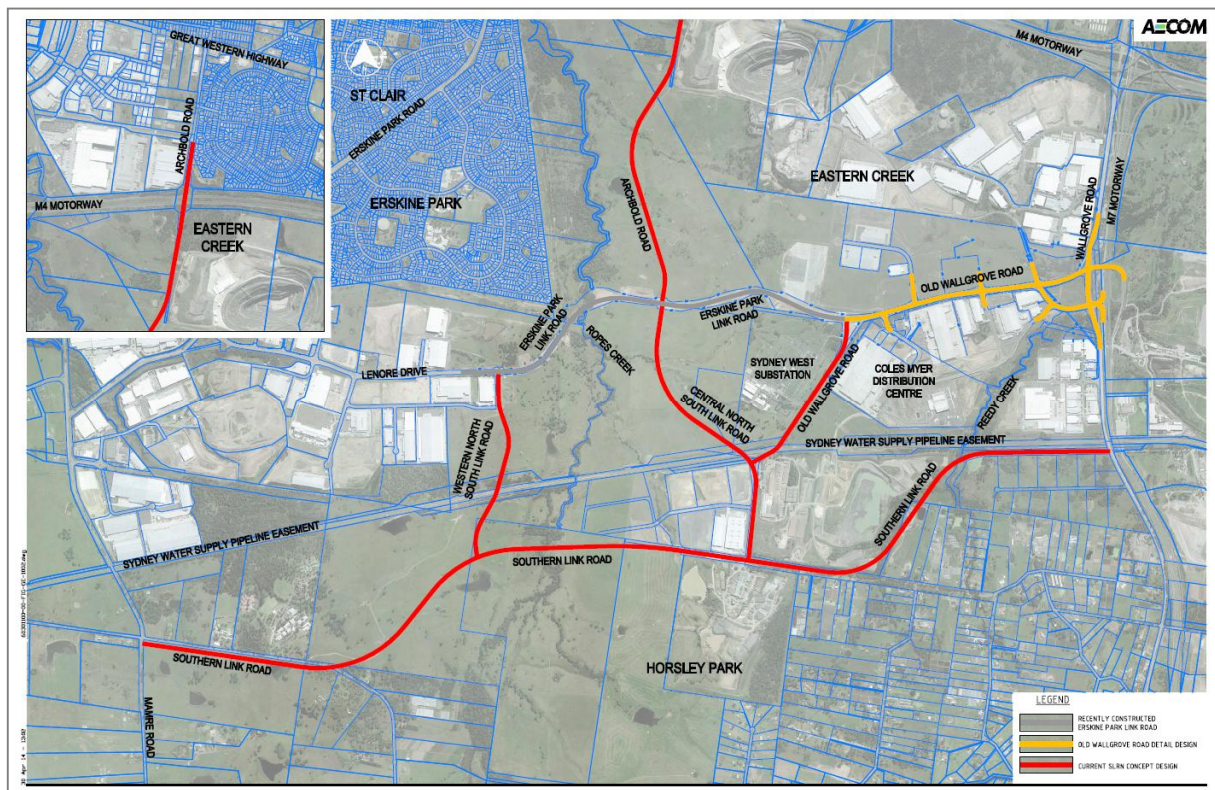


Broader WSEA SLRN - Options Refinement

Final Report



Broader WSEA SLRN - Options Refinement

Final Report

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Quality Information

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1.0 Introduction

1.1 SLRN options refinement summary

The Department of Planning and Infrastructure (DP&I) undertook the development and selection of the preferred route alignment for the Western Sydney Employment Area (WSEA) Southern Link Road Network (SLRN) in 2010. Details of this work – resulting in the development and selection of a preferred road network, shown in **Figure 1-1** – are provided in the *Western Sydney Employment Area Southern Link Road Strategic Transport Assessment (SLRN STA)* (AECOM, 2011).

Figure 1-1 Overview of preferred Southern Link Road Network



Following the public exhibition of the WSEA SLRN in 2011, DP&I have continued to build upon the initial planning and design work undertaken. This work includes the investigation, development, and refinement of the following features and details of the preferred SLRN:

- Strategic road network requirements.
- Strategic alignment of road network.
- Strategic concept design (horizontal and vertical alignment) of road network links.
- Strategic concept design of major intersections.
- External road network connections.

This report summarises the work undertaken following the public exhibition of the WSEA SLRN in 2011, and presents the proposed refined alignment as a result of this work.

1.2 Project context

1.2.1 Background

In August 2009, the NSW Government announced the release of over 800 hectares of employment land in the Western Sydney Employment Area (WSEA) and \$80 million to progress the east-west section of the Erskine Park Link Road (EPLR) network between Lenore Drive and Old Wallgrove Road. This section of road has now been constructed, and was opened to traffic in July 2013.

The Southern Link Road Network (SLRN) would parallel the adjacent EPLR, and Old Wallgrove Road upgrade (currently Construction Tender by Roads and Maritime Services), completing the road network for access to the WSEA, west of the M7 Motorway and south of the M4 Motorway.

1.2.2 Planning context

The State Environmental Planning Policy 2009 (SEPP (WSEA)) will provide more than 2,200 hectares of employment land that will support approximately 40,000 jobs for the people of western Sydney.

The South of Warragamba Pipeline precinct is located within the Penrith and Fairfield Local Government Areas (LGA), bounded by Mamre Road in the west, the Sydney Catchment Authority (SCA) pipeline in the north, the Westlink M7 to the east and existing residential development to the south. The northern precincts are located to the north of the SCA pipeline within the Blacktown LGA and Penrith LGA, with access requirements serviced by the proposed EPLR. These precincts are shown in **Figure 1-2**.

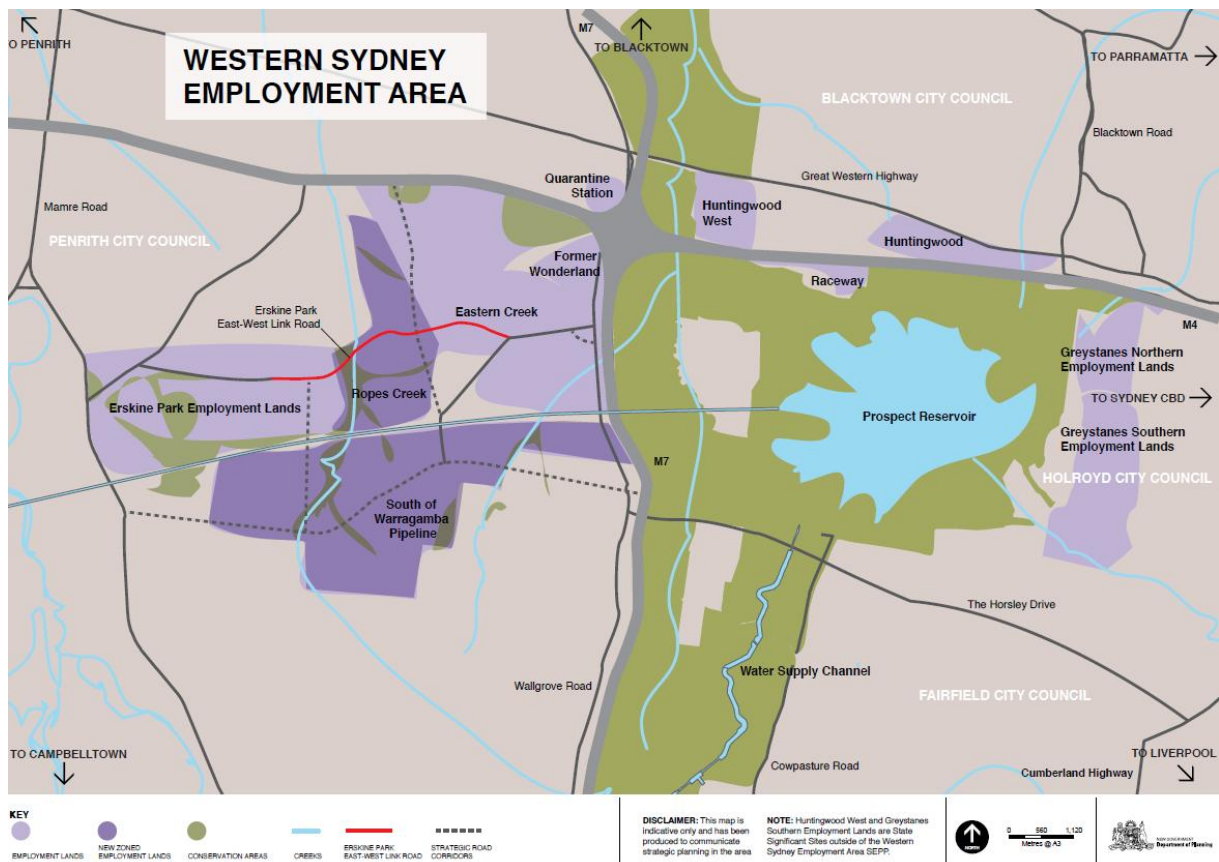
The purpose of the SLRN study is the identification of a road alignment servicing the precinct south of the Warragamba Pipeline, and connecting to the EPLR and existing roads including Wallgrove Road and Mamre Road.

1.2.3 Transport context

The SLRN will provide the road infrastructure required to accommodate travel demand generated by employment areas within the South of Warragamba Pipeline area. An indicative route alignment for the proposed road network was initially identified within the SEPP (WSEA) 2009, Transport and Arterial Road Infrastructure Plan, which comprised:

- An east-west route ('Southern Link Road' as an extension of Bakers Lane) providing access to the proposed development lots and potential connection to Wallgrove Road or the M7 interchange.
- Eastern and western north-south link roads connecting the Southern Link Road to the northern precincts.

These strategic road corridors are illustrated in **Figure 1-2**.

Figure 1-2 SEPP (Western Sydney Employment Area) overview

2.0 Project planning and development process overview

2.1 Route options development

The project was informed by a range of key stakeholders through a series of workshops and consultation meetings. These sessions were used to discuss and develop key aspects of the Multi Criteria Analysis (MCA), and capture information which was subsequently incorporated by the *SLRN STA*.

The three phases of work completed used to develop the preferred route option were as follows:

- **Phase 1 – Strategic context, site constraints and opportunities** – Confirmed the strategic context of integrating transport and land use considerations for the SEPP (WSEA).
- **Phase 2 – Assessment of route options** – Assessed route options using a multi-criteria approach that balanced economic, social, and environmental needs.
- **Phase 3 – Development of preferred route option** – Identified a preferred route option that could be used to progress detailed planning and infrastructure coordination work being undertaken for the SEPP (WSEA). Following Phase 3, the preferred route option was placed on public exhibition in July 2011.

2.2 Preferred alignment

The preferred route alignment – with two highly ranked alternative route options also identified for further consideration – is illustrated in **Figure 1-1 (Section 1.1)**. The *SLRN STA* noted that the detailed alignment would be determined and finalised during the following concept design process.

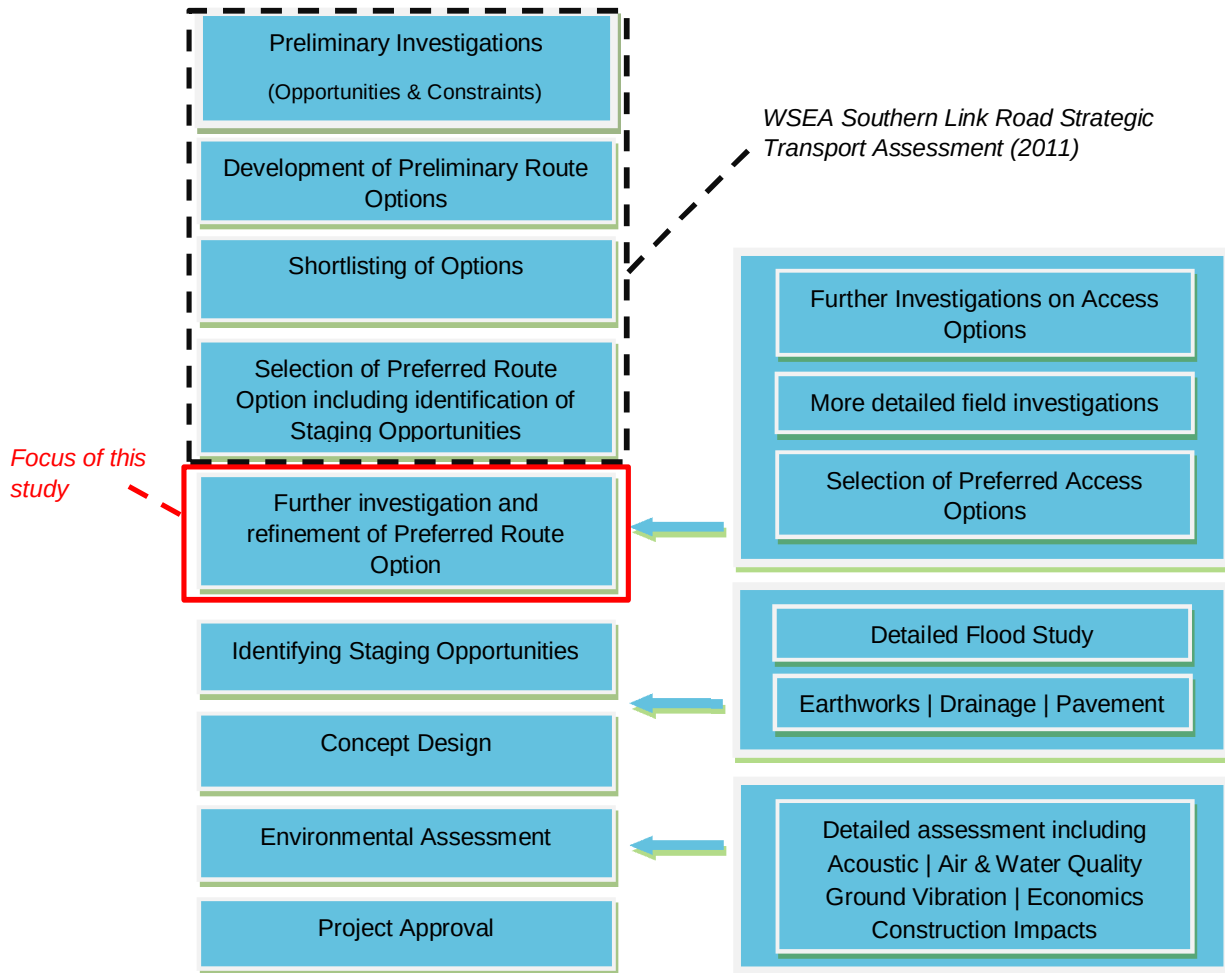
The *SLRN STA* also includes further detail relating to the implementation of the project, broadly grouped into the following categories:

- Staging of construction.
- Funding.
- Process, including environmental assessment.
- Design and construction.

2.3 Next steps - route options refinement

An outline of the SLRN planning and development process is illustrated in **Figure 2-1**. Previous work completed, detailed in the *SLRN STA*, resulted in the selection of a preferred route option including identification of staging opportunities.

As indicated in **Figure 2-1**, further investigation and refinement of the preferred option was planned following completion of the *SLRN STA* and is included as part of this study.

Figure 2-1 Southern Link Road Network planning and development process

3.0 Further investigation and refinement of the preferred option

3.1 Introduction

The refinement studies include the investigation of the following key aspects of the preferred options:

- **Refinement of western options** (refer **Figure 3-1**):
 - Confirm strategic western connection and access requirements.
 - Confirm strategic alignment of the western section.
 - Develop concept design of horizontal and vertical alignments.
- **Refinement of north-south options** (refer **Figure 3-2**):
 - Confirm strategic north-south connections and access requirements.
 - Confirm strategic alignment of the north-south links.
 - Develop concept design of horizontal and vertical alignments.
- **Refinement of eastern options** (refer **Figure 3-3**):
 - Confirm strategic eastern connection and access requirements.
 - Confirm strategic alignment of – and external connections to – the eastern section.
 - Develop concept design of horizontal and vertical alignments.

Figure 3-1 Southern Link Road Network – Key aspects of western options refinement

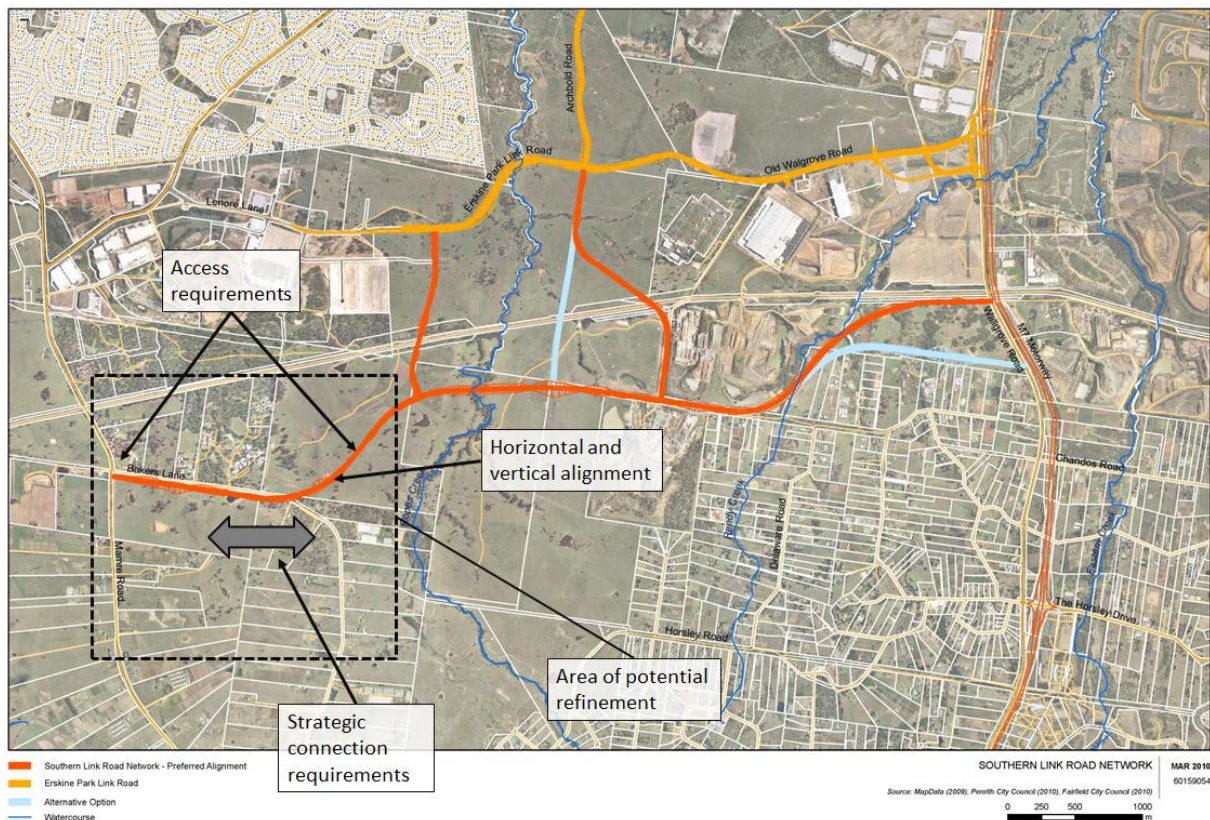
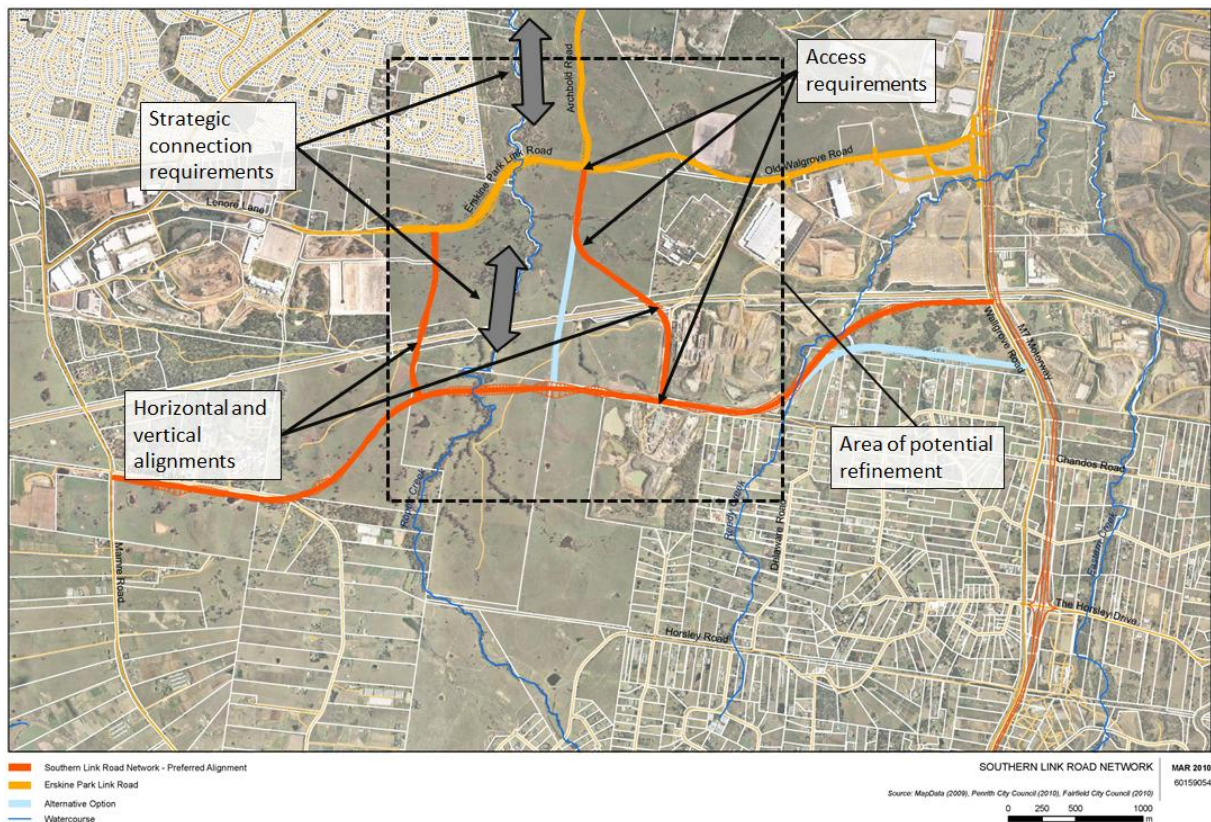
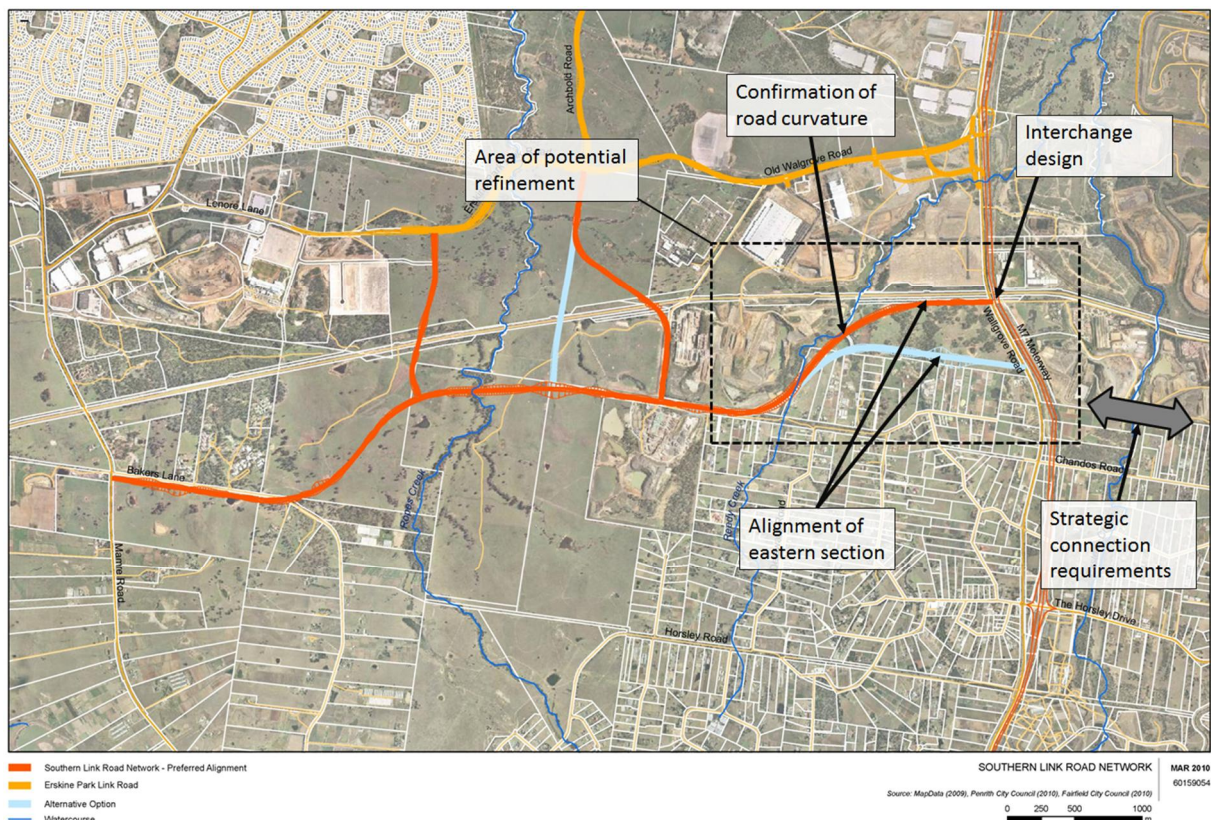


Figure 3-2 Southern Link Road Network – Key aspects of north-south options refinement**Figure 3-3 Southern Link Road Network – Key aspects of eastern options refinement**

Details of the processes resulting in the preferred option of the SLRN are provided in the *Western Sydney Employment Area Southern Link Road Strategic Transport Assessment (SLRN STA)*.

Following the completion and display of the *SLRN STA*, additional constraints, opportunities, and other factors relating to the preferred option were identified through:

- Public display and submissions process.
- Additional site visits.
- Further stakeholder consultation.

In addition to issues identified during the submissions period, further investigation has identified additional constraints, opportunities, and other factors relating to the preferred option. This work has included consultation and collaboration with the following key stakeholders:

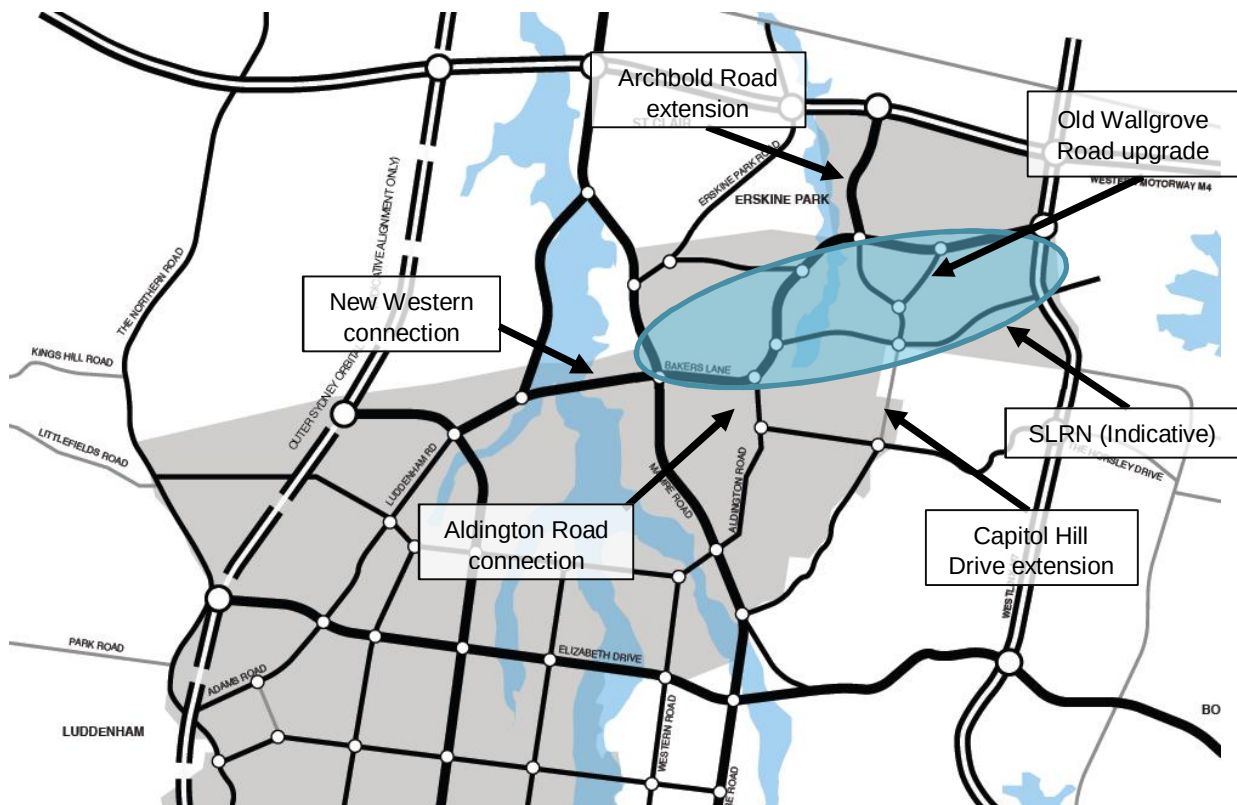
- Blacktown City Council.
- Brickworks (Austral Bricks) | Goodman.
- CSR | PGH Bricks.
- Fairfield City Council.
- Fitzpatrick Investments.
- Gazcorp.
- Goodman.
- JacFin.
- Logos.
- NSW Roads and Maritime Services.
- Penrith City Council.
- Sydney Catchment Authority.
- TransGrid.
- WestLink M7.

3.2 Relevant current plans and proposals

Following the completion of the *SLRN STA* in 2011, strategic and local planning and development has continued to progress. Key inputs and references to the design refinement process include:

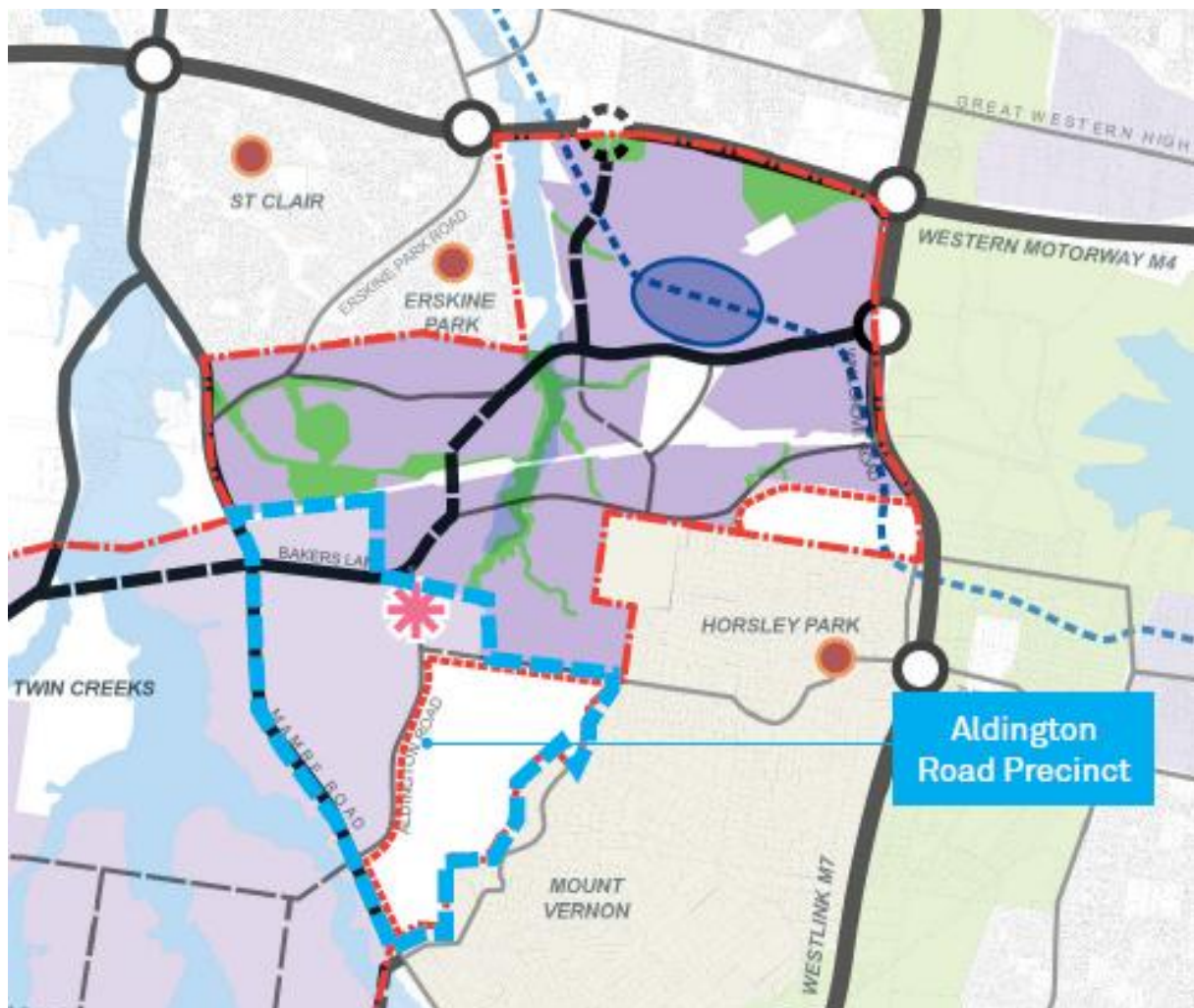
- Strategic planning:
 - Broader Western Sydney Employment Area (BWSEA) draft Structure Plan (**Figure 3-4**).
- Local planning:
 - Aldington Road precinct planning (**Figure 3-5**).
 - Various planned and proposed industrial developments in the BWSEA.

Figure 3-4 BWSEA Structure Plan proposed road network



Source: (Adapted from) BWSEA Exhibited Draft Structure Plan

Figure 3-5 Proposed Aldington Road precinct area



Source: (Adapted from) BWSEA Exhibited Draft Structure Plan

3.3 Options investigation and refinement

3.3.1 Strategic connections and access requirements

3.3.1.1 Western options

3.3.1.1.1 Further investigation and refinement

Further consultation with key stakeholders in the area has indicated a general acceptance of the proposed western connection option to provide the major strategic connection to and from Mamre Road and the wider road network.

It is noted that proposed network improvements to mitigate other areas of congestion and bottlenecks – including a need to upgrade Mamre Road – were recognised and summarised in the *SLRN STA* report.

3.3.1.1.2 Recommendations

Following further investigation, no changes are recommended to the proposed western strategic connection to and from Mamre Road.

Traffic movements would be facilitated by a direct connection between the SLRN and an upgraded Mamre Road. Traffic generated by the WSEA would use Mamre Road to connect to the wider road network to and from the north and south.

This proposal would efficiently accommodate forecast traffic volumes, and provide a well-balanced solution when compared to alternatives.

3.3.1.2 North-south options

3.3.1.2.1 Further investigation and refinement

Further consultation with key stakeholders in the area has indicated a general acceptance of the proposed Archbold Road extension to provide the major strategic connection to and from the north of the SLRN and EPLR.

An upgrade of Old Wallgrove Road as the eastern north-south connection was considered during the *SLRN STA*, however this alignment would channel traffic to and from the Old Wallgrove Road | M7 interchange.

Conversely the preferred or alternate eastern north-south option would channel traffic to and from the proposed Archbold Road extension and the M4 Motorway, relieving traffic demand on the Old Wallgrove Road | M7 interchange.

3.3.1.2.2 Recommendations

Following further investigation no changes are recommended to alter the proposed strategic connections and associated access arrangements to and from the SLRN. This proposal would efficiently accommodate forecast traffic, and provide a well-balanced solution when compared to potential alternatives.

Traffic distribution and operation would be aided by a direct linkage between the eastern north-south connection of the SLRN and the proposed Archbold Road extension, with onward connections to the Sydney Metropolitan area via a new interchange with the M4. It is noted that DP&I are currently progressing the planning and design of the proposed Archbold Road extension between the EPLR and M4 Motorway.

DP&I proposes to continue to collaborate with relevant stakeholders to ensure that appropriate and efficient access to properties and developments is provided, without unacceptably reducing the overall performance of the arterial road network (SLRN).

3.3.1.3 Eastern options

3.3.1.3.1 Further investigation and refinement

The *SLRN STA* includes detailed traffic modelling and assessment of various scenarios which could provide strategic connections to and from areas east of the WSEA.

Options such as an upgraded Chandos Road or similar connection north of Chandos Road would include the construction of new strategic routes through areas east of the M7. Feasible east-west road connections through

areas east of the M7 have been investigated and developed. The provision of these additional routes is not expected to change the function or need to upgrade existing strategic routes, including Wallgrove Road and The Horsley Drive. Conversely the preferred option would accommodate forecast travel demand while limiting upgrade requirements to existing strategic routes; Wallgrove Road and The Horsley Drive.

Submissions and consultation prior to and following the public display period have both supported and objected to the provision of a direct interchange between the SLRN and Westlink M7. Further consultation with key stakeholders – including Westlink M7 – has generally confirmed:

- Opposition to an additional interchange on the M7 between the existing Old Wallgrove Road and The Horsley Drive interchanges.
- Support for a connection between the SLRN and Wallgrove Road at the location of the existing M7 underpass, co-locating accesses east and west of Wallgrove Road at a single point of connection.

Considering the above and previous work undertaken, the provision of a direct interchange between the SLRN and Westlink M7 is not believed to be warranted nor supported. For this reason, the proposal to provide only a direct connection to an upgraded Wallgrove Road, co-located with the existing M7 underpass, and controlled via a signalised intersection, is still considered the preferred solution.

Despite this, a number of design options have been developed which demonstrate possible interchange arrangements, illustrating that a direct connection with the M7 could be feasibly constructed based on the current preferred alignment if required in the future.

Ultimately the majority of key stakeholders have indicated a general acceptance of the proposed upgrades to Wallgrove Road and The Horsley Drive to provide the major strategic connection to and from the east.

The cost and practicality of this solution, including the widening of Wallgrove Road, is not expected to preclude its delivery. This would be confirmed through subsequent detailed design and cost estimation work, including further stakeholder engagement.

3.3.1.3.2 Recommendations

Following further investigation, no changes are recommended to alter the proposed strategic connections to and from the east. Previous work undertaken and further investigation indicates that the provision of a direct interchange between the SLRN and Westlink M7 is neither warranted nor supported.

The preferred design solution remains the provision of only a direct connection to an upgraded Wallgrove Road, co-located with the existing M7 underpass, and controlled via a signalised intersection.

Traffic movements would be facilitated by a direct connection between the SLRN and an upgraded Wallgrove Road, with traffic generated by the WSEA using Wallgrove Road and The Horsley Drive in combination as the primary route to and from the east.

This proposal would efficiently accommodate forecast traffic, and provide a cost-effective and low-impact solution when compared to other alternatives requiring the construction of additional infrastructure.

3.3.1.4 Summary

Following further investigation, no changes are recommended to fundamentally alter the proposed strategic connections and associated access arrangements to and from the SLRN. The preferred option would efficiently accommodate forecast traffic, and provide a well-balanced solution when compared to potential alternatives.

3.3.2 Strategic alignment of proposed network links

3.3.2.1 Western options

3.3.2.1.1 Further investigation and refinement

The proposed strategic alignment has generally been accepted by key stakeholders. The main objection to the preferred alignment is the proximity of the SLRN to Bakers Lane, which provides access to schools and retirement homes.

The preferred alignment of the proposed western section of the SLRN is to the south of the current alignment of Bakers Lane. The proposal retains Bakers Lane as a parallel service road providing a safe, consolidated access point for the schools and retirement village, providing a connection to Mamre Road via the SLRN. Configuration and access arrangements of the SLRN and Bakers Lane | Mamre Road would be further developed and determined as part of the concept design process.

It is noted that shifting the strategic alignment further to the south of Bakers Lane would result in significant additional impacts to existing and future land uses.

3.3.2.1.2 Recommendations

It is recommended that the preferred strategic alignment of the western section of the SLRN should remain unchanged, but refined options for this alignment be developed. The key principles of this refinement process would be:

- Maintain consistency with the preferred strategic alignment developed by the *SLRN STA*.
- Refine the alignment to ensure improved compatibility with surrounding opportunities and constraints.

3.3.2.2 North-south options

3.3.2.2.1 Further investigation and refinement

Further investigation and refinement examined the strategic alignment of the eastern north-south connection of the SLRN. During this task the previously identified preferred alignment, alternate alignment, or a potential upgrade of Old Wallgrove Road were all considered as options:

- The preferred alignment shown in the *SLRN STA* is the previously recommended alignment.
- The alternate alignment shown in the *SLRN STA* was a highly-ranked alternative alignment.
- An upgrade to Old Wallgrove Road was previously considered as the eastern north-south connection of the SLRN but ranked lower than other options during the multi-criteria analysis.

For the preferred and alternate alignments, traffic distribution and operation would be aided by a direct linkage between the eastern north-south connection of the SLRN and the proposed Archbold Road extension. Although the alternate eastern north-south alignment identified by the *SLRN STA* was a highly ranked alternative alignment, it has gained little support from key stakeholders during further recent consultation.

An upgrade of Old Wallgrove Road as the eastern north-south connection was considered during the *SLRN STA*, however this alignment would channel traffic to and from the Old Wallgrove Road | M7 interchange, exacerbating operational performance issues. In addition, the width of the existing road reserve and surrounding land use constraints surrounding Old Wallgrove Road would pose difficulties in implementation.

Further examination and consultation in relation to the western north-south connection has also recently been undertaken. Key stakeholders directly affected by this alignment have provided consistent feedback, accepting the proposed strategic alignment but requesting some relatively minor realignment.

3.3.2.2.2 Recommendations

Considering the factors discussed in **Section 3.4.2.1** in addition to the detailed and robust MCA which was used to develop the strategic alignment as part of the *SLRN STA*, it is recommended that the preferred strategic alignment of the proposed SLRN should remain unchanged, but refined options be developed. The key principles of this refinement process are:

- Maintain consistency with the preferred strategic alignments developed by the *SLRN STA*.
- Refine these alignments to ensure improved compatibility with surrounding opportunities and constraints – while still fulfilling prerequisite engineering design criteria – following additional investigation and stakeholder consultation, resulting in a well-balanced, mutually acceptable solution.

3.3.2.3 Eastern options

3.3.2.3.1 Further investigation and refinement

Further investigation and refinement initially examined the strategic alignment of the eastern section of the SLRN. During this task, the highest ranking alternative routes to the current preferred alignment were considered:

- The alternate alignment shown in the *SLRN STA* and placed on public display runs along the southern boundary of the Gazcorp site. This option is not preferred due to:
 - The natural topography along this alignment, creating construction and site access issues.
 - Conflicts with Transgrid infrastructure, especially when considering future easement widening.
 - The proximity of this alignment to established residential areas.
- An alternative route which runs in parallel to the water pipeline between Wallgrove Road and Old Wallgrove Road was supported in a number of submissions following the public display of the *SLRN STA*. This route is not preferred for the following reasons, as noted in the previous response to submissions:
 - This route and the current preferred alignment rank similarly in isolation.
 - However, the alternative route precludes high-ranking route options to the west of Old Wallgrove Road.
 - The preferred alignment ranks highest considering the entire route between Mamre Road and Wallgrove Road.

Consequently it was confirmed that the preferred strategic alignment of the eastern section of the SLRN would remain unchanged, but refined options for this alignment would be developed. Key opportunities considered that would improve the design and negative impacts and constraints considered in parallel included:

- Improved integration of the road network with existing and future land uses.
- Increased separation from established residential areas.
- Alignment with existing M7 underpass would reduce new infrastructure requirements.
- Compatibility with existing and future Transgrid infrastructure and easements.
- Acquisition of SCA land required to align SLRN with existing M7 underpass.
- Potential additional impacts to ecology and aboriginal heritage.
- Potential additional hydrology considerations.

3.3.2.3.2 Recommendations

As a result of further work undertaken, it is recommended that the strategic alignment of the SLRN should remain unchanged.

However, a refinement to this alignment is suggested to improve the integration of the SLRN with surrounding opportunities and constraints following additional investigation and stakeholder consultation.

3.3.2.4 Summary

It is recommended that the preferred strategic alignment of the SLRN should remain unchanged, but refined options for this alignment be developed. The key principles of this refinement process would be:

- Maintain consistency with the preferred strategic alignment developed by the *SLRN STA*.
- Refine the alignment to ensure improved compatibility with surrounding opportunities and constraints.

3.3.3 Design development - horizontal and vertical alignment

3.3.3.1 Introduction

Refinements have been considered to provide an outcome which could balance key stakeholder issues relating to the current preferred alignment. During this process prerequisite engineering criteria have been used to guide the development of refined alignments; consultation with Roads and Maritime has confirmed the following key, non-negotiable criteria for any proposed alignment:

- Min Horizontal Curve Radii: 280m (Design speed of 80kmh and B-Triple design vehicle).
- Road Reserve: Generally 31m minimum..
- Central median: Generally 5.9m to allow 3.5m right-hand turn lane and 2.4m for installation of traffic signals.
- Intersections: Major intersections to be signal-controlled at a spacing of approximately 400-500m.

3.3.3.2 Western options

3.3.3.2.1 Further investigation and refinement

The design refinement process has been undertaken to satisfy the defined design criteria, while improving integration with and minimising impacts to the surrounding environment, utilities, and existing and proposed land uses.

The refined western section of the SLRN:

- Adopts curve radii greater of approximately 750m, while also integrating with surrounding developments and land uses.
- Includes the following adjustments to the preferred alignment proposed in the *SLRN STA*:
 - No refinements to the horizontal alignment are proposed.
 - Relatively minor refinements to the vertical alignment are proposed to enhance the integration of the SLRN with its surrounding environment.

3.3.3.2.2 Recommendations

Refinements to the western section alignment are proposed which satisfy the pre-requisite engineering design criteria, while enhancing the integration of the SLRN with its surrounding environment. An overview of these refinements is shown in **Figure 4-1 (Section 4.1)**.

3.3.3.3 North-south options

3.3.3.3.1 Further investigation and refinement

The design refinement process has been undertaken to satisfy the defined design criteria, while improving integration with and minimising impacts to the surrounding environment, utilities, and existing and proposed land uses.

The refined eastern north-south connection:

- Generally adopts minimum curve radii to enable integration with surrounding developments and land uses.
- Includes the following adjustments to the preferred alignment proposed in the *SLRN STA*:
 - A north-east shift of the proposed alignment to the south of and crossing the SCA pipeline, due to the construction of Goodman Lot 1A.
 - A north-east shift of the proposed alignment north of the SCA pipeline, to accommodate the realignment in the vicinity of the SCA pipeline. This shift extends the road reserve to abut with (but not encroach on) the TransGrid easement in this area.

The refined western north-south connection:

- Generally adopts minimum curve radii to minimise the impacts on surrounding developments and land uses.

- Includes a south-east shift of the proposed alignment in the vicinity of the TransGrid easement, with the proposed refined road reserve abutting this easement to minimise the impact on developable land.

3.3.3.3.2 Recommendations

Refinements to the preferred network alignments are proposed which satisfy the pre-requisite engineering design criteria, while enhancing the integration of the SLRN with its surrounding environment. An overview of these refinements is shown in **Figure 4-1 (Section 4.1)**.

Both the eastern and western north-south connections are proposed to cross the SCA water pipeline via low-level bridge structures to mitigate potential construction and operational impacts (see **Section 4.2** for further details).

3.3.3.4 Eastern options

3.3.3.4.1 Further investigation and refinement

Refinements were considered to provide an outcome which could balance key stakeholder issues relating to the current preferred alignment. During this process prerequisite engineering criteria including minimum curve radii were used to guide the development of refined alignments.

Two alternatives to the existing preferred option were subsequently developed in detail considering the above and presented during stakeholder consultation. These alternatives adopted a curve radius of 450m.

Consideration and discussion of the refined alignments with key stakeholders indicated that a refined alternative alignment would provide a balanced design outcome when compared to the current preferred alignment.

3.3.3.4.2 Recommendations

A refinement to the eastern section alignment is suggested to improve the integration of the SLRN with surrounding opportunities and constraints following additional investigation and stakeholder consultation. The refined preferred route alignment adopts preferred curve radii of 450m.

3.3.3.5 Summary

Refinements to the preferred western, north-south, and eastern sections of the SLRN are proposed to improve the integration of the SLRN with its current and future surroundings.

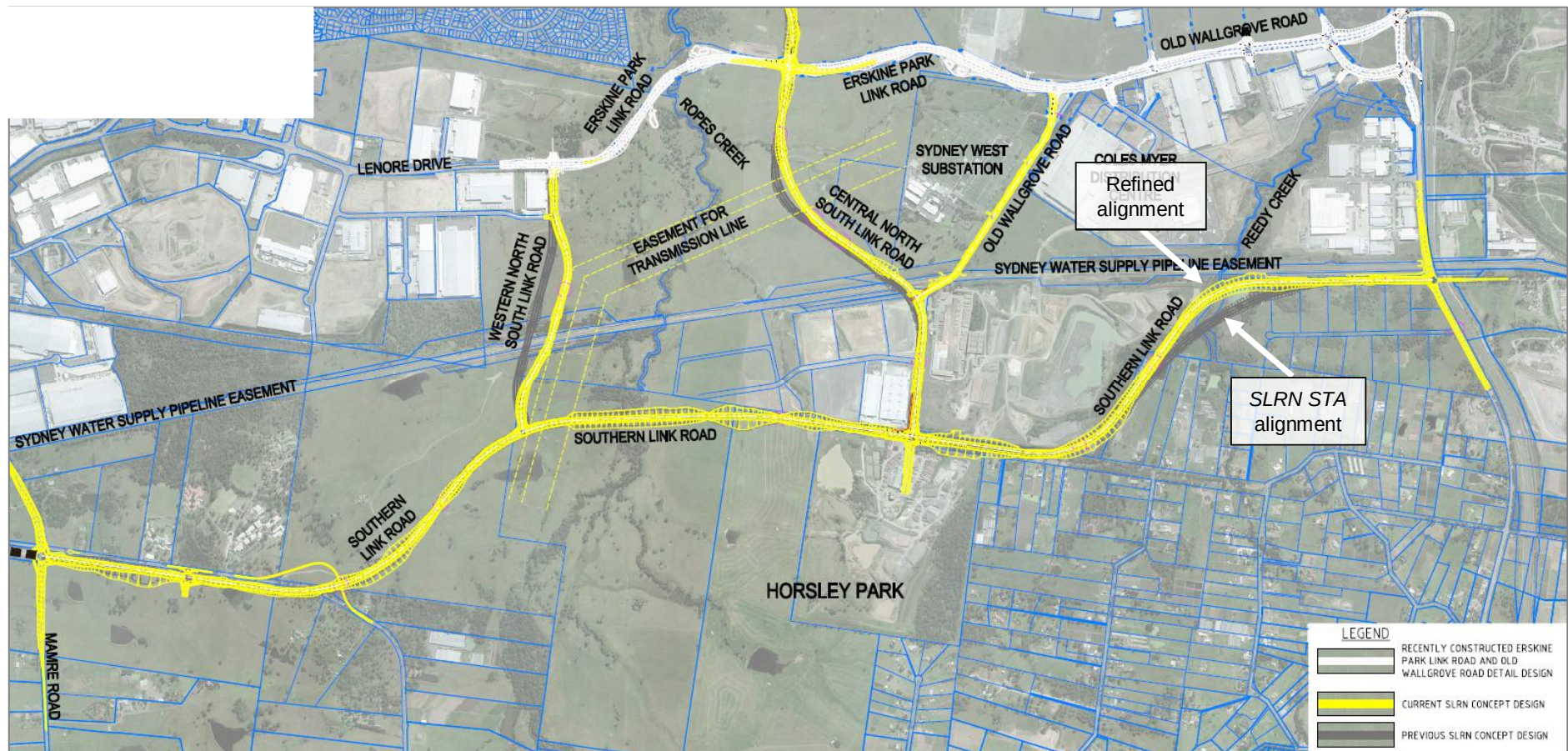
Ultimately it is believed that the refined alignments provide an overall improved design outcome when compared to the current preferred alignments, based on additional investigation, stakeholder feedback, and known opportunities and constraints.

4.0 Refined strategic concept design

4.1 Recommended design refinements

Figure 4-1 illustrates the preferred SLRN which was placed on public display (grey) and proposed refinements (yellow) to improve the integration of this alignment with surrounding opportunities and constraints.

Figure 4-1 Proposed alignment refinements



The findings and recommendations following further investigation and development of the preferred SLRN are summarised in the following sections. The refined Concept Design drawings for the proposed refined SLRN are provided in **Appendix A**.

4.1.1 Western options

Figure 4-2 illustrates the proposed refined alignment of the western section of the SLRN.

Figure 4-2 Refined alignment of SLRN western section

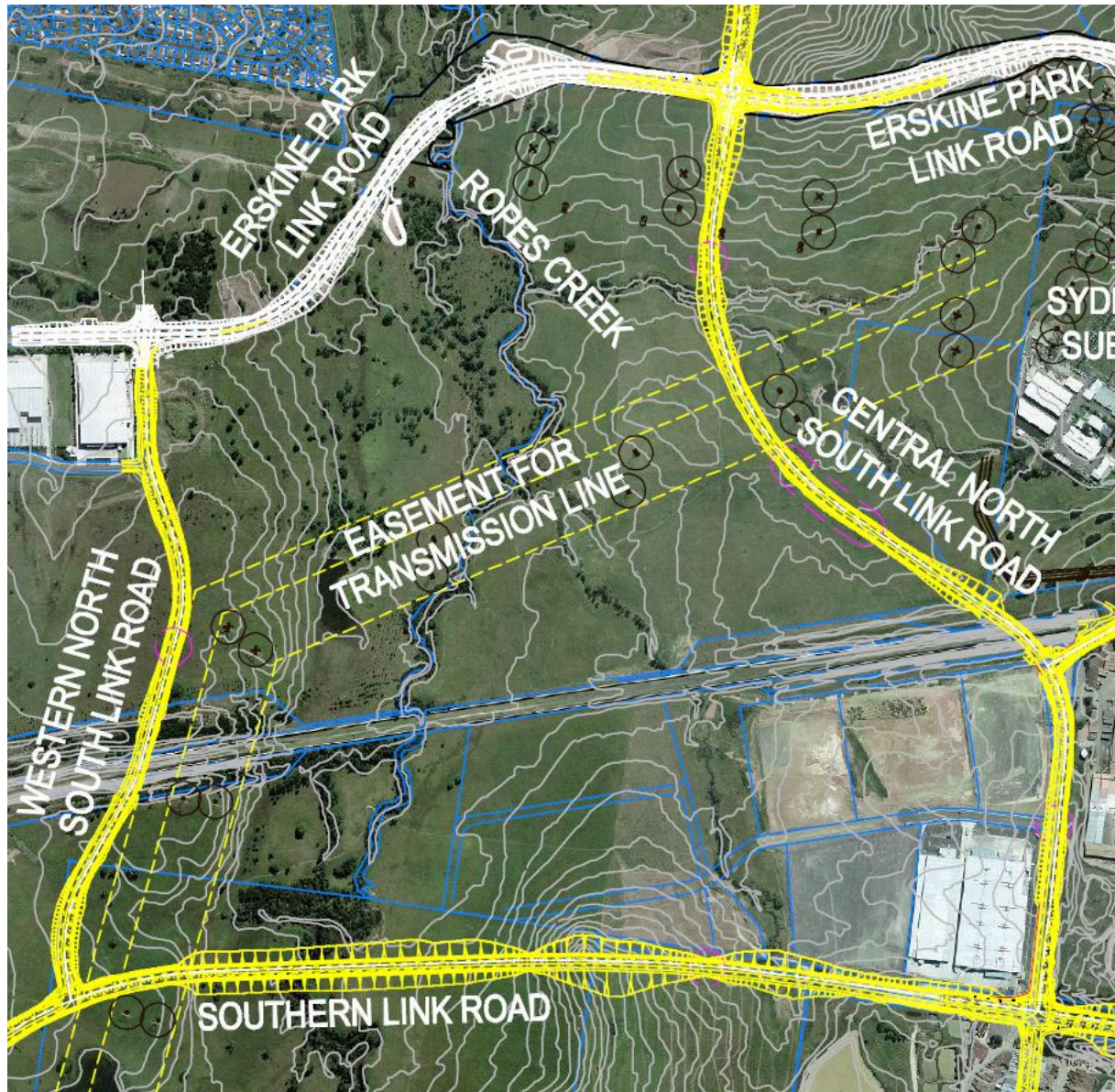


- **Strategic western connection and access requirements:**
 - Following further investigation, no changes are recommended to the proposed western strategic connection to and from Mamre Road.
 - Traffic movements would be facilitated by a direct connection between the SLRN and an upgraded Mamre Road. Traffic generated by the WSEA would use Mamre Road to connect to the wider road network to and from the north and south.
 - This proposal would efficiently accommodate forecast traffic volumes, and provide a well-balanced solution when compared to alternatives.
- **Strategic alignment of western option:**
 - It is recommended that the preferred strategic alignment of the western section of the SLRN should remain unchanged, but refined options for this alignment should be developed. The key principles of this refinement process would be:
 - Maintain consistency with the preferred strategic alignment developed by the *SLRN STA*.
 - Refine the alignment to ensure improved compatibility with surrounding opportunities and constraints.
- **Design development - horizontal and vertical alignment:**
 - No refinements to the horizontal alignment are proposed.
 - The refined preferred route alignment adopts preferred curve radii of 750m.
 - Relatively minor refinements to the vertical alignment are proposed to enhance the integration of the SLRN with its surrounding environment.

4.1.2 North-south options

Figure 4-3 illustrates the proposed refined alignments of the north-south connections of the SLRN.

Figure 4-3 Refined alignments of SLRN north-south connections



- **Strategic north-south connections and access requirements:**

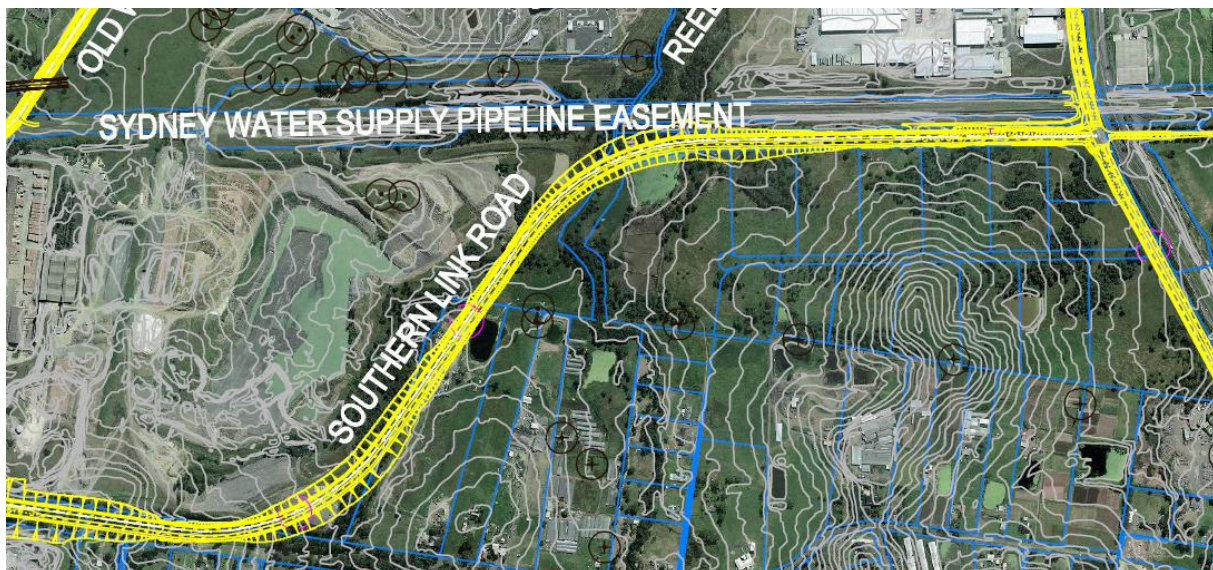
- Following further investigation, no changes are recommended to alter the proposal to provide dual north-south strategic connections as part of the SLRN.
- Traffic distribution and operation would be aided by a direct linkage between the eastern north-south connection of the SLRN and the proposed Archbold Road extension. It is noted that DP&I are currently progressing the planning and design of the proposed Archbold Road extension between the EPLR and M4 Motorway.
- This proposal would efficiently accommodate forecast traffic volumes, and provide a well-balanced solution when compared to alternatives

- DP&I propose to continue to collaborate with relevant stakeholders to ensure that appropriate and efficient access to properties and developments is provided.
- **Strategic alignment of north-south links:**
 - It is recommended that the preferred strategic alignments of the north-south connections of the SLRN should remain unchanged.
 - Refined alignments should maintain consistency with the preferred strategic alignments to ensure improved compatibility with surrounding opportunities and constraints, while still fulfilling prerequisite engineering design criteria.
- **Design development - horizontal and vertical alignment:**
 - Refinements to both north-south connection alignments are proposed which satisfy pre-requisite engineering design criteria, while enhancing the integration of the SLRN with its surrounding environment. An overview of these refinements is shown in **Figure 4-1**.
 - Ultimately it is believed that the refined alignments provide an overall improved design outcome when compared to the current preferred alignments.

4.1.3 Eastern options

Figure 4-4 illustrates the proposed refined alignment of the eastern section of the SLRN.

Figure 4-4 Refined alignment of SLRN eastern section



- **Strategic eastern connection and access requirements:**
 - Following further investigation, no changes are recommended to alter the proposed strategic connections to and from the east.
 - Previous work undertaken and further investigation indicates that the provision of a direct interchange between the SLRN and Westlink M7 is neither warranted nor supported.
 - The preferred design solution remains the provision of only a direct connection to an upgraded Wallgrove Road, co-located with the existing M7 underpass, and controlled via a signalised intersection.
 - Traffic movements would be facilitated by a direct connection between the SLRN and an upgraded Wallgrove Road, with traffic generated by the WSEA using Wallgrove Road and The Horsley Drive in combination as the primary route to and from the east.

- An investigation of feasible east-west road connections which could provide additional road capacity to and from areas east of the WSEA if required in the future was undertaken.
- **Strategic alignment of eastern option:**
 - As a result of further work undertaken, it is recommended that the strategic alignment of the SLRN should remain unchanged.
 - A refinement to this alignment is suggested to improve the integration of the SLRN with surrounding opportunities and constraints.
- **Design development - horizontal and vertical alignment:**
 - Refinements to the eastern section alignment are proposed which satisfy pre-requisite engineering design criteria, while enhancing the integration of the SLRN with its surrounding environment. An overview of these refinements is shown in **Figure 4-1**.
 - The refined preferred route alignment adopts curve radii of 450m.

4.2 SCA pipeline crossing concept designs

Both the eastern and western north-south connections of the SLRN would cross the SCA water pipeline, a major existing physical constraint affecting the alignment of the SLRN. Discussions between SCA and DP&I have been undertaken in a number of forums to discuss the refinement work being undertaken by DP&I.

Both the eastern and western north-south connections are proposed to cross the SCA water pipeline via low-level bridge structures. The selection of this bridge option is based on the following key benefits over fill options:

- Bridge options would introduce fewer constraints on existing SCA operations
- Bridge options would reduce the impact of vibrations to SCA infrastructure during construction and operation.
- Bridge options would allow for easier amplification of existing SCA infrastructure.

In addition, a low-level bridge would reduce infrastructure needs, impacts, and costs when compared to a high-level bridge. All bridge and fill options are estimated to have a similar construction cost, and hence this is not a differentiating factor.

The proposed bridge concept designs have been developed based on the general requirements noted by SCA. The requirements and key features of the designs are summarised in **Table 4-1**.

Overviews of the design concepts are provided in **Figure 4-5** and **Figure 4-6**. The strategic concept designs for both bridge crossings are provided in **Appendix B**.

Table 4-1 Summary of pipeline crossing requirements and key design features

Requirement	Design features
Protection of SCA infrastructure from road operations (i.e. vehicles leaving road & impacting SCA infrastructure).	- Bridge designs include traffic barriers of appropriate standard to redirect errant vehicles.
Embankment surface protection and batter stabilisation (e.g. gabions).	- Appropriate embankment protection/stabilisation surrounding bridge abutments can be accommodated by designs. Details would be further assessed and developed during detail design process
Concrete encasement of pipeline and backfilling the cutting (due to reduced ability to inspect pipelines and provide on-going maintenance).	- Concrete encasement of pipeline in vicinity of bridge crossings would be provided due to reduced access, and consequent reduced ability to maintain and replace pipeline sections following construction of bridges.
Maintain existing access to all areas of SCA land between, north, and south of existing pipelines.	- Existing access maintained with minimum 4.6m clearance to the underside of bridge structures.
Provision for drainage.	- Increased drainage infrastructure required to mitigate road construction and operation impacts would be delivered by the project. Impact of new road infrastructure on existing drainage infrastructure would be addressed during detailed design.
Allows for future additional pipeline(s).	- Provision of bridge crossings allows for additional future pipelines. Note that if SCA have a preference for duplication to the north or south there is an opportunity to reduce or eliminate bridge spans shown in the current concept designs.
Maintain existing security arrangements.	- Security fencing and existing access arrangements would be generally maintained as per existing.

Figure 4-5 Western north-south link pipeline crossing concept overview

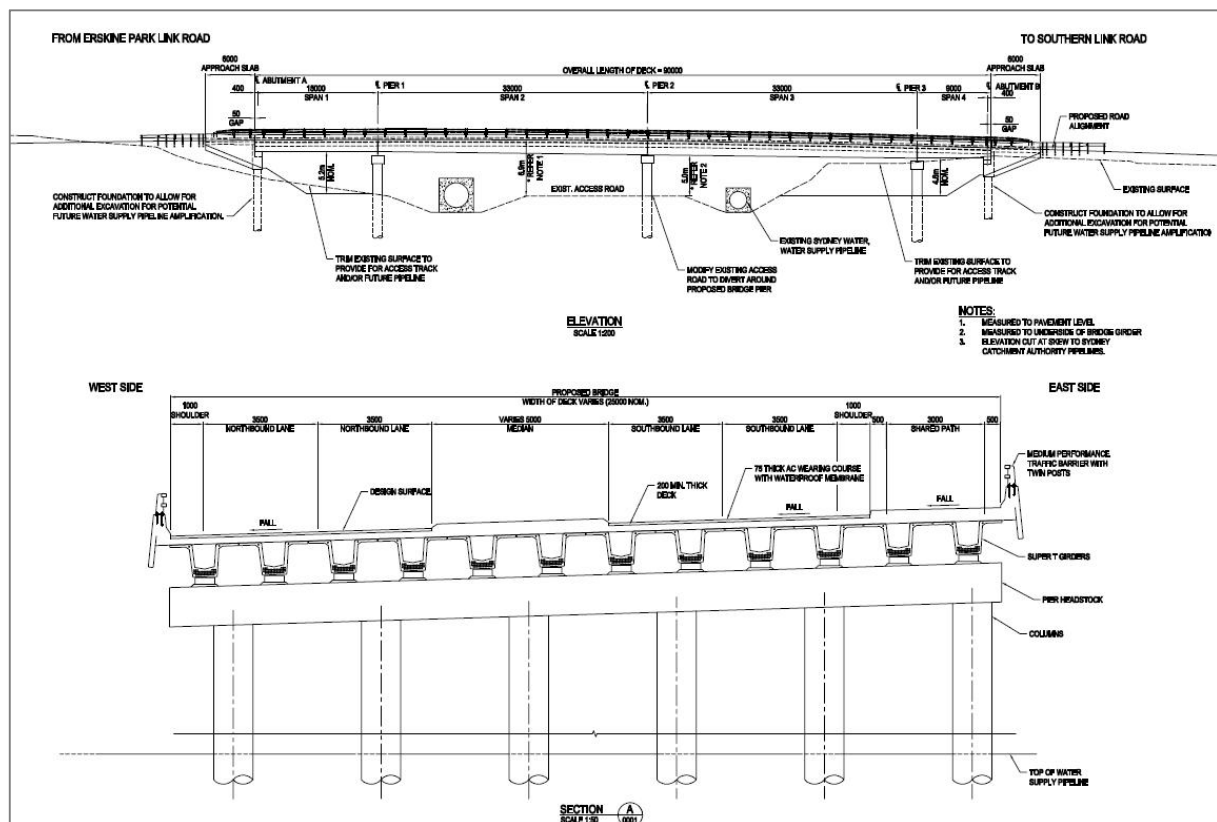
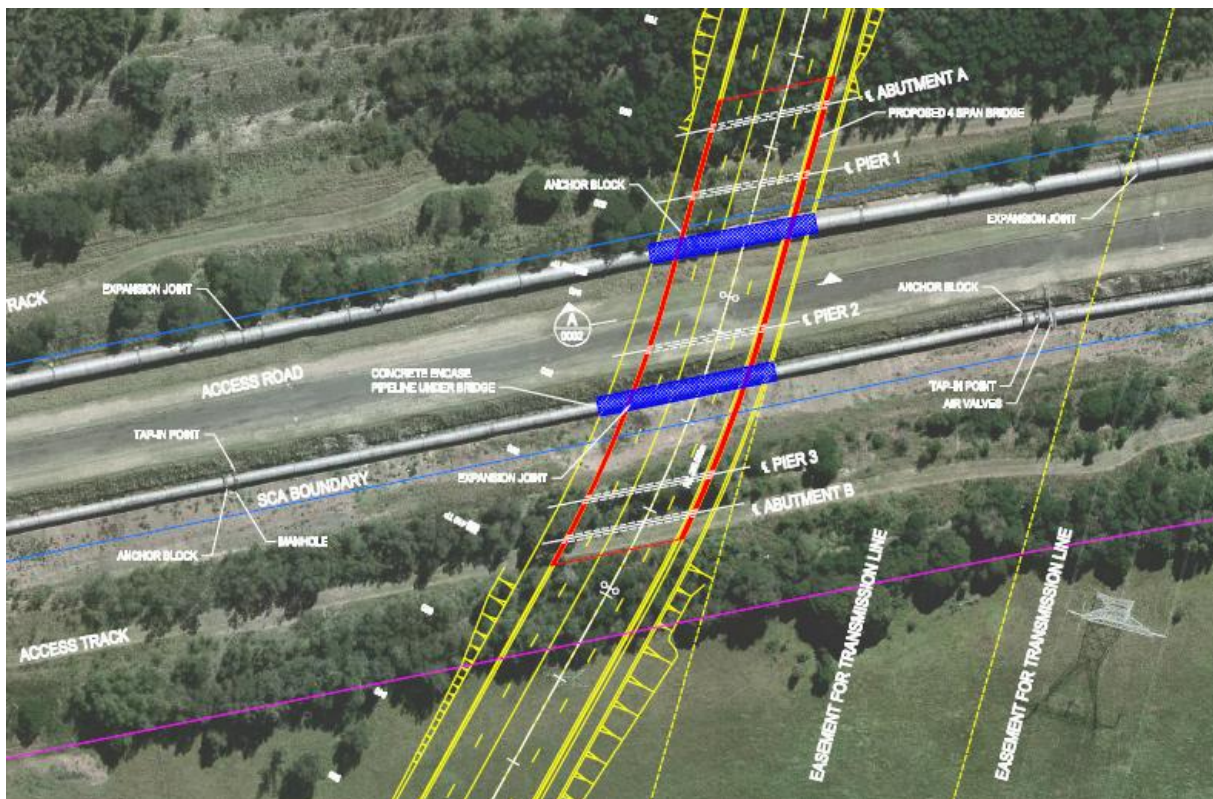
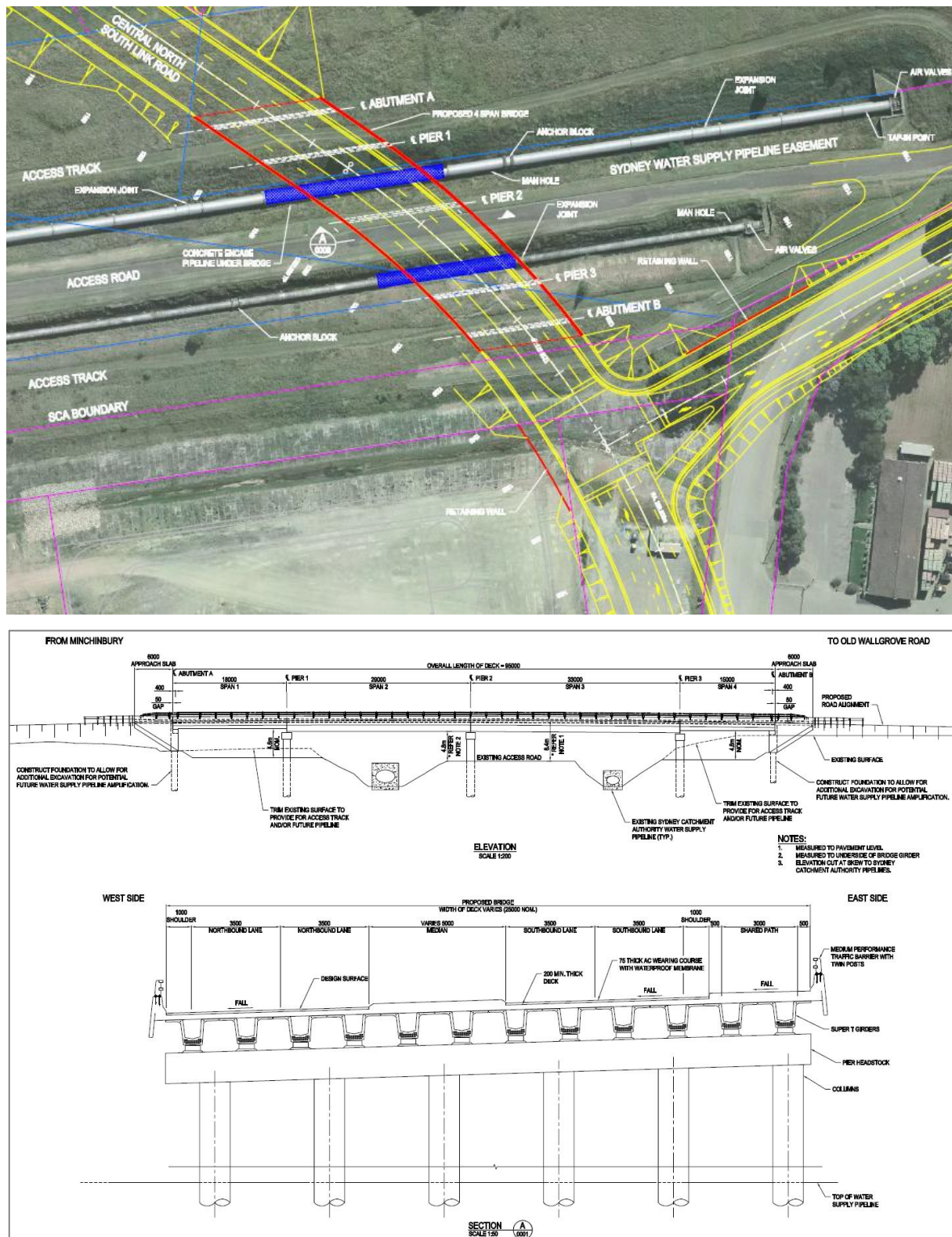


Figure 4-6 Eastern north-south link pipeline crossing concept overview



4.3 Intersection concept designs

4.3.1 Arterial route intersections

As indicated in **Section 3.2** and illustrated in **Figure 4-7**, the BWSEA Structure Plan proposes the following future links adjoining the SLRN:

- New Western Connection:
 - Arterial connection west of the SLRN.
 - Proposed to form a 4-way intersection with the SLRN | Mamre Road.
- Realigned Aldington Road:
 - Sub-arterial connection south of the SLRN.
 - Proposed to form a 3-way intersection with the SLRN only, or a 4-way intersection also including a local property access to the north.
- Archbold Road extension:
 - Arterial connection north of the SLRN | EPLR.
 - Proposed to form a 4-way intersection with the SLRN eastern NS link | EPLR.
 - Proposed to include direct connection to M4 Motorway via east-facing on- and off-ramps.
- Old Wallgrove Road:
 - Upgrade of existing Old Wallgrove Road between the SLRN eastern NS link and EPLR.
 - Proposed to form a 3-way intersection with the SLRN eastern NS link.
- Capitol Hill Drive extension:
 - Sub-arterial connection south of the SLRN.
 - Proposed to form a 4-way intersection with the SLRN eastern NS link | SLRN EW link.

Further planning work is currently ongoing regarding these potential future connections. Due to this the concept design of the SLRN has been developed to allow the flexibility to accommodate intersections with these links if and when required. The traffic modelling undertaken includes the following network assumptions for 2036:

- SLRN | Mamre Road intersection would include a western arm providing a connection west of the SLRN
- EPLR | Western NS SLRN Connection intersection would include a northern arm providing local access to the Fitzpatrick Industrial Estate north of the SLRN.
- EPLR | Eastern NS SLRN Connection intersection would include a northern arm providing a connection to the Archbold Road extension north of the SLRN.
- EW SLRN Connection | Eastern NS SLRN Connection intersection would include a southern arm providing local access to the CSR site, and potentially an onward connection to the Capitol Hill Drive extension south of the SLRN.
- SLRN | Wallgrove Road intersection would include an eastern arm effectively maintaining existing local access arrangements.

It is noted that the TfNSW NSW Long Term Transport Master Plan indicates the potential expansion of Sydney's core bus network through the WSEA – via the Erskine Park Link Road (EPLR) – as shown in **Figure 4-8**.

Although this corridor is shown to follow the alignment of the EPLR, the concept design for the SLRN includes an allowance to provide bus priority lanes on eastern and western approaches. This would allow for the realignment of the core bus network through the WSEA via the SLRN, and/or additional bus capacity in the WSEA in the future.

Figure 4-7 Proposed future connections

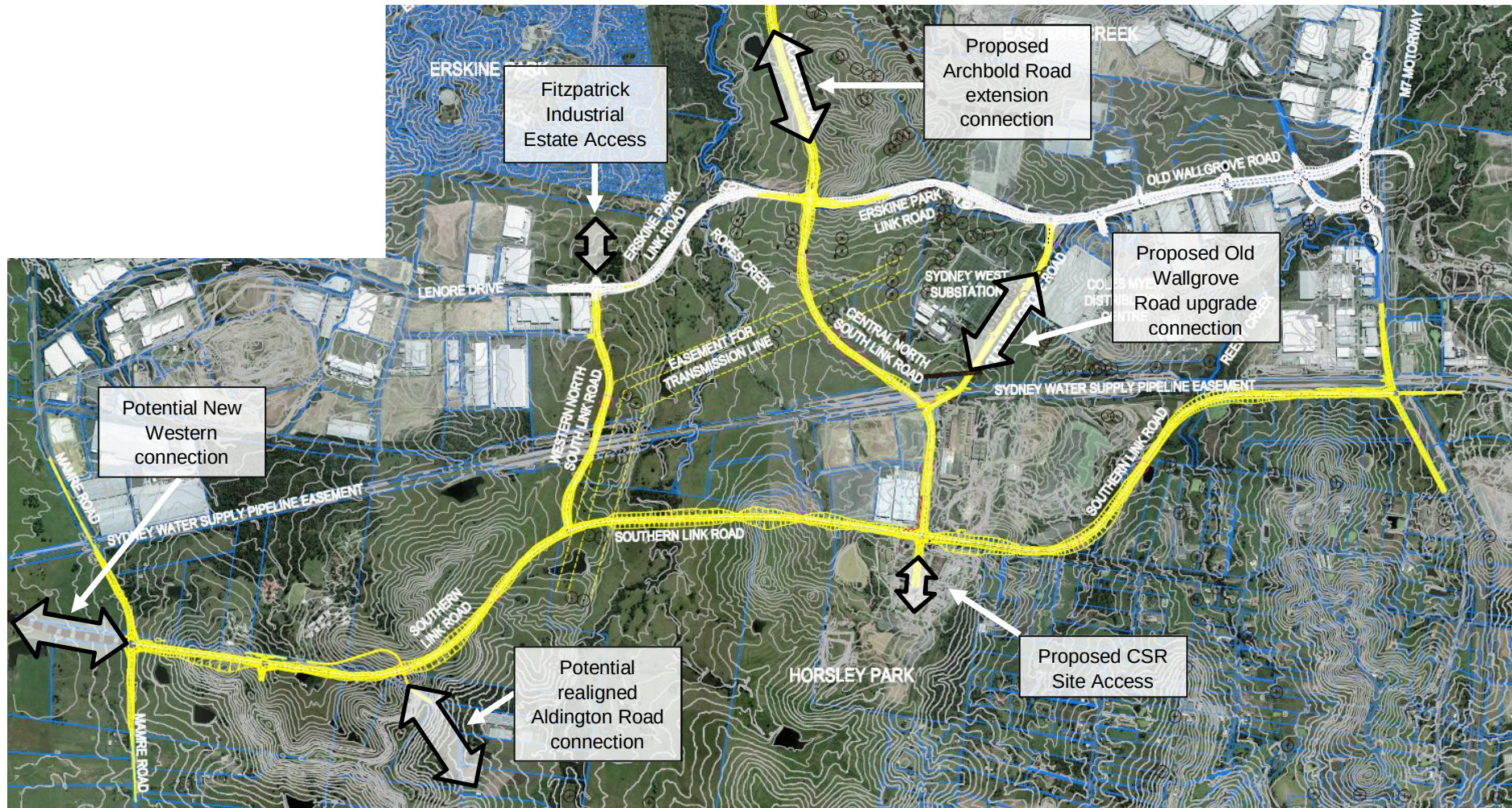
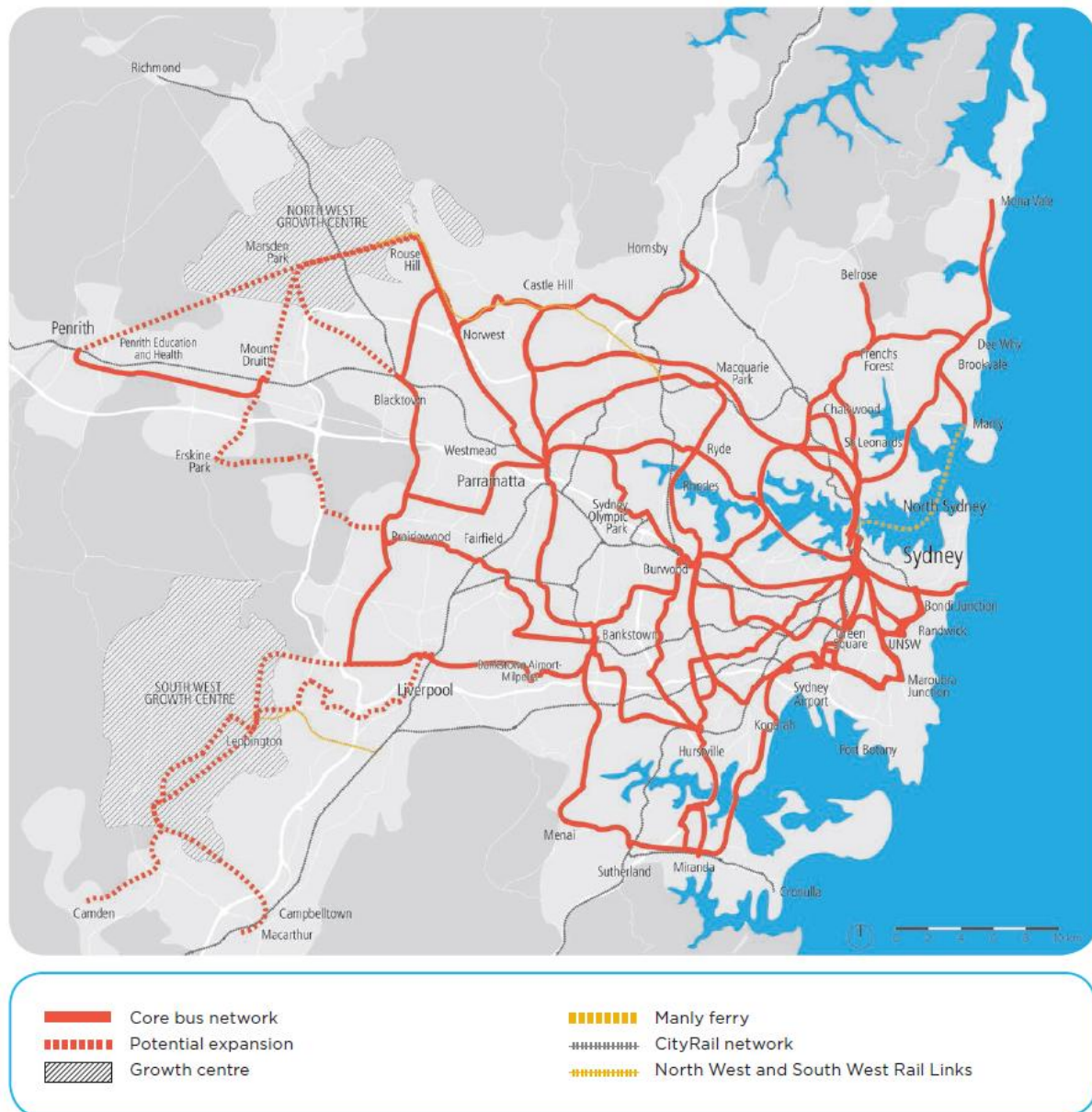


Figure 4-8 Proposed core bus network in 2031

Source: NSW Long Term Transport Master Plan, TfNSW

Following the confirmation of a proposed refined alignment and access arrangements, traffic modelling has been undertaken by GHD consultants to provide input to the development of the configuration of the following associated signalised intersections and approaches:

- SLRN | Mamre Road.
- EPLR | Western NS SLRN Connection.
- EW SLRN Connection | Western NS SLRN Connection.
- EPLR | Eastern NS SLRN Connection.
- Eastern NS SLRN Connection | Old Wallgrove Road.
- EW SLRN Connection | Eastern NS SLRN Connection.
- SLRN | Wallgrove Road.

The proposed concept designs for these intersections and illustrated in **Figure 4-9, Figure 4-10, Figure 4-11, Figure 4-12, Figure 4-13, Figure 4-14, and Figure 4-15.**

The performance of these intersections based on forecast future traffic demand is summarised in **Table 4-2**; during 2036 AM and PM traffic peaks all intersections are expected to perform at LoS D or better.

Table 4-2 Intersection performance summary

Intersection	2036 AM peak			2036 PM peak		
	Demand (vehicles)	Average delay (seconds)	Level of Service (LoS)	Demand (vehicles)	Average delay (seconds)	Level of Service (LoS)
SLRN Mamre Rd	5,826	46.0	D	5,511	48.6	D
EPLR Western NS SLRN Connection	1,903	21.3	B	1,803	31.1	C
EW SLRN Connection Western NS SLRN Connection	3,864	32.0	C	3,438	26.9	B
EPLR Eastern NS SLRN Connection	3,241	37.3	C	3,726	52.7	D
Eastern NS SLRN Connection Old Wallgrove Road	1,491	29.2	C	2,224	33.5	C
EW SLRN Connection Eastern NS SLRN Connection	3,658	38.1	C	4,192	52.9	D
SLRN Wallgrove Rd	4,816	55.5	D	4,924	55.6	D

Source: GHD

Figure 4-9 Proposed SLRN | Mamre Road intersection design

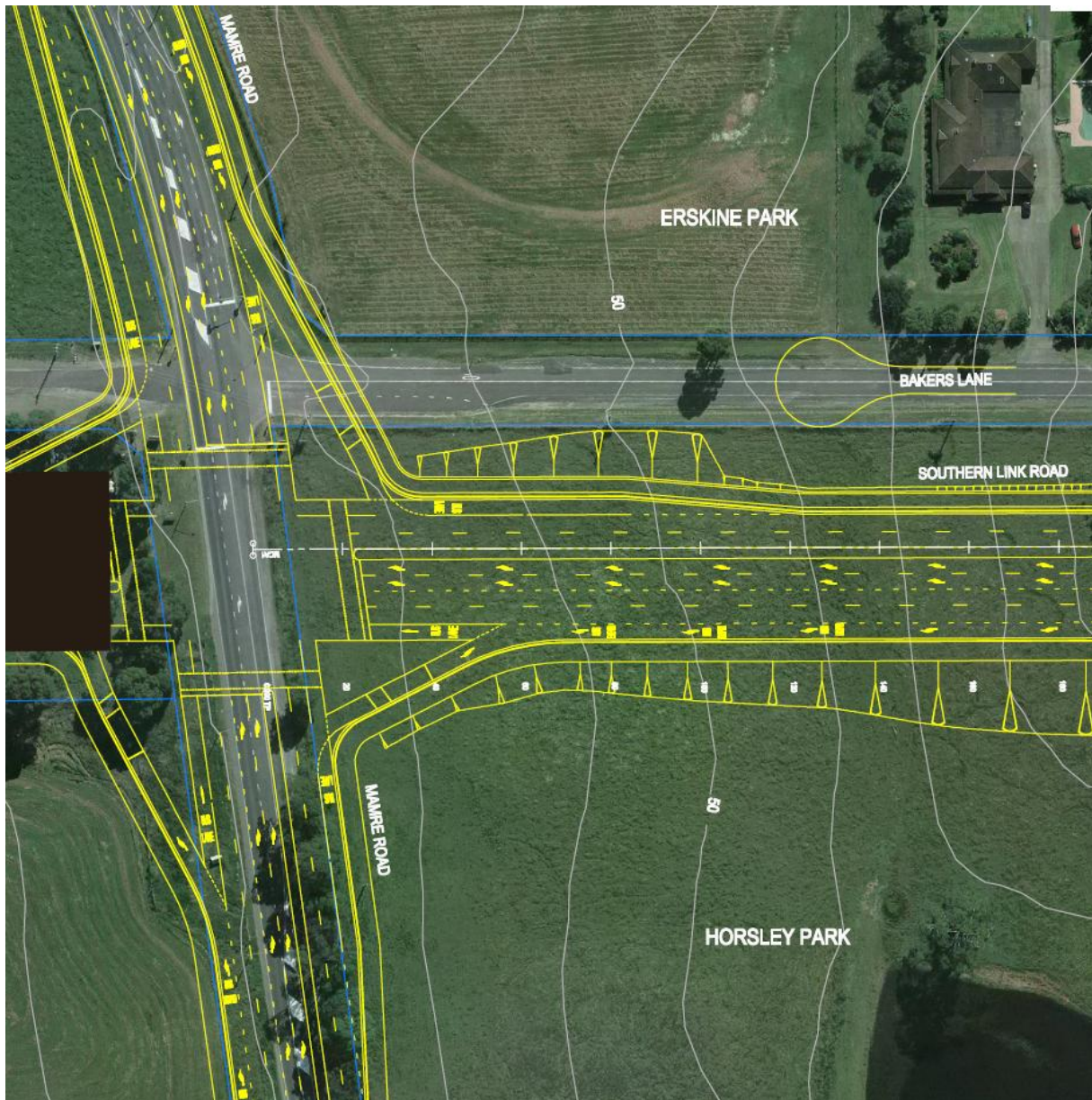


Figure 4-10 Proposed EPLR | Western NS SLRN Connection intersection concept design

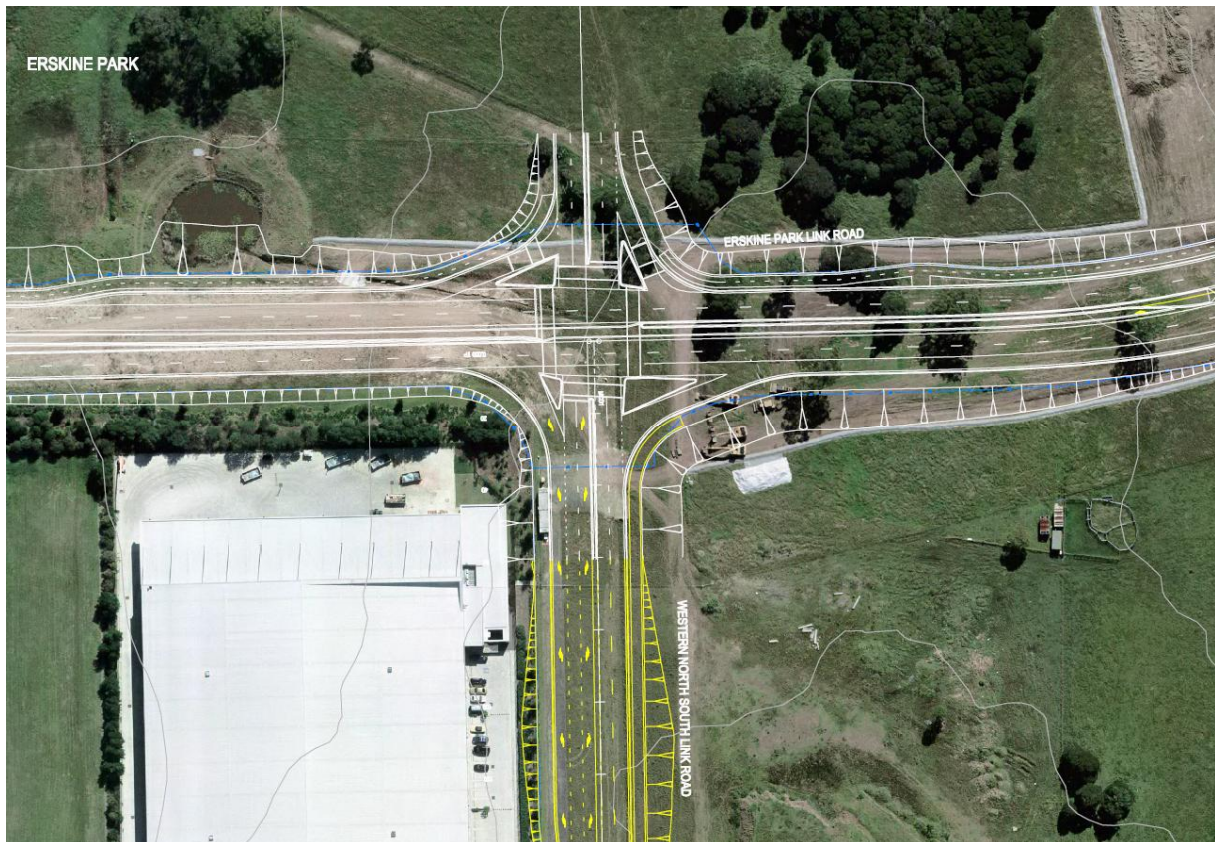


Figure 4-11 Proposed EW SLRN Connection | Western NS SLRN Connection intersection concept design

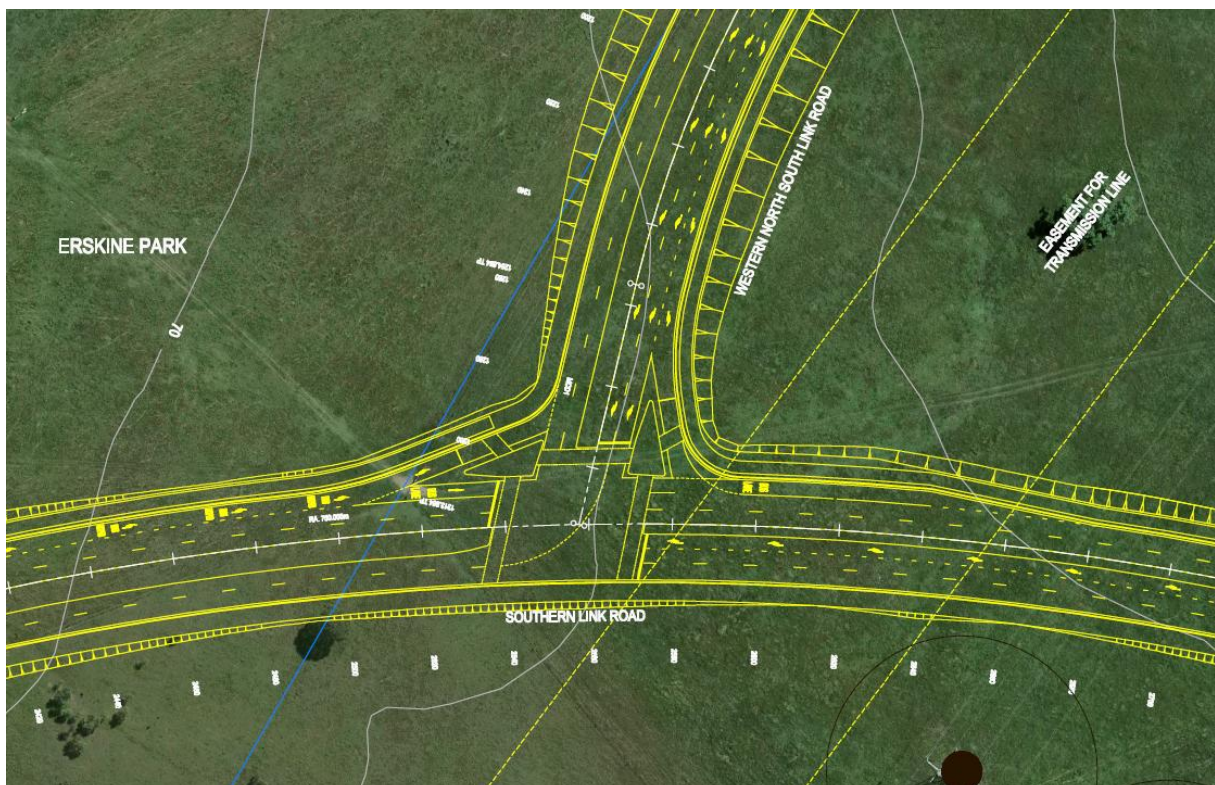


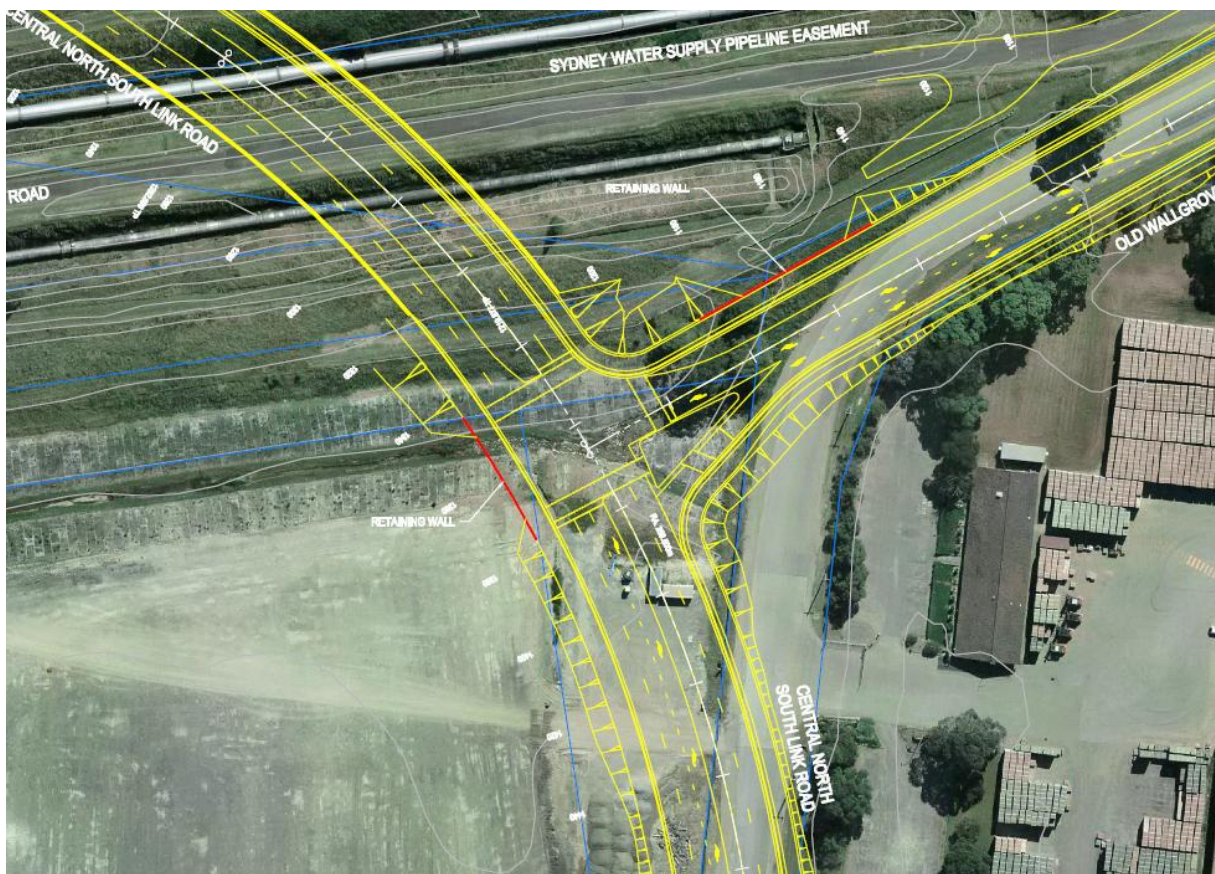
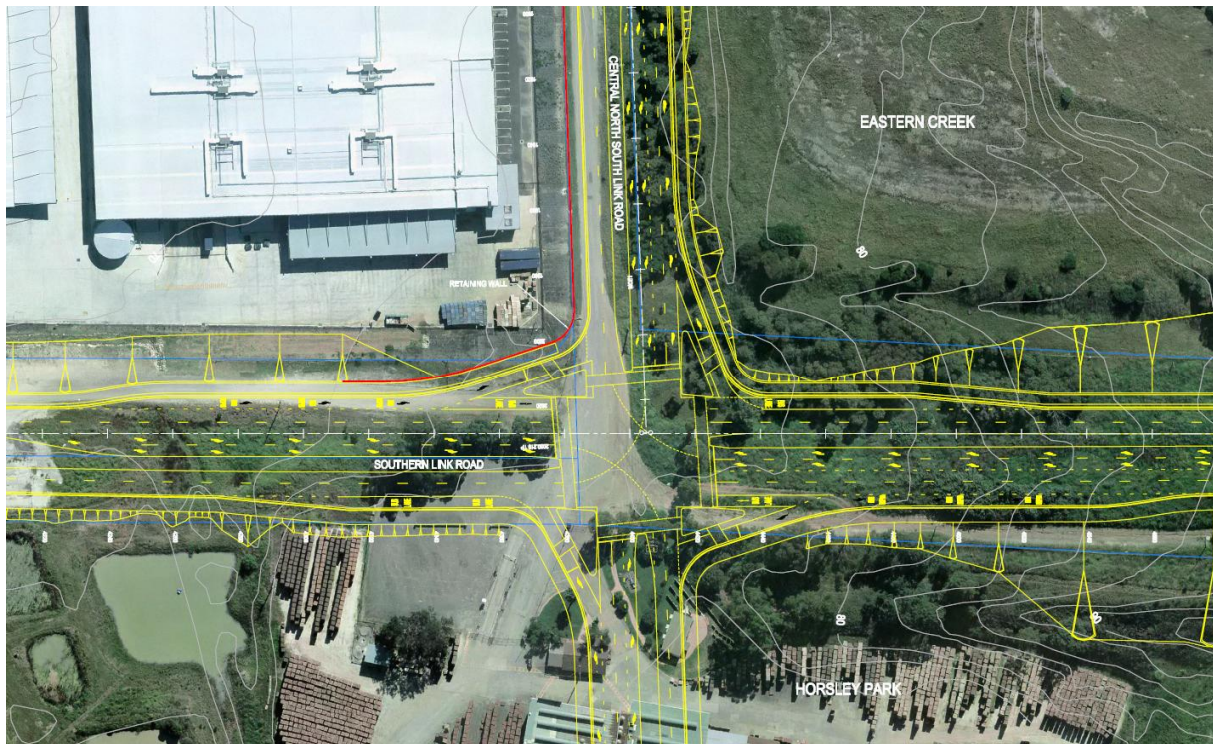
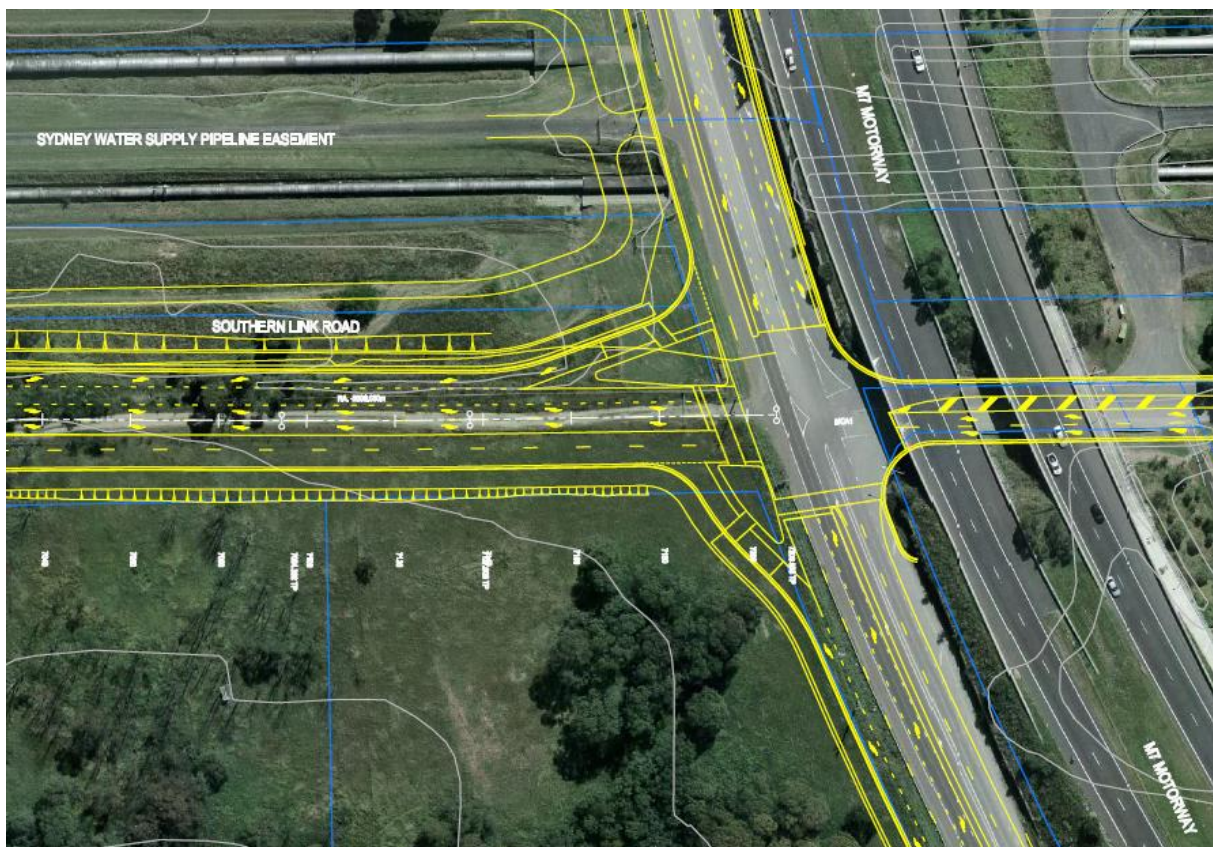
Figure 4-12 Proposed EPLR | Eastern NS SLRN Connection intersection concept design**Figure 4-13 Proposed Eastern NS SLRN Connection | Old Wallgrove Road intersection concept design**

Figure 4-14 Proposed EW SLRN Connection | Eastern NS SLRN Connection intersection concept design**Figure 4-15 Proposed SLRN | Wallgrove Road intersection design**

4.3.2 Local access intersections

The SLRN will include consolidated signalised intersections between arterial road intersections to provide access to and from local developments.

Spacing of approximately 400-500m between intersections is proposed to balance access to developments with the overall permeability of the SLRN. **Figure 4-14** indicates the proposed locations of local access intersections, based on the preferred spacing and known opportunities and constraints in the area. The proposed locations of intersections to provide access to and from SCA property are also indicated.

It is noted that access to and from Bakers Lane will be altered as a result of the construction of the SLRN. **Figure 4-9** indicates that the existing intersection between Mamre Road and Bakers Lane would be severed, which would be mitigated by:

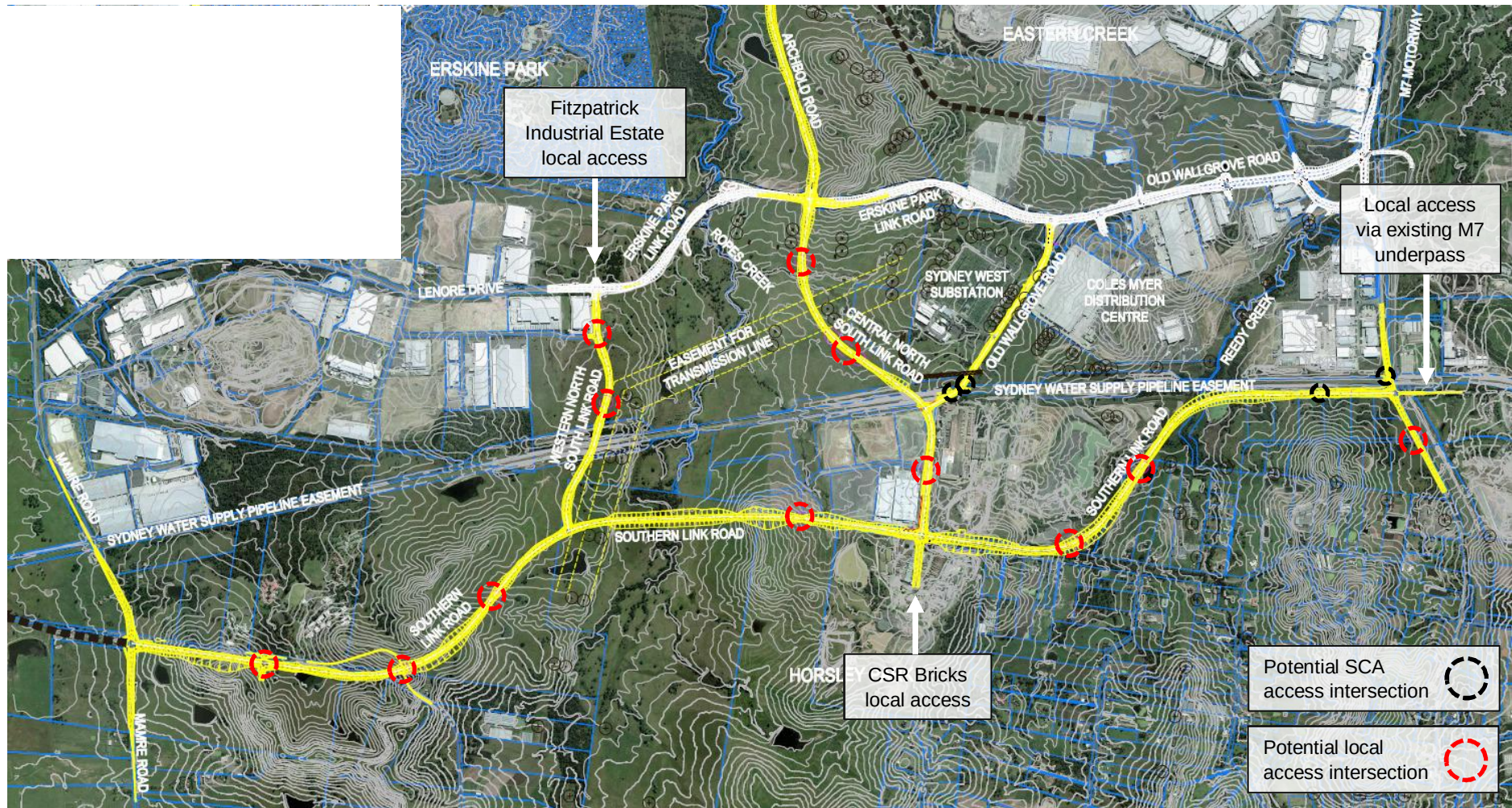
- Access between Bakers Lane and the SLRN in the vicinity of the existing school accesses.
- And | or access to Bakers Lane via an extension of the existing Bakers Lane alignment to a potential 4-way intersection with the SLRN and realigned Aldington Road.

DP&I proposes to continue to work with key stakeholders to ensure that safe, efficient, and well-balanced access to and from Bakers Lane is provided during the design and construction of the SLRN.

The proposed concept design for the SLRN | Wallgrove Road intersection includes an eastern arm, maintaining access via the existing M7 underpass.

Ultimately DP&I proposes to continue to collaborate with relevant stakeholders to ensure that appropriate and efficient access to properties and developments is provided, without unacceptably reducing the overall performance of the arterial road network (SLRN).

Figure 4-14 Potential locations of local access intersections



4.4 Next steps

It is the intention of DP&I to publically display the refined SLRN design, ultimately resulting in the formal update of the SEPP (WSEA) Transport and Arterial Road Infrastructure Plan. This would consequently:

- Update the now superseded alignment, protecting the refined alignment of the SLRN in the SEPP (WSEA).
- Provide greater certainty for future planning and development options for all stakeholders.

Following the public display and update of the SEPP (WSEA) Transport and Arterial Road Infrastructure Plan, the proposed concept will be further developed and investigated as part of a concept design and environmental assessment process. This will build upon work undertaken to date, and include further stakeholder engagement to maximise opportunities and minimise the effects of any constraints on the design, construction and operation of the SLRN.

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Appendix A

Southern Link Road Network (SLRN) – Refined Concept Design

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BROADER WESTERN SYDNEY EMPLOYMENT AREA SOUTHERN LINK ROAD NETWORK CONCEPT DESIGN



LOCALITY PLAN
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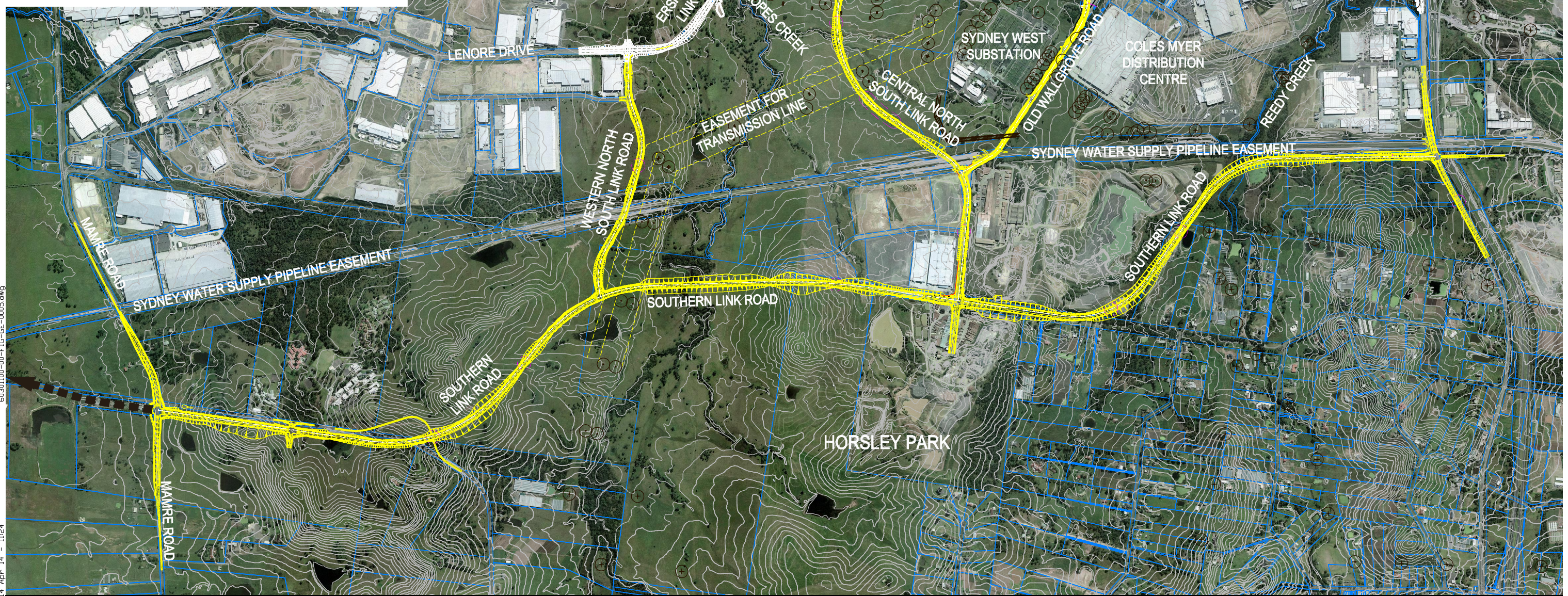
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DRAWING LIST

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60301100-00-FIG-GE-0005	GENERAL ARRANGEMENT PLAN
60301100-00-FIG-GE-0006	KEY PLAN
60301100-00-FIG-TS-0001	TYPICAL SECTIONS - SHEET 1 OF 2
60301100-00-FIG-TS-0002	TYPICAL SECTIONS - SHEET 2 OF 2
60301100-00-FIG-PL-0001	DETAIL PLAN - SHEET 1 OF 10
60301100-00-FIG-PL-0002	DETAIL PLAN - SHEET 2 OF 10
60301100-00-FIG-PL-0003	DETAIL PLAN - SHEET 3 OF 10
60301100-00-FIG-PL-0004	DETAIL PLAN - SHEET 4 OF 10
60301100-00-FIG-PL-0005	DETAIL PLAN - SHEET 5 OF 10
60301100-00-FIG-PL-0006	DETAIL PLAN - SHEET 6 OF 10
60301100-00-FIG-PL-0007	DETAIL PLAN - SHEET 7 OF 10
60301100-00-FIG-PL-0008	DETAIL PLAN - SHEET 8 OF 10
60301100-00-FIG-PL-0009	DETAIL PLAN - SHEET 9 OF 10
60301100-00-FIG-PL-0010	DETAIL PLAN - SHEET 10 OF 10
60301100-00-FIG-PL-0021	INTERSECTION OF SOUTHERN LINK ROAD AND MAMRE ROAD
60301100-00-FIG-PL-0022	INTERSECTION OF SOUTHERN LINK ROAD AND BAKERS LANE
60301100-00-FIG-PL-0023	INTERSECTION OF SOUTHERN LINK ROAD AND WESTERN NORTH SOUTH LINK ROAD
60301100-00-FIG-PL-0024	INTERSECTION OF SOUTHERN LINK ROAD AND CENTRAL NORTH SOUTH LINK ROAD
60301100-00-FIG-PL-0025	INTERSECTION OF SOUTHERN LINK ROAD AND WALLGROVE ROAD
60301100-00-FIG-PL-0026	INTERSECTION OF CENTRAL NORTH SOUTH LINK ROAD AND OLD WALLGROVE ROAD
60301100-00-FIG-PL-0027	INTERSECTION OF WESTERN NORTH SOUTH LINK ROAD AND ERSKINE PARK LINK ROAD
60301100-00-FIG-PL-0028	INTERSECTION OF CENTRAL NORTH SOUTH LINK ROAD AND ERSKINE PARK LINK ROAD
60301100-00-FIG-PL-0029	INTERSECTION OF OLD WALLGROVE ROAD AND ERSKINE PARK LINK ROAD
60301100-00-FIG-LS-0001	LONGITUDINAL SECTION MCA1 - SOUTHERN LINK ROAD - SHEET 1 OF 3
60301100-00-FIG-LS-0002	LONGITUDINAL SECTION MCA1 - SOUTHERN LINK ROAD - SHEET 2 OF 3
60301100-00-FIG-LS-0003	LONGITUDINAL SECTION MCA1 - SOUTHERN LINK ROAD - SHEET 3 OF 3
60301100-00-FIG-LS-0011	LONGITUDINAL SECTION MCD1 - WESTERN NORTH SOUTH LINK ROAD - SHEET 1 OF 1
60301100-00-FIG-LS-0021	LONGITUDINAL SECTION MCE1 - CENTRAL NORTH SOUTH LINK ROAD - SHEET 1 OF 1
60301100-00-FIG-LS-0031	LONGITUDINAL SECTION MCF1 - OLD WALLGROVE ROAD - SHEET 1 OF 1
60301100-00-FIG-LS-0041	LONGITUDINAL SECTION MCG1 - ARCHBOLD ROAD - SHEET 1 OF 1

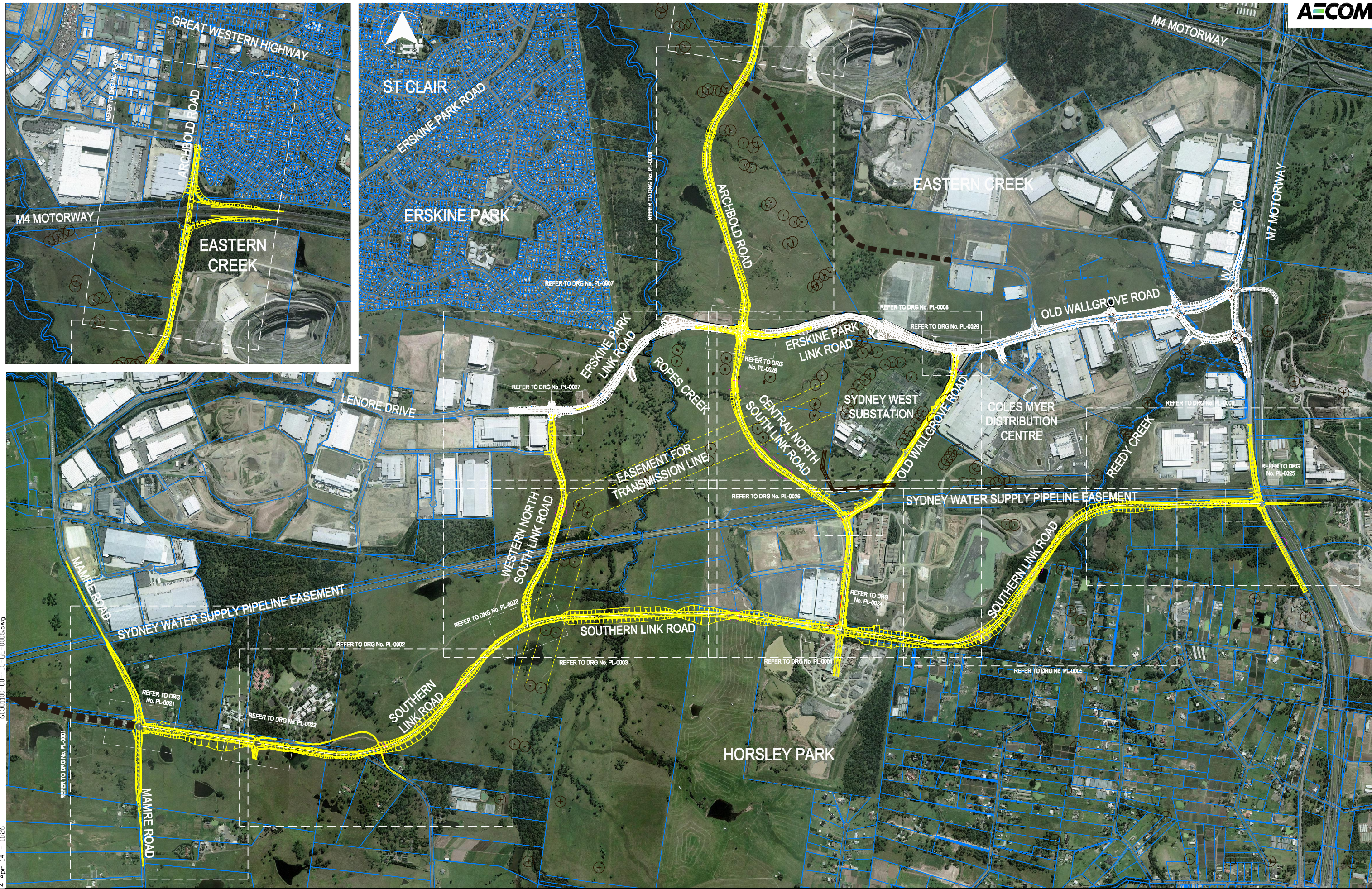
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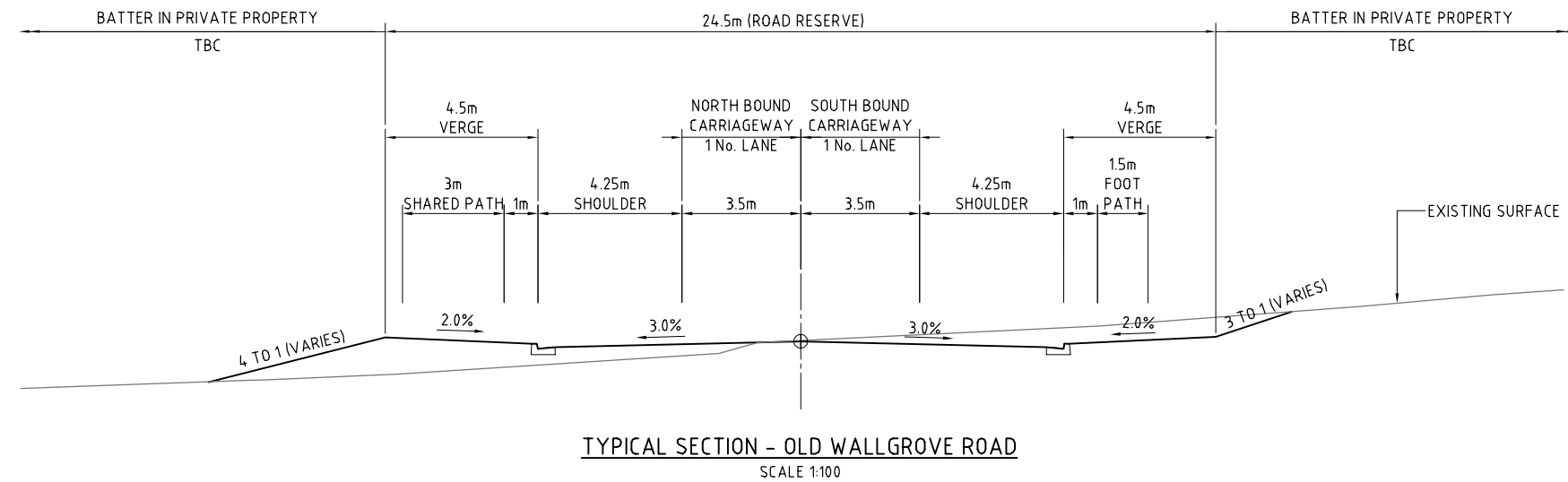
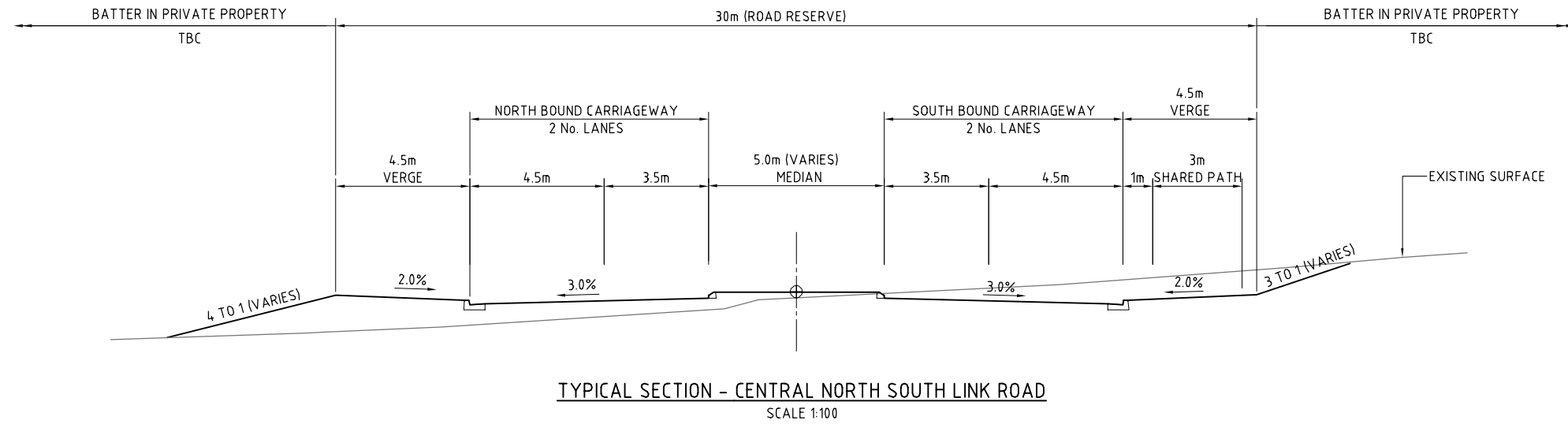
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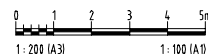


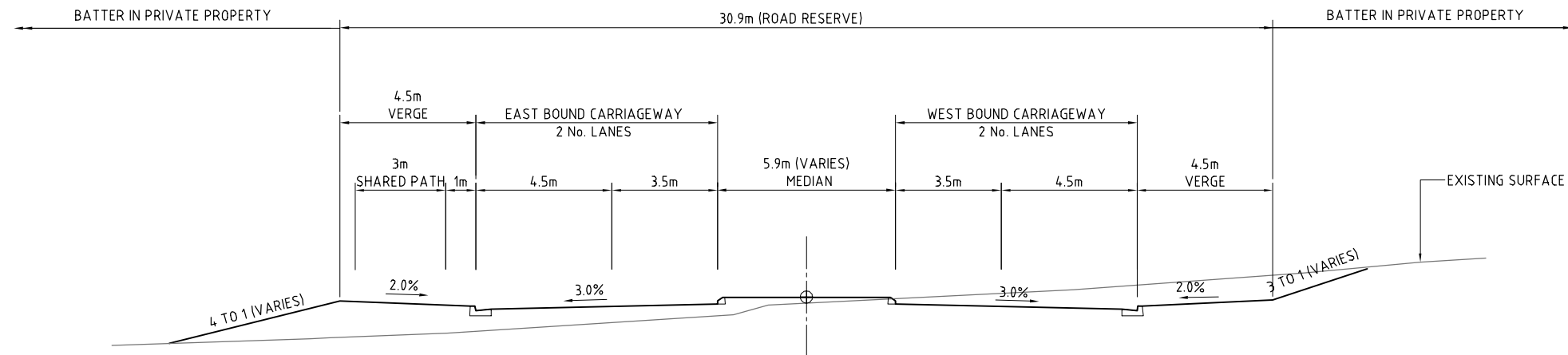
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1. SECTION IN ACCORDANCE WITH BLACKTOWN CITY COUNCIL SEPP 59

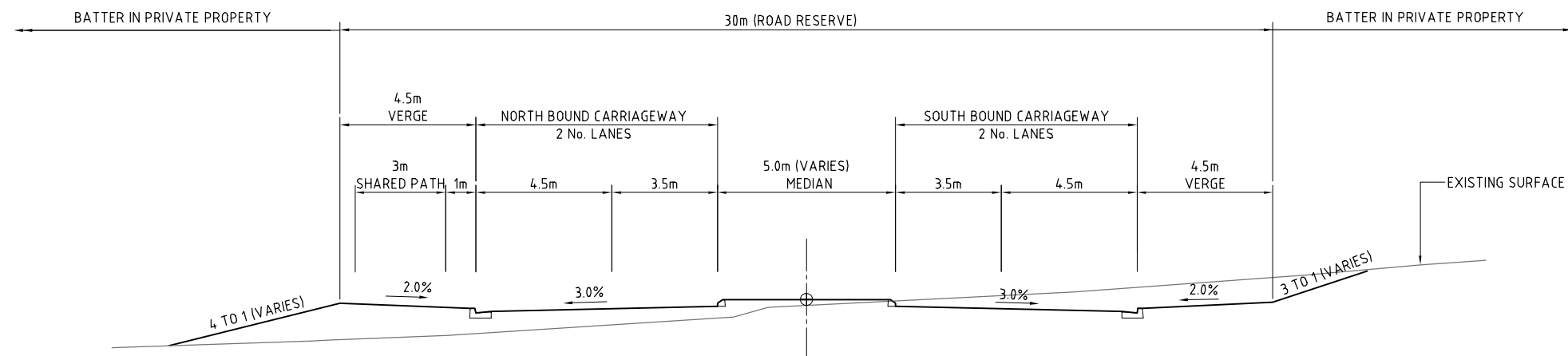
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TYPICAL SECTION - SOUTHERN LINK ROAD
SCALE 1:100



TYPICAL SECTION - WESTERN NORTH SOUTH LINK ROAD
SCALE 1:100

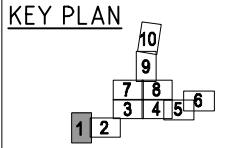
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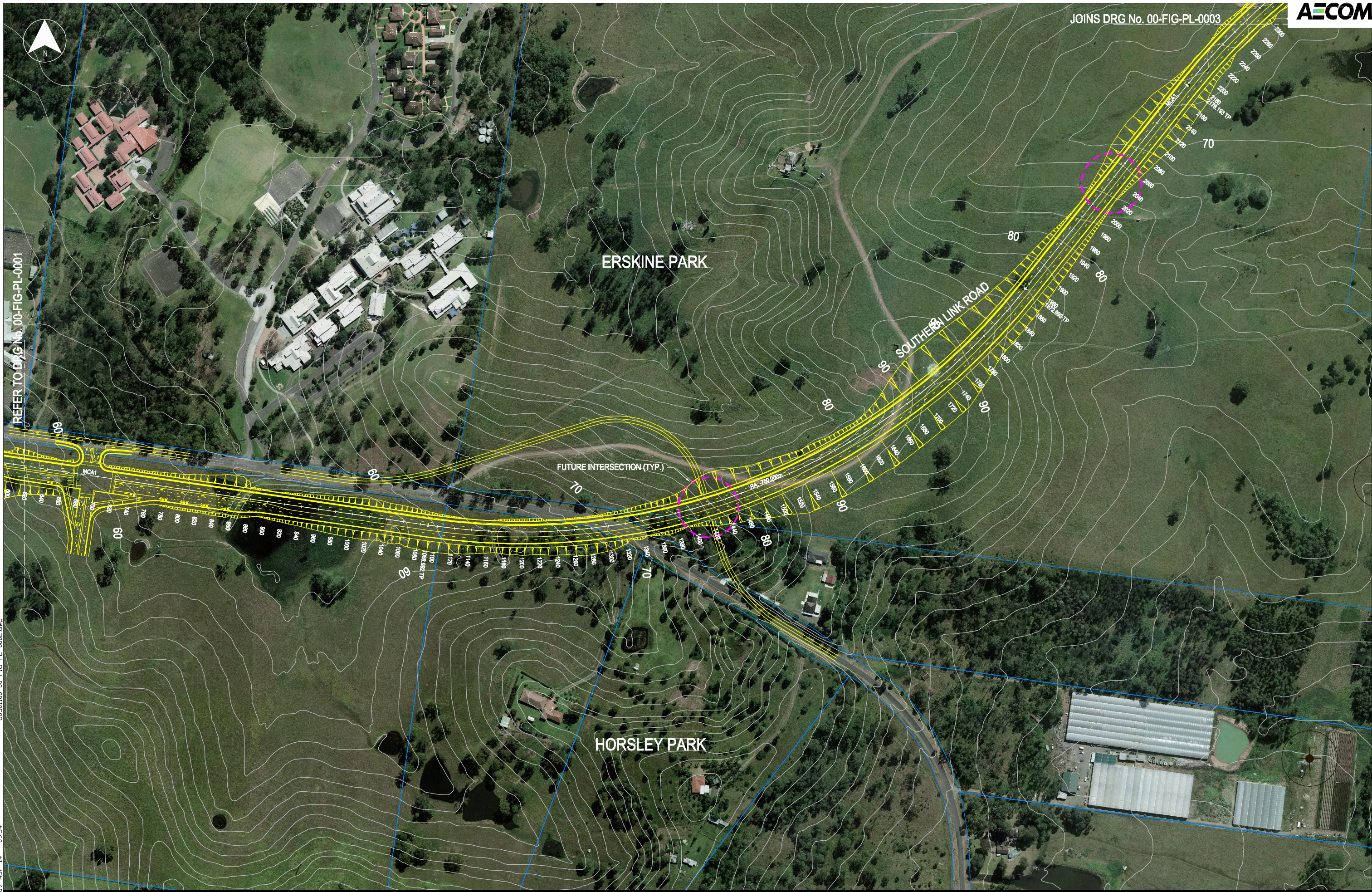


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SOUTHERN LINK ROAD NETWORK
DETAIL PLAN - SHEET 1 OF 10
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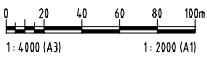
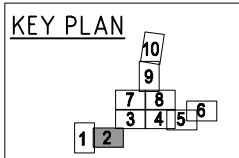
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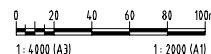
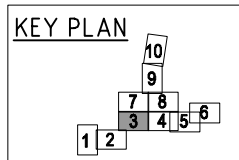


BROADER WESTERN SYDNEY EMPLOYMENT AREA
SOUTHERN LINK ROAD NETWORK
DETAIL PLAN - SHEET 2 OF 10
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SOUTHERN LINK ROAD NETWORK
DETAIL PLAN - SHEET 3 OF 10
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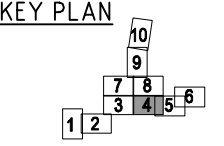


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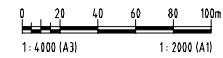
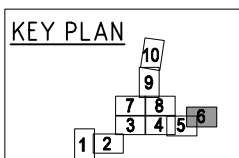


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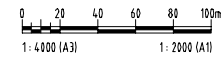
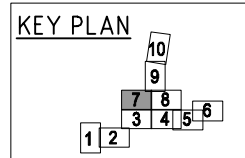


BROADER WESTERN SYDNEY EMPLOYMENT AREA
SOUTHERN LINK ROAD NETWORK
DETAIL PLAN - SHEET 6 OF 10
60301100-00-FIG-PL-0006



REV 01
SHEET 13
CONCEPT DESIGN

NOTE:
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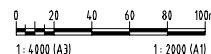
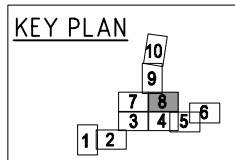


BROADER WESTERN SYDNEY EMPLOYMENT AREA
SOUTHERN LINK ROAD NETWORK
DETAIL PLAN - SHEET 7 OF 10
60301100-00-FIG-PL-0007



REV 01
SHEET 14
CONCEPT DESIGN

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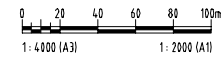
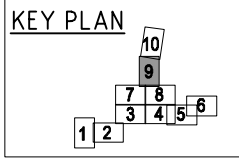


BROADER WESTERN SYDNEY EMPLOYMENT AREA
SOUTHERN LINK ROAD NETWORK
DETAIL PLAN - SHEET 8 OF 10
60301100-00-FIG-PL-0008



REV 01
SHEET 15
CONCEPT DESIGN

NOTE:
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BROADER WESTERN SYDNEY EMPLOYMENT AREA
SOUTHERN LINK ROAD NETWORK
DETAIL PLAN - SHEET 9 OF 10
60301100-00-FIG-PL-0009



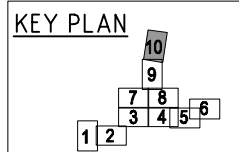
JOINS DRG No. 00-FIG-PL-0009

60301100-00-FIG-PL-0010.dwg

09 Apr 14 - 09:36

REV 01
SHEET 16
CONCEPT DESIGN

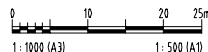
NOTE:
CAD FILES ARE PROVIDED FOR INFORMATION PURPOSES ONLY. YOUR ATTENTION IS DRAWN TO THE FACT THAT THE ALIGNMENTS PROVIDED (INCLUSIVE OF INTERSECTIONS) ARE IN THE PROCESS OF FURTHER DEVELOPMENT AND ARE SUBJECT TO ONGOING PLANNING CONSULTATION AND APPROVALS. AS SUCH THEY ARE SUBJECT TO CHANGE.

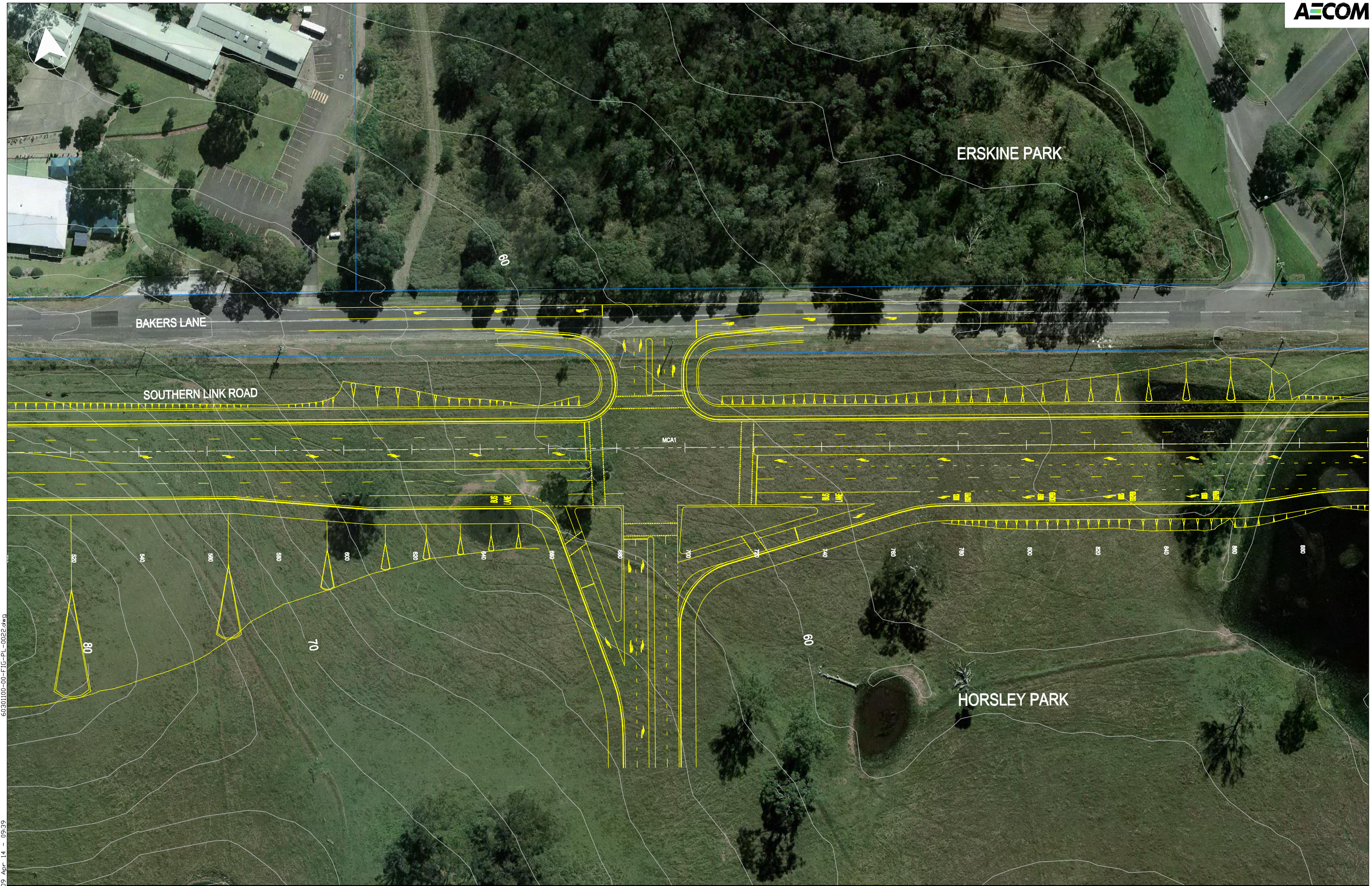


BROADER WESTERN SYDNEY EMPLOYMENT AREA
SOUTHERN LINK ROAD NETWORK
DETAIL PLAN - SHEET 10 OF 10
60301100-00-FIG-PL-0010



NOTE:
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NOTE:
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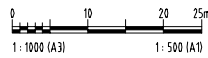


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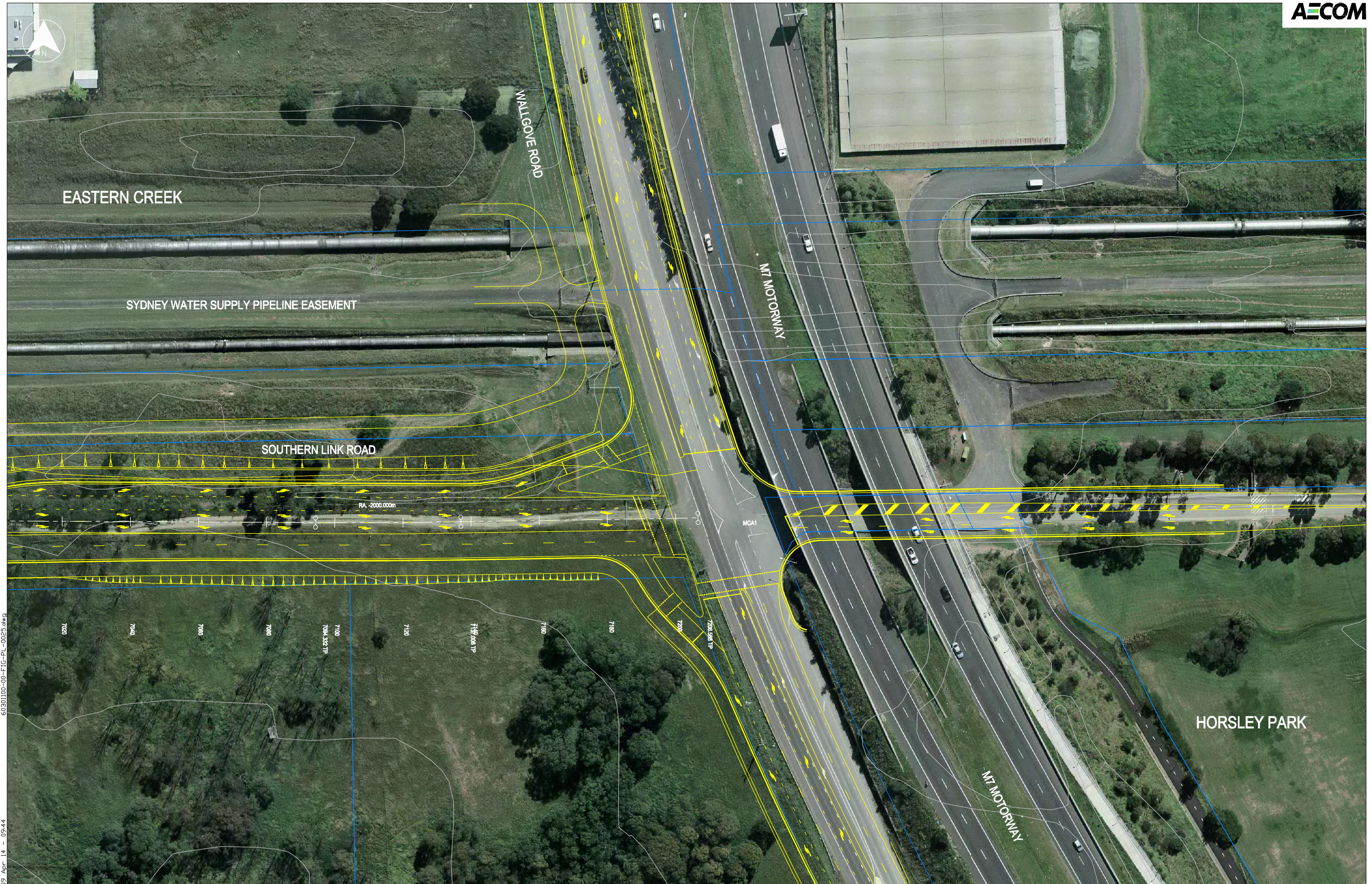
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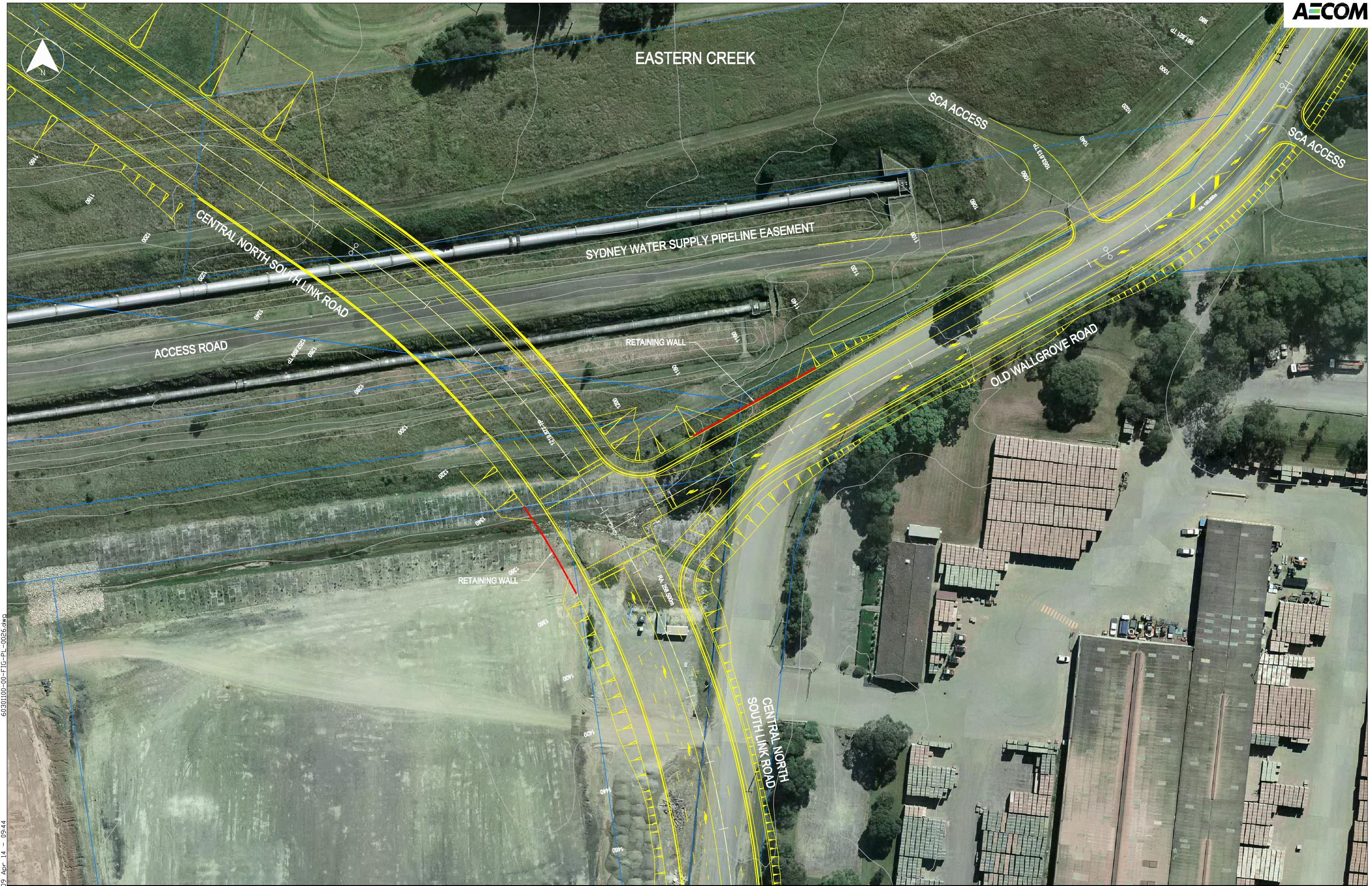
REV 01
SHEET 20
CONCEPT DESIGN

NOTE:
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BROADER WESTERN SYDNEY EMPLOYMENT AREA
SOUTHERN LINK ROAD NETWORK
INTERSECTION OF SOUTHERN LINK ROAD AND CENTRAL NORTH SOUTH LINK ROAD
60301100-00-FIG-PL-0024

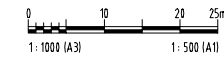




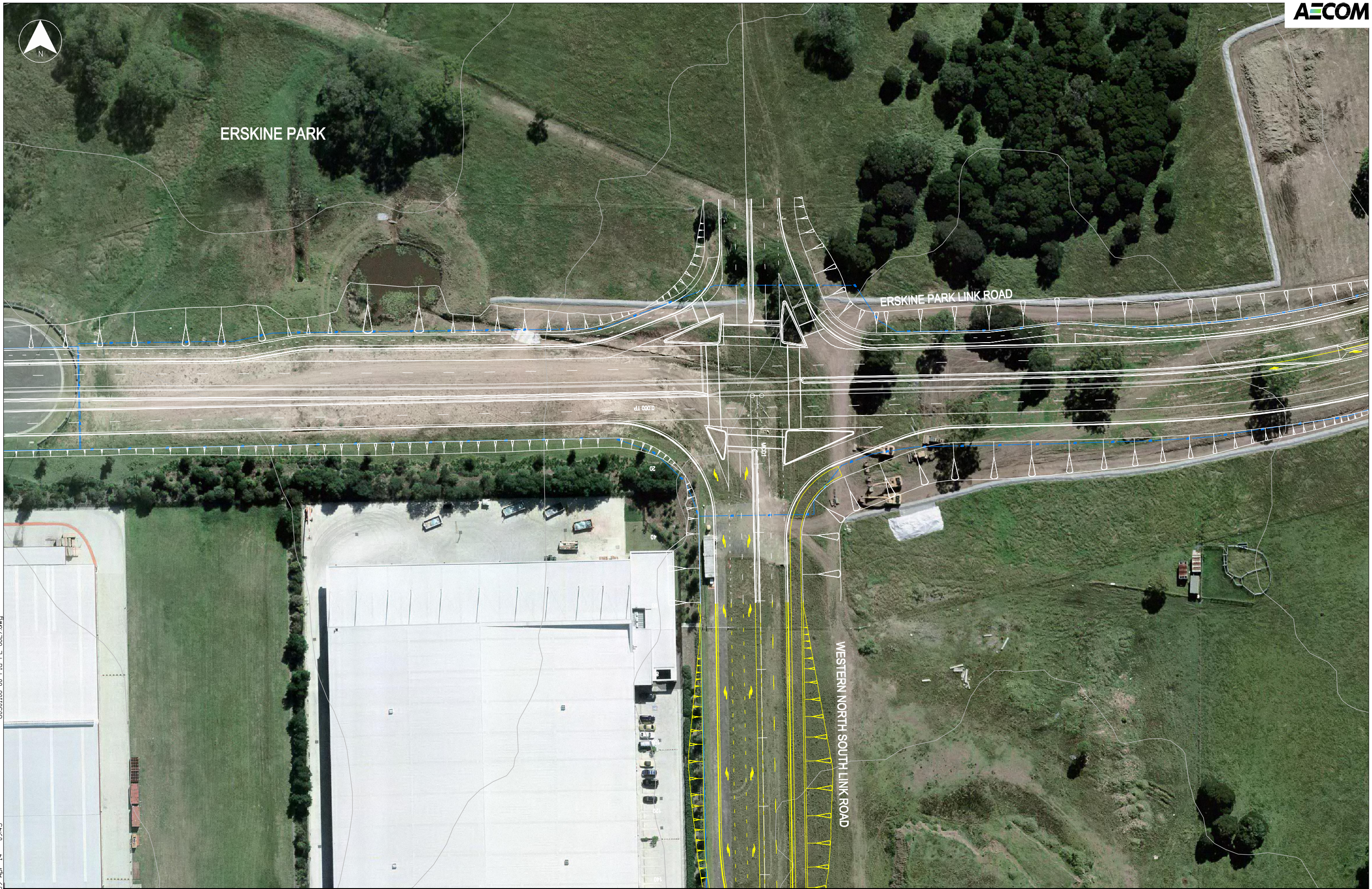
60301100-00-FIG-PL-0026.dwg
09 Apr 14 - 09:44

REV 01
SHEET 22
CONCEPT DESIGN

NOTE:
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BROADER WESTERN SYDNEY EMPLOYMENT AREA
SOUTHERN LINK ROAD NETWORK
INTERSECTION OF CENTRAL NORTH SOUTH LINK ROAD AND OLD WALLGROVE ROAD
60301100-00-FIG-PL-0026



REV 01
SHEET 23
CONCEPT DESIGN

NOTE:
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BROADER WESTERN SYDNEY EMPLOYMENT AREA
SOUTHERN LINK ROAD NETWORK
INTERSECTION OF WESTERN NORTH SOUTH LINK ROAD AND ERSKINE PARK LINK ROAD
60301100-00-FIG-PL-0027



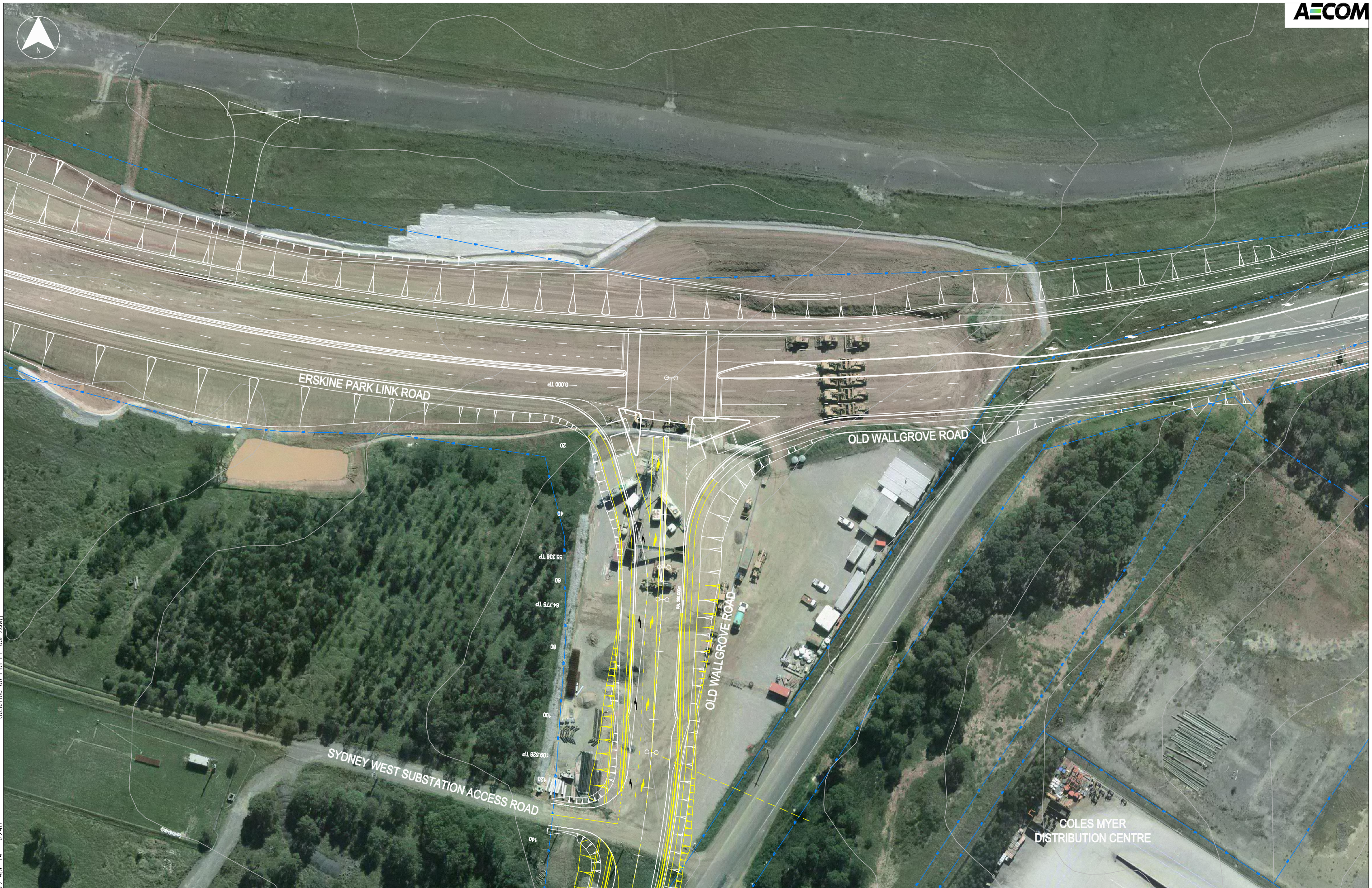
60301100-00-FIG-PL-0028.dwg
09 Apr 14 - 09:45

REV 01
SHEET 24
CONCEPT DESIGN



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BROADER WESTERN SYDNEY EMPLOYMENT AREA
SOUTHERN LINK ROAD NETWORK
INTERSECTION OF CENTRAL NORTH SOUTH LINK ROAD AND ERSKINE PARK LINK ROAD
60301100-00-FIG-PL-0028

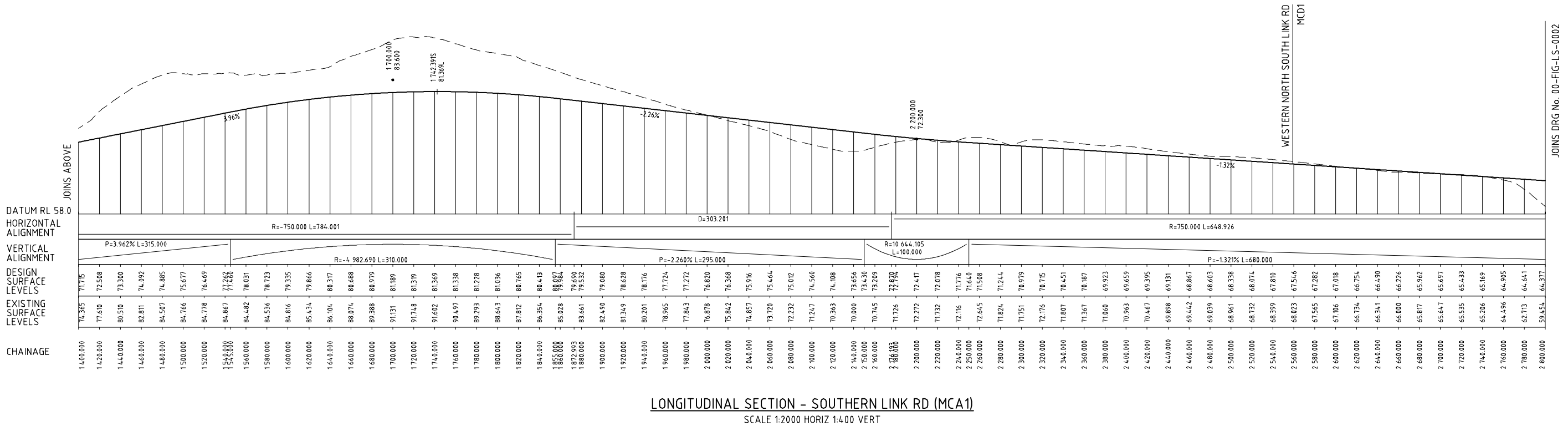
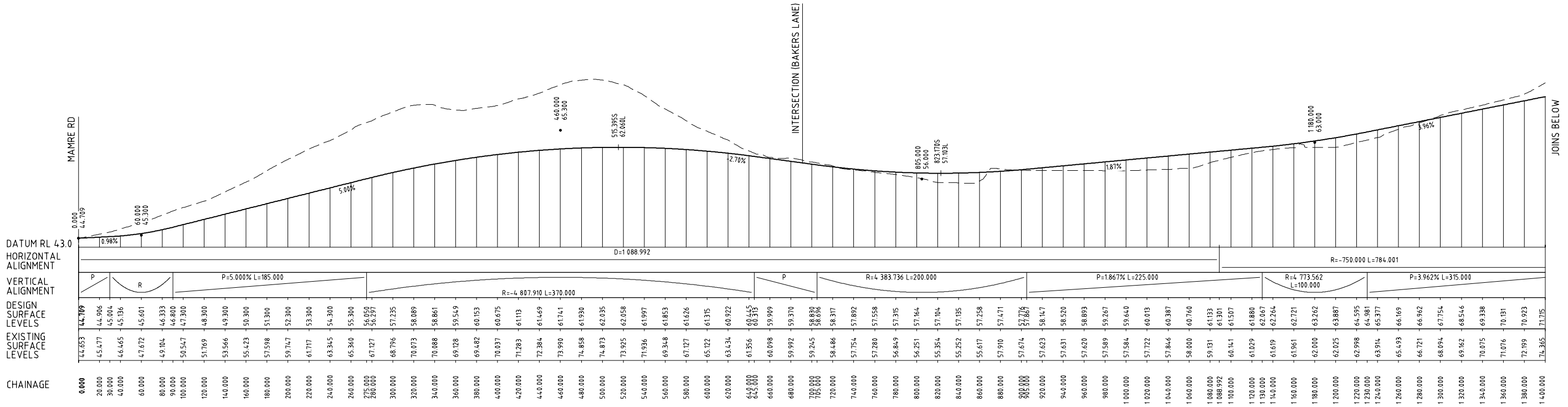


REV 01
SHEET 25
CONCEPT DESIGN

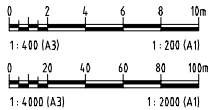
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CAD FILES ARE PROVIDED FOR INFORMATION PURPOSES ONLY. YOUR ATTENTION IS DRAWN TO THE FACT THAT THE ALIGNMENTS PROVIDED (INCLUSIVE OF INTERSECTIONS) ARE IN THE PROCESS OF FURTHER DEVELOPMENT AND ARE SUBJECT TO ONGOING PLANNING CONSULTATION AND APPROVALS. AS SUCH THEY ARE SUBJECT TO CHANGE.

BROADER WESTERN SYDNEY EMPLOYMENT AREA
SOUTHERN LINK ROAD NETWORK
INTERSECTION OF OLD WALLGROVE ROAD AND ERSKINE PARK LINK ROAD
60301100-00-FIG-PL-0029

60301100-00-FIG-LS-0001.dwg 09 Apr 14 - 09:33



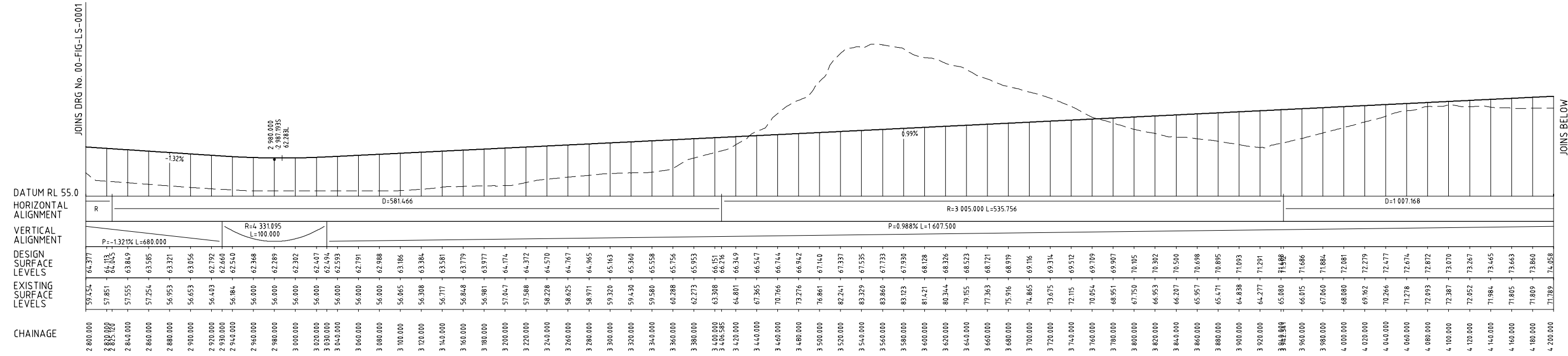
REV 01
SHEET 26
CONCEPT DESIGN



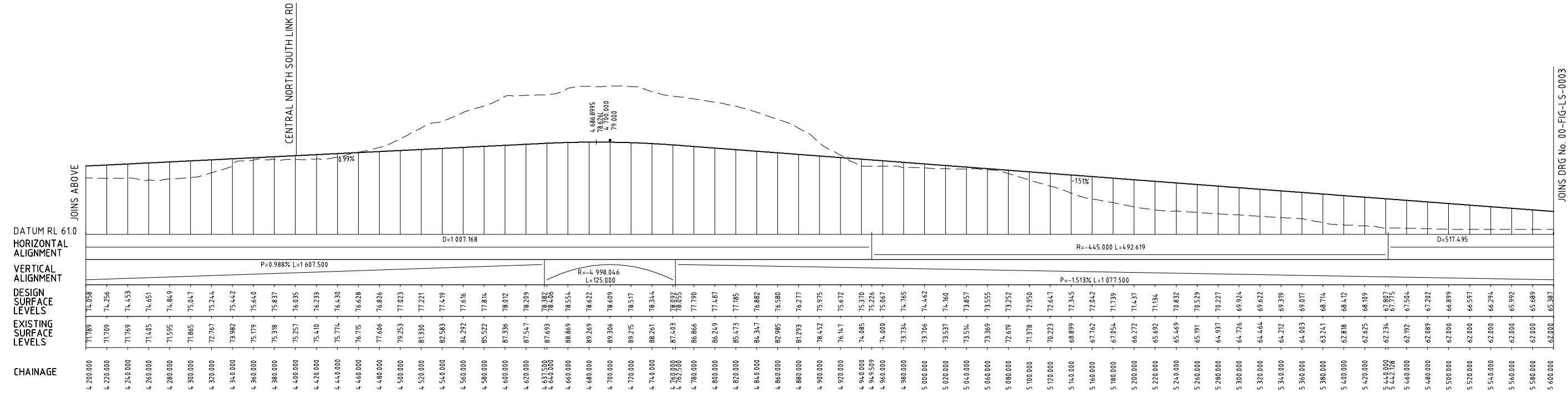
NOTE:
CAD FILES ARE PROVIDED FOR INFORMATION PURPOSES ONLY. YOUR ATTENTION IS DRAWN TO THE FACT THAT THE ALIGNMENTS PROVIDED (INCLUSIVE OF INTERSECTIONS) ARE IN THE PROCESS OF FURTHER DEVELOPMENT AND ARE SUBJECT TO ONGOING PLANNING CONSULTATION AND APPROVALS. AS SUCH THEY ARE SUBJECT TO CHANGE.

BROADER WESTERN SYDNEY EMPLOYMENT AREA
SOUTHERN LINK ROAD NETWORK
LONGITUDINAL SECTION MCA1 - SOUTHERN LINK ROAD - SHEET 1 OF 3
60301100-00-FIG-LS-0001

60301100-00-FIG-LS-0002.dwg 09 Apr 14 - 09:33



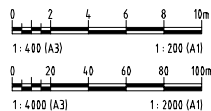
LONGITUDINAL SECTION - SOUTHERN LINK RD (MCA1)
SCALE 1:2000 HORIZ 1:400 VERT



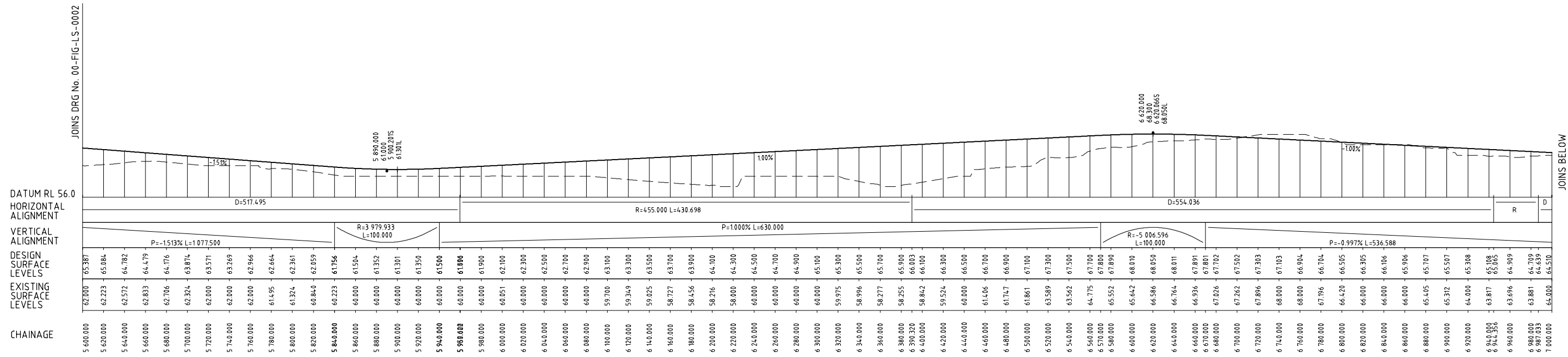
LONGITUDINAL SECTION - SOUTHERN LINK RD (MCA1)
SCALE 1:2000 HORIZ 1:400 VERT

NOTE:
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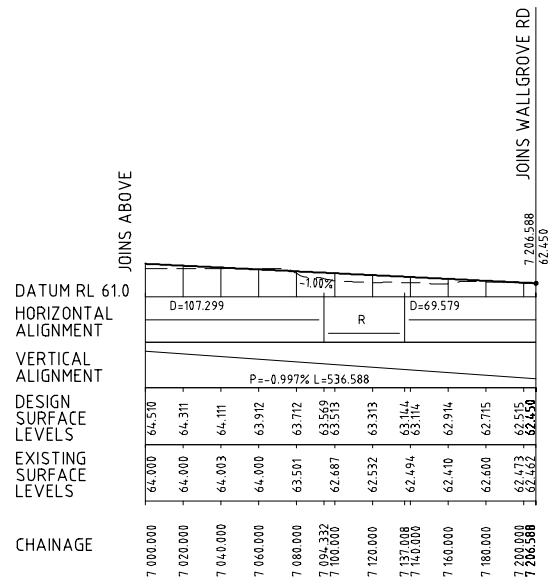
REV 01
SHEET 28
CONCEPT DESIGN



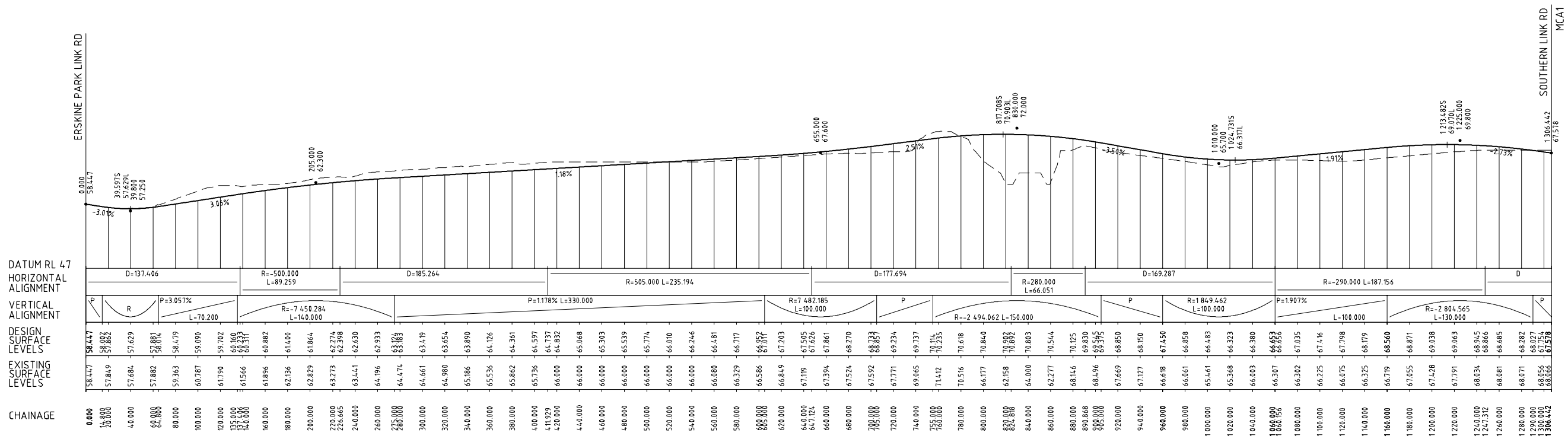
NOTE:
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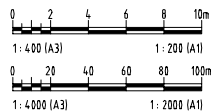
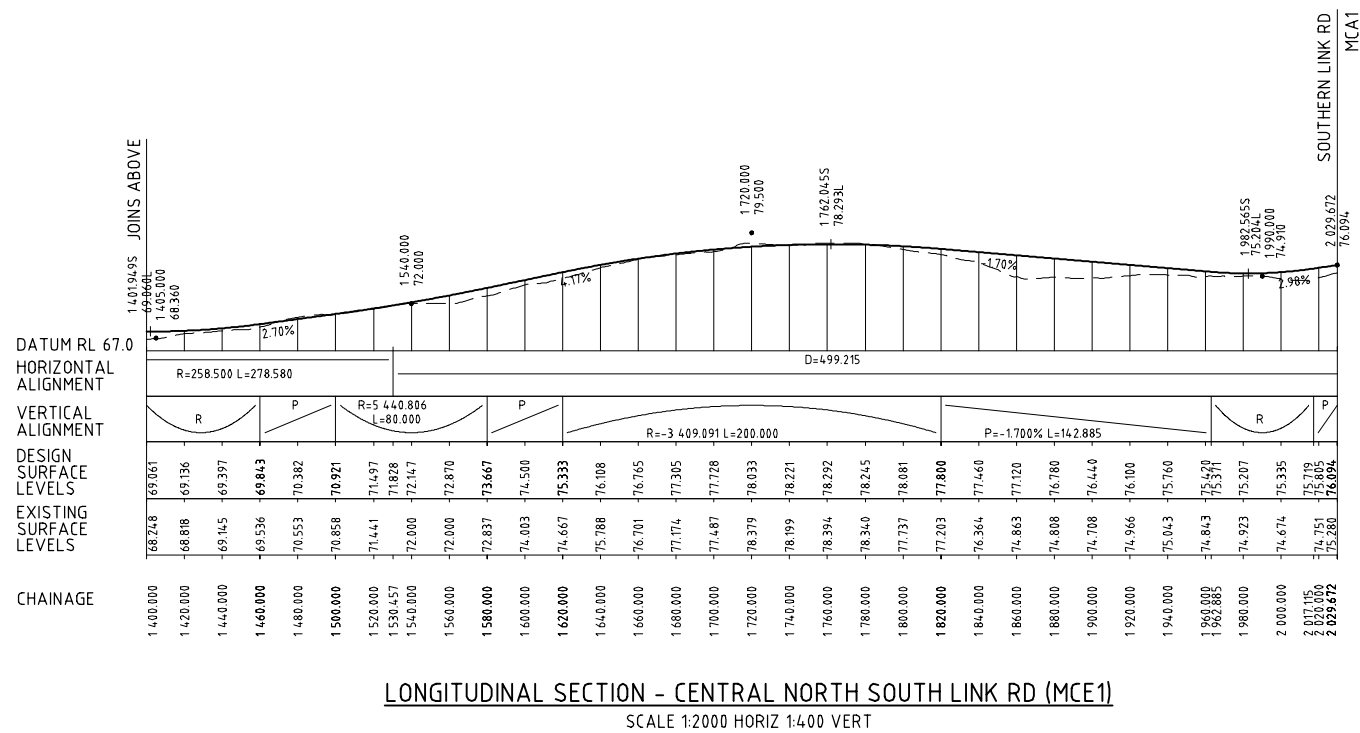
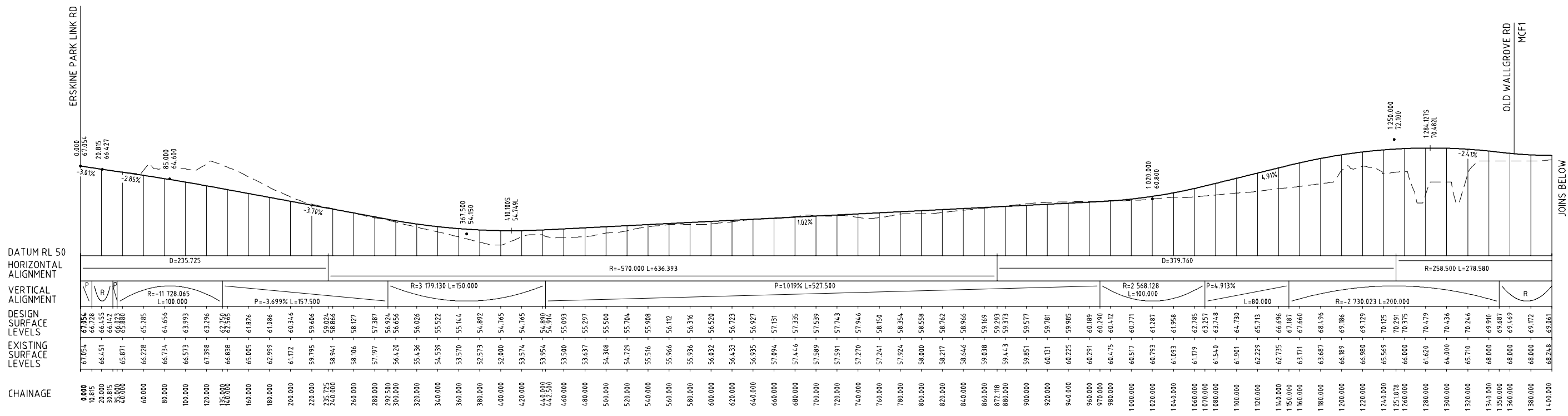


LONGITUDINAL SECTION - SOUTHERN LINK RD (MCA1)
SCALE 1:2000 HORIZ 1:400 VERT



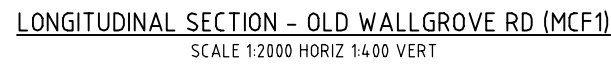
LONGITUDINAL SECTION - SOUTHERN LINK RD (MCA1)
SCALE 1:2000 HORIZ 1:400 VERT



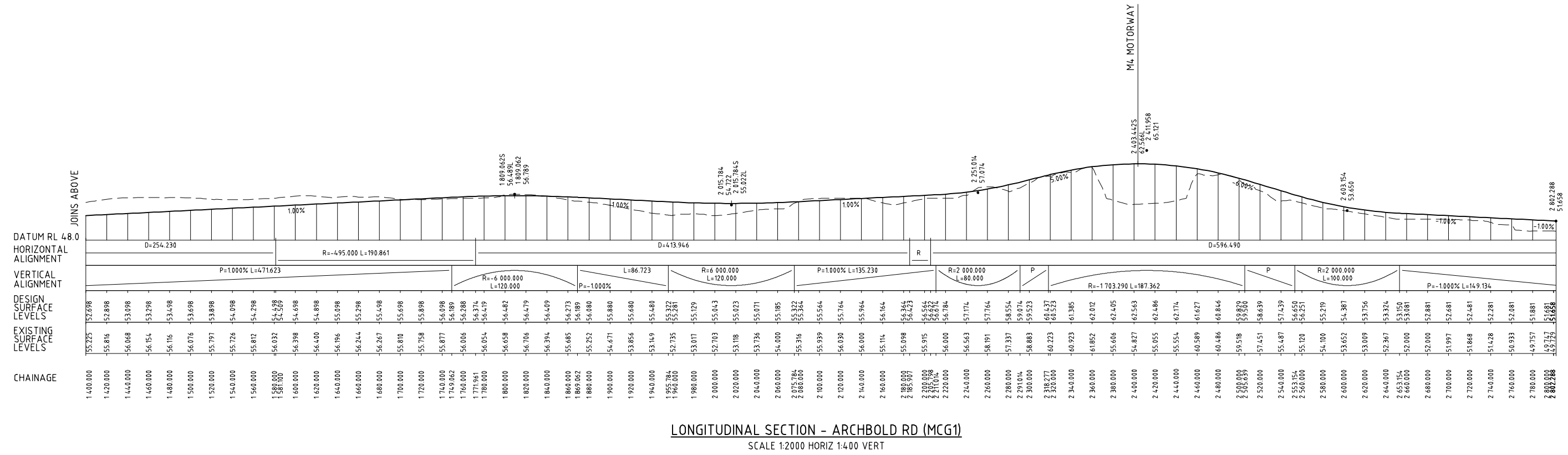
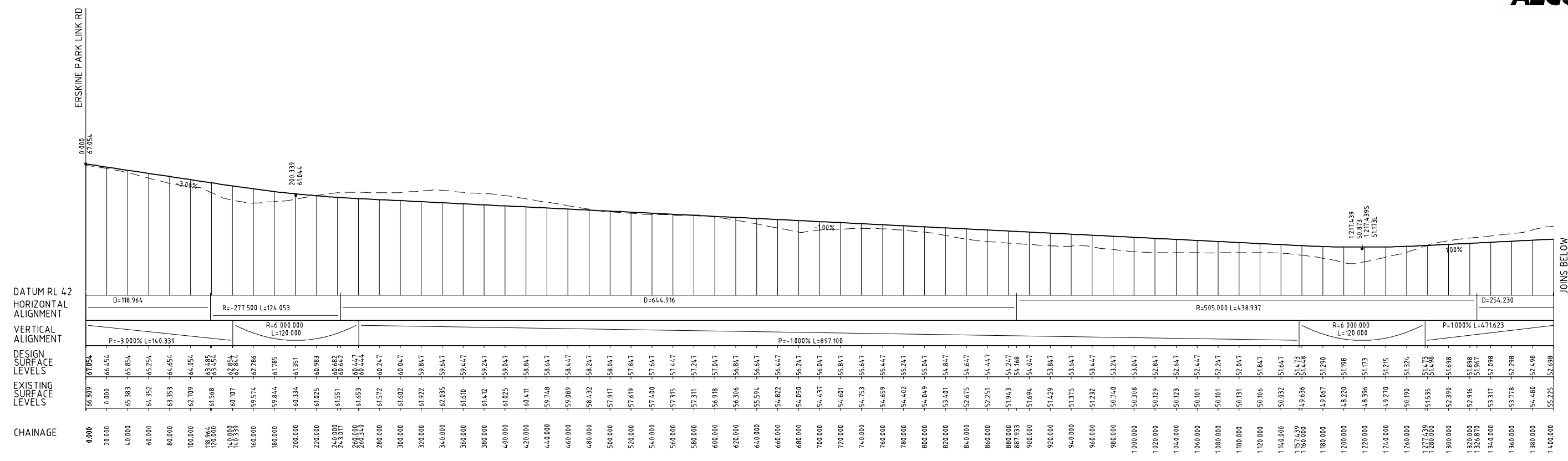


NOTE:
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BROADER WESTERN SYDNEY EMPLOYMENT AREA
SOUTHERN LINK ROAD NETWORK
TION MCF1 - OLD WALLGROVE ROAD - SHEET 1 OF 1
60301100-00-FIG-LS-0031

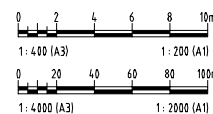


60301100-00-FIG-LS-0041.dwg 09 Apr 14 - 09:33



NOTE:
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REV 01
SHEET 32
CONCEPT DESIGN

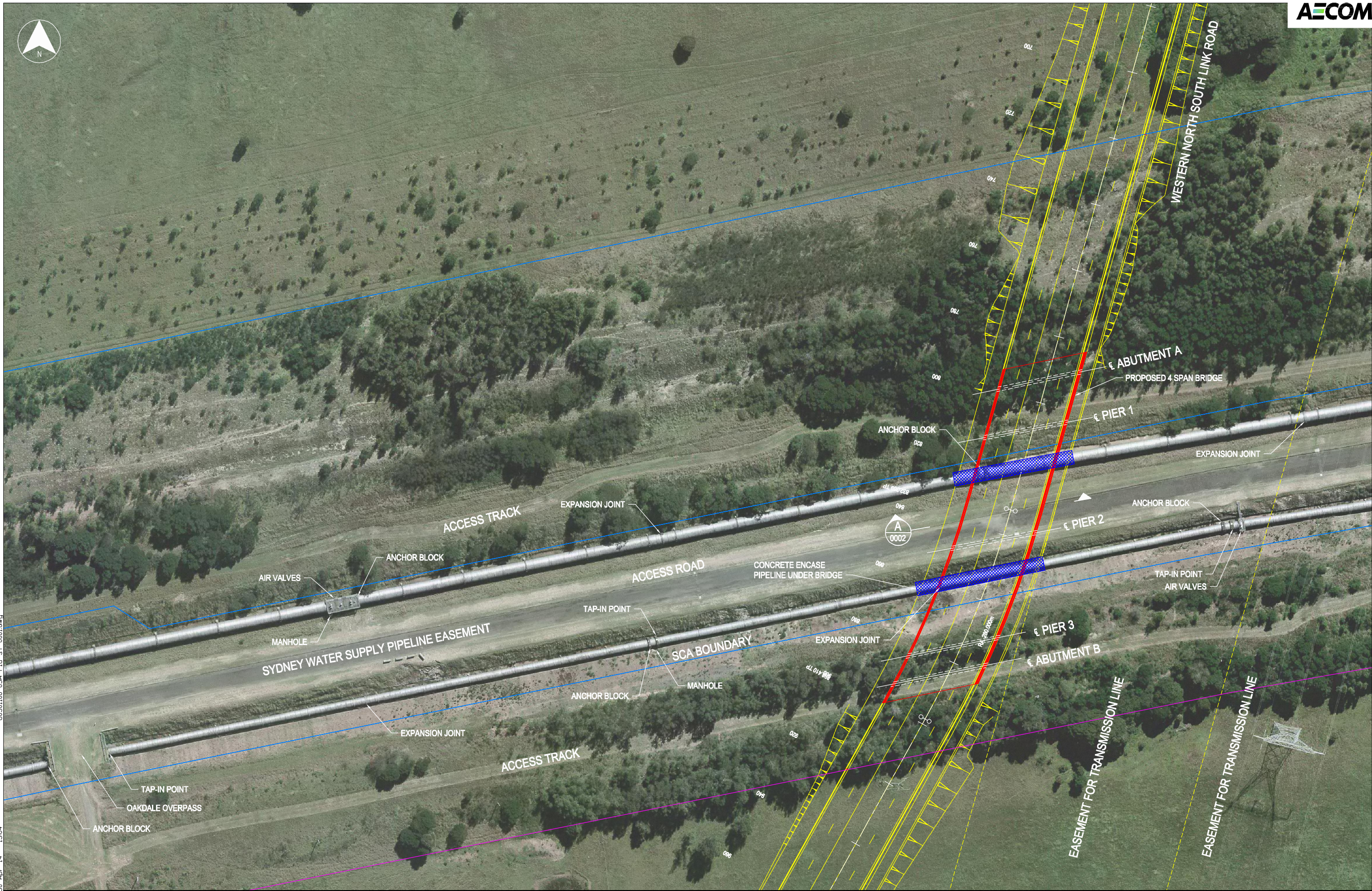


BROADER WESTERN SYDNEY EMPLOYMENT AREA
SOUTHERN LINK ROAD NETWORK
LONGITUDINAL SECTION MCG1 - ARCHBOLD ROAD - SHEET 1 OF 1
60301100-00-FIG-LS-0041

Appendix B

SCA Pipeline Crossing Concept Designs

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REV 01
SHEET 1
CONCEPT DESIGN

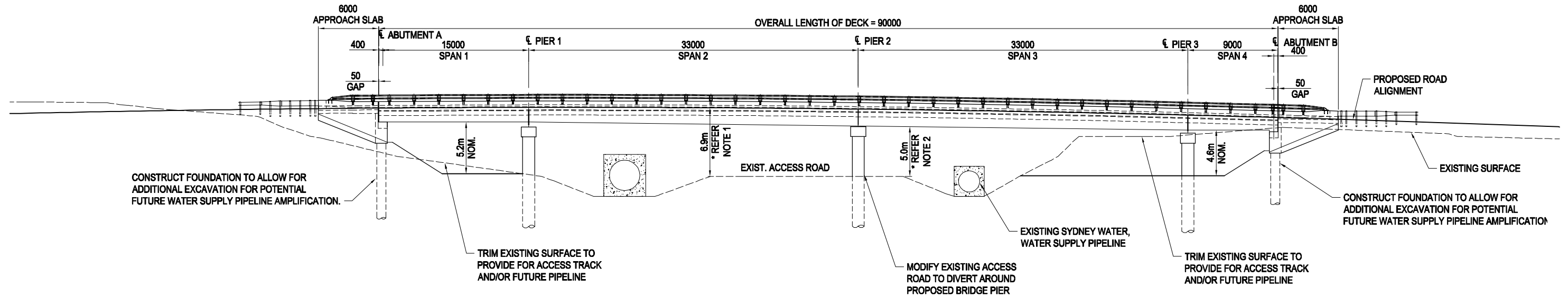
NOTE:
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BROADER WESTERN SYDNEY EMPLOYMENT AREA
SOUTHERN LINK ROAD NETWORK
WESTERN CROSSING OF SCA WATER SUPPLY PIPELINE - PREFERRED OPTION
60301100-03A-FIG-ST-0001

FROM ERSKINE PARK LINK ROAD

TO SOUTHERN LINK ROAD

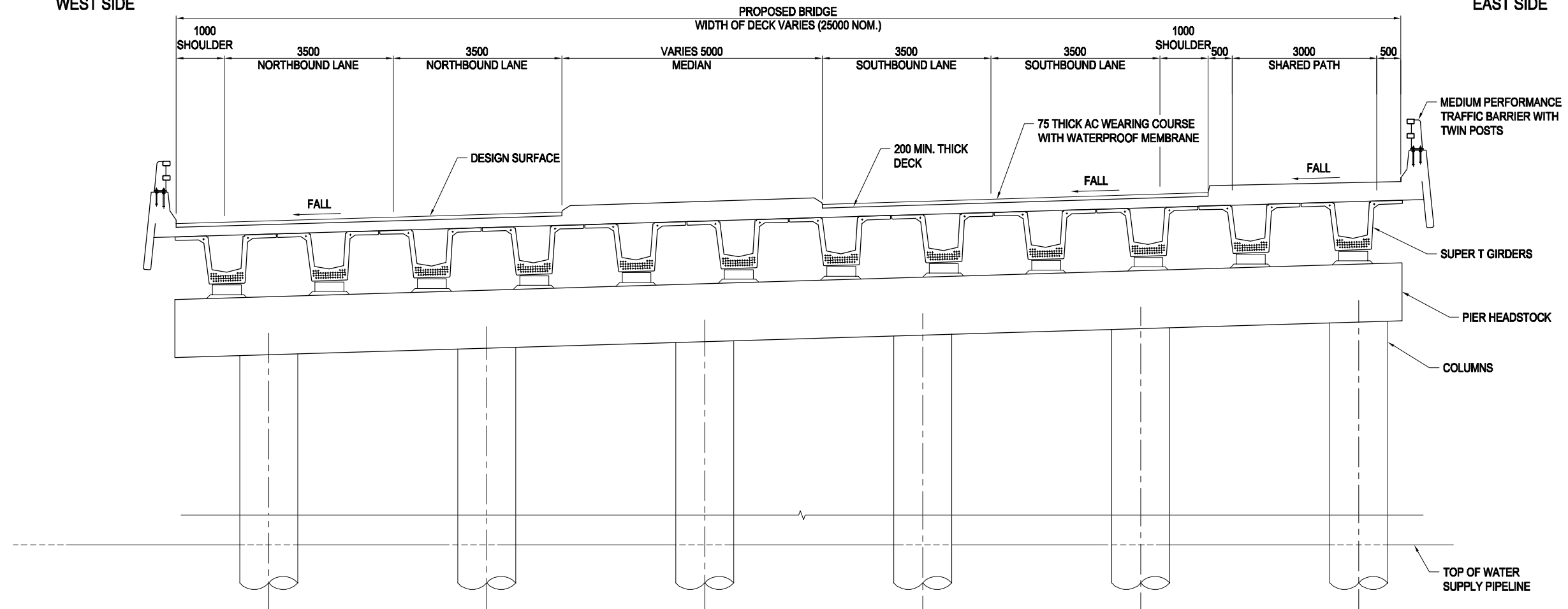


ELEVATION
SCALE 1:200

- NOTES:
1. MEASURED TO PAVEMENT LEVEL
 2. MEASURED TO UNDERSIDE OF BRIDGE GIRDER
 3. ELEVATION CUT AT SKEW TO SYDNEY CATCHMENT AUTHORITY PIPELINES.

WEST SIDE

EAST SIDE



SECTION
SCALE 1:50

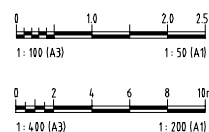
A
0001

60301100-03A-FIG-ST-0002.dwg

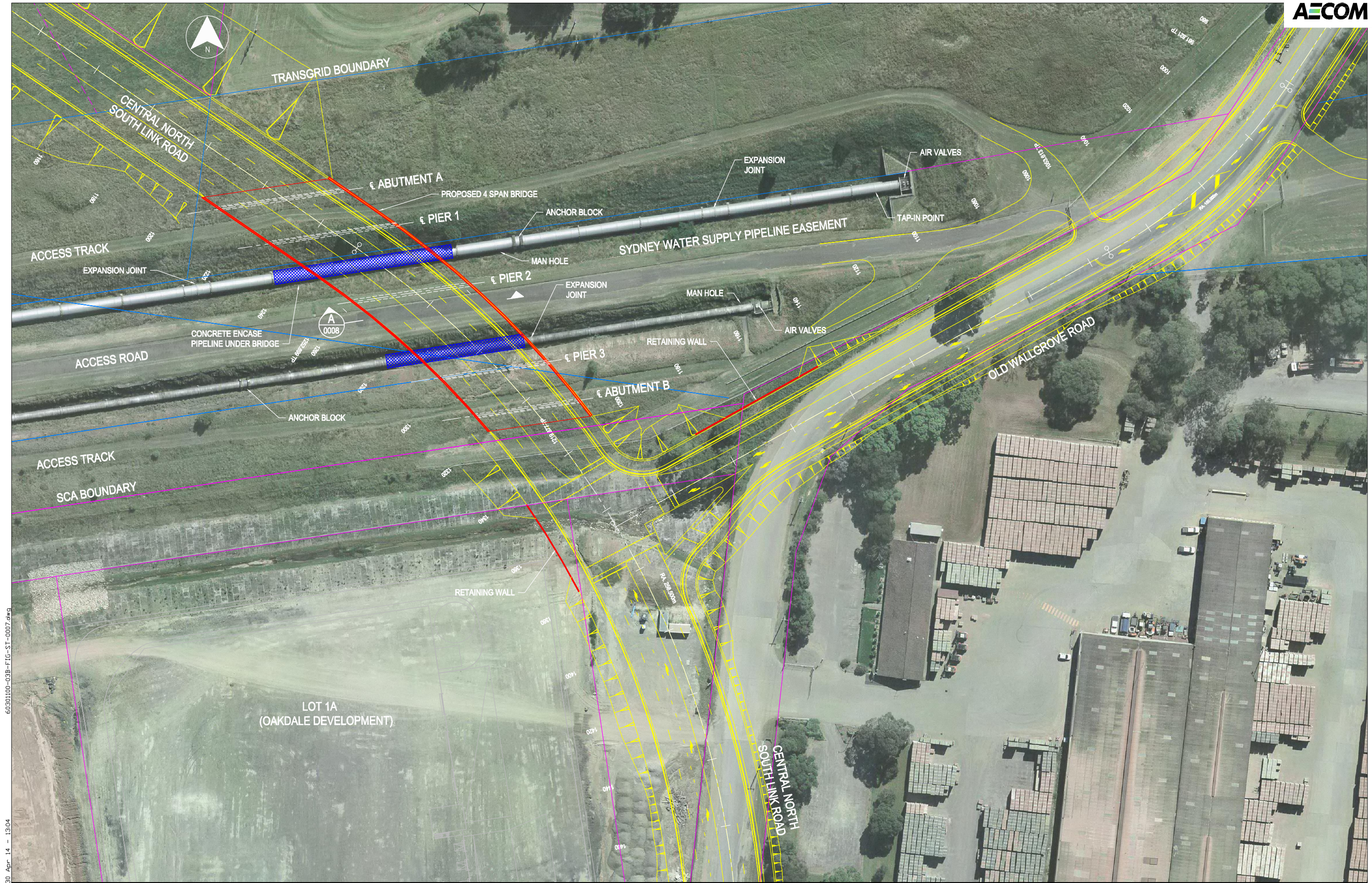
30 Apr 14 - 13:04

REV 01
SHEET 2
CONCEPT DESIGN

NOTE:
CAD FILES ARE PROVIDED FOR INFORMATION PURPOSES ONLY. YOUR ATTENTION IS DRAWN TO THE FACT THAT THE ALIGNMENTS PROVIDED (INCLUSIVE OF INTERSECTIONS) ARE IN THE PROCESS OF FURTHER DEVELOPMENT AND ARE SUBJECT TO ONGOING PLANNING CONSULTATION AND APPROVALS, AS SUCH THEY ARE SUBJECT TO CHANGE.



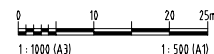
BROADER WESTERN SYDNEY EMPLOYMENT AREA
SOUTHERN LINK ROAD NETWORK
WESTERN CROSSING OF SCA WATER SUPPLY PIPELINE - PREFERRED OPTION
60301100-03A-FIG-ST-0002



60301100-03B-FIG-ST-0007.dwg
30 Apr 14 - 13:04

REV 03
SHEET 1
CONCEPT DESIGN

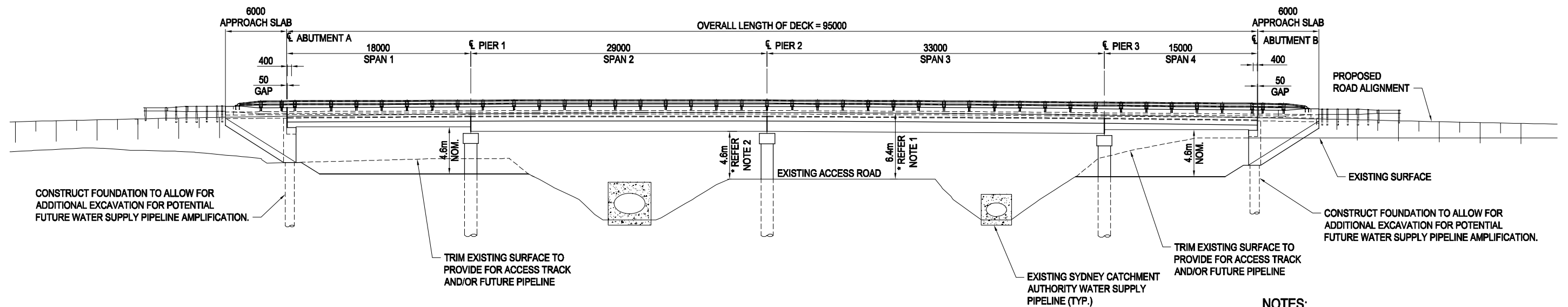
NOTE:
CAD FILES ARE PROVIDED FOR INFORMATION PURPOSES ONLY. YOUR ATTENTION IS DRAWN TO THE FACT THAT THE ALIGNMENTS PROVIDED (INCLUSIVE OF INTERSECTIONS) ARE IN THE PROCESS OF FURTHER DEVELOPMENT AND ARE SUBJECT TO ONGOING PLANNING CONSULTATION AND APPROVALS. AS SUCH THEY ARE SUBJECT TO CHANGE.



BROADER WESTERN SYDNEY EMPLOYMENT AREA
SOUTHERN LINK ROAD NETWORK
EASTERN CROSSING OF SCA WATER SUPPLY PIPELINE - PREFERRED OPTION
60301100-03B-FIG-ST-0007

FROM MINCHINBURY

TO OLD WALLGROVE ROAD

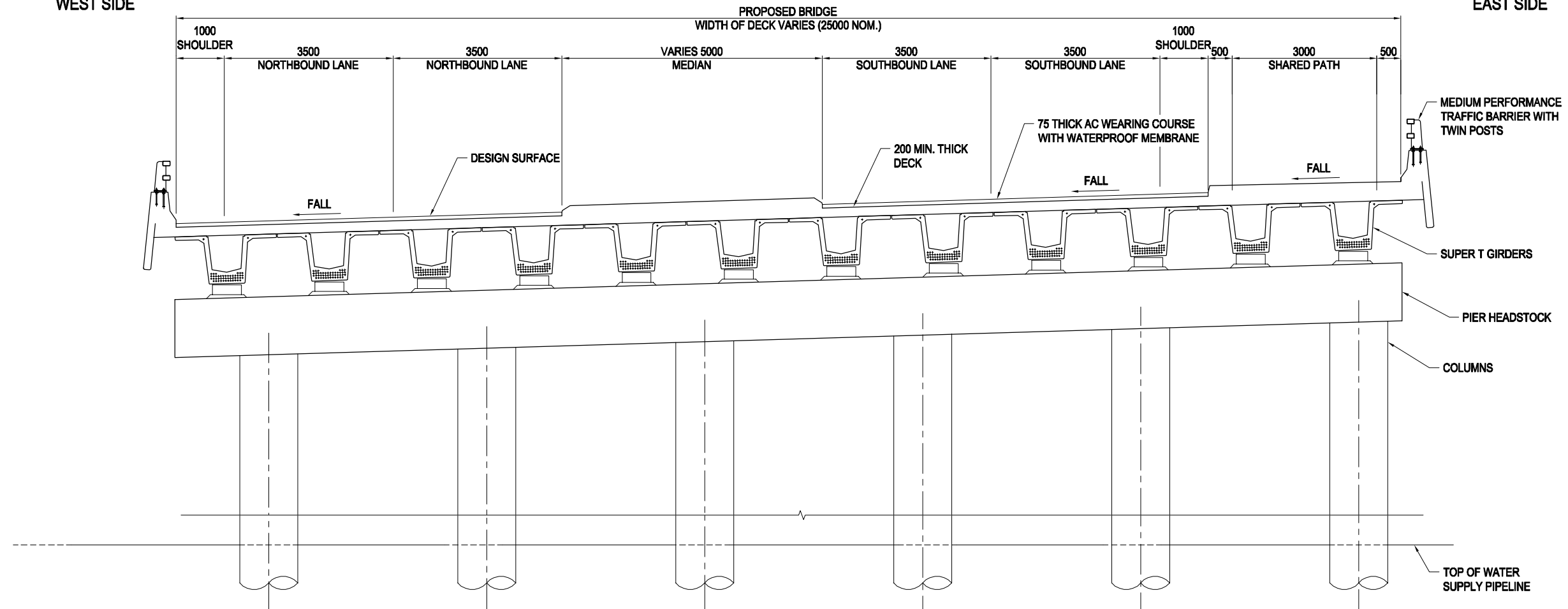


ELEVATION
SCALE 1:200

- NOTES:
1. MEASURED TO PAVEMENT LEVEL
 2. MEASURED TO UNDERSIDE OF BRIDGE GIRDER
 3. ELEVATION CUT AT SKEW TO SYDNEY CATCHMENT AUTHORITY PIPELINES.

WEST SIDE

EAST SIDE



SECTION
SCALE 1:50

A
0001

60301100-03B-FIG-ST-0008.dwg

30 Apr 14 - 13:05

REV 03
SHEET 2
CONCEPT DESIGN

NOTE:
CAD FILES ARE PROVIDED FOR INFORMATION PURPOSES ONLY. YOUR ATTENTION IS DRAWN TO THE FACT THAT THE ALIGNMENTS PROVIDED (INCLUSIVE OF INTERSECTIONS) ARE IN THE PROCESS OF FURTHER DEVELOPMENT AND ARE SUBJECT TO ONGOING PLANNING CONSULTATION AND APPROVALS. AS SUCH THEY ARE SUBJECT TO CHANGE.



BROADER WESTERN SYDNEY EMPLOYMENT AREA
SOUTHERN LINK ROAD NETWORK
EASTERN CROSSING OF SCA WATER SUPPLY PIPELINE - PREFERRED OPTION
60301100-03B-FIG-ST-0008