



MetCONNX

Development Application 1 Viaduct for Armadale Station and Surrounds

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Byford Rail Extension

Development Application 1 – Viaduct for Armadale Station and Surrounds

Document details	
Title	Development Application 1 - Viaduct for Armadale Station and Surrounds
Project	Byford Rail Extension (BRE) Design and Construction Project
Laing O'Rourke Project No.	R30
Client	Public Transport Authority of Western Australia
Client contract No.	PTA200142
MetCONN Document No.	R30-WWH-RPT-PN-000-00003

Rev	Date	Revision Description	Prepared by	Reviewed by	Approved by
A	14-Mar-2023	Issued for IPLS	Timothy Hodge	Nicholas Temov	Nicholas Temov
B	11-Apr-2023	Issued for DA	Timothy Hodge	Naden Scarfone	Nicholas Temov

Table 1: Revision History

Acknowledgment of Country

MetCONNX acknowledges the Whadjuk People and the Gnala Karla Booja People as the Traditional Custodians of the land and waters on which Byford Rail Extension Project is located. We pay our respects to Elders, past, present and emerging, and thank them for their continuing connection to country, culture and community.

The BRE will extend the Armadale line from Armadale station to a new station in Byford. BRE will be constructed in the existing rail corridor currently used by Australind rail services between Perth and Bunbury. BRE will provide a direct transport connection between Byford and Perth, supporting a growing population, facilitating economic growth, and providing greater access to services and jobs.

LEGEND

- Existing Armadale Line
- Proposed Byford extension
- Station platform

Scale (approximate) 0 250m 500m

TO PERTH **TO BYFORD**

Armadale Road (new rail over road)

Forrest Road (new rail over road)

Friar Road (Pedestrian crossing under elevated rail)

Armadale Station (new elevated station)

Church Avenue (new rail over road)

Seventh Road (new pedestrian crossing under elevated rail)

Byron Road (closure of level crossing)

Eleventh Road (new road over rail)

Streets shown: Lake Vonn Rd, Friar Rd, Armadale Rd, Forrest Rd, Church Ave, Wilson St, Hobbs Dr, Seventh Rd, Townley St, Chisham Ave, Wungong Rd, Eleventh Rd, Moore St, Store St, Dickson Rd.

Locations: Armadale, Brookdale, Wungong.

Other labels: S Western Hwy, Wattle Rd, Crane Rd.

This Development Application (DA) Report has been prepared to provide:

- Byford Rail Extension
-
- Page 5 of 53

- An overview of the context of the subject site.
- An assessment of the proposal against relevant planning requirements.
- An examination of the planning merits of this proposal.

This application seeks approval for the following BRE project components only:

- Early works and site establishment works (including removal of vegetation, crane pads, and gantry work zones related to the construction of the viaduct piers and structures;
- Viaduct piers and beams (* see note below);
- Operational railway infrastructure / works (i.e rail track, maintenance tracks, signalling infrastructure, OLE masts, overhead rail lines and infrastructure etc); and
- Partial demolition of Armadale station and western carpark.

At this stage, the specific details of the finishes to parts of the viaduct (for example architectural screens, paint finishes, lighting and/or public art attached to viaduct structures) have not been finalised. This DA only covers the initial enabling and key structural elements of the viaduct piers and structure. As listed in **Table 2 - Development Applications, future development applications will address the remaining components that require planning approval for the BRE project (such as new station buildings, park and ride facilities, bus interchange facilities, and public realm treatments in the area beneath and around viaducts). These future applications will be subject to public advertising in accordance with relevant planning Acts.*

The components comprising the new station building and ground level public realm improvements have intentionally been separated to allow for the delivery of an early works package for the project's enabling infrastructure. The structural works included in this package are essential for ensuring that the overall construction of the BRE project is completed within the expected timeframe and that rail shutdown periods and associated disruptions to the local community are minimised.

This DA Report has been prepared to provide an overview of the subject site and the works associated assessed against the relevant planning framework. This application is also accompanied by supporting plans and technical documents, as discussed throughout this report.

DA 1 (refer to Table 2) is accompanied by specialist reporting and supporting information, which includes:

- **Appendix C:** Site Plan
- **Appendix D:** DA Drawings
- **Appendix E:** Tree Retention Strategy
- **Appendix F:** Staging, Demolition and Construction Management Plan
- **Appendix G:** Operational Noise and Vibration
- **Appendix H:** Drainage Strategy
- **Appendix I:** Engagement Outcomes
- **Appendix J:** Geotechnical

1. BRE Project Overview

1.1 Structure of Development Applications for the BRE

A total of five DAs are proposed as part of BRE, three of which are located within the City of Armadale Town Centre and its surrounds.

The purpose of splitting the DAs for Armadale is to ensure agreed timeframes are met. DA naming was originally given based on the time/date order in which they were to be lodged with the local authority, though this had changed with DA 1.5 and DA 2 preceding this DA.

Separating the DA works is common for complex projects such as BRE, with similar approaches being undertaken by other METRONET projects such as the Victoria Park-Canning Level Crossing Removal Project (VPLXR). This approach has been supported by the WAPC on other projects such as VPLXR and does not obviate the responsibility of MetCONNx to deliver development compliant with the state and relevant local planning framework.

Table 2 identifies each DA package associated as part of the BRE.

DA	Name	Lodgement To	Approval Authority	Additional information / Notes
DA 1 (Subject DA)	Early works and viaducts, piers, and associated infrastructure	City of Armadale	WAPC	Simple DA material outlined by WAPC Some related items are not included in this DA (to be included in DA 3) <ul style="list-style-type: none"> ▪ Lighting ▪ Public art ▪ Façade treatment ▪ Emergency egress within the station area
DA 1.5	Temporary bus interchange, and site establishment works for DA Package 1.5 at Armadale Station and surrounds, and early servicing and infrastructure	City of Armadale	WAPC	Approved by the WAPC March 2023
DA 2	Eleventh Road Bridge	DevelopmentWA	DevelopmentWA	Lodged with DevelopmentWA April 2023
DA 3	Armadale Station structures, bus interchange facilities, public realm upgrades, viaduct treatments (where applicable), related car parking, and pedestrian and vehicle access)	City of Armadale	WAPC	Includes Neerigen Street open Space upgrades
DA 4	Byford Station structures, bus interchange facilities, public realm upgrades, viaduct treatments (where applicable), related car parking, and pedestrian and vehicle access)	Shire of Serpentine-Jarrahdale	WAPC	N/A

Table 2: Development Applications

2. Project Details

2.1 Project Team

Specialisation	Responsible
Statutory Planning	MetCONNx
Structural Engineering Drawings	MetCONNx
Tree Retention Strategy	MetCONNx
Staging and Construction Management Plan	MetCONNx
Operational Noise and Vibration	SLR Consulting Australia
Drainage Strategy	MetCONNx
Engagement	MetCONNx
Geotechnical	CMW Geo Sciences

Table 3: Project Team

2.2 Land Description

Lot	Primary Interest Holder / Registered Proprietor	Deposited Plan	Volume	Folio	Lot area (m ²)
1091	State of Western Australia	796	LR3136	672	206,460
503	State of Western Australia	53376	LR3152	674	51,600
4	FES Ministerial Body of 20 Stockton Bend, Cockburn Central	181497	1452	160	3,322
502	Western Australian Land Authority of Level 2 40 The Esplanade Perth WA 6000	55376	2687	632	3,345
504	State of Western Australia	68592	LR3160	60	73,811

Table 4: Land Ownership

3. Site Context and Works Overview for this DA

3.1 Site Context

The Armadale Town Centre is located in the City of Armadale (the City), about 28 kilometres southeast of Perth in the south-eastern suburbs. The town centre is a vibrant urban area that serves as the commercial, retail, and cultural hub of the City. It is situated around Jull Street Mall, a pedestrianised mall that features a variety of shops, cafes, and restaurants. The Armadale Town Centre is surrounded by residential neighbourhoods, schools, and parks, making it an important gathering place for the local community. It is easily accessible by public transport, with a train station and bus stops located in the town centre providing an essential service to the people of the Armadale community.

The BRE project will deliver contemporary public transport and public realm upgrades to the Armadale Town Centre. New public spaces, streetscape improvements, and infrastructure upgrades will encourage further revitalisation of the place, creating an attractive and functional urban environment for residents and visitors alike. Additionally, the new Armadale station and public realm upgrades will further enhance revitalisation of the area, with the changes expected to increase passenger satisfaction around safety perceptions along the Armadale Train Line.

3.2 Works Overview for this DA

This application seeks approval for the following BRE project components, broadly described as the Viaduct for Armadale Station and Surrounds. This includes:

- Early works and site establishment works (including removal of vegetation, crane pads, and gantry work zones related to the construction of the viaduct piers and structures;
- Viaduct piers and structure (* see note below);
- Operational railway infrastructure / works (i.e rail track, maintenance tracks, signalling infrastructure, OLE masts, overhead rail lines and infrastructure etc); and
- Demolition of Armadale station and western carpark.

Figure 2 provides an overview of the locations where these works will occur (noting that detailed information on these works is included in the appendices this DA)

**At this stage, the specific details of the finishes to parts of the viaduct (for example architectural screens, paint finishes, lighting and/or public art attached to viaduct structures) have not been finalised. This DA only covers the initial enabling and key structural elements of the viaduct piers and structure. As listed in Table 2 - Development Applications, future development applications will address the remaining components that require planning approval for the BRE project (such as new station buildings, park and ride facilities, bus interchange facilities, and public realm treatments in the area beneath and around viaducts). These future applications will be subject to public advertising in accordance with relevant planning acts.*

3.3 Planning Approval Applicability

The planning approvals process for BRE is controlled by several legislative and regulatory provisions, as summarised below:

- The *Planning and Development Act 2005* (PD Act) provides exemptions for 'Public Works' from the need to obtain development approval for such development under the applicable local government planning framework.
- The Metropolitan Region Scheme (MRS) exempts all work for, or in connection with a railway that are located inside a designated railways reservation from the need to obtain development approval,

other than for the construction or alteration of a railway station, or any related car parks, public transport interchange facilities or associated means of pedestrian or vehicular access.

- Declaration of Planning Control Area 164 (PCA) was made under Part 7 of the PD Act. A PCA is an enabling planning mechanism that requires all development within the PCA be considered and determined by the WAPC.
- *The Railway (METRONET) Act 2018* (METRONET ACT) includes BRE which means that certain METRONET works are exempt from the requirement to obtain development approval where these METRONET works are situated outside of the designated MRS Railways Reservation.

3.3.1 Planning and Development Act 2005 and Public Works

Under Section 6 of the PD Act, there are exemptions from the requirement to obtain planning approval under a local planning scheme for 'Public Works' for the Crown, the Governor, a public authority, or a local government.

Public Works are defined by the *Public Works Act 1902*. The definition of public works includes:

(b) any railway authorised by special Act or any work whatsoever authorised by any Act;

Accordingly, the proposed works for BRE are considered to be 'Public Works' under Section 6 of the PD Act and do not require approval under the City of Armadale Local Planning Scheme No. 3.

3.3.2 Metropolitan Region Scheme

The MRS defines the future use of land and provides the legal basis for planning in the Perth Metropolitan Region, dividing it into broad zones and reservations.

Clause 16 (1a) of the MRS states that development on reserved land that is owned or vested in a public authority, may be commenced, or carried out without approval if the development is permitted development or is expressly authorised under an Act to be commenced or carried out without the approval of the WAPC. The majority of the works for this DA fall within an MRS reserve.

In the absence of a PCA, the MRS would ordinarily exempt all work for, or in connection with a railway, inside a designated railways reservation from the need to obtain development approval, other than for the construction or alteration of a railway station, or any related car parks, public transport interchange facilities or associated means of pedestrian or vehicular access. However, in the case of BRE, the MRS exemptions are overridden by the PCA provisions as outlined below.

3.3.3 Planning Control Area 164

PCA 164 was prepared under s.112 of the PD Act and was declared over the Armadale and Byford development sites on 22 June 2022. PCA 164 also includes additional land that was identified as being potentially required for the delivery of METRONET within the BRE development area. PCA is shown on Figure 2.

The purpose of the PCA is to facilitate development of the land for Railway purposes, and to allow (if required) the future reservation of land in the MRS.

The requirements for development in a PCA are set out under Section 115 of the PD Act, which states:

1. *A person who wishes to commence and carry out development in a planning control area may apply to the local government in the district of which the planning control area is situated for approval of that development.*
2. *An applicant is to submit to the local government such plans and other information as the local government may reasonably require.*
3. *The local government, within 30 days of receiving the application, is to forward the application, together with its recommendation, to the Commission for determination.*

Within 30 days of the City ‘receiving the application’, the City is required to forward the application, together with its recommendation, to the WAPC for determination. The WAPC considers the PCA to ensure that no development occurs on this land which might prejudice the outcome of BRE works.

Pursuant to Sections 116(1)(b)(ii) and 116(1)(b)(iii) of the PD Act, the WAPC will have regard in assessing a PCA development application, to the purposes for which the land to which the application relates is zoned or reserved under any planning scheme and any special considerations relating to the nature of the planning control area concerned and of the development to which the application relates.

3.3.4 METRONET Act

The *METRONET Act* states that METRONET works can be carried out without the approval of the WAPC despite any provisions in the MRS or PCA.

METRONET works are defined as:

“works for the purpose of, or in connection with, a METRONET railway but does not include the construction or alteration of a railway station, or any related car parks, public transport interchange facilities or associated means of pedestrian or vehicular access”.

Accordingly, all the railway works other than works for the new stations, works in relation to car parks, bus interchange facilities and associated means of pedestrian and vehicle access are exempt works.

Development approval is generally not required for other railway infrastructure in either the existing railway reserve or on non-railway land that is outside of PCA 164. This is because the *METRONET Act* also exempts these works from requiring development approval under the MRS. As such, any railway works either side of the new station works beyond the bridge abutments/platforms are all works that are exempt from the requirement to obtain development approval.

On this basis, the Alliance is seeking development approval from the WAPC under PCA 164 for all non-exempt development. Whilst some works are exempt from the requirement to obtain development approval, the plans and specialist material provided may illustrate and/or include details of the exempt works, as well as the works requiring WAPC approval. This is because this material has been prepared to inform and guide the project holistically given that the construction of exempt and non-exempt works are intrinsically interconnected as part of the delivery and ultimate operation of the rail infrastructure.

3.4 BRE Exemption Matrix

Works Location	METRONET Works ¹ – as defined in Railway (METRONET) Act 2018	METRONET station (Railway station; related car parks; public transport interchange facilities; means of pedestrian or vehicular access to station; public realm)
Works located: Within Planning Control Area, and Within Metropolitan Region Scheme Railway Reserve	Approval required for all works	WAPC approval required for all works
Works located: Within Planning Control Area, and Outside Metropolitan Region Scheme Railway Reserve	Exempt	WAPC approval required for all works
Works located: Outside Planning Control Area, and Outside Metropolitan Region Scheme Railway Reserve	Exempt	WAPC required for all works

Table 5: BRE Exemptions Matrix

‘METRONET Works’ are described by the WAPC as ¹, which apply to DA 1.

- Early works and site establishment works;
- Operational railway infrastructure / works (i.e. rail track maintenance tracks, signalling infrastructure, OLE masts, overhead rail lines and infrastructure etc);
- Piling for viaduct (not including station and associated infrastructure);
- Viaduct piers and structure (not including station and associated infrastructure);
- Temporary road alterations for railway works;
- Road works (not providing pedestrian or vehicular access to stations and associated infrastructure);
- Railway buildings supporting operational rail works (excluding stations);
- New drainage or alteration to drainage where associated with rail works;
- Removal or alteration of water and gas infrastructure for the railway works;
- Electricity works for the railway;
- Temporary work compounds for the railway;
- Noise walls associated with rail corridor;
- Retaining walls associated with rail corridor;
- Retaining walls along rail corridor where these are supporting the rail works/line;
- Temporary car parking areas to support construction;
- Demolition of existing stations; and
- Demolition of existing railway infrastructure.

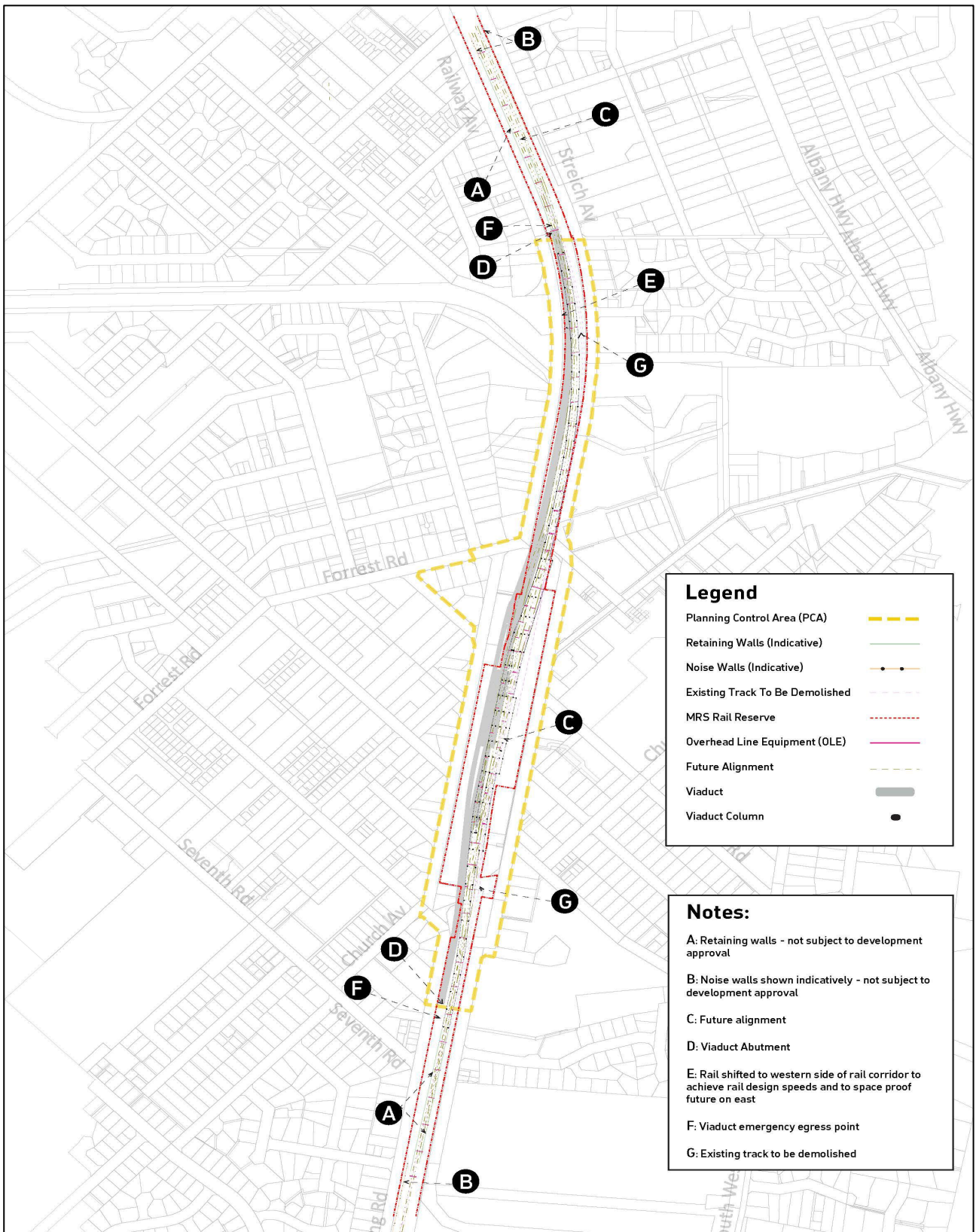


Figure 2: Site and Context Plan

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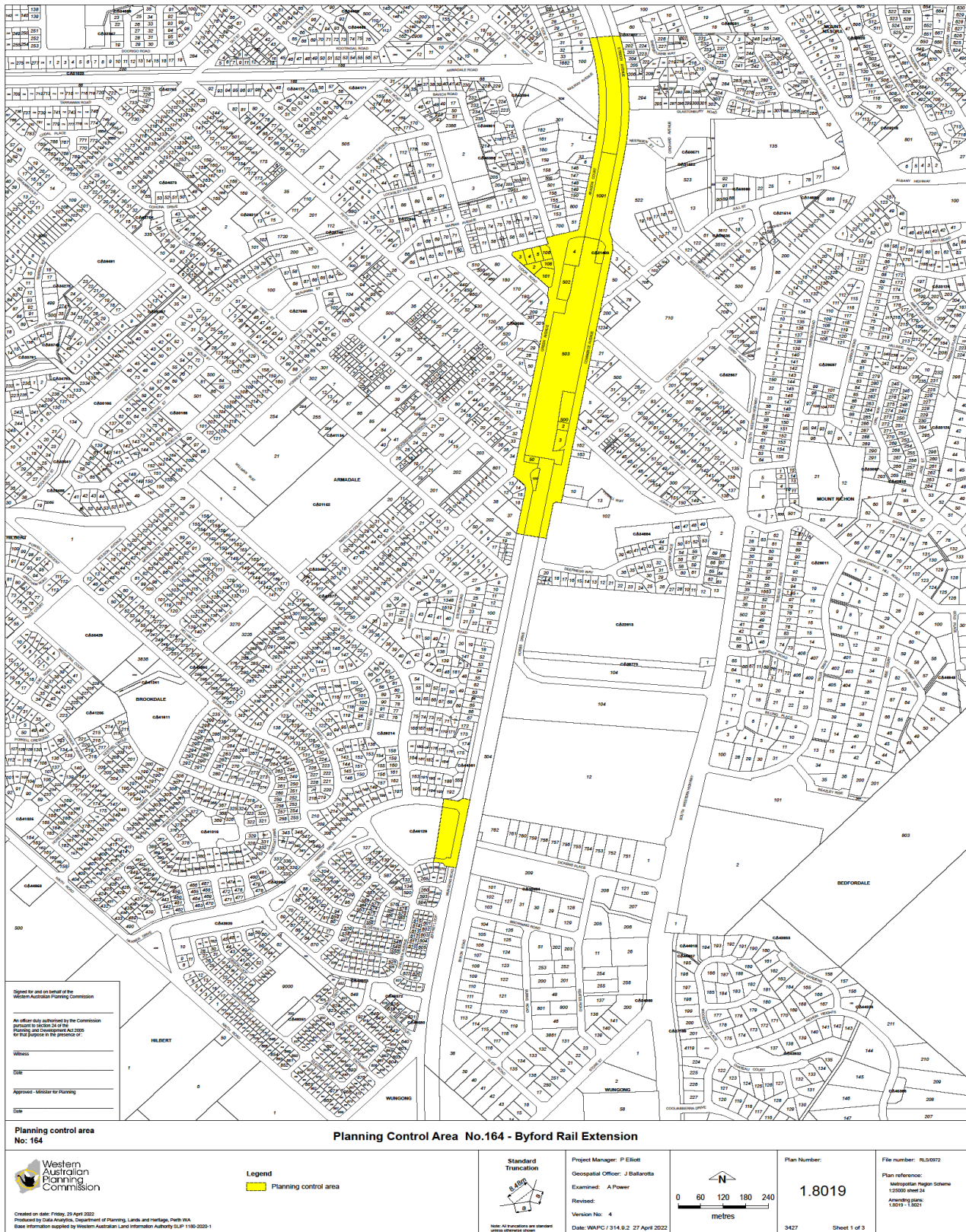


Figure 3: Planning Control Area 164 - Armadale

4. Engagement

The BRE engagement team has prioritised a proactive engagement approach to improve understanding of the works in this DA and to mitigate project risks. The BRE engagement aims to:

- Inform the public with balanced and objective information;
- Inform and consult on changes to current amenity;
- Involve and work directly with the public to resolve issues that arise through construction; and
- Collaborate with key stakeholders to identify and realise opportunities or mitigate impacts.

Table 6 details the activities which have been undertaken aimed to improve place outcomes, provide accessible, clear, and timely information; create meaningful, two-way discussion, and mitigate risks.

Table 7 details the key issues raised during these activities, the relevant stakeholders and how the project has responded.

Appendix I includes additional information on engagement activities through a comprehensive Engagement Outcomes Report. It details the BRE engagement strategy, social needs analysis, activities undertaken, and engagement outcomes.

What	Who	Additional Details
Stakeholder briefings in the form of presentations, workshops, and meetings.	METRONET, PTA WA and Transperth State Design Review Panel, Office of the Government Architect WA City of Armadale Shire of Serpentine Jarrahdale Main Roads WA Development WA Utility providers including Western Power, Telstra, Optus, Water Corporation, ATCO Gas Community, business, and special interest groups (including through a Community Reference Group)	Ongoing from May 2022 and in line with design milestones.
Personalised letters to adjoining neighbours, with detailed information on works, their nature and risk, expected timelines, complaint channels.	Properties sharing within 100m of construction sites	Ongoing from May 2022 in line with key project milestones and developments. This includes the Dale Cottages aged care facility, which is a large residential landowner adjacent to the proposed works.
Personalised briefings using presentations and opportunity for questions and answers.	Elected representatives and key stakeholders	Ongoing from June 2022 and as required/requested throughout the project lifespan.
Dedicated project contact channels: The METRONET website (www.metronet.wa.gov.au) email (info@metronet.wa.gov.au) and phone (9326 3666) is the first point of call for all project enquiries.	Details provided on all external communications material	Project team are available to respond within 24 hours to requests received through these channels as required throughout the project lifespan.
Facilitated reference groups to help shape project construction activities and protocols.	A representative mix of local business and residents	From July 2022 with the groups continuing throughout the project lifespan.

Table 6: Engagement Summary

Sentiment	Issues Raised	Stakeholders	Response / Solutions
Tree Retention and Landscaping	A strong desire for tree retention and appropriate landscaping.	Residents Stakeholders Community reference group	<ul style="list-style-type: none"> ▪ Prioritise the retention of native vegetation. ▪ Sustainability target for "no net loss of biodiversity". This will be achieved through offset management and tree retention planning, developed in collaboration with key stakeholders. Where impacts are unavoidable, the project will minimise and offset impacts. The design and construction methods have been and are being carefully considered to achieve optimum environmental and social outcomes.
Access and Amenity During Construction	Residents and stakeholders have expressed a desire to maintain access and amenity during construction.	Businesses Stakeholders Residents	<ul style="list-style-type: none"> ▪ The Alliance will work closely with businesses most affected to minimise impacts to access and amenity during construction. ▪ A Construction Management Plan and Transport Impact Statement has been prepared to ensure all vehicle movements are facilitated in a safe manner.
Noise During Construction	Residents and stakeholders have expressed concerns about the noise impacts during construction.	Residents Community reference group	<ul style="list-style-type: none"> ▪ The Alliance will provide regular updates on upcoming construction works to mitigate any adverse impacts on the amenity of the area. ▪ All vehicles will be fitted with croakers rather than beepers to maintain safety requirements whilst being more amenable to residents requirements ▪ Every effort has been made to avoid after hours work, where possible.
Parking During Construction	Parking access to local businesses is not compromised.	City of Armadale	<ul style="list-style-type: none"> ▪ Additional parking has been provided for residents and contractors.
Drainage	Drainage compliance	City of Armadale	<ul style="list-style-type: none"> ▪ Drainage has been surveyed to ensure compliance.

Table 7: Engagement Outcomes



4.1 State Design Review Panel

The State Design Review Panel (SDRP) provides independent, expert advice to Government agencies, decision makers and proponents regarding the design quality of different projects of all scales. The SDRP helps to improve the design quality and were engaged as an important stakeholder on the BRE Project.

Three reviews were undertaken for the BRE Project, where viaduct structures were discussed (amongst other, more general BRE considerations).

- Design Review 1 – Completed on 27 October 2020, with additional Office of Government Architect (OGA) Interim Advice completed 7 May 2021.
- Design Review 2 - Completed 16 June 2022. This is a review for the reference design of Armadale station (that focusses on the architecture and ensures Preliminary Place Plan (PPP) outcomes are deliverable).
- Design Review 3 - SDRP. Completed 7 March 2023. This is a review for the reference design of the Armadale Station (that focuses on the architecture and ensures PPP outcomes are deliverable). This review occurs during design development and/or prior to the proposal being submitted for development approval.

Feedback received during SDRP No. 3 is currently being considered by the Alliance. The SDRP reviews held to date have predominantly focussed on the design approach to the new train stations and public realm however the design of the piers, pier headstock and 'U' troughs, which form part of the viaduct, have been included in the scope of the review process.

The SDRP and Office of the Government Architect have also been consulted on the design of the viaduct structure and are generally supportive of the piers chosen to support the beams of the viaduct.

While the project team and SDRP noted the viaduct structures must work within specific engineering requirements to manage the safe operation of rail infrastructure, the Alliance has reviewed these structures to ensure that an architectural design approach can be applied to their form. Additionally, the WAPC has previously approved VPCLXR Viaduct DA, and the lessons learned from that have translated into MetCONNx design's to ensure a best for project outcome is achieved.

As previously mentioned, the specific details of the finishes to parts of the viaduct (for example architectural screens, paint finishes, lighting and/or public art attached to viaduct structures) have not been finalised and will form a part of DA 3.

An assessment of the structure against the design principles of State Planning Policy 7.0 - Design of the Built Environment is included at **Section 6.5.4** above demonstrating the design approach applied to the proposed viaduct structure.

5. Development Overview and Technical Considerations

5.1 Viaduct Beams and Piers

The viaduct structure extends from Armadale Road through to the abutment at Church Avenue (more specifically from the existing ground level crossing just north of Frys Lane, extending south just north of Deerness Way). This an approximate length of 1,500 metres. The viaduct comprises of 1500mm x 1500mm precast concrete piers ranging from 4950mm to 8324mm in height to support four precast beams.

Construction of the viaduct and beams will result in a realignment of the track towards the western boundary to accommodate the current Australind Line, and potentially the Bunbury faster rail if the preferred alignment option selected in the future connects with the Armadale Line.

The viaduct beams and piers are proposed to be finished in grey, with future aesthetic treatment options in key areas described in **Section 6.3 – Aesthetic Treatments to Viaduct**.

Figure 4 shows the alignment of the viaduct in plan view.

Figure 5 and **Figure 6** show typical sections of the viaduct in its surrounding context, and in more detail.

Massing Models 1 – 3 are to demonstrate how the viaduct will appear contextually within the Armadale town centre and provide an indicative sense of bulk and scale for pedestrian and vehicle movements. They're not intended to detail the final design of the structure or detail any treatment options.

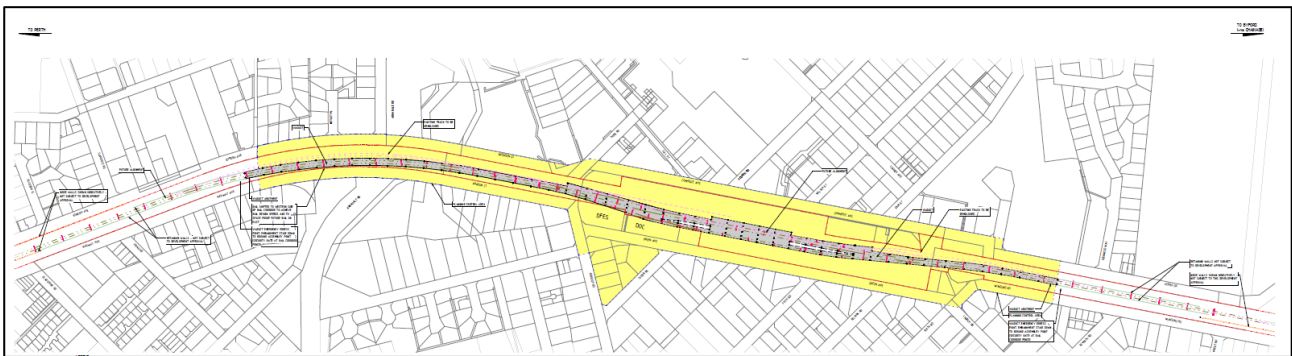


Figure 4: Viaduct Plan (Viaduct shown in grey shading)

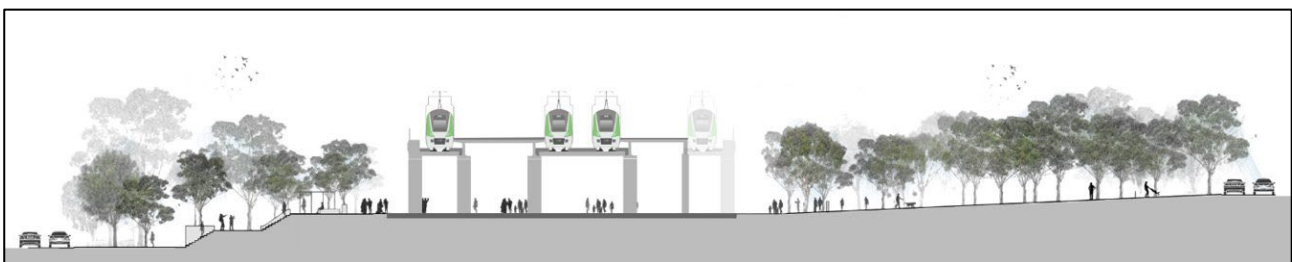


Figure 5: Section of Proposed Viaduct in Wider Context

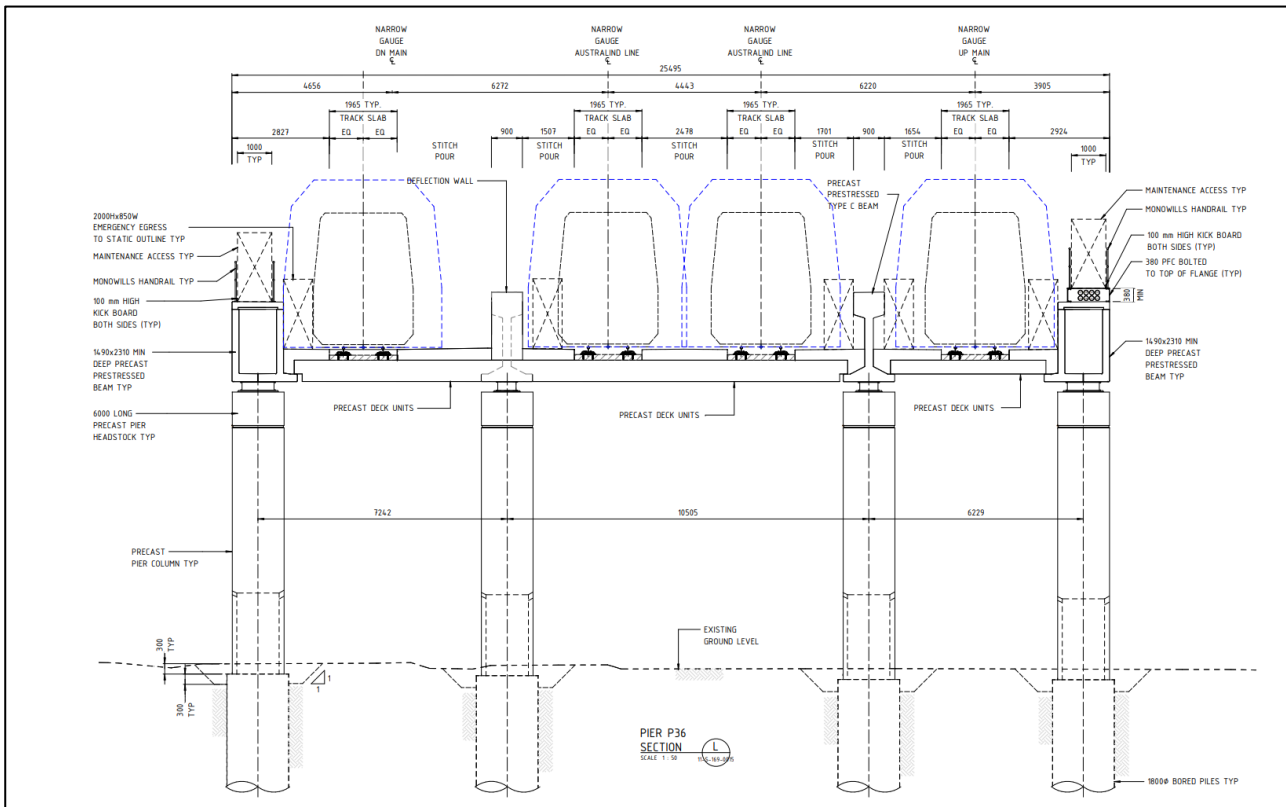


Figure 6: Section of Proposed Viaduct in Detail (Station Precinct)



Massing Model 1: Church Avenue → South



Massing Model 2: Church Avenue → North-East



Massing Model 3: Forrest Road → South-East

5.1.1 Drainage Infrastructure

Stormwater runoff from the viaduct will be discharged to new drainage infrastructure down at ground level, which either sits within the rail corridor, or within the Armadale Precinct.

The existing drainage network is predominately 'pit and pipe' infrastructure that flows west and runs along the local roads to the west of the corridor. Drainage within the rail corridor is predominately a network of open channel that manages rail runoff and discharges at select location into the City's drainage network.

Refer to **Appendix H** for the Drainage Strategy.

5.1.2 Operational Noise and Vibration

The Viaducts and Noise Walls Development Approval – Acoustic Report (Operational Noise and Vibration Report) provides an assessment of environmental noise and vibration associated with the viaducts and noise walls at Armadale Station.

A key consideration of the Operational Noise and Vibration Report is the future development areas located which includes multi-storied (more than 3) buildings, assessed accordance with State Planning Policy 5.4 – Road and Rail Noise.

The Operational Noise and Vibration Report concludes that the noise and vibrations from railway operations associated with the viaducts at Armadale Station can be practicably managed to comply with the applicable criteria. Notwithstanding, the extents and type of mitigation indicated in the report are subject to further detail. Further treatments within the viaduct are available to suit development at the locations and heights indicated in the Armadale City Centre Activity Centre Plan and City Centre West of Railway Precinct Plan.

Refer to **Appendix G** – Operational Noise and Vibration Report for detail regarding acoustics for the operation of the elevated railway within the Armadale Town Centre.

5.1.3 Signalling, Services and Overhead Line Equipment

The viaduct beams house overhead line equipment (OLE) and other signalling and services associated with elevated rail infrastructure. The OLE extends throughout the extent of the viaduct.

Refer to **Appendix E** for the DA Drawings displaying the signalling, services and OLE.

5.1.4 Emergency Egress

Emergency egresses will provide safe passage for rail users and emergency services in the event of an emergency. They are located along the extent of the viaduct in accordance with applicable rail safety criteria. Some emergency egress areas are located at Armadale Station, where the design of this area is currently in progress to resolve a range of complex factors. For this reason emergency egress areas at Armadale Station will be detailed in DA 3.

5.1.5 Geotechnical

Significant testing to ensure safe construction of the viaduct has been considered and informed the engineering and design requirements for the proposed works.

Refer to **Appendix J** for the Geotechnical Report related to the proposed works.

5.2 Retaining and Noise Walls

Retaining and noise walls associated with DA 1 infrastructure are outlined in **Figure 2**. These works are exempt from the requirement to obtain development approval as they are located outside Planning Control Area 164, considered METRONET works, and within the Metropolitan Region Scheme Rail Corridor.

Notwithstanding this, these works have been included in this DA Report to provide context and demonstrate their compatibility with the viaduct and surrounding urban context. Refer to **Section 3.4** – BRE Exemptions Matrix and **Appendix D** for the DA Drawings. **Section 6.3** – Aesthetic Treatment to Viaduct will also apply to retaining and noise walls, with for potential future aesthetic treatments likely to be applied.

5.3 Staging, Demolition and Construction Management Plan

A Staging, Demolition and Construction Management Plan (SDCMP) has been prepared to outline the construction methodology for the safe and efficient delivery of all works associated with the construction of the viaduct. The SDCMP also details how the existing station building and carpark located to the west of the tracks will be demolished to construct the viaduct.

The Alliance appreciates the disruption a large infrastructure project like BRE can have to the local community during the construction of the viaduct. This includes minimising the impact to the existing operation of the Armadale line during construction of the viaduct, which has informed the alignment of the structure to the west of the existing at-grade rails.

To mitigate against any adverse impacts, on-going consultation with stakeholders and the local authority will be made to ensure minimal disruption, both before and after PTA's possession of the Armadale line.

Refer to **Appendix F** for more information on the Staging, Demolition, and Construction Management.



6. Design and Planning Considerations of the Viaduct

6.1 Relationship with Surrounding Urban Context

The project will elevate the Armadale Rail Line within the Armadale Town Centre for a length of approximately 1,500 metres, extending from Armadale Road through to the abutment at Church Avenue. The structure's height is approximately 12 – 15 metres, with an approximate clearance of 5 – 6 metres below viaduct beams.

It is recognised that the viaduct structure will impact the environment it travels through, though effort has been made to balance its scale with the amenity afforded to users beside and below the space.

The Armadale Town Centre is generally characterised by a mix of commercial and civic buildings and residential development that ranges in scale from single storey homes, to low to medium scale apartments on both the western and eastern sides of the rail corridor. There are several historical buildings within the town centre, including the Armadale Post Office, the Settlers Cottage, and the Armadale District Hall. These buildings reflect the town's early settlement and development, with their distinctive architecture and design.

The surrounding area includes several underdeveloped sites. These are opportunities for new development in the area to leverage from the significant investment in public infrastructure, as BRE is expected to act as a catalyst for future investment. This is reflected in recent precinct planning exercises run by the City, and the planning framework in the normalised redevelopment area to the east of the rail line:

- Precinct planning has been recently progressed by the City, and the viaduct's scale aligns with the future intent for 3 storey buildings adjacent to the rail reserve, north of Forrest Road.
- The Development WA's Redevelopment Scheme (which has now been normalised into the City's planning framework) also includes provisions for future development that align with the scale of the viaduct, with heights ranging between 3 – 7 storeys in areas adjacent to the structure.
- The Draft Armadale Activity Centre Plan seeks to add approximately 1250 – 2300 dwellings, east of the rail corridor between Armadale Road, John Street, and South Western Highway has been an important consideration for the design of the viaduct. Refer to **Figure 10**.

The height of the viaduct which ranges from approximately 7m from the piers to 15m at the OLE, is generally in keeping with the future planning for the Armadale town centre. The objectives of the Draft Structure Plan Activity Centre is generally aligned with the objectives of the new Armadale Station and the benefits associated with the elevated rail, through creating a new rail / civic plaza, providing a connected network of precinct nodes throughout the town centre, and supporting the City as the strategic central focus of the south-eastern corridor.

The construction and upgrading of viaducts has been a common sight in Victoria and New South Wales since 2014, citing the benefits of:

- Safer conditions for drivers, public transport users, pedestrians, and cyclists;
- Better public transport facilities via a new premium railway station;
- Improved connectivity between alternate modes of transport;
- More reliable travel times for drivers and public transport users; and
- Better connections and access within town and activity centres.

Through detailed design and the subsequent lodgement of DA 3, exploring and understanding the lessons learnt from these developments can lead to smart and efficient urban design outcomes, resulting in an exceptional human experience-led approach.

6.2 Orderly and Proper Planning

The principles of orderly and proper planning require that new development is a logical and efficient extension of existing development, and consistent with the planning vision and strategic direction for a locality. The BRE Project represents a significant investment by the WA Government to support sustainable growth of Perth Metropolitan Region over the next 50 - 100 years. The project seeks to provide a positive impact on the neighbourhoods it serves, including additional infrastructure and initiatives to support the development of local communities at the same time. Additionally, the project supports safety and congestion issues associated with existing level crossings and improving the amenity of the Armadale Town Centre to support urban renewal and consolidation.

BRE will decrease the footprint of the existing rail line, elevating it and concealing it within a viaduct. It improves east-west connections and for public realm upgrades across the Armadale Town Centre.

Although DA 1 only pertains to the initial enabling works and primary viaduct structure, the sizing and placement of piers have been given careful attention to minimise their visual impact and address legibility and safety concerns.

The design has been thoughtfully considered and effectively resolved, not only from an engineering standpoint but also capable of achieving general alignment with the principles of good design outlined in State Planning Policy 7.0 - Design of the Built Environment.

Although community and stakeholder feedback has primarily focussed on the overall design of Armadale Station and public areas, it has also emphasised the need for safe and pedestrian-friendly connections along and across the rail corridor. The viaduct plays a vital role in establishing these connections and releasing land within the rail corridor for other public uses.

6.2.1 Amenity

- Elevated rail creates the opportunity to develop parks and gardens for public use on what is currently utilised land. These spaces can be activated which facilitate specific events and activities, or passive open spaces which can contribute to the public realm.
- A well-designed viaduct will contribute to place making and add to the character and identity of the local built environment. This is particularly relevant for Armadale where the existing 'at grade' crossings can be transformed into gateways and community markers.
- Another consideration associated with an elevated rail is the experience of railway commuters and other passengers.
- High clearances of approximately 5 - 6 metres under the viaduct will allow for visual connections, light and openness to enhance safety those using the areas underneath and beside.

6.2.2 Connectivity and Accessibility

- Removing level crossings with a viaduct will help relieve road congestion and create opportunities for new road connections.
- Connectivity for pedestrians and cyclists will be greatly enhanced, as opportunities to safely cross time train line will no longer be limited to infrequent points along the Armadale Line, but possible anywhere under the unobstructed ground plane.
- The viaduct will also improve access to the stations themselves, increasing rail patronage, and further reducing road congestion.

6.2.3 Disruptiveness and Safety

- Newly designed elevated rail tracks are less noisy than traditional 'at grade' rail and crossings given the greater separation distances often associated. Further attenuation measures can be included where required, along with overlooking through the use of screens and barriers.
- The removal of all level crossings within the Armadale Town Centre means that safety along the entire corridor is dramatically improved and risks of collisions between trains and cars, cyclists or pedestrians is eliminated. This increased safety along the Armadale Town Centre will encourage greater usage of new spaces, increasing passive surveillance and public spaces.
- Piers are designed to be as narrow as possible, reducing the ability for concealment to improve safety for those using the areas underneath and beside the viaduct.

6.2.4 Economic Development

- The integration of retail spaces or other building types at street level is aided by freeing up of space by elevating the rail line. Land uses such as retail, hospitality, commercial and community uses can provide employment and contribute to local economic activity in areas beside the viaduct.

6.3 Aesthetic Treatments to Viaduct Structure

The specific details of the lighting, architectural screens, paint finishes and public art that will form parts of the viaduct structure are currently under development and will form part of DA 3. However, it is acknowledged that the viaduct is a large-scale piece of public infrastructure, and these aesthetic elements can help to improve the relationship between the viaduct structure and important parts of the Armadale Town Centre, such as gateway/landmark approaches to the place.

Varying levels of treatment are likely to be applied in certain areas based on

- Landmark / gateway qualities of the viaduct at certain locations;
- Impact of aesthetic treatments on the public realm;
- Alignment with existing and future development at certain locations along the viaduct; and
- Consideration of vandalism impacts at certain locations along the viaduct.

Current considerations for additional aesthetic treatment include cladding and screening elements, public art, paint treatment and landscaping. **Figure 7** shows areas examples of aesthetic treatments that may be applied to the viaduct structure.

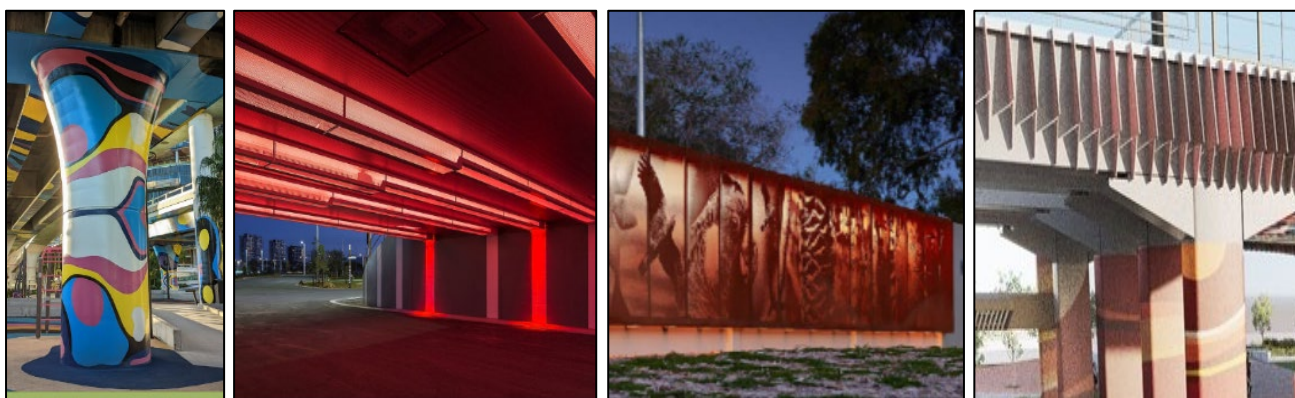


Figure 7: Examples of Aesthetic Treatments

6.4 Tree Retention

Trees support and enhance Armadale's existing sense of place. They provide practical amenity and ecological benefits to the area too, offering shade and amelioration of the urban heat island effect. MetCONNx appreciates the benefit that tree retention has, combined with the aesthetic and environmental outcomes that benefit the broader Armadale community. This, however, has required balance with the practicalities of viaduct construction.

A Visual Tree Assessment and Preliminary Report has been prepared by Arboribus to inspect trees within the areas specified and provide comment regarding tree status; and identify preliminary tree protection considerations to be further developed as part of the proposed Armadale station redevelopment.

A total of 418 trees were assessed in the Armadale Station area (and surrounds). A specific working group has been formed within the Alliance to work through the most appropriate ways of delivering the viaduct structure. Where possible/practical, trees are being retained as part of the METRONET upgrades. Please note that all Heritage Trees can be retained as part of the works.

It was identified that some established trees would require removal to:

- Accommodate construction methods;
- Accommodate the new rail infrastructure; and
- Meet minimum setback design parameters set by the PTA for safety or maintenance.

In these instances, replanting commitments are made to ensure tree canopy can regrow in the local area.

Refer to **Appendix E** for a copy of the Tree Retention Strategy prepared by UDLA Landscape Architects and the Armadale Station Visual Assessment and Preliminary Report and Tree Retention Specification prepared by Arboribus.

6.5 Planning Framework Considerations

6.5.1 Perth and Peel@3.5 Million

Perth and Peel @3.5 Million seeks to accommodate 3.5 million people by 2050. The aim of the framework is to achieve greater urban consolidation by maximising the use of existing land near existing transport infrastructure and activity centres. To accomplish this goal, there will be a focus on developing and evolving new and existing activity centres into vibrant, mixed-use community hubs that are connected to high-quality public transport links.

The DPLH, in collaboration with other State Government agencies, developed the Perth and Peel Sub-regional frameworks, with the aim of improving connectivity in the Perth and Peel regions. The frameworks take into consideration a range of important initiatives that aim to enhance connectivity in these regions.

The sub-regional frameworks aim to accommodate future population growth while ensuring the efficiency of the transport system is not compromised. To achieve this goal, the frameworks emphasize the integration of urban and employment nodes with transport infrastructure and services. This includes upgrading and adding new transport infrastructure to the network as needed. The transport network proposed in the Perth and Peel @3.5 million document includes the extension of the Armadale Rail Line to Byford.

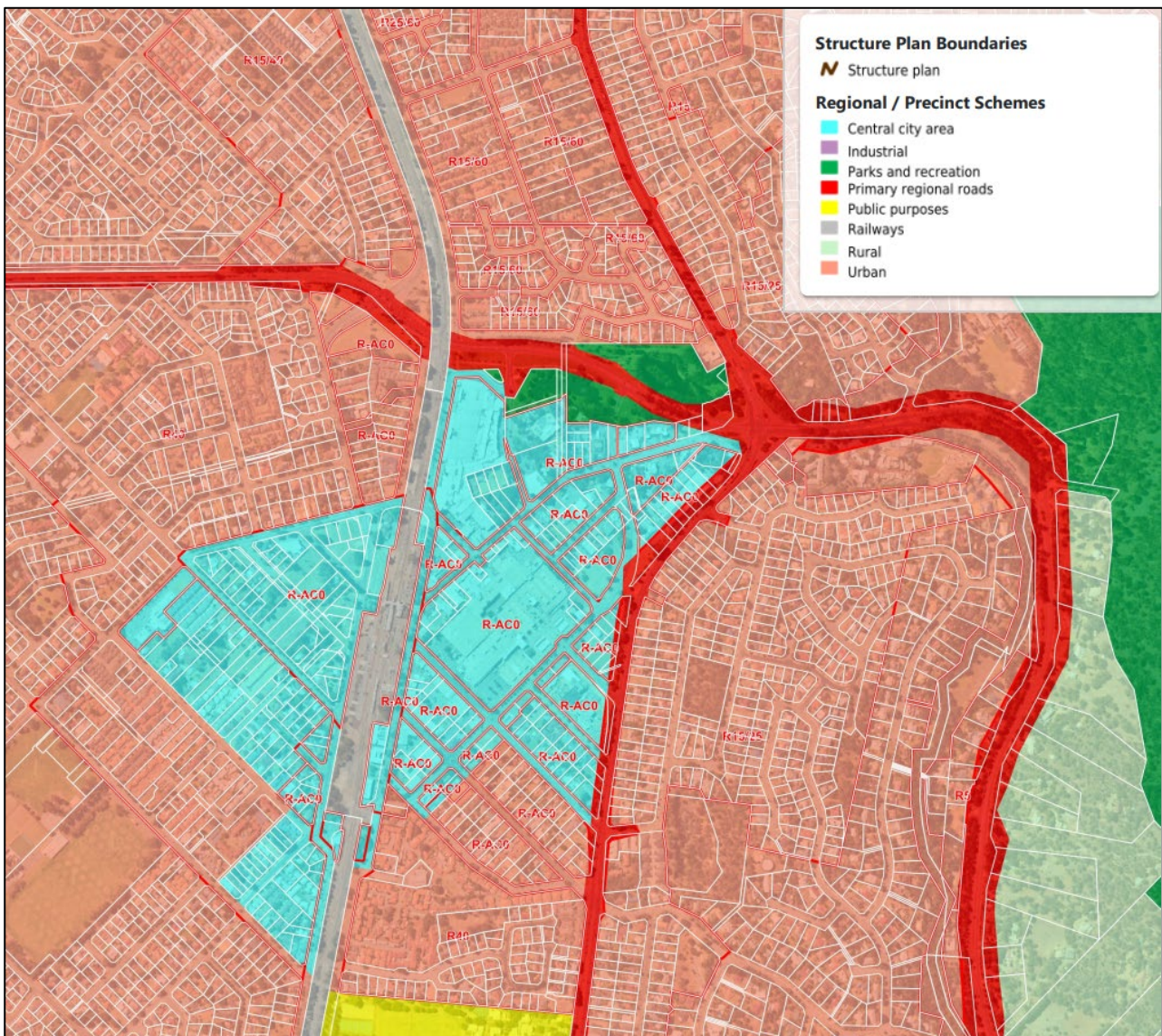
The METRONET strategic plan for the South Metropolitan Peel Sub-region includes plans to extend the Armadale Rail Line to Byford to improve connectivity in the southern region. BRE is a significant component of this plan and involves major works to upgrade the passenger rail line. The project aims to improve the public transport experience for Western Australians and promote urban renewal in the areas surrounding the upgraded rail infrastructure.

BRE aims to upgrade the Armadale Rail line significantly, introducing new modern rail infrastructure, train stations, and public amenities to improve the overall passenger experience. The proposed viaduct will introduce new rail technology to Perth and will facilitate ongoing development and advancement of passenger rail services in the Perth and to the Peel regions.

6.5.2 Metropolitan Region Scheme

The proposed works align with an area that is primarily reserved for 'Railways'. The infrastructure proposed in this DA aligns with this definition, as a viaduct to be constructed for railway purposes.

Zones adjacent reserved for the purpose of 'Primary Regional Roads' and 'City Centre Area'. Many of the public realm upgrades to be included in DA 3 will describe how these uses under and beside the viaduct will improve connections from east to west across the corridor and provide amenity for residents and visitors in these zones.



6.5.3 State Planning Policy 7.0 – Design of the Built Environment

State Planning Policy 7.0 – Design of the Built Environment (SPP 7.0) requires new development proposals to address the 10 Principles of Good Design. It is intended to promote positive design outcomes, with the viaduct structure facilitating improved outcomes for residents and visitors who will use the spaces beside or below. The assessment includes the viaduct structure as a whole.

A response to each of the principles is provided in **Table 8** below.

Principle	Response
Context and Character	
Good design responds to and enhances the distinctive characteristics of a local area, contributing to a sense of place.	<p>The viaduct is a significant piece of infrastructure and will form a key part of the Armadale Town Centre. It is therefore essential the design responds to and enhances the natural strengths of the area.</p> <p>The viaduct enhances the distinctive characteristics of the Armadale Town Centre by opening a physical link between the east and west sides of the Armadale Town Centre, providing visual connections to the Darling Scarp. These connections create a more cohesive town centre and allows for easier movement between different parts of the town, contributing to a sense of place and community identity.</p>
Landscape Quality	
Good design recognises that together landscape and buildings operate as an integrated and sustainable system, within a broader ecological context.	<p>The proposal is mindful of the local ecology and has worked hard to minimise the impact of the construction process on the surrounding landscape. This has included limiting the amount of earthworks, preserving existing vegetation and trees (where possible), and managing construction waste and pollution.</p> <p>The elevated nature of a viaduct allows for the integration of green spaces, water courses (such as the Neerigen Brook) and public areas underneath the viaduct, promoting a more sustainable and accessible environment.</p> <p>The materials used to construct the viaduct have been chosen with sustainability in mind. Specifically, the use of precast concrete elements reduces the amount of material required with the final design to be durable, low maintenance, reducing the need to frequent repairs and replacement and therefore minimising the impact of the viaduct on the local ecology and resources over its lifetime.</p>
Built Form and Scale	
Good design ensures that the massing and height of development is appropriate to its setting and successfully negotiates between existing built form and the intended future character of the local area.	<p>The design of the viaduct ensures that its massing and height are appropriate for the Armadale Town Centre by balancing functional requirements with the need to deliver optimum benefit over the full life cycle of the development.</p> <p>The viaducts design meets the functional requirements of the rail line, while aligning with the future built form character of the Armadale Town Centre. It will contribute to the overall liveability and amenity of the Armadale Town Centre, catalysing development to encourage it to meet the built form goals of the local planning framework.</p>
Functionality and Build Quality	
Good design meets the needs of users efficiently and effectively, balancing functional requirements to perform well and deliver optimum benefit over the full lifecycle.	<p>The elevated nature of a viaduct will future proof public transport operations in the Armadale town centre.</p> <p>The viaduct design prioritises the comfort, productivity, and safety of all users. The use of precast concrete elements ensures that the viaduct is durable and low maintenance, reducing the need for frequent repairs or replacements that could disrupt the comfort and productivity of users.</p> <p>Concrete structure will naturally weather over time, and parts of the viaduct that will be aesthetically enhanced will ensure that architectural treatments, painting, lighting, and public art can be maintained easily over time.</p>

Sustainability	
Good design optimises the sustainability of the built environment, delivering positive environmental, social, and economic outcomes.	<p>The viaduct's elevated design allows for a variety of uses and activities to take place. The space underneath the viaduct has a suite of opportunities for activation and community events, contributing to the social and economic vibrancy of the town centre.</p> <p>Additionally, the landscaping and public art installations will provide visual interest and a connection to nature, which will contribute to mental and physical well-being of the Armadale Town Centre.</p> <p>Overall, the design of the Armadale viaduct offers a variety of uses and activities while optimising internal and external amenity for occupants, visitors, and neighbours, providing environments that are comfortable, productive, and healthy.</p>
Amenity	
Good design provides successful places that offer a variety of uses and activities while optimising internal and external amenity for occupants, visitors, and neighbours, providing environments that are comfortable, productive, and healthy.	<p>The viaduct's elevated design provides an open and flexible space that can accommodate a variety of activities with high clearances to encourage visual connections and natural light from east to west. The areas underneath and adjacent to the viaduct have the capacity to host community events, and passive recreation.</p> <p>The viaduct's design incorporates features that optimise internal and external amenity for occupants, visitors, and neighbours. The pedestrian and cycle paths on either side of the viaduct through a principal shared path will improve accessibility and promote active transportation, while the public art installations and landscaping will work together to enhance the aesthetic appeal of the area.</p> <p>These amenities contribute to the overall liveability and vibrancy of the town centre, improving the quality of life for residents and visitors alike.</p>
Legibility	
Good design results in buildings and places that are legible, with clear connections and easily identifiable elements to help people find their way around.	<p>The design of the viaduct creates clear east-west connections and easily identifiable elements to help people find their way around the Armadale Town Centre.</p> <p>The proposed pedestrian and cycle paths to be constructed as part of the principal shared paths will be clearly defined and well connected to the surrounding streets and public places. The paths are designed to be safe, accessible, and easy to navigate, providing clear connections for pedestrians and cyclists to move around the centre.</p> <p>Visual connections will help users identify buildings, trees and open space elements (such as Neerigen Brook) to allow for intuitive wayfinding.</p>
Safety	
Good design optimises safety and security, minimising the risk of personal harm and supporting safe behaviour and use.	<p>Safety within and outside the rail corridor has been a key consideration for this development. One of the considerations made by the design team includes ensuring sight lines are clear, in and around the viaduct.</p> <p>The removal of the 'at grade' design allows for free movement of pedestrians and vehicles, reducing risks of conflict that could result in injury and damage to the immediate surroundings.</p> <p>Additionally, the generous vertical clearance of the viaduct (by approximately 5 -7 metres) and the spacing of the piers (by approximately 12 metres) maximises visibility with clear sight lines to the Armadale town centre through Jull Street Mall.</p> <p>Details such as the balustrade screen on top of the viaduct provides additional safety for passengers using the viaduct in emergency egress situations and also for rail maintenance workers.</p>
Community	

<p>Good design responds to local community needs as well as the wider social context, providing environments that support a diverse range of people and facilitate social interaction.</p>	<p>Viaducts have always been a consideration to better connect people to places through the previously inaccessible areas being used for a variety of different purposes.</p> <p>Through an elevated rail, the space below is optimised and can be used for a combination of rail infrastructure, transport, public use, and landscaping.</p> <p>In this example, there are several key transport routes such as Jull Street mall which will be incorporated into the design to support a diverse range of people and facilitate social interaction.</p> <p>The elevated nature of the viaduct also promotes essential economic and social functioning of the town centre by utilising and expanding on existing built form and future development areas, benefiting local communities in the long term.</p>
<p>Aesthetics</p>	
<p>Good design is the product of a skilled, judicious design process that results in attractive and inviting buildings and places that engage the senses.</p>	<p>The viaduct is a large structure, though its design is simple so as not to visually compete with the complexity of the surrounding Armadale Town Centre environment. It will afford new views above and through to the Darling Scarp.</p> <p>Most of the structure will remain as untreated pre-cast concrete that is natural in appearance. Additional aesthetic treatments are currently under development for prominent locations on the viaduct and will be included in a future development application for planning consideration (DA 3).</p>

Table 8: Response to State Planning Policy 7.0 – Design of the Built Environment



Artist Impression: Artist Impression of Potential Visual Treatments to Viaduct

6.5.4 State Planning Policy 5.4 – Road and Rail Noise

The criteria relevant to managing the impacts of road and rail noise are outlined within the WAPC’s State Planning Policy 5.4 Road and Rail Noise (SPP 5.4) is provided in **Table 8** below.

Rail noise has been a key consideration for the project and extensive work has been undertaken to ensure the viaduct will comply with all relevant planning and health requirements.

Principle	Response
Protect the community from unreasonable levels of transport noise.	The Operational Noise and Vibration Report states that the development will generally comply with noise targets, however some areas are predicted to marginally exceed day period targets.
Protect strategic and other significant freight transport corridors from incompatible urban encroachment.	The elevation of the viaduct protects strategic and significant freight transport corridors from incompatible urban encroachment by allowing traffic to bypass the area rather than directly running through it.
Ensure transport infrastructure and land-use can mutually exist within urban corridors.	The viaduct can ensure that transport infrastructure and land-use can mutually exist within urban corridors by providing a separated route for traffic that does not interfere with other land uses.
Ensure the noise impacts are addressed as early as possible in the planning process.	The Operational Noise and Vibration Report states that noise from railway operations associated with the viaducts and noise walls at Armadale station can be practicably managed to comply with applicable criteria.
Encourage best practice noise mitigation design and construction standards.	The railway operations associated with the viaduct can be practicably managed to comply with the applicable criteria. It is important to note that the extents and type of mitigation indicated are subject to refinement as detail in the design develops

Table 9: Response to State Planning Policy 5.4 – Road and Rail Noise

SPP 5.4 classifies a major upgrade to a railway meaning:

- A proposed realignment, either inside or outside the existing rail corridor.
- A rail track duplication.
- Works that are likely to adversely affect a noise sensitive land-use, such as the installation of switches/turnouts, signalling systems, spurs or passing loops, the modification to the track support structure, crossovers, refuges, and relief lines.

The infrastructure upgrades proposed in DA 1 meet this classification of a ‘major upgrade to a railway’.

The works proposed in this report will facilitate the replacement and realignment of the existing rail line within the rail corridor so the objectives and requirements of SPP 5.4 apply to the proposed development.

Refer to **Appendix G – Operational Noise and Vibration Report** for more detail regarding acoustics for the operation of the elevated railway within the Armadale Town Centre.

6.5.5 Development Control Policy 1.6 – Planning to Support Transit use and Development

WAPC Development Control Policy (DCP 1.6) seeks to maximise the benefits to the community of an effective and well used public transit system by promoting and planning the development outcomes that will support and sustain public transport use.

Principle	Response
Proposals for the redevelopment of existing transit facilities and other network changes and improvements	<p>The proposed viaduct will enable the improved use of public transport as a more sustainable alternative to private vehicle use.</p> <p>The proposed viaduct will enable a balanced public transport ridership along transit corridors by creating a consolidated arrival and departure points within the Armadale Town Centre.</p> <p>The proposed viaduct allows for future planning and construction of the new Armadale Station and associated works, for the existing and future uses of the station and surrounding infrastructure.</p>

Table 10: Response to State Planning Policy 1.6 – Design of the Built Environment

6.5.6 City of Armadale Local Planning Strategy

The City of Armadale Local Planning Strategy (LPS) reflects the planning intent of the City until 2025. The LPS was adopted by the City on 23 December 2016.

The goal is to transform the City into a connected, progressive, strategic metropolitan community by the year 2030. This means that the City will be integrated into the wider metropolitan area, providing access to employment, education, and recreational opportunities. The City's vision includes creating a unique identity for the city, one that sets it apart from other areas in the region. This could involve showcasing the city's natural beauty and promoting sustainable practices that preserve the environment for future generations.

The Strategy aims to create a liveable City that values environmental, educational, and economic sustainability. This could involve prioritising green spaces, reducing carbon emissions, investing in high-quality education, and fostering economic growth in a way that benefits the community.

The overall goals of the Strategy are to promote the development of the City as a Strategic Metropolitan Centre and administer the land use and development of the municipality through Town Planning Scheme 4. The Strategy also outlines the importance to protect the City's biodiversity, natural environments, its lifestyle attributes, enhancement of its built environments and integration of new development with sustainable transport networks.

BRE supports the State Government's vision for a well-connected Perth by investing in transport which can ultimately encourage future housing and employment choices. BRE will also support the development of the Armadale Strategic Metropolitan Centre and Byford District Centres. Additionally, BRE supports the enabling east-west connectivity and precinct integration between Byford's established town centre with future growth areas to the west, creating a wholly connected city.

6.5.7 City of Armadale Town Planning Scheme No. 4

The City's Town Planning Scheme 4 (TPS 4) is the primary planning instrument for the development and use of land within the surrounding local government area. As a result of the viaduct structure being reserved under the Metropolitan Region Scheme, the subject site is not zoned under TPS 4.

TPS 4 provides the zonings for the land immediate adjacent to the viaduct structure. These zones are broadly allocated 'Strategic Regional Centre' on the east of the rail line, and in small portions to the west, 'Mixed Business/Residential' in the former Development WA area to the west of the station and 'Residential' in remaining areas.

While it is important to note the context of the adjacent land uses identified in TPS 4, the proposed works in this DA are noted as Public Works being delivered on behalf of a public authority.

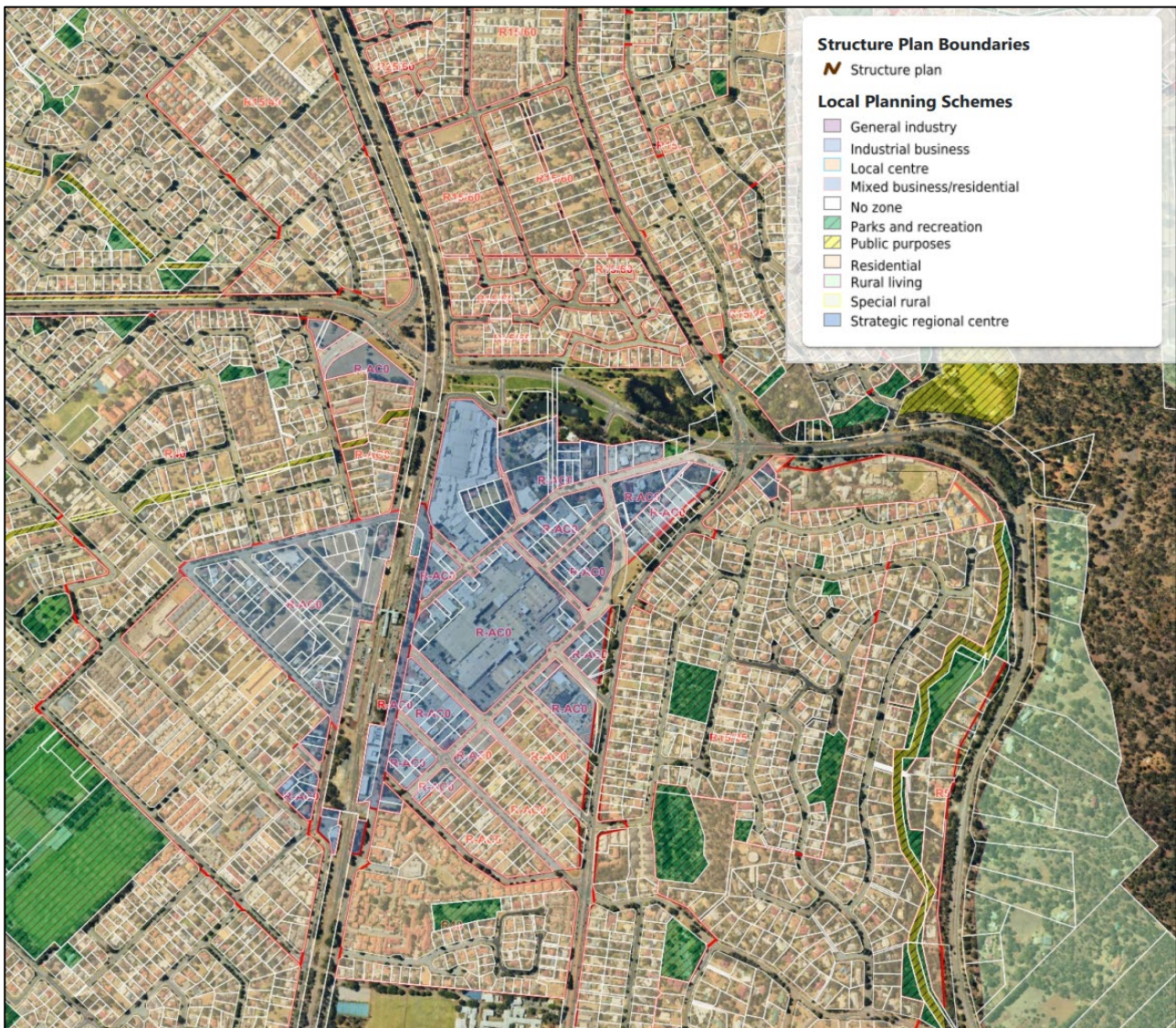


Figure 9: Extract of Local Planning Scheme

6.5.8 City of Armadale Local Planning Policies

The requirement to obtain development approval through the City is not required for this DA, and therefore the City's Local Planning Policies do not require consideration by the WAPC when deciding on the application.

Despite this, the Alliance understands the impacts that the introduction of a viaduct structure will have on the public realm. As such, regard has been given to Local Planning Policy 2.4 - Landscape Feature and Tree Preservation (LPP 2.4), to ensure that the project has had regard to the various aspirations and objectives of the City.

LPP 2.4 provides guidance and administration on the retention of groups of trees and landscape features that are deemed significant by the community. It also identifies mechanisms for their protection through the planning and development process.

The objectives of LPP 2.4 are to:

- a) *To provide guidance on the criteria that shall be used when considering whether or not a tree is significant enough to warrant issuing of a notice under Clause 80A of Schedule A of TPS4.*
- b) *To provide guidance on the review of a registered tree and guidance on administrative processes associated with the protection of a registered tree.*
- c) *To provide guidance on the level of information required by the City when considering significant trees and landscape features at each stage of the planning framework.*
- d) *To aim for retention of significant trees and other landscape features through the strategic and statutory planning framework to retain the character of the area.*
- e) *To provide referral advice and/or advocate to the WAPC / DevelopmentWA, to retention of trees and other landscape plans when considering Structure Plans and Subdivision Plans.*
- f) *Advocate for the achievement of 'environmental offsets' in the City's municipal boundary.*

The Alliance acknowledges and recognises the importance of trees as an important feature of the Armadale locality. Tree retention within urban areas contribute greatly to the amenity and can act as a legacy to future generations. While the practicality is that not all trees are able to be retained due to the proposed viaduct works, the Alliances has adopted a commitment to tree retention, protection, and planting is based on the following:

- Collaboration with the City to retain, protect, and select trees for future planting;
- Maximise retention of existing trees;
- Increase the existing tree canopy within a likely time period;
- Replace "like for like" tree species removed;
- Utilise a minimum 50% endemic tree species;
- Build on and enhance the tree diversity in tree selections;
- Utilise mature tree planning stock for high amenity areas or areas with greater tree removal; and
- Visual screening of noise walls and viaducts to minimise scale and visual impact and improve visual amenity.

The Alliance's Tree Working Group has identified a significant number of additional trees that have been able to be retained due to changes in design and construction methodologies, canopy pruning and management to minimise impacts, and relocating laydown and access area to areas minimise impacts to trees.

Refer to **Appendix E** – Tree Retention Strategy and **Appendix F** – Staging, Demolition and Construction Management Plan for further detail.

6.5.9 Armadale Activity Centre Plan (City of Armadale) and Armadale City Centre West of Railways Activity Centre Plan (DevelopmentWA).

The viaduct structure will exist within a changing urban environment, where redevelopment is expected to respond to the number of growing services, amenities, and transit options available in the Armadale Town Centre.

The City embarked on a Precinct Planning process in 2019, which identified areas adjacent to the corridor that would be suitable for redevelopment. Typologies contemplated include mixed use apartments and commercial buildings, and other residential buildings such as grouped dwellings. Primary controls indicate heights of between 3- 7 storeys, with taller building heights closer to the centre, where the station building is located.

Development WA's City Centre West of Railway Activity Centre Plan also provides details of areas suitable for redevelopment in the sub-precinct areas adjacent to the viaduct structure, being Gateway South, West of Plaza, and Gateway North. They also contemplate development of between 3 – 7 storeys in scale.

The viaduct structure is generally 12 - 15 metres in height, with a clearance of 5- 6 metres underneath. The scale of the viaduct structure relates to this future context, with open views achievable to pedestrians traversing the space from east to west. Further information on this relationship is described in **Section 6.1 – Relationship with Surrounding Urban Context**, and massing models help to illustrate this.

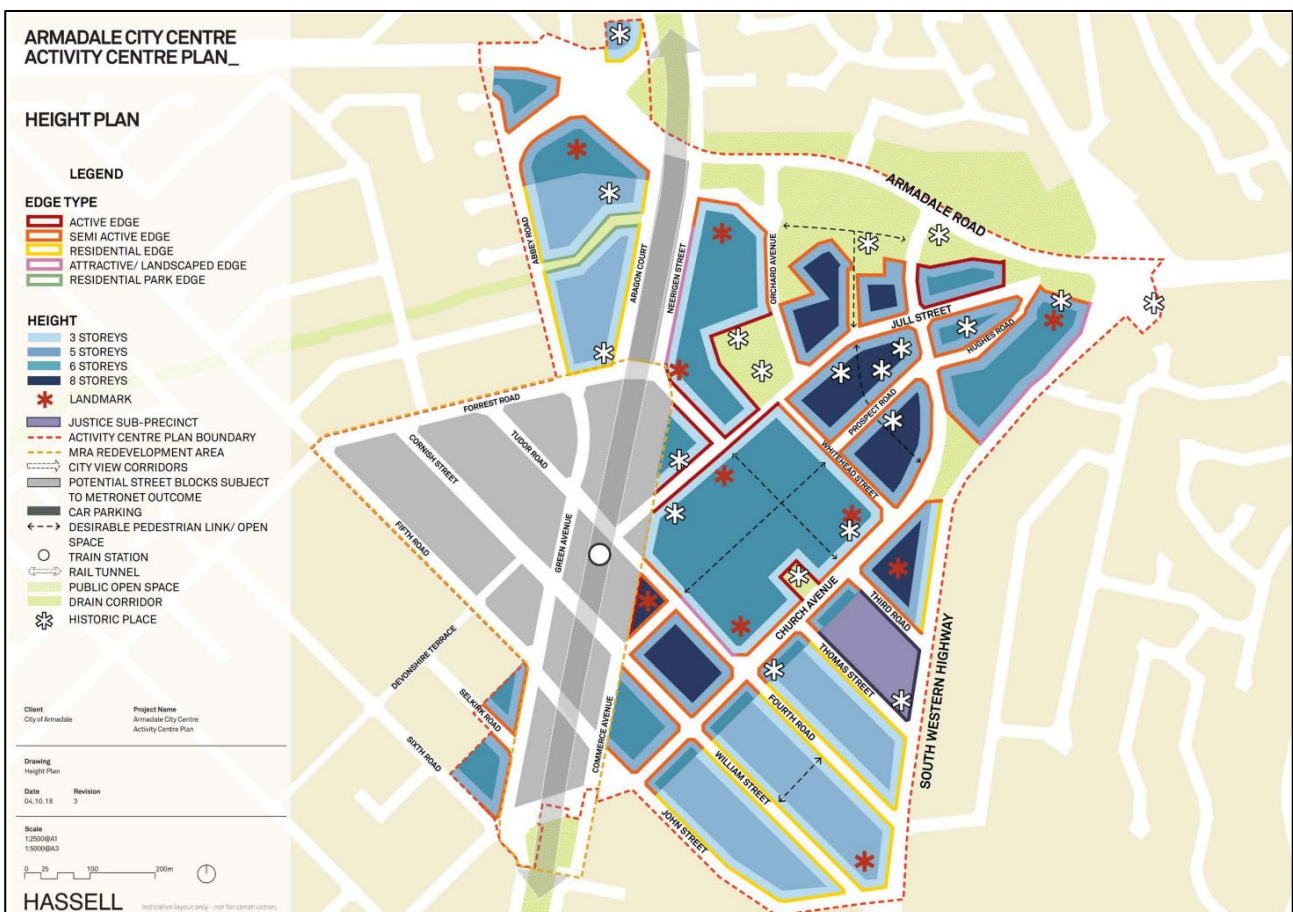


Figure 10: Armadale City Centre Activity Centre Plan



Figure 11: Extract of Armadale City Centre West of Railways Activity Centre Plan



Figure 12: Extract of Armadale City Centre West of Railways Activity Centre Plan



Figure 13: Extract of Armadale City Centre West of Railways Activity Centre Plan

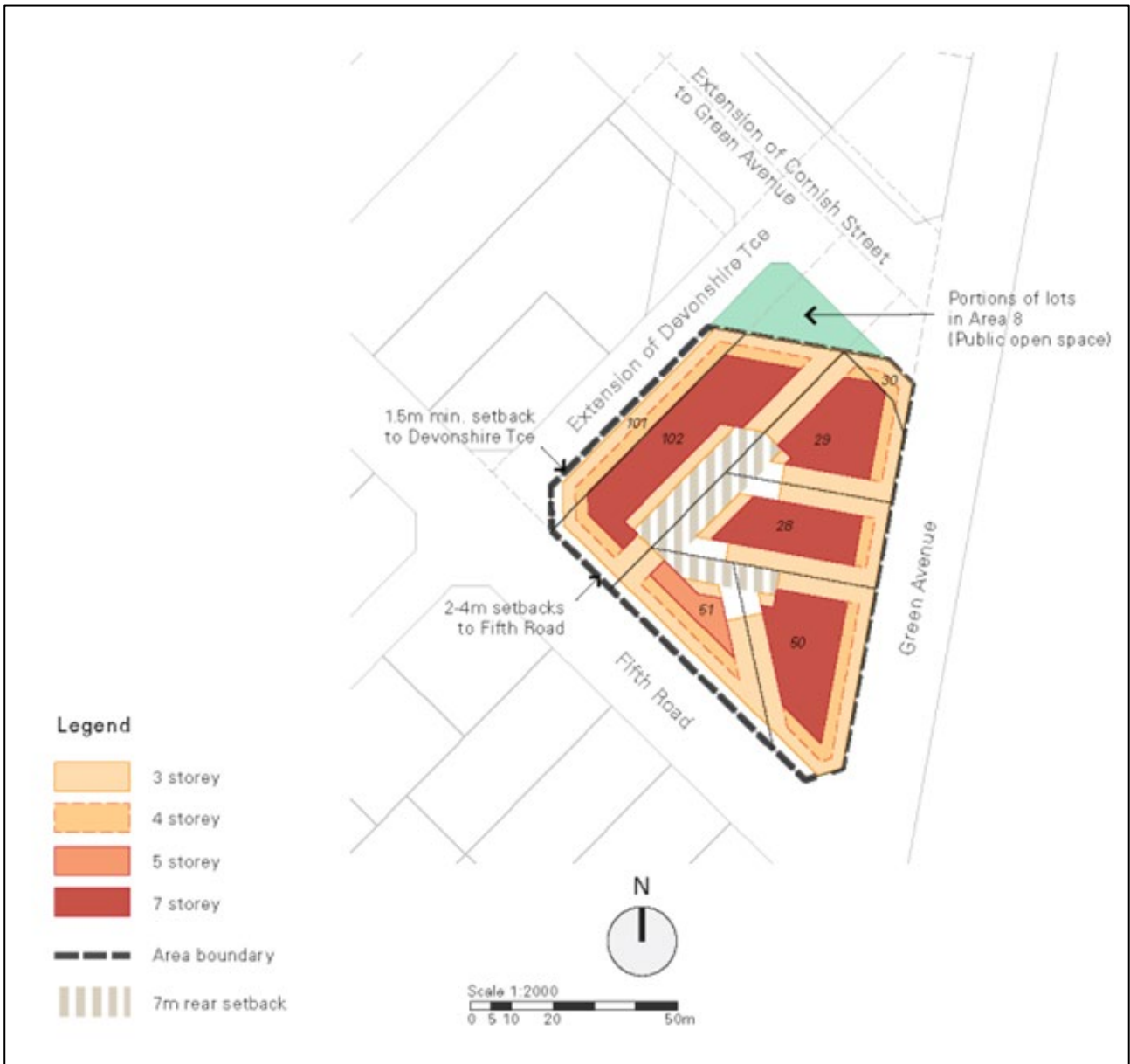


Figure 14: Extract of Armadale City Centre West of Railways Activity Centre Plan

7. Conclusion

This DA report has been prepared in support of the construction of the viaduct for Armadale Station and surrounds, and associated construction works.

Based on the justification provided throughout this report, the Alliance respectfully request the City of Armadale and the Western Australian Planning Commission support this application to ensure preparatory works to being as soon as possible. This will support the timely delivery the viaduct, to ensure further works to the Armadale Station can occur in line with Government's expected timeframes for the BRE project.

8. Appendices

MRS Form 1

Refer to **Appendix A** for the MRS Form 1.

Certificate of Titles

Refer to **Appendix B** for copy of the Certificate of Title not more than 6 months old for each lot identified in **Table 4** - Land Ownership.

Site Plan

The Site Plan provides a detailed review of the key parts of the viaduct inclusive of pier location, viaduct alignment, noise and retaining walls.

Refer to **Appendix C** for the Site Plan.

DA Drawings

Site, elevation, and context plans produced as part of DA package 1 to provide additional context and understanding of how the proposed works compliment the established residential and commercial area of the Armadale town centre.

Refer to **Appendix D** for the DA Drawings.

Tree Retention Strategy

The Tree Retention Strategy provides an honest, conscientious approach which demonstrates the Alliances willingness and understanding to minimise unnecessary loss of tree coverage in the precinct.

Please note the Tree Retention Strategy includes three parts.

Refer to **Appendix E** for the Tree Retention Strategy.

Staging, Demolition and Construction Management Plan

The proposed demolition and construction management plan prepared by the Alliance demonstrates how work associated with the viaduct and will be undertaken, and how this will impact the locality.

A full demolition and construction management can be prepared by the Alliance prior to development works commencing on-site, which is anticipated to be reflected through a condition of development approval.

Refer to **Appendix F** for the Staging, Demolition and Construction Management plan.

Operational Noise and Vibration

The Operational Noise and Vibration Report provides an assessment of environmental noise and vibration which has been compared with targets derived from a review of relevant state noise policies and industry guidelines.

Refer to **Appendix G** for the Operational Noise and Vibration Report.

Drainage Strategy

A viaduct drainage strategy prepared by the Alliance which demonstrates how runoff from the viaduct will be discharged to new drainage infrastructure down at ground level.

Refer to **Appendix H** for the viaduct drainage strategy.



Engagement Outcomes

Community engagement activities for BRE are an on-going activity to ensure a best for project outcomes is achieved.

Refer to **Appendix I** for the Engagement Outcomes Report associated with the engagement activities undertaken for DA 1.

Geotechnical

A geotechnical report prepared by CMW Geosciences to provide the geotechnical design's rationale and context of the foundation and retention design works for BRE.

Refer to **Appendix J** for the geotechnical report.