement.
- The elevated rail improves the pedestrian connectivity across the rail corridor from a few single points to multiple fine-grain opportunities.



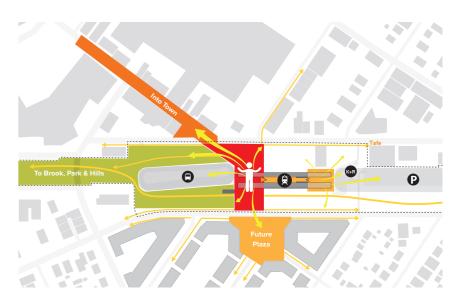


WELCOMING

The station precinct is a welcoming place that opens out and connects people to both the existing city centre and the future residential area on the west side of the rail.

DESIGN RESPONSE:

- A high-quality designed Station Plaza / Welcome Place creates the feeling of being welcomed in to the City of Armadale.
- The Welcome Place 'hub' design continues across Commerce Ave, connecting to Jull St Mall with prioritised pedestrian crossings.
- The Welcome Place and parklands provide amenities and attractive spaces for various audiences, welcoming all walks of life.
- The connection between the Welcome Place and the bus interchange is at-grade, without stairs, improving access and comfort for transfer.
- The station precinct provides comfortable and weather-protected connections.
- The new PSP, combined with secure bike storage, welcomes cyclists to the station. The PSP considers cross-precinct connections into existing networks.





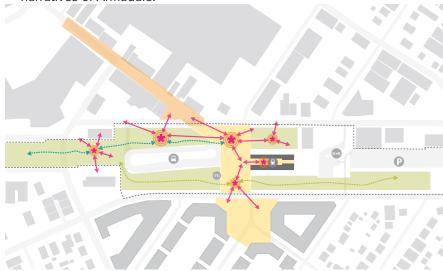


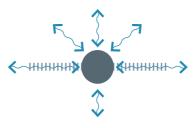
STAGE FOR LIFE

The station precinct includes inviting community places on both sides of the rail, for people of all generations and cultures to come together in a vibrant, safe and engaging setting to interact and share stories.

DESIGN RESPONSE:

- Increasing the tree canopy to the station precinct assists in reducing the urban heat island effect, essential to creating a cooler micro-climatic environment for urban life to be encouraged in and around the station.
- The Welcome Place is designed with amenities that are attractive to all including local community, youth and visitors to Armadale – public accessible Wi-Fi, playgrounds, basketball areas, skate-able furniture, hang out zones – create a platform for youth to contribute to the City's liveliness.
- Pedestrian connections in all directions are integrated, adding people's
 presence to the station precinct, strengthening the base for attracting
 and inviting people to use and experience the place, because people
 attract people.
- A variety of seating opportunities, formal and informal, that support people to stay and socialise.
- Linear parklands under and along the viaduct provide a variety of experiences and recreational uses that describe urban stories and narratives of Armadale.



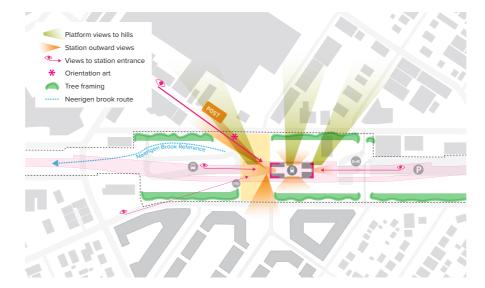


INTUITIVE WAYFINDING

Clear view lines from and to the station overpass are the base for the intuitive wayfinding, and are supported by comfortable and logical pedestrian routes.

DESIGN RESPONSE:

- Views from the station platforms to the hills and City provide intuitive ways for public transport users to orientate themselves in the Armadale centre at arrival.
- A de-cluttered Welcome Place provides clear views to all surrounding destinations. A direct viewline to the old post office and Jull St Mall, highlight the City Centre.
- A wayfinding public art work in the viewline of Jull St Mall marks the station location from far within the City centre. Closer by, Jull St Mall has direct views to the station entrance.
- The new landscaped walk to the north, along the rail corridor, provides an easy-to-follow route to Minnawarra Park, the heritage precinct and on to the Hills.
- Views from the surrounding to the elevated rail viaduct indicate the station's location. Closer by, the tree-lined streets open up to the Welcome Place.



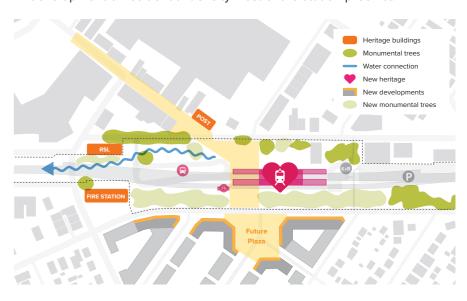


LIVING HERITAGE

The station precinct acknowledges the town's rich heritage and Noongar culturally significant places. It is a place that reveals layers of history, while also connecting to the future.

DESIGN RESPONSE:

- First Nations' values are celebrated with integrated art and Gnarla Biddi cultural references embedded into the design of the public realm and public art approach.
- The 'heritage gardens' between the historic RSL and Fire Station seek to reference the history of Armadale, creating interest for Armadale residents and tourists alike.
- Retention of mature native trees and complementing them with seating and story-telling strengthens the heritage tree walk and connection to the natural landscape.
- Visible stormwater capture and public water-art acknowledges the significance of water to Noongar culture and creates links to the Neerigen Brook.
- Designing the Welcome Place as a key pedestrian 'hub' environment that is part of the surrounding streetscape contributes to the future development of residential density west of the station precinct.





STATION PRECINCT SPACE TYPOLOGIES

Core to METRONET is to deliver technically and operationally well-functioning rail and bus infrastructure within budget. In addition, METRONET has set the goal to achieve more than that.

METRONET also aims to deliver easily accessible travel options, communities with a sense of belonging and to unlock development potential around the stations.

To translate these objectives into tangible requirements, the Place Plan is focussing on achieving three touchstones:

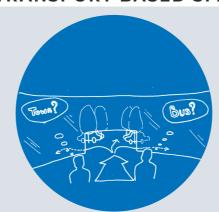
- · Smooth and comfortable transfer
- · Pleasant and meaningful time spending
- · Embedded in the community

These qualities need to be achieved within the localised context of the station infrastructure, including the train station, bus interchange, park and ride, and the public realm types that connect these places to each other and to the surrounding urban network: the welcome place, the streets and the parks and landscape zones.

The plans to the right indicate the layout of these spatial typologies within the Armadale station precinct. The following pages state what experiences these spaces should provide, through defining the Sense of Place that should be achieved through the design, the functioning of the places on Day 1 of delivery and the spatial vibe or aesthetics. The following Public Art Strategy further supports these experiences. The Landscape Concept at the end of this chapter provides a high-level demonstration how the place requirements can be translated into a physical design for the public realm.

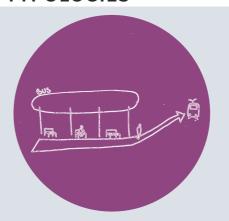
Source: Byford Rail Extension – Concept Design, 'Armadale Station Precinct Preliminary Place Plan', WSP/ PLACE Laboratory (2021) (BRE-MNO-WSP-PL-RPT-0003)

TRANSPORT BASED SPACE TYPOLOGIES



TRAIN STATION

As people arrive at the train station the experience must be quick and easy. The space needs a design organised around smooth flows and intuitive wayfinding - no searching for where you need to go to, but a space that provides all the clues before relying on signage.



BUS TRANSFER / STATION

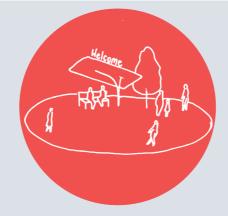
The bus transfer / station need to be easily identifiable for travellers. It needs to accommodate the technical requirements of buses, without compromising the vibrancy of people's places. It should incorporate seating, shade, lighting and weather protection to ensure travellers' comfort and safety.



PARK AND RIDE

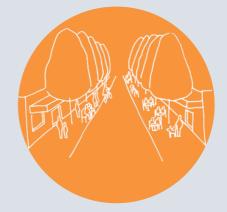
Car parking tends to take up large areas. It should not be a harsh environment, only accommodating large numbers of cars, but also needs provide for pedestrians' comfort and contribute to the surrounding (urban) landscape.

PEOPLE AND LOCATION SPECIFIC SPACE TYPOLOGIES



WELCOME PLACE

The welcome place is the core of the station precinct. It is the place where people arrive in the town or suburb, that shows the community's pride. It is also the place where people need to make decisions if they transfer. It needs to be appropriately connected and scaled.



MAIN STREET

The main street needs to have a direct relationship to the entry of the station precinct. This connection should provide a strong local presence, good accessibility to the station and connection to the Armadale to provide a sense of place. It should be 40km/hr speed limit and appropriate public domain treatments to signal its function.



CONNECTIONS TO LANDSCAPE

The pedestrian and cyclist linkages need to provide direct, comfortable,safe and prominent pedestrian / cycle connections between station entrances, kiss and ride and the key destinations both within the precinct and the greater surrounds.

FIGURE 29. STATION PRECINCT SPACE TYPOLOGIES



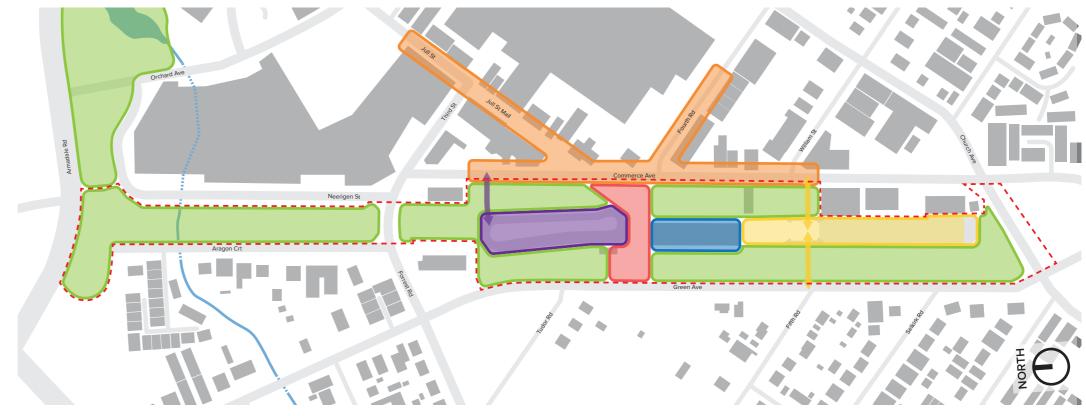


FIGURE 30. PLACE TYPOLOGIES - DAY ONE

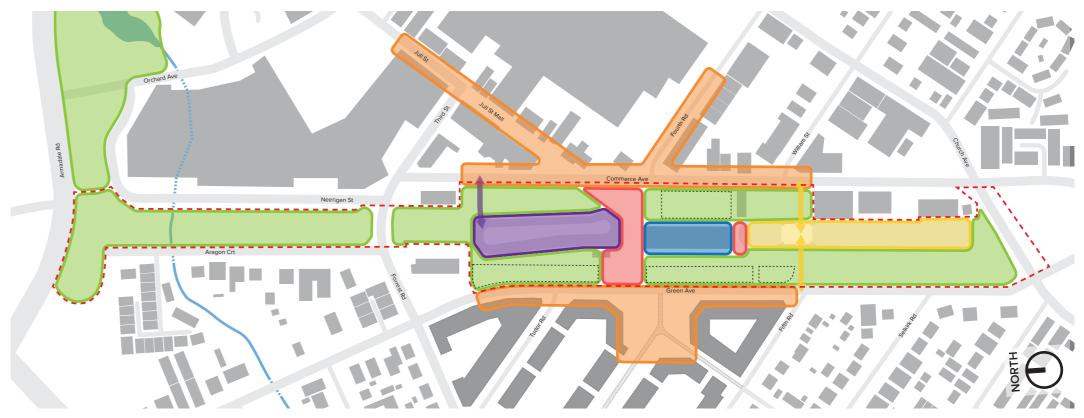


FIGURE 31. PLACE TYPOLOGIES - FUTURE



LEGEND

Train Station

Main Street

Bus Station

Park and Ride

Existing buildings

Planned buildings

Development potential

Welcome Place

Connections to Landscape

PLACE PLAN - DAY ONE

The place plan diagram highlights design considerations and actions to ensure Armadale Station is embedded in its urban and landscape



LEGEND

TRAIN STATION

RAIL VIADUCT

PLAZA

BUILDING (EXISTING)

BUILDING (PLANNED)



PLACE ACTIVATION

PEDESTRIAN CONNECTION

CENTRE ROUTE

BUS STATION

ROAD (EXISTING)

BLACK = EXISTING / WHITE = NEW

STATION AMENITIES

FOOD & BEVERAGE

COMMERCIAL

COMMUNITY

- (01) Meeting point and City information.
- Proposed new station kiosk to provide activity and services to public transport passengers and the wider community.
- Relaxation lawn, multi-use and events space with access to power and water.
- Eastern Welcome Place 'hub' with seating, public accessible wifi, natural shade, and meet and greet environment.
- Yarning circle with shade and proposed feature lighting; to be designed in collaboration with Noongar elders and artists.

- Wayfinding art at view line of Jull Street Mall, incorporating public announcements and visitor information.
- Shared space / pedestrian priority crossing linking the Welcome Place to Jull St Mall.
- Revitalisation of Jull St Mall (by others).
- Junior play space with interpretive water theme.
- Youth plaza with amenities such as basketball, skate-able elements, drink fountain and hangout zones.
- 11) Bus station integrated under railway viaduct.

- Educative heritage garden linked to the form and function of the RSL Club.
- Linear parkland linking the station to Neerigen Brook and on towards to Minnawarra Park and the hills, with activities and attractions for residents, City-centre visitors and tourists.
- Shared space and PSP with seating and dog walking options close by.
- Neerigen Brook crossing with seating and more natural POS and water/drainage environment.
- 16) Linear remnant old growth trees with PSP.

- Secure bike storage.
- Western Welcome Place with seating steps, natural shade, accessible ramp and strengthened connection with western residents
- Pedestrian priority crossing over Green Ave.
- Meeting point, City information and Kiss'n'Ride.
- Urban lounge and seasonal gardens.
- (22) Park + Ride carpark.





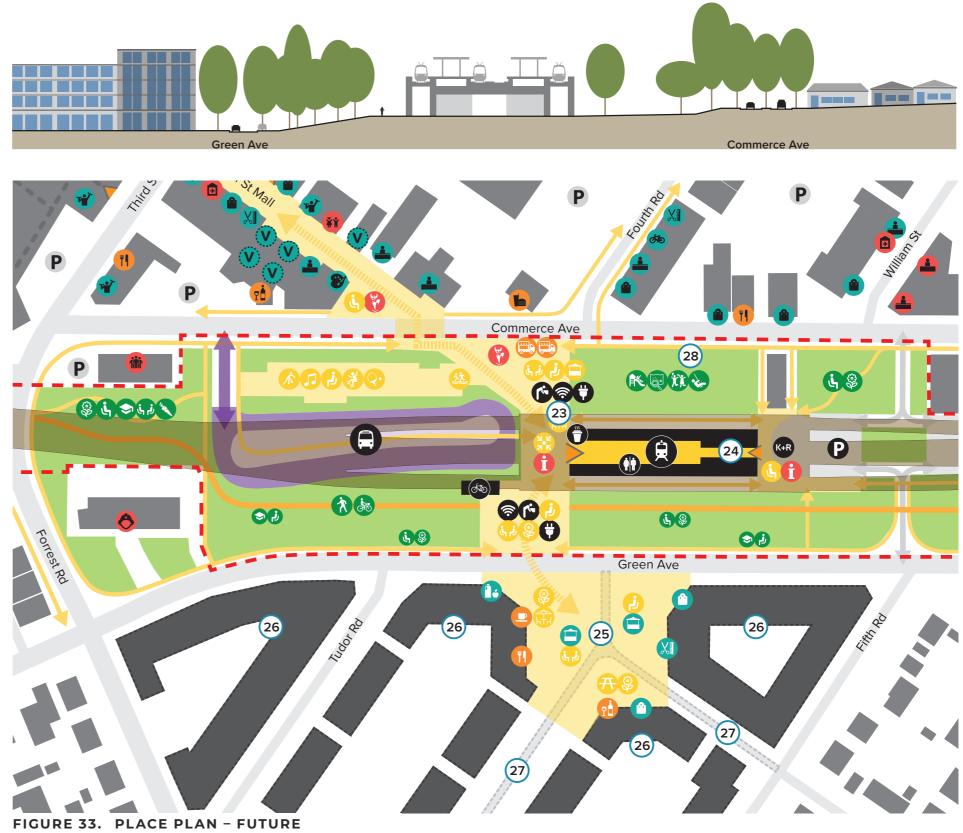
PLACE PLAN - FUTURE

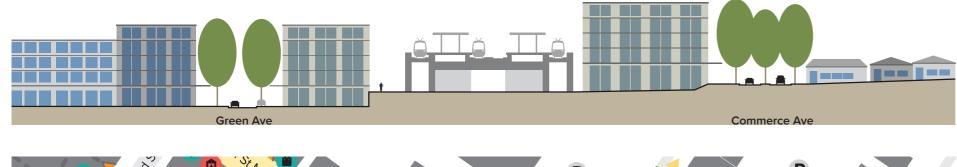
FUTURE WITHOUT DEVELOPMENT IN THE RAIL ZONE

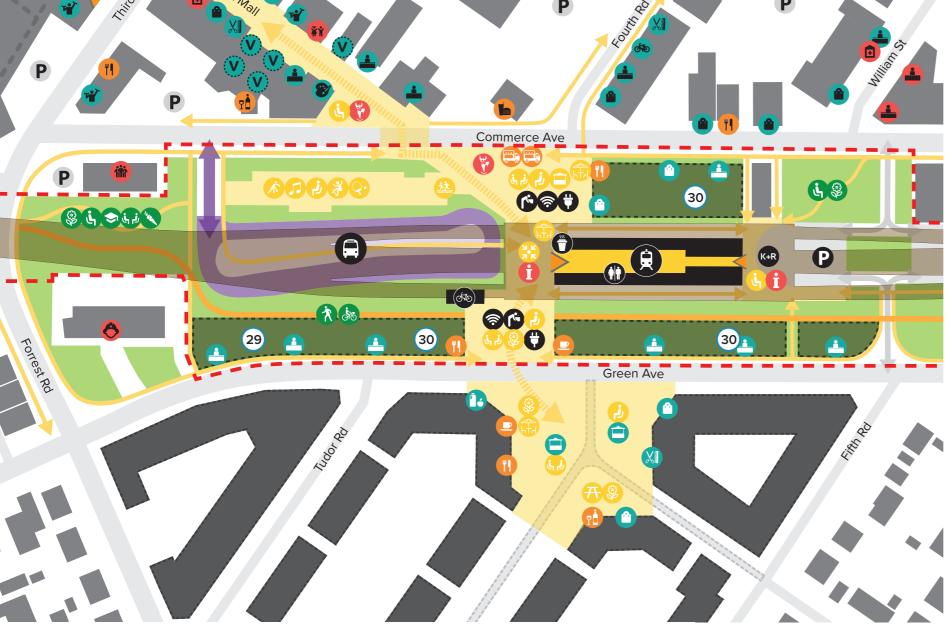
- Widening of the rail viaduct to accommodate additional rail line and eastern station platform.
- Second station entrance.
- Future neighbourhood plaza connecting to Green Avenue and the Western Welcome Plaza, surrounded by mixed-use development.
- (26) Future medium-density residential development.
- Future extension of Cornish Street and Devonshire terrace.
- Children's adventure playground (subject to agreement between the State and Local Governments).

LEGEND









FUTURE WITH ADDITIONAL DEVELOPMENT IN THE RAIL ZONE

- Future development possibility to frame Green Avenue with multi-story buildings, in accordance with the Armadale City Centre West of Railway Precinct Structure
- Future development possibilities to frame Green Avenue, building on the Armadale City Centre West of Railway Precinct intend and frame the Western Welcome Plaza (subject to detailed design at that time if pursued)
- Future development opportunity to frame the Eastern Welcome Plaza and Commerce Avenue with active frontage (subject to detailed design at that time if pursued).

LEGEND



FIGURE 34. PLACE PLAN - FUTURE WITH DEVELOPMENT OPPORTUNITIES



DAY ONE STATION WELCOME PLACE

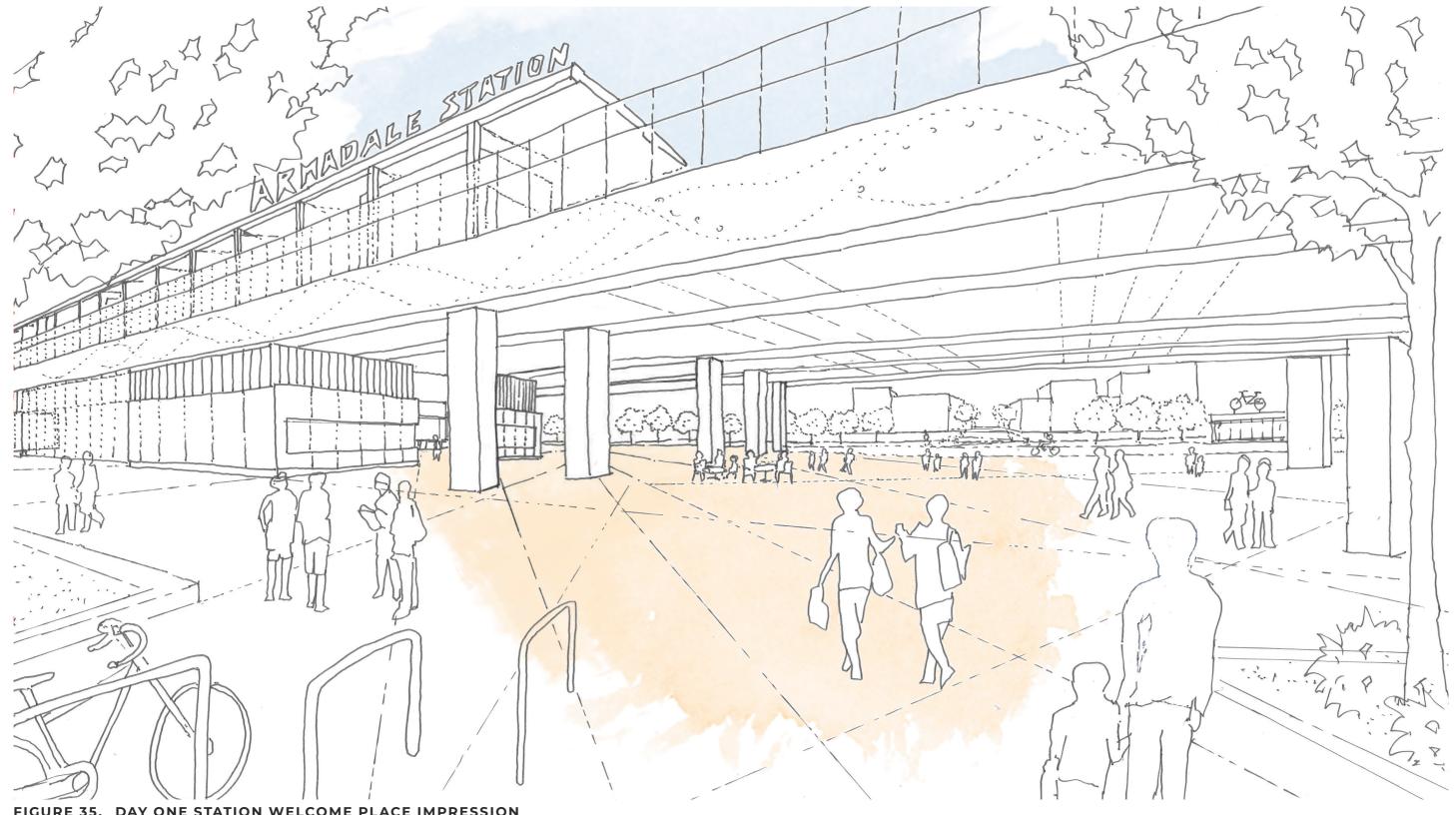
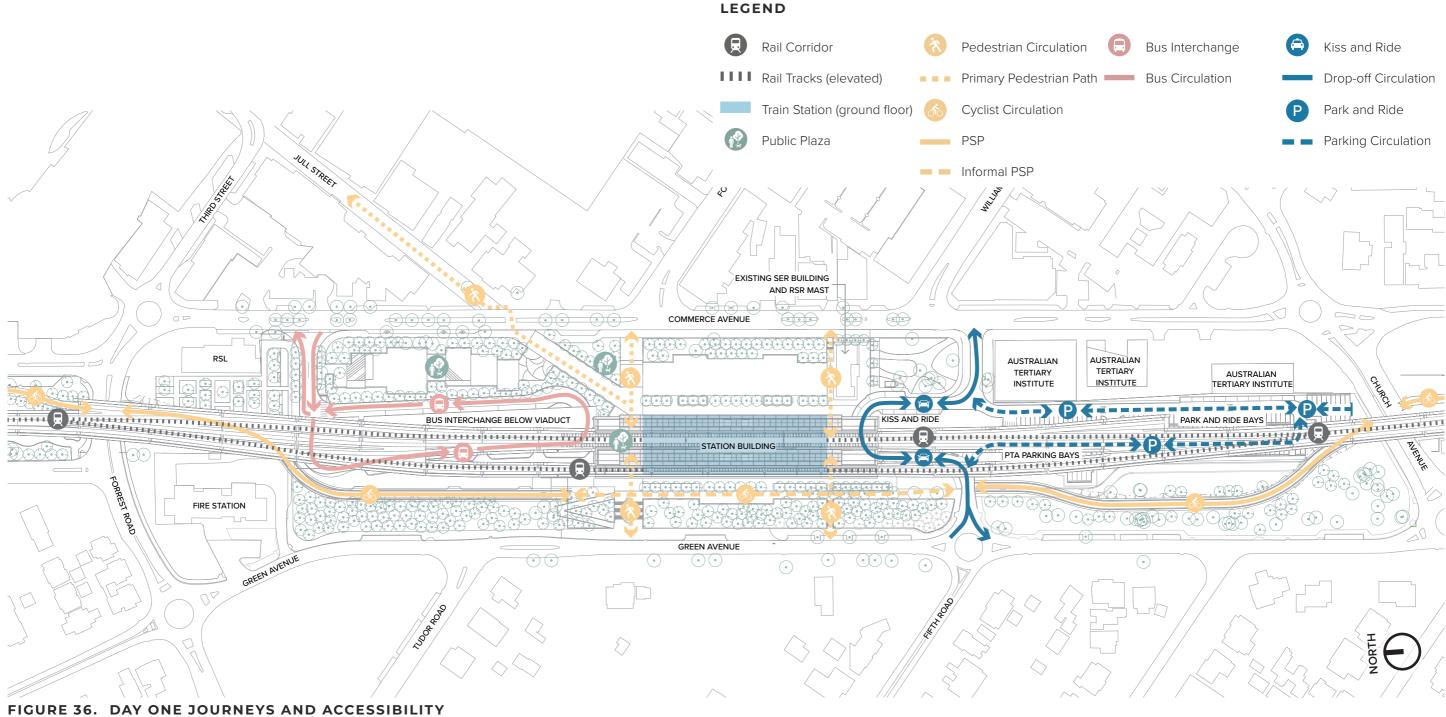


FIGURE 35. DAY ONE STATION WELCOME PLACE IMPRESSION

DAY ONE JOURNEYS AND ACCESSIBILITY





LANDSCAPE

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LANDSCAPE PLAN

DESIGN PRINCIPLES

This Landscape Design identifies high-level opportunities that will be further developed in the next stage of works for the BRE project.

The landscape design approach seeks to utilise the viaduct heights to allow for previously disused land to be reintroduced for community use as functional and safe recreational spaces. The goal is to encourage as many people to use these spaces as possible by creating a community-sought destination.

This also presents good passive surveillance due to its occupancy to surrounding streets and surrounding spaces for local residents, workers and the broader visiting community. The aim, critically, is not to hide the station through landscape but to complement its architectural form, to integrate with the existing surrounds and seek to engage objectives within the Urban Forest Strategy provided by the City of Armadale.

There needs to be provision for clear sight lines through the station grounds to encourage adjacent businesses and developments to respond to the precinct by opening out onto, rather that turning away and internalising their active edges.

The masterplan on the following page illustrates the station landscape design concept. From the station entry to the Jull Street Mall (east) and to Green Ave (West), the areas around the station should provide a generous arrangement of seating walls, turfed areas and small play space to encourage occupancy. The concept explores the development of a place to meet friends or to simply grab a bite to eat and 'hangout'. It also explores opportunity for small community events, fairs and food trucks. Though limited by infrastructure offsets, such as the rail viaduct, the placement of trees in and about the station is explored also in order to maximise natural shade and amenity.

The station precinct's public realm design focuses on providing a strong welcoming experience, a place to stay, meet, gather for events and provide linkages east/ west and north/south through the landscape.

FIVE KEY DESIGN PRINCIPLES



01 CLEAR & INTUITIVE

I know where I'm going.

A generous and clear
groundplane with an enhanced
sense of arrival. Strengthen
east/west connectivity



02 SAFE & WELCOMING

I feel safe. I can stay or just pass through at night or day. Clear connections from beyond the precinct. Clear sightlines and lighting to enhance feelings of safety.



03 MULTI-FUNCTIONAL

Flexibility of the public realm to allow for a number of different uses & functions.



04 SIMPLE & ROBUST

Simple, robust and timeless treatments. Simple spaces provide opportunities



05 CULTURALLY INCLUSIVE

Spaces that promote social, cultural and knowledge exchange.

THREE LINEAR PROGRAMS

01 COMMUNITY

Via an active park edge to the east of the station connecting with the Jull St Mall and City Centre. It features a generous multi-use urban area, seating throughout, turfed areas, junior play space, youth active area, diverse range of endemic and exotic tree species and shrub planting suitable to the local environment.

02 TRANSPORT

A consolidated use of space linking all sources of transport (Bus, Rail, Car, Motorcycle and Bicycle) and Station accessibility.

03 COUNTRY

Opportunity to provide a strong urban forest edge and connecting 'green link' through the precinct.

HUB COMMUNITY
TRANSPORT
CARS
COUNTRY



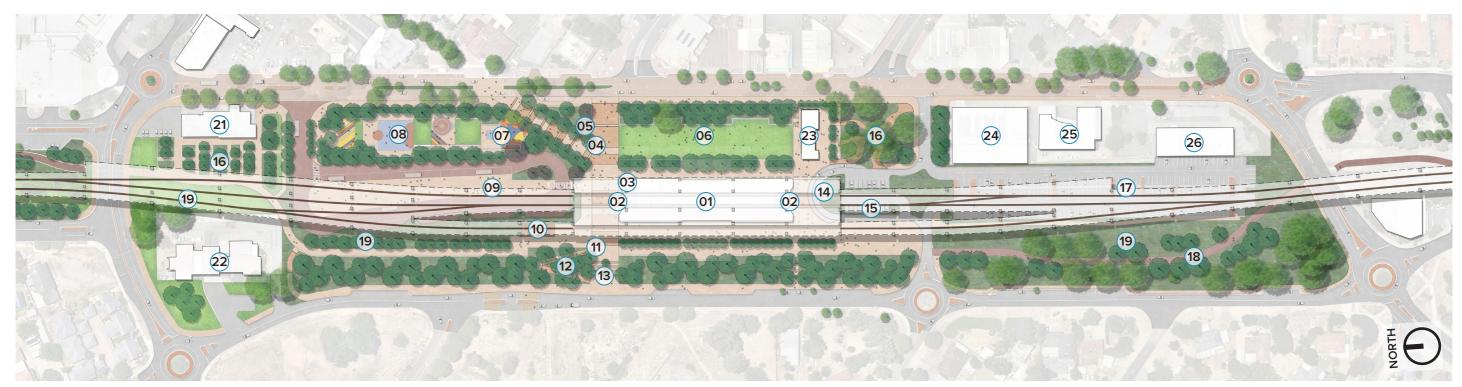


FIGURE 37. LANDSCAPE MASTER PLAN - SOUTH OF FORREST ROAD



FIGURE 38. LANDSCAPE MASTER PLAN - NORTH OF FORREST ROAD

- 01 Train Station
- **02** Entrance to Station
- 03 Kiosk
- 04 Welcome Place East
- **05** Yarning Circle
- 06 Gardens/ Turf/ Multiuse Areas
- **07** Junior Playspace
- 08 Youth Active Area
- 09 Bus Terminal
- 10 Bicycle Shelter

- (11) Welcome Place West
- 12 Ramp Access
- 13 Stair Access
- 14 Kiss & Ride
- 15 Staff Parking
- 16 Urban Lounge
- 17 Public Parking
- 18 Principle Shared Path
- 19 WSUD
- 20 Neerigen Brook

- 21) RSL
- Old Fire Station
- Station Signalling Equipment Room (SER)
- 24 Australian Tertiary Institute
- 25 TAFE
- 26 Polytechnic West

SECTIONAL STUDY



Sections are also provided on subsequent pages to highlight how

the design can respond to levels challenges from east to west, and the scale of spaces under the viaduct where these interact with the welcome place, park and ride and station buildings/infrastructure.



FIGURE 39. SECTION A-A

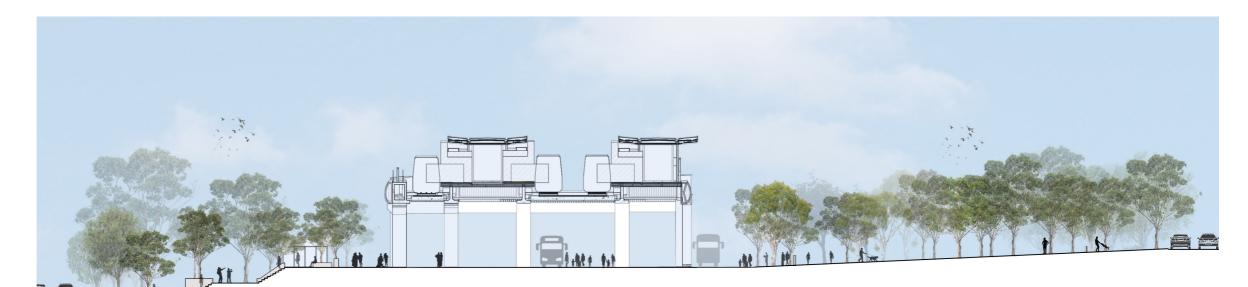


FIGURE 40. SECTION B-B





FIGURE 41. SECTION C-C





FIGURE 42. SECTION D-D

FIGURE 43. SECTION E-E



TREES AND SHADE

The retention of existing mature trees is essential to ensuring continuity of the wider habitat and ecosystem of Armadale whilst reducing the need for irrigated areas.

Trees with Heritage status are to be protected and celebrated as part of the context of site.

The proposed trees will be strategically located to increase shade, canopy coverage and reduce the urban heat island effect from the proposed infrastructure. They will contribute to the overall look and feel of the site.

Tree selection, where appropriate, should be tall and linear with a connecting canopy that provides abundant natural shade. The aim should be to soften views to the overhead railway power lines, while not deterring attention from the station's building, its entry and surrounding public spaces.

Suitable plants may need to be exotic to compliment native selections and the local environment.

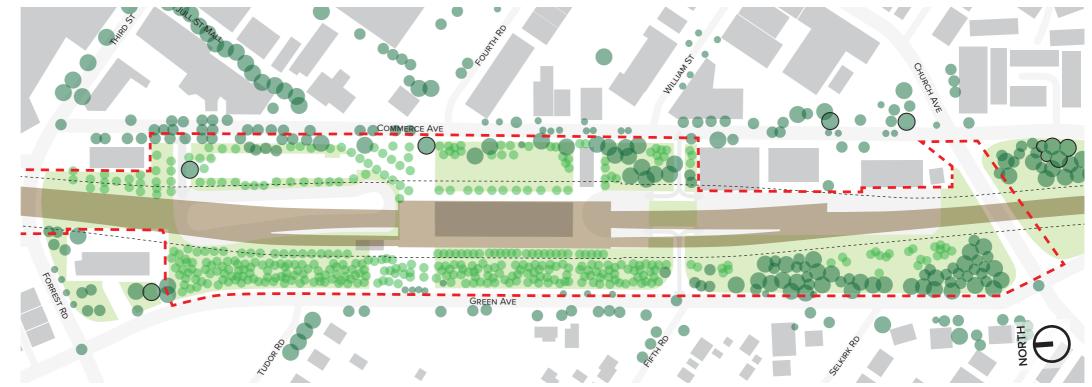


FIGURE 44. TREES AND SHADE PLAN - SOUTH OF FORREST ROAD



FIGURE 45. TREES AND SHADE PLAN - NORTH OF FORREST ROAD

LEGEND

Trees to be retaines

Heritage Tree Walk trees (to be retained)

New tree

Planted landscape contributing to cooling

Rail viaduct shade (Day One)

Tree-limitation zone due to rail infrastructure

RETAINING MONUMENTAL TREES



Sugar Gum in the current north-east carpark



Monumental trees between the rail line and fire station

RELOCATING EXISTING TREES



Jacaranda trees in the current train station forecourt



Sugar Gums and Marri trees at the bus entrance



Flooded Gums and Marri between Aragon Court and the rail line



Platanas Acerifolia trees in the current median of the western carpark

OPPORTUNITIES TO FURTHER INCREASE TREE CANOPY AND REDUCE URBAN HEAT



Dense tree canopy providing shade and cooling to plazas



Dense tree planting at construction to realise urban cooling (example Southbank Blvd, Melbourne)



Dense tree planting at car parking areas



Shaded parking allowing drivers to return to a cooler car (example: Place des Quinconces, Bordeaux)

OPPORTUNITIES TO IMPROVE GROWING CONDITIONS IN PAVED AREAS



Permeable paving improve growing conditions, allow for stormwater infiltration and reduce urban heat



Bardi Lane, OneOneFive Hamilton Hill, Cockburn permeable paved parking bays around new trees



LANDSCAPE CHARACTER - HARDSCAPE

The consolidation of hardscape materials and fixture selection ensures continuity across the whole site. It takes into account the site aesthetic, the needs of the end user, and the operational and ongoing maintenance requirements.

A palette has been selected to be implemented site wide in order to complement the overall identity and feel of the Armadale Rail Station. Aim is to demonstrate a relationship to both the natural landscape and historic and new town centre.

MATERIAL PALETTE

The material palette references the location of the Armadale Station being at the nexus of several edges and intersections:

- The Swan Coastal Plain and the Darling Scarp;
- The intersection of major transport routes road and rail line; and
- The Coast, City and Urban life and the Hills, Scarp and rural life.

A key theme is the meshing or intertwining of the underlying soils and geology of the Swan Coastal Plain, the Darling Scarp and Hills area. It also builds on the historic links in the area with the colour and textures of the local architecture and flora.





SURFACES

The material palettes reference both the underlying soils and geology of the local area, as well as the colours and textures from the local architecture and flora in the area. The soils and geology are a mosaic of red gravels, yellow and brown clays and sands, and red brown laterites.

This mosaic is represented in a random pattern of unit paving which melds the laying style in to a more contemporary design. This melding of the historic and contemporary reflects the sites current location as the nexus of the rural and suburban zones of Perth.

Surface materials:

- Trafficable pathway option unit paver with varied colour and tones with an opportunity to use recycled bricks where appropriate
- Trafficable pathway option exposed aggregate concrete which reflects the broader colour palette

SEATING

Opportunities for seating are located throughout the Armadale Station landscape including along the Welcome Plaza, Western Entry, Youth Plaza and Linear Parkland (to be detailed). Simple and robust seating supports activities and aids circulation.

Seating and decking materials:

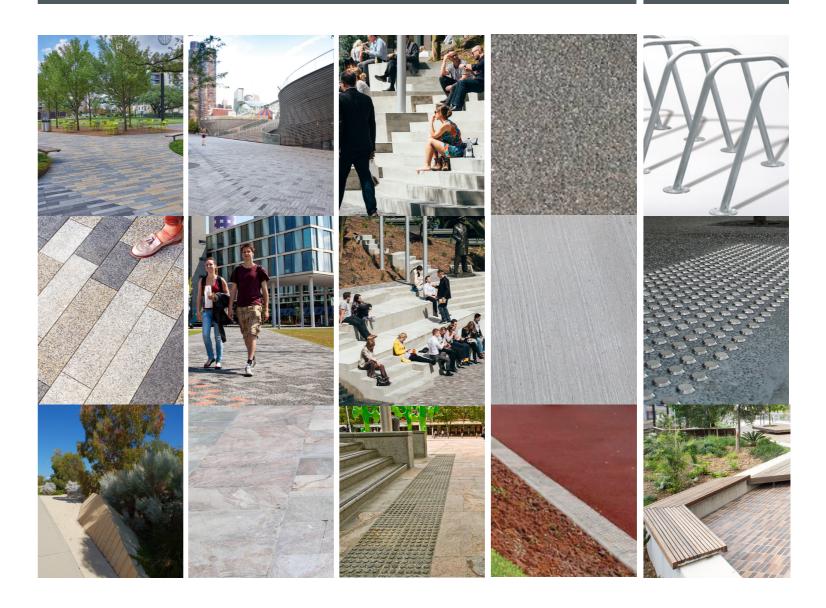
- Decking seasoned, hardwood timber decking
- Seating walls concrete with varied tones to match the broader palette and seating with back and arm rests

PLAY SPACES

The youth and play spaces seek to provide an all ages playground with seating and turfed areas. It is to provide an inclusive community space in the centre of town.

PAVING TREATMENTS

DETAILS





LANDSCAPE CHARACTER - SOFTSCAPE

The planting character references the 'nexus' of the Swan Coastal Plain and Darling Scarp and Hills landscape characters coming together at the station. The use of strategically placed deciduous trees reinforce the historic and contemporary character of Armadale.

The use of tree species aligns with the City of Armadale's 'Urban Forest Strategy' to further reinforce the broader landscape narrative and character of Armadale and the surrounds.

WATER SENSITIVE URBAN DESIGN (WSUD)

Water Sensitive Urban Design (WSUD) is key to providing effective ways to minimise impacts of the rail development on waterways within the site. The site will provide treatment of storm water and overland water flow pollutants onsite for treatment via vegetated swales and planting. The design and implementation of WSUD systems will be jointly coordinated with Civil, Hydrology and Landscape. These will be reflected in our design drawings noting size and volume of treatment areas, choice of filtration media and selection of specific plant species for the job.

URBAN FOREST EDGE

The City of Armadale has been foremost in understanding that with a rapidly growing population and urban development there is a reduction in large areas of native vegetation and loss of private open space. The vision of the City of Armadale Urban Forest Strategy aims "to strengthen a diverse landscape character through allocating suitable tree diversity, be proactive with landscape planning while showcasing the City's botanic heritage and to distinguish an expanding 'tree-change' destination from the existing Perth vernacular."

The Place Plan acknowledges the City's aspiration and features along Green Avenue an Urban Forest edge that links existing tree-scapes along the north/south aspect as well as maintaining ecological links through the Armadale city centre.





Building on the 'Bush Plaza' typology of Beenyup Station a selection of flowering feature endemic plants is utilised. The arrangement of the planting and flowering times provides a succession of colour over the seasons and reflects the indigenous 'Six Seasons' with specific plants selected to indicate the different seasons.

The selection of plant species should be prefaced with the fact there is no 'perfect' tree. The selection of either endemic (ie. trees that are specific to a particular local area), 'native' (ie. grow naturally in Australia), or exotic (ie. origin outside of Australia) should be balanced with the knowledge that urban sites are radically different to the natural spaces that many endemic and native trees have evolved.

Locating the right plant, in the right location for the right reason are underpinned by the following considerations:

- higher average temperatures from hardstand, carparks and buildings;
- sightlines, views and safety for users;
- mature size of planting;
- less permeable surfaces and compacted soils and root disturbance from excavation and underground services;
- canopy shading and solar requirements;
- maintenance required e.g. tree litter, pruning, root management etc.
- longevity and structural integrity of plant species;
- spaces above and below ground for plant establishment;
- aesthetic and 'sense of place' selections;
- endemism of species where suitable and appropriate; and
- · clearance for vehicles, pedestrians and cyclists.

DJILBA MAKURA DJERAN KAMBARANG BIRAK BUNURU





INVESTMENT LEVELS

Not every area in the public realm of the station precinct needs the same level of investment.

Some areas are more important for people than others; comparable to somebody's house, where its residents spend more attention to the living room than the laundry room. Important areas present pride, showcase the place, and are used more intensely by people, both regular users and visitors. Their maintenance levels are higher too. Other areas also need to function well, but can do with less ambition. The investment levels relate to budgets per square metre for capital works and for maintenance.

In general, four investment levels can be formulated for urban areas - premium, high quality, standard and basic. For the station precincts, the 'premium' level might be too ambitious. The other three levels are generally applicable and the locations within the Armadale Station precinct that each should be applied to is as follows:

- LEVEL 2 HIGH QUALITY: Welcome Place
- LEVEL 3 STANDARD: Streets, parks and bus transfer station
- LEVEL 4 BASIC: Car parking

NOTES ON SQUARE METRE RATES

The rates are to be used as benchmark indicators and can be used for budget planning of urban realm spaces. Using the rates in relation to competitive market bids is highly disputable, since the quality of the design and finishes costed in those bids might not be the comparable.

The square metre rates indicated in this section are benchmark rates for the construction of all surface finished – hardscape and softscape, including street furniture. Demolition and site preparation works, utility services, architectural features, preliminaries, professional fees, contingencies and escalations are not included.

Various factors have a direct influence on the square metre rates. The ratio between hardscape and softscape is an obvious one. A city park with lots of turf is cheaper to construct than a city square with the same importance in the city's users. Other important factors are the special features; the complexity of custom-made elements (water features, public art, feature lighting, etc.) has a big impact on the square metre rate.

The indicated rates are based on the price levels of 2020.







LEVEL 2 - HIGH QUALITY

\$400-\$500 / SQM

For instance: • Town Plaza, Albany• Curtin Main Street, Curtin University Bentley Campus• Cecil Avenue, Canning

Typically, finishes are higher quality unit pavers, in-situ concrete with exposed aggregate or intricate patterning. Seating and retaining walls in concrete finish with some feature details. Selection of high-quality off-the-shelf furniture elements. Select areas with feature lighting, shade structures, lighting and public art. Extensive soil improvement, medium density planting (min 140mm). Generally 200lt to 500lt trees. Permanent irrigation to all.

LEVEL 3 - STANDARD

\$200-\$300 / SQM

For instance: • The Parkway, Ellenbrook• Scarborough Beach Road, Mount Hawthorn• Curtin Guild Court, Curtin University• Seppings Parade Plaza, Lakelands Shopping Centre

Typical finishes are in-situ concrete, black/red asphalt and small size basic concrete unit pavers for drivable spaces - brick paver and unit paver footpaths, limited patterning. Off-the-shelf street furniture, no retaining wall and standard lighting. A basic level of soil improvement to all garden areas. A medium density 140mm planting size or high-density tubestock. Generally 100lt to 200lt trees and limited rolled on turf areas - permanent irrigation to all.

LEVEL 4 - BASIC

\$100-\$150 / SQM

For instance: • Standard suburban street• Basic arterial road• Car parks

Typically treatments are black asphalt for drivable surfaces; grey concrete extruded kerbing, broomed concrete footpaths – no street furniture besides incidental street light. Use of on-site soil, limited soil improvement, tube stock size planting, mulch treatment and turf seasonally mowed only. Trees of 45lt to 100lt. Permanent irrigation to trees only and tubestock to be winter planted.

TABLE 6. INVESTMENT LEVELS FOR PUBLIC REALM

Source: Byford Rail Extension - Concept Design, 'Armadale Station Precinct Preliminary Place Plan', WSP/PLACE Laboratory (2021) (BRE-MNO-WSP-PL-RPT-0003).



Notes:

- The investment levels have a hierarchy according to function and use.
- High Quality areas are focused around the train station building, welcome plaza and the interface between Commerce Avenue and Green Avenue.

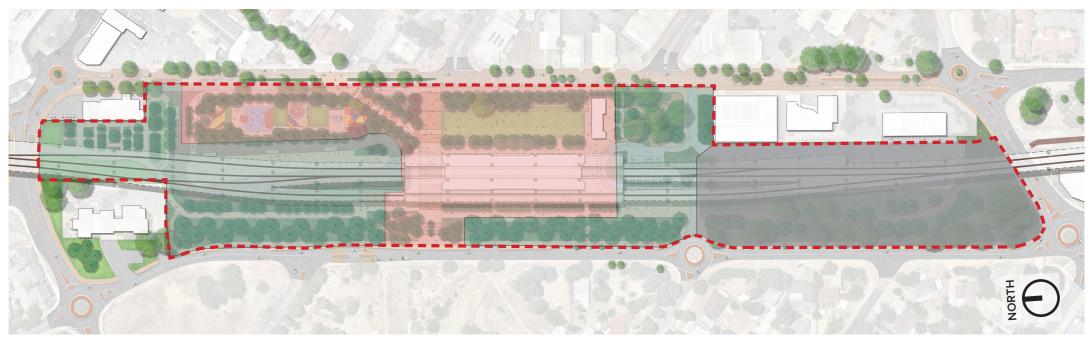


FIGURE 46. INVESTMENT LEVELS PLAN - SOUTH OF FORREST ROAD

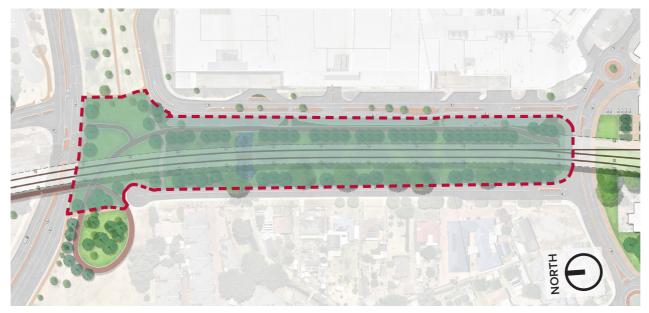


FIGURE 47. INVESTMENT LEVELS PLAN - NORTH OF FORREST ROAD



LEGEND

-- Landscape Extent of Works



Level 2 - High Quality

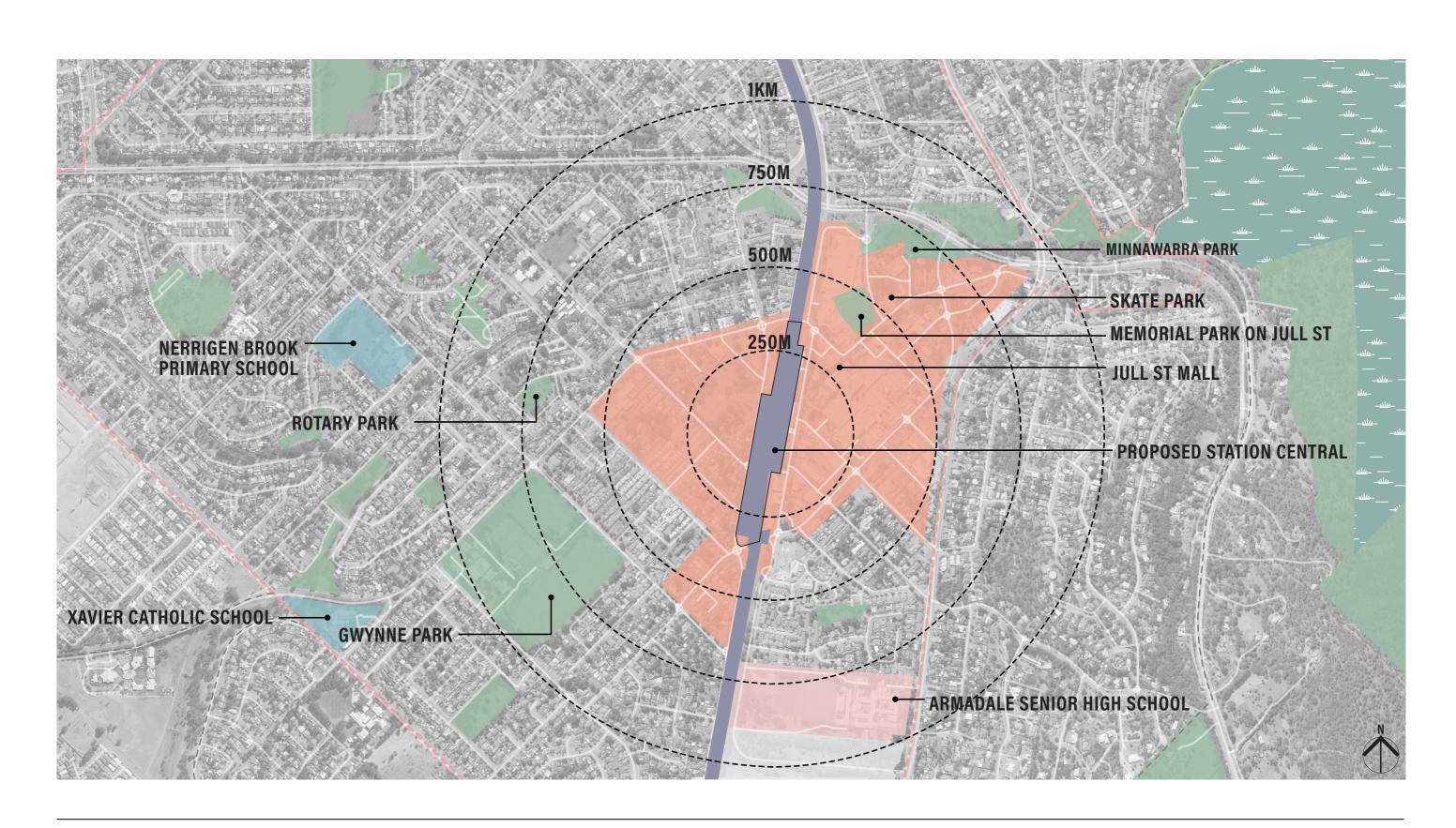


Level 3 - Standard Level 4 - Basic





LOCALITY PLAN



UDLA – BRE – ARMADALE STATION

KEY THEMES



HILLS TOWN

City With A Town Feel
Omnipresent Hills & Trees
Of The People
Human Scale
Civic
Contemporary
Convenience

Hills Town refers to the city at the foothills of Moorda. Where Fremantle is a 'port town' and Kalamunda a 'hills village', Armadale is the only city centre in the metropolitan area directly connected to the hills. It is a 'city' in function and a 'town' in feel.



CONNECTING

Grounded
Open & Inviting
Bridging Differences
Growing
Urban + Rural
Coastal Plains + Darling Scarp

This is a place of connecting in many different ways - physically linking places, connecting people, advancing from anonymity, relating to past and future, telling stories. The place relates to both kening grounds' gathering and to rail holding yards, where products were connected to their next destination in Perth and Fremantle.



REVEAL

More Than The Eye Can See Not Obvious Discover Surprise

Although it is easy to find your way, Armadale has hidden layers: places to discover, interesting people, diversity of destinations, waves of activities, many things that make the centre attractive to go to, to stay and to revisit. There is always something to explore.

UDLA – BRE – ARMADALE STATION

KEY PRINCIPLES



CLEAR & INTUITUVE

I know where I'm going.

A generous and clear groundplane with an enhanced sense of arrival. Strengthen east/west connectivity



SAFE & WELCOMING

I feel safe. I can stay or just pass through at night or day.

Clear connections from beyond the precinct. Clear sightlines and lighting to enhance feelings of safety.



TREES & SHADE

Create a sense of human scale and enclosure.

Provide shade, shelter and thermal comfort.



MULTI-FUNCTIONAL

Flexibility of the public realm to allow for a number of different uses & functions.



SIMPLE & ROBUST

Simple, robust and timeless treatments. Simple spaces provide opportunities



CULTURALLY INCLUSIVE

Spaces that promote social, cultural and knowledge exchange.



INTEGRATED

Connection to services for space activation and with Jull St.



CONTEXT

This feels like Armadale.

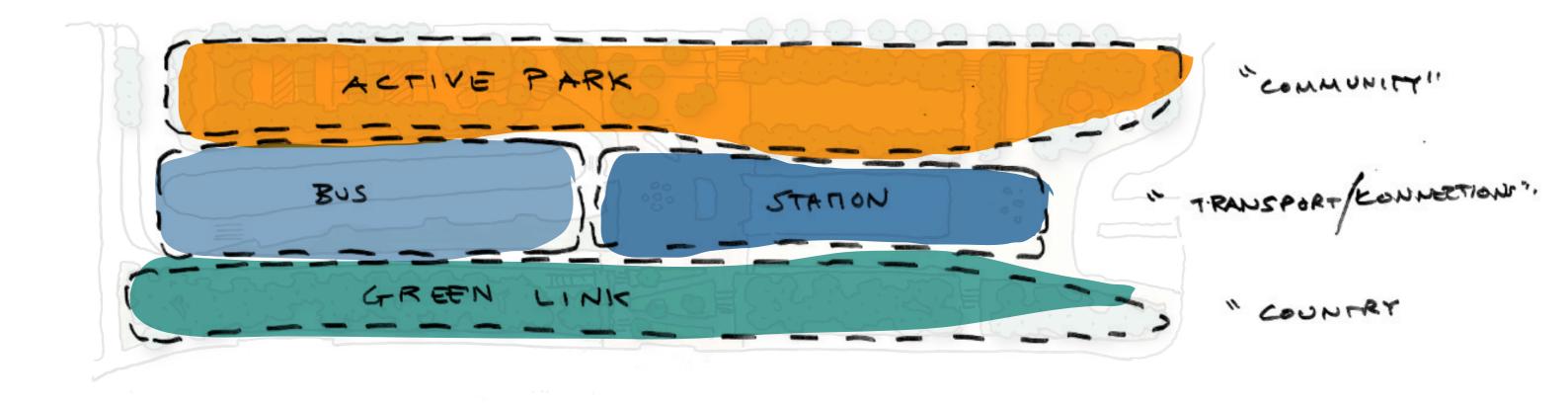


FUTURE PROOF

Flexibility of function and use. One space with many experiences.

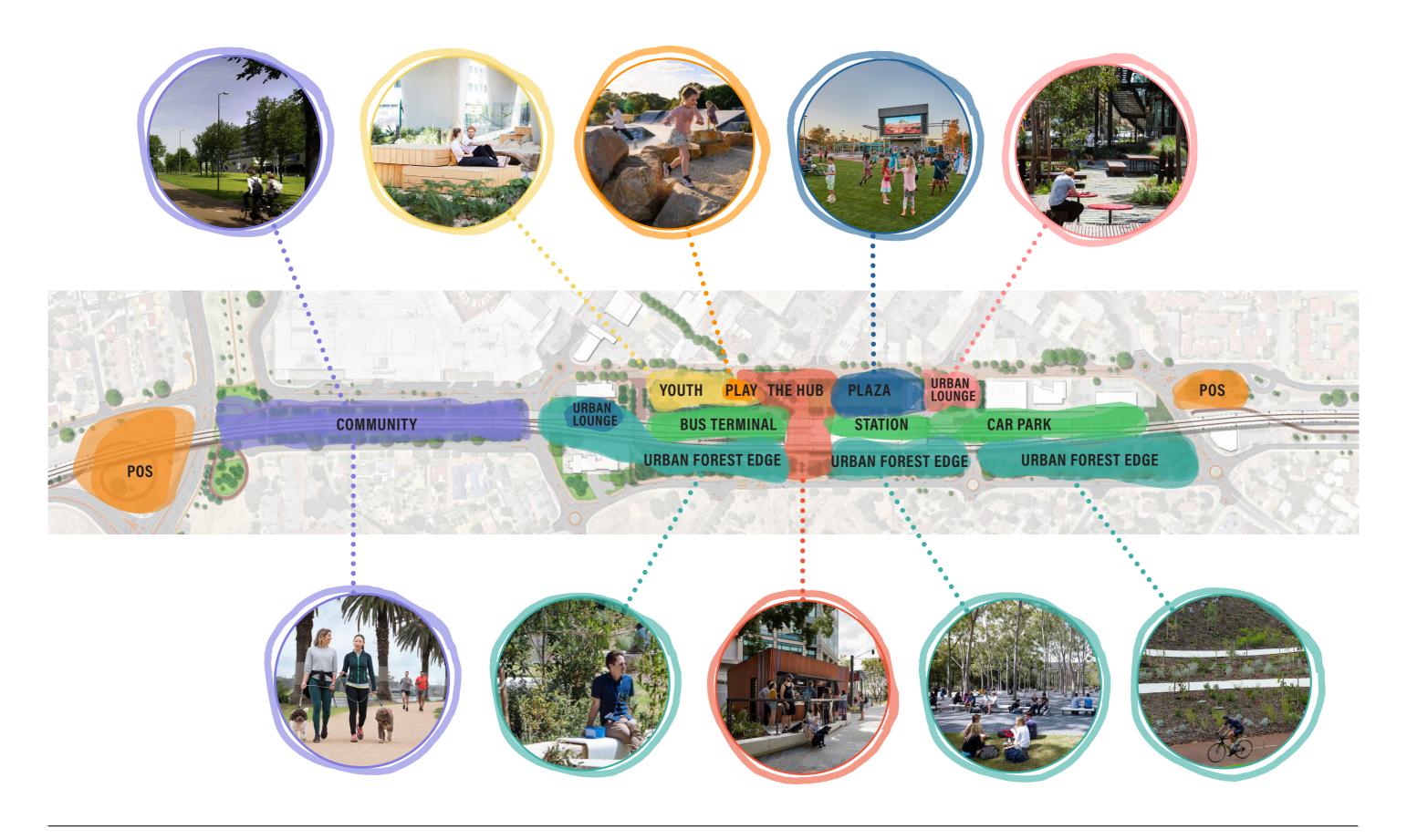
UDLA – BRE – ARMADALE STATION

THREE LINEAR PROGRAMS

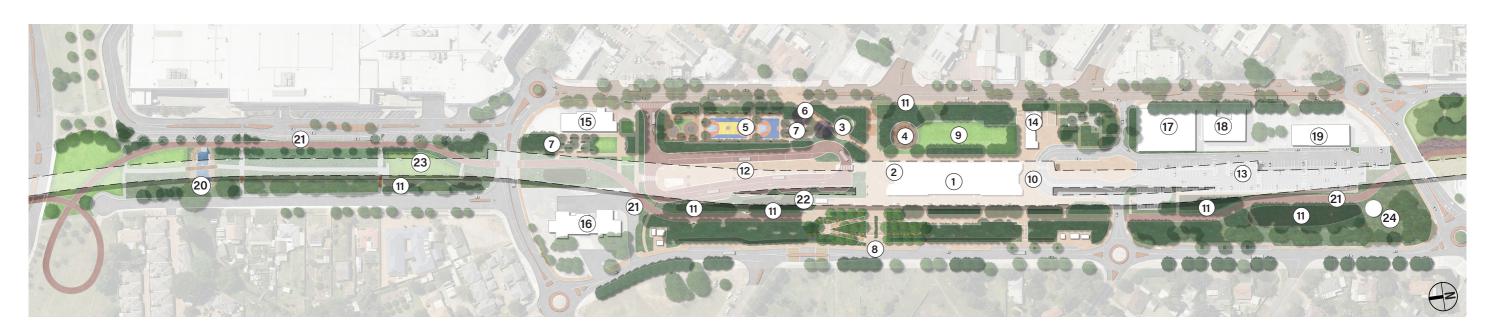


COMMUNITY | TRANSPORT | COUNTRY

ARMADALE STATION PRECINCT - ZONES



ARMADALE STATION CONCEPT MASTERPLAN



- 1 Train Station
- 2 Kiosk
- 3 Yarning Circle
- 4 Junior Playspace
- 5 Youth Active Area
- 6 Welcome Place East
- 7 Urban Lounge
- (8) Welcome Place West
- 9 Turf/ Multi-use Events Area
- (10) Kiss & Ride
- 11) WSUD
- Bus Terminal
- Public Parking
- Station Signalling Equipment Room (SER)
- 15 RSL
- ¹⁶ Old Fire Station
- 17 Australian Tertiary Institute

- 18) TAFE
- 9 Polytechnic West
- 20 Neerigen Brook
- 21 Principle Shared Path
- 22) Bicycle Shelter
- 23 Dog Off Leash Park
- 24 Irrigation Tank

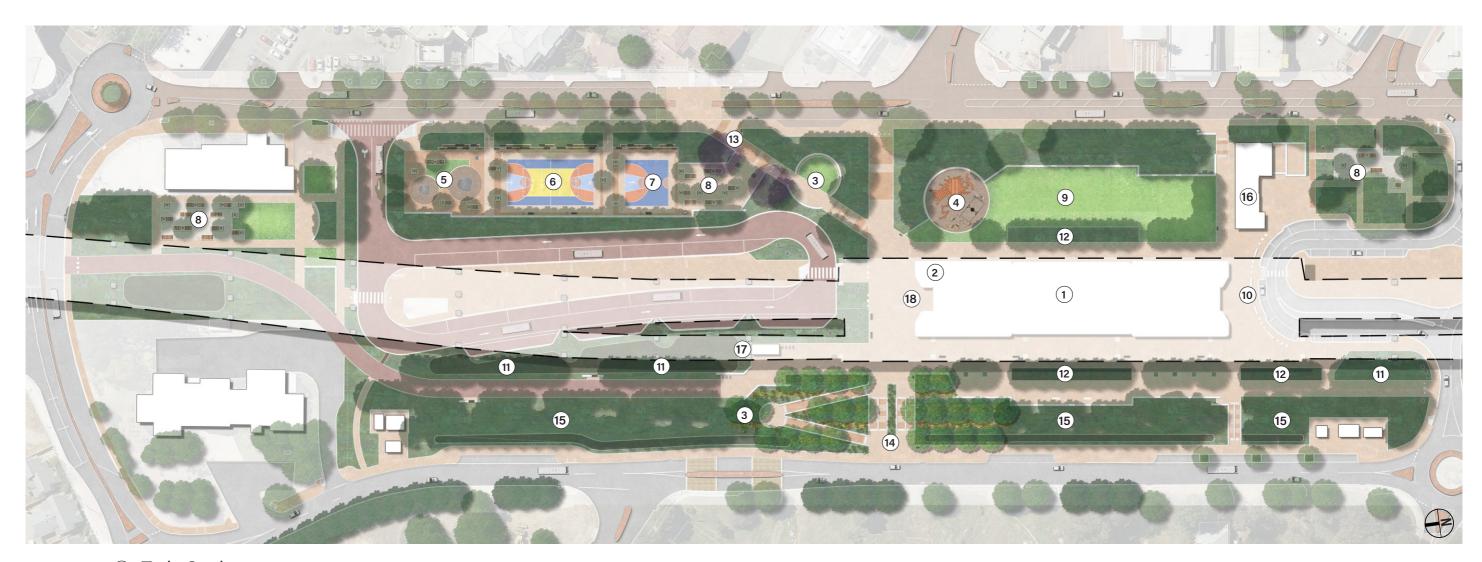
A SUCCESSFUL PUBLIC SPACE GENERALLY SHOULD

BE ACCESSIBLE, BE COMFORTABLE AND HAVE A

WELCOMING AESTHETIC. PEOPLE SHOULD BE ABLE TO

ENGAGE IN AN ARRAY OF ACTIVITIES, BE INCLUSIVE AND

BE A HIGHLY SOCIABLE ENVIRONMENT.



- 1 Train Station
- Kiosk
- ③ Yarning Circle④ Junior Nature Playspace
- 5 Bouldering
- 6 Multiuse/Full Size Basketball Court
- 7 Half Size Basketball Court
- 8 Urban Lounge
- 9 Turf/ Multi-use Events Area
- Kiss & Ride
- Bioretention Basin
- Rain Garden
- ⁽³⁾ Welcome Place East
- (14) Welcome Place West
- 15 Urban Forest Edge
- 16 Station Signalling Equipment Room (SER)
- To Bicycle Shelter
- ® Station Entry

1.0 LANDSCAPE

The overall landscape approach for the Armadale Station Precinct has been a cumulative response aligning with not only the project requirements of the SWTC but also understanding the dynamics of an emerging City centre, it's unique sense of place, noting community and stakeholder expectations, and providing an outcome that flexible for future needs.

The landscape design has been guided and incorporated the following principles and projects needs;

- Retaining of as many existing trees as possible with priority placed on heritage based trees and enhancing the aspect with increased tree numbers for greater natural shade and canopy over the site.
- Working with the City of Armadale to align tree selection with their Urban Forest Strategy in providing a botanically rich and diverse urban forest. The provision of a large species diversity (native and exotic) is important in limiting disease and pest damage. Current threat is by the Polyphagus Shot-hole Borer that is known to attack a variety of native amenity trees. The aim is to reduce the risk to retain all trees.
- Utilising water wise native planting and focus on reducing irrigation needs via hydrozoning principles where appropriate.
- Incorporating Water Sensitive Urban Design (WSUD) principles to locally treat storm water from the viaduct structure, built form and from overland flow. Capture points are a series of bio-retention basins, swales and rain gardens.
- Providing a range of spaces that can accommodate a variety of users and number of attendees for both formal and informal gatherings.
- Facilitating felxible community spaces to promote and program events and activities such as weekend farmers markets, arts and crafts, food truck events, etc.
- Strengthening connection through the site north/south and across
 the corridor east/west under the viaduct now unhindered by 'at grade'
 fencing allowing stronger utilisation and activation opportunities and
 connection with the City centre.
- Providing passive surveillance and safe journeying through the site implementing CPTED principles with clear sightlines, good lighting and intuitive wayfinding.

- Providing clear, direct and safe movement to train station entry, bus terminal and car parking.
- Encouraging activity within the precinct with walking, play and resting points throughout with formal and informal seating nodes with universal access.
- Mitigating conflict points with cyclists (and the likes) and pedestrians by providing landscape treatments that incorporate separation and to signal users to slow down, be wary and alight where appropriate.
- Incorporating Noongar cultural context, themes and narratives specific to the site location and Armadale heritage. These being derived from the local Noongar Elder Reference Group, Metronet Noongar Reference Group, Metronet Noongar Cultural Context Document and the Mertonet "Gnarla Biddi - Our Pathways" Strategy.
- Enhancing natural systems with an improved ecological corridor north/ south through the site that also encorages connection with nature, country and embellishes sense of place.
- Considering robust and quality materials that are sourced responsibly and enhance location and sense of place.

2.0 PUBLIC REALM

The proposed Armadale Station Precinct aims to deliver a significant public realm spanning over approximately 7.9 hectares between Armadale Road and Church Avenue. A key function of the Public Realm is to act as the hub for users from train station and bus terminal to the City and the immediate and broader community. In it's bounds the Public Realm will also provide a variety of activity nodes and amenity that include;

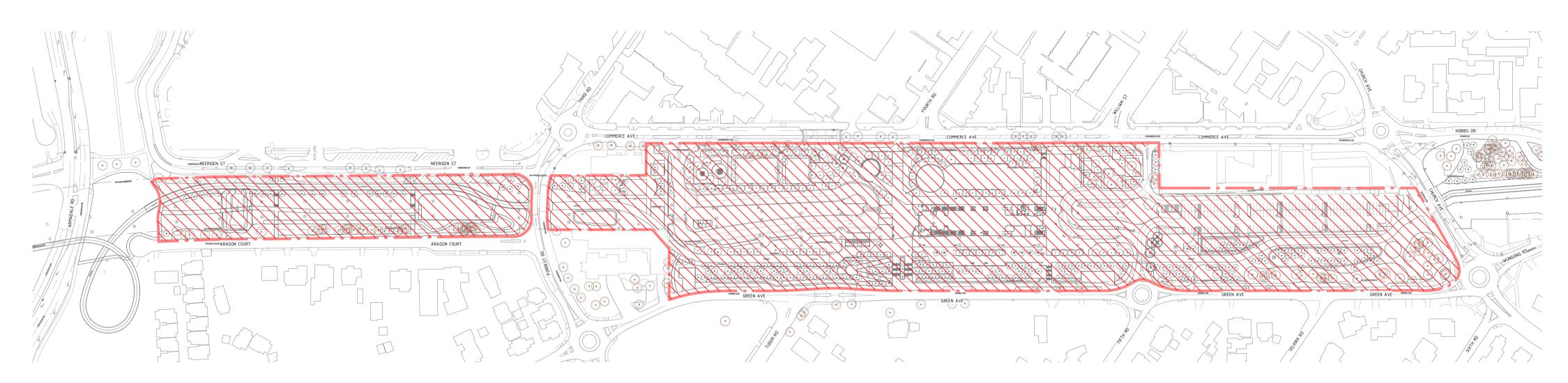
- Boardwalk crossing over the existing Neerigen Brook between Neerigen Street and Aragon Court. This utilises the existing rail bridge footing structures. Educational signage to inform the significance of why this section of the Brook is still in place performing a critical function in managing flood waters that frequent the area.
- Neerigen Brook Dog Off-leash Park with dual safety gate entry, dog agility items, seating and drink fountains with dog water bowls.
- Urban lounges that provide comfortable, welcoming spaces to sit, read, relax or to simply enjoy lunch and meet a friend. These relaxed seating spaces are set amongst trees and planting and occur in three places across the site - behind the RSL Club, in the Youth Area and adjacent the Kiss 'n' Ride south of the Train Station.
- Generous turfed areas throughout the Public Realm to encourage picnics, activation and to reduce use of hard paved surfaces. The larger turfed area adjacent the Train Station east is proposed for larger more formal events and community based activities.
- Youth Area east of the Bus Terminal provides a variety of skill, strength and sports based activity as well as chill out zones to simply rest, relax and hangout. The space provides for;
 - · Bouldering varying skill and strength level
 - Full size basketball court with multi-use line graphics
 - Half size basketball court
 - Terraced seating east of the courts to give elevated 'grandstand like' viewpoints.
 - Chainlink rebound fencing west of the courts to protect balls and people from straying across into the path of buses at the adjacent bus terminal.
 - Urban lounge seating to provide a 'chill zone' for youth under the shade of trees.

- Bicycle racks
- Drink fountain
- Bench and seating walls that includes sections with back and arm rests.
- Retention and relocation of the two significant Jacaranda trees that currently reside at the old Station entry.
- Strong connection with City centre via the Jull St corridor to Station entry.
- Yarning Circle to Welcome Place East with seating wall that includes sections with back and arm rests.
- Strong connection east/west through the site connecting the Station entry.
- Junior nature based playground to feature inclusive play elements (subject to approval with the City of Armadale) that include;
 - Basket swing
 - Tower with slide
 - Timber steppers and balance logs
 - Local granite boulders
 - Stone 'moss rock' steppers
 - Sand play based elements
 - Net climber
- Seating nodes are located throughout the Station Precinct and generally spaced at 25-40m maximum to provide greater opportunity for resting spots as determined by the needs of the community for greater frequency.
- · Bicycle racks, locked bicycle storage and drink fountains.
- An Urban Forest edge to enhance the ecological corridor movement north/south through the site but implement the retention of significant trees to the site in general. A resonating deliverable within the project has been the development and implementation of the tree retention strategy.



BYFORD RAIL EXTENSION

ARMADALE STATION PRECINCT LANDSCAPE WORKS



LA230 - DRAWING LIST						
METCONNX DRAWING No	PTA DRAWING No	DRAWING TITLE LINE 1	DRAWING TITLE LINE 2	DRAWING TITLE LINE 3	REVISION	
R30-UDL-DWG-LA-230-00001	11-A-107-LA0001	ARMADALE STATION PRECINCT	LANDSCAPE	COVER SHEET	С	
R30-UDL-DWG-LA-230-00002	11-A-107-LA0002	ARMADALE STATION PRECINCT	LANDSCAPE	LEGEND & NOTES	С	
R30-UDL-DWG-LA-230-00010	11-A-107-LA0003	ARMADALE STATION PRECINCT	LANDSCAPE	SCHEDULES	С	
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LA230 - DRAWING LIST							
METCONNX DRAWING No	PTA DRAWING No	DRAWING TITLE LINE 1	DRAWING TITLE LINE 2	DRAWING TITLE LINE 3	REVISION		
R30-UDL-DWG-LA-230-00406	11-A-107-LA0073	ARMADALE STATION PRECINCT	LANDSCAPE	PLANTING PLAN 07	С		
R30-UDL-DWG-LA-230-00407	11-A-107-LA0074	ARMADALE STATION PRECINCT	LANDSCAPE	PLANTING PLAN 08	Α		
R30-UDL-DWG-LA-230-00408	11-A-107-LA0075	ARMADALE STATION PRECINCT	LANDSCAPE	PLANTING PLAN 09	Α		
R30-UDL-DWG-LA-230-00409	11-A-107-LA0076	ARMADALE STATION PRECINCT	LANDSCAPE	PLANTING PLAN 10	Α		
R30-UDL-DWG-LA-230-00500	11-A-107-LA0087	ARMADALE STATION PRECINCT	LANDSCAPE	PTA ASSET PLAN 01	Α		
R30-UDL-DWG-LA-230-00501	11-A-107-LA0088	ARMADALE STATION PRECINCT	LANDSCAPE	PTA ASSET PLAN 02	Α		
R30-UDL-DWG-LA-230-00502	11-A-107-LA0089	ARMADALE STATION PRECINCT	LANDSCAPE	PTA ASSET PLAN 03	А		
R30-UDL-DWG-LA-230-00503	11-A-107-LA0090	ARMADALE STATION PRECINCT	LANDSCAPE	PTA ASSET PLAN 04	Α		
R30-UDL-DWG-LA-230-00504	11-A-107-LA0091	ARMADALE STATION PRECINCT	LANDSCAPE	PTA ASSET PLAN 05	Α		
R30-UDL-DWG-LA-230-00505	11-A-107-LA0092	ARMADALE STATION PRECINCT	LANDSCAPE	PTA ASSET PLAN 06	Α		
R30-UDL-DWG-LA-230-00506	11-A-107-LA0093	ARMADALE STATION PRECINCT	LANDSCAPE	PTA ASSET PLAN 07	Α		
R30-UDL-DWG-LA-230-00507	11-A-107-LA0094	ARMADALE STATION PRECINCT	LANDSCAPE	PTA ASSET PLAN 08	Α		
R30-UDL-DWG-LA-230-00508	11-A-107-LA0095	ARMADALE STATION PRECINCT	LANDSCAPE	PTA ASSET PLAN 09	Α		
R30-UDL-DWG-LA-230-00509	11-A-107-LA0096	ARMADALE STATION PRECINCT	LANDSCAPE	PTA ASSET PLAN 10	Α		
R30-UDL-DWG-LA-230-01100	11-A-107-LA0128	ARMADALE STATION PRECINCT	LANDSCAPE	SECTIONS 01	С		
R30-UDL-DWG-LA-230-01101	11-A-107-LA0129	ARMADALE STATION PRECINCT	LANDSCAPE	SECTIONS 02	С		
R30-UDL-DWG-LA-230-01102	11-A-107-LA0130	ARMADALE STATION PRECINCT	LANDSCAPE	SECTIONS 03	В		
R30-UDL-DWG-LA-230-02133	11-A-107-LA10011	ARMADALE STATION PRECINCT	LANDSCAPE	HARDSCAPE DETAILS 01	В		
R30-UDL-DWG-LA-230-02134	11-A-107-LA10012	ARMADALE STATION PRECINCT	LANDSCAPE	HARDSCAPE DETAILS 02	В		
R30-UDL-DWG-LA-230-02135	11-A-107-LA10013	ARMADALE STATION PRECINCT	LANDSCAPE	HARDSCAPE DETAILS 03	В		
R30-UDL-DWG-LA-230-02136	11-A-107-LA10014	ARMADALE STATION PRECINCT	LANDSCAPE	HARDSCAPE DETAILS 04	A		
R30-UDL-DWG-LA-230-02137	11-A-107-LA10015	ARMADALE STATION PRECINCT	LANDSCAPE	HARDSCAPE DETAILS 05	A		
R30-UDL-DWG-LA-230-02138	11-A-107-LA10016	ARMADALE STATION PRECINCT	LANDSCAPE	HARDSCAPE DETAILS 06	A		
R30-UDL-DWG-LA-230-02139	11-A-107-LA10017	ARMADALE STATION PRECINCT	LANDSCAPE	HARDSCAPE DETAILS 07	A		
R30-UDL-DWG-LA-230-02140	11-A-107-LA10018	ARMADALE STATION PRECINCT	LANDSCAPE	HARDSCAPE DETAILS 08	A		
R30-UDL-DWG-LA-230-02141	11-A-107-LA10019	ARMADALE STATION PRECINCT	LANDSCAPE	HARDSCAPE DETAILS 09	Δ		
R30-UDL-DWG-LA-230-02142	11-A-107-LA10020	ARMADALE STATION PRECINCT	LANDSCAPE	HARDSCAPE DETAILS 10	A		
R30-UDL-DWG-LA-230-02143	11-A-107-LA10021	ARMADALE STATION PRECINCT	LANDSCAPE	HARDSCAPE DETAILS 11	A		
R30-UDL-DWG-LA-230-02144	11-A-107-LA10022	ARMADALE STATION PRECINCT	LANDSCAPE	HARDSCAPE DETAILS 12	A		
R30-UDL-DWG-LA-230-02153	11-A-107-LA10031	ARMADALE STATION PRECINCT	LANDSCAPE	FURNITURE DETAILS 01	В		
R30-UDL-DWG-LA-230-02154	11-A-107-LA10032	ARMADALE STATION PRECINCT	LANDSCAPE	FURNITURE DETAILS 02	В		
R30-UDL-DWG-LA-230-02155	11-A-107-LA10033	ARMADALE STATION PRECINCT	LANDSCAPE	FURNITURE DETAILS 03	A		
R30-UDL-DWG-LA-230-02156	11-A-107-LA10034	ARMADALE STATION PRECINCT	LANDSCAPE	FURNITURE DETAILS 04	Δ		
R30-UDL-DWG-LA-230-02157	11-A-107-LA10035	ARMADALE STATION PRECINCT	LANDSCAPE	FURNITURE DETAILS 05	Δ		
R30-UDL-DWG-LA-230-02158	11-A-107-LA10035	ARMADALE STATION PRECINCT	LANDSCAPE	FURNITURE DETAILS 06	A		
R30-UDL-DWG-LA-230-02159	11-A-107-LA10037	ARMADALE STATION PRECINCT	LANDSCAPE	FURNITURE DETAILS 07	A		
R30-UDL-DWG-LA-230-02160	11-A-107-LA10037	ARMADALE STATION PRECINCT	LANDSCAPE	FURNITURE DETAILS 08	A		
R30-UDL-DWG-LA-230-02163	11-A-107-LA10041	ARMADALE STATION PRECINCT	LANDSCAPE	SOFTSCAPE DETAILS 01	В		
R30-UDL-DWG-LA-230-02164	11-A-107-LA10041	ARMADALE STATION PRECINCT	LANDSCAPE	SOFTSCAPE DETAILS 02	В		
			LANDSCAPE	SOFTSCAPE DETAILS 02			
R30-UDL-DWG-LA-230-02165	11-A-107-LA10043	ARMADALE STATION PRECINCT	LANUSCAPE	SUFTSLAME DETAILS 03	В		

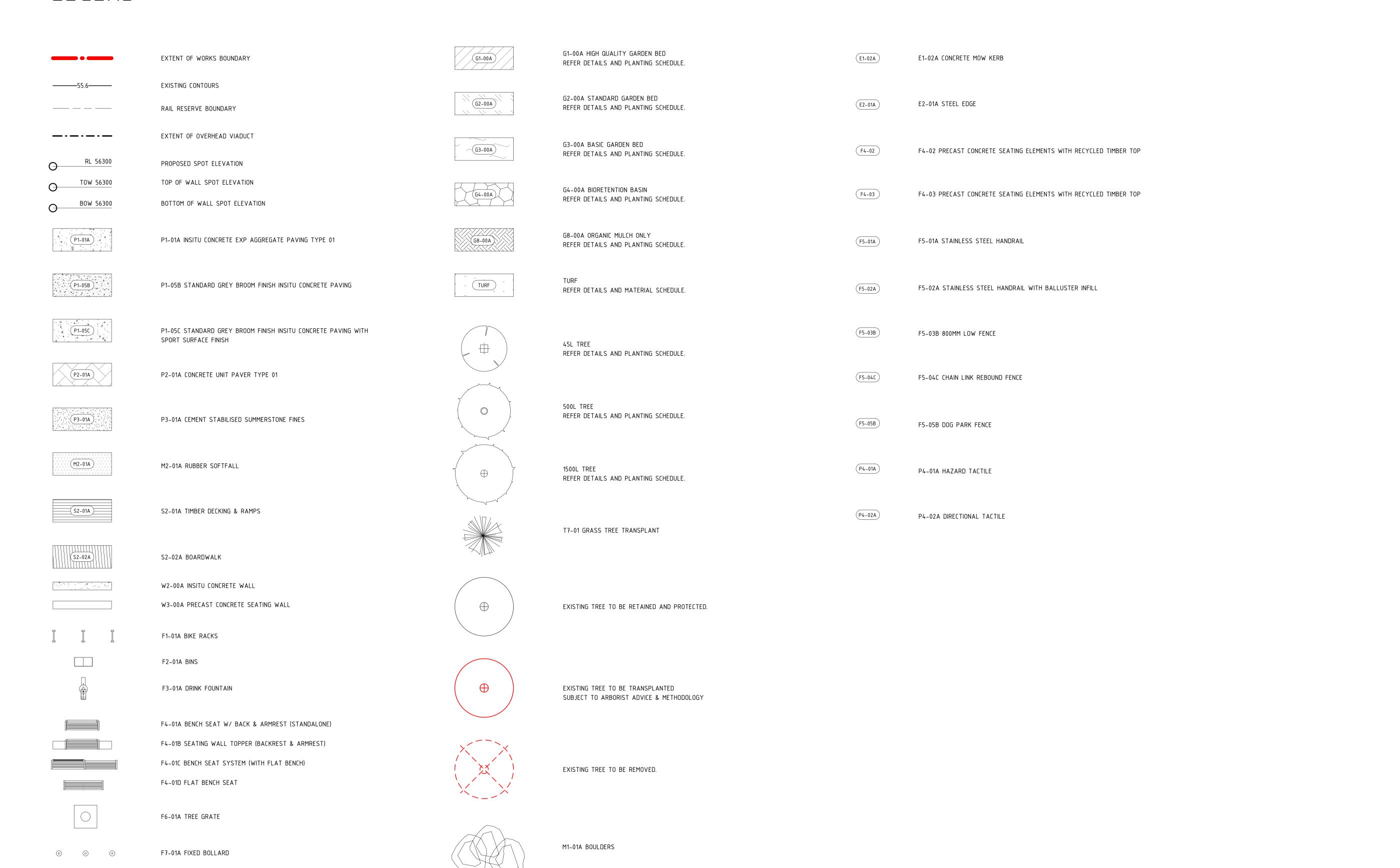
С	02.06.23	ISSUED FOR IDD – PTA REVIEW	D.F.	Y.D.	M.H.	A.E.
В	10.02.23	ISSUED FOR RD - PTA REVIEW	D.F.	Y.D.	M.H.	A.E.
Α	05.08.22	ISSUED FOR RD - PTA REVIEW	D.F.	Y.D.	M.H.	A.E.
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REFERENCES	SCALE	DESIGNED	D.Firns	Government of Western Austra Public Transport Authority
	1 : 2000	DRAWN	Y.Demissie	ARMADALE STATION
	DATUM	CHECKED	M.Harris	LANDSCAPE
	HORIZONTAL: PCG2020	APPROVED	A.Eyres	COVER SHEET
	VERTICAL: AHD71	DATE	02/06/23	PTA Drawing No: 11-

DETAILED DESIGN				
Government of Western Australia Public Transport Authority	BYFORD RAIL EX	TENSION		
ARMADALE STATION PRECINCT				
LANDSCAPE				
COVER SHEET				
PTA Drawing No: 11-A-1	07-LA0001	Rev: C		

LEGEND



С	02.06.23	ISSUED FOR IDD - PTA REVIEW	D.F.	Y.D.	M.H.	A.E.
В	10.02.23	ISSUED FOR RD - PTA REVIEW	D.F.	Y.D.	M.H.	A.E.
Α	05.08.22	ISSUED FOR RD - PTA REVIEW	D.F.	Y.D.	M.H.	A.E.
REV	DATE	AMENDMENT	DSN	DRN	CHK	APP
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F7-02A REMOVABLE BOLLARD



				DETAILED DESIGN			
REFERENCES	SCALE AS SHOWN	DESIGNED	D.Firns	Government of Western Australia Public Transport Authority	BYFORD RAIL EX	TENSION	
		DRAWN	Y.Demissie	ARMADALE STATION PRECINCT			
	DATUM	CHECKED	M.Harris	LANDSCAPE			
	HORIZONTAL: PCG2020	APPROVED	A.Eyres	LEGEND & NOTES			
	VERTICAL: AHD71	DATE	02/06/23	PTA Drawing No: 11-A-10	7-LA0002	Rev: C	

AT ORIGINAL PLOT SIZE to a third par CAD DRAWING PATHNAME Autodesk Docs://BRE BYFORD RAIL EXTENSION/R30-UDL-MDL-LA-230-00001.rvt

Type Mark	Description	Size	Ouantity
Type Mark	Description	Size	Quantity
T1-07	Celtis australis	1500L	5
T1-16	Citharexylum spinosum	1500L	2
T1-40	Jacaranda mimosifolia	1500L	9
T1-48	Planatu acerifolia	1500L	4
T1-51	Pistachia chinensis	1500L	3
Γ1-56	Quercus palutris	1500L	2
Γ1-50 Γ1-57	Quercus robur	1500L	4
T1-58	Quercus robus 'Fastigiata'	1500L	14
Γ1-50 Γ1-61	Tipuana tipu	1500L	6
T2-04	Eucalyptus sideroxylon	500L	5
T2-04 T2-05	Angophora costata	500L	14
T2-03	Celtis australis	500L	4
T2-07 T2-13		500L	1
	Eucalyptus cladocalyx		
T2-15	Cithanamam camphora	500L	4
T2-16	Citharexylum spinosum	500L	5
T2-18	Corymbia eximia	500L	8
T2-24	Eucalyptus botryoides	500L	8
T2-36	Eucalyptus nicholli	500L	9
T2-37	Eucalyptus wandoo	500L	7
T2-40	Jacaranda mimosifolia	500L	3
T2-42	Lophostemon confertus	500L	4
T2-44	Melaleuca leucadendra	500L	8
T2-46	Melaleuca quinquinervia	500L	18
T2-52	Pyrus calleryana 'Bradford'	500L	5
T2-57	Quercus robur	500L	6
T2-62	Ulmus parvifolia	500L	7
T5-01	Allocasuarina fraserii	45L	19
T5-04	Eucalyptus sideroxylon	45L	36
T5-05	Angophora costata	45L	10
T5-09	Corymbia calophylla	45L	28
T5-10	Eucalyptus accedens	45L	16
T5-14	Eucalyptus erythrocorys	45L	6
T5-15	Cinnamomum camphora	45L	1
T5-16	Citharexylum spinosum	45L	1
T5-17	Eucalyptus gomphocephala	45L	6
T5-18	Corymbia eximia	45L	5
T5-19	Corymbia maculata	45L	5
T5-21	Erythrina skyesii	45L	1
T5-22	Eucalyptus leucoxylon	45L	8
T5-23	Eucalyptus astringens	45L	18
T5-24	Eucalyptus botryoides	45L	5
T5-25	Eucalyptus marginata	45L	12
T5-27	Eucalyptus dundasii	45L	3
T5-29	Eucalyptus rudis	45L	29
T5-30	Eucalyptus salubris	45L	5
T5-30 T5-31	Eucalyptus lailiae	45L	3
T5-32	Eucalyptus megacarpa	45L	4
T5-32		45L	6
	Eucalyptus megacornuta	45L 45L	3
T5-36	Eucalyptus nicholli		
T5-37	Eucalyptus wandoo	45L	16
T5-38	Eucalyptus occidentalis	45L	3
T5-39	Eucalyptus spathulata	45L	4
T5-44	Melaleuca leucadendra	45L	1
T5-46	Melaleuca quinquinervia	45L	2
T5-47	Melaleuca rhaphiophylla	45L	3
T5-50	Melaleuca viridiflora	45L	5
T5-52	Pyrus calleryana 'Bradford'	45L	7
T5-54	eucalyptus loxophelba	45L	5
T5-55	Eucalyptus salmonophloia	45L	8
T5-57	Quercus robur	45L	3
T5-58	Quercus robus 'Fastigiata'	45L	2
T5-61	Tipuana tipu	45L	5
T5-62	Ulmus parvifolia	45L	6
			· · · · · · · · · · · · · · · · · · ·

Code	Description	Count
F1-01A	Surface Mounted Bike Rack	14
F2-01A	Dual Bin Enclosure	16
F3-01A	Arqua Drink Fountain	2
F4-01A	<varies></varies>	12
F4-01B	Aria Bench 2 seat Topper	17
F4-01C	<varies></varies>	3
F4-01D	Aria 3.5 Bench Seat (no backrest)	2
F6-01A	MetCONNX Tree Grate	8
F7-01A	Fixed Bollard Core Drilled	47
F7-02A	Removable Bollard	15

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Grand total

C 02.06.23 ISSUED FOR IDD - PTA REVIEW

B 10.02.23 ISSUED FOR RD - PTA REVIEW

D.F. Y.D. M.H. A.E.

A 05.08.22 ISSUED FOR RD - PTA REVIEW

D.F. Y.D. M.H. A.E.

REV DATE

AMENDMENT

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AT ORIGINAL PLOT SIZE

CAD DRAWING PATHNAME Autodesk Docs://BRE BYFORD RAIL EXTENSION/R30-UDL-MDL-LA-230-00001.rvt



REFERENCES	SCALE		DESIGNED	D.Firns	
	AS SHOWN		DRAWN	Y.Demissie	ARI
	DATUM		CHECKED	M.Harris	LAI
	HORIZONTAL:	PCG2020	APPROVED	A.Eyres	SCH
	VERTICAL:	AHD71	DATE		рт

	DETAILED DESIGN			
D.Firns	Government of Western Australia Public Transport Authority	BYFORD RAIL EX	TENSION	
Y.Demissie	ARMADALE STATION PRECINCT			
M.Harris	LANDSCAPE			
A.Eyres	SCHEDULES			
02/06/23	PTA Drawing No: 11-A-1	07-LA0003	Rev: C	



MIX	CHEDULE		AREA	RATE (per m ²⁾
G1-00A H	1UB	Irrigated (Permanent)	2213 sqm	4
CODE	BOTANICAL NAME	COMMON NAME	SIZE	TOTAL
Bae	Beafortia aestiva	Summer Flame	140mm	809
Bni	Banksia nivea	Honeypot Dryandra	140mm	805
ВЫ	Banksia blechnifola	Groundcover Banksia	140mm	805
Cju	Conostylis juncea	Cotton Heads	140mm	809
Dre	Dianella revoluta	Flax Lilly	140mm	809
Egl	Eremophila glabra	Emu Bush	140mm	809
Ера	Eremaea pauciflora		140mm	809
Gcr	Grevillea crithmifolia (prostrate)	Little Crith	140mm	809
Dli	Dampieria linearis	Western Blue	140mm	809
Tmu	Thysanotus multiflorus	Many-Glowered Fringe Lily	140mm	809
Gsy	Grevillea synapheae	Catkin Grevillea	140mm	809
	•	·	TOTAL	8853

MIX	IX			RATE (per m²)
G1-00B Y	51-00B YOUTH Irrigated (Permanent)		1064 sqm	4
CODE	BOTANICAL NAME	COMMON NAME	SIZE	TOTAL
Bae	Beafortia aestiva	Summer Flame	140mm	710
ВЫ	Banksia blechnifola	Groundcover Banksia	140mm	710
Cju	Conostylis juncea	Cotton Heads	140mm	710
Dre	Dianella revoluta	Flax Lilly	140mm	710
Egl	Eremophila glabra	Emu bush	140mm	710
Tmu	Thysanotus multiflorus	Many-Glowered Fringe Lily	140mm	710
			TOTAL	4257

MIX	MIX			RATE (per m²)
G1-00C PLAY		Irrigated (Permanent)	207 sqm	4
CODE	BOTANICAL NAME	COMMON NAME	SIZE	TOTAL
Ala	Acacia lasiocarpa, (prostrate)	Panjang	140mm	118
Dli	Dampieria linearis	Western Blue	140mm	118
Dre	Dianella revoluta	Flax Lilly	140mm	118
Egl	Eremophila glabra	Emu Bush	140mm	118
Tmu	Thysanotus multiflorus	Many-Glowered Fringe Lily	140mm	118
Gob	Grevillea obtusifolia (prostrate)	Leaved Grevillea	140mm	118
Hsc	Hibertia scandens	Guinea Flower	140mm	118
		•	TOTAL	828

MIX			AREA	RATE (per m ²⁾
G1-00D F	PLAZA	Irrigated (Permanent)	2037 sqm	4
CODE	BOTANICAL NAME	COMMON NAME	SIZE	TOTAL
Ala	Acacia lasiocarpa, (prostrate)	Panjang	140mm	453
Врг	Baumea preissii	Broad Twig Sedge	140mm	453
Bib	Brachyscome iberidifolia	Swan River Daisy	140mm	453
ВЫ	Banksia blechnifola	Groundcover Banksia	140mm	453
Bgr	Banksia grandis, (dwarf)	Bull Banksia	140mm	453
Ссо	Chorizema cordata	Heart Leafed Flamed Leaf	140mm	453
ВЫ	Dampieria linearis	Western Blue	140mm	453
Dre	Dianella revoluta	Flax Lilly	140mm	453
Cju	Eremophila glabra	Emu Bush	140mm	453
Dre	Ficinia nodosa	Knotted Club Rush	140mm	453
Hli	Hakea lissocarpa	Honey Bush	140mm	453
Egl	Grevillea thelemanniana (prostrate)	Spider Net Grevillea	140mm	453
Gqu	Grevillea quercifolia	Oak Leaved Grevillea	140mm	453
Gob	Grevillea obtusifolia (prostrate)	Leaved Grevillea	140mm	453
Hpu	Hemiandra pungens	Snake Bush	140mm	453
Крг	Kennedia prostrata	Running Postman	140mm	453
Mse	Melaleuca seriata	Melaleuca	140mm	453
Poc	Patersonia occidentalis	Purple Flag	140mm	453
	•	•	TOTAL	8150

MIX			AREA	RATE (per m²)
G1-00E		Irrigated (Permanent)	1203 sqm	4
CODE	BOTANICAL NAME	COMMON NAME	SIZE	TOTAL
Bae	Beafortia aestiva	Summer Flame	140mm	802
ВЫ	Banksia blechnifola	Groundcover Banksia	140mm	802
Cju	Conostylis juncea	Cotton Heads	140mm	802
Dre	Dianella revoluta	Flax Lilly	140mm	802
Egl	Eremophila glabra	Emu Bush	140mm	802
Tmu	Thysanotus multiflorus	Many-Flowered Fringe Lily	140mm	802
	•	•	TOTAL	481

MIX			AREA	RATE (per m ²⁾
G2-00A	URBAN LOUNGE	Irrigated (Permanent)	926 sqm	3
CODE	BOTANICAL NAME	COMMON NAME	SIZE	TOTAL
Ber	Bossiaea eriocarpa	Common Brown Pea	50mm Tube	278
Dli	Dampieria linearis	Western Blue	50mm Tube	278
Dre	Dianella revoluta	Flax Lilly	140mm	278
Egl	Eremophila glabra	Emu Bush	140mm	278
Tmu	Thysanotus multiflorus	Many-Flowered Fringe Lily	50mm Tube	278
Hli	Hakea lissocarpa	Honey Bush	50mm Tube	278
Мfг	Macrozamia fraseri	Djiridji	140mm	278
Mse	Melaleuca seriata	Melaleuca	50mm Tube	278
Poc	Patersonia occidentalis	Purple Flag	140mm	278
Ala	Acacia lasiocarpa, (prostrate)	Panjang	50mm Tube	278
			TOTAL	2779

MIX	MIX			RATE (per m ²⁾
G2-00B SH	G2-00B SHADE TOLERANT Irrigated (Permanent)		6747 sqm	3
CODE	BOTANICAL NAME	COMMON NAME	SIZE	TOTAL
Ala	Acacia lasiocarpa, (prostrate)	Panjang	50mm Tube	2530
Ссо	Chorizema cordata	Heart Leafed Flamed Leaf	50mm Tube	2530
Egl	Eremophila glabra	Emu Bush	140mm	2530
Gob	Grevillea obtusifolia (prostrate)	Leaved Grevillea	140mm	2530
Hsc	Hibbertia scandens	Guinea Flower	50mm Tube	2530
Min	Melaleuca incana	Grey honeymyrtle	140mm	2530
Lom	Lomandra little con	Mat Rush	140mm	2530
Bre	Banksia repens	Creeping Banksia	50mm Tube	2530
			TOTAL	20242

MIX	X			RATE (per m ²⁾
G2-00C S	WALE BASES	Irrigated (Permanent)	3601 sqm	8
CODE	BOTANICAL NAME	COMMON NAME	SIZE	TOTAL
Ael	Austrostipa elegantissima	Feather Spear Grass	140mm	480
Bju	Baumea juncea	Bare Twig Rush	140mm	480
Bar	Baumea articulata	Jointed Rush	140mm	480
Fno	Ficinia nodosa	Knotted Club Rush	140mm	480
Lca	Lepidosperma calcicola	Coastal Sedge	140mm	480
Min	Melaleuca incana	Grey Honeymyrtle	140mm	480
	•		TOTAL	28804

MIX			AREA	RATE (per m²)
G2-00D S	WALE BATTERS	Irrigated (Permanent)	1116 sqm	4
CODE	BOTANICAL NAME	COMMON NAME	SIZE	TOTAL
Bel	Beaufortia elegans	Elegant Beaufortia	50mm Tube	638
Cac	Conostylis aculeata	Prickly Conostylis	50mm Tube	638
Dol	Darwinia oldfieldii	Oldfields Darwinia	50mm Tube	638
Dre	Dianella revoluta	Flax Lily	50mm Tube	638
Fno	Ficinia nodosa	Knotted Club Rush	50mm Tube	638
Крг	Kennedia prostrata	Running Postman	50mm Tube	638
Lgl	Lepidosperma gladiatum	Coast Sword-Sedge	50mm Tube	638
			TOTAL	4464

MIX			AREA	RATE (per m ²⁾
G2-00E F	PSP EDGES	Irrigated (Permanent)	3163 sqm	3
CODE	BOTANICAL NAME	COMMON NAME	SIZE	TOTAL
Gth	Grevillea thelemanniana (prostrate	Spider Net Grevillea	50mm Tube	633
Egl	Eremophila glabra	Emu Bush	50mm Tube	633
Нго	Hypocalymma robustum	Swan River Mrytle	50mm Tube	633
Dre	Dianella revoluta	Flax Lily	140mm	633
Fno	Ficinia nodosa	Knotted Club Rush	140mm	633
Gcr	Grevillea crithmifolia (prostrate)	Little Crith	50mm Tube	633
Cac	Conostylis aculeata	Prickly Conostylis	50mm Tube	633
Cju	Conostylis juncea	Running Postman	50mm Tube	633
Ahu	Alyogyne huegelii	Native Hibiscus	50mm Tube	633
Hpu	Hemiandra pungens	Snake Bush	140mm	633
Bib	Brachyscome iberidifolia	Swan River Daisy	50mm Tube	633
Cfr	Calytrix fraseri A.Cunn	Pink Summer Caltyrix	50mm Tube	633
Dci	Darwinia citriodora	Lemon Scented Darwinia	140mm	633
Dph	Daviesia physodes	Fire Bush	50mm Tube	633
Agl	Acacia glaucoptera	Flat Wattle	50mm Tube	633
			TOTAL	9488

MIX	MIX			RATE (per m ²⁾
G2-00F V	ERGES	Irrigated (Permanent)	506 sqm	3
CODE	BOTANICAL NAME	COMMON NAME	SIZE	TOTAL
Ala	Acacia lasiocarpa prostrate	Prostrate Wattle	50mm Tube	253
Cac	Conostylis aculeata	Prickly Conostylis	140mm	253
Dpi	Darwinia pinifolia	Dwarf Dryandra	50mm Tube	253
Dre	Dianella revoluta	Little Rev	140mm	253
Egl	Eremophila glabra	Emu Bush	140mm	253
Dre	Ficinia nodosa	Knotted Club Rush	50mm Tube	253
			TOTAL	1517

MIX			AREA	RATE (per m²)
G2-00G F	PLANTED EDGES	Irrigated (Temporary)	2654 sqm	3
CODE	BOTANICAL NAME	COMMON NAME	SIZE	TOTAL
Apu	Acacia pulchella	Prickly Moses	50mm Tube	498
Cac	Conostylis aculeata	Prickly Conostylis	50mm Tube	498
Egl	Eremophila glabra	Emu Bush	140mm	498
Poc	Patersonia occidentalis	Purple Flag	140mm	498
Gth	Grevillea thelemanniana (prostrate	Spider Net Grevillea	50mm Tube	498
Hpu	Hemiandra pungens	Snake Bush	140mm	498
Sin	Scholtzia involucrata	Spiked Scholtzia	50mm Tube	498
Ber	Bossiaea eriocarpa	Common Brown Pea	50mm Tube	498
Agl	Acacia glaucoptera	Flat Wattle	140mm	498
Hli	Hakea lissocarpa	Honey Bush	50mm Tube	498
Bib	Brachyscome iberidifolia	Swan River Daisy	140mm	498
Vpl	Verticordia plumosa	Plumed Featherflower	50mm Tube	498
Gcr	Grevillea crithmifolia (prostrate)	Little Crith	50mm Tube	498
Cfr	Calytrix fraseri A.Cunn	Pink Summer Caltyrix	50mm Tube	498
Gca	Gastrolobium capitatum	Bacon & Eggs	50mm Tube	498
Gqu	Grevillea quercifolia	Oak leaved Grevillea	140mm	498
			TOTAL	7963

MIX			AREA	RATE (per m ²⁾	
G3-00A	REVEGETATION	Irrigated (Temporary)	1859 sqm	4	
CODE	BOTANICAL NAME	COMMON NAME	SIZE	TOTAL	
Apu	Acacia pulchella	Prickly Moses	50mm Tube	465	
Cac	Conostylis aculeata	Prickly Conostylis	50mm Tube	465	
Egl	Eremophila glabra	Emu Bush	50mm Tube	465	
Рос	Patersonia occidentalis	Purple Flag	50mm Tube	465	
Gth	Grevillea thelemanniana (prostrate	Spider Net Grevillea	50mm Tube	465	
Hpu	Hemiandra pungens	Snake Bush	50mm Tube	465	
Sin	Scholtzia involucrata	Spiked Scholtzia	50mm Tube	465	
Ber	Bossiaea eriocarpa	Common Brown Pea	50mm Tube	465	
Agl	Acacia glaucoptera	Flat Wattle	50mm Tube	465	
Hli	Hakea lissocarpa	Honey Bush	50mm Tube	465	
Bib	Brachyscome iberidifolia	Swan River Daisy	50mm Tube	465	
Vpl	Verticordia plumosa	Plumed Featherflower	50mm Tube	465	
Gcr	Grevillea crithmifolia (prostrate)	Little Crith	50mm Tube	465	
Cfr	Calytrix fraseri A.Cunn	Pink Summer Caltyrix	50mm Tube	465	
Gca	Gastrolobium capitatum	Bacon & Eggs	50mm Tube	465	
Gqu	Grevillea quercifolia	Oak leaved Grevillea	50mm Tube	465	
			TOTAL	7436	

A 02.06.23 ISSUED FOR IDD - PTA REVIEW

D.F. Y.D. M.H. A.E.

REV DATE

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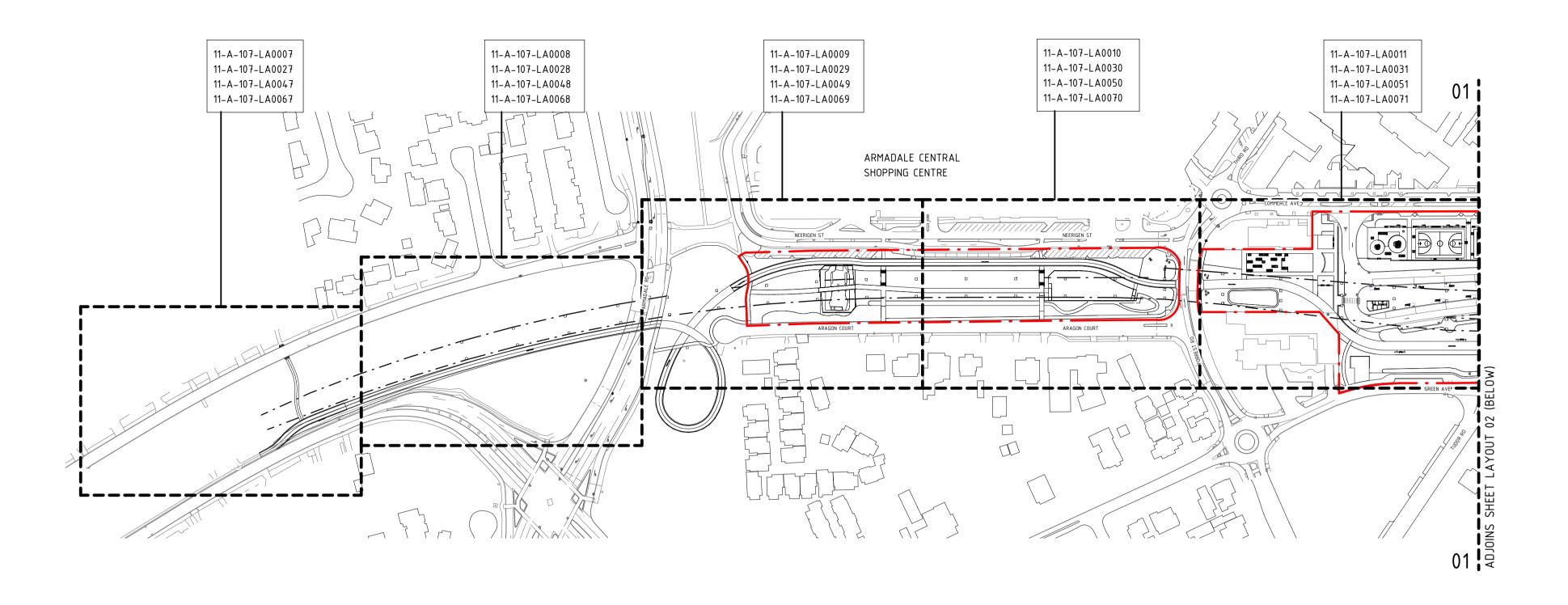
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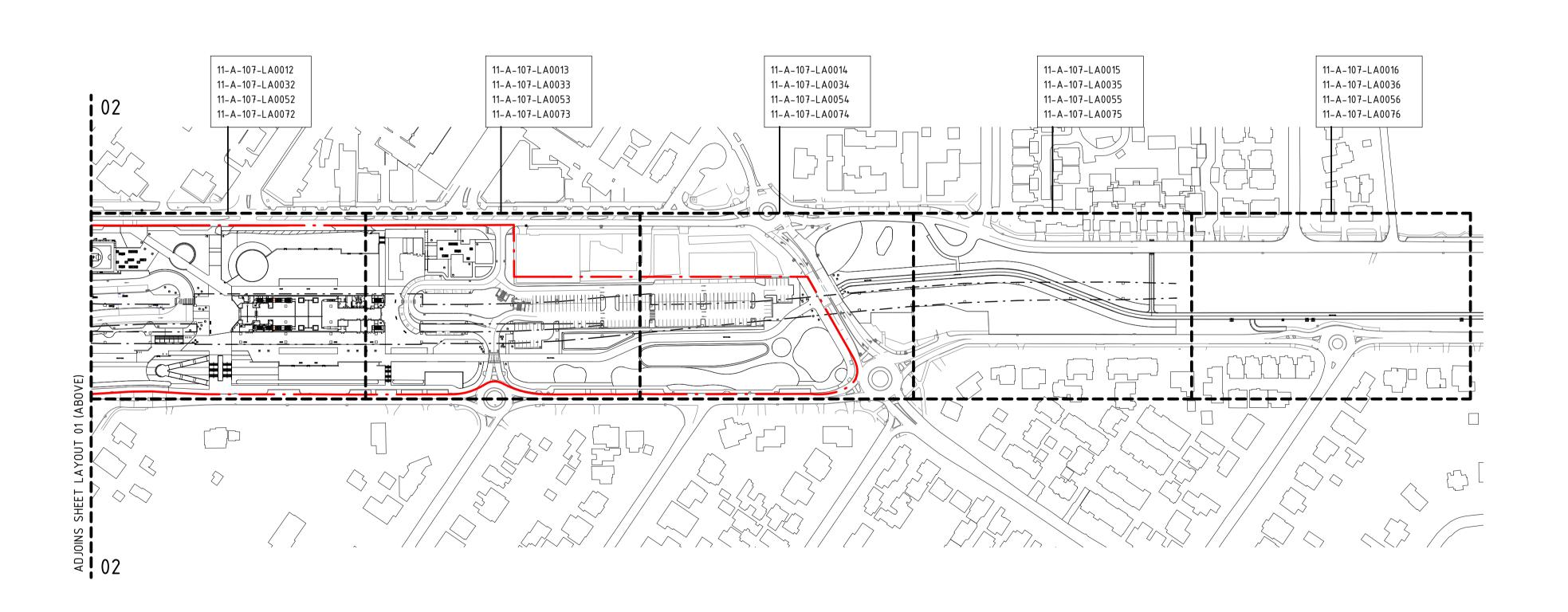


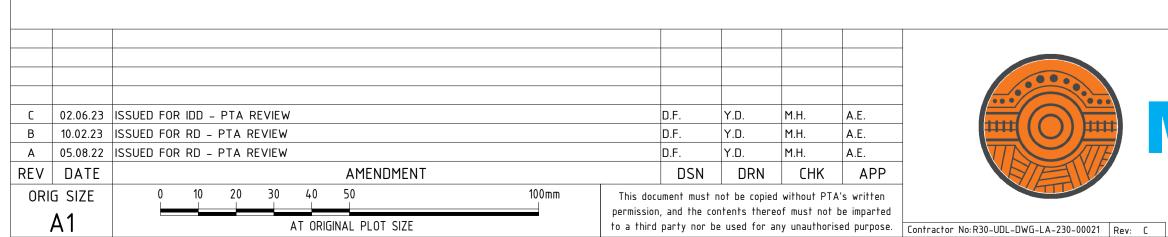
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THE SHEWIN	DRAWN	Y.Demissie	ARMADALE STATION PRECINCT			
	DATUM	CHECKED	M.Harris	LANDSCAPE		
	HORIZONTAL: PCG2020	APPROVED	A.Eyres	PLANTING SCHEDULES		
	VERTICAL: AHD71	DATE	02/06/23	PTA Drawing No: 11-A-10	7-LA0004	Rev: A

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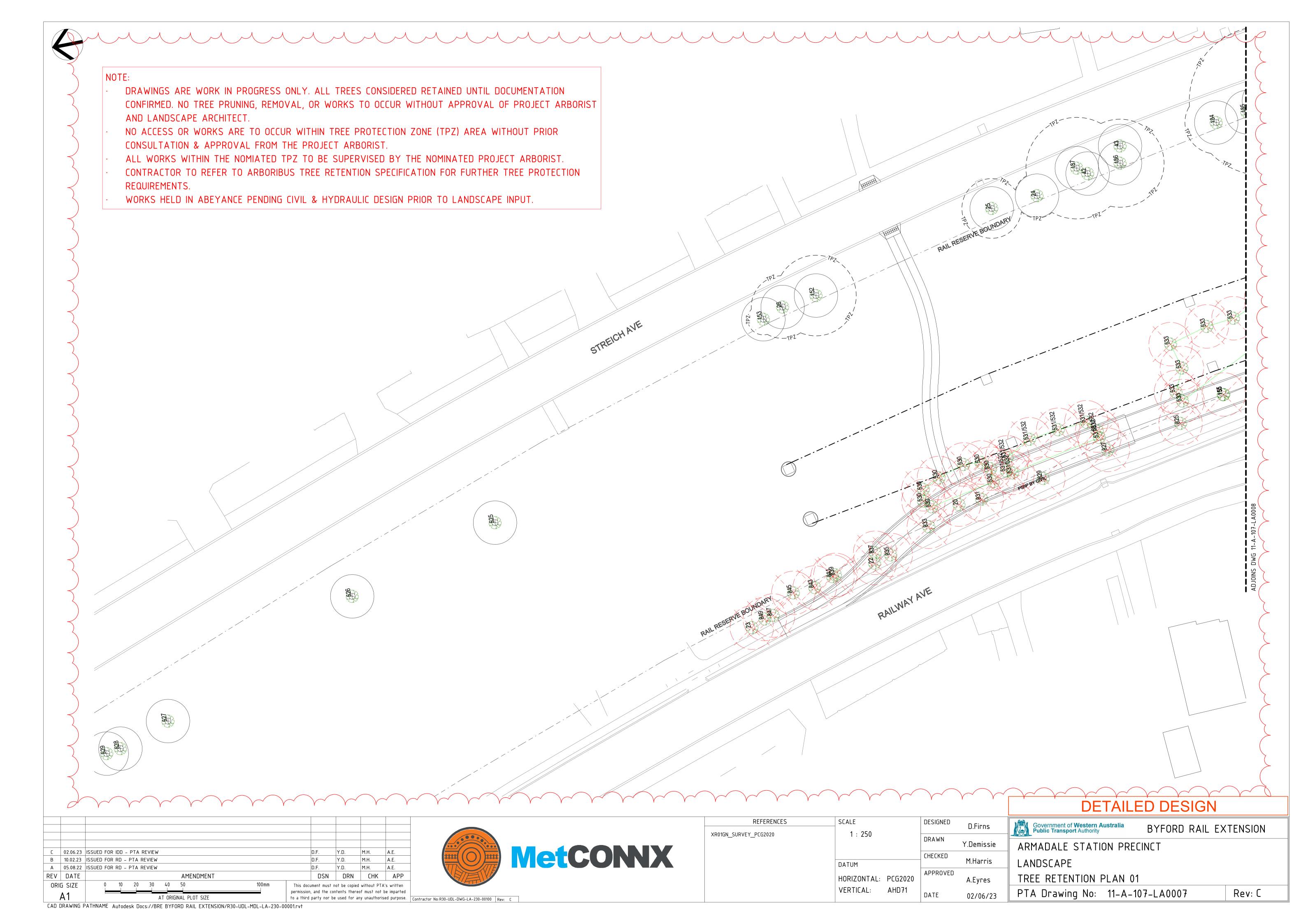


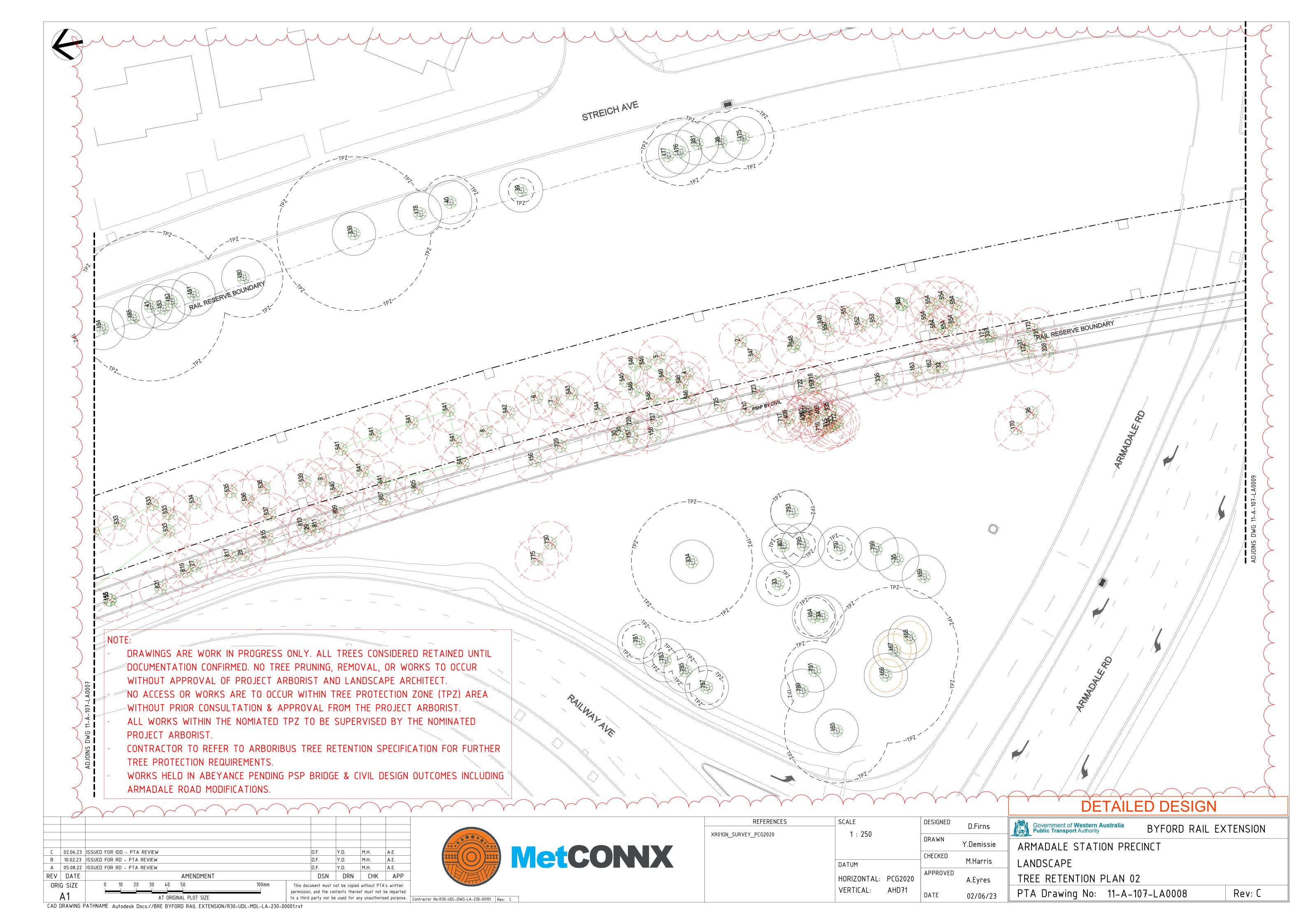


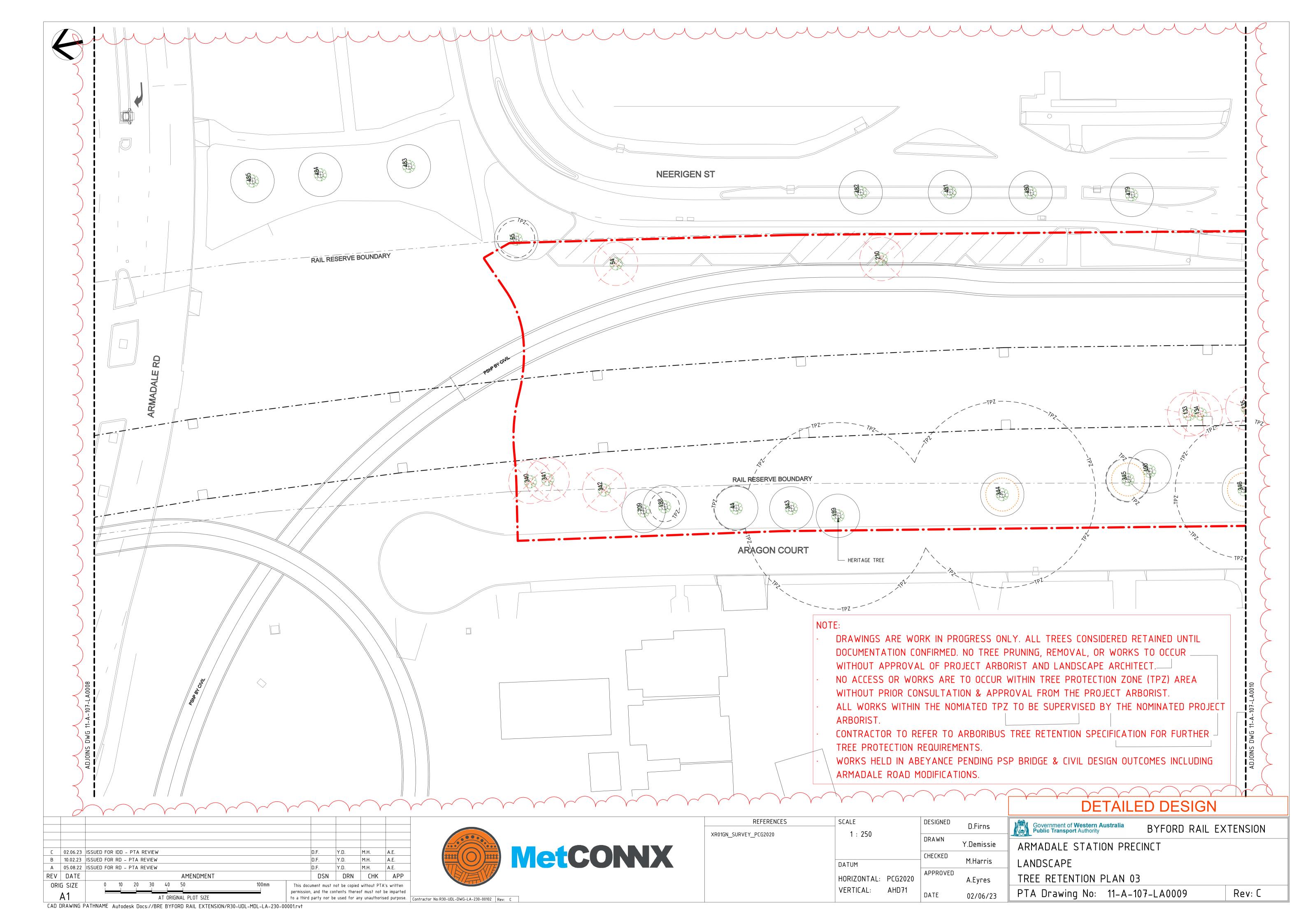
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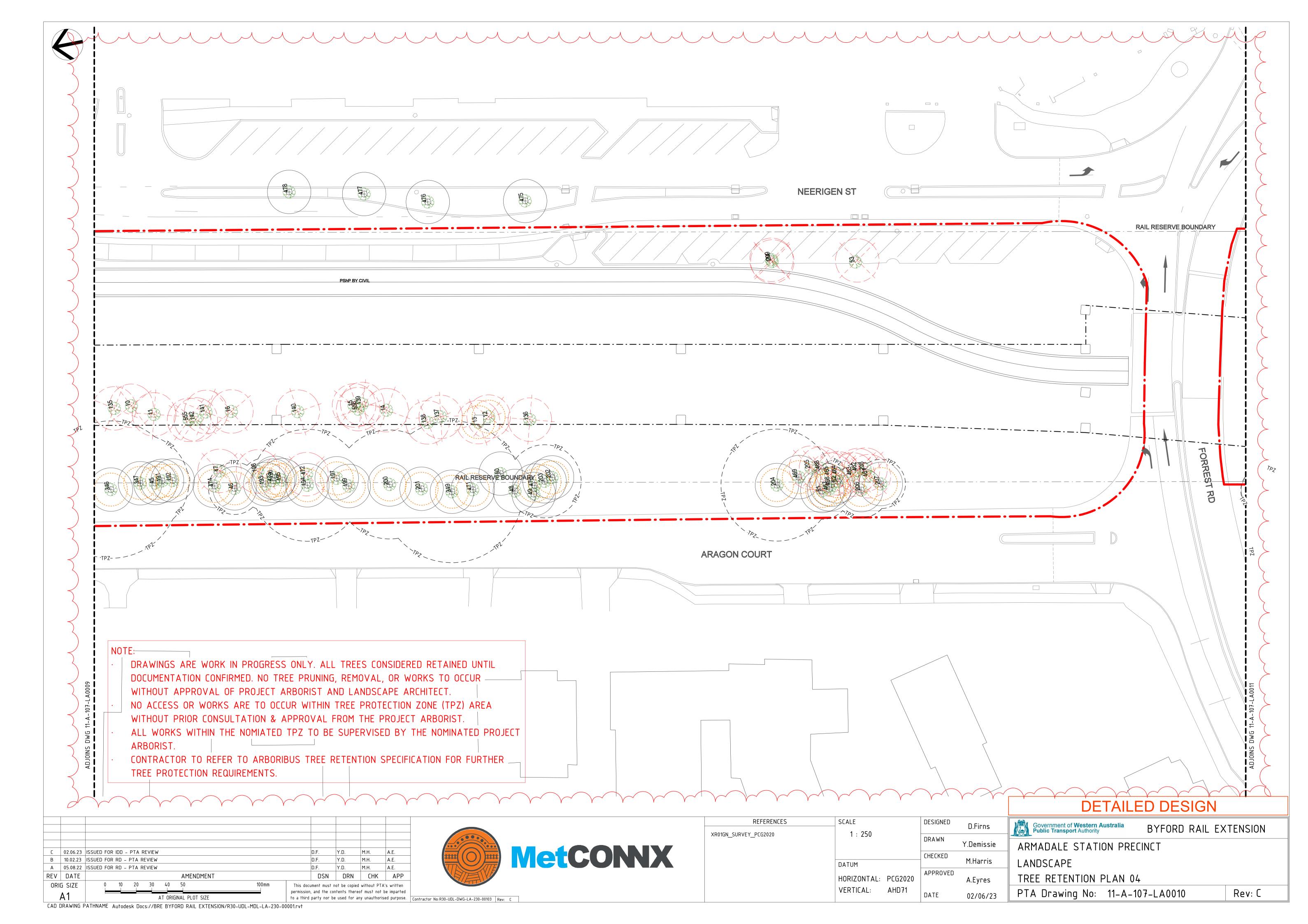
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Government of Western Australia Public Transport Authority	BYFORD RAIL EXTENSION			
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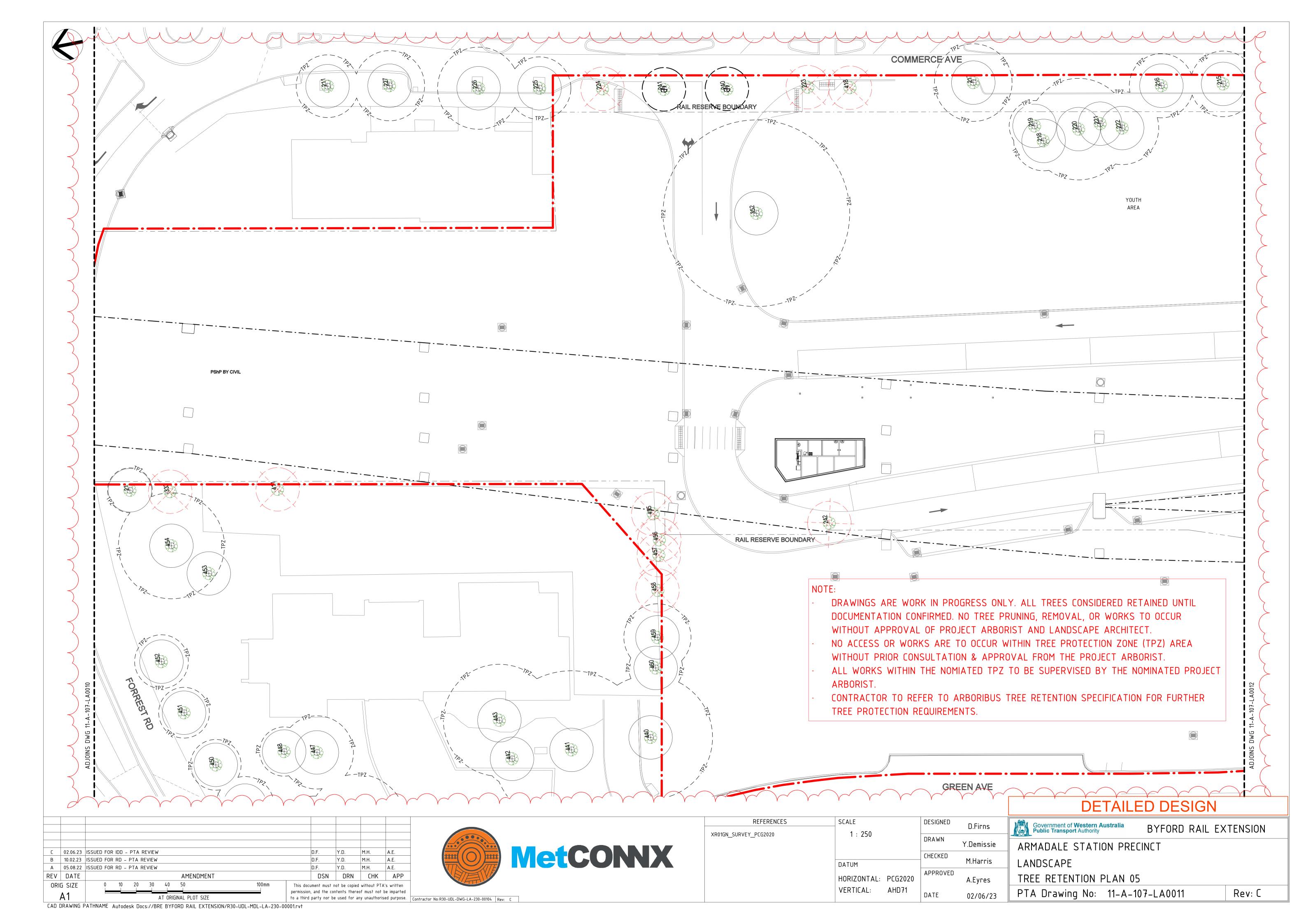
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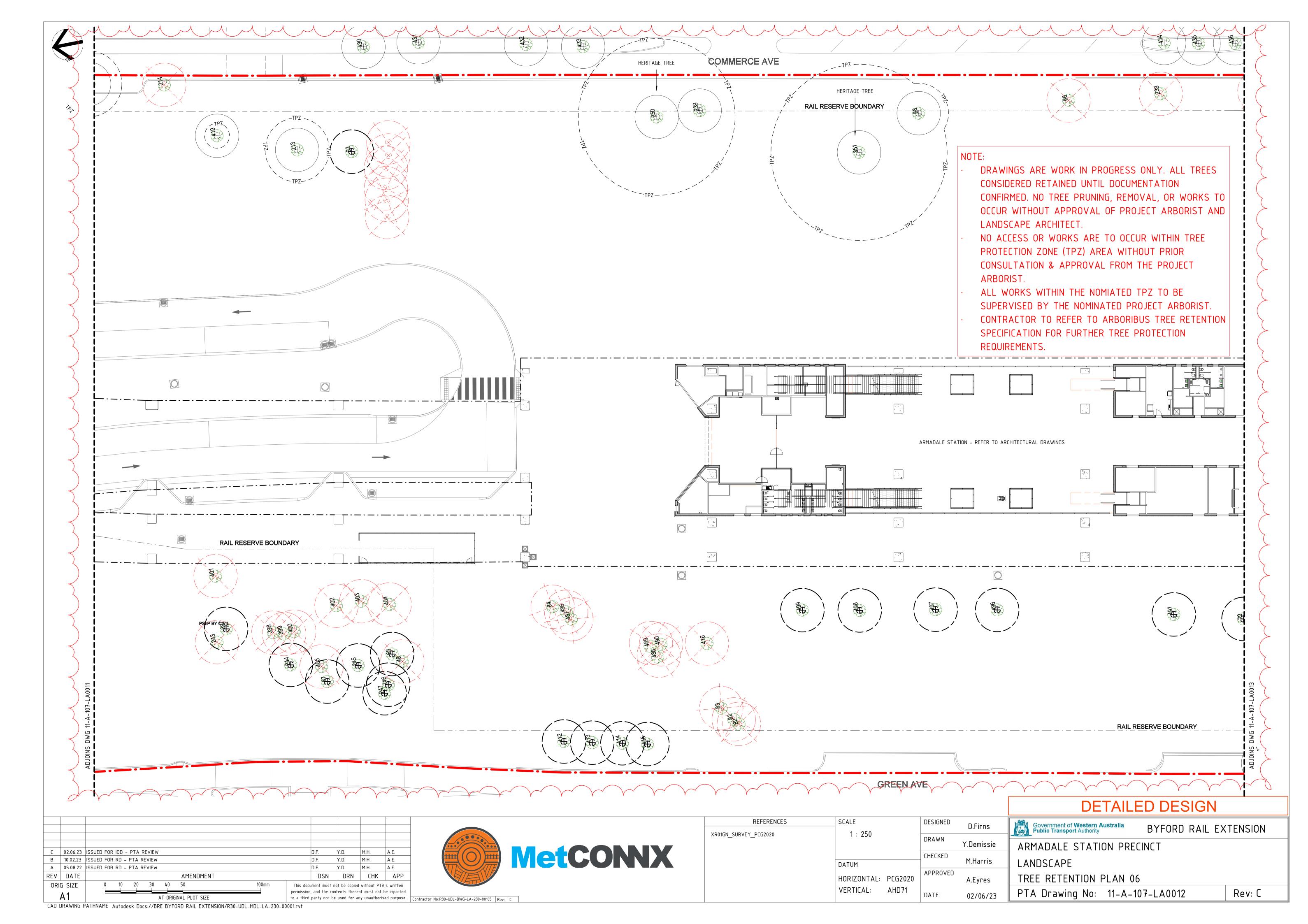


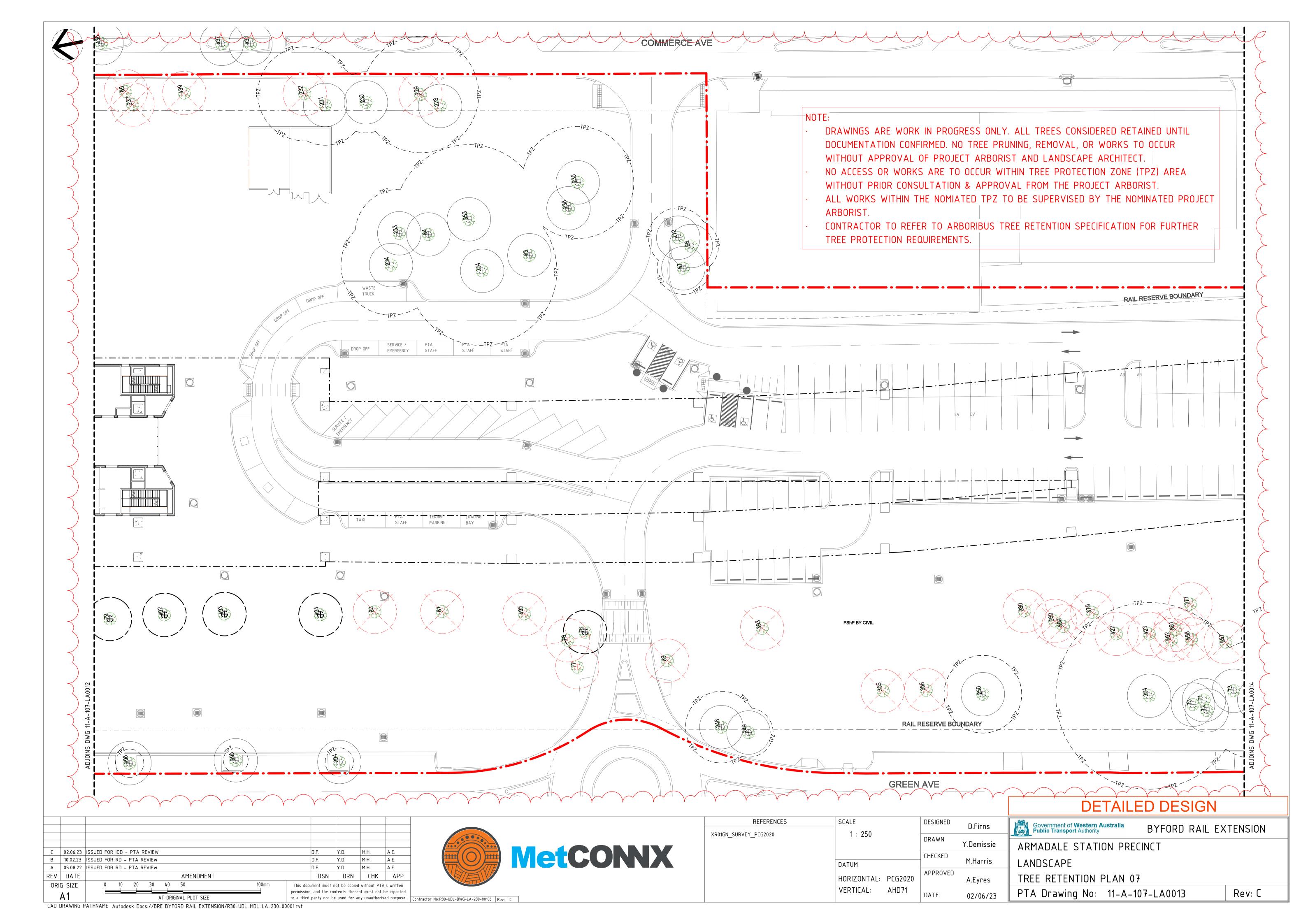


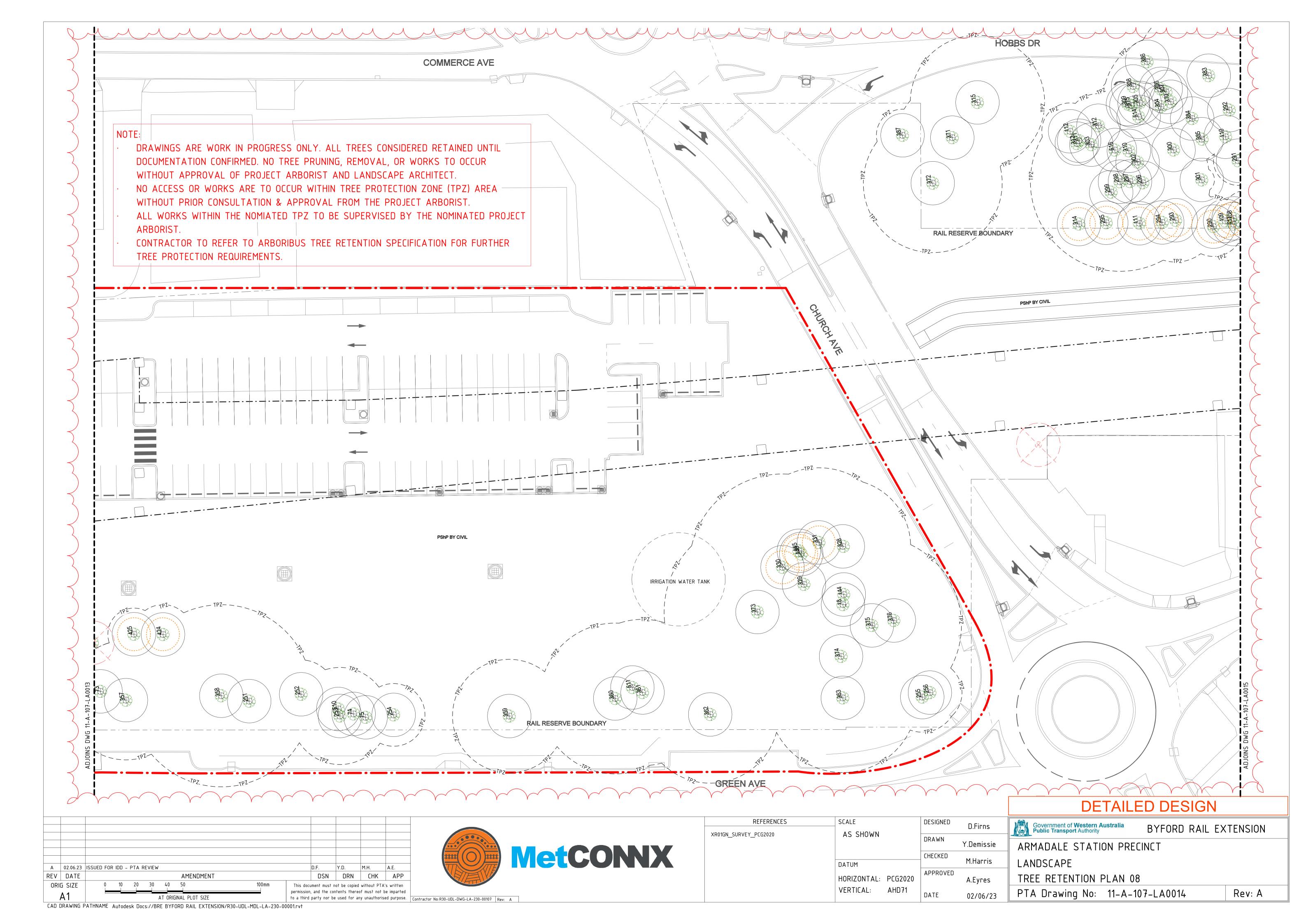


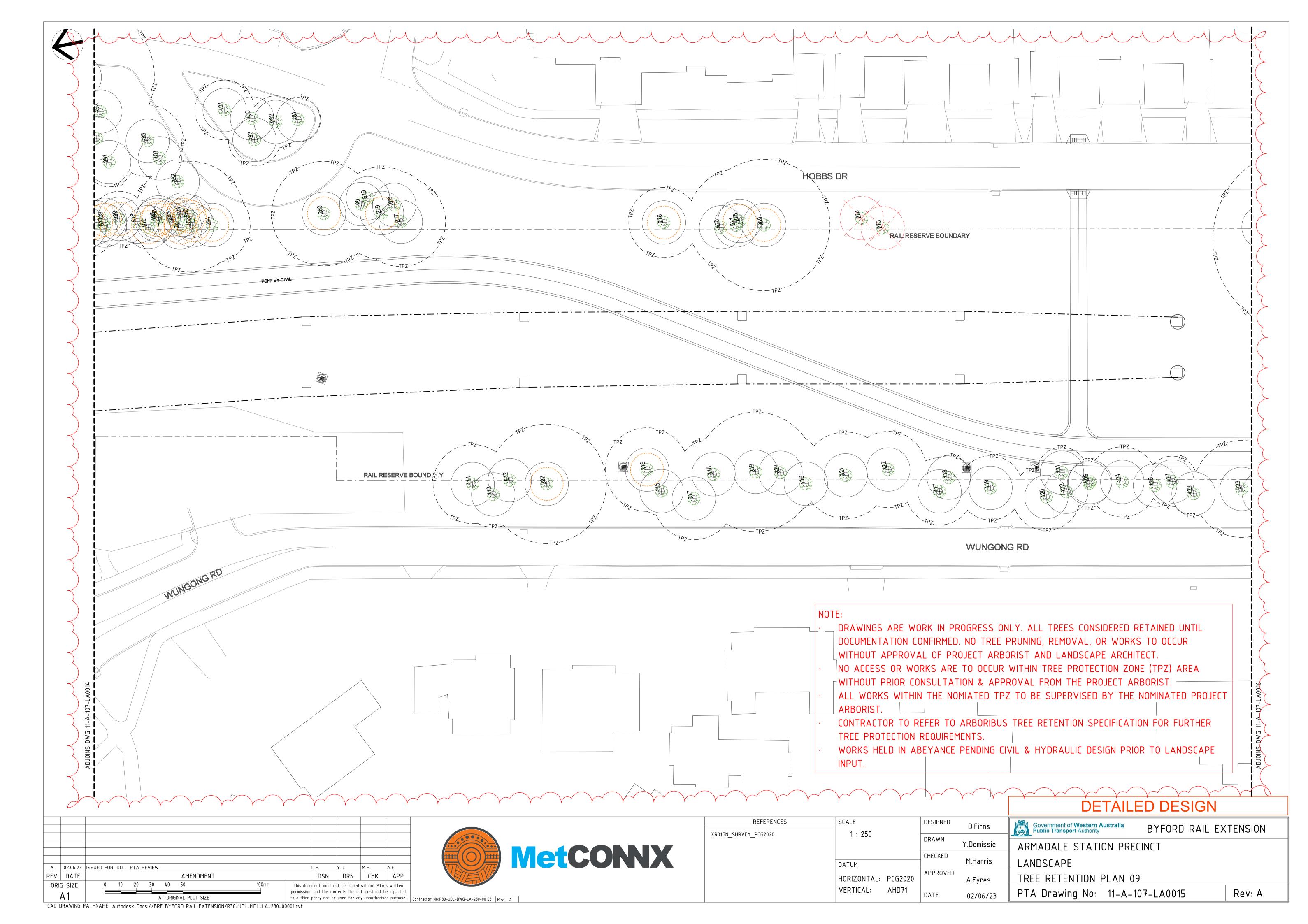


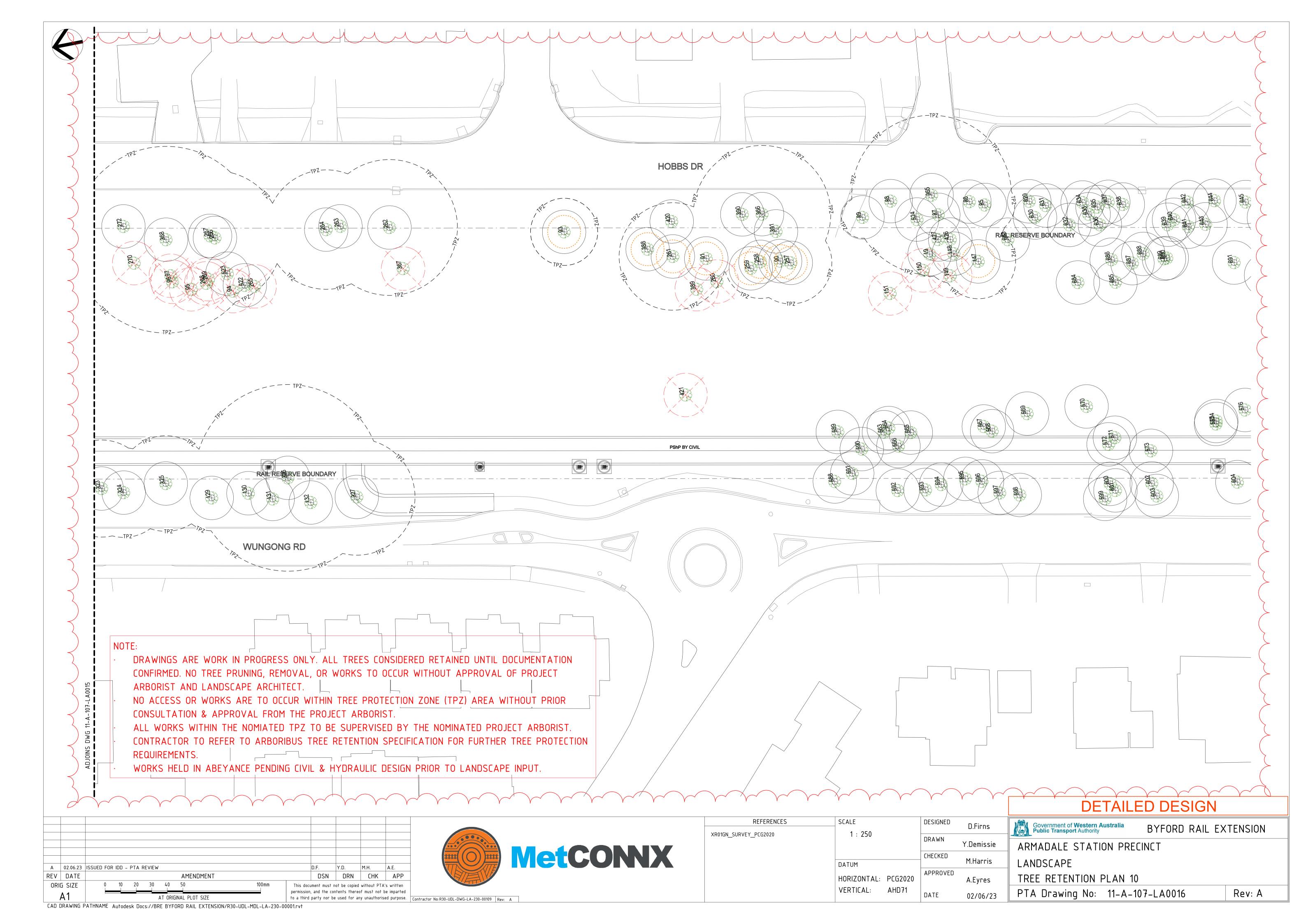


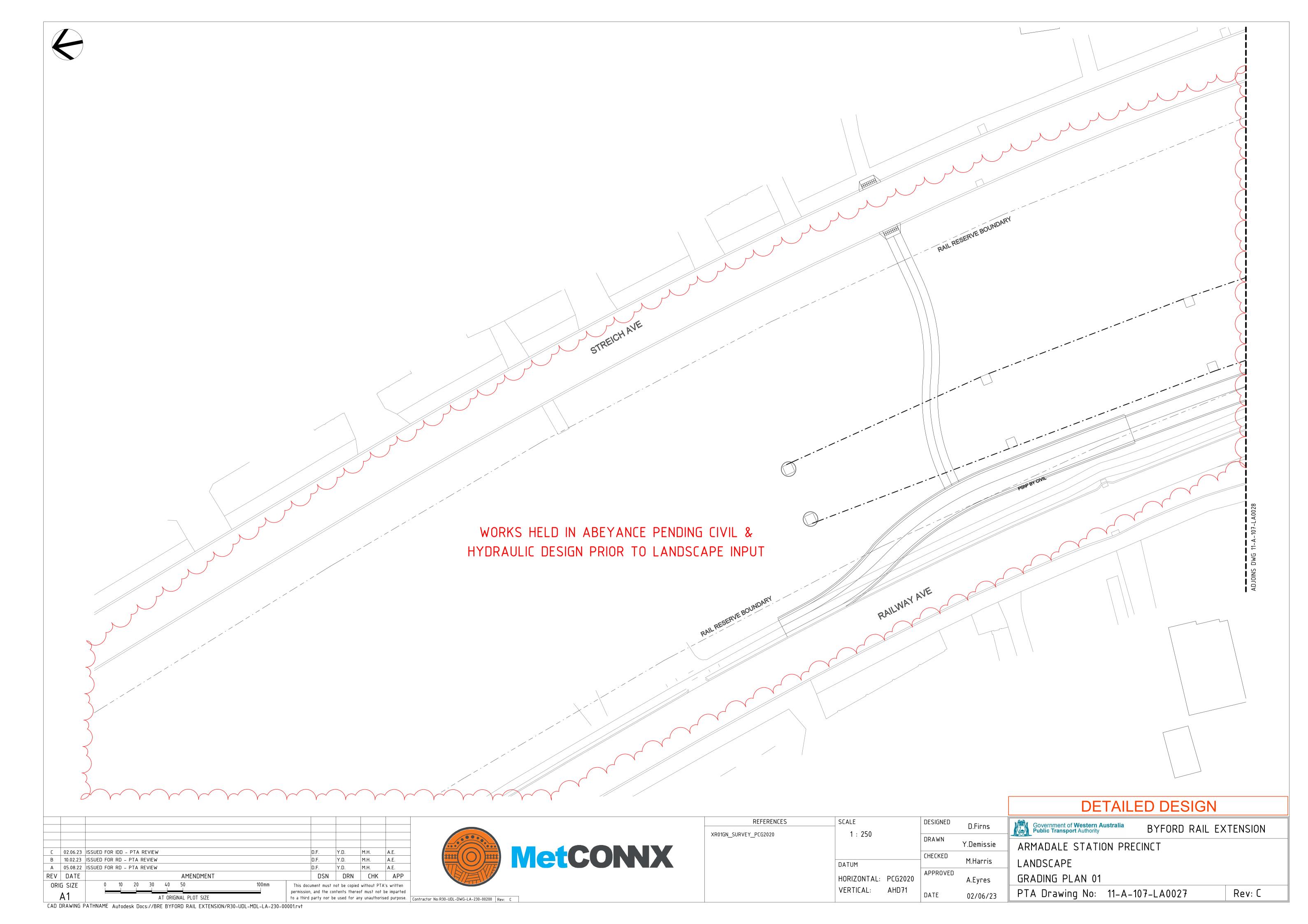


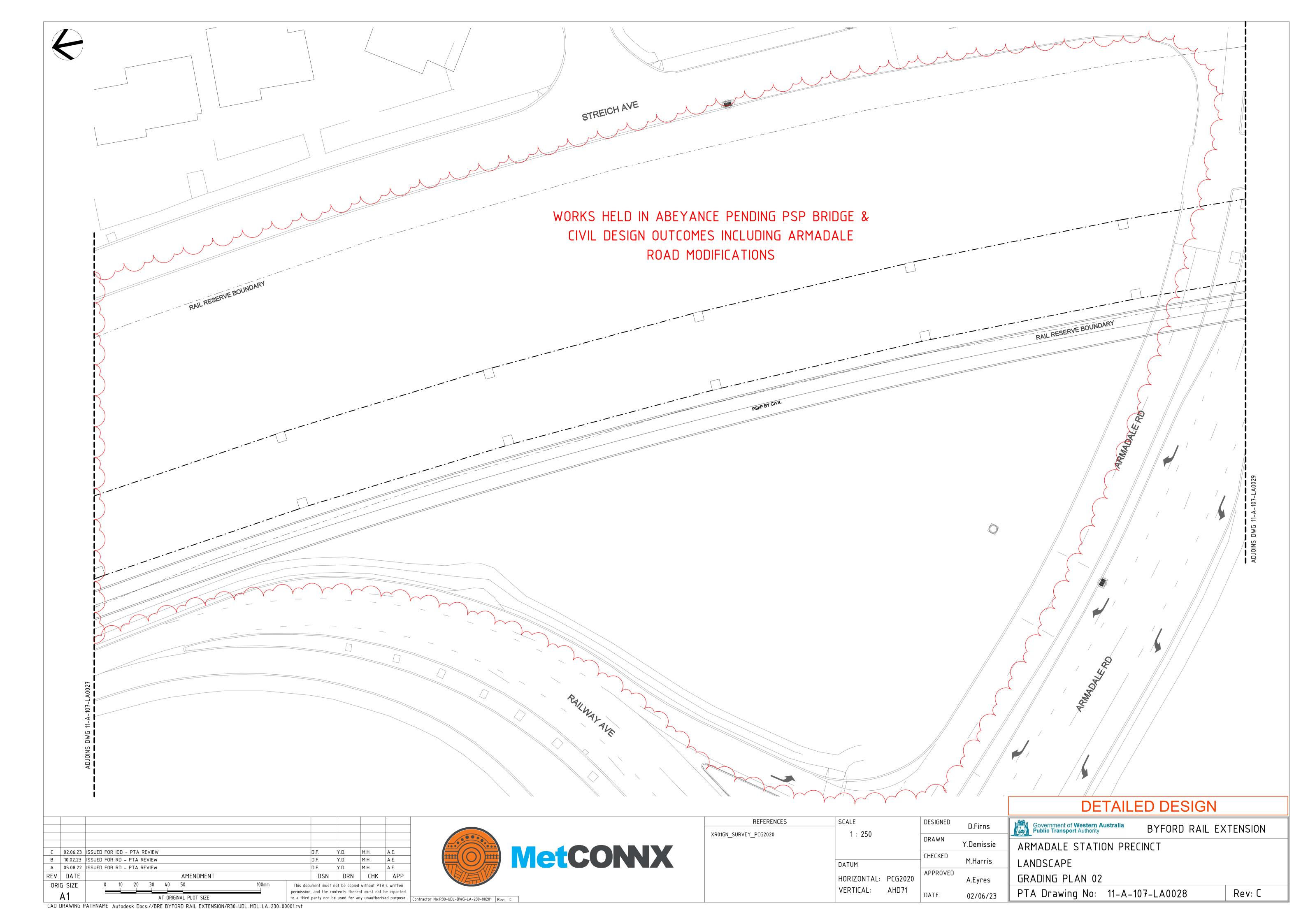


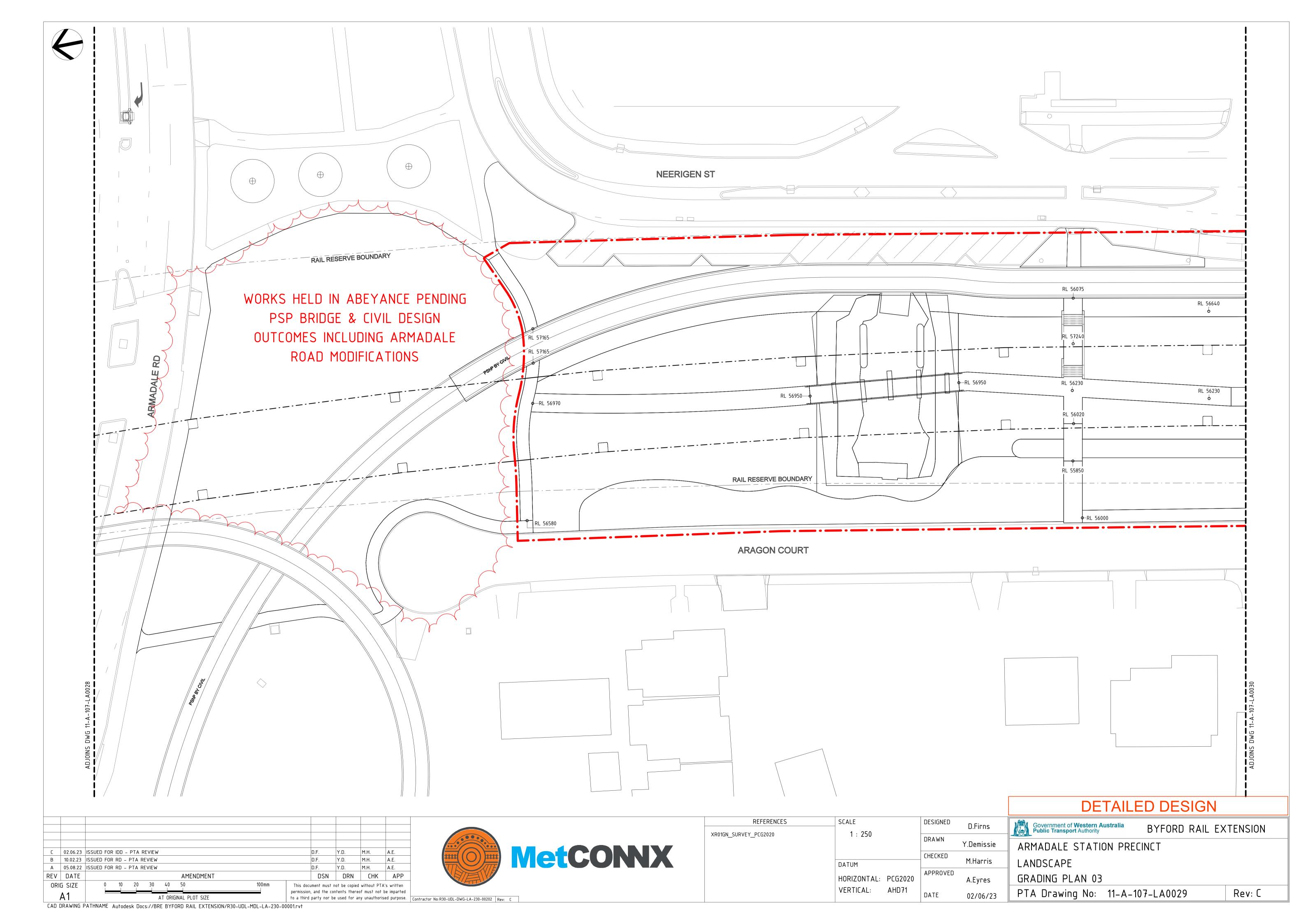


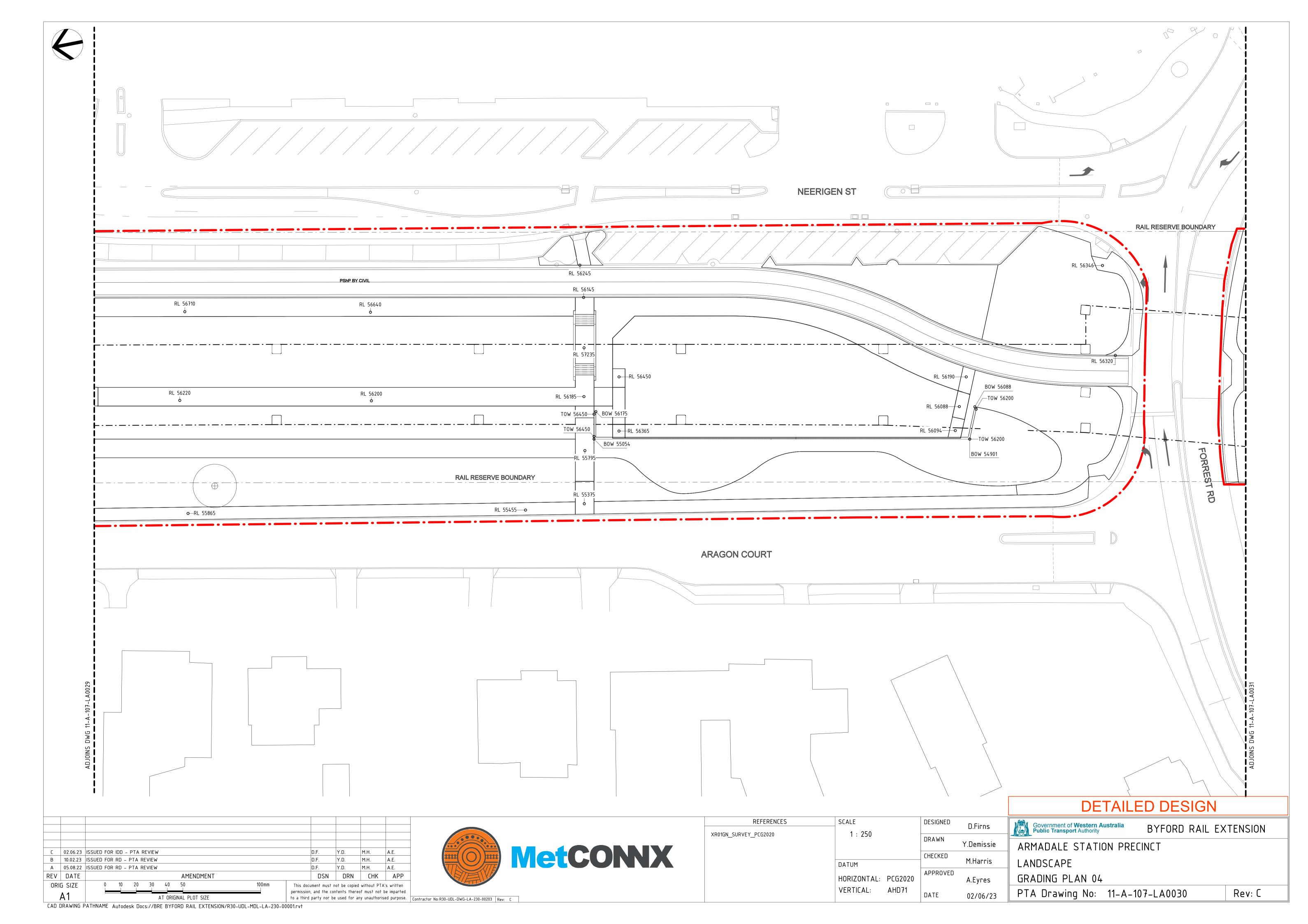


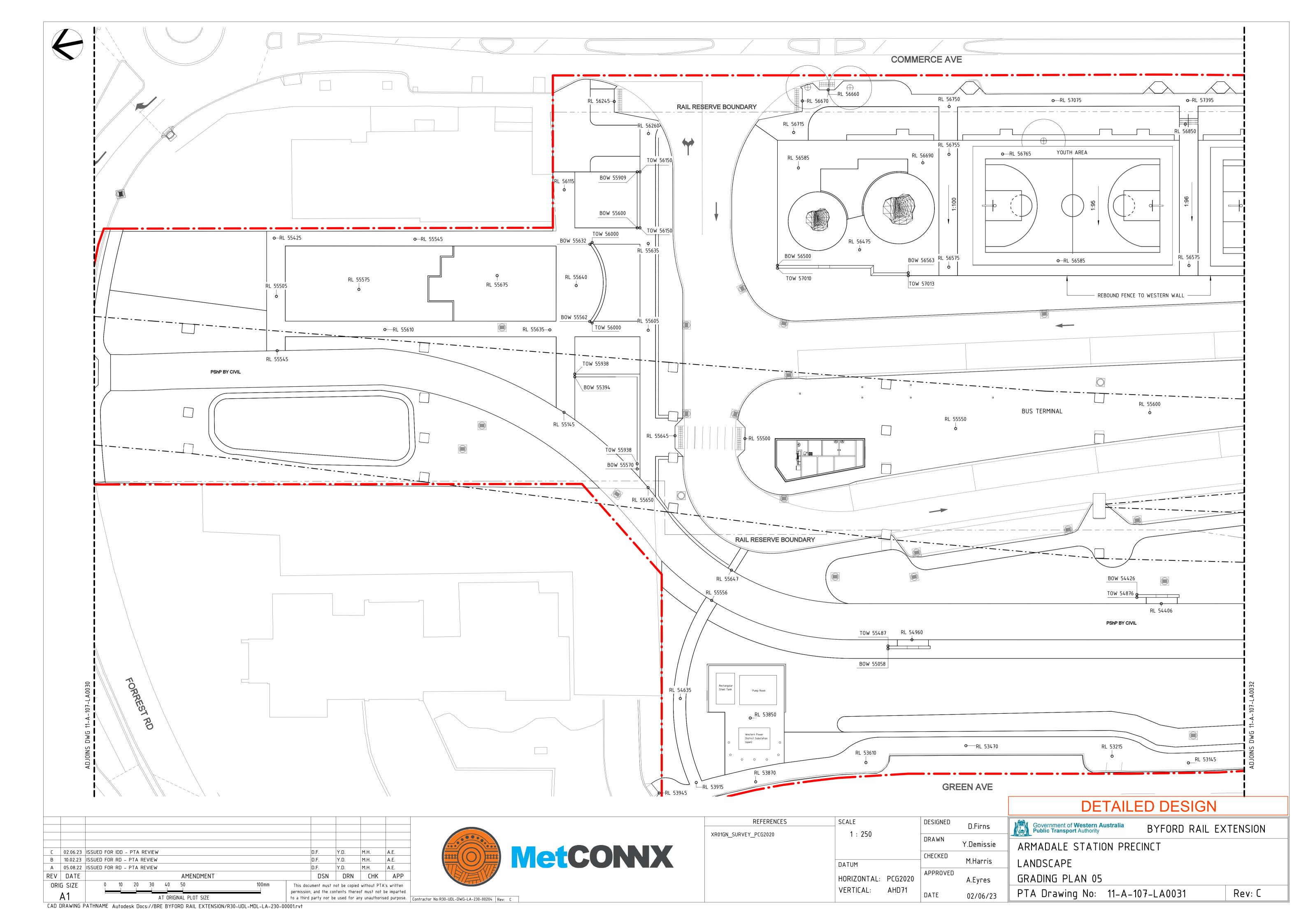


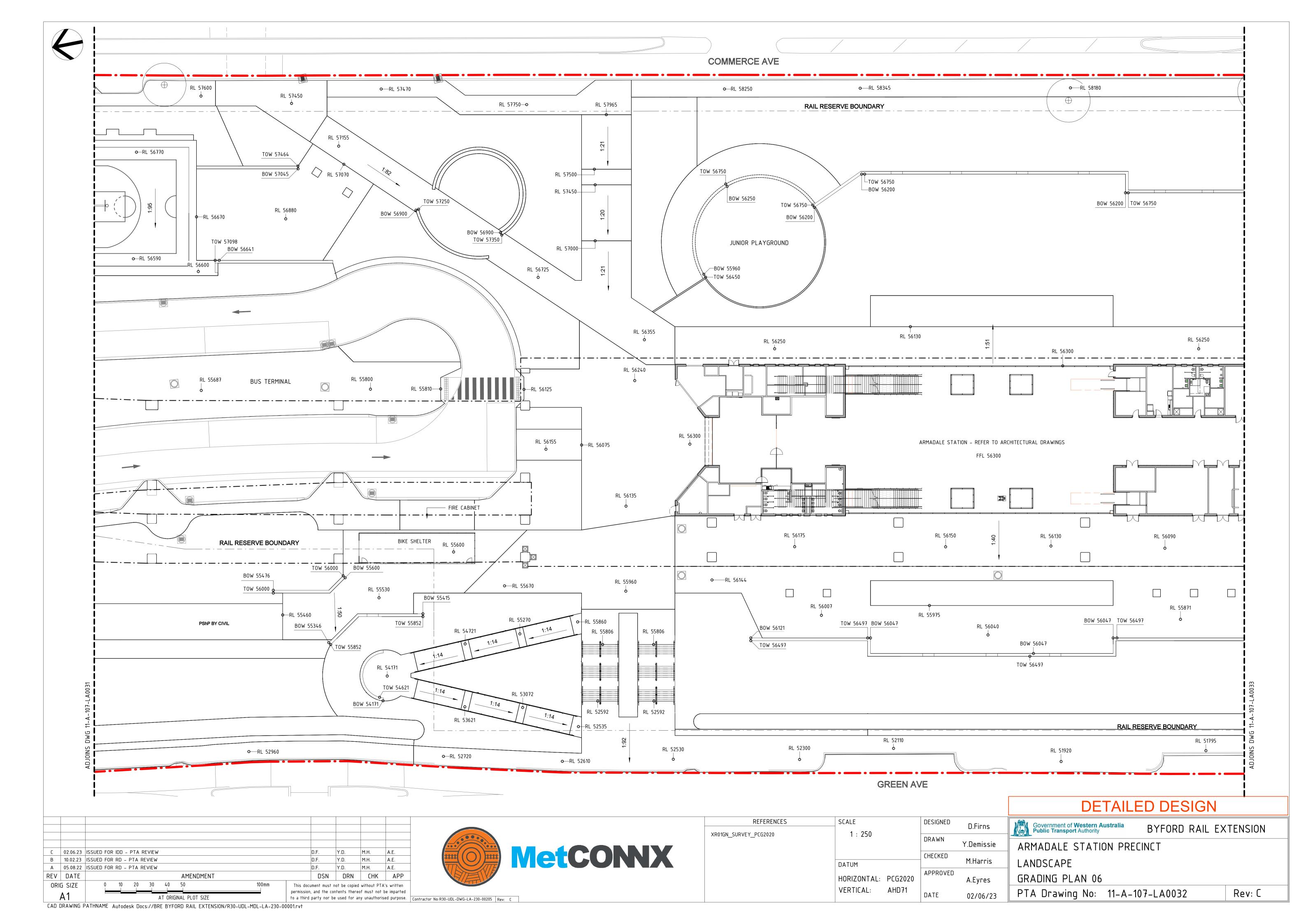


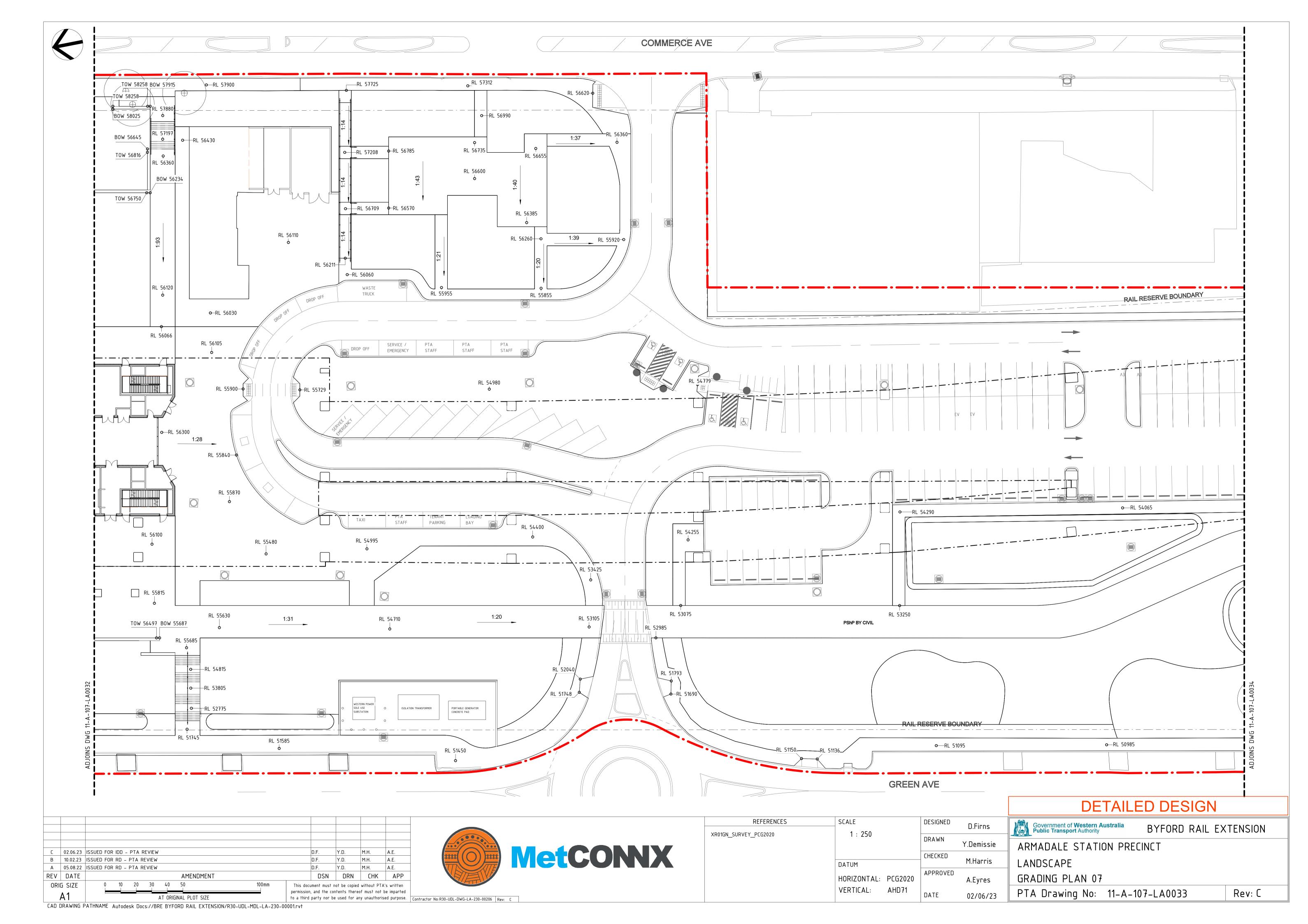


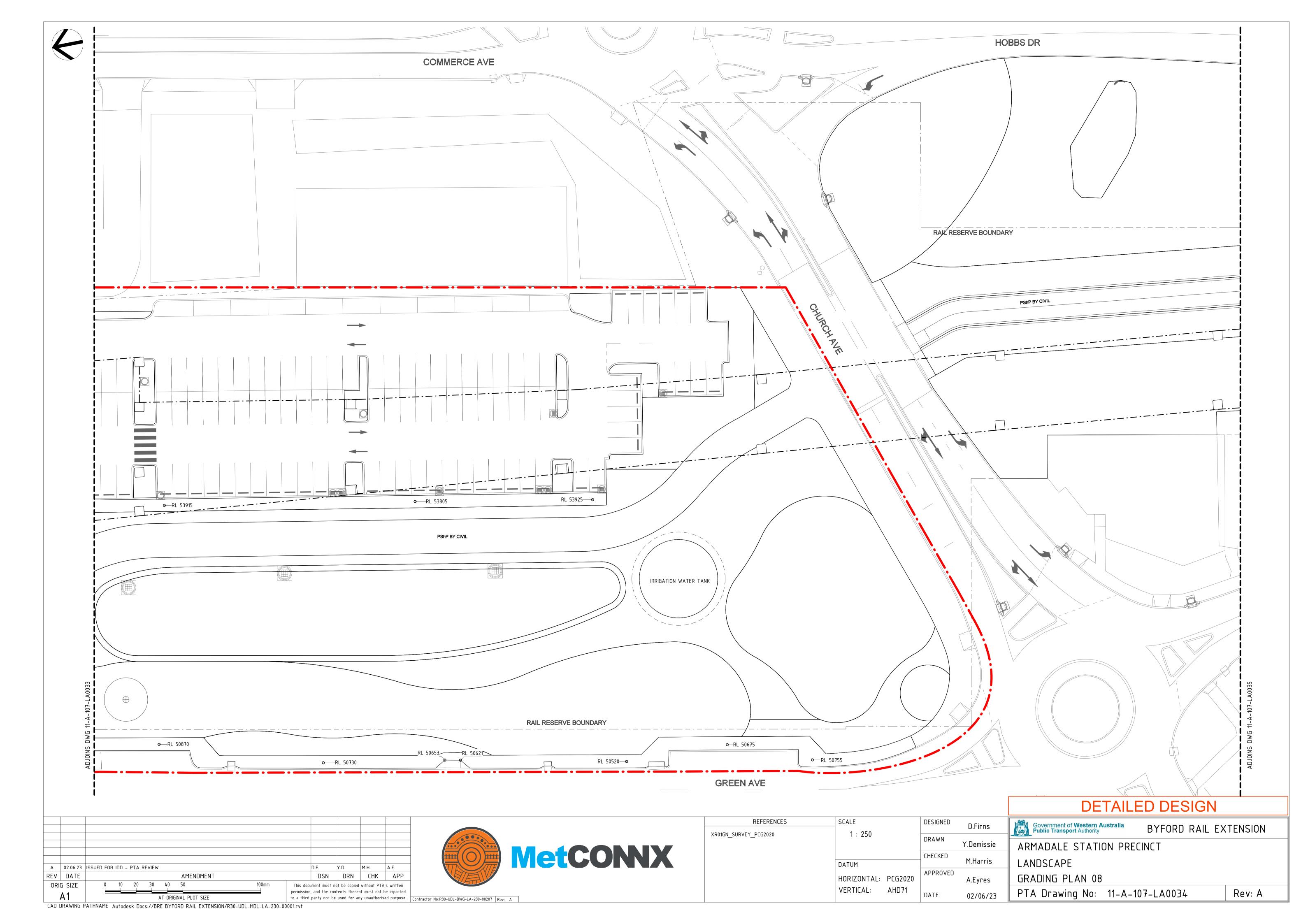


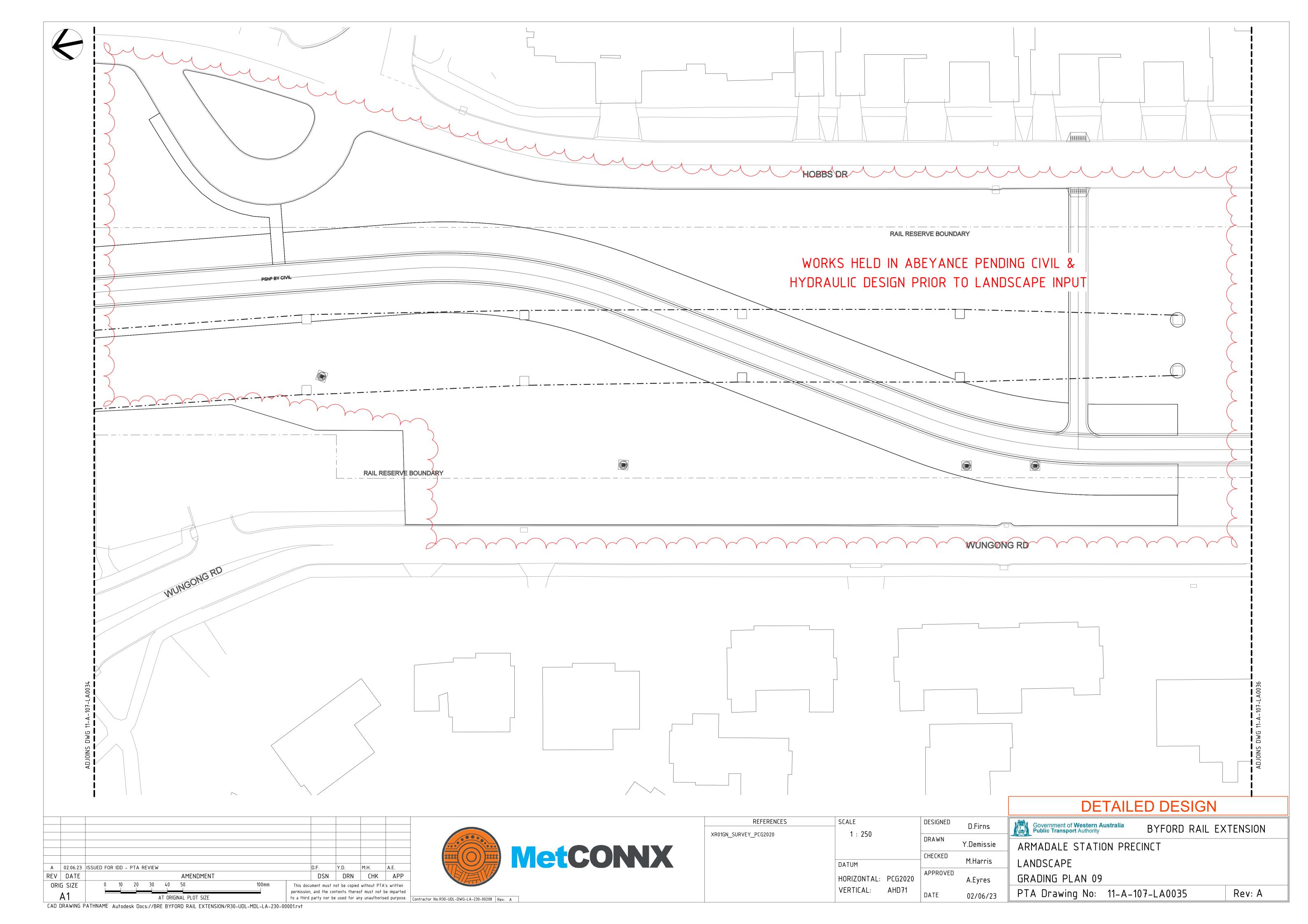


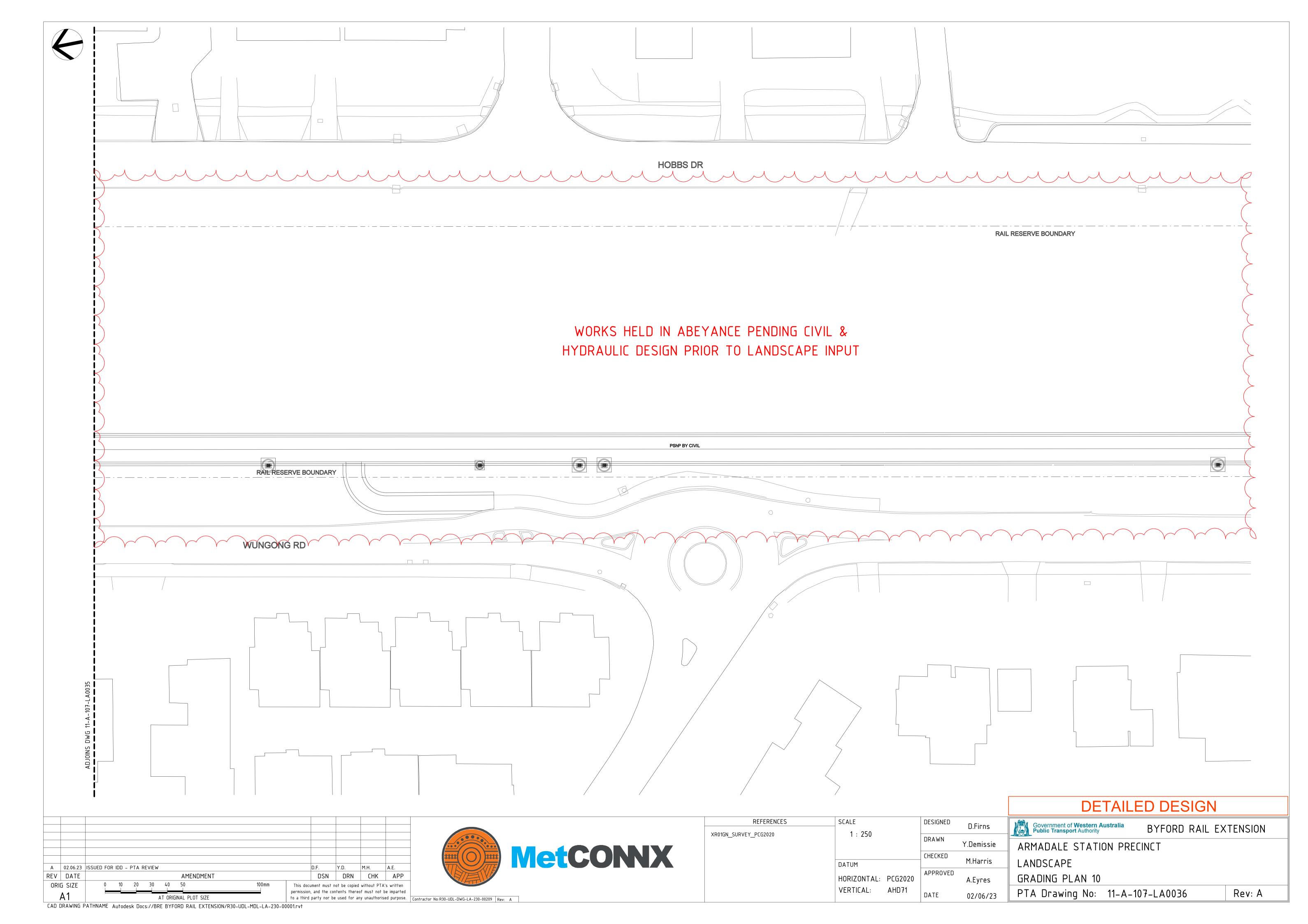


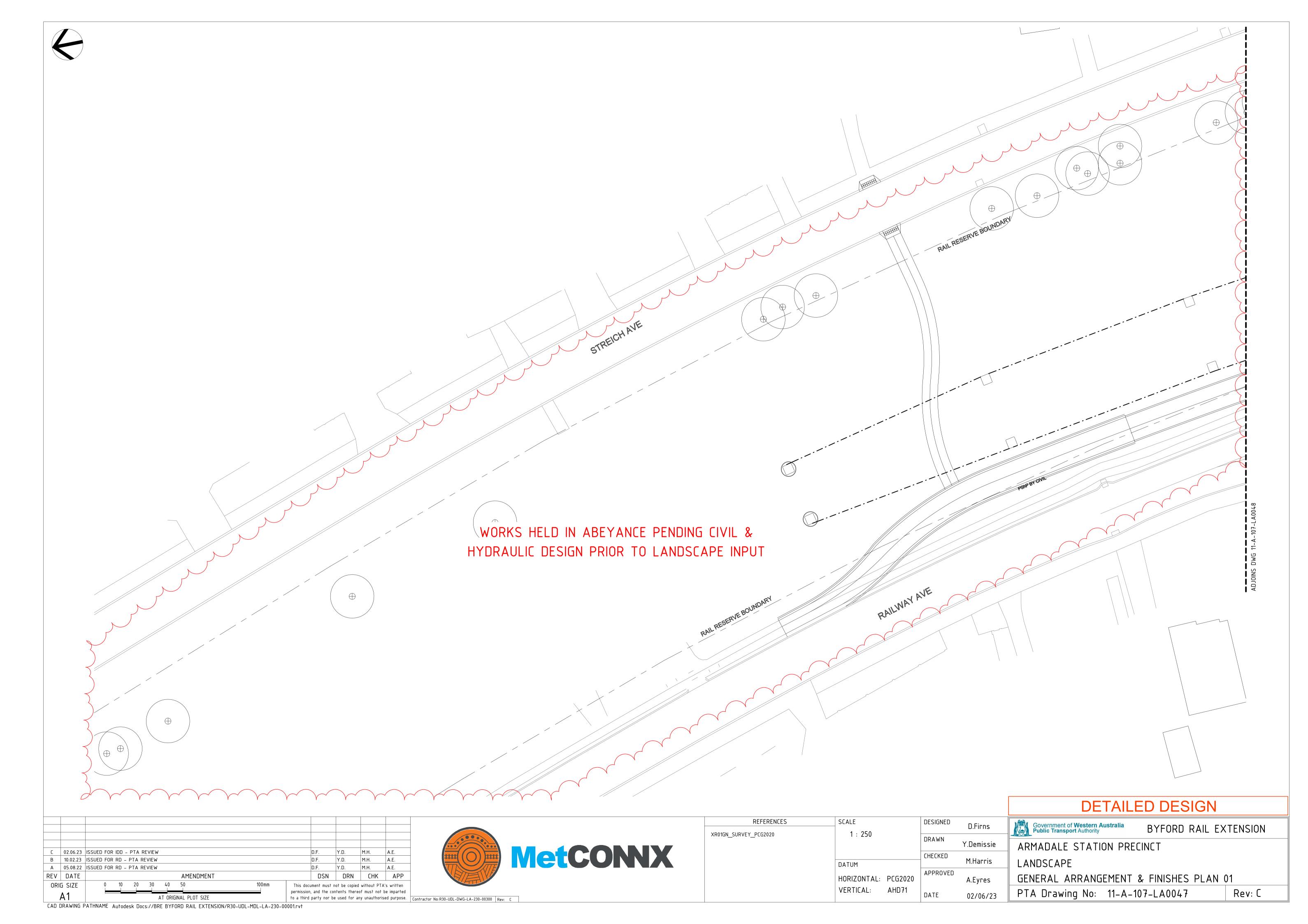


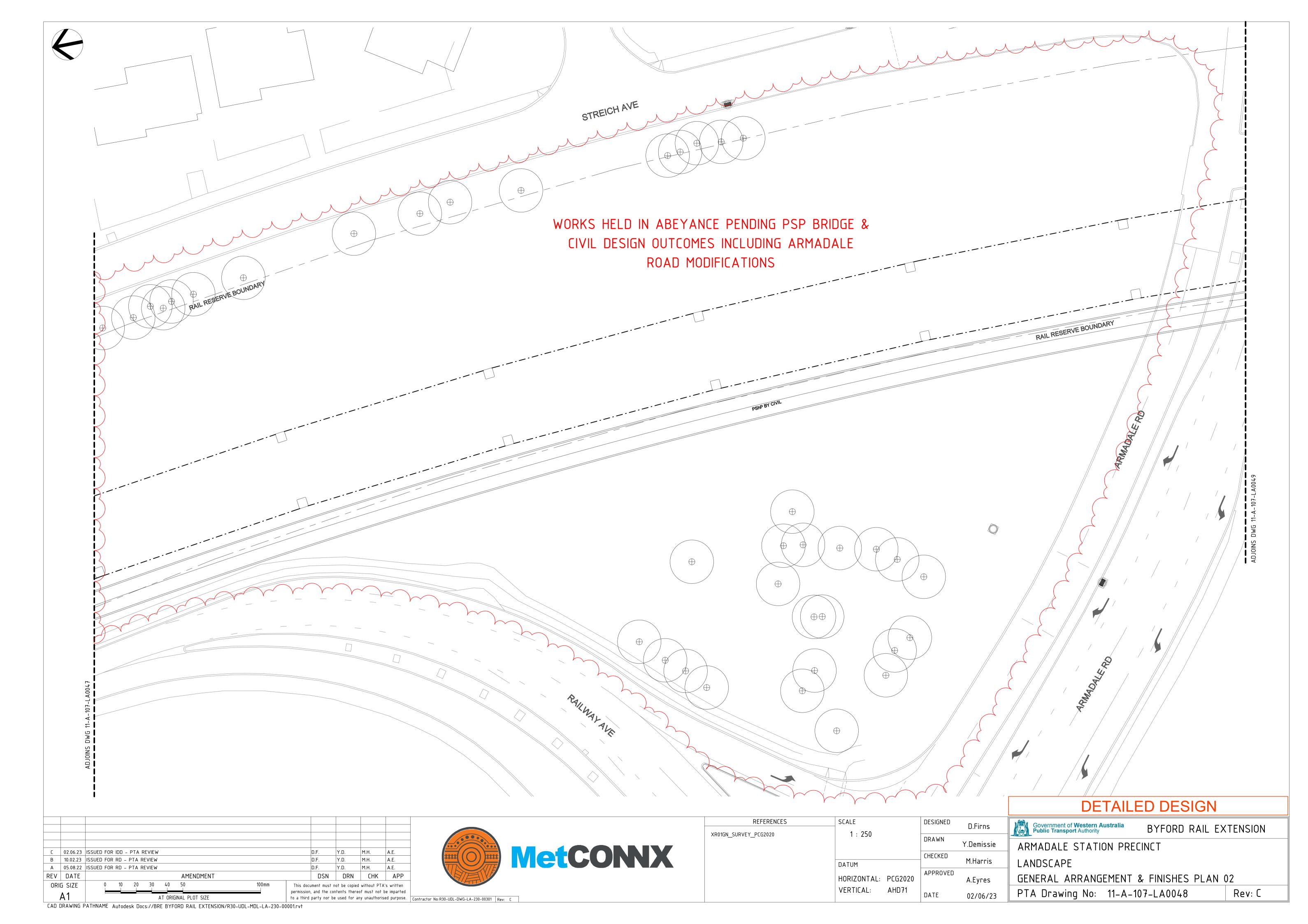


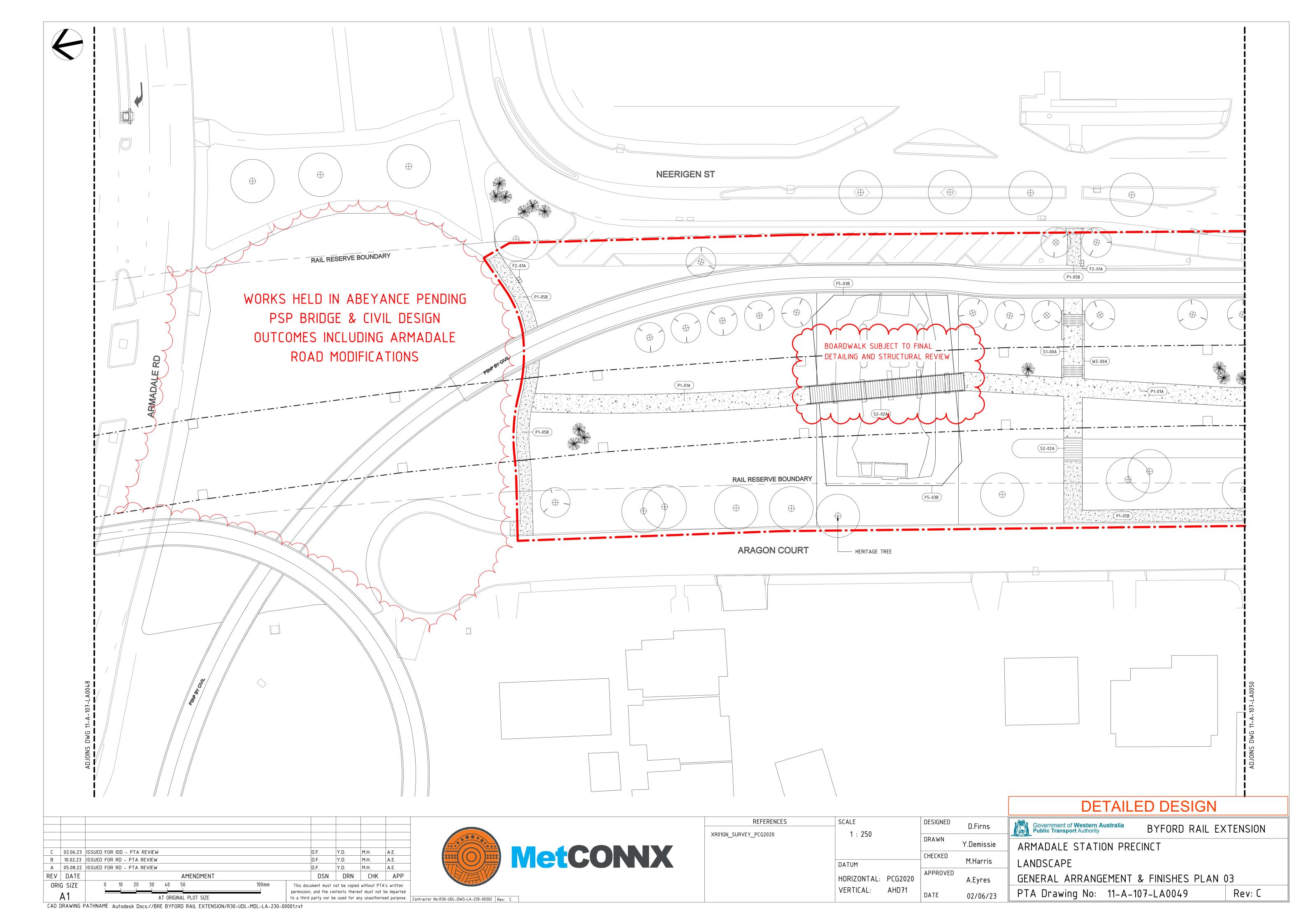


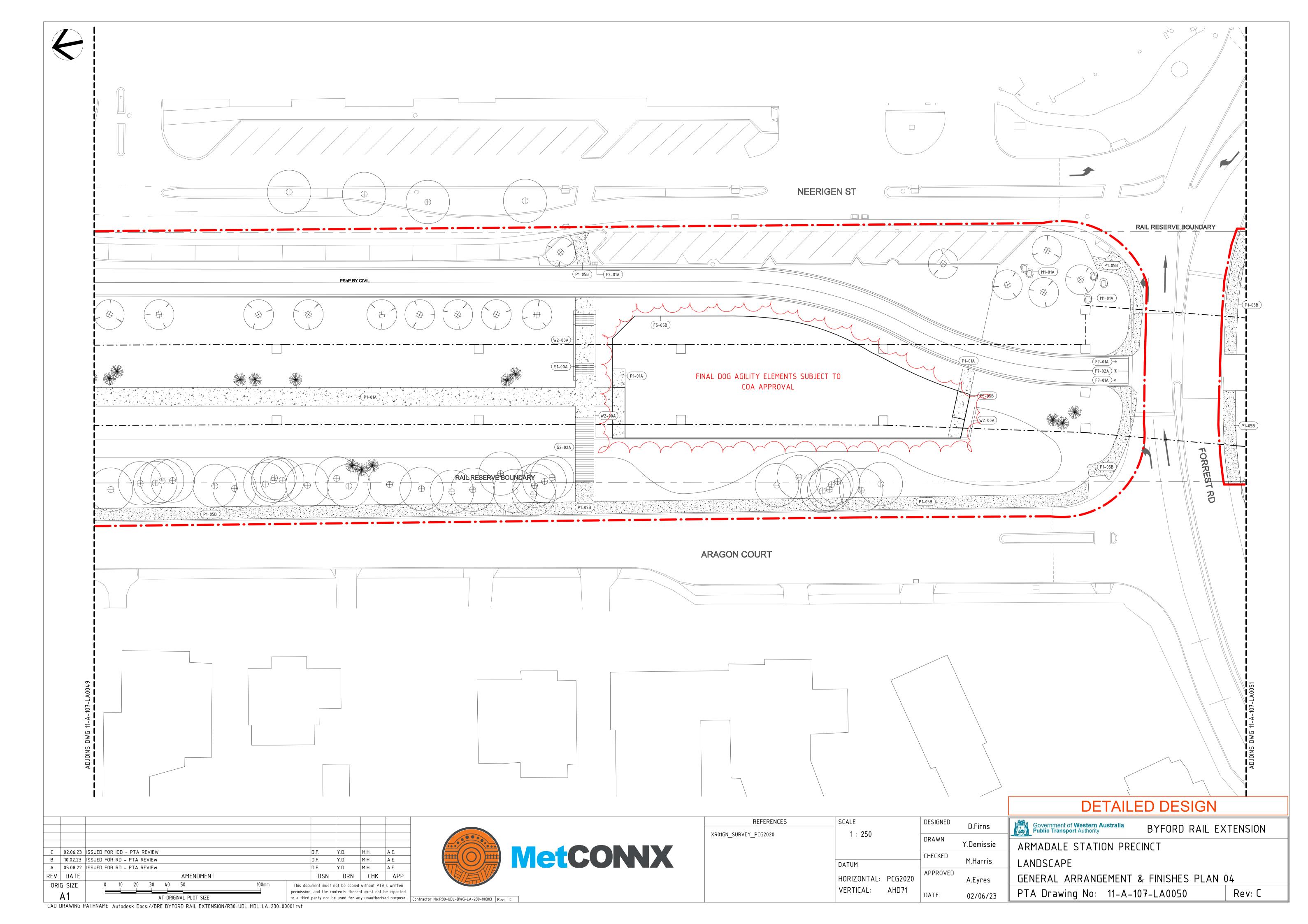


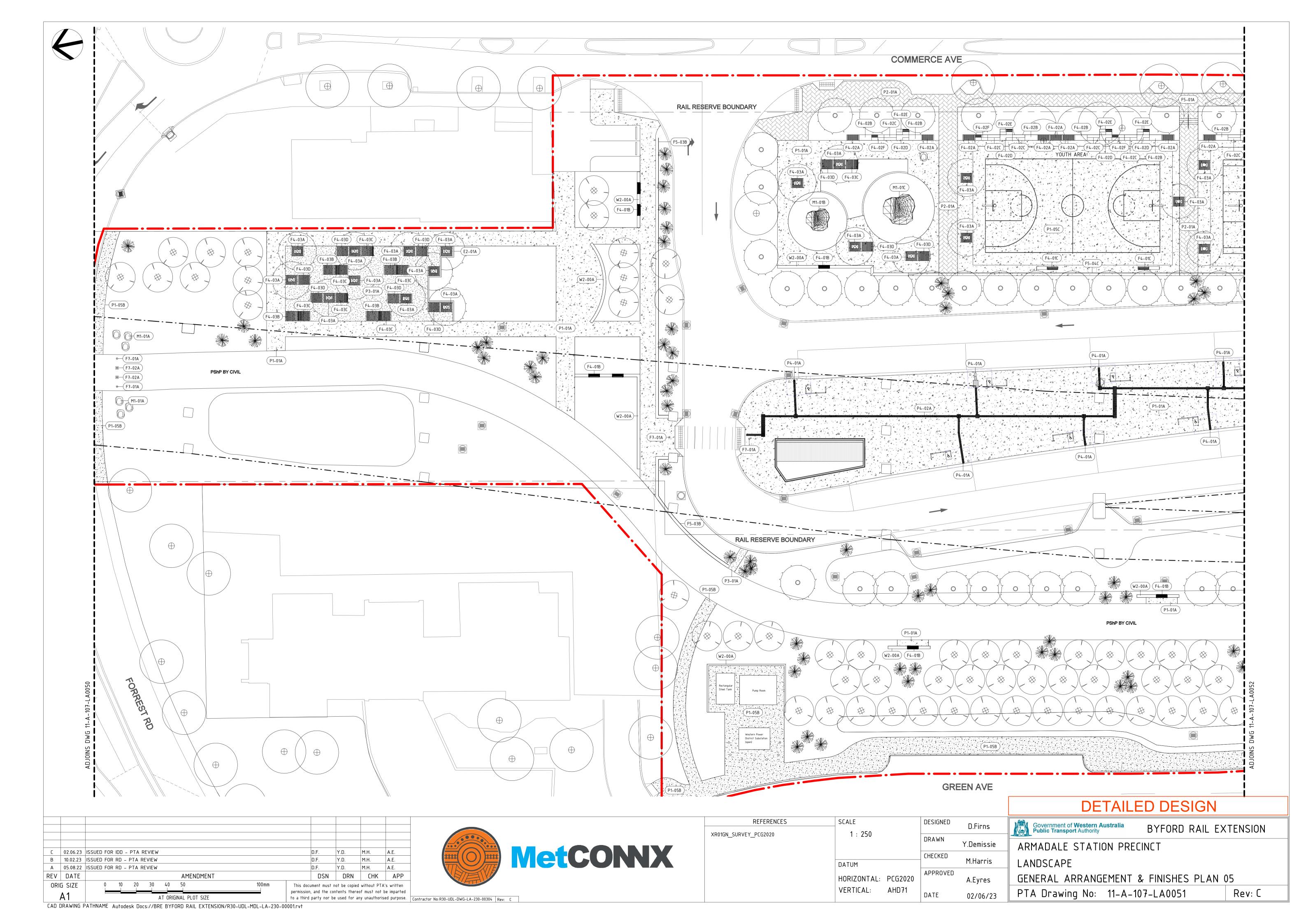


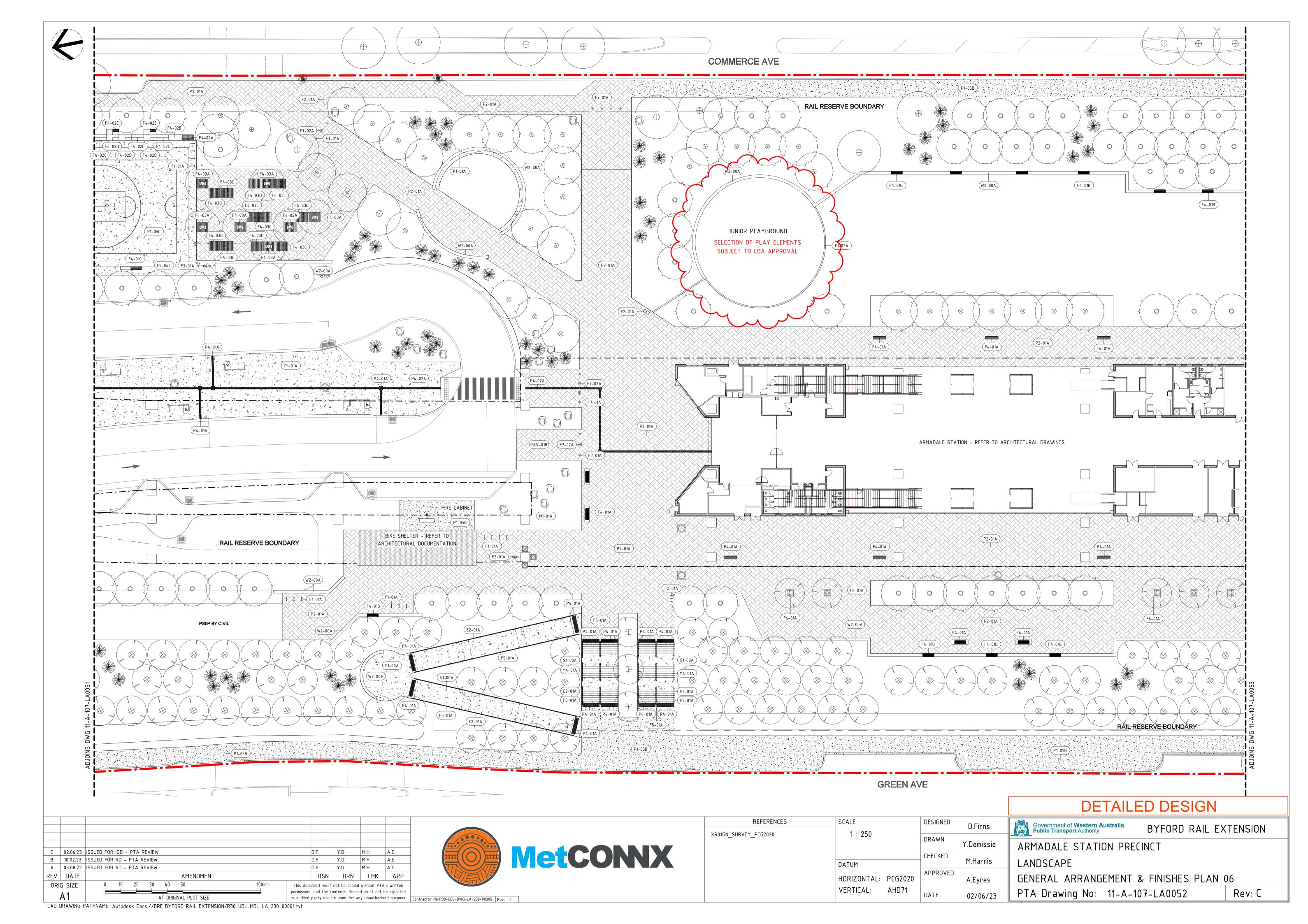


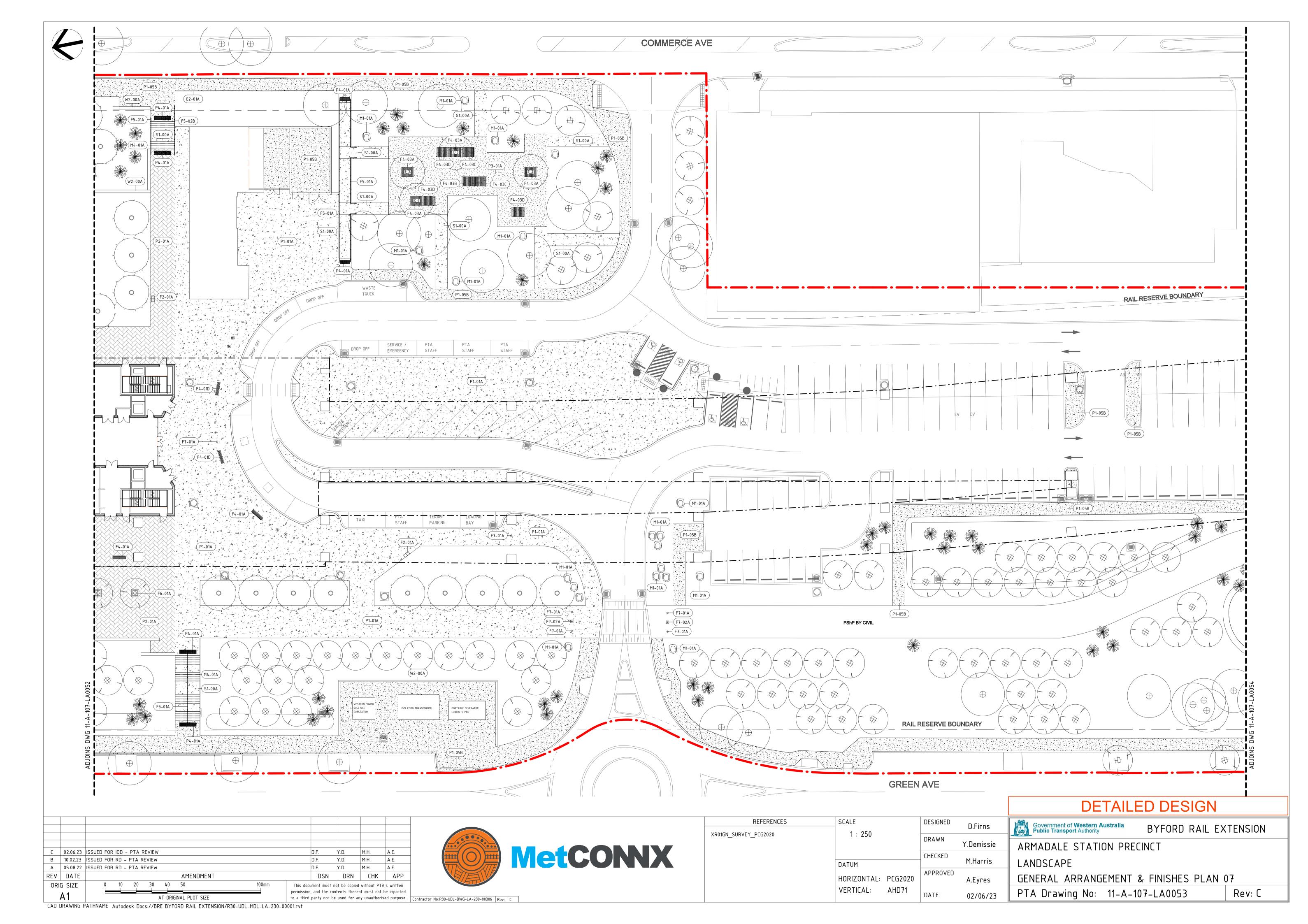


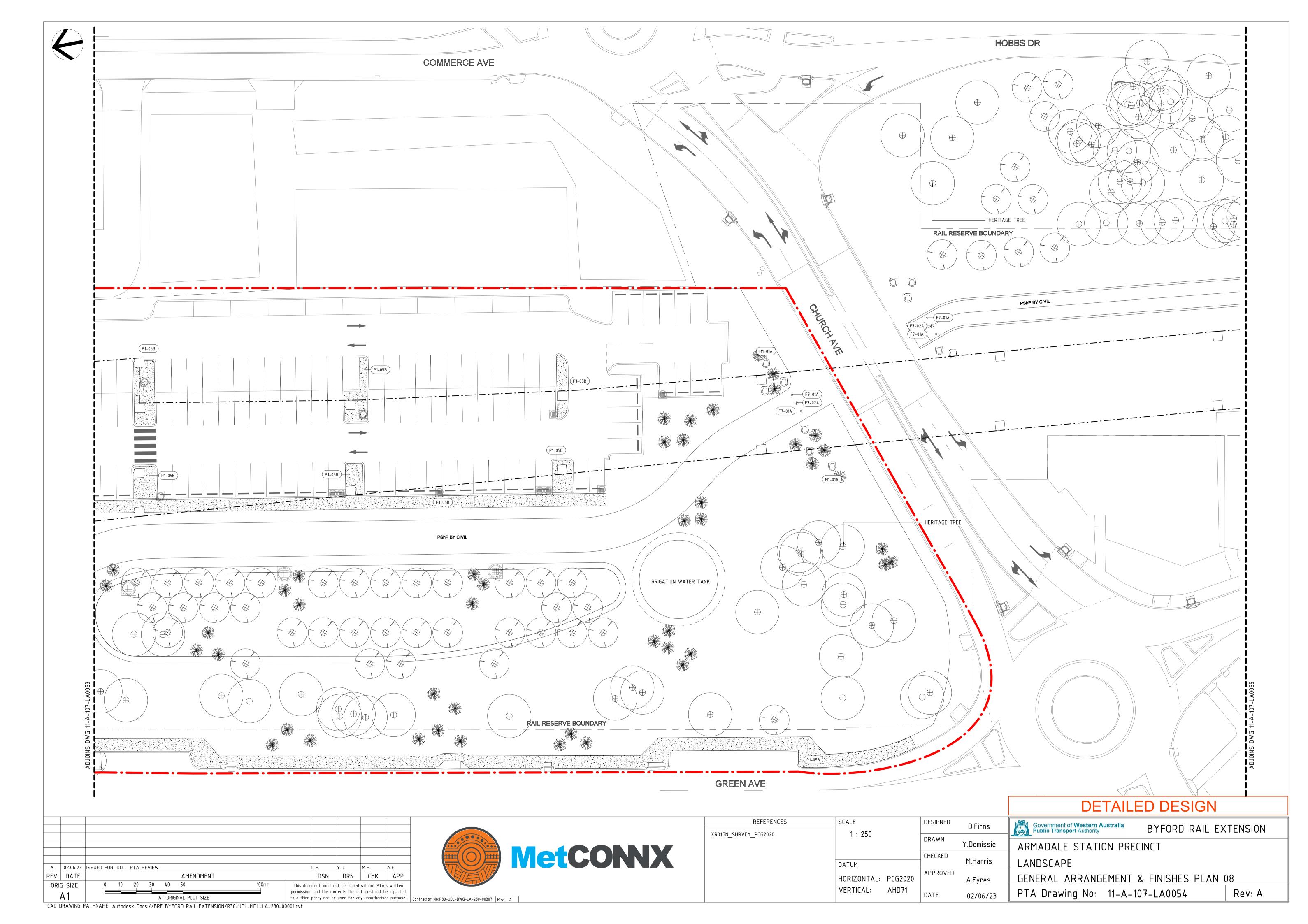


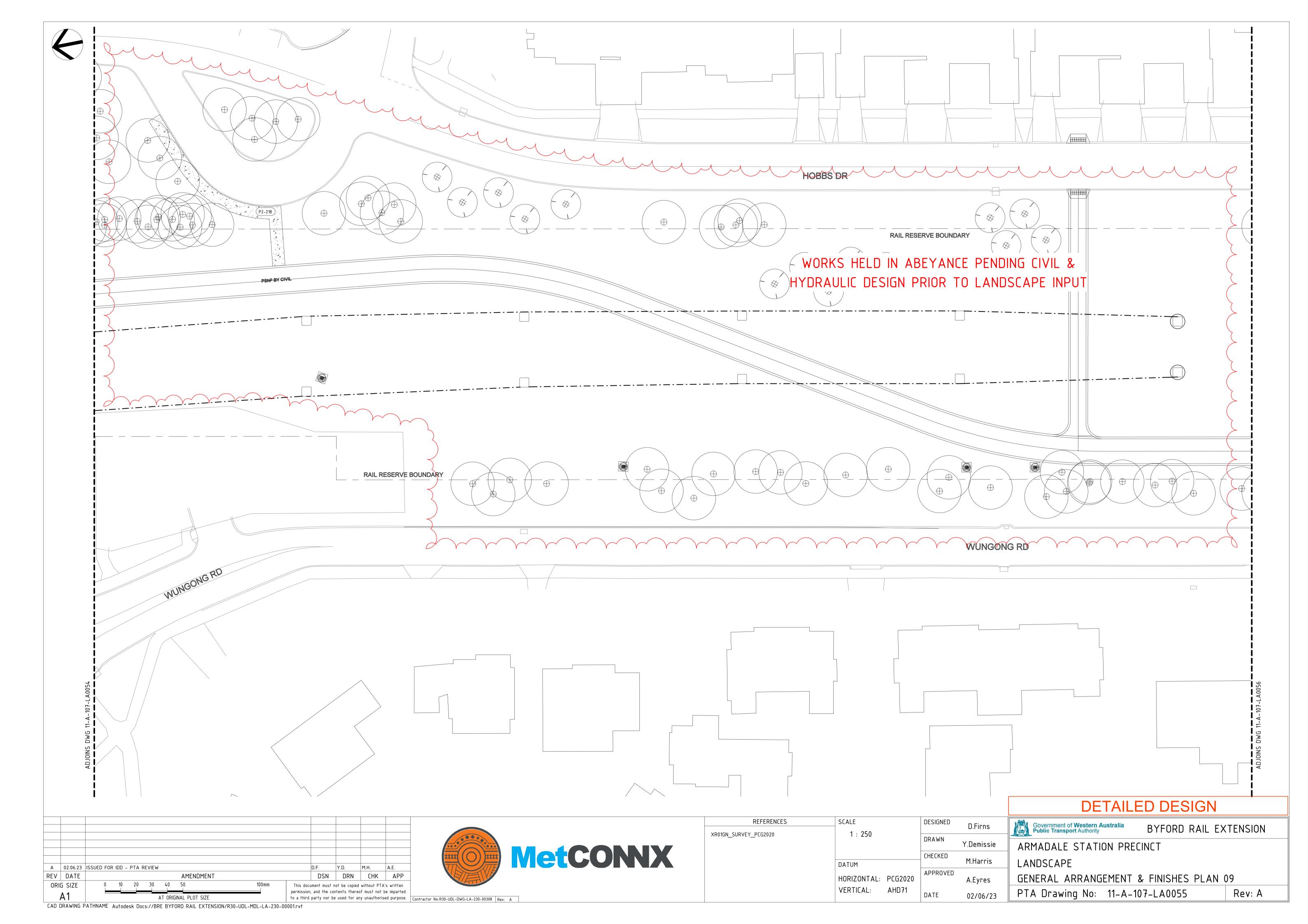


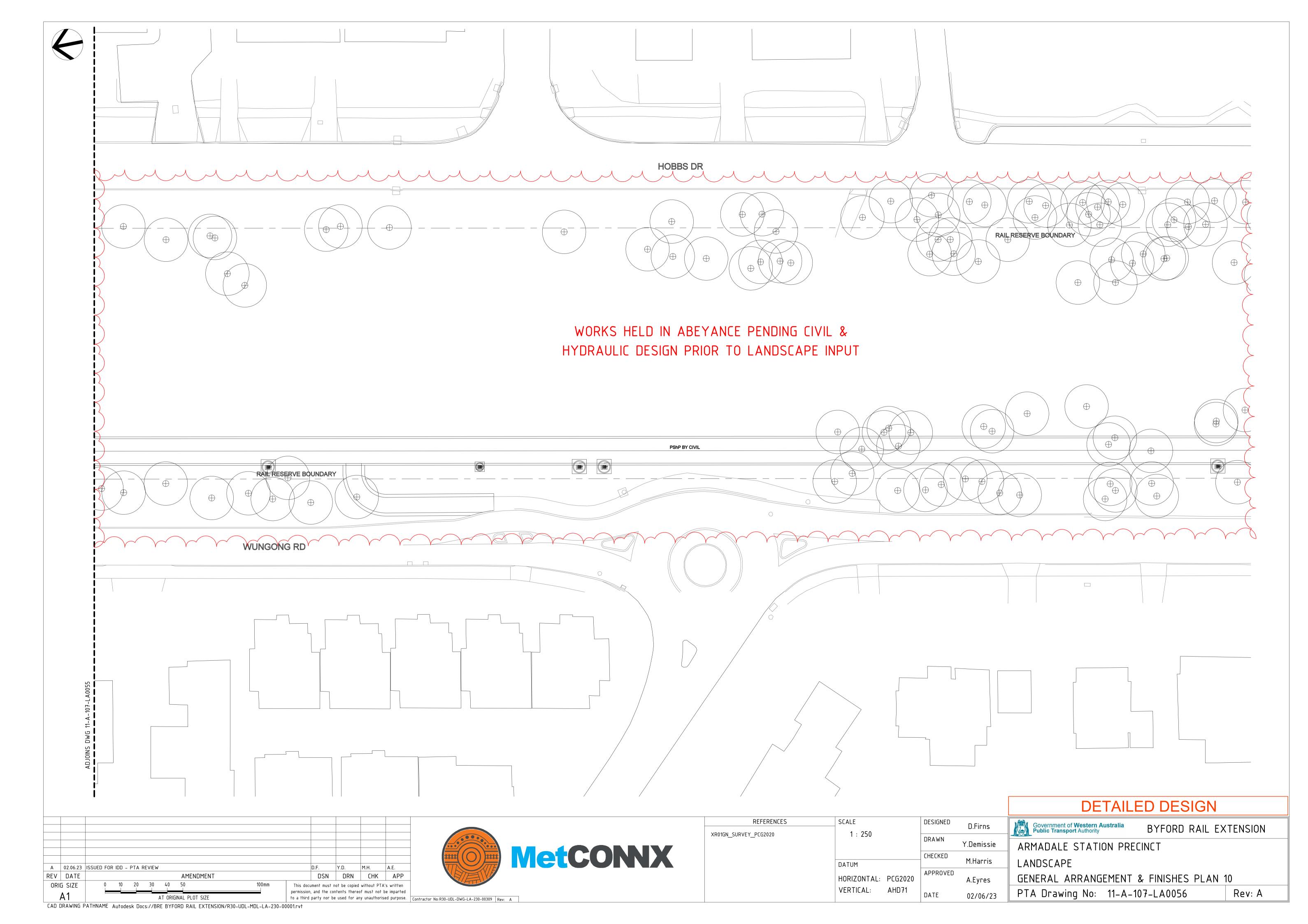


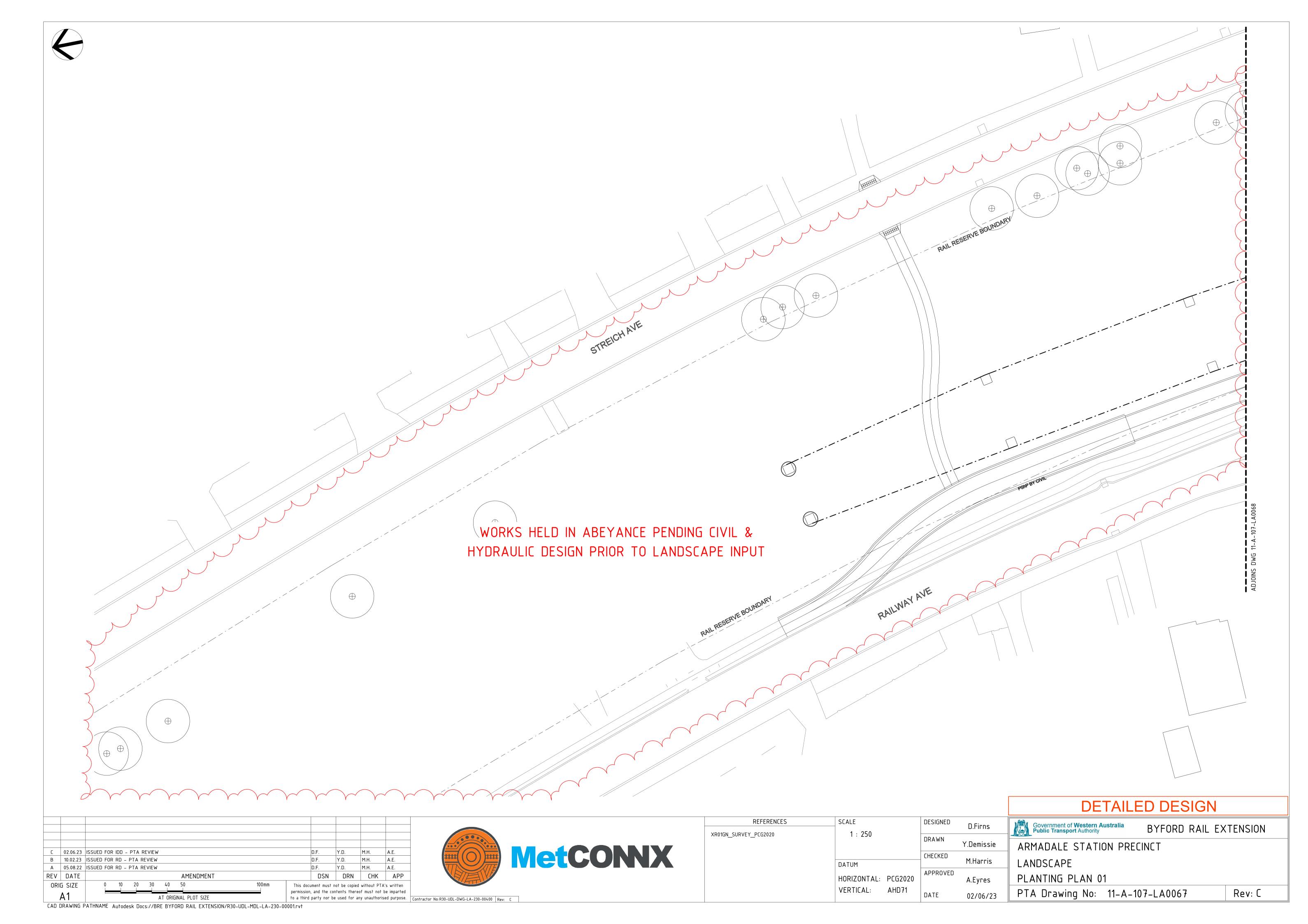


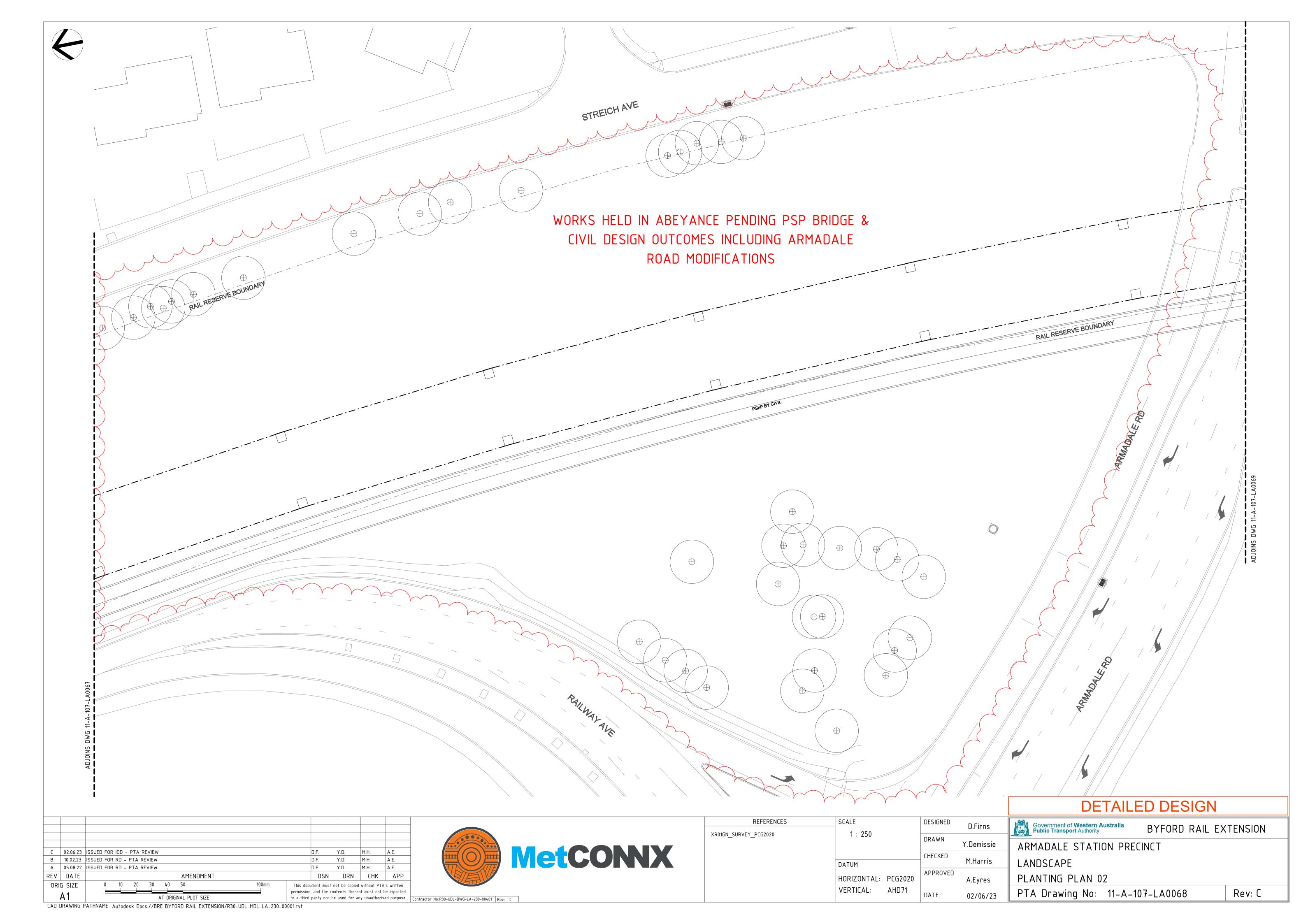


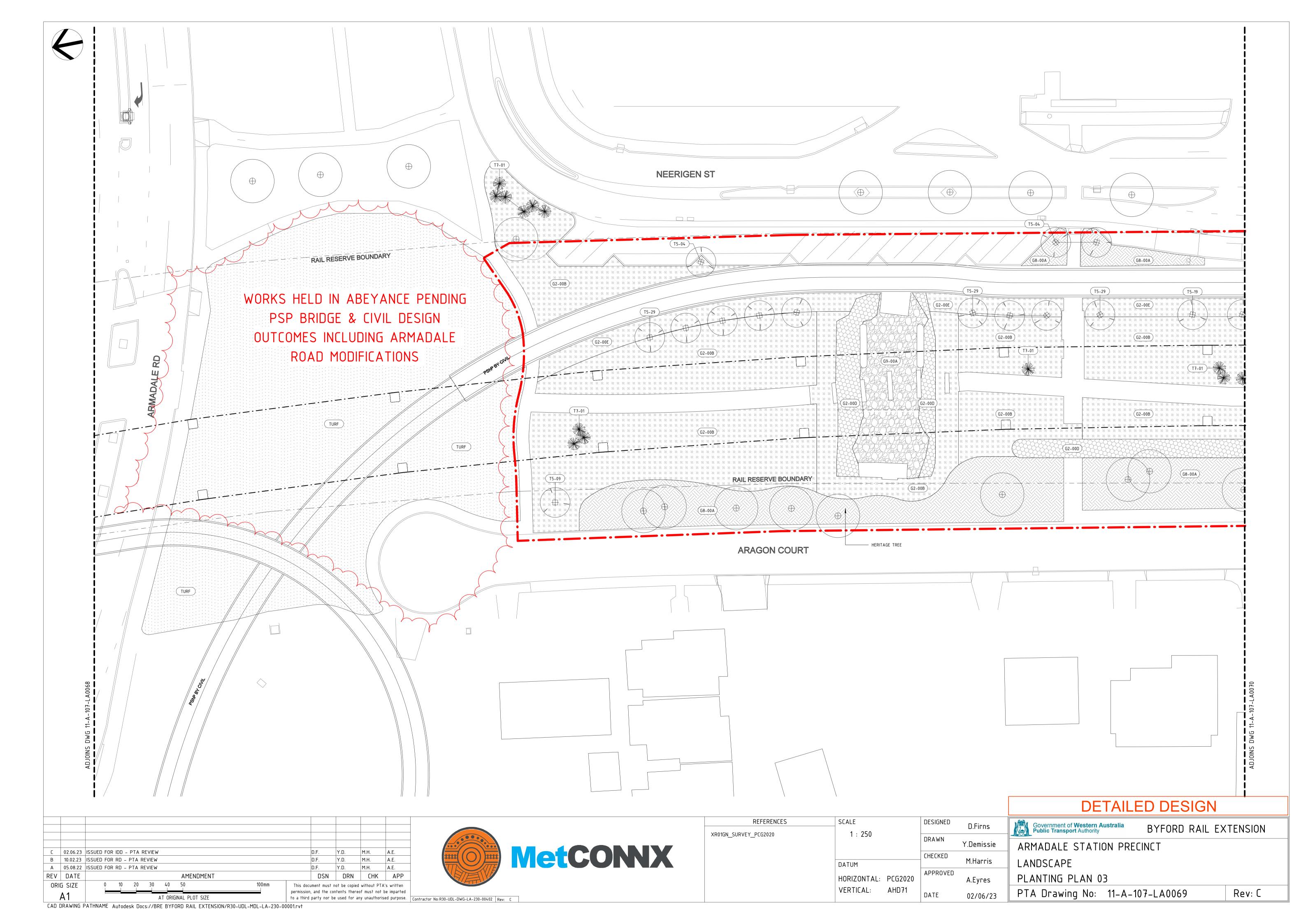


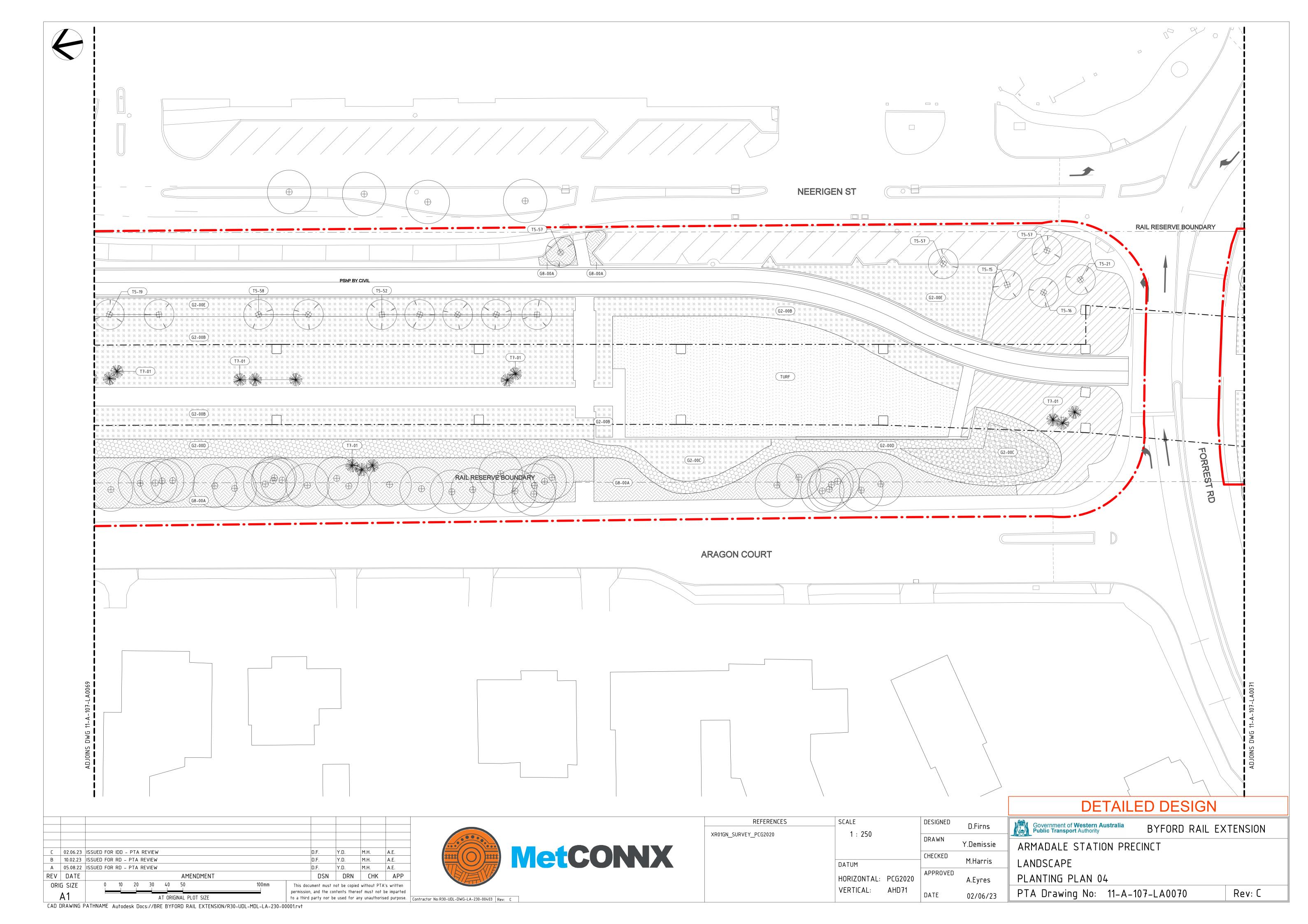


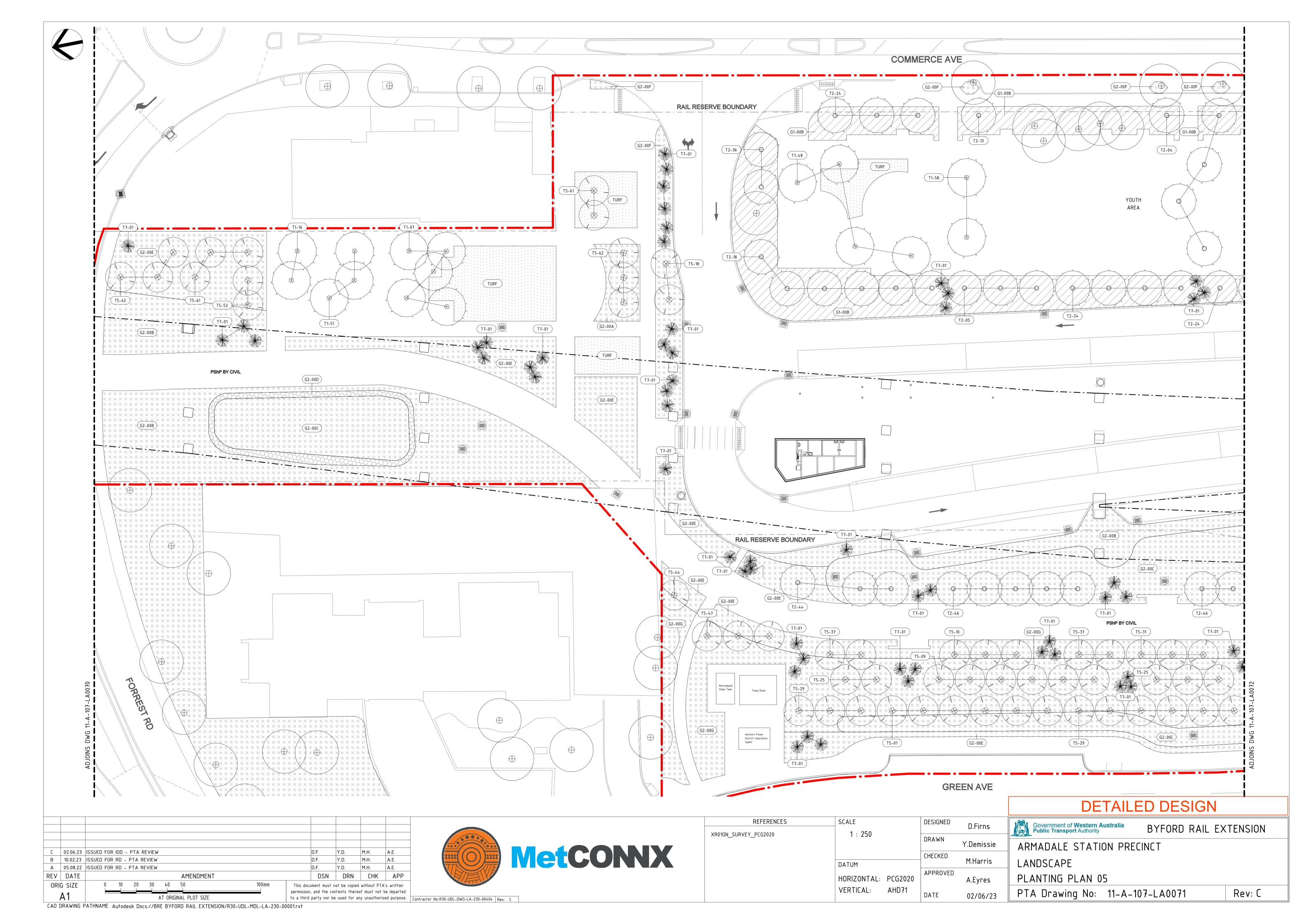


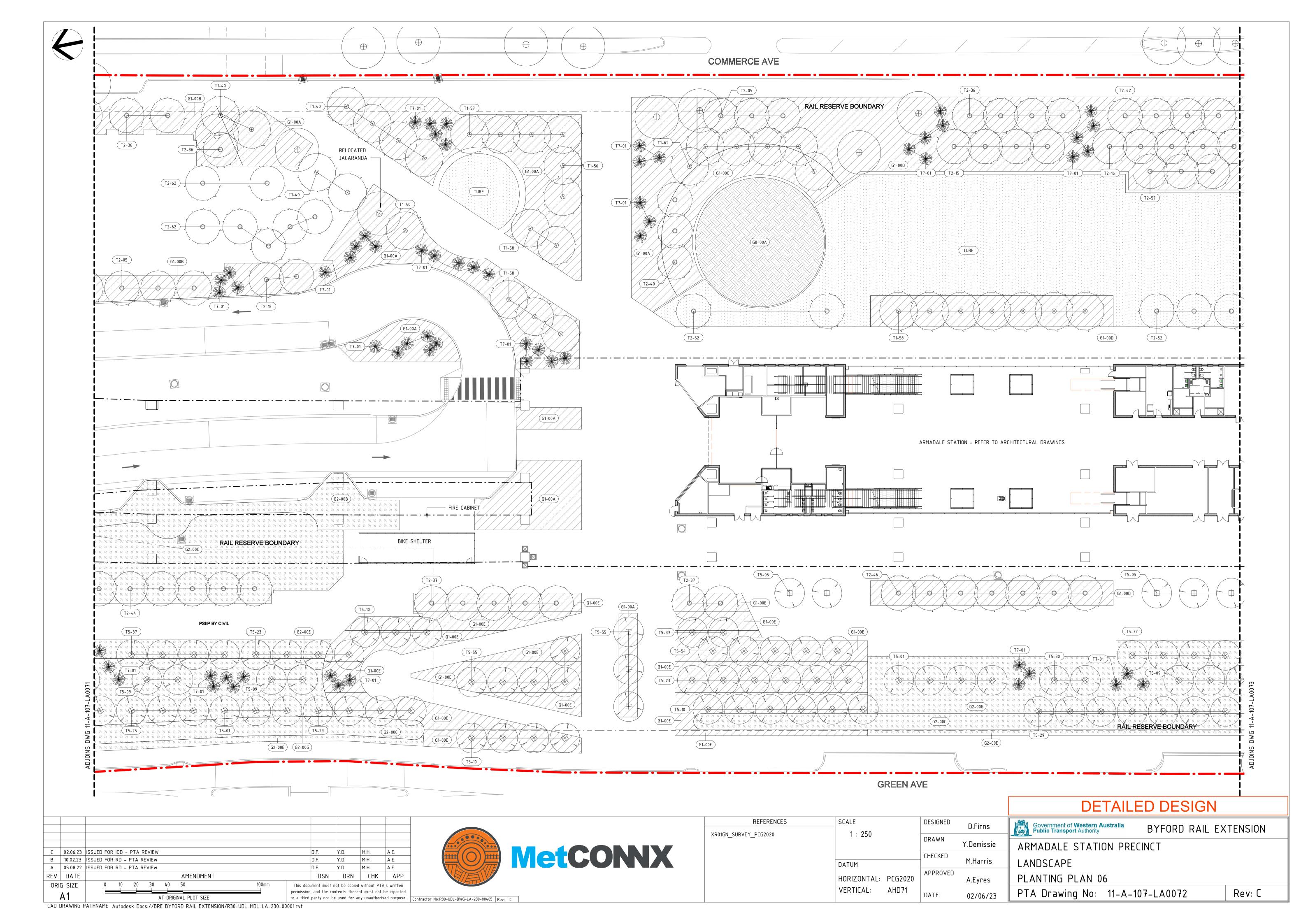


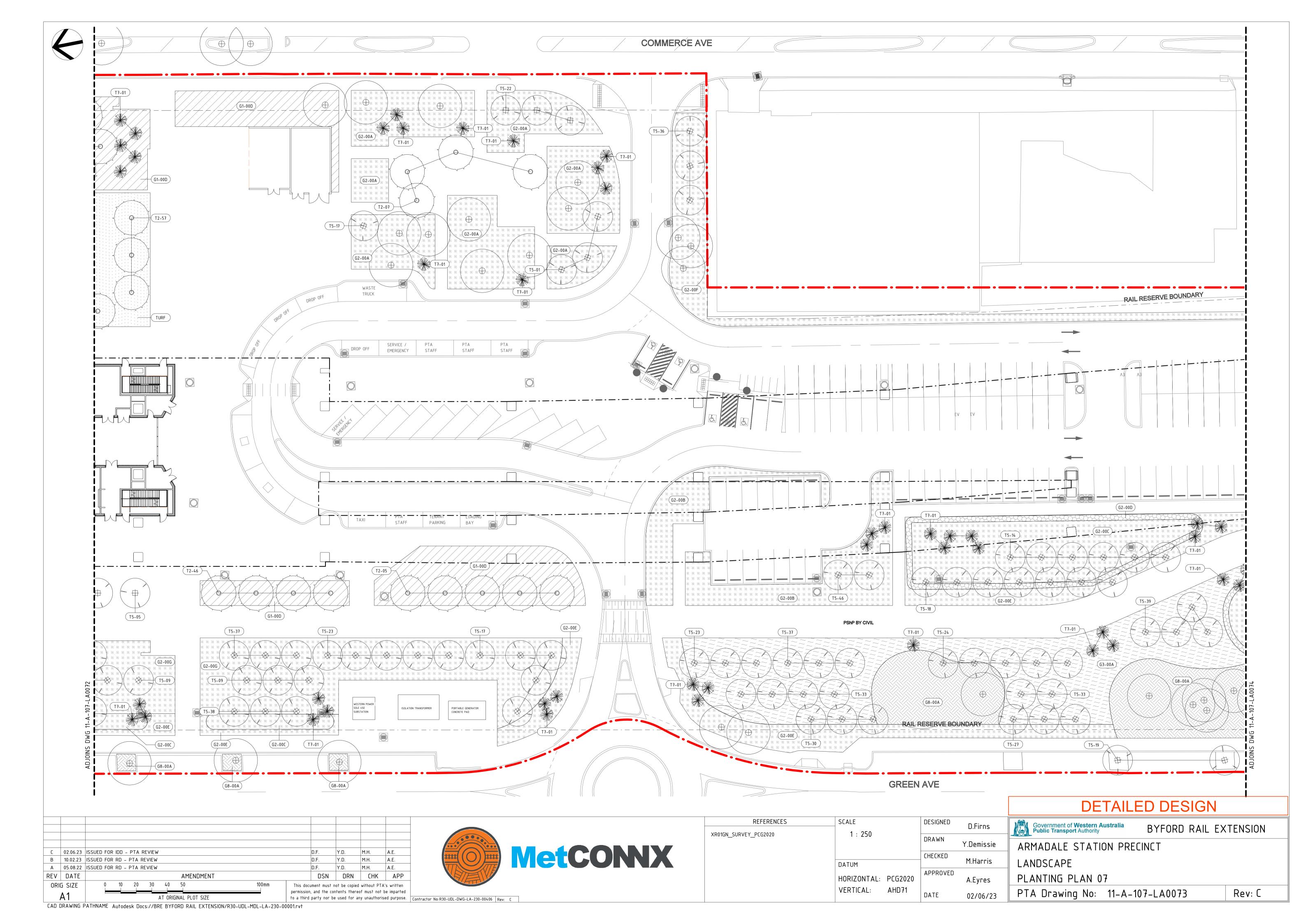


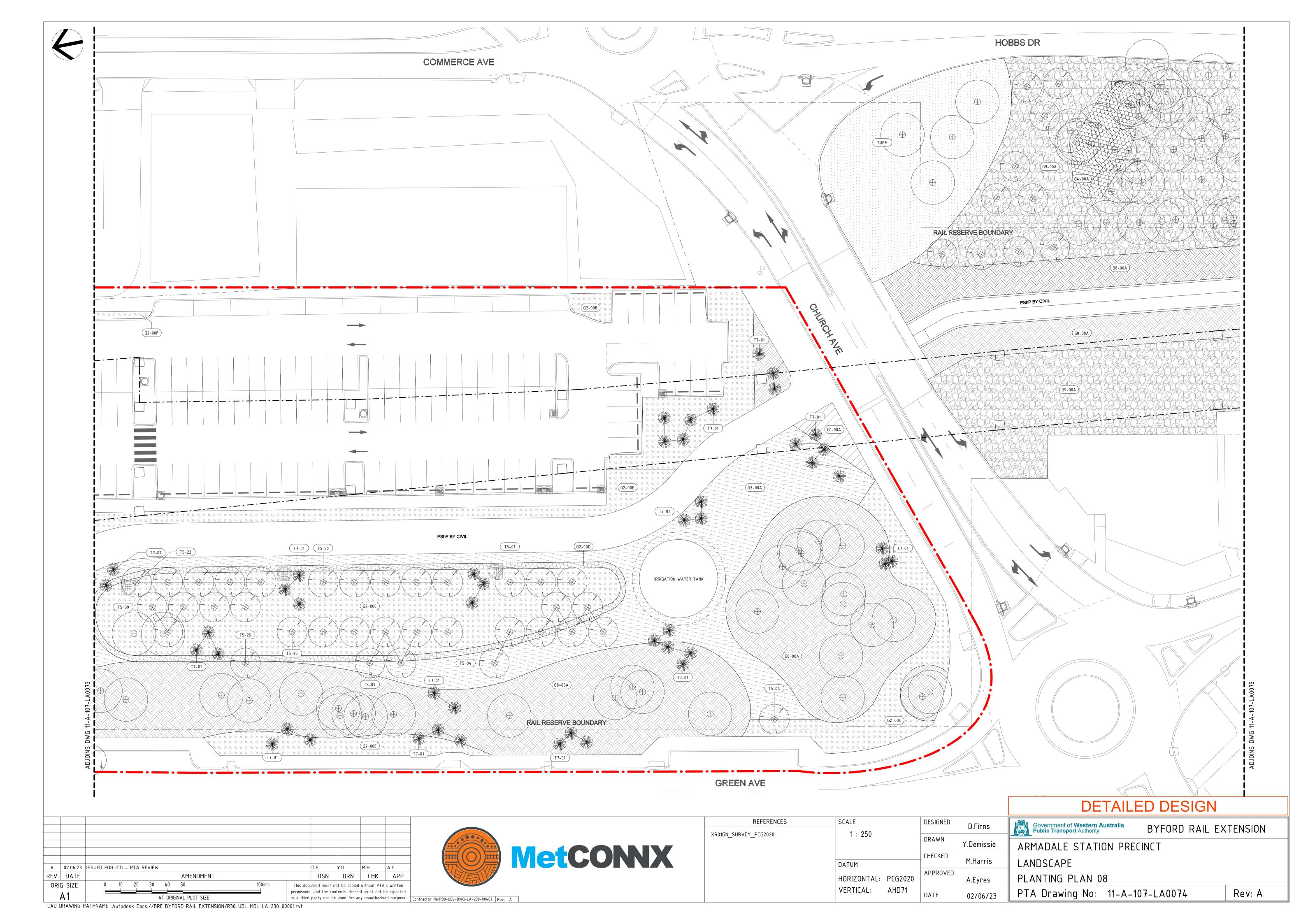


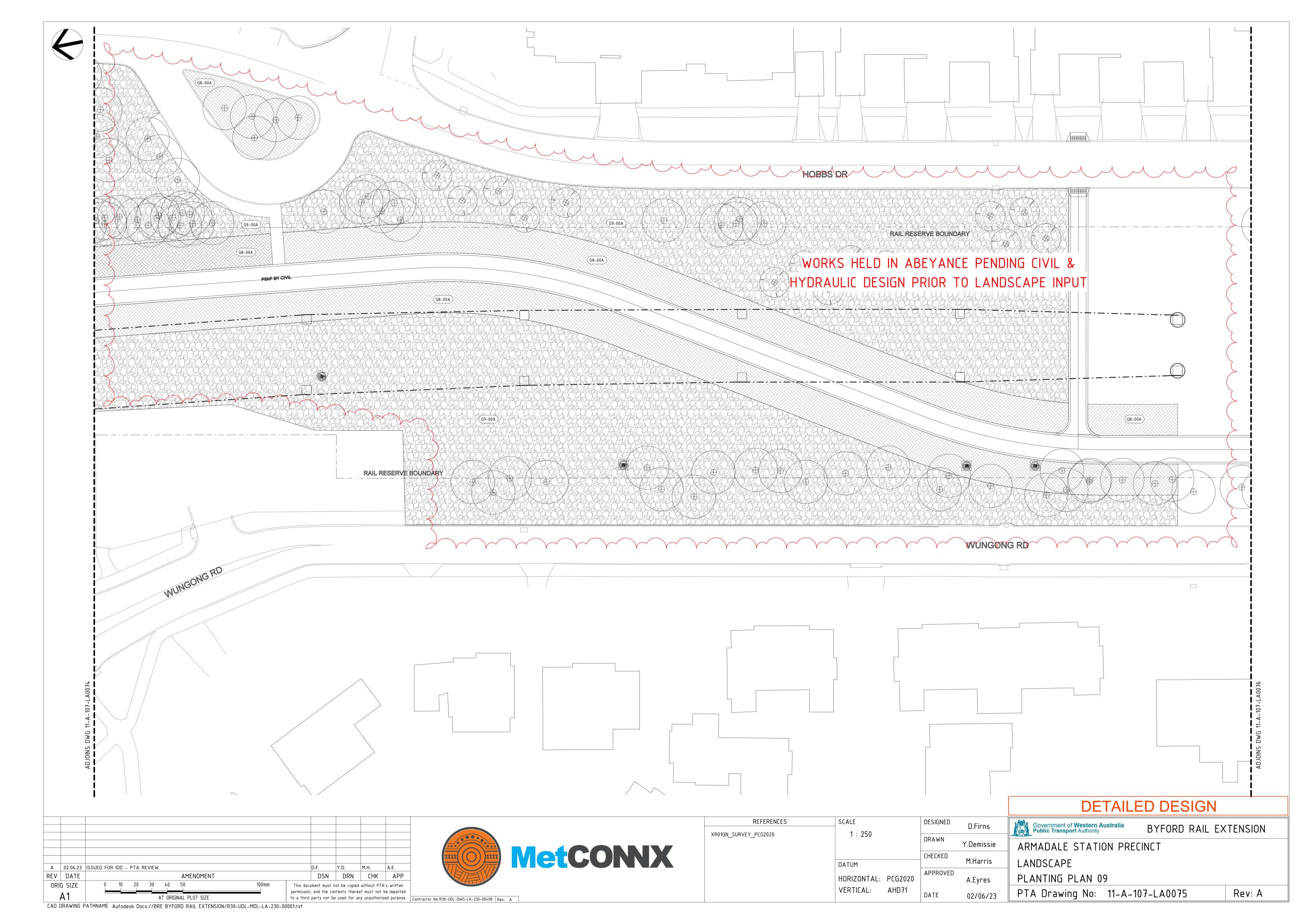


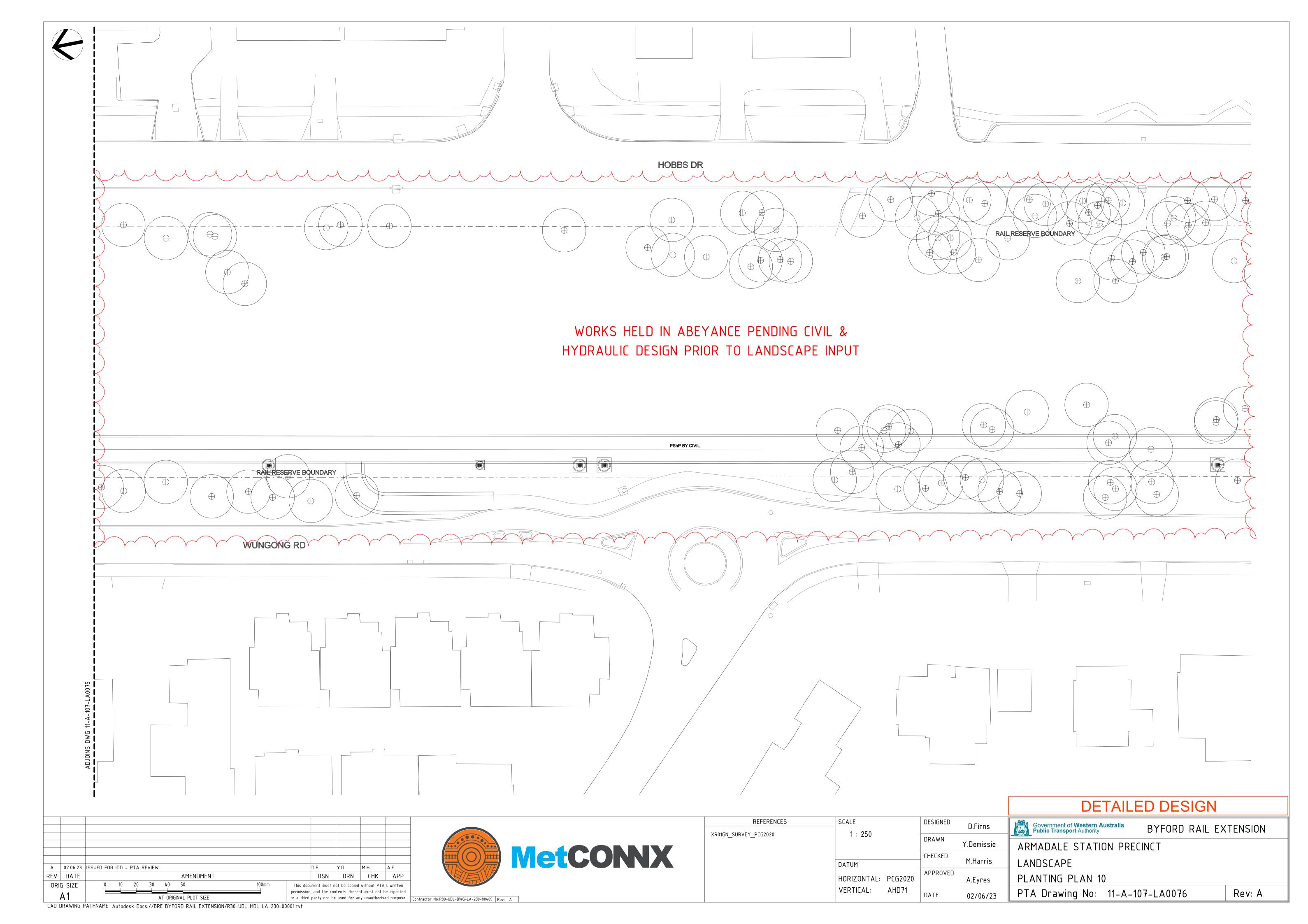


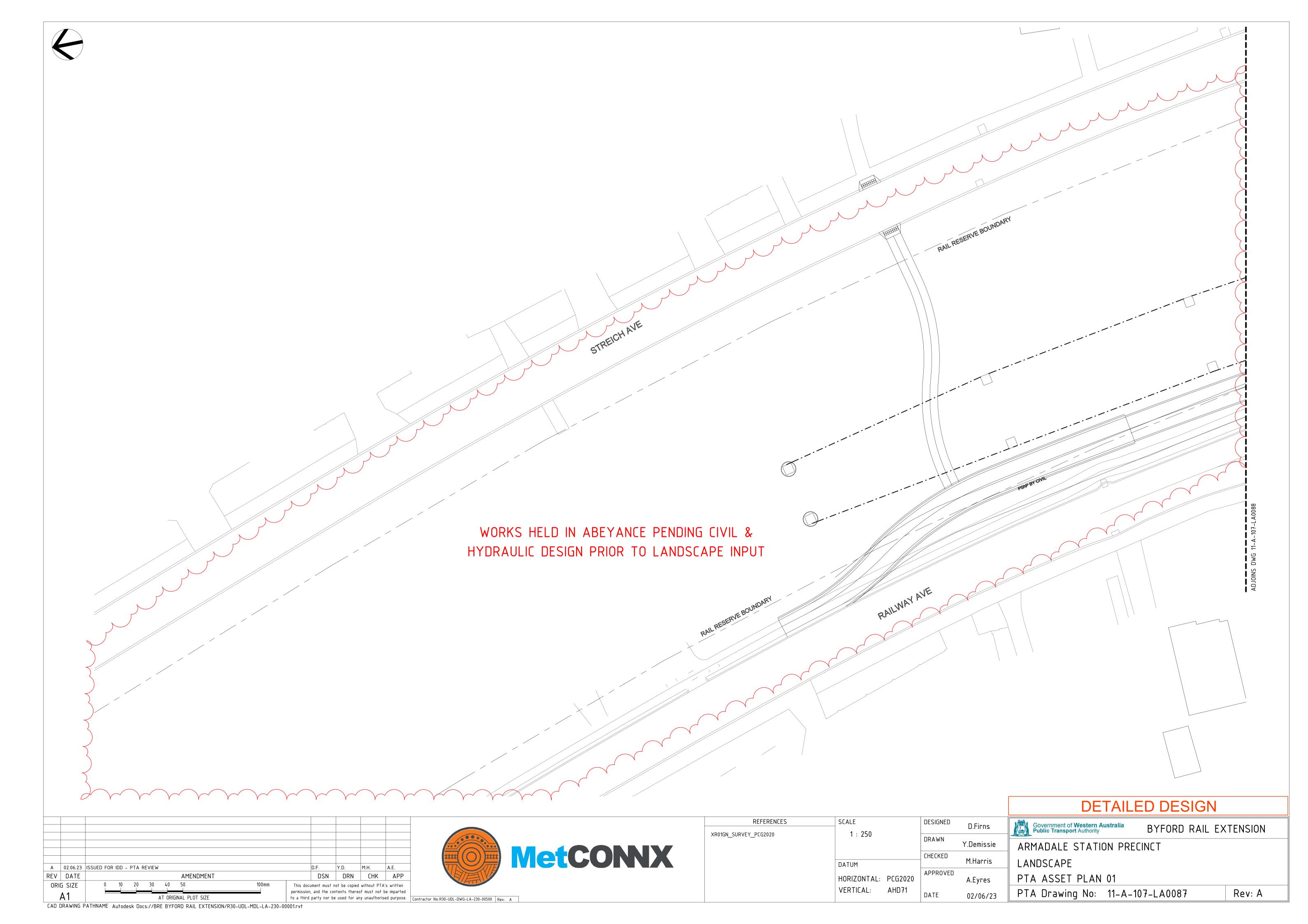


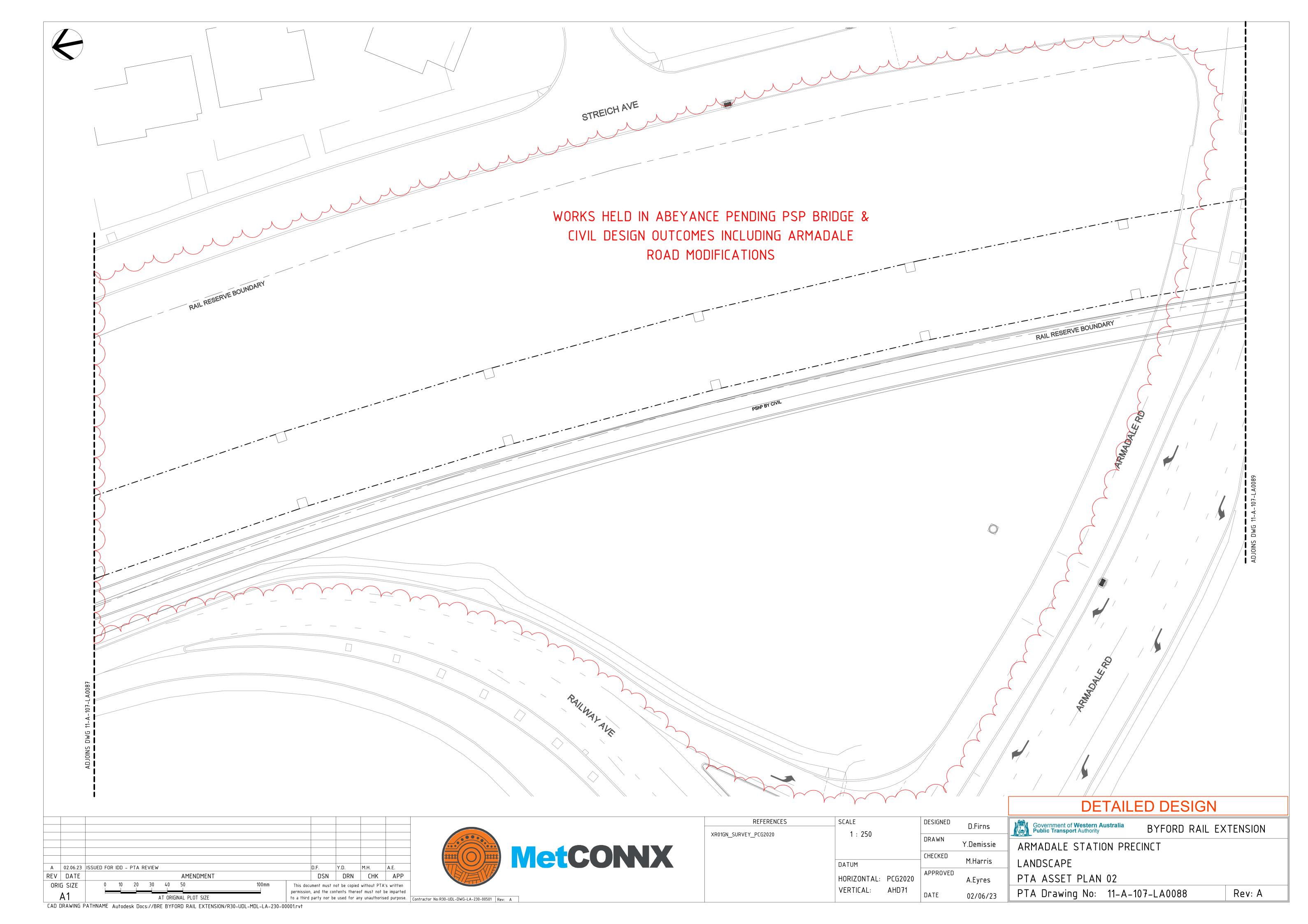


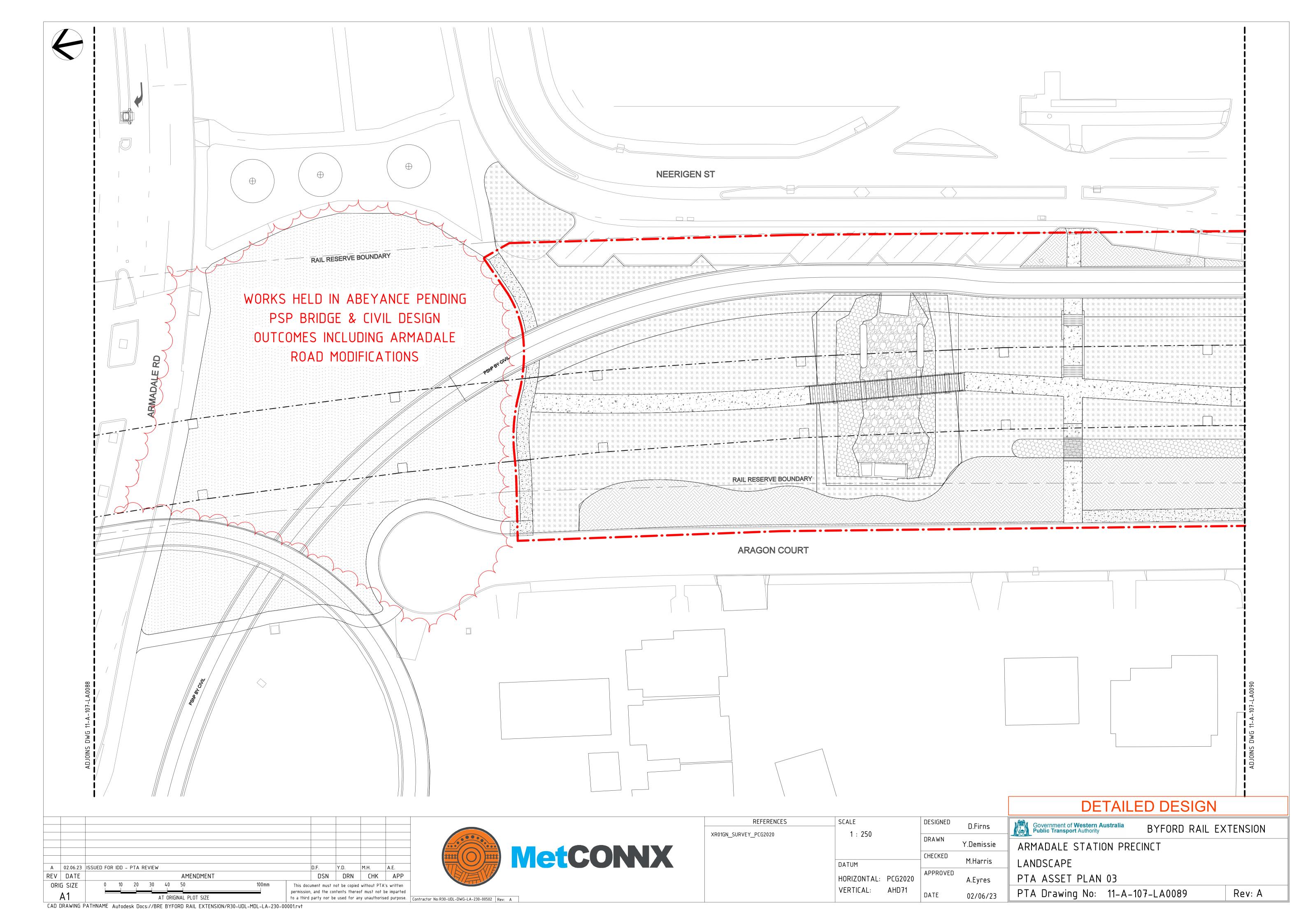


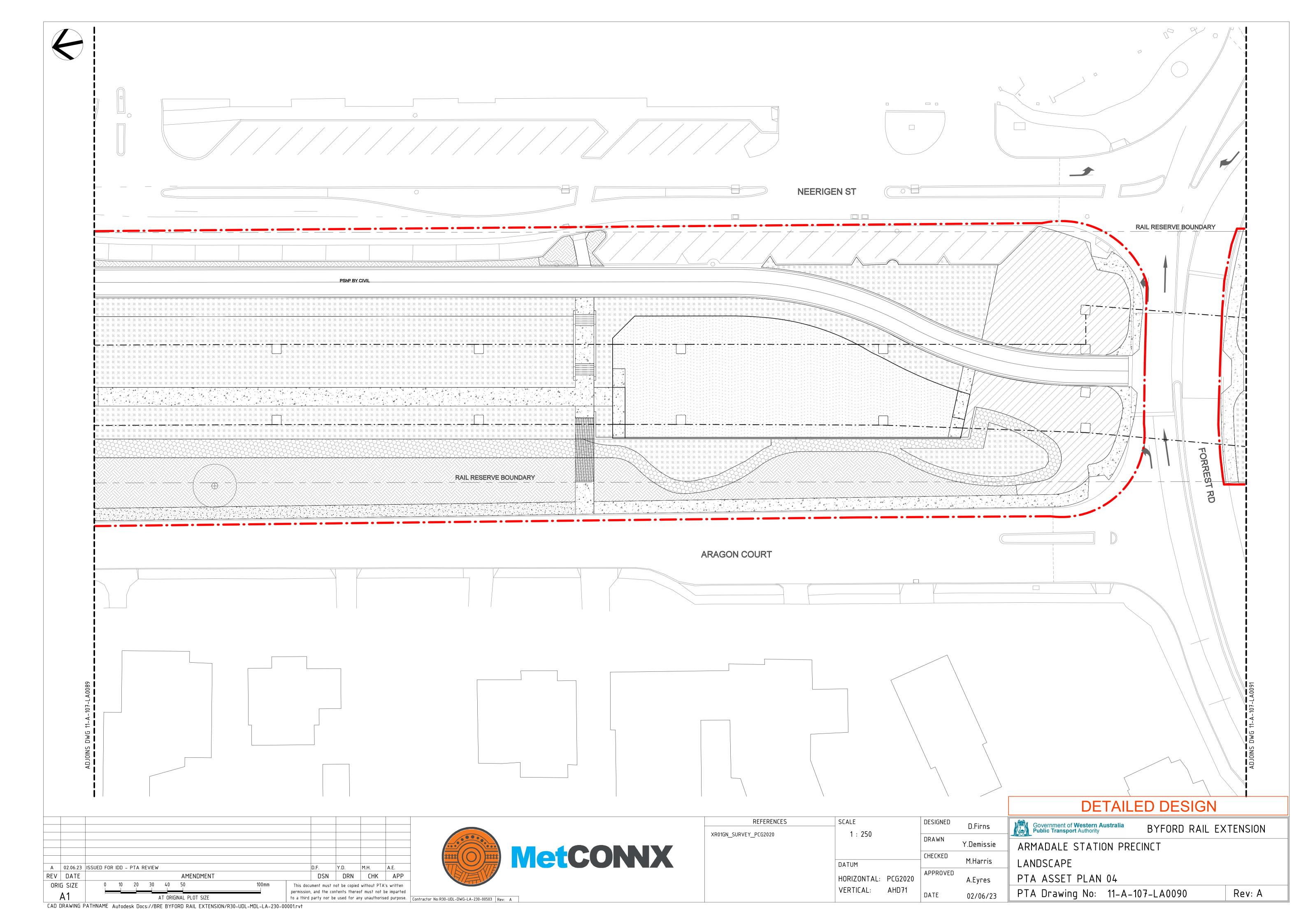


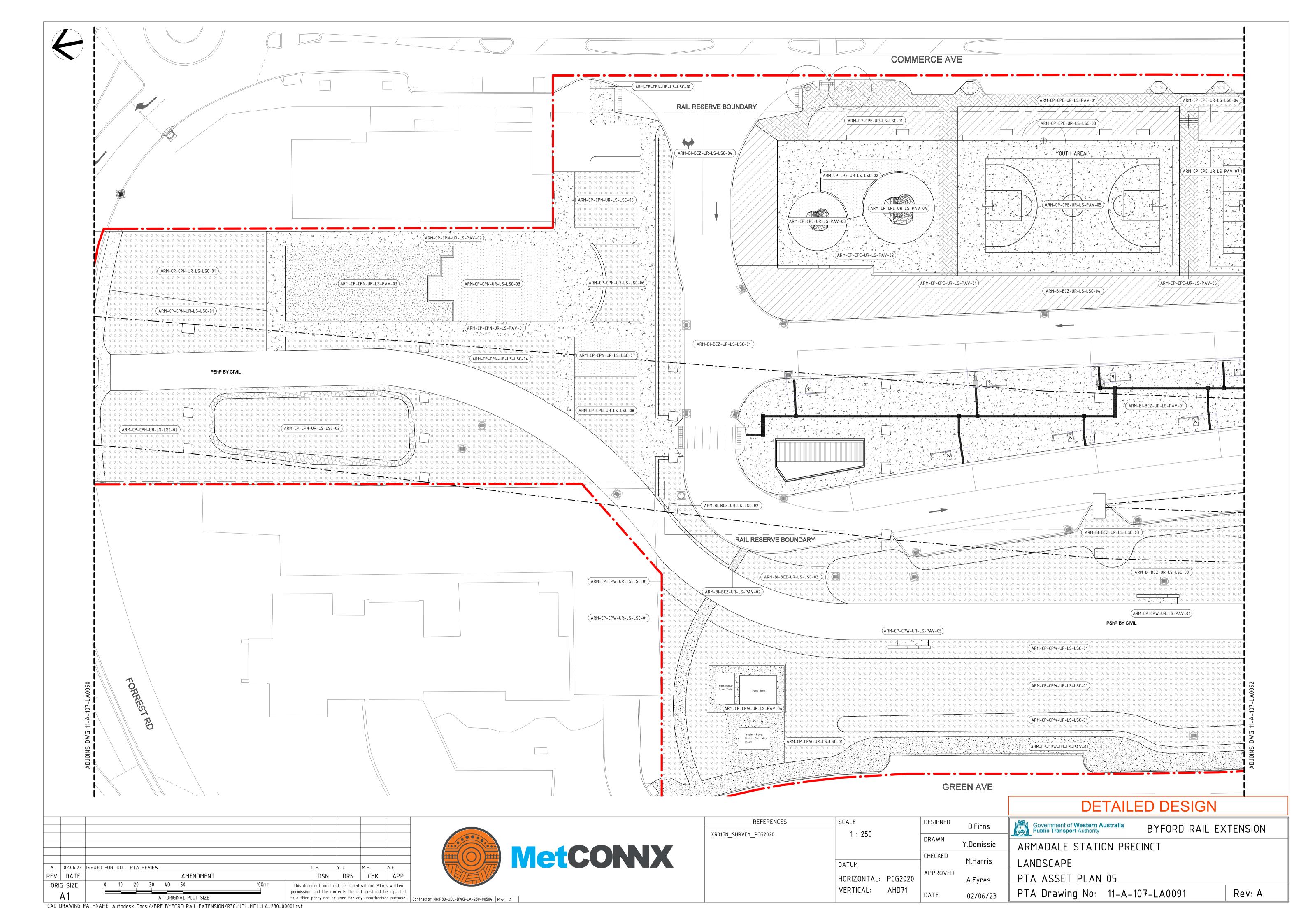


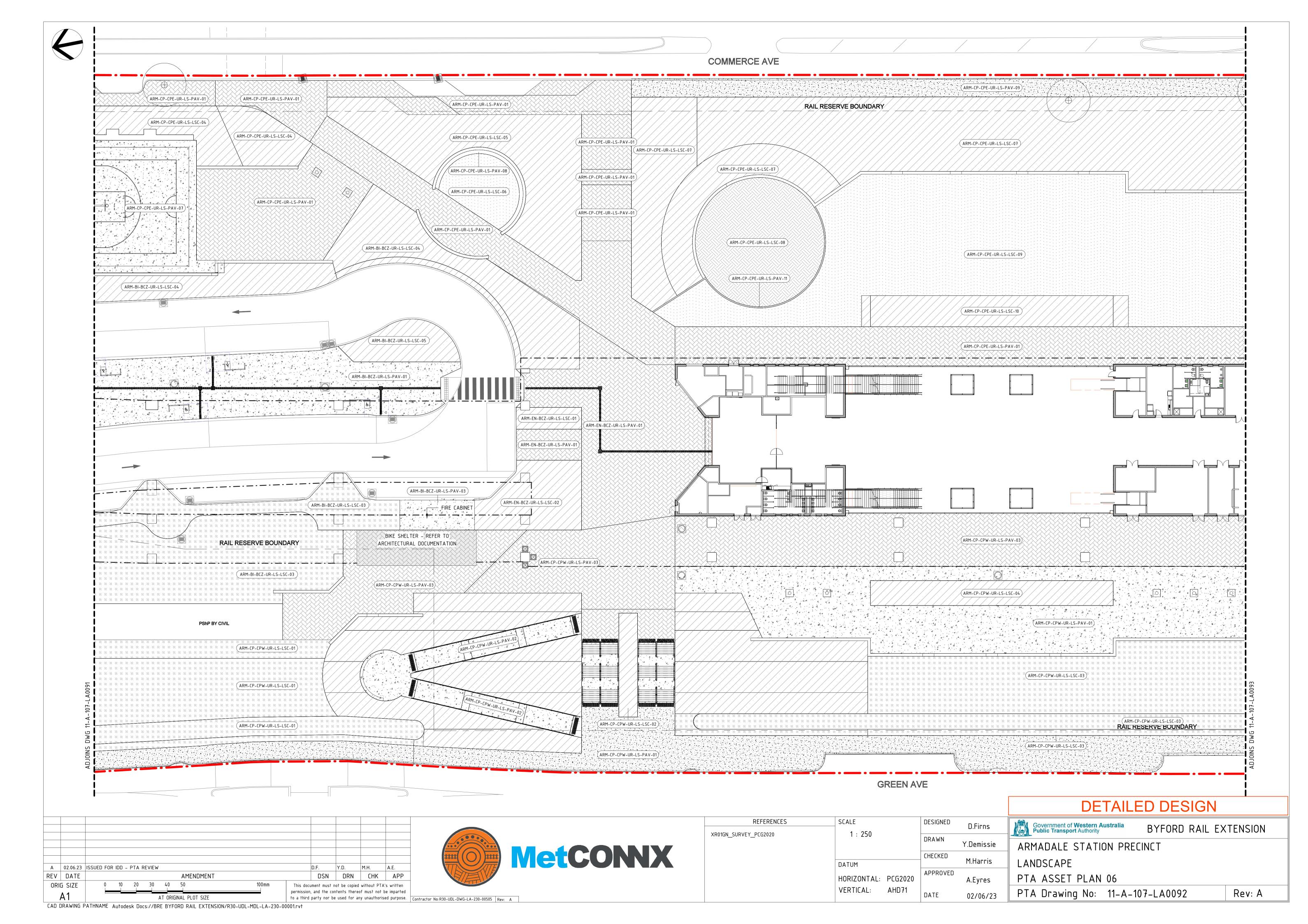


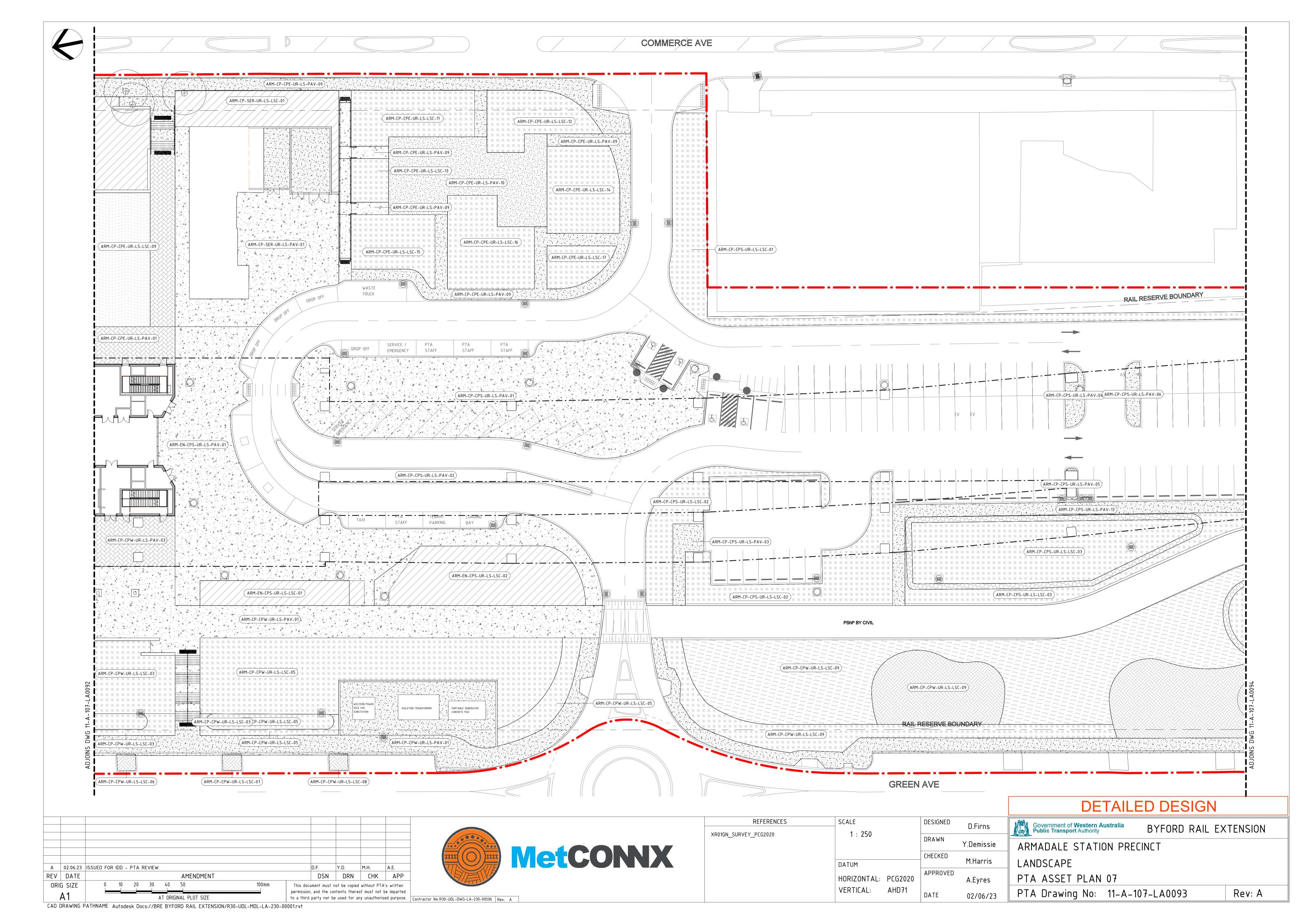


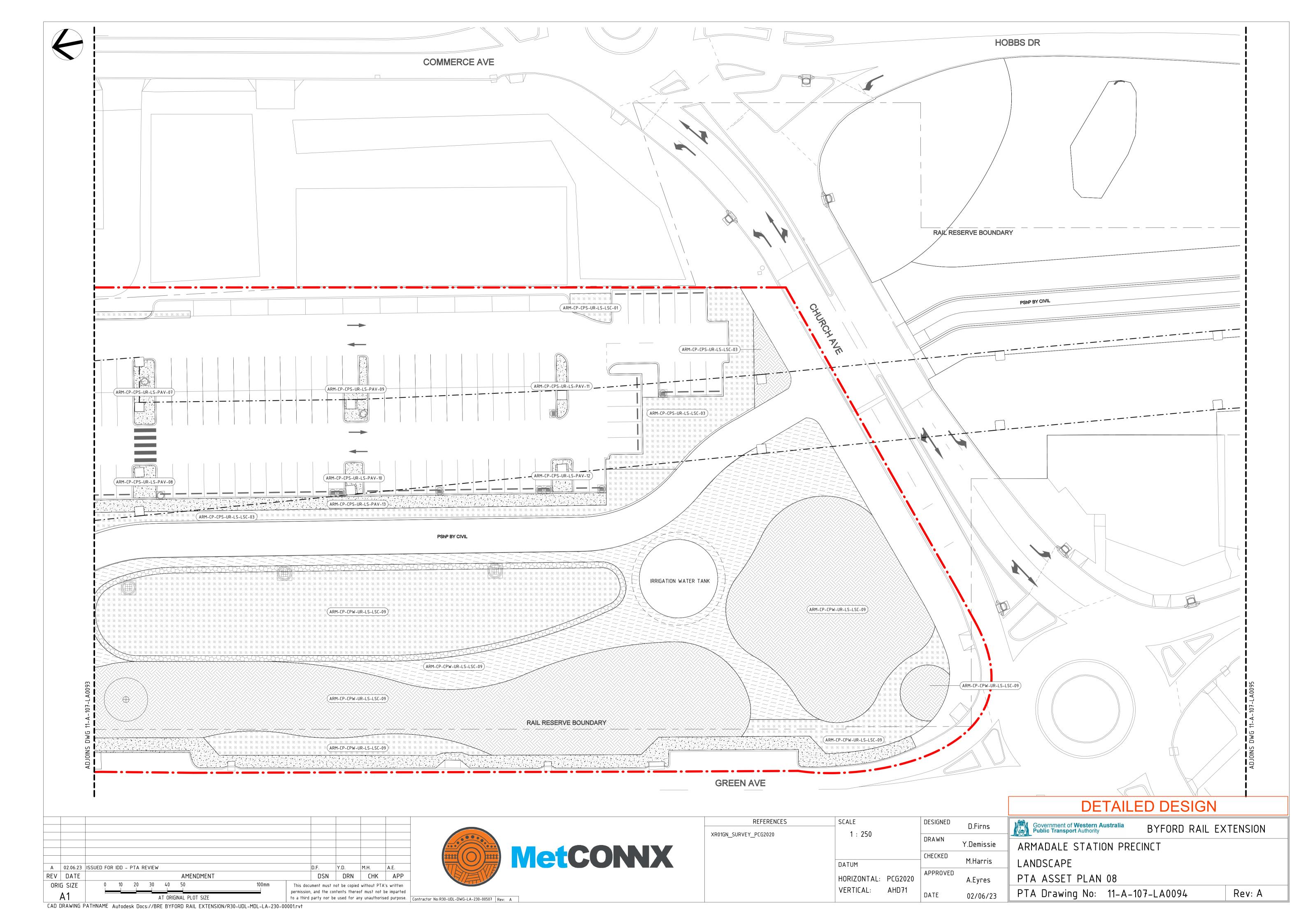


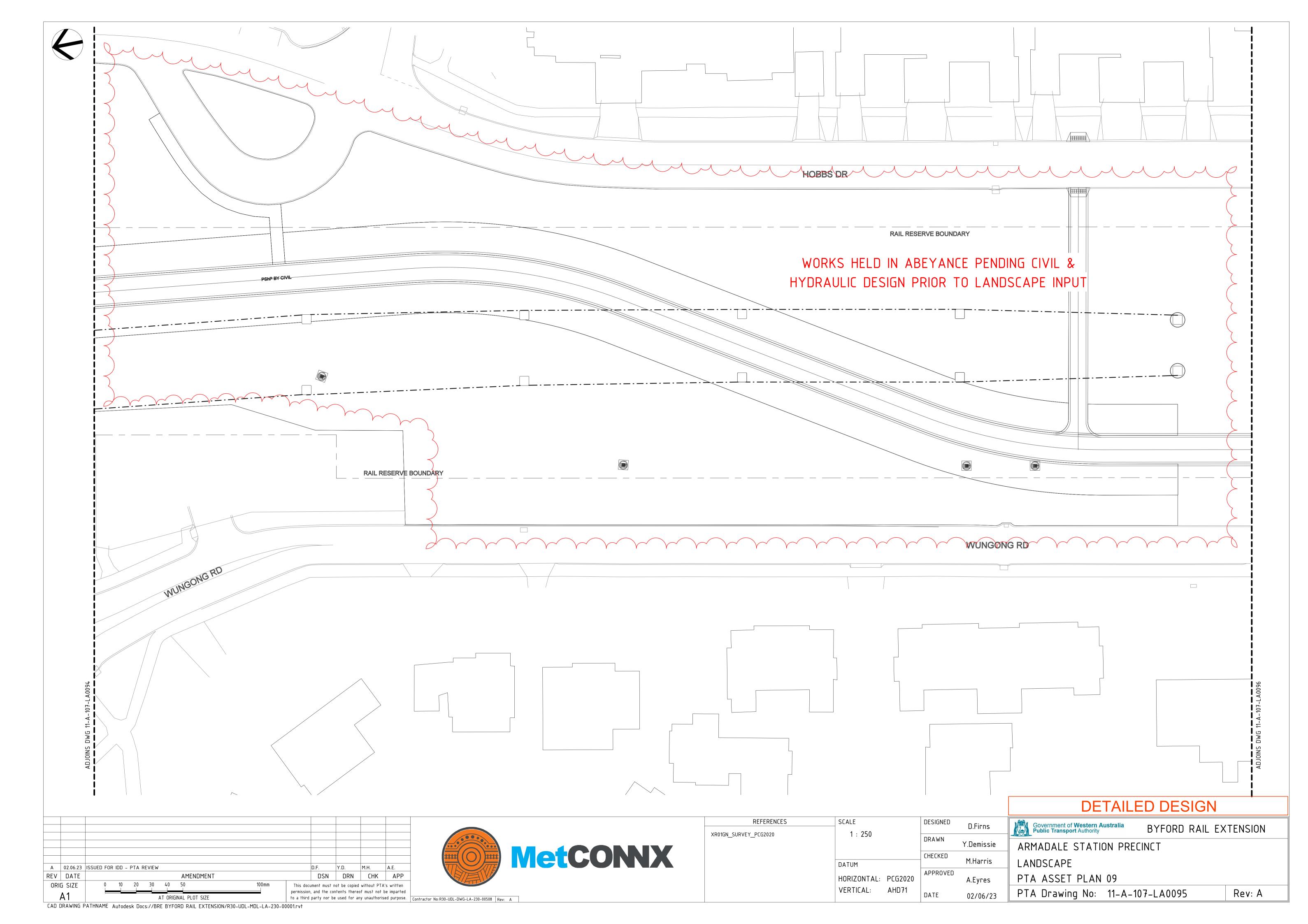


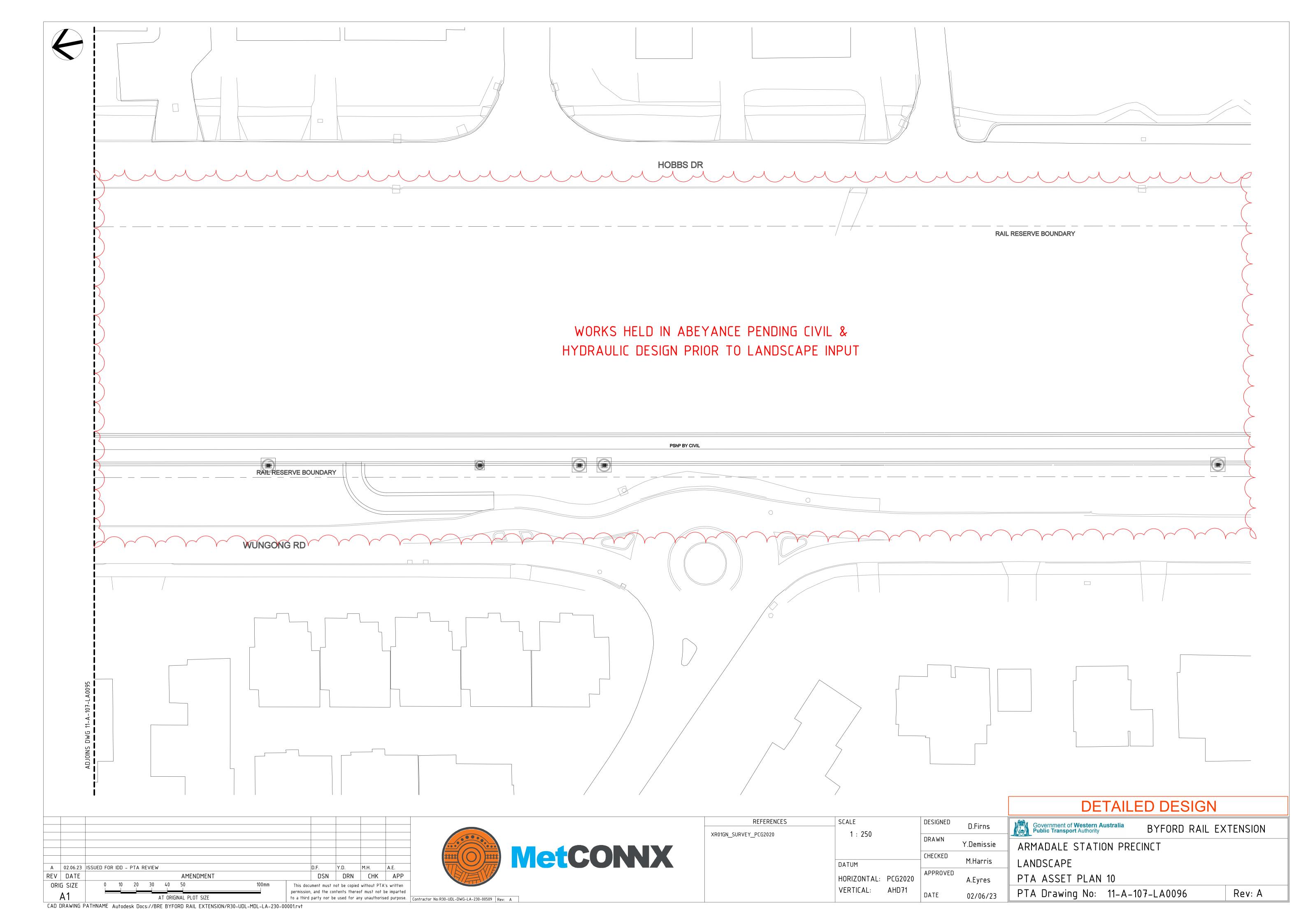




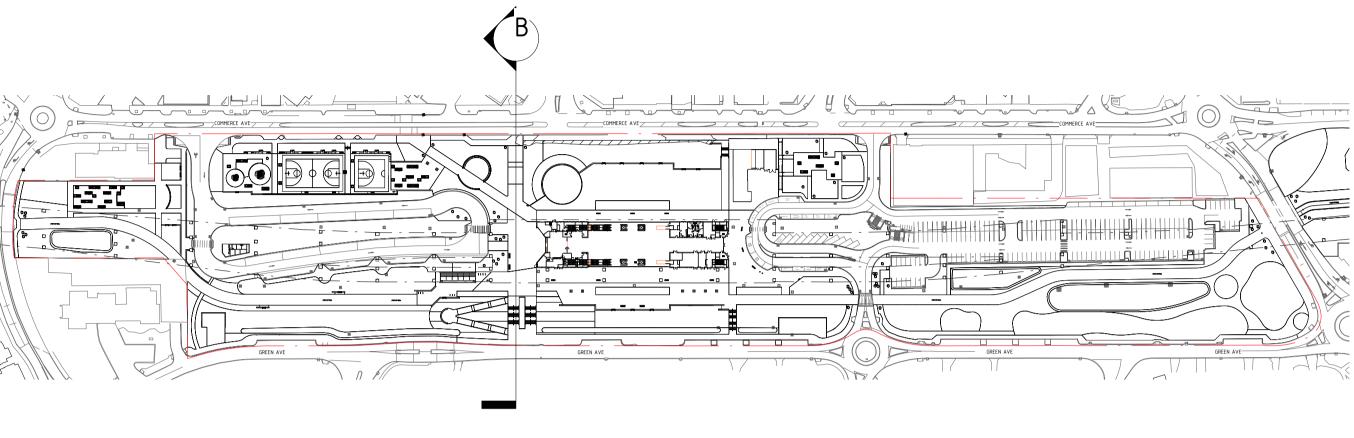




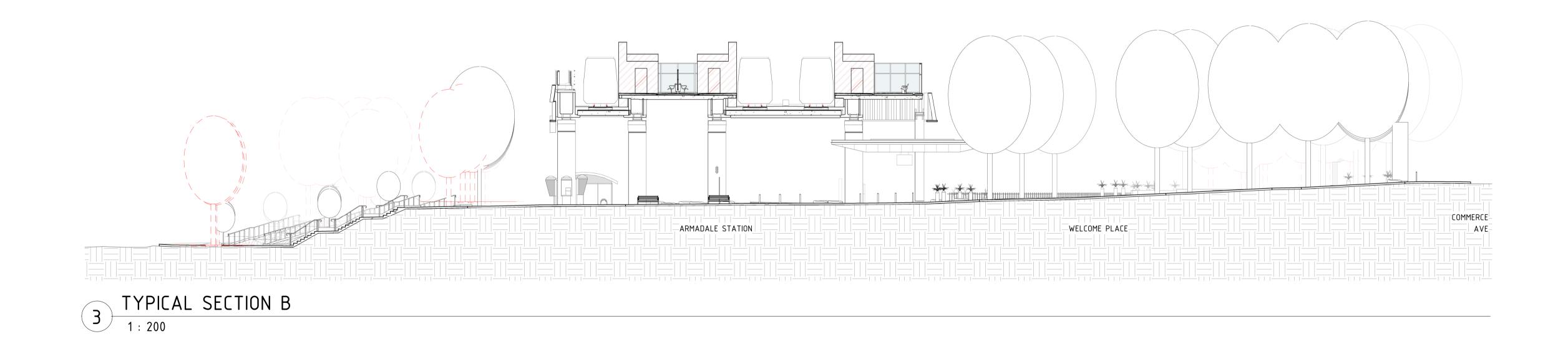








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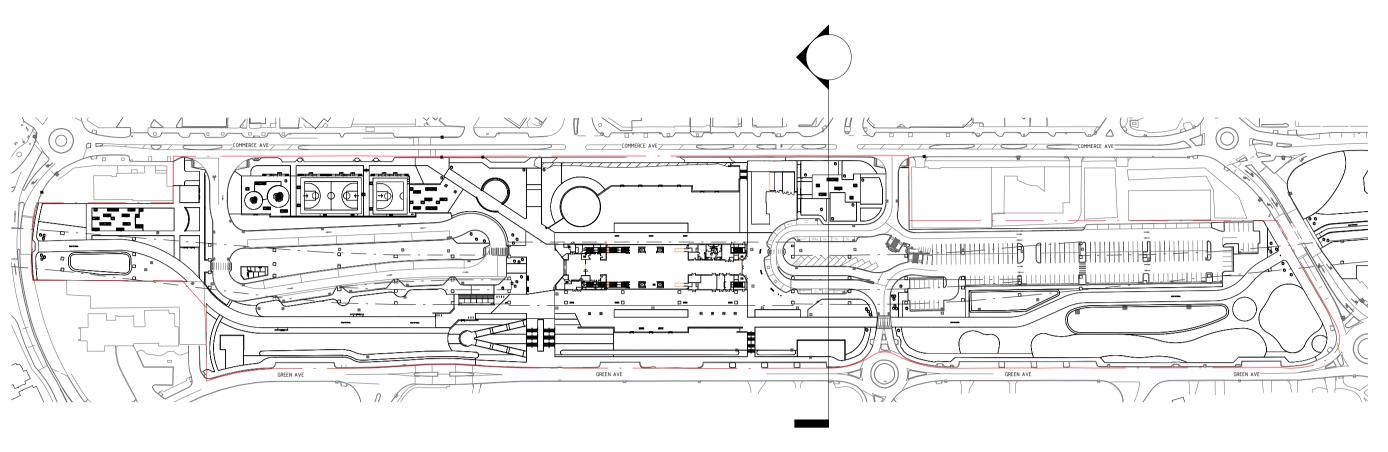


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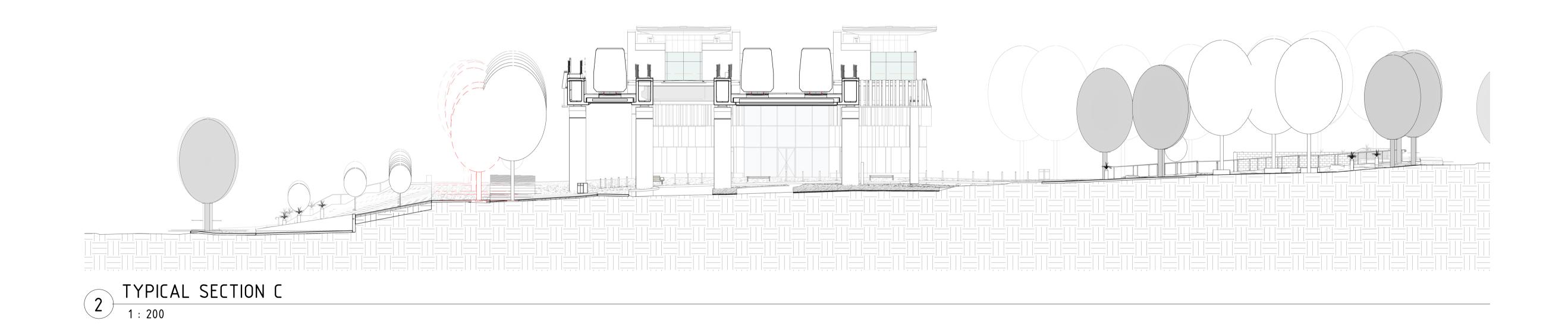


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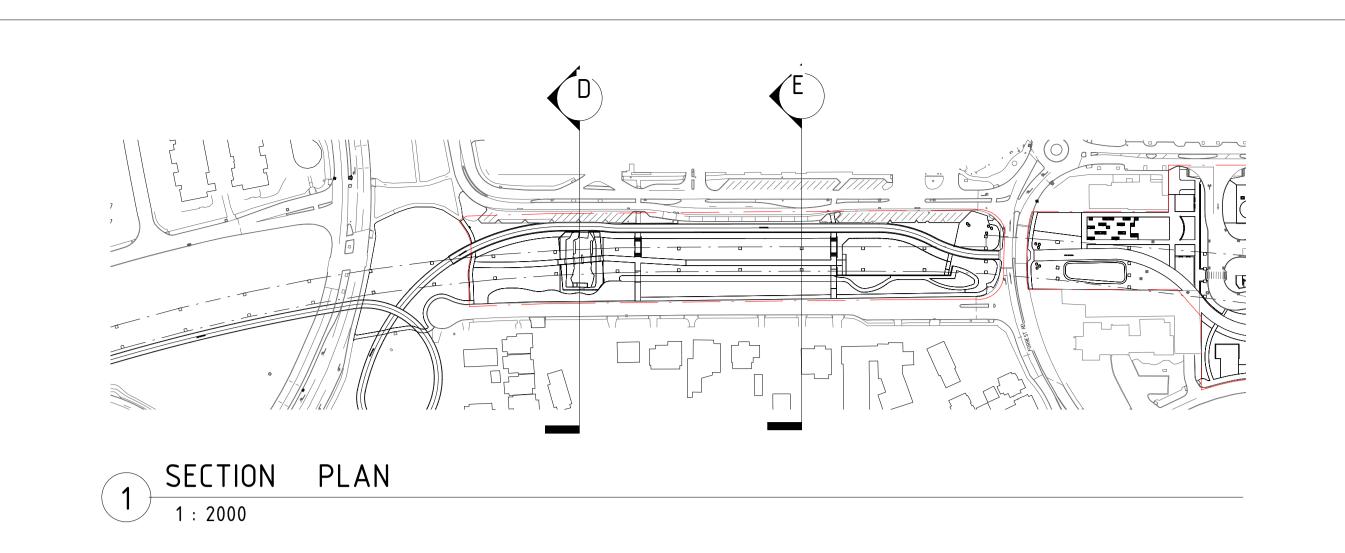
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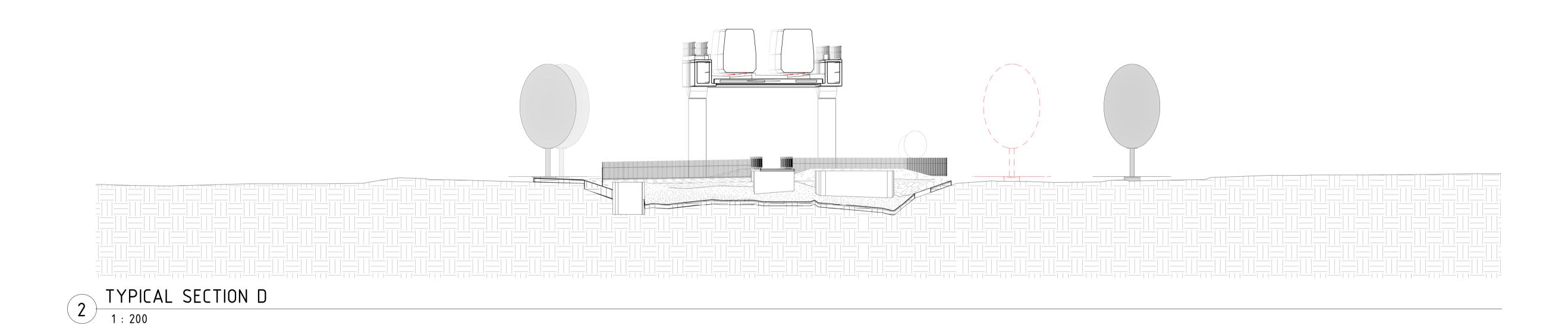


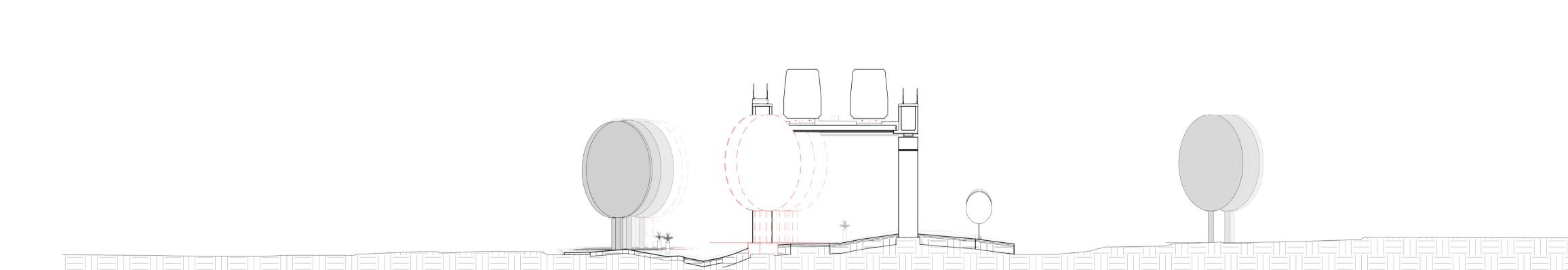
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TYPICAL SECTION E

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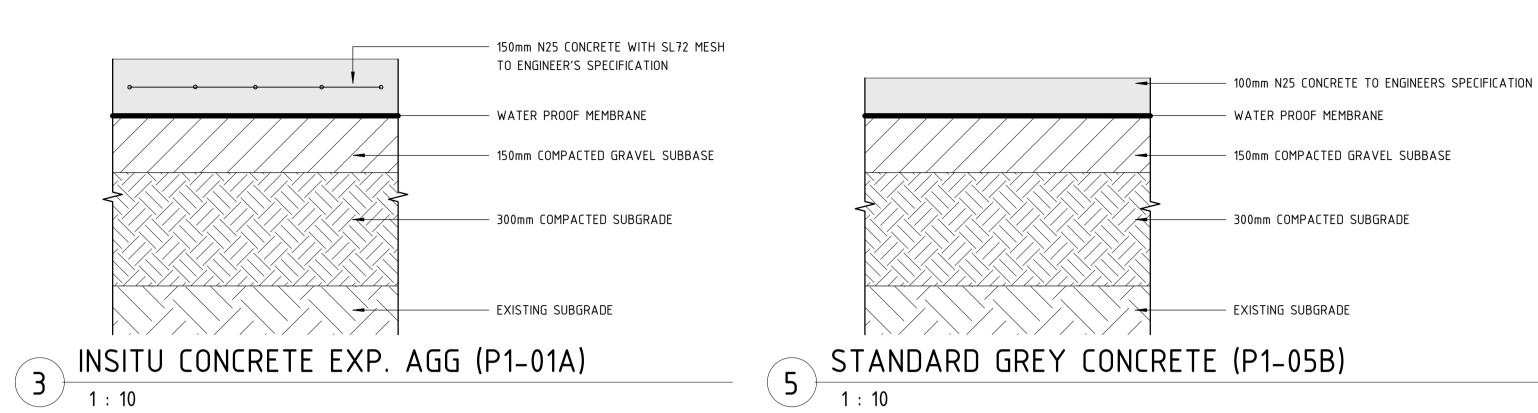
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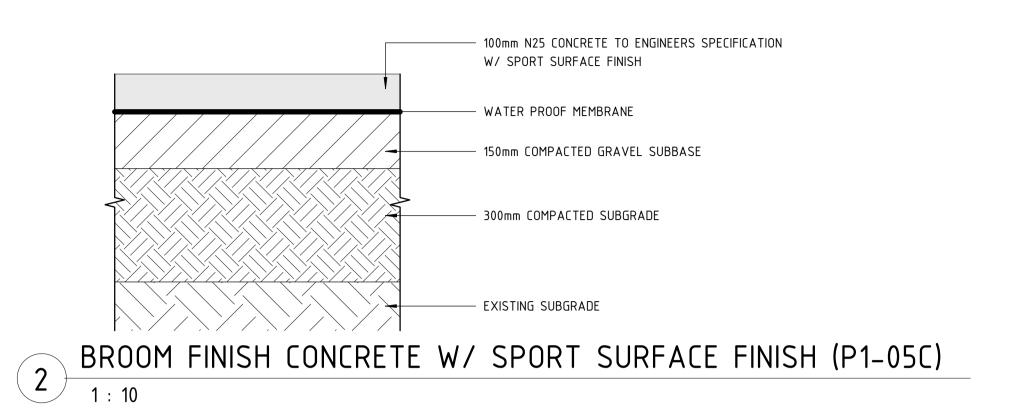


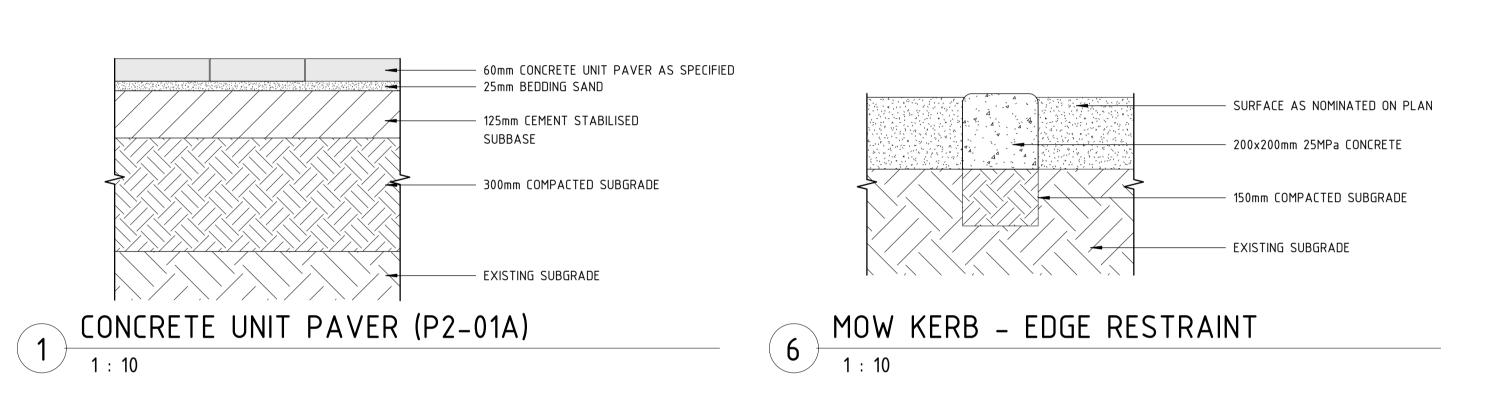
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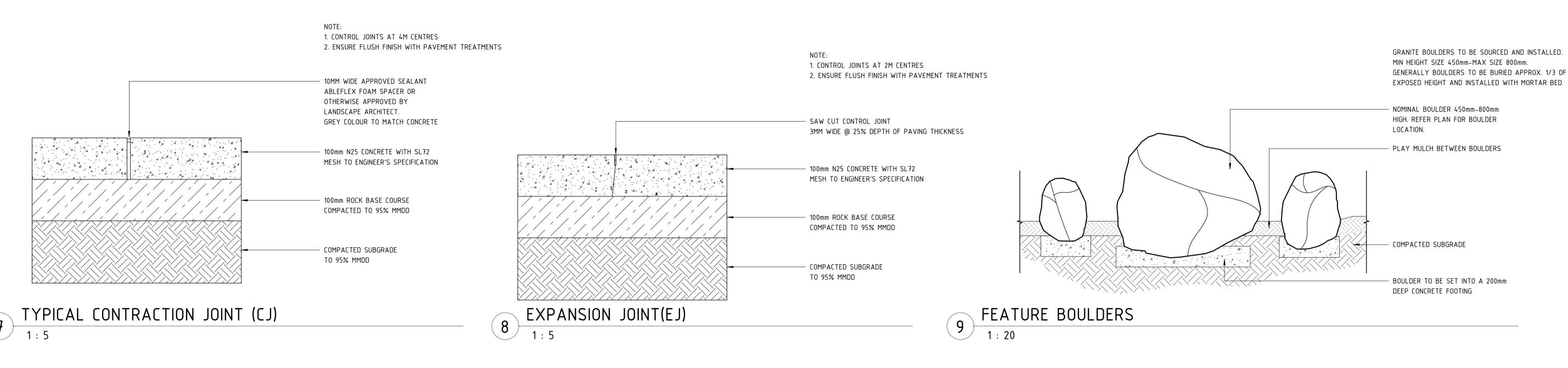
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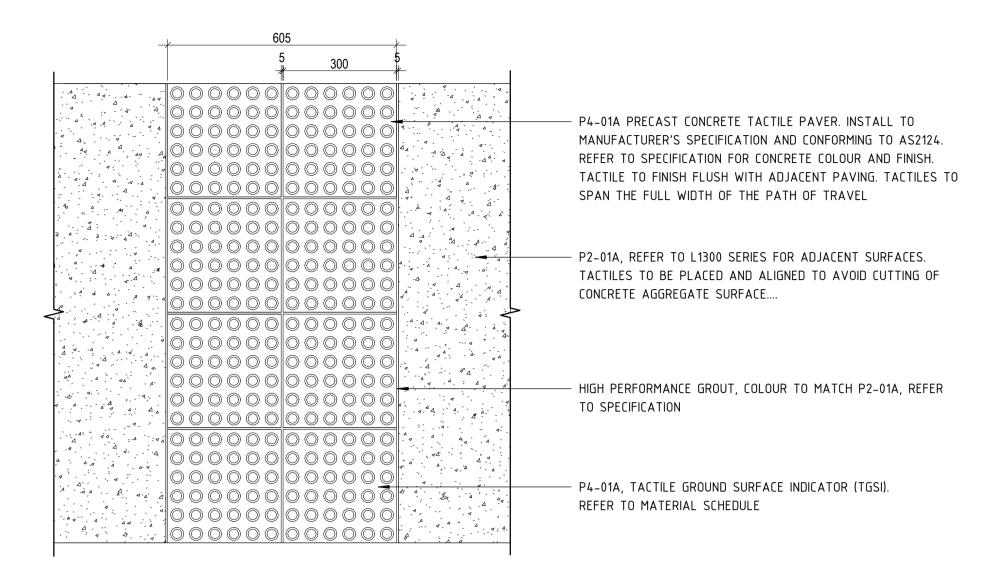




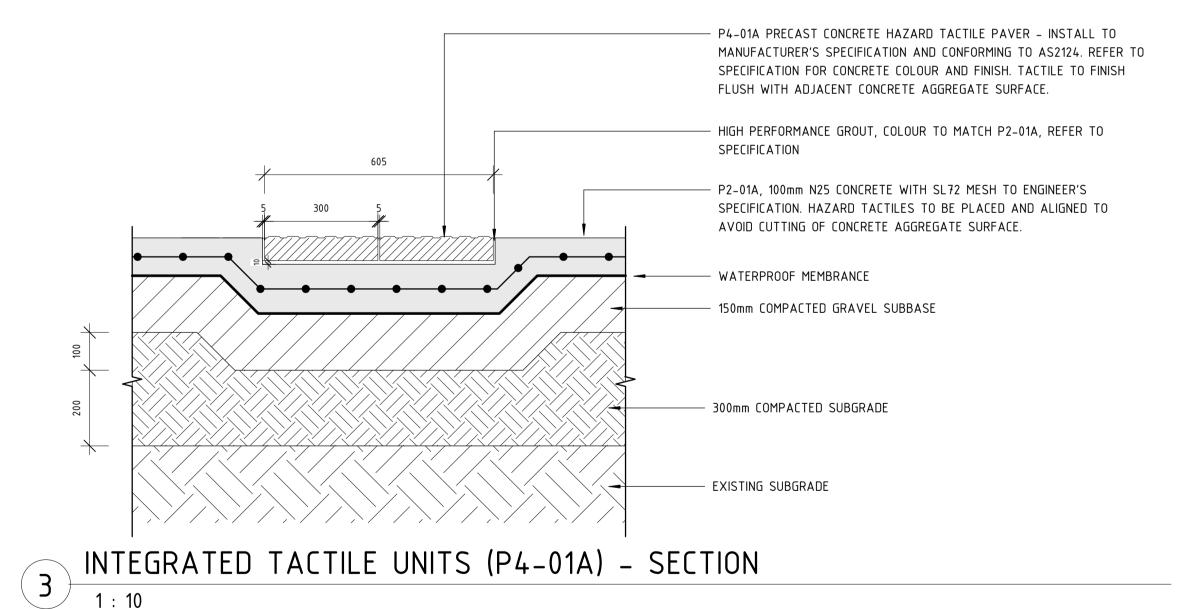








HAZARD TACTILE UNITS (P4-01A) - PLAN



P4-02A PRECAST CONCRETE DIRECTIONAL TACTILE PAVER - INSTALL TO MANUFACTURER'S SPECIFICATION AND CONFORMING TO AS2124. REFER TO SPECIFICATION FOR CONCRETE COLOUR AND FINISH. TACTILE TO FINISH FLUSH WITH ADJACENT CONCRETE AGGREGATE SURFACE. HIGH PERFORMANCE GROUT, COLOUR TO MATCH P2-01A, REFER TO SPECIFICATION P2-01A, 100mm N25 CONCRETE WITH SL72 MESH TO ENGINEER'S SPECIFICATION. DIRECTIONAL TACTILES TO BE PLACED AND ALIGNED TO AVOID CUTTING OF CONCRETE AGGREGATE SURFACE. WATERPROOF MEMBRANCE 150mm COMPACTED GRAVEL SUBBASE 300mm COMPACTED SUBGRADE - EXISTING SUBGRADE INTEGRATED TACTILE UNITS (P4-02A) - SECTION

1: 10

DIRECTIONAL TACTILE UNITS (P4-02A) - PLAN

P4-02A PRECAST CONCRETE TACTILE PAVER. INSTALL TO

MANUFACTURER'S SPECIFICATION AND CONFORMING TO AS2124.

REFER TO SPECIFICATION FOR CONCRETE COLOUR AND FINISH.

TACTILE TO FINISH FLUSH WITH ADJACENT CONCRETE AGGREGATE

TACTILES TO SPAN THE FULL WIDTH OF THE PATH OF TRAVEL

P2-01A, REFER TO L1300 SERIES FOR ADJACENT SURFACES.

CONCRETE AGGREGATE SURFACE

REFER TO MATERIAL SCHEDULE

TO SPECIFICATION

TACTILES TO BE PLACED AND ALIGNED TO AVOID CUTTING OF

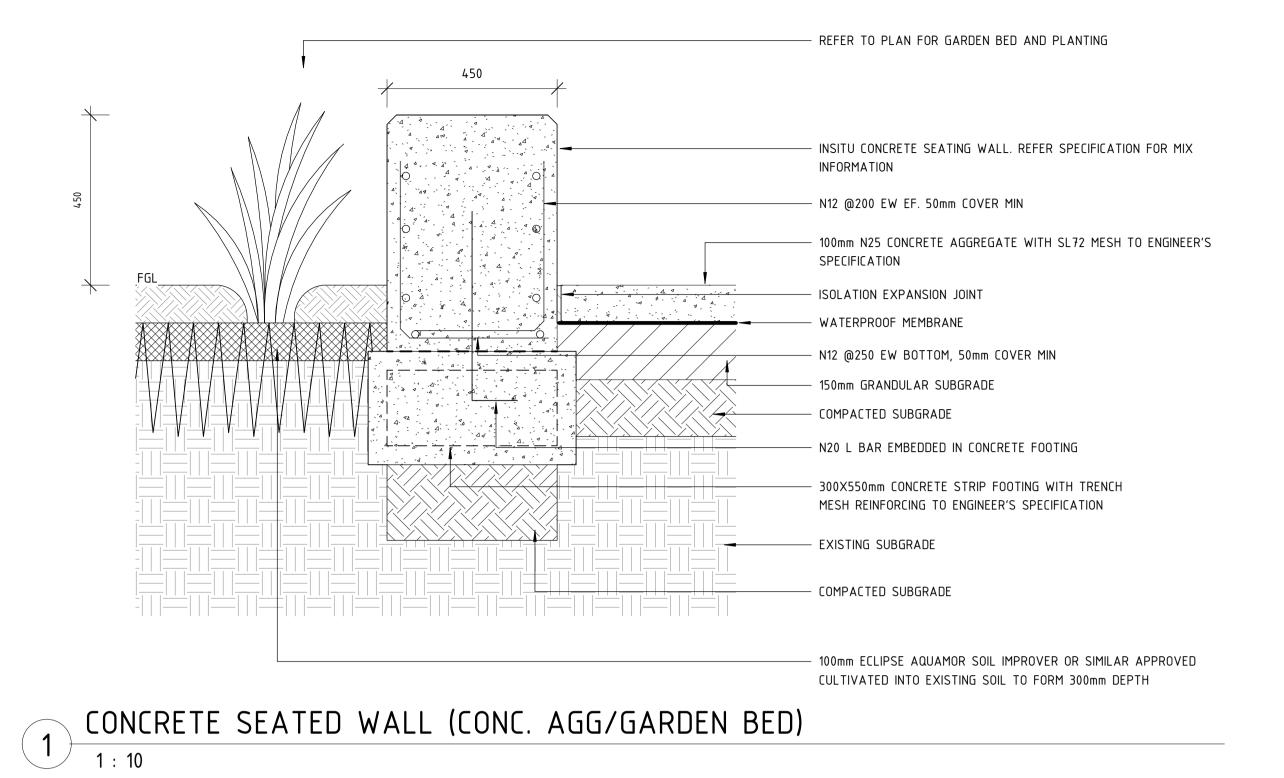
HIGH PERFORMANCE GROUT, COLOUR TO MATCH P2-01A, REFER

P4-02A, TACTILE GROUND SURFACE INDICATOR (TGSI).

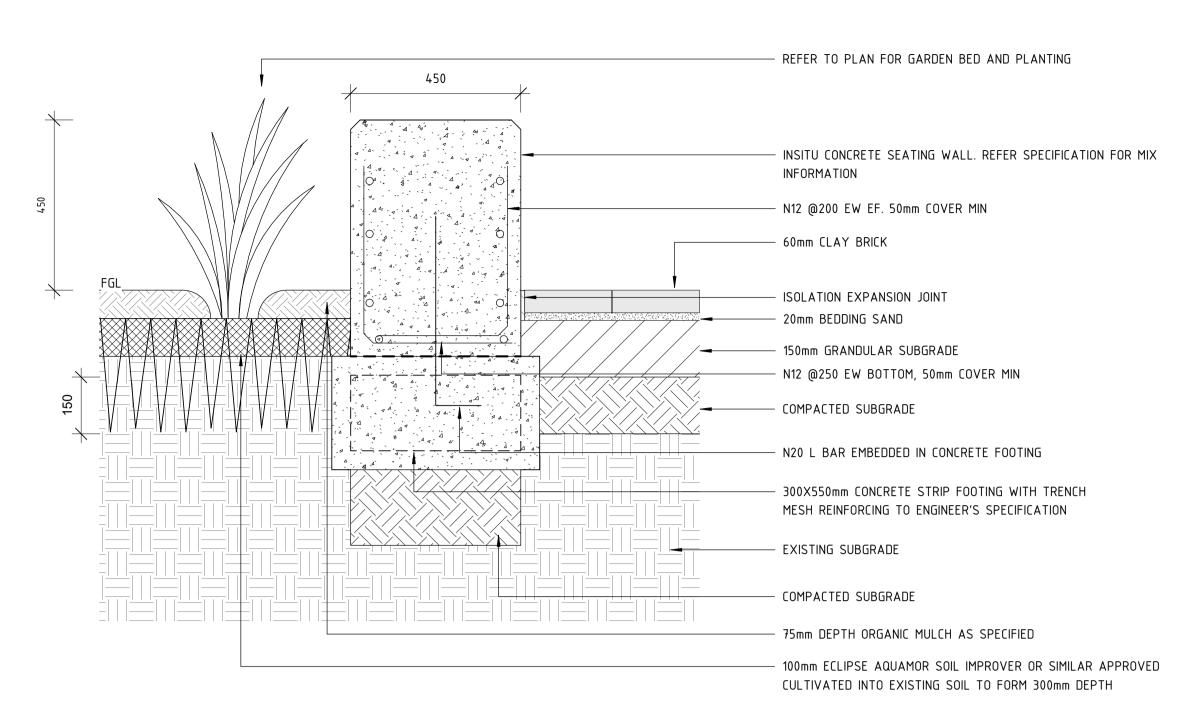
B | 02.06.23 | ISSUED FOR IDD - PTA REVIEW Y.D. A 10.02.23 ISSUED FOR RD - PTA REVIEW Y.D. M.H. REV DATE AMENDMENT DSN DRN CHK APP ORIG SIZE 0 10 20 30 40 50 This document must not be copied without PTA's written permission, and the contents thereof must not be imparted AT ORIGINAL PLOT SIZE to a third party nor be used for any unauthorised purpose. | Contractor No:R30-UDL-DWG-LA-230-02134 | Rev: B



				DETAILED DESIGN					
REFERENCES	SCALE AS SHOWN	DESIGNED	D.Firns	Government of Western Australia Public Transport Authority	BYFORD RAIL EX	TENSION			
		DRAWN	Y.Demissie	ARMADALE STATION PRECINCT					
	DATUM	CHECKED M.Harris APPROVED A.Eyres		LANDSCAPE HARDSCAPE DETAILS 02					
	HORIZONTAL: PCG2020								
	VERTICAL: AHD71	DATE	02/06/23	PTA Drawing No: 11-A-10)7-LA10012	Rev: B			
			,)7-LA10012	Rev: B			



REFER TO PLAN FOR GARDEN BED AND PLANTING 450 INSITU CONCRETE SEATING WALL. REFER SPECIFICATION FOR MIX INFORMATION N12 @200 EW EF. 50mm COVER MIN 100mm DEPTH ORGANIC MULCH AS SPECIFIED 100mm ECLIPSE AQUAMOR SOIL IMPROVER OR SIMILAR APPROVED CULTIVATED INTO EXISTING SOIL TO FORM 300mm DEPTH N12 @250 EW BOTTOM, 50mm COVER MIN N20 L BAR EMBEDDED IN CONCRETE FOOTING 300X550mm CONCRETE STRIP FOOTING WITH TRENCH MESH REINFORCING TO ENGINEER'S SPECIFICATION - EXISTING SUBGRADE - COMPACTED SUBGRADE 100mm ECLIPSE AQUAMOR SOIL IMPROVER OR SIMILAR APPROVED CULTIVATED INTO EXISTING SOIL TO FORM 300mm DEPTH CONCRETE SEATED WALL (MULCH/GARDEN BED)



CONCRETE SEATED WALL (PAVEMENT/GARDEN BED)

REFER TO PLAN FOR GARDEN BED AND PLANTING BENCH SEAT AS SPECIFIED. AFFIX AS PER MANUFACTURER'S SPECIFICATION RECESS 30MM TO ACCOMMODATE BENCH SEAT CONCRETE SEATING WALL. REFER SPECIFICATION FOR MIX INFORMATION - N12 @200 EW EF. 50mm COVER MIN - 100mm N25 CONCRETE AGGREGATE WITH SL72 MESH TO ENGINEER'S SPECIFICATION - ISOLATION EXPANSION JOINT - WATERPROOF MEMBRANE - 150mm GRANDULAR SUBGRADE N12 @250 EW BOTTOM, 50mm COVER MIN - COMPACTED SUBGRADE - N20 L BAR EMBEDDED IN CONCRETE FOOTING - 300X550mm CONCRETE STRIP FOOTING WITH TRENCH MESH REINFORCING TO ENGINEER'S SPECIFICATION EXISTING SUBGRADE COMPACTED SUBGRADE 100mm ECLIPSE AQUAMOR SOIL IMPROVER OR SIMILAR APPROVED CULTIVATED INTO EXISTING SOIL TO FORM 300mm DEPTH

SEATED WALL - BACKREST & ARMREST (F4-01B)

1:10

B 02.06.23 ISSUED FOR IDD – PTA REVIEW Y.D. M.H. A | 10.02.23 | ISSUED FOR RD - PTA REVIEW Y.D. M.H. A.E. REV DATE AMENDMENT DSN DRN CHK APP ORIG SIZE 0 10 20 30 40 50 This document must not be copied without PTA's written permission, and the contents thereof must not be imparted AT ORIGINAL PLOT SIZE to a third party nor be used for any unauthorised purpose. | Contractor No:R30-UDL-DWG-LA-230-02135 | Rev: B



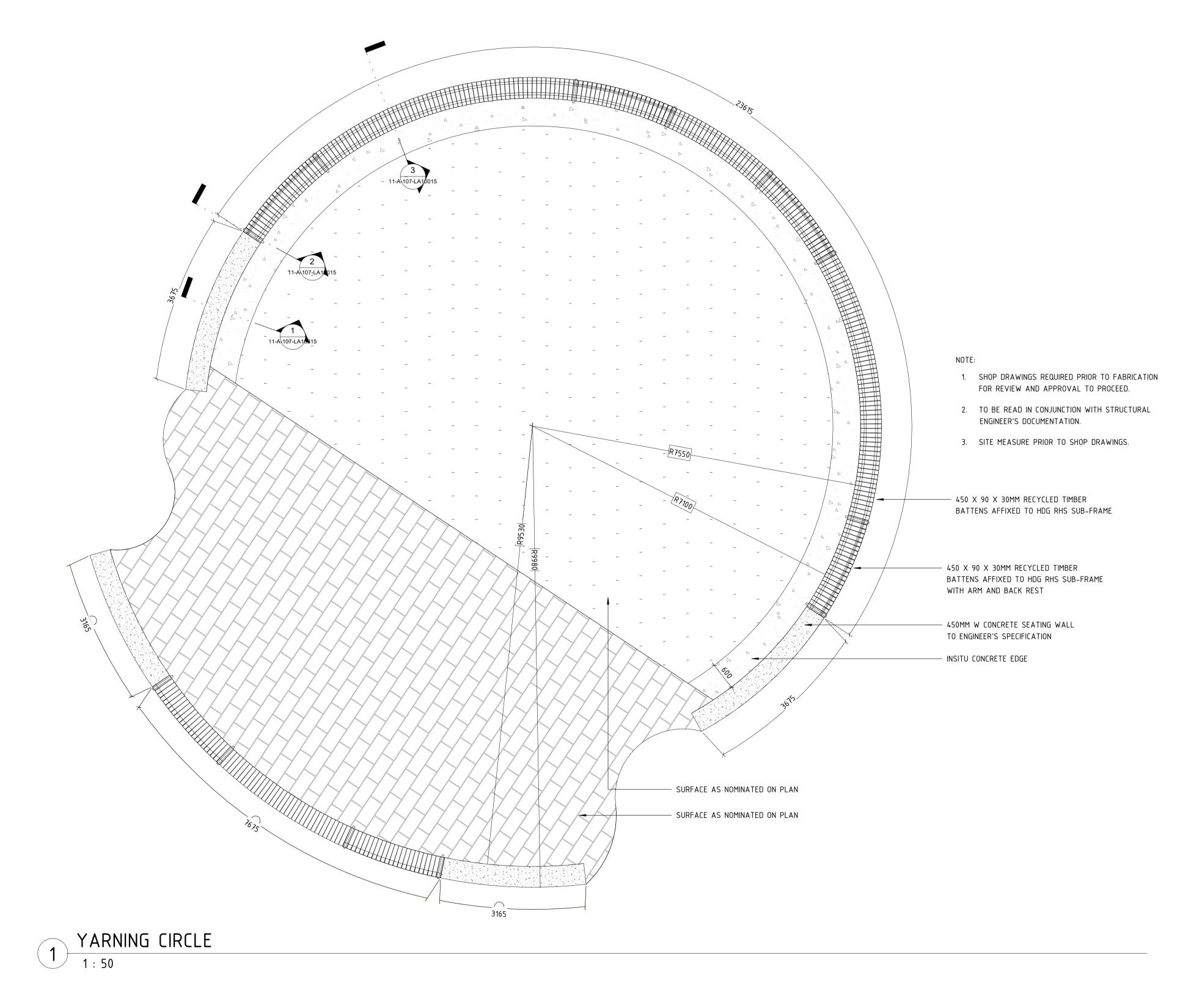
REFERENCES	SCALE		DESIGNED	D.Firns
	AS SHOWN			D.I II 113
	AS SHOWN		DRAWN	
				Y.Demissie
			CHECKED	
	DATUM			M.Harris
			APPROVED	
	HORIZONTAL:	PCG2020		A.Eyres
	VERTICAL:	AHD71		
	, , , , , , , , , , , , , , , , , , , ,	, ,, ,, ,, , , , , , , , , , , , , , , ,	DATE	02/06/23

	DETAILED DESIGN								
	Government of Western Australia Public Transport Authority	BYFORD RAIL EX	TENSION						
ie	ARMADALE STATION PRECINCT								
3	LANDSCAPE								
	HARDSCAPE DETAILS 03								
23	PTA Drawing No: 11-A-1	107-LA10013	Rev: B						



NO

- SHOP DRAWINGS REQUIRED PRIOR TO FABRICATION FOR REVIEW AND APPROVAL TO PROCEED.
- 2. TO BE READ IN CONJUCTION WITH STRUCTURAL ENGINEER'S DOCUMENTATION.
- 3. SITE MEASURE PRIOR TO SHOP DRAWINGS.



A 02.06.23 ISSUED FOR IDD - PTA REVIEW

REV DATE

AMENDMENT

ORIG SIZE

AT ORIGINAL PLOT SIZE

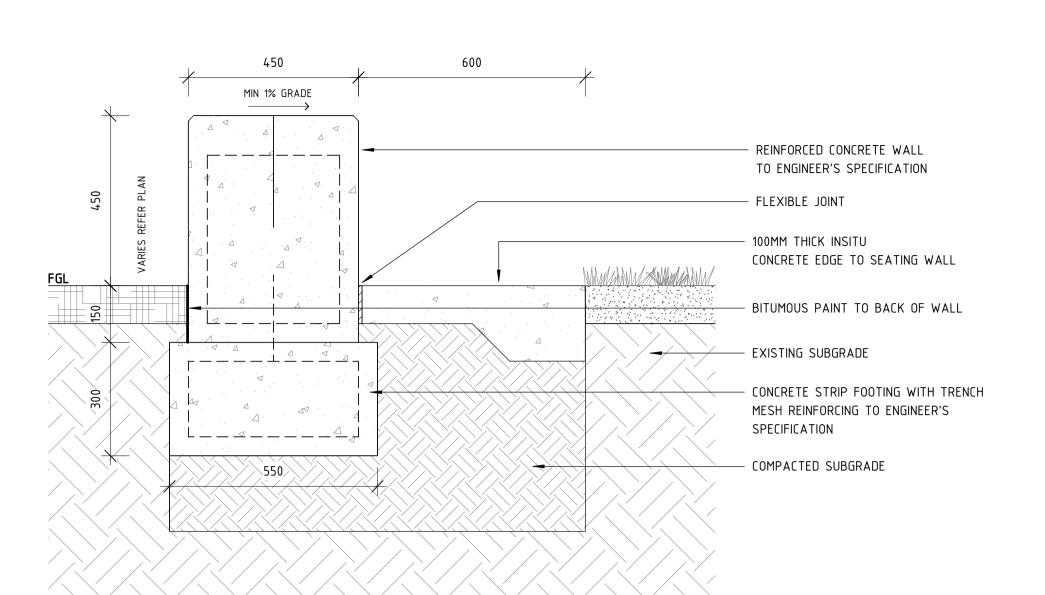
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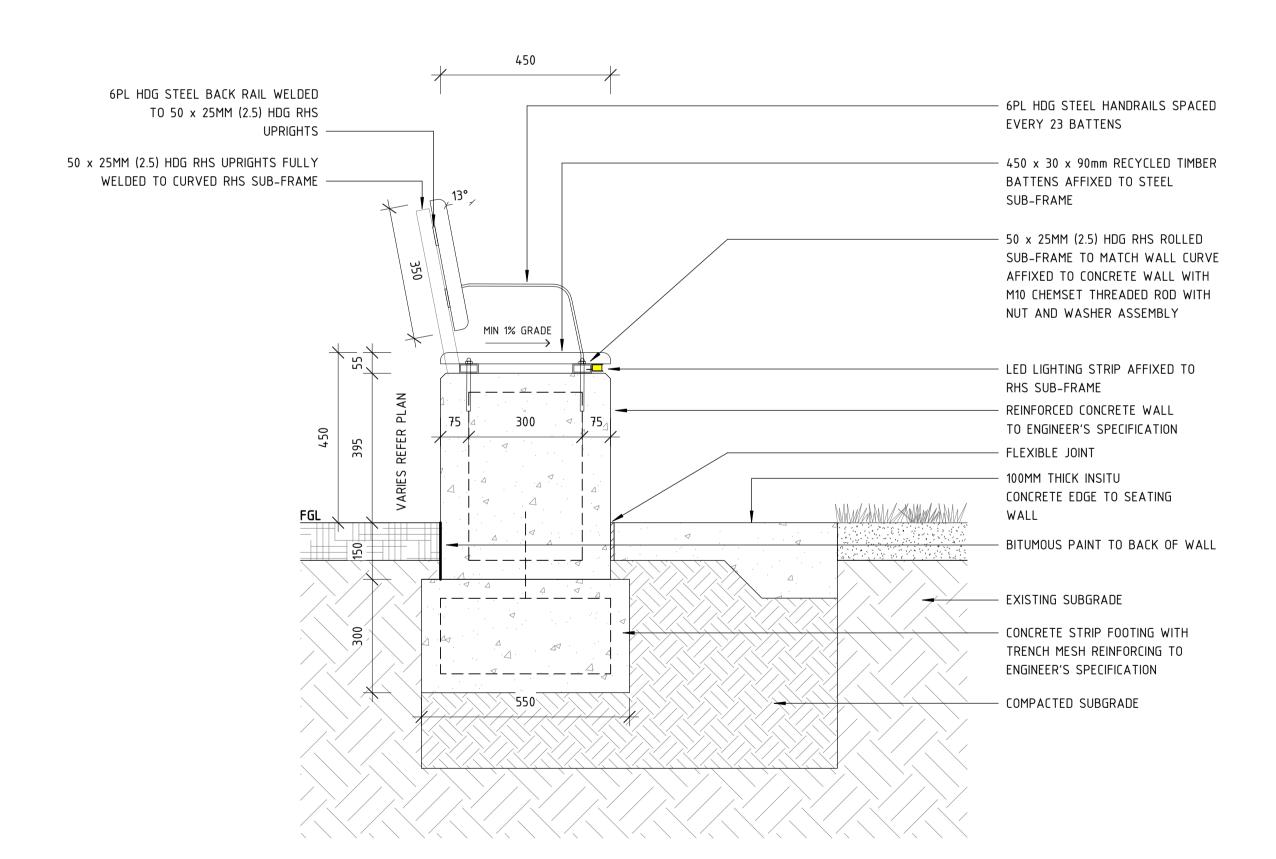


REFERENCES	SCALE		DESIGNED	D.Firns	農
	1 : 50		DRAWN		
				Y.Demissie	AR
			CHECKED	M.Harris	
	DATUM		ADDDOVED	11.1101113	LA
	HORIZONTAL:	PCG2020	APPROVED	A.Eyres	НА
	VERTICAL:	AHD71	DATE	02/06/23	PT
			DAIL	02/00/23	

DETAILED DESIGN						
Government of Western Australia Public Transport Authority BYFORD RAIL EXTENSION						
ARMADALE STATION PRECINCT						
LANDSCAPE						
HARDSCAPE DETAILS 04						
PTA Drawing No: 11-A-107-LA100	14 Rev: A					

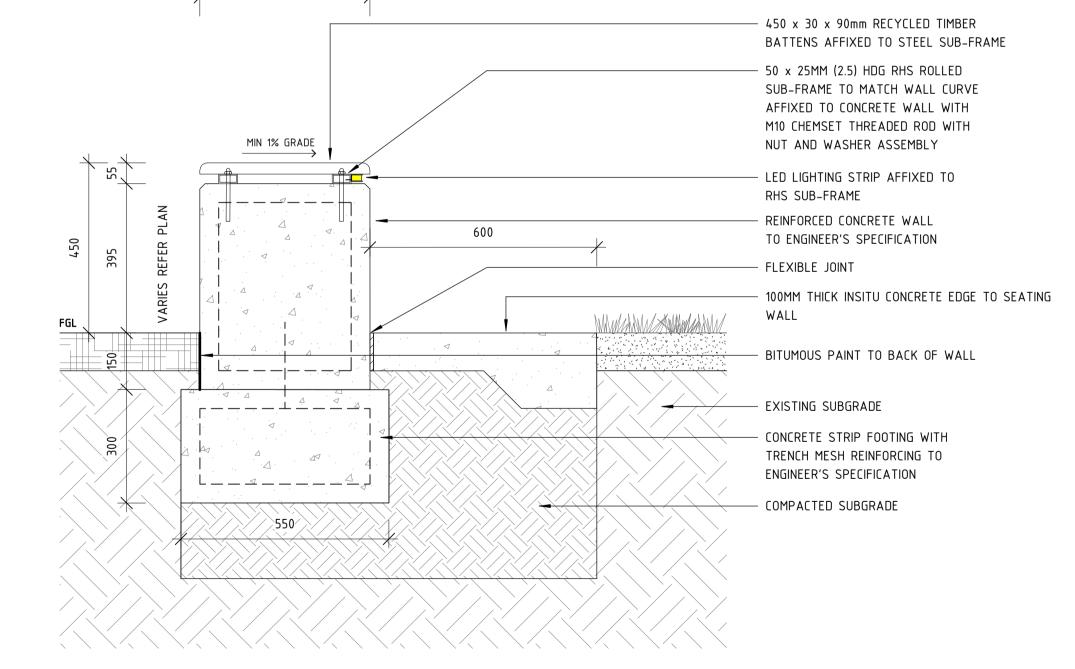


YARNING CIRCLE - DETAIL 1



2 YARNING CIRCLE - DETAIL 2 1:10

AMENDMENT



YARNING CIRCLE - DETAIL 3

450

					MetCON
	D.F.	Y.D.	M.H.	A.E.	
	DSN	DRN	CHK	APP	
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permission	, and the cor	ntents there	of must not l	oe imparted	

REFERENCES	SCALE		DESIGNED	D.Firns	G P
	AS SHOWN		DRAWN	Y.Demissie	ARM
	DATUM		CHECKED	M.Harris	LAN
	HORIZONTAL:	PCG2020	APPROVED	A.Eyres	HAR
	VERTICAL:	AHD71	DATE	02/06/23	PTA

	DETAILED DESIGN					
5	Government of Western Australia Public Transport Authority	BYFORD RAIL EX	TENSION			
sie	ARMADALE STATION PRECINCT					
S	LANDSCAPE					
S	HARDSCAPE DETAILS 05					
23	PTA Drawing No: 11-A-10	7-LA10015	Rev: A			

NOTES:

SHOP DRAWINGS REQUIRED PRIOR TO FABRICATION FOR

2. TO BE READ IN CONJUCTION WITH STRUCTURAL ENGINEER'S

REVIEW AND APPROVAL TO PROCEED.

SITE MEASURE PRIOR TO SHOP DRAWINGS.

DOCUMENTATION.

AT ORIGINAL PLOT SIZE to a third party nor be used for any unauthorised purpose. | Contractor No:R30-UDL-DWG-LA-230-02137 | Rev: A CAD DRAWING PATHNAME Autodesk Docs://BRE BYFORD RAIL EXTENSION/R30-UDL-MDL-LA-230-00001.rvt

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A 02.06.23 ISSUED FOR IDD - PTA REVIEW

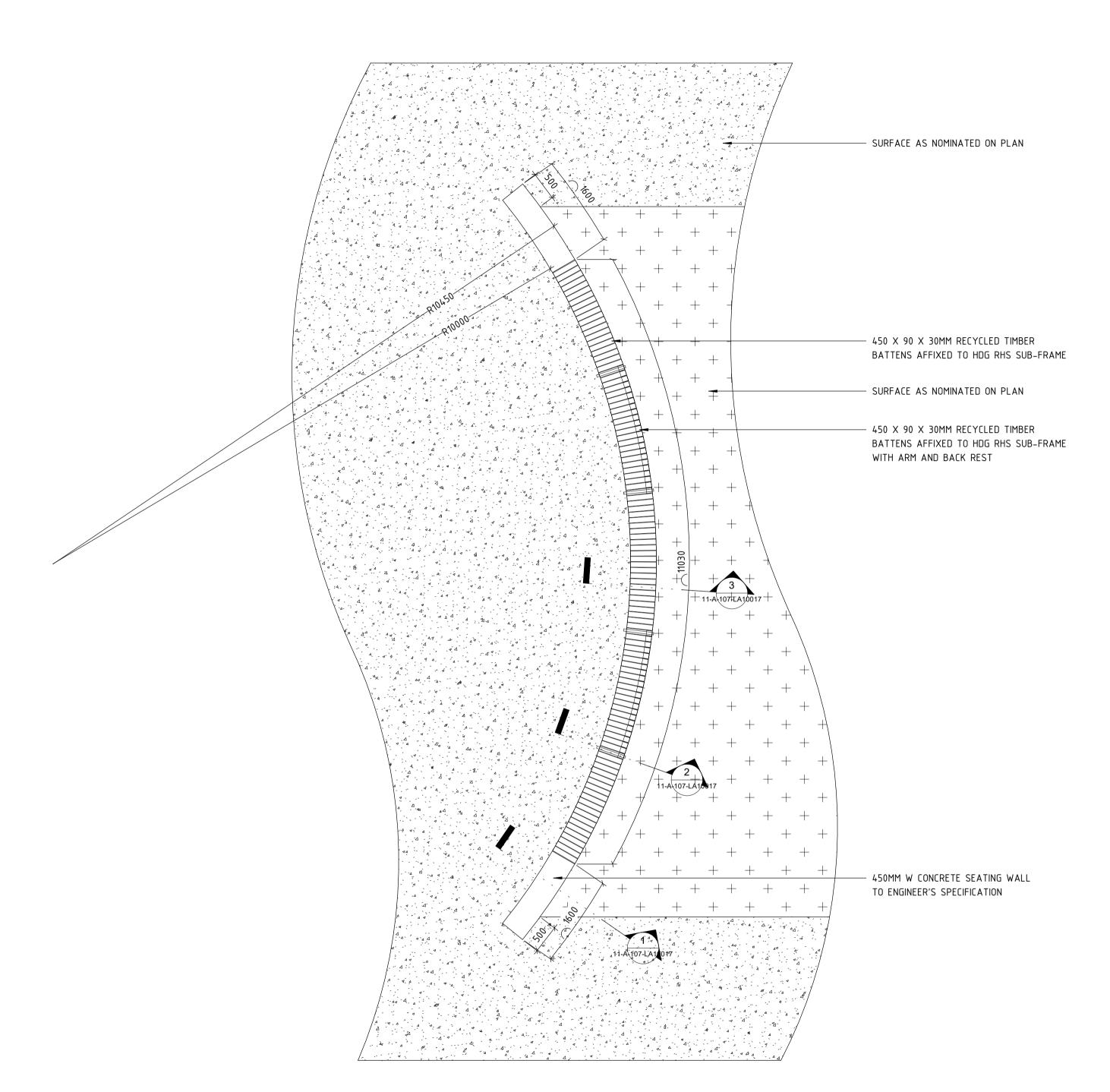
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ORIG SIZE

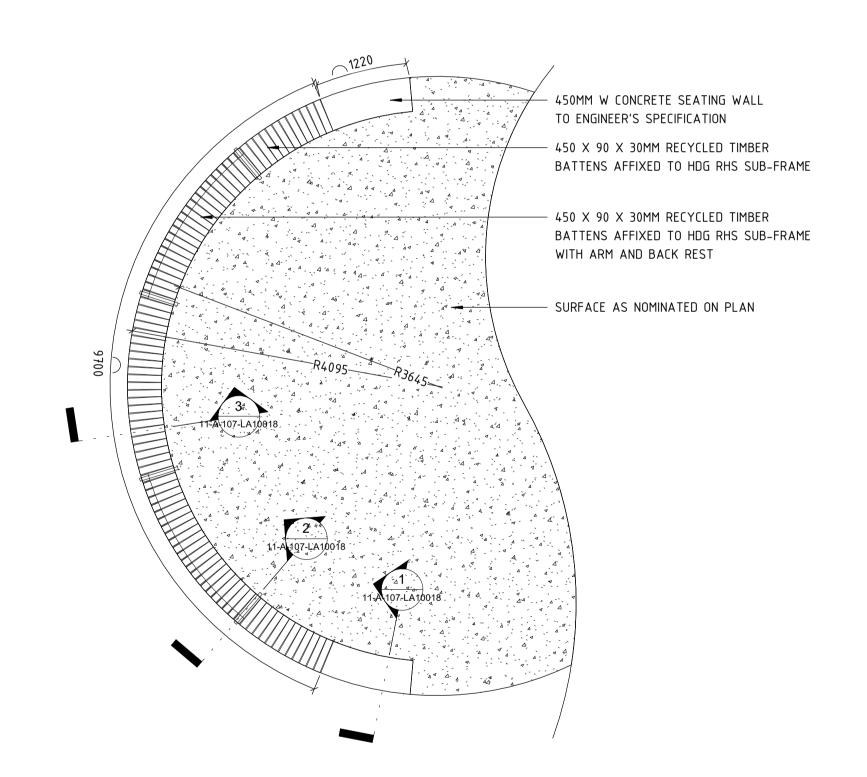


NOTE

- SHOP DRAWINGS REQUIRED PRIOR TO FABRICATION FOR REVIEW AND APPROVAL TO PROCEED.
- 2. TO BE READ IN CONJUCTION WITH STRUCTURAL ENGINEER'S DOCUMENTATION.
- 3. SITE MEASURE PRIOR TO SHOP DRAWINGS.



1 CURVED SEAT WALL - DETAIL PLAN
1:50



WELCOME PLACE WEST - DETAIL PLAN

A 02.06.23 ISSUED FOR IDD - PTA REVIEW

REV DATE

ORIG SIZE

AT ORIGINAL PLOT SIZE

AT ORIGINAL PLOT SIZE

D.F. Y.D. M.H. A.E.

AMENDMENT

DSN DRN CHK APP

permission, and the contents thereof must not be imparted to a third party nor be used for any unauthorised purpose.

Contractor No:R30-UDL-DWG-LA-230-02138 Rev: A

CAD DRAWING PATHNAME Autodesk Docs://BRE BYFORD RAIL EXTENSION/R30-UDL-MDL-LA-230-00001.rvt



REFERENCES	SCALE		DESIGNED	D.Firns	
	AS SHOWN		DRAWN	Y.Demissie	ARM
			CHECKED	M.Harris	
	DATUM		APPROVED		LAN
	HORIZONTAL: VERTICAL:	PCG2020 AHD71		A.Eyres	HAR
	VLKTICAL:	AHDTI	DATE	02/06/23	∥ PTA

DETAILED DESIGN

D.Firns

Government of Western Australia
Public Transport Authority

BYFORD RAIL EXTENSION

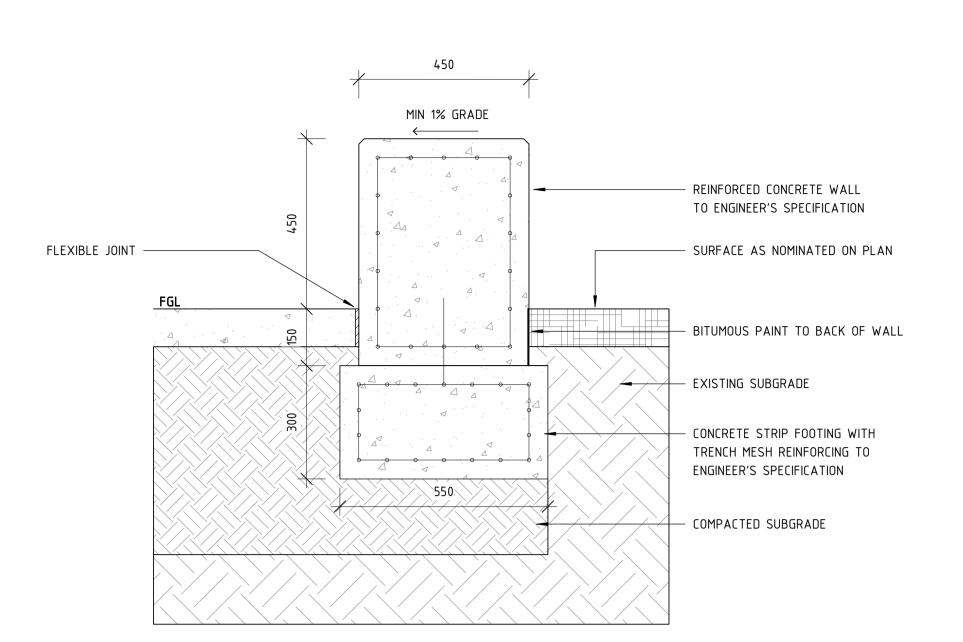
ARMADALE STATION PRECINCT

LANDSCAPE

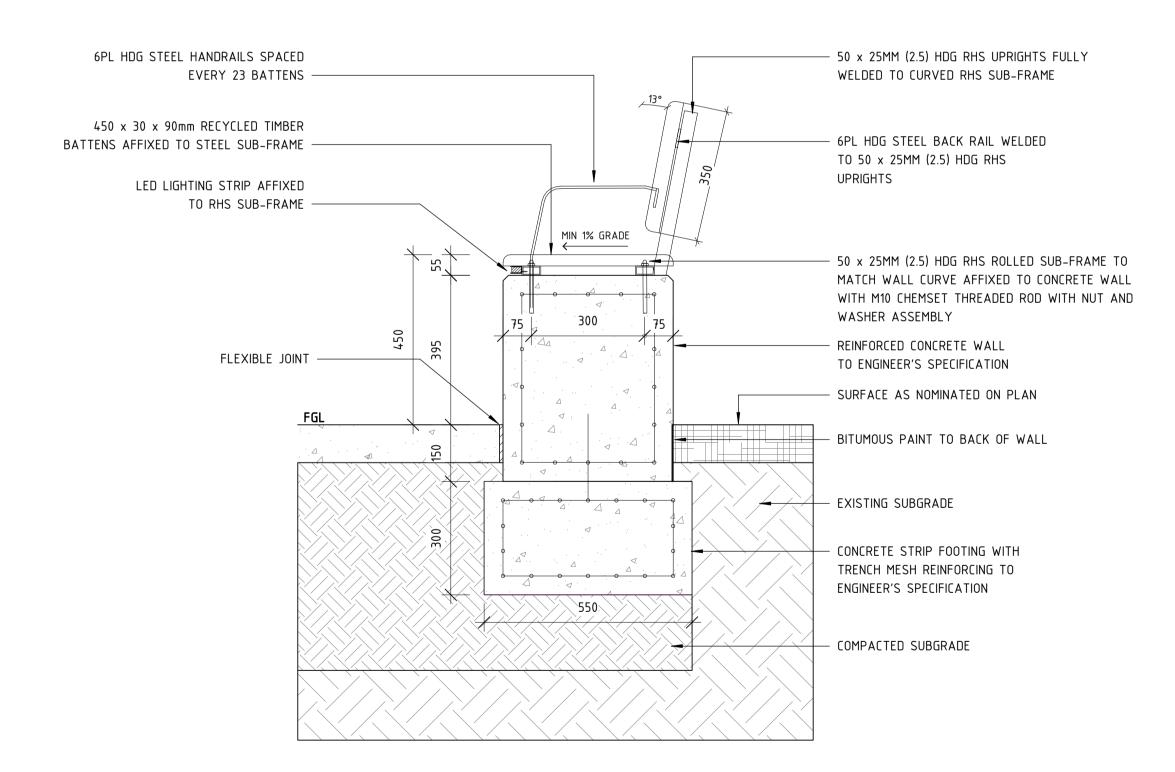
A.Eyres
HARDSCAPE DETAILS 06

PTA Drawing No: 11-A-107-LA10016

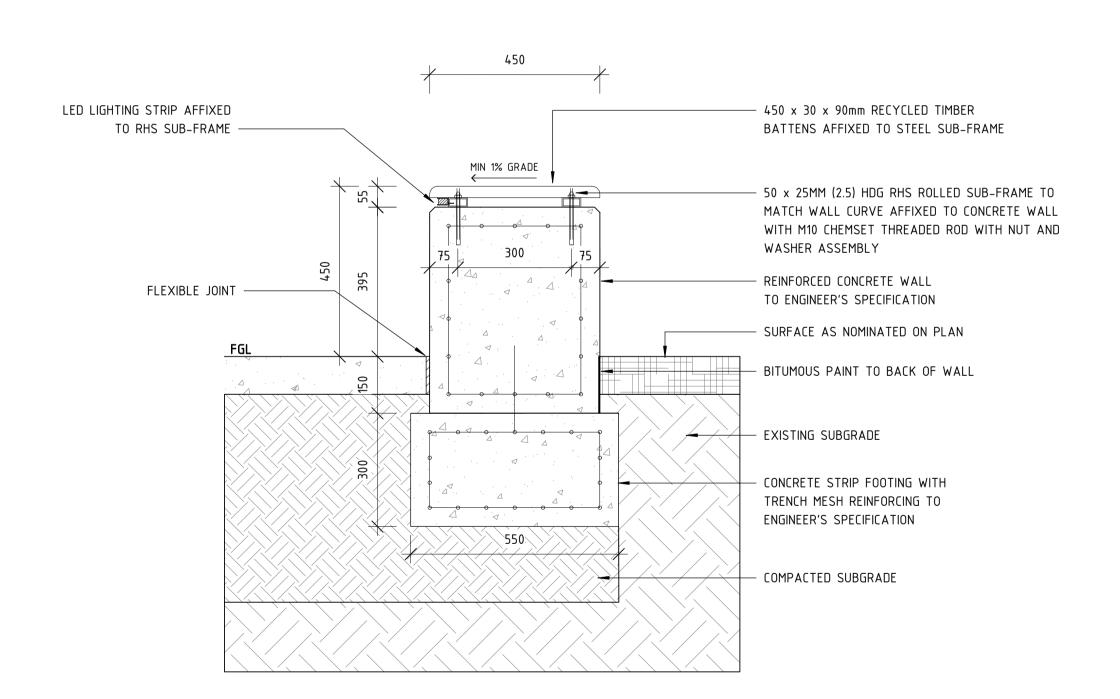
Rev: A



1 CURVED SEAT WALL - DETAIL 1 1: 10



2 CURVED SEAT WALL WITH CURVED TIMBER TOP (BACKREST)- DETAIL 2



SHOP DRAWINGS REQUIRED PRIOR TO FABRICATION FOR

2. TO BE READ IN CONJUCTION WITH STRUCTURAL ENGINEER'S

REVIEW AND APPROVAL TO PROCEED.

SITE MEASURE PRIOR TO SHOP DRAWINGS.

DOCUMENTATION.

3 CURVED SEAT WALL WITH CURVED TIMBER TOP (NO BACKREST) - DETAIL 3



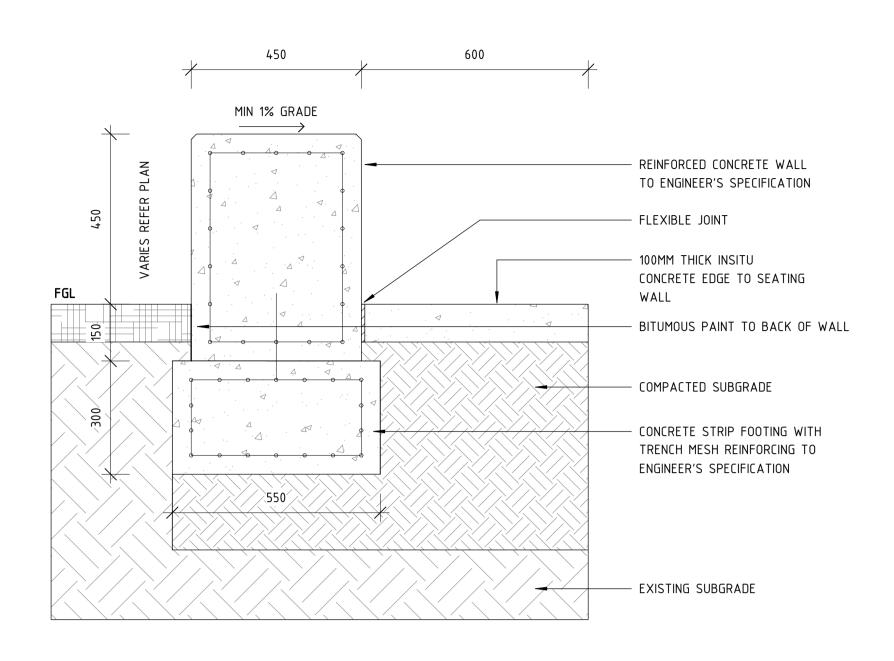


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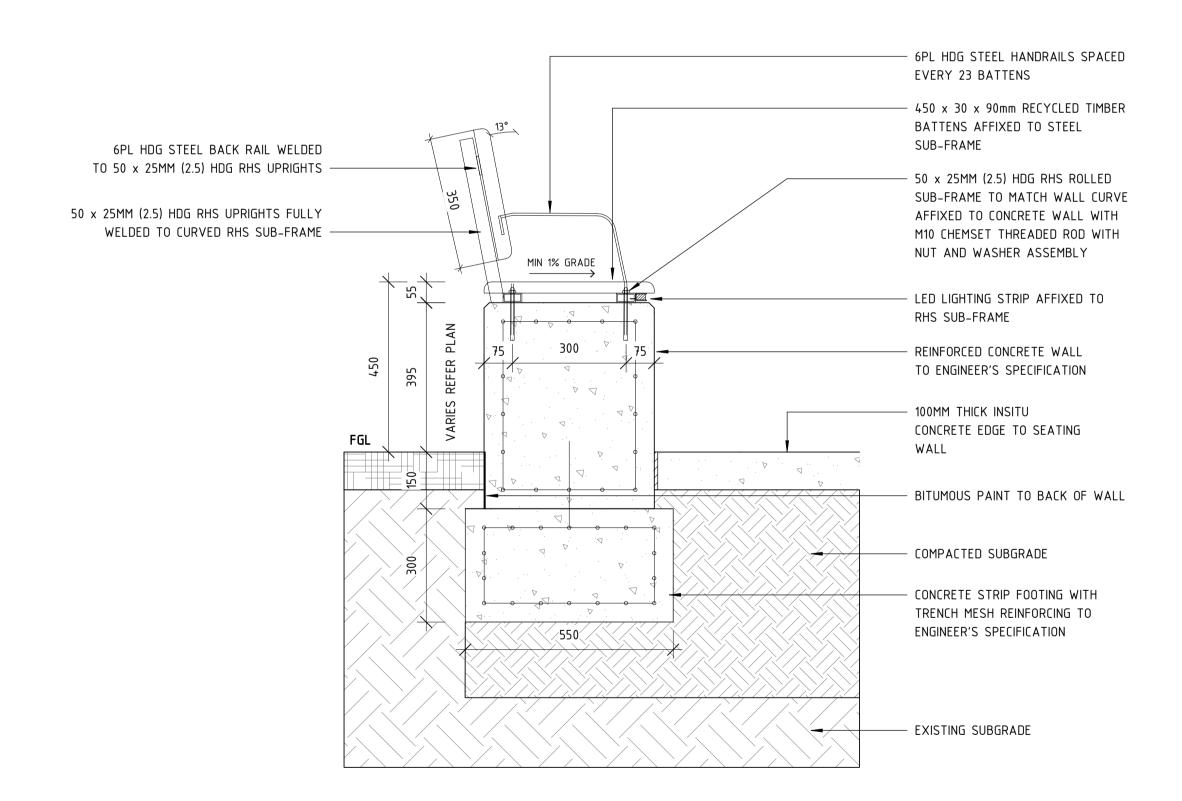
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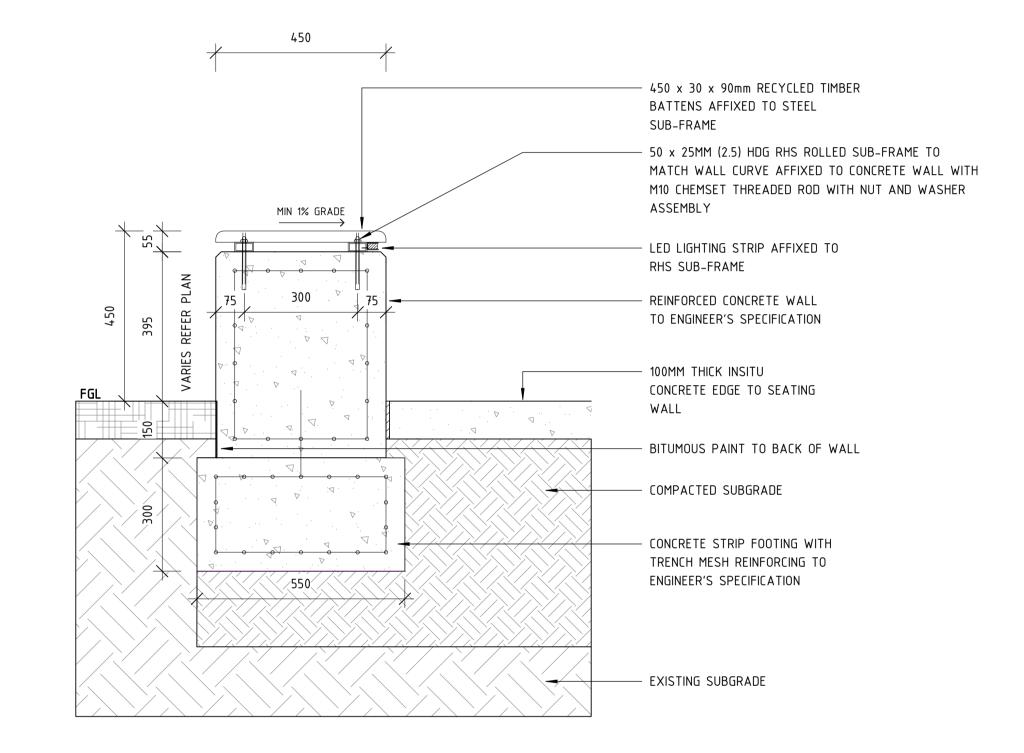
Rev: A

- 2. TO BE READ IN CONJUCTION WITH STRUCTURAL ENGINEER'S DOCUMENTATION.
- 3. SITE MEASURE PRIOR TO SHOP DRAWINGS.



WELCOME PLACE WEST - DETAIL 1



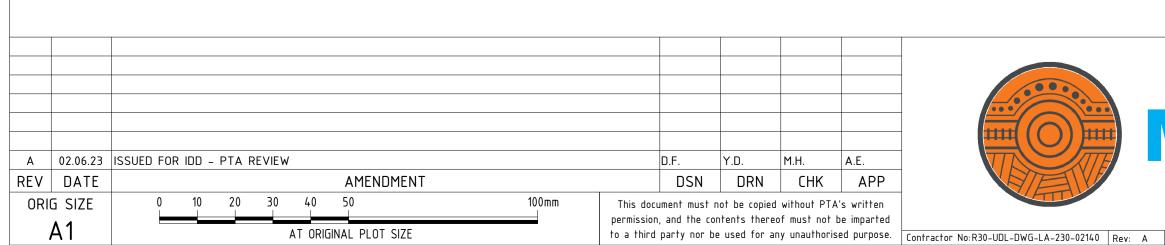


WELCOME PLACE WEST WITH CURVED TIMBER TOP (NO BACKREST) - DETAIL 3

1:10

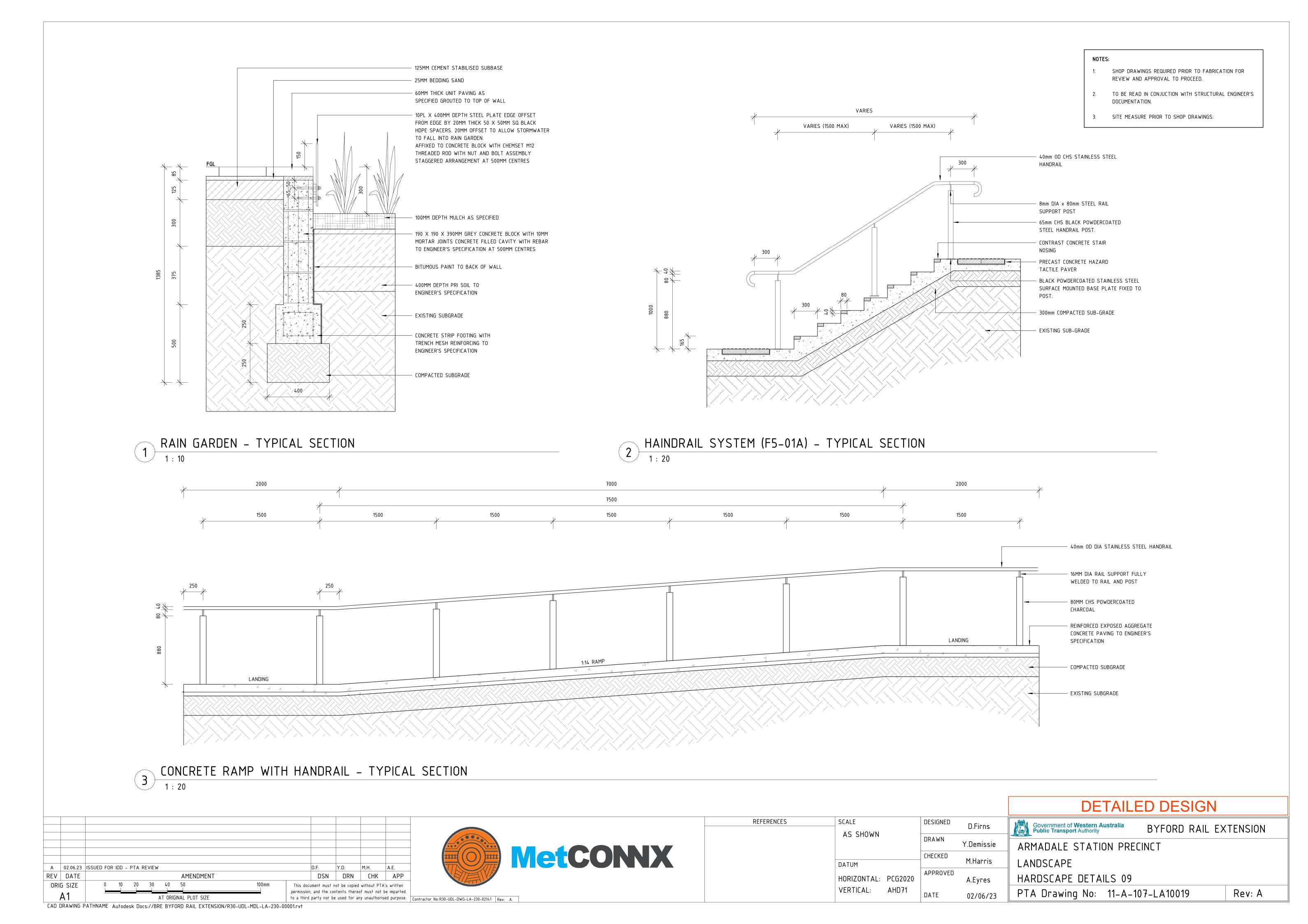
WELCOME PLACE WEST WITH CURVED TIMBER TOP (BACKREST) - DETAIL 2

1: 10



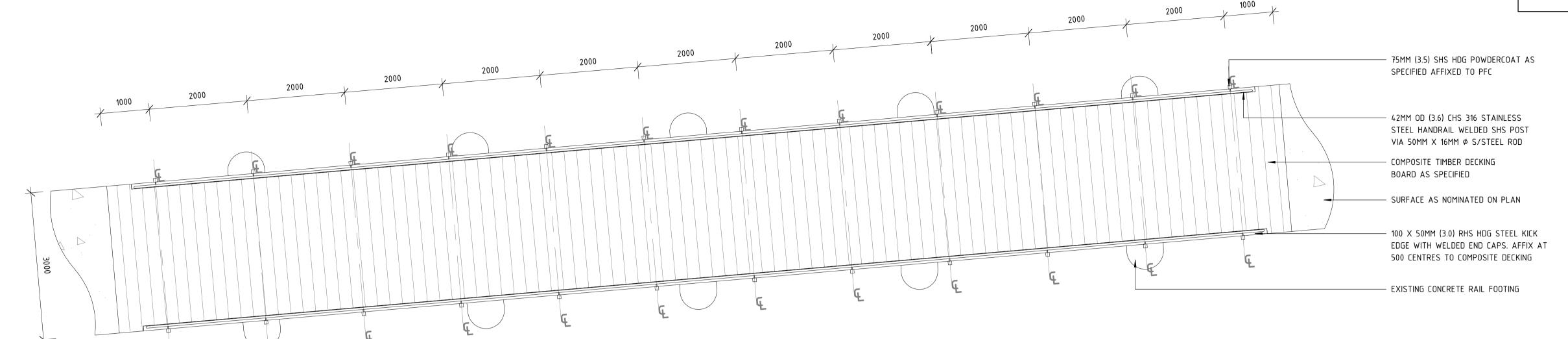


				DETAILED DESIGN		
REFERENCES	SCALE AC CHOWN	DESIGNED	D.Firns	Government of Western Australia Public Transport Authority BYFORD RAIL EX		
	AS SHOWN	DRAWN	Y.Demissie	ARMADALE STATION PRECINCT		
	DATUM	CHECKED	M.Harris	LANDSCAPE		
	HORIZONTAL: PCG2020	APPROVED	A.Eyres	HARDSCAPE DETAILS 08		
	VERTICAL: AHD71	DATE	02/06/23	PTA Drawing No: 11-A-107-LA10018		



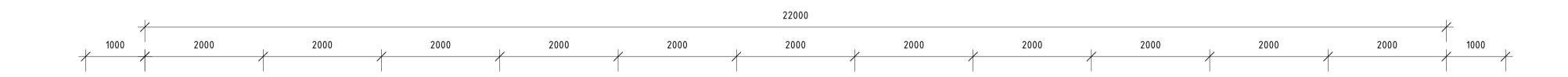
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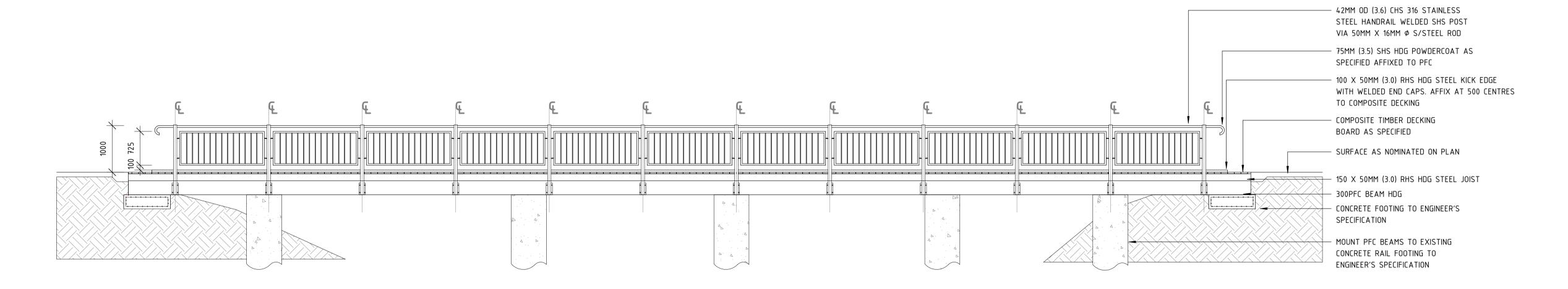
- SHOP DRAWINGS REQUIRED PRIOR TO FABRICATION FOR REVIEW AND APPROVAL TO PROCEED.
- 2. TO BE READ IN CONJUCTION WITH STRUCTURAL ENGINEER'S DOCUMENTATION.
- 3. SITE MEASURE PRIOR TO SHOP DRAWINGS.



NERRIGEN BOARDWALK - DETAIL PLAN

1:50





NERRIGEN BOARDWALK - TYPICAL SECTION

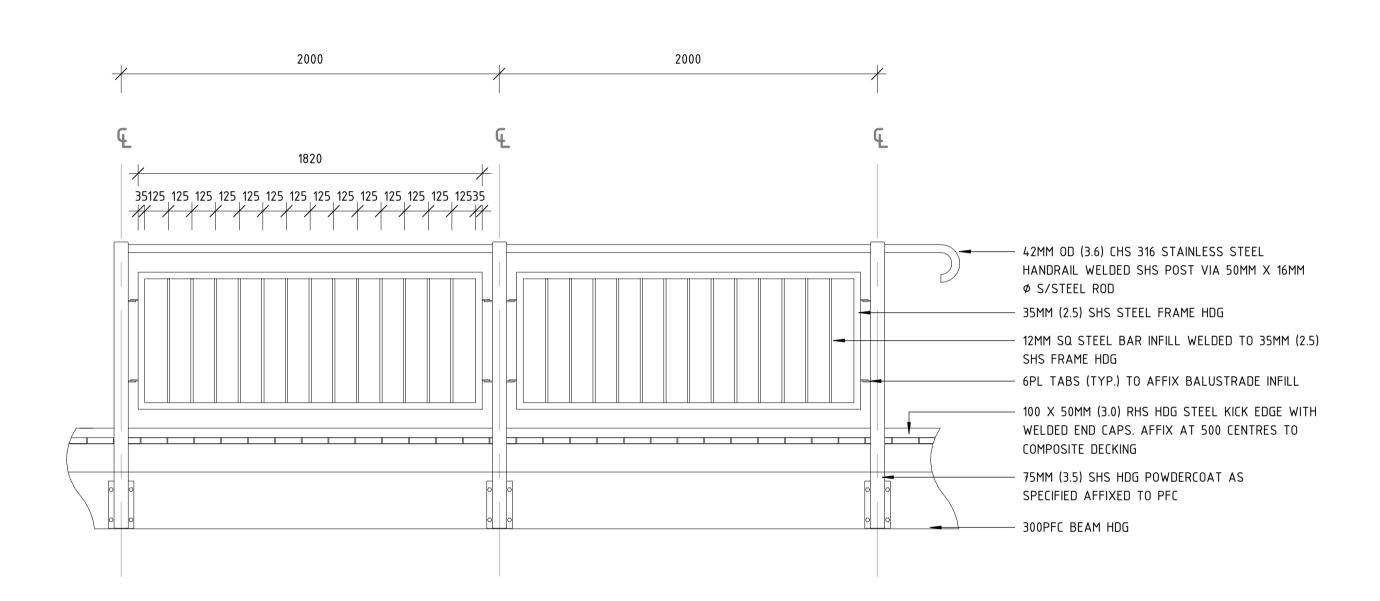
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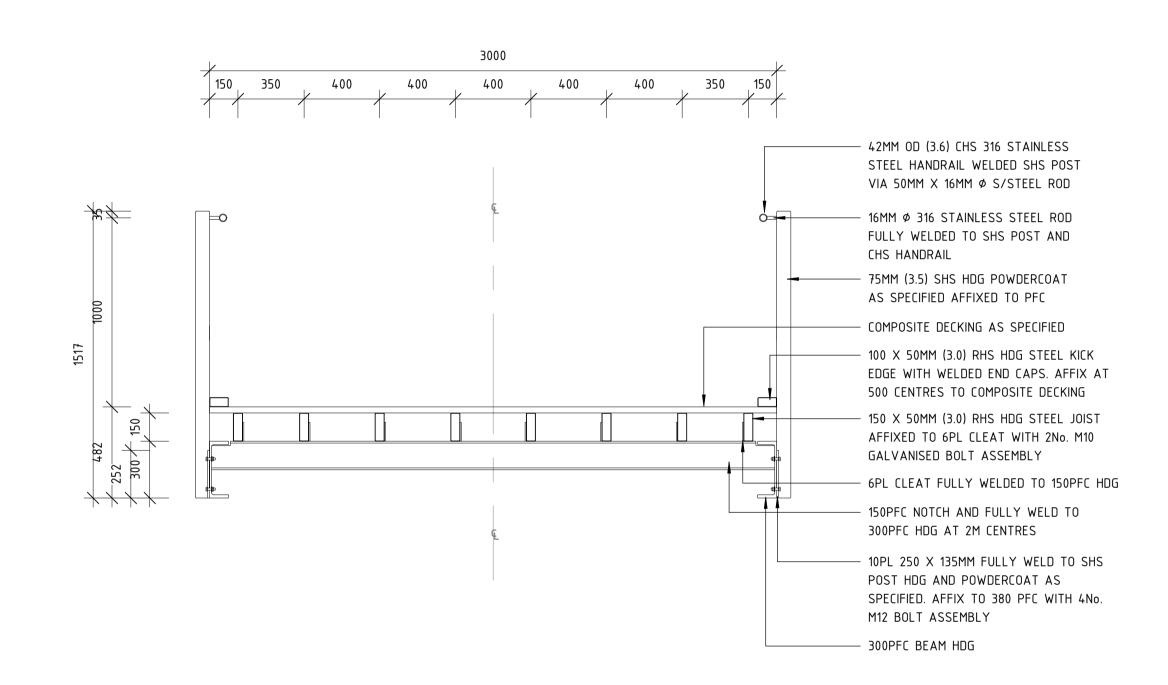
NOTES:

- SHOP DRAWINGS REQUIRED PRIOR TO FABRICATION FOR REVIEW AND APPROVAL TO PROCEED.
- 2. TO BE READ IN CONJUCTION WITH STRUCTURAL ENGINEER'S DOCUMENTATION.
- 3. SITE MEASURE PRIOR TO SHOP DRAWINGS.



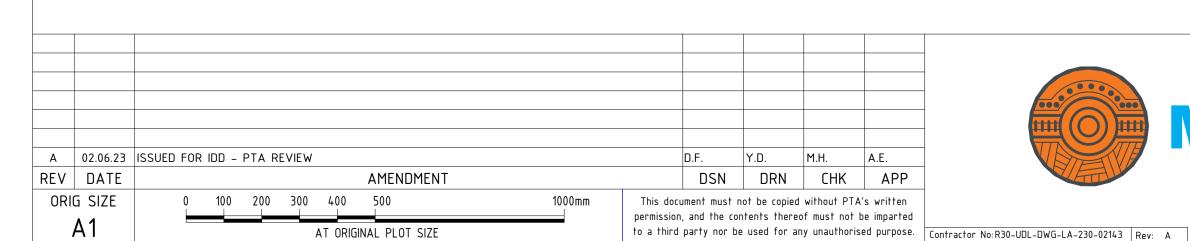
NERRIGEN BOARDWALK BALUSTRADE INFILL - TYPICAL SECTION

1: 20



NERRIGEN BOARDWALK DETAIL - TYPICAL SECTION

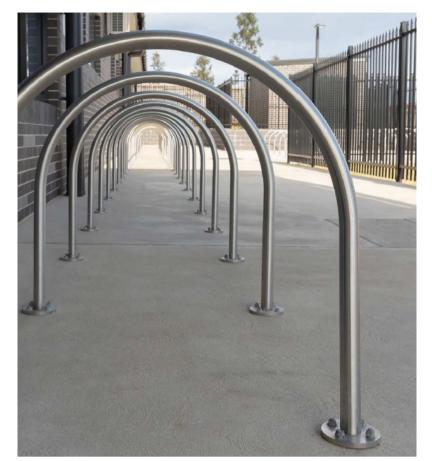
1: 20





REFERENCES	SCALE		DESIGNED	D.Firns	
			DRAWN	Y.Demissie	
	DATUM		CHECKED	M.Harris	
	HORIZONTAL:	PCG2020	APPROVED	A.Eyres	
	VERTICAL:	AHD71	DATE	02/06/23	

DETAILED DESIGN								
Government of Western Australia BYFORD RAIL EXTENSION BYFORD RAIL EXTENSION								
ARMADALE STATION PRECINCT								
LANDSCAPE								
HARDSCAPE DETAILS 11								
PTA Drawing No: 11-A-107-LA10021 Rev: A								



1 BIKE HOOP (F1-01A)
1:10

PRODUCT: BIKE RACK TO MEET AS. 2890 - BST03 SUPPLIER: STREET FURNITURE AUSTRALIA MODEL: 316 GRADE STAINLESS STEEL SEMI-HOOP BICYCLE RACK NUMBER OF: 10 INSTALL TO MANUFACTURERS SPECIFICATION. TO BE SURFACE FIXED.



2 BIN (F2-01A) 1:10

PRODUCT: DUAL RUBBISH & RECYCLING BIN SUPPLIER: DRAFFIN STREET FURNITURE MODEL: 800 SERIES BIN SURROUNDS WITH SLOPED COVER - 240LT NUMBER OF: 5 INSTALL TO MANUFACTURERS SPECIFICATION. TO BE SURFACE FIXED.



DRINK FOUNTAIN (F3-01A)

PRODUCT: DRINK FOUNTAIN WITH DOG BUBBLER - (DF4-DB) SUPPLIER: STREET FURNITURE AUSTRALIA MODEL: STAINLESS STEEL NUMBER OF: 1 INSTALL TO MANUFACTURERS SPECIFICATION. TO BE SURFACE FIXED.



BENCH SEAT (F4-01A)

PRODUCT: STANDALONE ARIA BENCH SEAT SUPPLIER: STREET FURNITURE AUSTRALIA MODEL: SPOTTED GUM TIMBER WITH STEEL NUMBER OF: 11 INSTALL TO MANUFACTURERS SPECIFICATION. TO BE SURFACE FIXED.

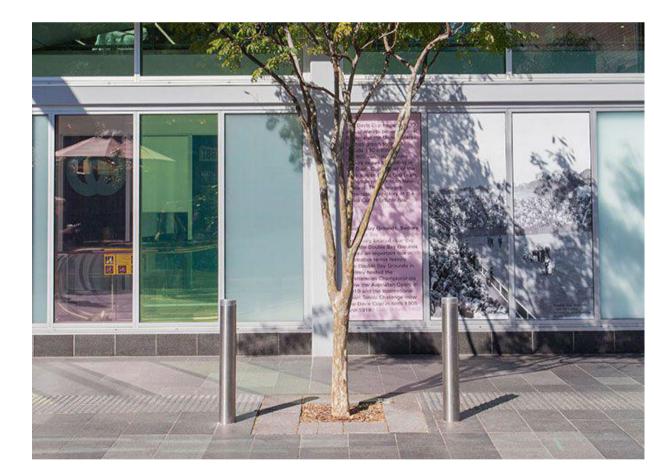


BENCH SEAT TOPPER (F4-01B)

1:10

PRODUCT: ARIA 3-PERSON BENCH SEAT WITH BACK AND ARM REST SUPPLIER: STREET FURNITURE AUSTRALIA MODEL: SPOTTED GUM TIMBER AND STEEL NUMBER OF: 4 INSTALL TO MANUFACTURERS SPECIFICATION. TO BE SURFACE FIXED.

CAD DRAWING PATHNAME Autodesk Docs://BRE BYFORD RAIL EXTENSION/R30-UDL-MDL-LA-230-00001.rvt



6 BOLLARDS - FIXED (F7-01A)
1:10

TO BE SURFACE FIXED.

PRODUCT: FLAT TOP STEEL BOLLARD (FIXED) - (B5-F FLAT) - 150MM x 810MM SUPPLIER: STREET FURNITURE AUSTRALIA MODEL: STAINLESS STEEL - AS SUPPLIED NUMBER OF: 8 INSTALL TO MANUFACTURERS SPECIFICATION.



BOLLARDS - REMOVABLE (F7-01B)

1:10

PRODUCT: FLAT TOP STEEL BOLLARD (REMOVABLE) - (B5-F FLAT) - 150MM x 810MM SUPPLIER: STREET FURNITURE AUSTRALIA MODEL: STAINLESS STEEL - AS SUPPLIED NUMBER OF: 3 INSTALL TO MANUFACTURERS SPECIFICATION. TO BE SURFACE FIXED.



PRODUCT: STANDALONE ARIA BENCH SEAT (FLAT) SUPPLIER: STREET FURNITURE AUSTRALIA MODEL: SPOTTED GUM TIMBER WITH STEEL NUMBER OF: 2 INSTALL TO MANUFACTURERS SPECIFICATION.

TO BE SURFACE FIXED.

В	02.06.23	ISSUED FOR IDD - PTA REVIEW	D.F.	Y.D.	M.H.	A.E.		V
Α	10.02.23	ISSUED FOR RD - PTA REVIEW	D.F.	Y.D.	M.H.	A.E.	TIME	
REV	DATE	AMENDMENT	DSN	DRN	CHK	APP		
ORI	IG SIZE	0 10 20 30 40 50 100mm			d without PTA			
	A1	AT ORIGINAL PLOT SIZE			eof must not any unauthoris		Contractor No:R30-UDL-DWG-LA-230-02153 Rev: B	



REFERENCES	SCALE	DESIGNED	D.Firns
	AS SHOWN	DRAWN	Y.Demissie
	DATUM	CHECKED	M.Harris
	HORIZONTAL: PCG2020	APPROVED	A.Eyres
	VERTICAL: AHD71	DATE	02/06/23

DETAILED DESIGN							
Government of Western Australia Public Transport Authority BYFORD RAIL EXTENSION							
ARMADALE STATION PRECINCT							
LANDSCAPE	LANDSCAPE						
FURNITURE DETAILS 01							
PTA Drawing No: 11-A-107-LA10031 Rev: B							

NOTES:

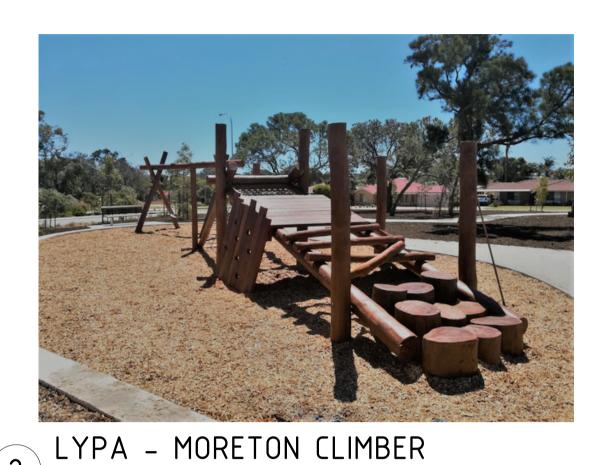
1. ALL PLAY ITEMS SUBJECT TO APPROVAL PRIOR TO FINAL DESIGN
2. ALL PLAY ITEMS SUBJECT TO CHANGE REQUIRING STAKEHOLDER INPUT TO FINAL SELECTION



PRODUCT: LADDER CLIMBER WITH SLIDE SUPPLIER: LYPA MODEL: L000106 - FINISHED AS SUPPLIED NUMBER OF: 1

INSTALL TO MANUFACTURERS SPECIFICATION.

TO BE SURFACE FIXED.

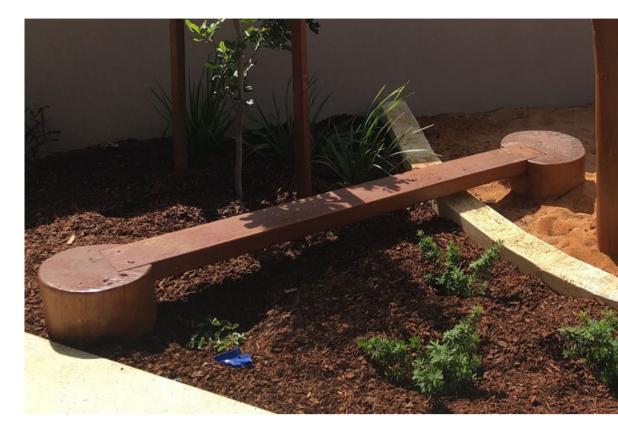


PRODUCT: MORTON CLIMBER
SUPPLIER: LYPA
MODEL: L002800 - FINISHED AS SUPPLIED
NUMBER OF: 1
INSTALL TO MANUFACTURERS SPECIFICATION.
TO BE SURFACE FIXED.



LYPA - BASKET SWING

PRODUCT: A FRAME BASKET SWING SUPPLIER: LYPA MODEL: L006601 - FINISHED AS SUPPLIED NUMBER OF: 1 INSTALL TO MANUFACTURERS SPECIFICATION. TO BE SURFACE FIXED.



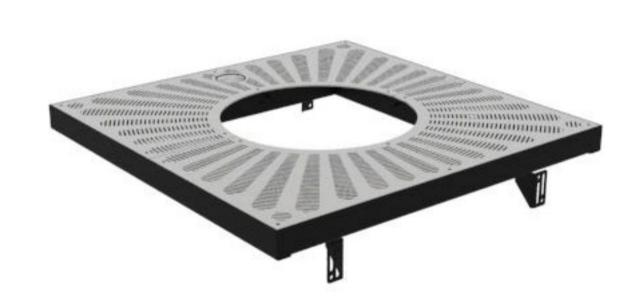
LYPA - BALANCE SLEEPER WITH STUMPS

PRODUCT: JARRAH BALANCE SLEEPER WITH STUMPS SUPPLIER: LYPA MODEL: L005201 - FINISHED AS SUPPLIED NUMBER OF: 6 INSTALL TO MANUFACTURERS SPECIFICATION. TO BE SURFACE FIXED.



5 LYPA - TIMBER STEPPER

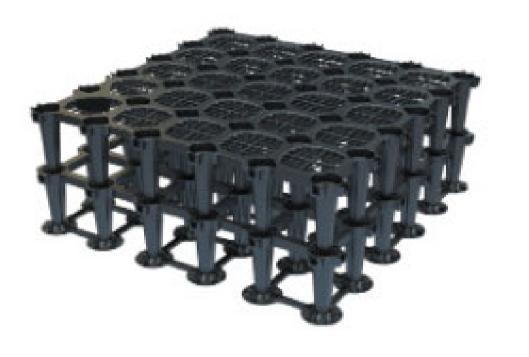
PRODUCT: JARRAH TIMBER LOG STEPPERS SUPPLIER: LYPA MODEL: L005001 - FINISHED AS SUPPLIED NUMBER OF: 11 INSTALL TO MANUFACTURERS SPECIFICATION. TO BE SURFACE FIXED.



6 TREE GRATES
1: 20

PRODUCT: KENDALL TREE GRATES - WEATHERING STEEL DURAPLATE CLASS C SUPPLIER: CITY GREEN MODEL: WEATHERED STEEL NUMBER OF: 12 INSTALL TO MANUFACTURERS SPECIFICATION.

TO BE FIXED AS PER MANUFACTURERS REQUIREMENTS.



STRATAVAULT STRUCTURAL SOIL CELL
1:20

PRODUCT: STRATAVAULT SOIL CELL SYSTEM (600MM x 600MM x 404MM)
SUPPLIER: CITY GREEN
MODEL: STRATAVAULT 45
NUMBER OF: 12
INSTALL TO MANUFACTURERS SPECIFICATION.
TO BE FIXED AS PER MANUFACTURERS REQUIREMENTS.



PRODUCT: LOG SUPPLIER: LYPA

PRODUCT: LOG
SUPPLIER: LYPA
MODEL: FINISHED AS SUPPLIED
NUMBER OF: TBC
INSTALL TO MANUFACTURERS SPECIFICATION.
TO BE SURFACE FIXED.

В	02.06.23	ISSUED FOR IDD – PTA REVIEW	D.F.	Y.D.	M.H.	A.E.		
Α	10.02.23	ISSUED FOR RD - PTA REVIEW	D.F.	Y.D.	M.H.	A.E.		
REV	DATE	AMENDMENT	DSN	DRN	CHK	APP		
OR	IG SIZE	0 10 20 30 40 50 100mm			d without PTA			
	A1	AT ORIGINAL PLOT SIZE			of must not l Iny unauthoris		Contractor No:R30-UDL-DWG-LA-230-02154 Rev:	В

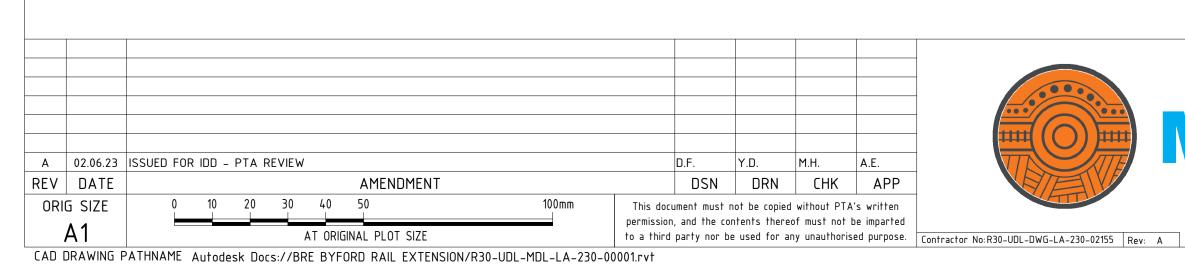


				DETAILE	ED DESIGN	١
SCALE AS SHOWN		DESIGNED	D.Firns	Government of Western Australia Public Transport Authority	BYFORD RAIL	EXTENSION
			Y.Demissie	ARMADALE STATION PREG	CINCT	
DATUM		CHECKED	M.Harris	LANDSCAPE		
HORIZONTAL:	PCG2020	APPROVED	A.Eyres	FURNITURE DETAILS 02		
VERTICAL:	AHD71	DATE	02/06/23	PTA Drawing No: 11-A-1	07-LA10032	Rev: B
	AS SHOWN DATUM HORIZONTAL:	AS SHOWN DATUM HORIZONTAL: PCG2020	AS SHOWN DRAWN CHECKED DATUM HORIZONTAL: PCG2020 VERTICAL: AHD71	AS SHOWN DRAWN Y.Demissie CHECKED M.Harris APPROVED VERTICAL: AHD71 AS SHOWN Y.Demissie APPROVED A.Eyres	DESIGNED D.Firns DRAWN DRAWN TO DESIGNED D.Firns DRAWN Y.Demissie CHECKED M.Harris ARMADALE STATION PRESENCE LANDSCAPE FURNITURE DETAILS 02 VERTICAL: AHD71 DESIGNED D.Firns Government of Western Australia Public Transport Authority ARMADALE STATION PRESENCE FURNITURE DETAILS 02	AS SHOWN DRAWN TO DESCRIPTION STATE OF THE Public Transport Authority DRAWN Y.Demissie CHECKED M.Harris HORIZONTAL: PCG2020 VERTICAL: AHD71 D.Firns DRAWN Y.Demissie CHECKED M.Harris APPROVED A.Eyres D.Firns DRAWN ARMADALE STATION PRECINCT LANDSCAPE FURNITURE DETAILS 02 D.Firns DRAWN ARMADALE STATION PRECINCT LANDSCAPE FURNITURE DETAILS 02



BENCH SEAT SYSTEM - WITH FLAT BENCH (F4-01C)

1: 10





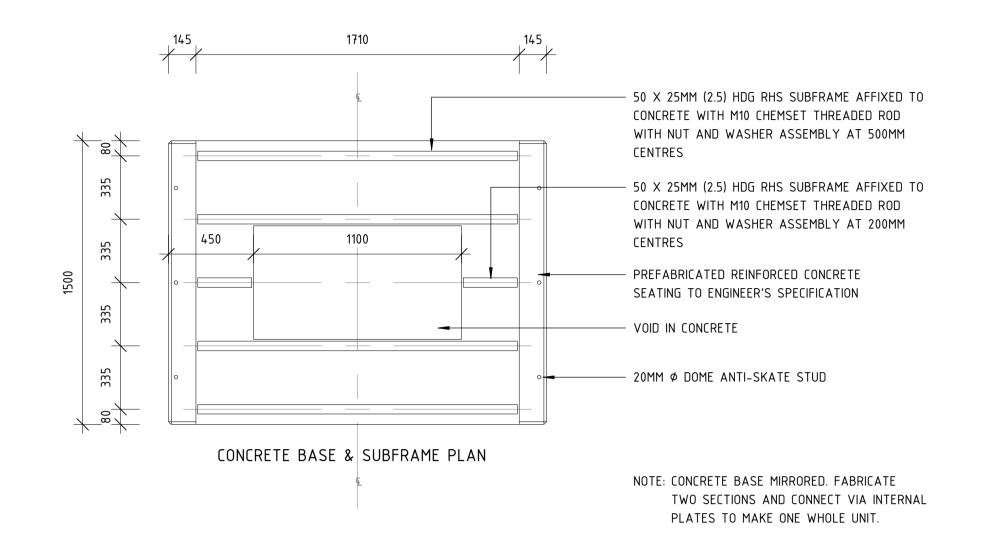
SCALE		DESIGNED	D.Firns	A. C.
1 : 10		DRAWN	Y.Demissie	
		CHECKED	I 'Dellii22ie	
DATUM		CHECKED	M.Harris	L
HORIZONTAL:	PCG2020	APPROVED	A.Eyres	F
VERTICAL:	AHD71	DATE	02/06/23	F

REFERENCES

			DETAILED DESIGN					
	DESIGNED	D.Firns	Government of Western Australia Public Transport Authority	BYFORD RAIL EX	KTENSION			
	DRAWN	Y.Demissie	ARMADALE STATION PREC	INCT				
	CHECKED	M.Harris	LANDSCAPE					
)	APPROVED	A.Eyres	FURNITURE DETAILS 03					
	DATE	02/06/23	PTA Drawing No: 11-A-10	7-LA10033	Rev: A			

NOTES:

- SHOP DRAWINGS REQUIRED PRIOR TO FABRICATION FOR REVIEW AND APPROVAL TO PROCEED.
- 2. TO BE READ IN CONJUCTION WITH STRUCTURAL ENGINEER'S DOCUMENTATION.



- 90 x 30MM (LENGTH VARIES) RECYCLED TIMBER BATTENS AFFIXED TO 50 X 25MM (2.5) HDG RHS - 20MM CHAMFER TO EDGE - PREFABRICATED REINFORCED CONCRETE SEATING TO ENGINEER'S SPECIFICATION VOID IN CONCRETE - 20MM Ø HALF ANTI-SKATE STUD BATTEN PLAN

90 x 30MM (LENGTH VARIES) RECYCLED TIMBER BATTENS AFFIXED TO 50 X 25MM (2.5) HDG RHS SUBFRAME - 20MM CHAMFER TO EDGE PREFABRICATED REINFORCED CONCRETE SEATING TO ENGINEER'S SPECIFICATION

SEAT PLATFORM WITH VOID (BASE & SUBFRAME)

1: 20

2 SEAT PLATFORM WITH VOID (BATTEN PLAN)
1: 20

SEAT PLATFORM WITH VOID - DETAIL 3

- 50 X 25MM (2.5) HDG RHS SUBFRAME AFFIXED TO CONCRETE WITH M10 CHEMSET THREADED ROD WITH NUT AND WASHER ASSEMBLY AT 500MM CENTRES - 75 X 50MM (3.0) HDG RHS BEAM TO SUPPORT RHS SUBFRAME AFFIXED TO CONCRETE TO ENGINEER'S SPECIFICATION - 50 X 25MM (2.5) HDG RHS SUBFRAME AFFIXED TO CONCRETE 395 310 395 WITH M10 CHEMSET THREADED ROD WITH NUT AND WASHER ASSEMBLY AT 200MM CENTRES - PREFABRICATED REINFORCED CONCRETE SEATING TO ENGINEER'S SPECIFICATION - VOID IN CONCRETE - 20MM Ø HALF ANTI-SKATE STUD CONCRETE BASE & SUBFRAME PLAN - NOTE: CONCRETE BASE MIRRORED. FABRICATE TWO SECTIONS AND CONNECT VIA INTERNAL PLATES TO MAKE ONE WHOLE UNIT.

1710 90 x 30MM (LENGTH VARIES) RECYCLED TIMBER BATTENS AFFIXED TO 50 X 25MM (2.5) HDG RHS SUBFRAME 20MM CHAMFER TO EDGE - 20MM Ø HALF ANTI-SKATE STUD

90 x 30MM (LENGTH VARIES) RECYCLED TIMBER BATTENS AFFIXED TO 50 X 25MM (2.5) HDG RHS SUBFRAME 20MM CHAMFER TO EDGE - PREFABRICATED REINFORCED CONCRETE SEATING TO ENGINEER'S SPECIFICATION

SEAT PLATFORM (BASE & SUBFRAME)

1: 20

SEAT PLATFORM (BATTEN PLAN)

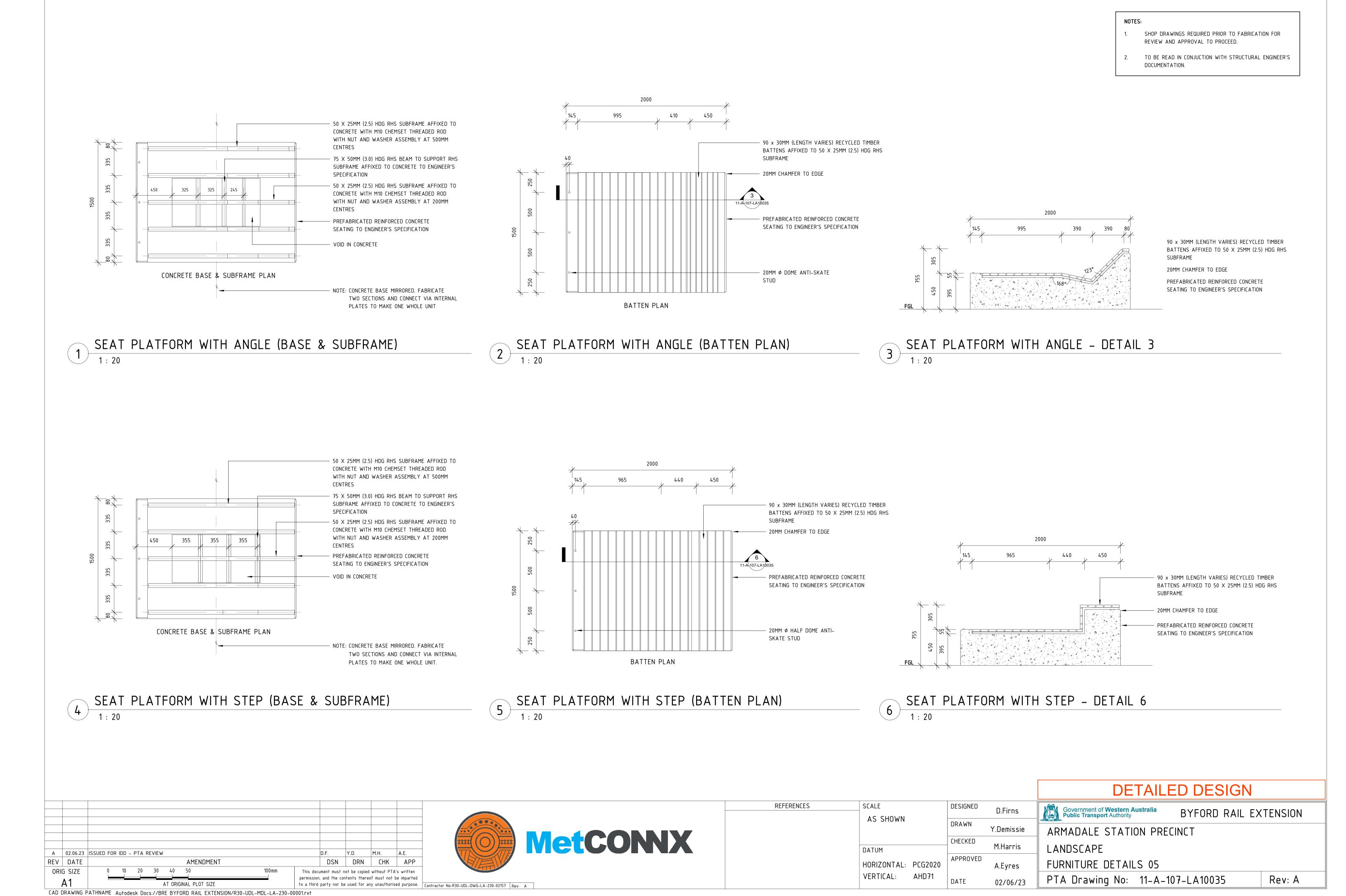
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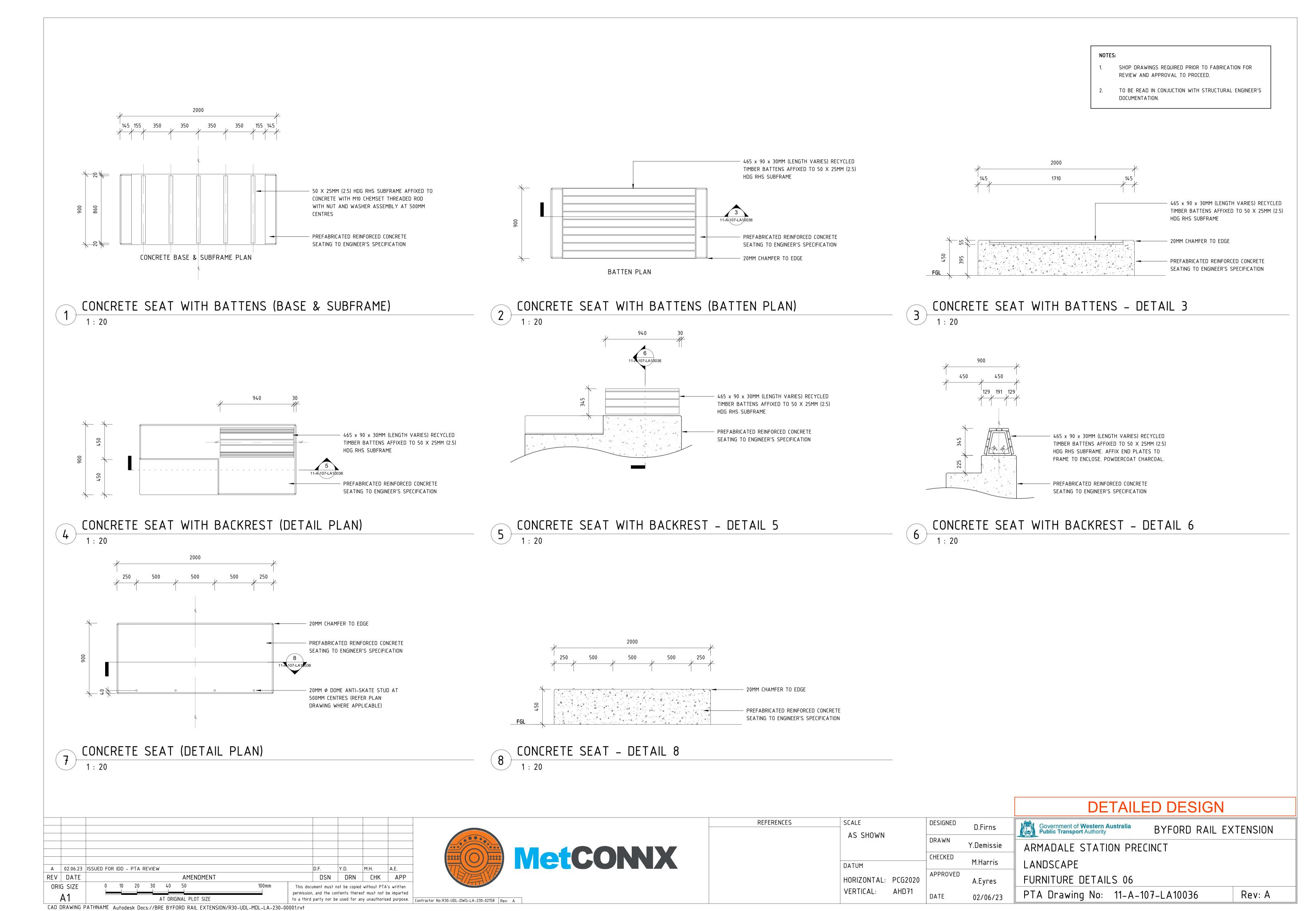
6 SEAT PLATFORM - DETAIL 6

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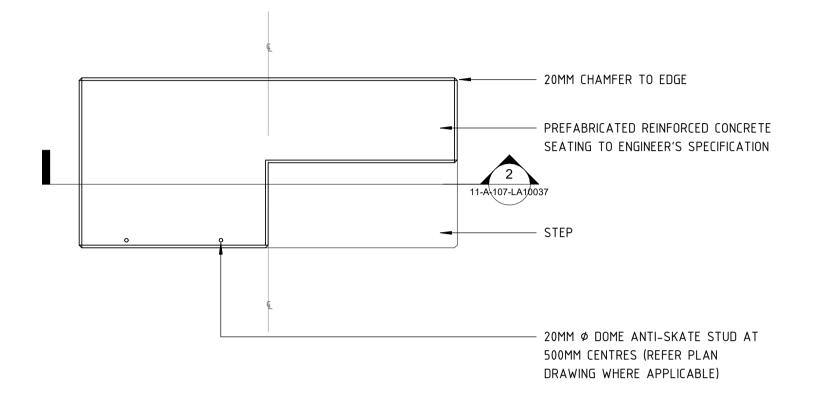
				DETAILE	ED DESIGN			
REFERENCES	SCALE AS SHOWN	DESIGNED	D.Firns	Government of Western Australia Public Transport Authority	BYFORD RAIL EX	TENSION		
		DRAWN	Y.Demissie	ARMADALE STATION PRECINCT				
	DATUM	CHECKED	M.Harris	LANDSCAPE				
	HORIZONTAL: PCG2020	APPROVED	A.Eyres	FURNITURE DETAILS 04				
	VERTICAL: AHD71	DATE	02/06/23	PTA Drawing No: 11-A-10	07-LA10034	Rev: A		

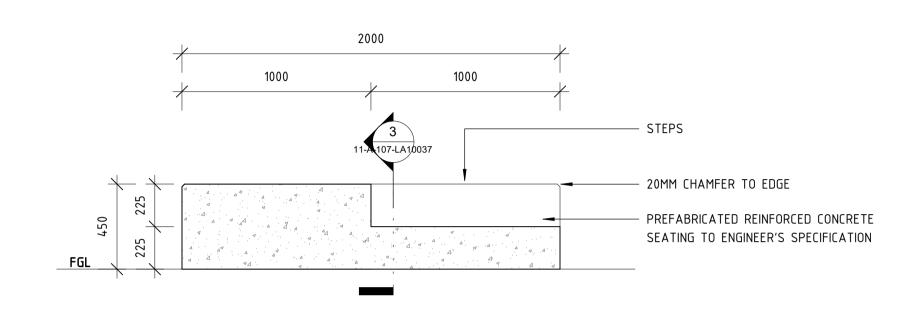


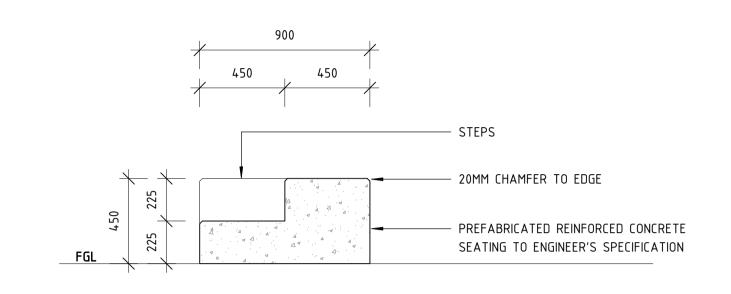




- 1. SHOP DRAWINGS REQUIRED PRIOR TO FABRICATION FOR REVIEW AND APPROVAL TO PROCEED.
- 2. TO BE READ IN CONJUCTION WITH STRUCTURAL ENGINEER'S DOCUMENTATION.







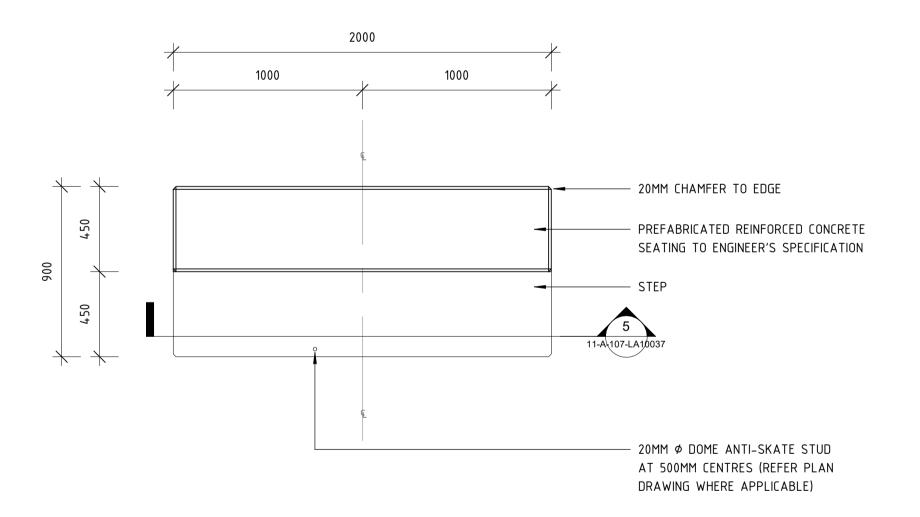
1 CONCRETE SEAT WITH HALF STEP (DETAIL PLAN)
1: 20

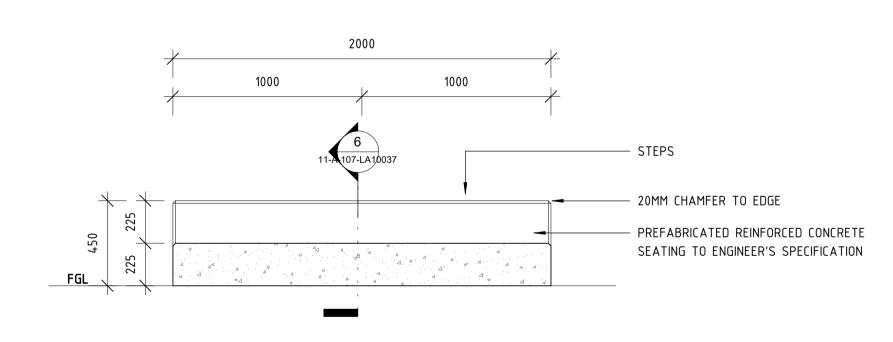
2 CONCRETE SEAT WITH HALF STEP (TYPICAL SECTION) - DETAIL 2

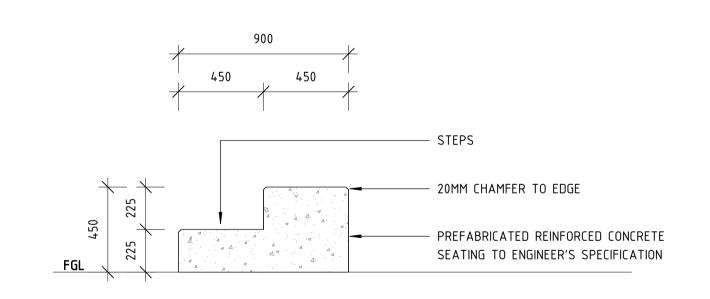
1: 20

CONCRETE SEAT WITH HALF STEP (TYPICAL SECTION) - DETAIL 3

1: 20







CONCRETE SEAT WITH STEP (DETAIL PLAN)

1: 20

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CONCRETE SEAT WITH STEP (TYPICAL SECTION) - DETAIL 5

1: 20

REFERENCES

6 CONCRETE SEAT WITH STEP (TYPICAL SECTION) - DETAIL 6

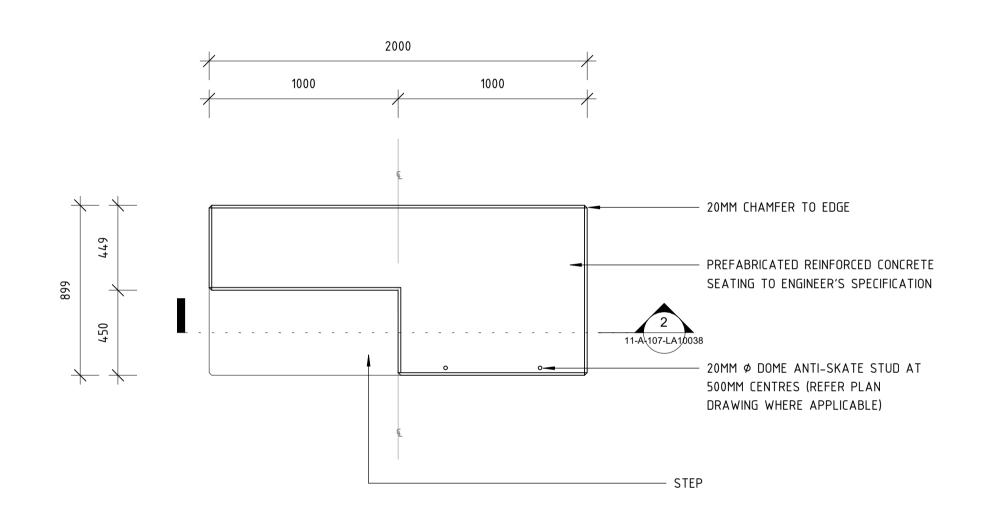
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	SCALE AS SHOWN	DESIGNED	D.Firns	Government of Western Australia Public Transport Authority	BYFORD RAIL EX	KTENSION			
	A2 2UUWN	DRAWN	Y.Demissie	ARMADALE STATION PRECINCT					
-	DATUM	CHECKED	M.Harris	LANDSCAPE					
	HORIZONTAL: PCG2020	APPROVED	A.Eyres	FURNITURE DETAILS 07					
	VERTICAL: AHD71	DATE	02/06/23	PTA Drawing No: 11-A-10	7-LA10037	Rev: A			

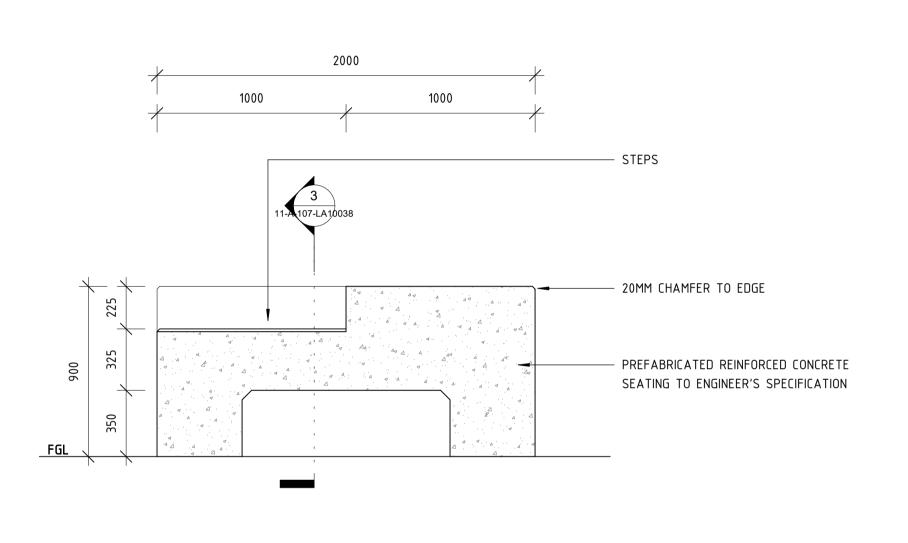
NOTES

- SHOP DRAWINGS REQUIRED PRIOR TO FABRICATION FOR REVIEW AND APPROVAL TO PROCEED.
- 2. TO BE READ IN CONJUCTION WITH STRUCTURAL ENGINEER'S DOCUMENTATION.
- 3. SITE MEASURE PRIOR TO SHOP DRAWINGS.



CONCRETE SEAT (TALL) WITH HALF STEP (DETAIL PLAN)

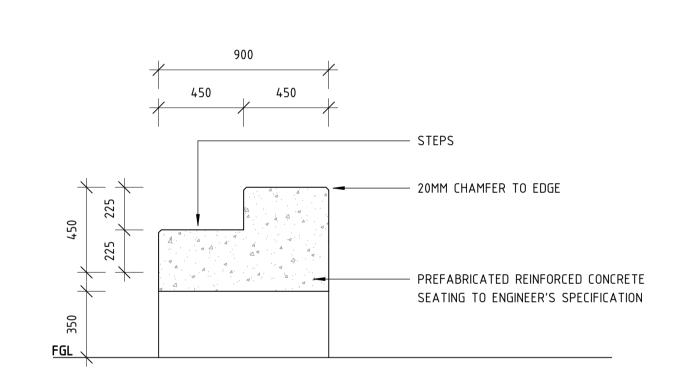
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CONCRETE SEAT (TALL) WITH HALF STEP - DETAIL 2

1: 20

REFERENCES

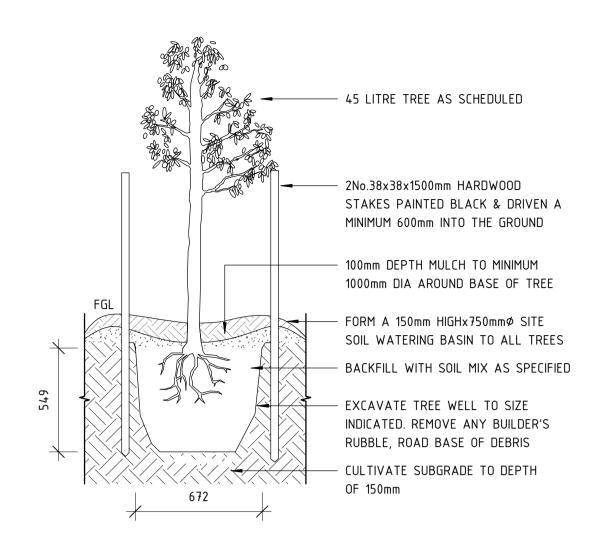


3 CONCRETE SEAT (TALL) WITH HALF STEP - DETAIL 3

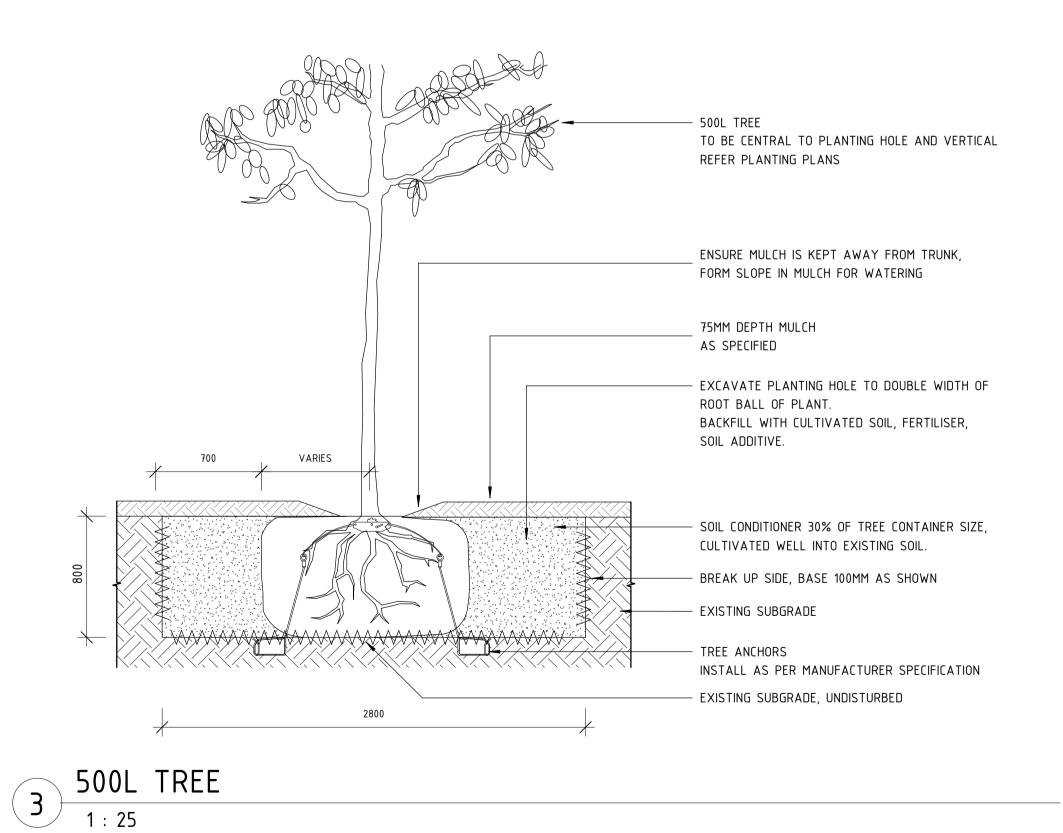
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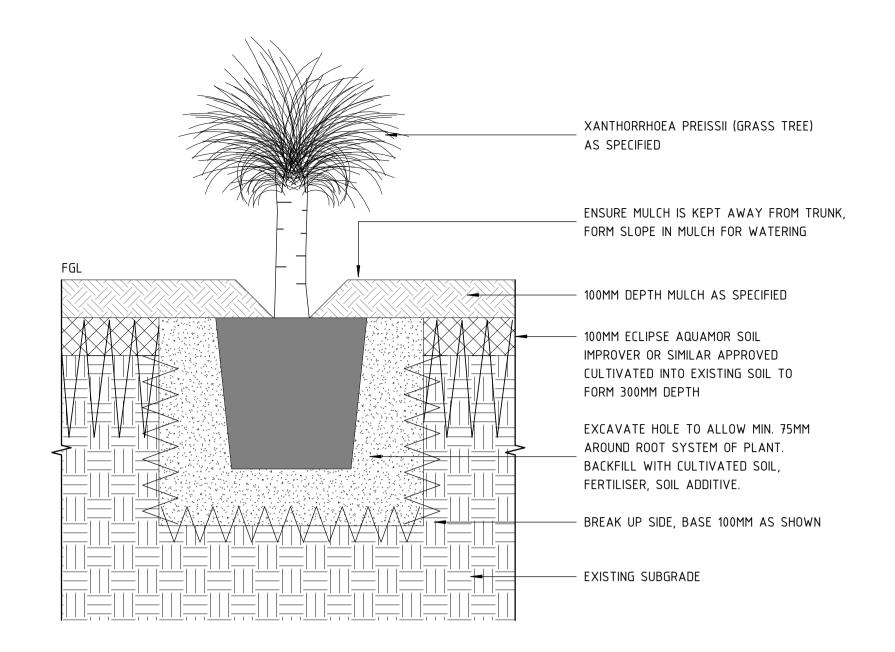


				DETAILED DESIGN					
SCALE AS SHOWN		DESIGNED	D.Firns	Government of Western Australia Public Transport Authority	BYFORD RAIL EX	TENSION			
A3 3HOWN		DRAWN	Y.Demissie	ARMADALE STATION PRECINCT					
DATUM		APPROVED	M.Harris	LANDSCAPE FURNITURE DETAILS 08					
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VERTICAL: A	AHD71	DATE	02/06/23	PTA Drawing No: 11-A-10	7-LA10038	Rev: A			

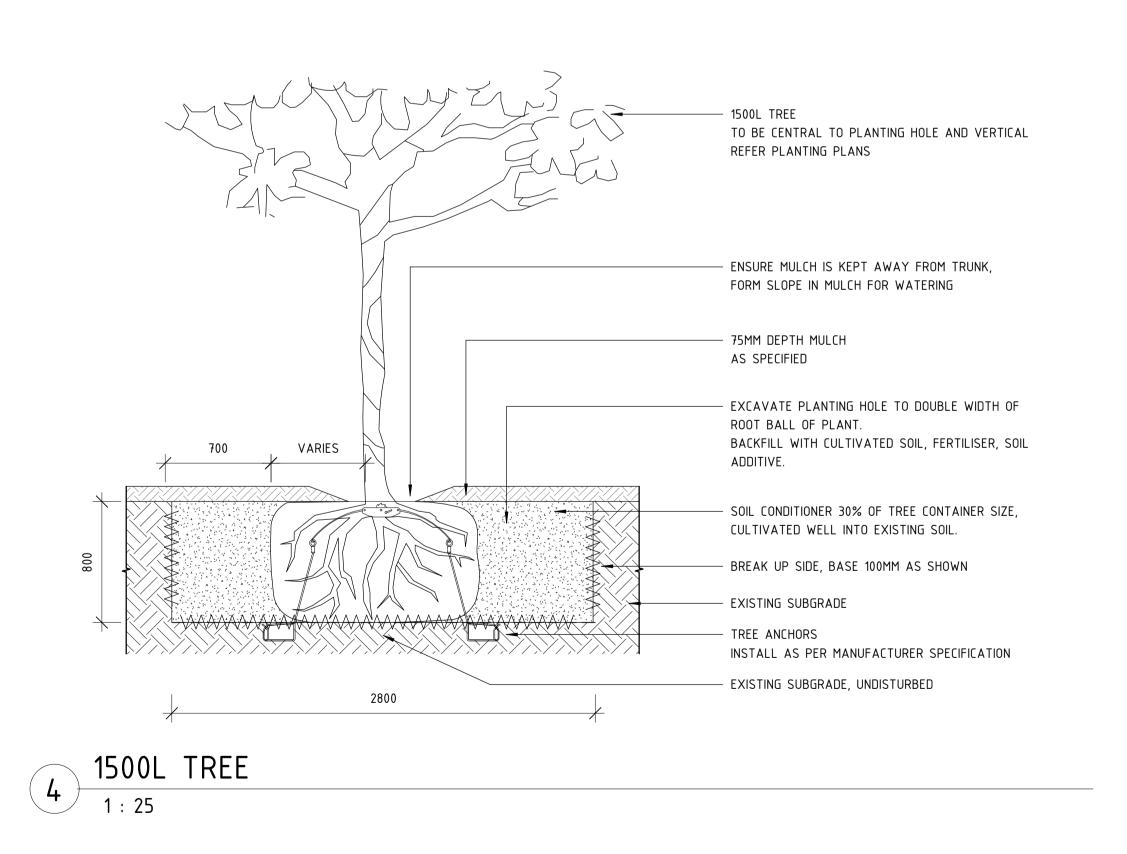


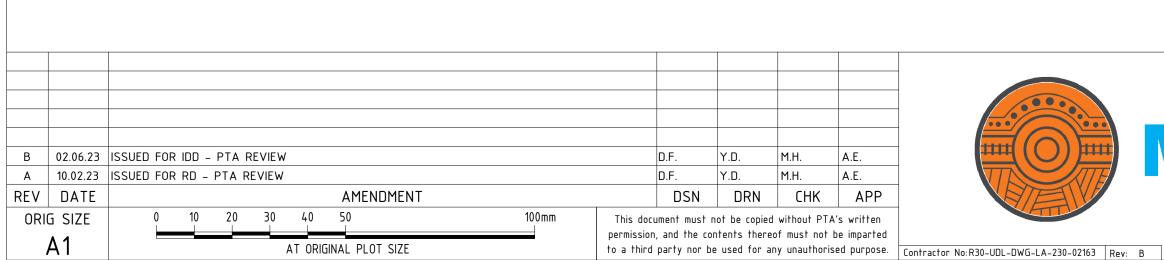
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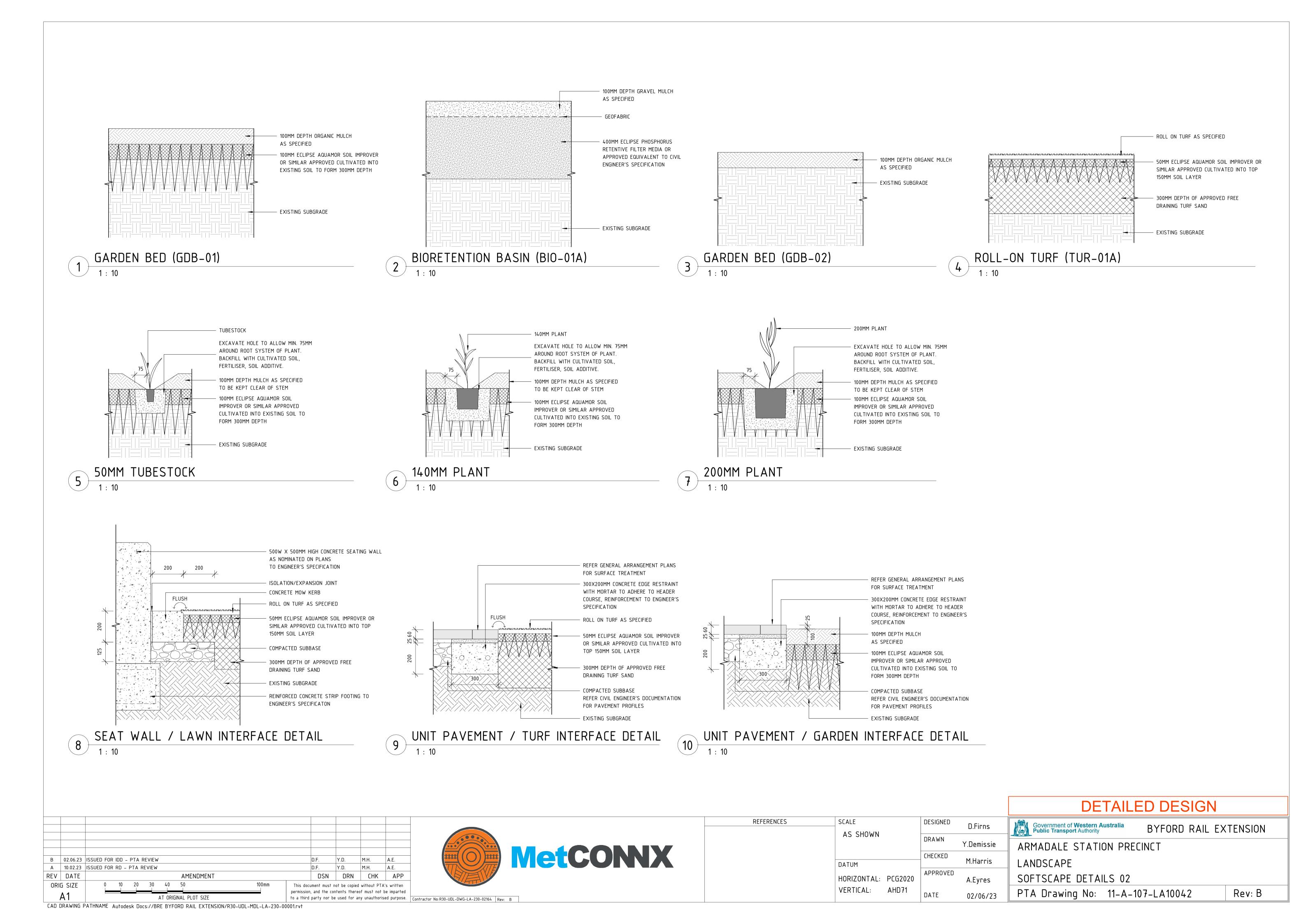
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				DETAILED DESIGN			
REFERENCES	SCALE AS SHOWN	DESIGNED	D.Firns	Government of Western Australia Public Transport Authority BYFORD RAIL EXTENSION			
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	DATUM	CHECKED	M.Harris	LANDSCAPE			
	HORIZONTAL: PCG2020	APPROVED	A.Eyres	SOFTSCAPE DETAILS 01			
	VERTICAL: AHD71	DATE	02/06/23	PTA Drawing No: 11-A-10	07-LA10041	Rev: B	



NOTE: ALL SUBSOIL DRAINAGE AS FOLLOW UNLESS NOTED OTHERWISE. 100mm Ø 'VINIDEX DRAINCOIL' SLOTTED AG PIPE WRAPPED IN GEOTEXTILE FABRIC. LAY IN 300mm DEEP TRENCH BACKFILLED WITH STONE AGGREGATE(14mm) WITH MINIMUM100mm COVER IN TURF AREAS. MIN GRADE 1:400. GEOTEXTILE FABRIC TO BE BIDIM A14 OR SIMILARLY APPROVED MATERIAL.

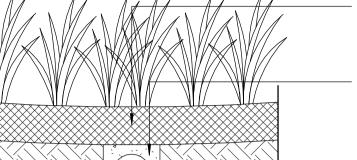
200mm MINIMUN IMPROVED TOPSOIL 50% SITE TOPSOIL AND 50% SOIL CONDITIONER. - MIN. 300mm WIDEx300mm DEEP BLUE METAL TRENCH. BLUE METAL SHALL CONSIST OF 19-22mm SIZE STONES AND PROVIDE MINIMUM 100mm COVER OF PIPRWORK ON ALL SIDES 'VINDIEX DRAINCOIL' SLOTTED PVC AGG. PIPE IN FILTER SOCK. Ø100mm MAINLINE, Ø80mm LATERALS. GEOFABRIC LINING TO WRAP BLUE METAL TRENCH ON ALL SIDES WITH MIN. 250mm

OVERLAP OF CUT ENDS.

SUBSOIL DRAIN IN TURF

1: 20

NOTE: ALL SUBSOIL DRAINAGE AS FOLLOW UNLESS NOTED OTHERWISE. 100mm Ø 'VINIDEX DRAINCOIL' SLOTTED AG PIPE WRAPPED IN GEOTEXTILE FABRIC. LAY IN 300mm DEEP TRENCH BACKFILLED WITH STONE AGGREGATE(14mm) WITH MINIMUM100mm COVER IN TURF AREAS. MIN GRADE 1:400. GEOTEXTILE FABRIC TO BE BIDIM A14 OR SIMILARLY APPROVED MATERIAL.



200mm MINIMUN IMPROVED TOPSOIL 50% SITE TOPSOIL AND 50% SOIL CONDITIONER.

MIN. 300mm WIDEx300mm DEEP BLUE METAL TRENCH. BLUE METAL SHALL CONSIST OF 19-22mm SIZE STONES AND PROVIDE MINIMUM 100mm COVER OF PIPRWORK ON ALL SIDES - 'VINDIEX DRAINCOIL' SLOTTED PVC AGG. PIPE IN FILTER SOCK. Ø100mm MAINLINE, Ø80mm LATERALS.

GEOFABRIC LINING TO WRAP BLUE METAL TRENCH ON ALL SIDES WITH MIN. 250mm OVERLAP OF CUT ENDS.

2 SUBSOIL DRAIN IN PLANTING
1: 20

B 02.06.23 ISSUED FOR IDD - PTA REVIEW A 10.02.23 ISSUED FOR RD - PTA REVIEW Y.D. REV DATE DSN DRN CHK APP AMENDMENT ORIG SIZE 0 10 20 30 40 50 This document must not be copied without PTA's written permission, and the contents thereof must not be imparted AT ORIGINAL PLOT SIZE to a third party nor be used for any unauthorised purpose. | Contractor No:R30-UDL-DWG-LA-230-02165 | Rev: B



REFERENCES	SCALE		DESIGNED	D.Firns	
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			CHECKED	M.Harris	
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	HORIZONTAL:	PCG2020	APPROVED	A.Eyres	S
	VERTICAL:	AHD71	DATE 02/06/	02/06/23	P

DETAILED DESIGN Government of Western Australia
Public Transport Authority BYFORD RAIL EXTENSION ARMADALE STATION PRECINCT LANDSCAPE SOFTSCAPE DETAILS 03 PTA Drawing No: 11-A-107-LA10043 Rev: B