



Transport for NSW/Sydney Airport Corporation Limited

# Sydney Gateway Road Project

## Major Development Plan

### Refinements and Clarifications

#### Section 1 Project refinements and clarifications



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# 1. Project refinements and clarifications

*The section provides additional information and clarification about some design features and information presented in the EIS/MDP. It also provides a summary of the results of additional design work (project refinements) and investigations, undertaken since exhibition commenced, to further reduce the potential impacts of the project and/or respond to comments provided.*

## 1.1 Project refinements

The following design refinements are proposed to further reduce the potential impacts of the project and/or respond to comments provided during exhibition:

- Realignment to avoid the Cooks River Intermodal Terminal
- Emplacement areas and mounds
- Improved access to residual land
- Seventh Street pedestrian crossing
- Sydney desalination pipeline maintenance vehicle turning area
- Additional construction area for active transport link crossing.

The proposed refinements are described in the following sections.

The project description chapters provided in the EIS/MDP (Chapters 7 and 8) have been updated taking into account the refinements and clarifications described below. The updated project description is provided in sections 3 and 4 of this report.

### 1.1.1 Road alignment at Cooks River Intermodal Terminal

#### The exhibited project

The key features of the project include the St Peters interchange connection. This feature consists of a new elevated section of road extending from the St Peters interchange (currently under construction) to the Botany Rail Line, and includes an overpass over Canal Road. This feature is described in section 7.5 and shown on Figures 7.4 and 7.5 of the EIS/MDP.

The alignment of the St Peters interchange connection, as exhibited, affects an area along the eastern boundary and south-eastern corner of the Cooks River Intermodal Terminal site. The Cooks River Intermodal Terminal is located on privately-owned land with a street address of Talbot Street and 20 Canal Road, St Peters.

The property impacts are described in Chapter 19 of the EIS/MDP. It was estimated that the exhibited project would permanently impact about 0.9 hectares (about 6.5 per cent) of the intermodal terminal site, and temporarily impact (during construction) an additional 0.5 hectares. These land requirements would affect three lots – Lot A DP 1188682, Lot 2 DP 451456 and Lot 22 DP 1069118.

It is noted in Table 19.3 of the EIS/MDP that ‘...the design is currently being refined with the aim of minimising the potential impacts on this property.’

#### Justification for the proposed refinement

Following consultation with the landowner and operator in 2019, it is proposed that the St Peters interchange connection would be realigned to avoid direct impacts on the Cooks River Intermodal Terminal.

This proposed refinement would remove the requirement for land at the Cooks River Intermodal Terminal and reduce the project's impact on land used for empty container storage. It would also avoid direct impacts on the terminal's infrastructure located on the required land, and potential impacts on site operations.

## **Description**

### ***Design features and location***

The proposed realignment is shown on Figure 1.1 and Figure 1.2.

The St Peters interchange connection would be realigned about 35 metres south-east of the original alignment. As a result of the interconnected nature of a number of adjoining road sections and infrastructure, the realignment would also result in flow-on changes to these features by a similar (or smaller) amount. This would result in minor changes to the alignment of the Terminal 1 connection, northern lands access, eastbound terminal link and westbound terminal link.

No changes to lane configuration are proposed.

The proposed flood mitigation basin (described in section 7.10.8 of the EIS/MDP) located between lanes of the St Peters interchange connection and the westbound terminal link would be modified to account for the change in alignment. The indicative extent of the modified basin is shown on Figure 1.1. The total area of the basin would change as a result of this refinement; however, the storage volume and function would remain the same.

### ***Construction***

The indicative construction methodology would be as described in section 8.2 of the EIS/MDP.

### ***Project footprint and land requirements***

The proposed refinement is located on land subject to the EP&A Act and Sydney Airport land (see Figure 1.1 and Figure 1.2).

The proposed refinement would reduce the project's land requirements and the construction and operational footprints. The new footprints are shown on Figure 1.1 and Figure 1.2.

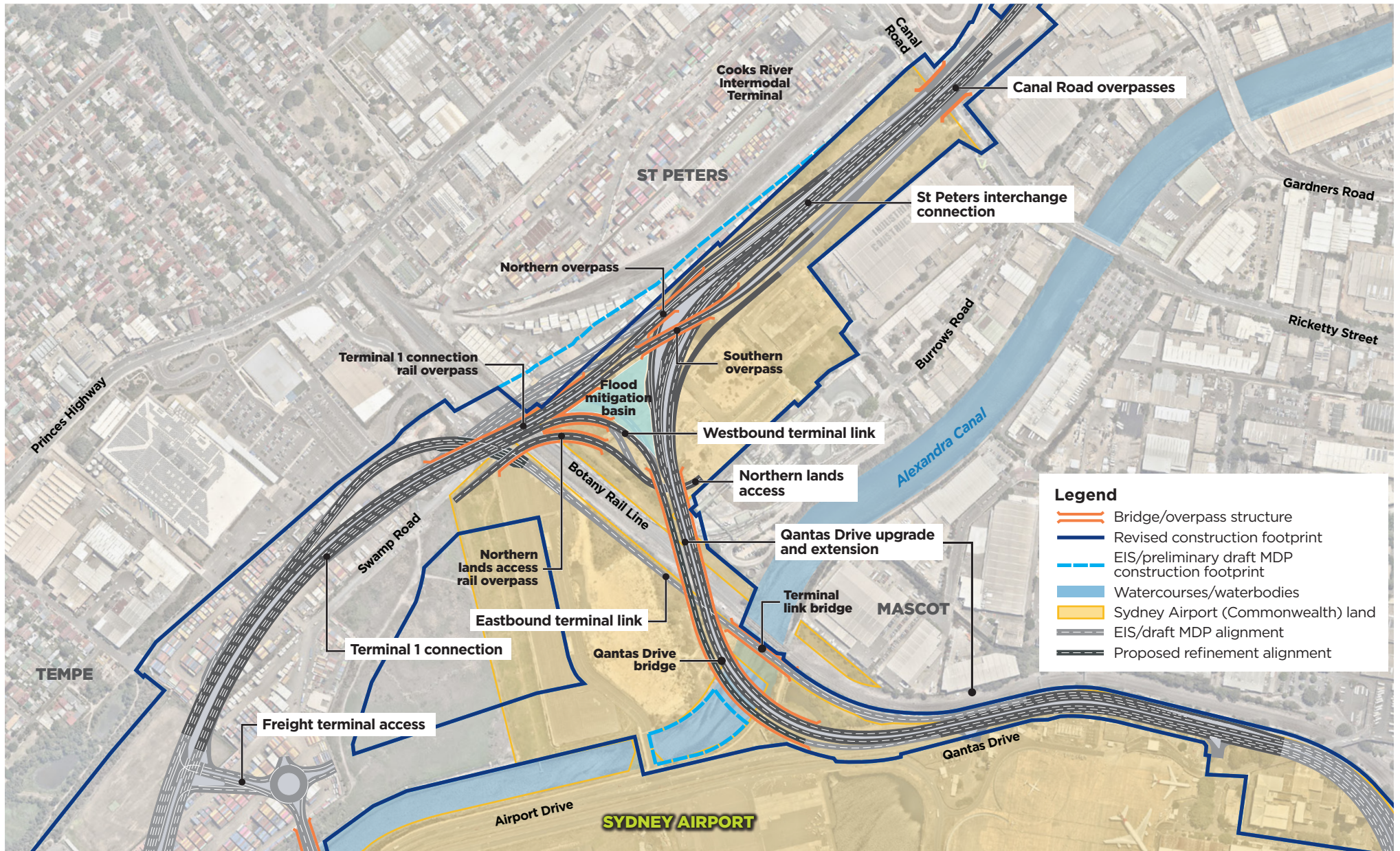


Figure 1.1 Proposed realignment to avoid the Cooks River Intermodal Terminal

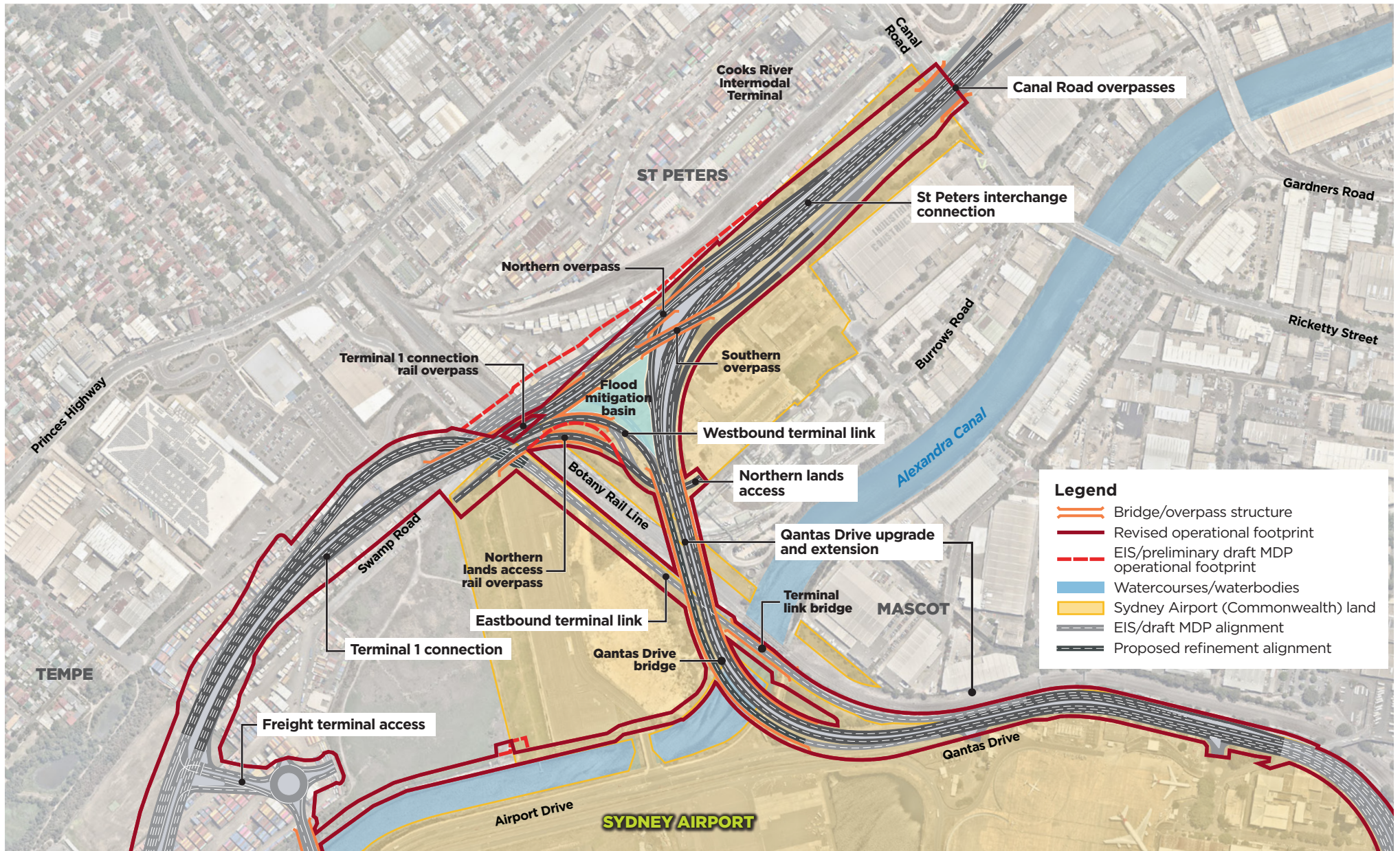


Figure 1.2 Proposed realignment to avoid the Cooks River Intermodal Terminal

## Assessment

The potential impacts of the project, including the proposed refinement, were compared to those of the exhibited project described in the EIS/MDP. The potential changes to key impacts are described below.

### Noise

An additional noise and vibration assessment was undertaken following exhibition of the project (see section 1.3.1 of this report). The assessment considered the potential change in noise and vibration impacts as a result of the proposed realignment.

The assessment concluded that changes to construction noise and vibration impacts are predicted to be minor as a result of the following:

- The distance between the project site and the nearest sensitive receivers in Sydenham, more than 300 metres away
- The proposed refinement would result in a further increase in separation (by 35 metres) between sensitive receivers and the project
- No changes to construction methods and activities are proposed.

The additional operational assessment, which included the proposed refinement along with other considerations (see section 1.3.1), identified that:

- Predicted noise levels at residential receivers are largely consistent with the exhibited EIS/MDP, with the impacts predicted to be greatest in 2036 and during the night-time period.
- Marginally different noise levels were predicted within noise catchment area NCA01 located to the north of the Princes Highway in St Peters. The number of receivers in NCA01 that are predicted to exceed the criteria and be eligible for consideration of at-property treatment reduced to 63 (compared with 78 identified by the EIS/MDP).

In accordance with mitigation measure NV1, operational noise and vibration mitigation measures will be confirmed during detailed design. Requirements for at-property noise treatments in properties identified as 'eligible' in the noise and vibration assessment will be reviewed. The implementation of treatments will be undertaken in accordance with the *At-Receiver Noise Treatment Guideline* (Roads and Maritime, 2017).

### Airport operations

During construction, impacts on operations at Sydney Airport would not vary from those described in section 11.3.1 of the EIS/MDP. The proposed refinement is unlikely to change the location of any nominated construction work areas in the vicinity of Sydney Airport.

During operation, the proposed refinement is not expected to result in any changes to the impacts outlined in section 11.4.1 of the EIS/MDP. The proposed infrastructure would remain below the airport's airspace. The project refinement, including the relation to Sydney Airport's obstacle limitation surface are shown on Figure 1.1 and Figure 1.2.

The proposed refinement would not substantially change the road infrastructure assessed in the EIS/MDP in terms of location and height above the ground. As a result, any potential influence on windshear and turbulence along the approach to the main north-south runway in winds with an easterly component would be minimal compared to the design outlined in the EIS/MDP. Transport notes that the location of the proposed refinement is around 800 to 900 metres from the threshold of Runway 16R, and that aircraft would typically be at a height of 60 metres or greater above the runway threshold at that location. The proposed refinement would be likely, therefore, to have minimal influence on windshear and turbulence along the approach to Runway 16R.

### **Surface water and flooding**

As described above, the refinement includes changes to the proposed flood mitigation basin. However, the refinement is not expected to affect flood behavior compared to the potential impacts described in the EIS/MDP. The displacement of floodplain storage due to the importation of fill to construct the St Peters interchange connection would be similar to that described in the EIS/MDP.

The proposed flood mitigation basin would be appropriately sized during detailed design to ensure the potential for flooding impacts is no worse than that described in the EIS/MDP. The design of the basin would be informed by the additional flood modelling that would be undertaken in accordance with mitigation measure HF1. Measure HF1 commits to preparing a flood mitigation strategy and implementing relevant measures as part of the design and during construction. The strategy will include undertaking additional flood modelling, taking into account detailed design and proposed construction planning and methodologies.

Therefore, the proposed refinement would not result in any material changes to overland flow paths or flood behavior within Alexandra Canal compared to the assessment in the EIS/MDP.

### **Land use and property impacts**

The proposed refinement would result in a minor reduction in the impacts on industrial zoned land. The permanent impacts on land zoned for particular uses as a result of the exhibited project are described in Chapter 19 (Table 19.4) of the EIS/MDP. Table 19.4 notes that the project (as exhibited) would affect about 18.5 hectares of land zoned IN1 General Industrial by the relevant local environmental plan, with a permanent change in land use from industrial to transport infrastructure. This included the potential impacts on the Cooks River Intermodal Terminal site (which is zoned IN1 by the *Marrickville Local Environmental Plan 2011*, *Sydney Local Environmental Plan 2012*). This estimated impact on industrial zoned land would change as a result of the proposed refinement, with a net reduction in the impacts on IN1 zoned land of 0.6 hectares. The proposed refinement would also increase the impact on land zoned SP2 Infrastructure by less than 0.1 hectares.

With respect to property impacts, the proposed refinement would avoid the potential temporary and permanent direct property impacts on the Cooks River Intermodal Terminal (described in sections 19.3.3 and 19.4.2 of the EIS/MDP). Transport notes that the operator of the Cooks River Intermodal Terminal has a responsibility to conduct its activities in a manner that does not pose safety risks to adjacent land uses (including any future land uses). The proposed refinement would also result in a change to property impacts for the Sydney Airport land at Burrows Road (which is currently leased by a number of businesses). The proposed refinement would require an additional 0.2 hectares of this property as part of the project's operational footprint, with a total of 5.1 hectares (57.3 per cent) of this property being required (including the estimated land requirements as per the EIS/MDP). Following construction, the amount of land available for other uses in accordance with the Sydney Airport Master Plan would reduce to 3.7 hectares.

In accordance with mitigation measure LU1, the design will continue to be refined to minimise land requirements and potential impacts on existing land uses and properties as far as possible. Consultation with landholders will be ongoing to identify any further practical opportunities to minimise impacts on operations where practicable.

### **Changes to mitigation measures**

No changes to the mitigation measures are proposed in response to the proposed refinement.



## 1.1.2 Emplacement areas and mounds

### The exhibited project

As described in section 7.10.2 of the EIS/MDP, the project would involve excavating about 90,000 cubic metres of waste material from the former Tempe landfill. It was proposed to retain and re-empplace some of this material within the boundary of the former Tempe landfill site in the form of two emplacement mounds. The re-emplacment of material within mounds on the site was proposed to reduce the need for off-site disposal and associated truck movements.

The location of the two mounds was described as follows:

- One mound in the area bounded by the Terminal 1 connection, the freight terminal access and the western side of Alexandra Canal (see Figure 7.3 of the EIS/MDP)
- Two potential options for the location of the second mound were proposed – either north of the freight terminal access or west of the Terminal 1 connection (see Figure 7.3 of the EIS/MDP).

Both options for the location of the second mound were proposed to be located in project's residual land (described in section 7.12.3 of the EIS/MDP) that would be returned to Inner West Council at the completion of construction.

### Justification for the proposed refinement

As a result of further consideration and consultation with Inner West Council and Sydney Airport Corporation, the proposed arrangement for the emplacement mounds has been refined. Only one mound is now proposed, in the area bounded by the Terminal 1 connection, the freight terminal access and the western side of Alexandra Canal (as originally proposed in the EIS/MDP). A second mound is not proposed, and the two options for the location of the second mound described above are no longer being considered.

The proposed refinement would reduce the area of residual land that would be occupied by emplacement mounds, allowing more land to be made available for other future uses (to be determined by Inner West Council in accordance with the current master planning process). The mound, which would form part of the project, would be located on land proposed to be retained by Transport and would not impact on Inner West Council land.

### Description

#### *Design features and location*

Figure 1.3 shows the location of the proposed single mound. This mound is proposed in the same location as the single mound described in section 7.10.2 of the EIS/MDP. The design of the mound would be as described in section 7.10.2 with the mound to contain about 35,000 cubic metres of waste material excavated from the former Tempe landfill. It would have a maximum height of 13.6 metres above the existing ground level and would occupy an area of about three hectares. The mound would be designed in accordance with the requirements the *Environmental Guidelines: Solid waste landfills* (NSW EPA, 2016). Access to the mound would be limited. The area would be appropriately fenced off to ensure no public access.

In accordance with mitigation measure AS1, the final landform will be reviewed and refined during detailed design (in consultation with Sydney Airport Corporation and relevant aviation regulatory agencies) to:

- Address aviation matters, including windshear and turbulence
- Minimise the volume of material excavated from the former Tempe landfill
- Maximise open space and community use opportunities
- Avoid disturbance outside the project boundary.

Any changes to road infrastructure and final landforms will be reviewed with consideration of the *National Airports Safeguarding Framework (Guideline B)* (Department of Infrastructure, Regional Development and Cities (DITCRD), 2018), and in consultation with Sydney Airport Corporation and relevant aviation regulatory agencies.

The design, landscaping and future use of the mound would be co-ordinated with relevant stakeholders and would be defined in the urban design and landscape plan to be developed in accordance with mitigation measure LV1.

**Construction**

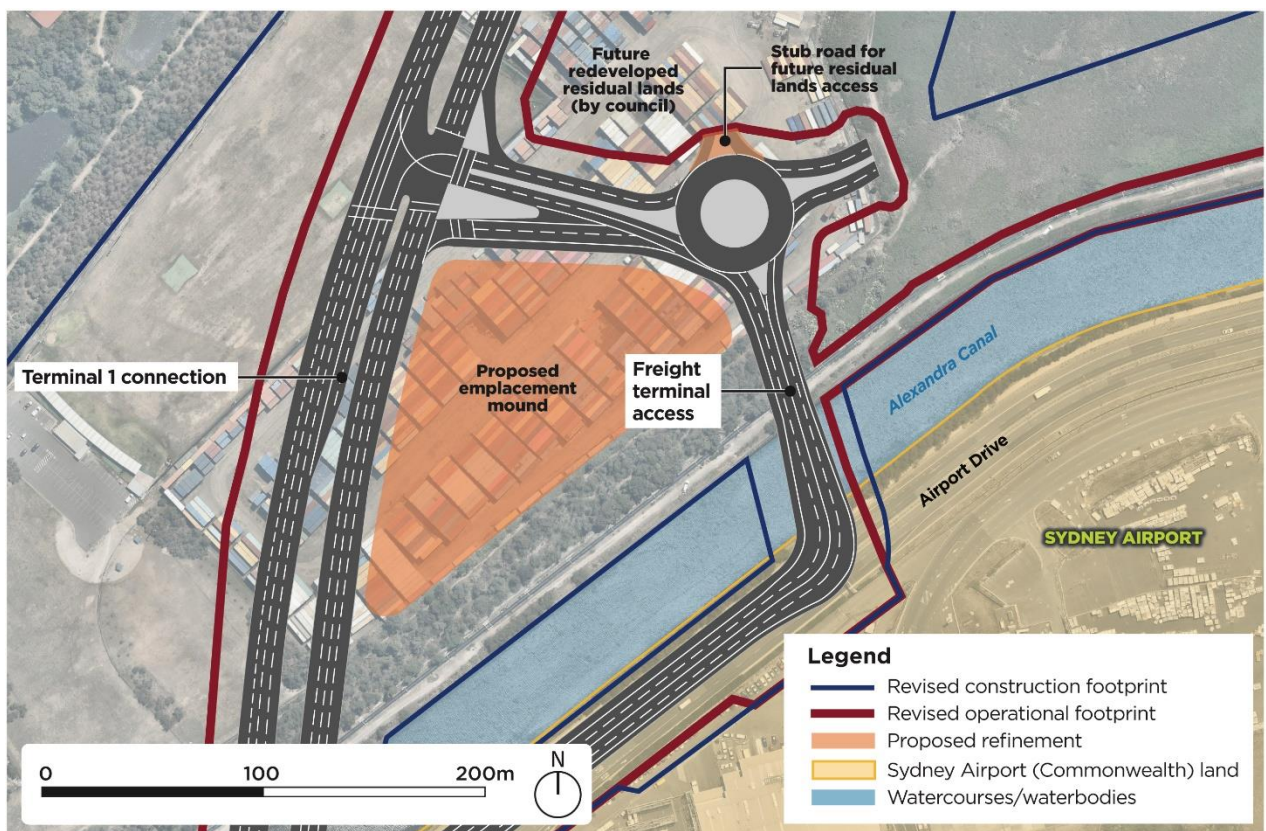
The indicative construction methodology would be as described in section 8.2.5 of the EIS/MDP. However, as only one mound is now proposed, there would now be a need to remove about 55,000 cubic metres of excavated landfill material from the site for disposal at an appropriately licensed landfill.

Removing this material would result in an estimated additional 6,900 truck movements. This traffic would use access point A7 and the corresponding haulage route along Bellevue Street to the Princes Highway described in section 8.6.1 of the EIS/MDP and shown on Figure 8.19 of the EIS/MDP.

The additional truck movements would lengthen the duration of the construction activity in this location by about four months, however the overall duration of the project would remain as described in the EIS/MDP.

**Project footprint and land requirements**

The proposed refinement is located on land subject to the EP&A Act (see Figure 1.3). The proposed refinement would not affect the construction and operation footprints or change the project’s permanent and temporary land requirements.



**Figure 1.3 Proposed emplacement mound and additional stub road to residual land**

## Assessment

The potential impacts of the project, including the proposed refinement, were compared to those of the exhibited project described in the EIS/MDP. The potential changes to key impacts are described below.

### ***Traffic, transport and access***

Table 8.8 of the EIS/MDP provides indicative construction traffic volumes for earthworks. These volumes have been updated to include 6,900 heavy vehicle movements associated with transporting the additional landfill material for disposal off site (see Table 1.3). These additional movements would be via access point A7 at Bellevue Street (shown on Figure 4.19). The additional truck movements would not affect the daily peak construction movements assessed in the EIS/MDP. However, the movements would occur over a longer period of time.

As noted above, the additional traffic generated by the disposal of waste material off site would use Bellevue Street and the Princes Highway. The majority of existing traffic on this street is generated by Tyne Container Services, which would cease to operate prior to construction of the project. The closure of this business in this location would result in less traffic along Bellevue Street, making it suitable for construction haulage vehicles.

It is recognised that significant congestion currently occurs during peak periods as a result of right turning queues at the Princes Highway/Bellevue Street intersection. For this reason, it is proposed that construction workforce vehicles arrive and depart compounds and site car parks before and after peak periods.

The Transport Management Centre will be responsible for managing the capacity and functionality of various roads proposed to be used during construction. Measures to minimise access disruption and delays would be implemented before any approval for works is granted, including undertaking works when traffic volumes are lower, where practicable.

In accordance with mitigation measure TT15, construction haulage vehicles will be managed to:

- Adhere to the nominated haulage routes identified in the Construction Traffic and Access Management Plan and posted speed limits
- Minimise idling and queuing on public roads
- Minimise movement of vehicles during peak periods.

In accordance with mitigation measure TT7, where reasonable and feasible, work areas, activities and construction access arrangements will be modified to address any traffic flow issues identified by key stakeholders.

The potential impacts of the movement of haulage vehicles used to remove the additional landfill material are considered to be consistent with the impacts predicted in the EIS/MDP. However, these vehicle movements would occur over a longer period.

### ***Airport operations***

An additional windshear and turbulence assessment was undertaken following exhibition of the project (see section 1.3.2). The assessment included consideration of a single mound which would be sized as described in the EIS/MDP, in accordance with the proposed refinement.

In general, the results indicated that:

- One mound would influence turbulence slightly less than two mounds
- The mound would also have significantly less influence on turbulence than the existing containers located on the Tyne Container Services site, which would be removed as part of the project

- There is little difference in the average wind speeds required to exceed the turbulence criterion with and without the mound. The differences are within the margin of error of the modelling method, indicating that the mound would have little influence on turbulence along the northern approach to the main north-south runway.

### **Noise**

The proposed refinement is not expected to affect the potential construction noise and vibration impacts predicted in the EIS/MDP. This is because the noise and vibration assessment considered the impacts of a worst-case 'site establishment' scenario, which included the use of noise-intensive equipment such as concrete saws and hydraulic breakers. This equipment is only necessary to remove areas of hardstand that are present within the former Tempe landfill, in the area currently occupied by Tyne Container Services. Only hardstand areas required to construct the roadway would be removed.

It is expected that the works required to construct the proposed mound would involve equipment with lower noise emissions than the equipment included for the assessed site establishment activity. Given the distance to the nearest sensitive receivers in Tempe, the noise impact would not change substantially. Not including the second mound would result in increased vehicle movements to remove the excess material. Removing this material would result in noise impacts associated with the additional traffic movements which would extend the duration of the peak traffic movements identified in the EIS/MDP by about four months. As outlined in section 10.4.4 of the EIS/MDP, construction traffic noise impacts are not expected to be noticeable as they would not result in an increase of 2 dB. This is a result of the haulage routes currently being subject to high traffic volumes and therefore the additional vehicles are not substantial enough to increase existing noise levels.

The additional operational noise and vibration assessment, which included the proposed mound along with other considerations (see section 1.3.1), did not identify any changes in operational noise or vibration impacts with the proposed refinement.

### **Land use and property impacts**

The proposed refinement would not change the potential impacts on land use zones and property described by the EIS/MDP. The single emplacement mound is still proposed to be located on land that would be acquired from Inner West Council.

Sections 7.12.4 and 19.4.3 of the EIS/MDP describe how, following construction, some of the land required to construct the project in Tempe (including land within the Tempe Lands and other areas on the former Tempe landfill) would be available for other uses. This land is referred to as 'residual land'. Council is developing a master plan to identify how this land could be used, which will consider council's Recreation Needs Study.

The two location options for the additional mound (originally proposed by the EIS/MDP) affected the largest parcel of residual land located to the east of the Terminal 1 connection and north of the freight terminal access. As it is no longer proposed to provide a mound in this area, council would not have to incorporate a mound in this location into their master plan. This potentially provides more flexibility for a range of land uses at this location.

Following discussions with Inner West Council, the area of land on which the single mound is proposed to be located would be retained by Transport. This area would not form part of the project's residual land. As a result, the total area of residual land that would be available for future use has reduced slightly compared to the 10 hectares described in section 19.4.3 of the EIS/MDP. Based on the concept design, it is now estimated that the residual land would comprise a total of about eight hectares on part of the following lots:

- Lot 25 DP 1227132
- Lots 303, 304 and 305 of DP 1136081.

The amount of residual land available for use by Inner West Council would be confirmed during detailed design. The design, landscaping and future uses for the proposed mound would be coordinated with Inner West Council and other relevant stakeholders, and would be refined as part of the landscaping for the project.

In accordance with mitigation measure LU3, Transport will continue to consult with Inner West Council regarding the proposed future uses of residual land in the Tempe Lands and adjoining area. This will include consultation during council's master planning process for these areas as appropriate. This will ensure that the urban design and landscape plan for the project is consistent with the outcomes of this process.

### ***Landscape character and visual amenity***

The proposed refinement would potentially result in a minor temporary increase in landscape character impacts during construction for landscape character zones 6 (residential) and 7 (warehousing and employment) (as described in section 21.2.2 of the EIS/MDP). Impacts to landscape character zone 6 are predicted to remain at moderate for the zone as a whole due to additional vehicle movements. Impacts on landscape character zone 7 would increase from low to moderate/low as a result of construction vehicle movements through the western part of this zone.

During operation, the proposed refinement has the potential to improve landscape character impacts relative to those described in section 21.4.1 of the EIS/MDP. Removing the second mound has the potential to result in improved landscape character outcomes for the project. The proposed refinement would change views from two of the 26 viewpoints considered by the landscape character and visual impact assessment (see section 21.4.2 of the EIS/MDP). The following changes are predicted:

- Viewpoint 7: The magnitude of impacts from this viewpoint would reduce to negligible with a beneficial change in views likely to be experienced
- Viewpoint 26: The proposed refinement would have a beneficial effect on this view. However, due to the magnitude of impacts associated with the Terminal 1 connection (which is also located in this view) and the sensitivity of the vista along Alexandra Canal, the project's overall visual effect on this viewpoint would not change.

### ***Waste management and disposal***

Section 24.2.3 of the EIS/MDP identified a number of potential facilities where waste could be disposed of, depending on its classification. The facilities to which material would be disposed would be confirmed during detailed design following more detailed testing of material. The disposal locations would be defined in the Construction Waste Management Plan, which is required by mitigation measure WM2. In accordance with measure WM4, all waste disposal will be in accordance with the *Waste Classification Guidelines* (NSW EPA, 2014).

### ***Changes to mitigation measures***

Due to the reduction in the number of emplacement mounds proposed, mitigation measures AS1, CS4 and CS5 have been amended to remove reference to multiple mounds.

## **1.1.3 Improved access to residual land**

### **The exhibited project**

Following construction, it is expected that some of the land required to construct the project in Tempe (including land within Tempe Lands and other areas on the former Tempe landfill previously occupied by Tyne Container Services) would be made available for other uses. This residual land would be handed back to the landowner (Inner West Council). Potential future uses of residual land could include open/space recreation, industrial or other future uses in accordance with the priorities of local and regional strategic planning documents, Inner West Council and the community. Council is developing a master plan to identify how this land could be used, which will consider council's Recreation Needs Study.

## **Justification for the proposed refinement**

The EIS/MDP did not include specific details about how this land would be accessed from the project. Following consultation with Inner West Council, it is proposed to provide a stub road connection on the freight terminal access roundabout. This would facilitate future road connections and improved access to and from the residual land. Future internal access requirements would be confirmed by Council's master plan.

## **Description**

### ***Design features and location***

The proposed refinement is located on the northern side of the freight terminal access roundabout as shown on Figure 1.3.

The access road stub would be about 11 metres long, and would be designed in accordance with the standards and design requirements described in section 7.2.2 of the EIS/MDP.

The design and construction of any future road connecting to the stub would be the responsibility of Inner West Council, and would be subject to a separate assessment and approval process.

### ***Construction***

The indicative construction methodology would be as described in section 8.2.3 of the EIS/MDP.

### ***Project footprint and land requirements***

The proposed refinement is located on land subject to the EP&A Act. The proposed refinement would not affect the construction and operation footprints or change the project's permanent and temporary land requirements.

### ***Assessment***

The potential impacts of the project, including the proposed refinement, were compared to those in the EIS/MDP.

The proposed refinement would improve access to the residual land.

There would be no other changes to impacts.

### ***Changes to mitigation measures***

No changes to mitigation measures are proposed.

## **1.1.4 Seventh Street pedestrian crossing**

### **The exhibited project**

As described in section 7.4.2 and shown on Figure 7.15 of the EIS/MDP, the proposed left turn lanes from Seventh Street to Qantas Drive at the Seventh Street/Qantas Drive/Robey Street intersection did not include facilities for pedestrians to cross. This means that pedestrians from Robey Street and Qantas Drive would not be able to safely access the footpath along Seventh Street or towards Terminals 2/3.

### **Justification for the proposed refinement**

It is proposed to retain a signalised pedestrian crossing at this location. This would provide safe pedestrian access across the intersection to Terminals 2/3, including the two left turn lanes from Seventh Street to the proposed pedestrian island at the corner of Seventh Street and Qantas Drive.

It is recognised that pedestrian movements in the Terminals 2/3 precinct, including across Seventh Street, are currently being reviewed by Sydney Airport Corporation as part of the proposed minor variation to the approved T2/T3 Ground Access Solutions and Hotel MDP.

Accordingly, the pedestrian crossing and adjacent civil infrastructure shown on Figure 1.4 may be slightly different to that proposed by the minor variation to the T2/T3 Ground Access Solutions and Hotel MDP. The proposed works in this location would be coordinated between Transport and Sydney Airport Corporation and would be the subject of a separate assessment and approval.

## **Description**

### ***Design features and location***

Figure 1.4 shows the location of the proposed crossing. The crossing would be signalised and activated by pedestrians. This would allow the left turn lanes to operate as a free-flow movement, with the exception of when signals are activated.

An embankment batter or retaining wall would be provided at the western extent of the crossing to limit the need for additional land requirements. This would be confirmed during detailed design.

### ***Construction***

The indicative construction methodology would be as described in section 8.2.3 of the EIS/MDP.

### ***Project footprint and land requirements***

The proposed refinement is located on Sydney Airport land. The proposed refinement would not affect the construction and operation footprints or change the project's permanent and temporary land requirements.

## **Assessment**

The potential impacts of the project, including the proposed refinement, were compared to those of the exhibited project described in the EIS/MDP. The potential changes to key impacts are described below.

### ***Traffic, transport and access***

The refinement would not change existing movements. It would complete the pedestrian connection from the northern side of Qantas Drive to the southern side and to Terminals 2/3.

There would be intermittent, short-term impacts on traffic flow, when the signals are activated and free flowing traffic would be interrupted. However, the frequency of crossing use would be relatively low and no significant impacts are expected.

### **Changes to mitigation measures**

No changes to mitigation measures are proposed.

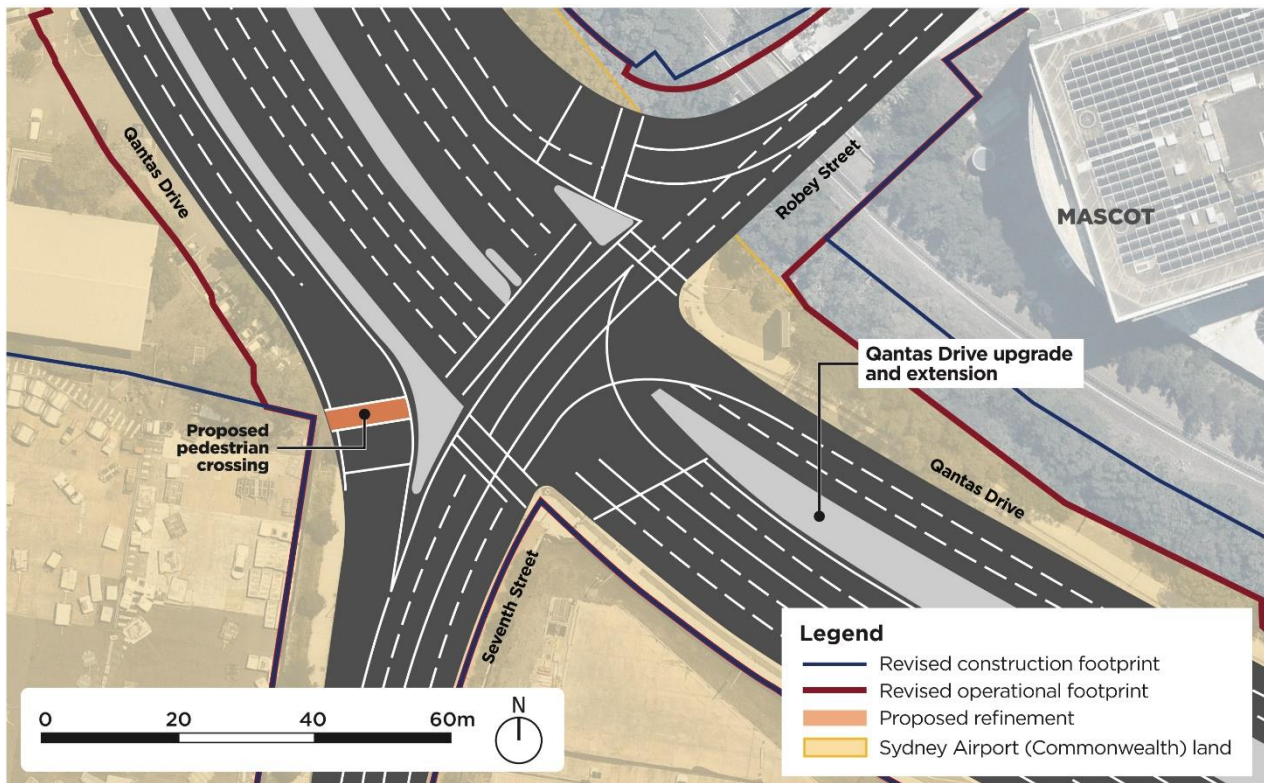


Figure 1.4 Proposed pedestrian crossing at Seventh Street

### 1.1.5 Sydney desalination pipeline maintenance vehicle turning area

#### The exhibited project

The exhibited project did not include specific facilities for maintenance vehicles to turn in the vicinity of the Sydney desalination pipeline. However, an indicative area was shown on Figure 7.4 of the EIS/MDP.

#### Justification for the proposed refinement

Following stakeholder consultation, it is proposed to construct a vehicle turning area immediately to the west of the location shown in the EIS/MDP.

The proposed refinement would avoid impacts on Sydney Airport land reserved for the high intensity approach lights, which guide aircraft to the main north–south runway at Sydney Airport.

#### Description

##### *Design features and location*

Figure 1.5 shows the location of the proposed refinement. A paved vehicle turning area would be constructed on the western edge of the land occupied by the high intensity approach lights, adjacent to the proposed active transport link. The location of the proposed turning area is shown on Figure 1.5.

The turning area would be designed in consultation with the operators of the Sydney desalination pipeline.

##### *Construction*

The indicative construction methodology would be as described in section 8.2.3 of the EIS/MDP.



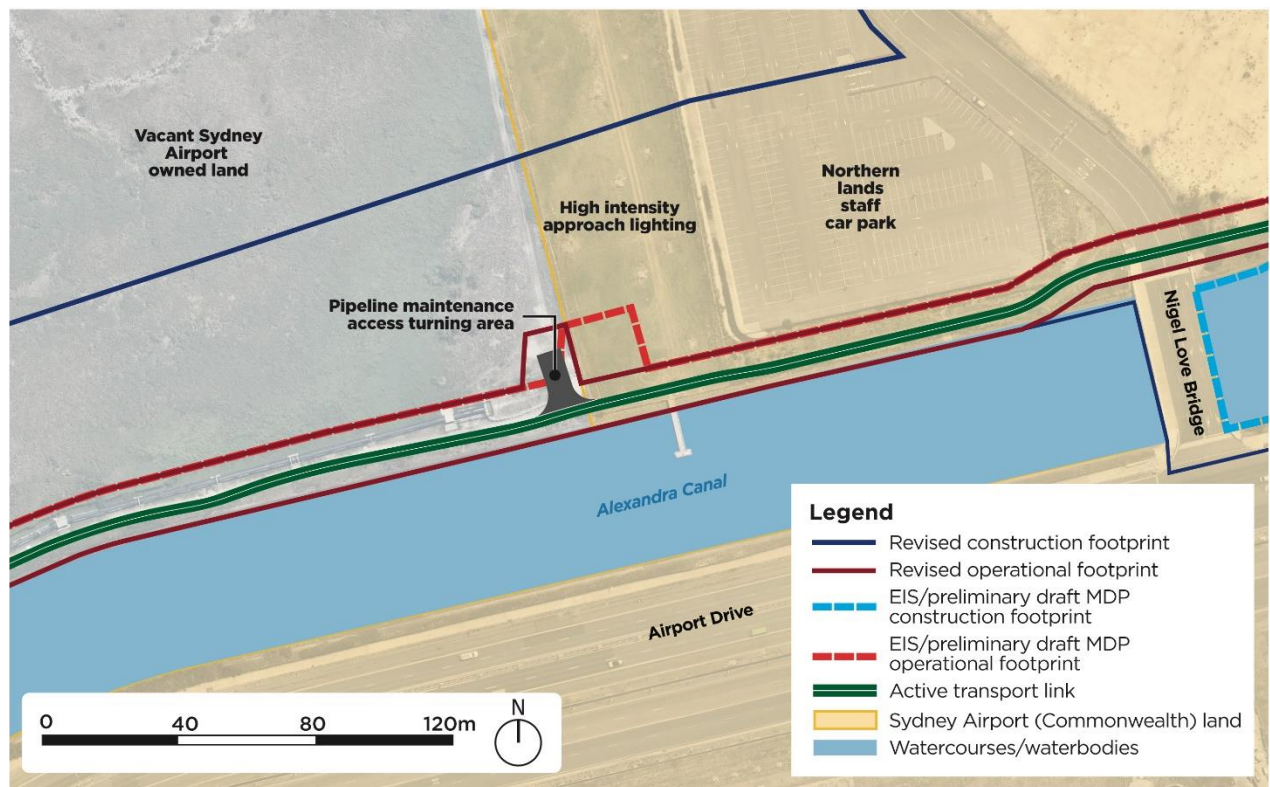
### Project footprint and land requirements

The proposed refinement is located on land subject to the EP&A Act. The proposed refinement would result in minor changes to the operational footprint and permanent land requirements (see Figure 1.5 and Table 1.1). The acquisition or lease arrangements would be as described in section 19.3.1 of the EIS/MDP.

**Table 1.1 Permanent land requirements for the proposed maintenance vehicle turning area**

| Location                     | Property title  | Ownership                 | Estimated change of area (hectares) required for proposed refinement and proportion of lot required <sup>1</sup> | Total estimated area (hectares) required for the project and proportion of lot required <sup>1</sup> |
|------------------------------|-----------------|---------------------------|--|--|
| Swamp Road, St Peters (HIAL) | Lot 1 DP 869306 | Commonwealth of Australia | Reduction of 0.05 ha (9%)  | 0.05 ha (9%)   |
| Swamp Road, Tempe            | Lot 2 DP 869306 | Private                   | Increase of 0.05 ha (7%)   | 0.3 ha (35%)   |

Note: 1. The estimate of land required is based on a concept design that is subject to refinement during detailed design, and the final area required may vary from that shown.



**Figure 1.5 Sydney desalination pipeline maintenance turning area**

### Assessment

The potential impacts of the project, including the proposed refinement, were compared to those in the EIS/MDP.

The proposed refinement change the location of impacts. However, as a result of the similarities in the vegetation across the two areas, which are not considered to have biodiversity conservation values, no change to the impacts described in the EIS/MDP are predicted.

There would be no other changes to impacts associated with the proposed refinement.

## Changes to mitigation measures

No changes to mitigation measures are proposed.

### 1.1.6 Additional construction area for active transport link crossing

#### The exhibited project

Section 8.1.3 of the EIS/MDP describes the construction footprint and work areas required for the project, including the proposed active transport link. The footprint is shown on Figures 8.1 to 8.6 of the EIS/MDP. The exhibited construction footprint excluded a section of Alexandra Canal to the east of the Nigel Love bridge.

#### Justification for the proposed refinement

Further development of the active transport link is considering alignments that cross Alexandra Canal between the Nigel Love bridge and the existing rail bridge. It is proposed to include this area as part of the construction footprint to ensure that alternative alignments for the canal crossing can be considered.

#### Description

##### *Design features and location*

Figure 1.6 shows the location of the proposed refinement.

The proposed refinement involves an adjustment to the construction footprint to provide flexibility for the design of the active transport link crossing of Alexandra Canal.

The active transport link crossing would be designed to be 0.5 metres above the one per cent AEP flood level in the canal, and above the peak maximum flood if possible.

The proposed location of the crossing, tie-in points on either side of Alexandra Canal, and effects on flooding, would be confirmed during detailed design.

##### *Construction*

The indicative construction methodology would be as described in section 8.2.3 of the EIS/MDP.

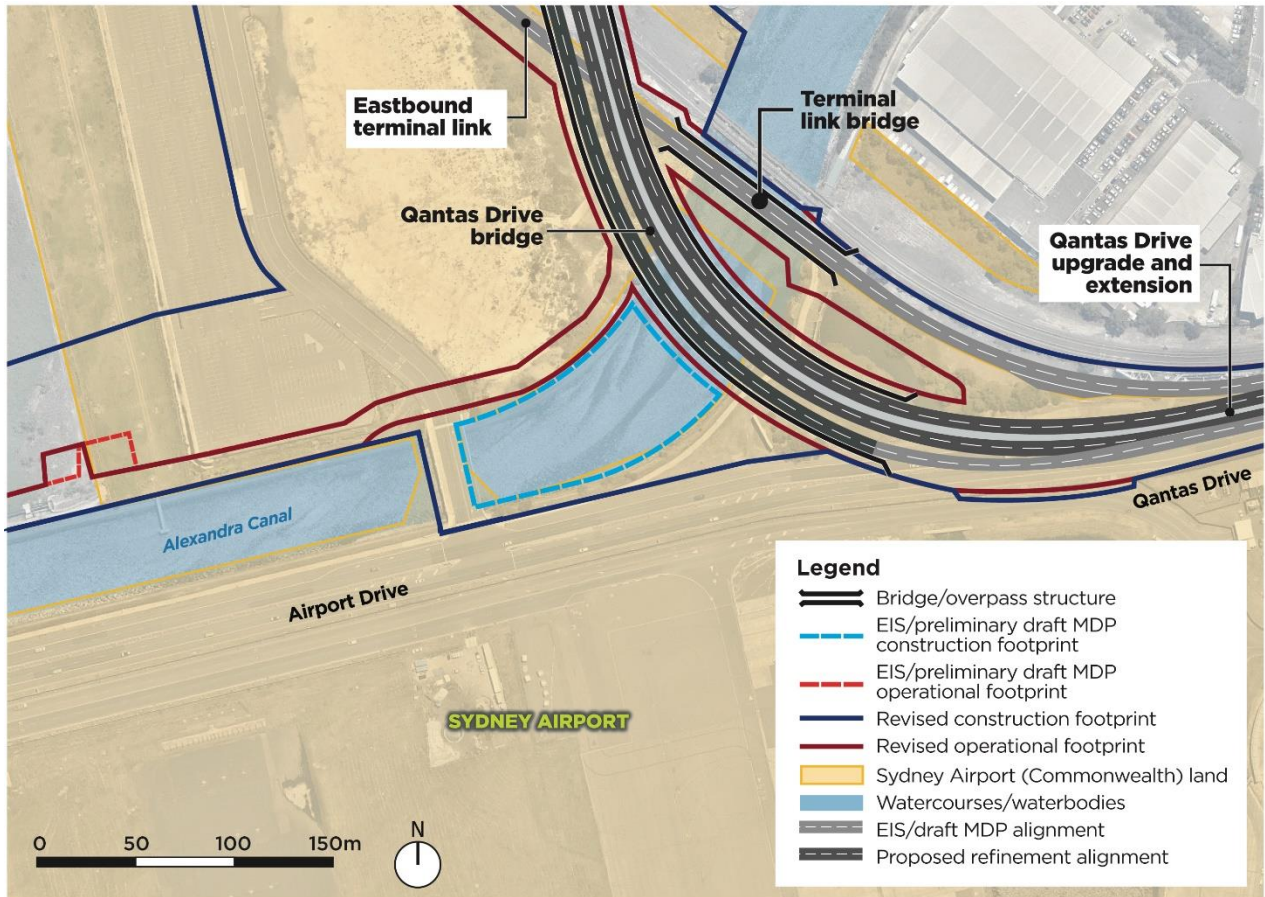


Figure 1.6 Additional construction area for active transport link crossing

**Project footprint and land requirements**

The proposed refinement is located on land subject to the EP&A Act and Sydney Airport land (see Figure 1.6). The Commonwealth of Australia holds aerial title over part of the land owned by the NSW Government at this location.

The proposed refinement would result in minor changes to the construction footprint over Alexandra Canal (see Figure 1.6) and the project’s temporary land requirements (see Table 1.2). The acquisition or lease arrangements would be as described in section 19.3.1 of the EIS/MDP.

Table 1.2 Temporary land requirement changes for the active transport link crossing

| Location                                | Property title    | Ownership                   | Estimated change of area (hectares) required for proposed refinement and proportion of lot required <sup>1</sup> | Total estimated area (hectares) required for the project and proportion of lot required <sup>1</sup> |
|---|-------------------|-----------------------------|--|--|
| Alexandra Canal, Mascot/St Peters/Tempe | Lot 13 DP 1050464 | NSW Government              | Increase of 0.7 ha (5%)  | 1 ha (8%)  |
|   | Lot 12 DP 1050464 | NSW Government <sup>2</sup> | Increase of <0.1 ha (<1%)  | <0.1 ha (69 %)   |

Notes: 1. The estimate of land required is based on a concept design that is subject to refinement during detailed design, and the final area required may vary from that shown.  
 2. The Commonwealth of Australia has aerial title above some of the lots identified.

## Assessment

The potential impacts of the project including the proposed refinement were compared to those in the EIS/MDP.

The proposed active transport link bridge is located in a critical area of the canal where overbank flooding and discharges from the Sydney Airport northern ponds occurs during events less frequent than the one per cent AEP.

The bridge would be designed to be 0.5 metres above the one per cent AEP flood level in the canal with the intent to also be above the peak maximum flood if possible. A key constraint is the minimum clearance required to the underside of the Qantas Drive extension bridge and the overall height of the active transport link bridge structure.

The landing points and approach ramps of the bridge would need to be carefully designed to minimise any influence on overbank flows, with particular regard to discharges from Sydney Airport's northern ponds. Modelling to confirm the extent of any potential changes to predicted flood impacts would be undertaken in accordance with mitigation measure HF2.

## Changes to mitigation measures

No changes to the mitigation measures are proposed.

## 1.2 Clarifications

In response to comments provided in submissions made during exhibition and comments made by stakeholders during ongoing stakeholder consultation, this section clarifies information included in the EIS/MDP, namely:

- Proposed active transport connections
- Return of residual land to Inner West Council
- Construction traffic volumes and routes, including use of Holbeach Avenue by heavy vehicles
- Impacts to advertising structures
- Providing direct access to Canal Road
- Impacts on empty container storage
- Additional use of construction compound C1
- Consistency with the Airports Regulations, subregulation 5.04.

It is noted that none of these clarifications are changes to the design of the project as described in the EIS/MDP. Further information regarding these clarifications is provided below.

### 1.2.1 Proposed active transport connections

A number of submissions received during the exhibition period commented on active transport in the study area, and queried what was proposed as part of the project. About 77 per cent of the community and 42 per cent of key stakeholders respectively provided comments on active transport.

The following sections provide clarification and further details of what is proposed as part of the project, how it fits with the existing active transport network, and the options that were considered during project development. It consolidates the information provided in the EIS/MDP, and provides additional information where relevant.

## Existing active transport network

### *Cycle networks*

The cycle network in the vicinity of the project includes cycleways, shared paths, marked on-road space, and shared road lanes where there is no special provision for cyclists. These facilities are used for a mix of recreational and commuter trips. The quality of this infrastructure for cyclists varies with some poor condition and non-compliant facilities such as along parts of Qantas Drive and the Giovanni Brunetti bridge and some recently upgraded including access along the recently upgraded Marsh Street near Terminal 1 and into Terminal 1. The key cycling infrastructure in the study area is made up of three off-road links - the Alexandra Canal cycleway, Cooks River shared path and its connections and the Bourke Road cycleway.

The Alexandra Canal cycleway is located within the project site and forms the main east–west and north–south connections for active transport across the study area. The path runs adjacent to Airport Drive along the eastern side of Alexandra Canal from the existing cycle bridge to Coward Street. It connects to Terminal 1 via a recently completed path connecting to the terminal as well as Wolli Creek, and surrounding areas via Marsh Street. The cycleway is also connected to paths located within the Tempe Recreation Reserve via an existing bridge located west of the Airport Drive/Link Road intersection. This cycleway complements the nearby Cooks River shared path and facilitates and forms part of a popular route used by commuter cyclists.

The path continues north along the east bank of Alexandra Canal linking to Coward Street (on road cycle facilities) to connect with the Bourke Road cycleway in Mascot. The Bourke Road cycleway provides a north–south link into the Sydney central business district.

### *Pedestrian networks*

The pedestrian network in the vicinity of the project generally consists of roadside footpaths, shared paths (pedestrian/cyclist) and dedicated road crossings. The local and arterial roads in the study area provide footpaths along their length. Streets in Mascot (including around Mascot Station and in Mascot generally) provide a higher degree of pedestrian amenity due to the network of small or detailed streetscapes and mix of residential and commercial land uses.

Pedestrian facilities are generally limited near Sydney Airport, with many facilities of poorer quality due to uneven pavements and limited separation from busy roads.

Pedestrian accessibility to Terminal 1 via Marsh Street is limited due to narrow footpaths on the Giovanni Brunetti bridge. A direct link exists from the Alexandra Canal shared path to the Terminal 1 precinct via a pedestrian/cycle bridge and overpass which connects into the car park at Terminal 1.

Terminals 2/3 are linked to the Mascot Station precinct with pedestrian access provided via Robey and O’Riordan streets. Upgrades to the pedestrian network on Seventh Street, Sir Reginald Ansett Drive and Qantas Drive have recently been completed by Roads and Maritime and Sydney Airport Corporation. There is an informal narrow path continuing from the Alexandra Canal cycleway on the northern side of Airport Drive and along the northern side of Qantas Drive linking to the paths located west of Robey Street.

A footpath on Canal Road provides access over Alexandra Canal between Ricketty Street and Princes Highway.

## Why is a new active transport link required?

The project would impact the existing cycleway adjacent to Airport Drive along the eastern side of Alexandra Canal. This cycleway is part of a popular regional cycle route extending from Wolli Creek Station to Coward Street, Mascot, where it connects to shared paths on Bourke Street, Bourke Road and Gardeners Road which provide access to other areas of Sydney including the Sydney CBD along Bourke Street.

Constructing the project would impact the existing cycleway. In addition, the Sydney Airport Master Plan proposes to close Airport Drive to non-airport traffic following the completion of the project, which would also necessitate relocation of the existing cycleway.

Due to the acknowledged importance of the existing cycleway, it was identified that an alternative route was required following completion of the project.

## **How was the preferred route selected and what options were considered?**

### ***Process and constraints***

As described in section 6.5.5 and shown on Figure 6.10 of the EIS/MDP, an options development and assessment process for a new active transport link was undertaken by Transport (then Roads and Maritime Services) in 2018 and 2019. The process involved consultation with stakeholders, including bike groups, local councils, residents and community groups.

The following constraints and functional requirements were considered as part of each option:

- The route needs to connect to the existing shared path at Coward Street and cross Alexandra Canal at one or more locations
- Access requirements and maintenance clearances around the Sydney desalination pipeline need to be maintained
- Land acquisition requirements and the rights of existing easement holders
- To provide adequate levels of safety for users, crime prevention through environmental design (CPTED) principles need to be incorporated
- A positive user experience was desired and would result from options incorporating a shorter route, less steep inclines and providing canal views.

### ***Options identified***

Four potential options to relocate the active transport link were considered:

- Option 1 – on the western side of Alexandra Canal, along the desalination pipeline easement, with underpasses of the proposed Terminal 1 connection and freight terminal access bridges, and the existing Nigel Love bridge
- Option 2 – along the proposed Terminal 1 connection and the eastbound terminal link roads
- Option 3a – via the eastern edge of the Tempe Recreation Reserve and through the Tempe Wetlands, connecting to Swamp Road in Tempe and the proposed eastbound terminal link
- Option 3b – similar to option 3a, via the eastern edge of the Tempe Recreation Reserve, connecting to the southern end of South Street in Tempe, and via Swamp Road and the proposed eastbound terminal link.

All options would be longer than the existing route.

In addition to the options considered in section 6.5.5 of the EIS/MDP, Transport also considered a shared path from Tempe Recreation Reserve to other shared paths at St Peters interchange along the proposed Terminal 1 connection and St Peters interchange connection. However, there was concern regarding the safety of this route due to the relative isolation and lack of passive surveillance. Furthermore, consultation with cycle groups indicated a strong preference for shared user paths along the banks of Alexandra Canal, which could connect with Sydney Park, rather than a path immediately adjacent to the proposed new road infrastructure.

### ***How the options were assessed***

Each of the options was assessed against the constraints and functional requirements. This included discussion of each option in a forum, which was attended by local councils, Sydney Airport Corporation and the then Transport for NSW/Roads and Maritime.

### **Preferred option**

The outcome of the assessment was that option 1 (located along the western side of Alexandra Canal) was selected as the preferred route. This option would provide the shortest, flattest route, and a similar level of amenity to the existing route. This route would be suitable for both commuters and leisure users, and would maximise the experience of canal views, which was strongly advocated by all user groups and stakeholders.

### **How does the preferred option relate to local and regional strategic planning for cycling/active transport?**

Plans for a principal bicycle network in Sydney are under development. The draft network was considered during development of the project. The proposed active transport link is consistent with the draft network. The new link would maintain the connection along Alexandra Canal provided by the existing route, which also forms part of the regional cycle network.

The development of the proposed active transport link has also taken into account other relevant strategic plans and policies, including the Priority Cycleways Program, the *Greater Sydney Region Plan* (Greater Sydney Commission, 2018a), *Eastern City District Plan* (Greater Sydney Commission, 2018b) and the *Future Transport Strategy 2056* (Transport for NSW, 2018).

### **What is proposed as part of the project?**

Section 7.9 of the EIS/MDP describes what is proposed as part of the project. In summary, a new link would be provided along the western side of Alexandra Canal. The proposed active transport link would be a shared pedestrian and cycle path. The alignment of the proposed link is shown on Figures 7.3 and 7.4 of the EIS/MDP.

The southern end of the new link would connect to the existing shared path near the southern end of the proposed Terminal 1 connection bridge. The link would cross to the western side of Alexandra Canal via the existing (unnamed) pedestrian/cyclist bridge located near the intersection of Link Road and Airport Drive. The alignment would then head north-east along the western side of Alexandra Canal adjacent to the Sydney desalination pipeline.

The new link would continue along the western edge of the canal, passing under the proposed Terminal 1 connection bridge, the freight terminal bridge and the existing Nigel Love bridge. The link would then cross to the eastern side of the canal, via a new bridge located south of the Terminal link bridge. On the eastern side of the canal, the link would connect to the existing cycle path near the proposed Terminal link bridge.

The proposed new link would be about 160 metres longer than the existing path.

The proposed new route has been designed to ensure suitable grades are achieved. The new route would also provide separation from adjacent roadways, canal views and improved air quality and user experience compared to the existing route which is closer to Airport Drive. The proposed new link has been designed with reference to the principles of crime prevention through environmental design.

A new section of shared path would also be provided as part of the freight terminal access. This path would provide pedestrian and cyclist access to the Sydney Airport freight terminal located on Link Road from areas to the north.

The path would extend along Airport Drive, crossing Alexandra Canal via the freight terminal bridge to intersect the Terminal 1 connection. The alignment of the proposed link is shown on Figure 7.3 of the EIS/MDP.

Temporary active transport routes proposed during construction are described below.

## Design details and requirements

The proposed active transport links have been and would continue to be designed in accordance with:

- Guide to Road Design Part 6A: Paths for Walking and Cycling (Austroads, 2017)
- Relevant Australian Standards, including AS 1428.1-2009 Design for access and mobility
- The requirements of the Disability Discrimination Act 1992
- Relevant CPTED principles.

The design would address the following minimum requirements:

- A minimum clear width of 3.5 metres
- Horizontal and vertical clearances to structure and adjacent obstacles
- A crossfall that considers the suitability for all users.

Urban design and landscaping along and in the vicinity of the active transport links would be defined by the urban design and landscape plan for the project, which will be prepared in accordance with mitigation measure LV1.

## How will the proposed active transport link connect with other facilities and links (existing and future), including destinations such as train stations?

The proposed link would ensure that the Alexandra Canal cycleway remains part of the regional cycle network between Wollie Creek Station and Coward Street, Mascot, and connects to shared paths on Bourke Street, Bourke Road and Gardeners Road.

Extending the Alexandra Canal cycleway further north towards Sydney Park has been identified as a potential future connection. However, this does not form part of the project for which approval was sought. Developing such a link would require a coordinated approach involving Sydney Water, Bayside Council, Inner West Council and the City of Sydney, and landowners along the canal. Transport is committed to working with these stakeholders to explore future options to extend the existing shared user path along Alexandra Canal.

Constraints associated with available land and adjacent land uses, and the need to maximise road capacity to achieve the project objectives meant that including an active transport link between the Alexandra Canal cycleway and the Terminals 2/3 precinct was not possible. However, Transport recognises that there is demand for an active transport connection between the Alexandra Canal cycleway and the Terminals 2/3 precinct. Transport is working closely with Sydney Airport Corporation to explore options for active transport connections that could be delivered. This is consistent with section 11.7.4 of Sydney Airport's *Master Plan 2039*. The Sydney Airport Active Transport Forum, which includes local councils and bicycle user groups, would continue to be consulted as part of this process.

Consideration of further potential links to other facilities or locations (including those described above) would be undertaken by Transport in consultation with Sydney Airport Corporation and in conjunction with relevant stakeholders (ie councils). This would be in the form of an active transport strategy to be developed in accordance with mitigation measure TT18.

## What connections to Sydney Airport terminals and end of trip facilities are/will be available?

A number of initiatives to improve active transport access and facilities at Sydney Airport have been implemented over the past six years, including the new footbridge and cycleway connection linking the external cycleway network to the Terminal 1 precinct (removing six vehicle conflict points), and provision of secure bicycle storage facilities and end-of-trip facilities. Additional infrastructure to support active transport has also been installed in the Terminals 2/3 precinct, with three metre wide shared paths extending into the precinct and enhanced crossing facilities at the precinct entry.



Sydney Airport Corporation envisages further improvements as part of the Five-Year Ground Transport Plan (which forms part of the Sydney Airport Master Plan 2039) and the approved T2/T3 Ground Transport Solutions and Hotel Major Development Plan, details of which will be further developed and discussed with key stakeholders as the plans are implemented.

Transport is working closely with Sydney Airport Corporation to explore options for additional active transport connections that could be delivered. The Sydney Airport Active Transport Forum, which includes local councils and bicycle user groups, would continue to be consulted as part of this process.

### Where to from here?

As described in section 9.4.7 of the EIS/MDP, a number of connectivity gaps exist in the current active transport network of the area. In accordance with mitigation measure TT18, Transport and Sydney Airport Corporation will prepare an active transport strategy to integrate and enhance accessibility opportunities. The strategy will be prepared in conjunction with relevant stakeholders and provide a guide for future active transport infrastructure provision. The active strategy will include consideration of:

- Opportunities for additional connections to and around the Sydney Airport terminals
- Integration with planning for future facilities in accordance with the Sydney Airport Master Plan
- Need for additional end of trip facilities at Sydney Airport.

In addition, the NSW Government is delivering cycleway network improvements through the Priority Cycleways Program and the Connecting Centres cycling partnership program. Transport is also establishing a principal bicycle network in collaboration with councils.

Planning for future regional connections is being considered by the NSW Government guided by the Greater Sydney Region Plan, District Plans, and the Future Transport Strategy 2056.

### Temporary active transport routes during construction

Transport is committed to providing safe cycling and walking connections during construction of the project and is working with shortlisted construction contractors to maintain existing pedestrian and cyclist connectivity in a safe manner.

A temporary active transport link is required to maintain the safety of users during construction. Section 8.6.4 of the EIS/MDP outlines the proposed temporary active transport links to be provided during the construction of the project, with these routes to be confirmed by the construction contractor as part of construction planning and detailed design.

Early construction and diversion to the proposed new path along the western side of Alexandra Canal will be undertaken to ensure the best possible active transport experience during the project construction period.

To account for construction staging, different alignments would be used at different times to avoid active work areas. Only one alignment would be used at any time.

As shown on Figure 8.20 of the EIS/MDP, the temporary active transport link would cross Alexandra Canal via the existing pedestrian and cycle bridge located west of Link Road. The link would then generally follow or be located adjacent to the existing access road along the eastern edge of Tempe Recreation Reserve and along the southern edge of the Tempe Wetlands. The temporary active transport link would turn south-east and cross the work area for the Terminal 1 connection, the Sydney Airport high intensity approach lights and the Sydney Airport employee car park, before crossing Alexandra Canal at the Nigel Love bridge and re-joining the existing cycleway.

The temporary route would be refined to ensure that acceptable levels of user safety is maintained throughout construction. Safety measures to be put in place would potentially include:

- Fencing to separate the path from surrounding construction areas
- Installation of culverts where routes are required to cross under active work areas or where works would occur above the link.

## Provision for pedestrians in the project design

The project would generally maintain existing pedestrian facilities in the vicinity of the project with the exception of facilities located along Qantas Drive west of the Seventh Street/Robey Street intersection on both sides of the road.

Where existing pedestrian facilities are located in close proximity to the project, they would be maintained where possible (such as along Sir Reginald Ansett Drive). Some modification to existing facilities would be required at the Link Road intersection, where existing paths would be adjusted to reflect the closure of the western leg of this intersection.

Existing pedestrian movements around the intersection of Seventh Street and Sir Reginald Ansett Drive would be retained, with the new intersection design to ensure that all existing pedestrian movements are maintained. An additional pedestrian crossing is now proposed at Seventh Street (see section 1.1.4).

A new signalised pedestrian crossing would also be provided at the intersection of the Terminal 1 connection and the freight terminal access. These facilities would provide access across the Terminal 1 connection to the adjacent residual land which would be subject to a future master plan being undertaken by Inner West Council.

### 1.2.2 Return of residual land to Inner West Council

As described in sections 7.12.4 and 19.4.3 of the EIS/MDP, it is expected that some of the land required to construct the project in Tempe (about eight hectares of land, including land within the Tempe Lands and other areas on the former Tempe landfill) would be returned to council in a similar condition as received following completion of construction. This would include rectification of any damage caused as a result of construction. As agreed with Inner West Council, the following amenities would be provided at the completion of the project:

- For the open space areas located west of the Terminal 1 connection:
  - An off-leash dog exercise area
  - A car parking area
  - Grassed open space for the remainder of this area affected by the project
- For land east of the Terminal 1 connection:
  - A handstand area
  - A new path linking the car park area (noted above) with the proposed section of active transport link located adjacent to the freight terminal access.

In accordance with mitigation measure LU3, Transport will continue to consult with Inner West Council regarding the future use of residual land in the Tempe Lands and adjoining area in accordance with the master planning process for these areas; and will ensure that the urban design and landscape plan for the project does not inhibit the outcomes of this process.

Given the proximity of the residual land to the airport, any future use in this location would also need to take into consideration aviation matters.

### 1.2.3 Construction traffic volumes and routes, including use of Holbeach Avenue by heavy vehicles

Section 8.6 of the EIS/MDP describes the proposed haulage routes to be used and indicative construction traffic volumes required for the project.

Following submissions from a number of stakeholders regarding the suitability of the proposed haulage routes, indicative traffic volumes and proposed access points, Transport has determined that Holbeach Avenue and access point A8 are no longer required to be used by heavy construction vehicles. Heavy vehicle access to the western bridges compound and work areas would be via access points A4, A5, A6 and A7 (see Figure 1.7). Further review of the proposed construction traffic using access point A8 has also resulted in a revision of the estimated light vehicle movements during the peak periods.

Table 1.3 provides the updated construction traffic information and shows the changes to vehicle movements to access points A7 and A8 (underlined and in bold font).

**Table 1.3 Revised indicative construction traffic volumes**

| Work area  | Access points             | Morning peak vehicle volumes (vehicles per hour) |       | Afternoon peak vehicle volumes (vehicles per hour) |       |
|--|---------------------------|--|-------|--|-------|
|  |                           | Light  | Heavy | Light  | Heavy |
| St Peters interchange connection, including compound C1          | A1                        | 0  | 20    | 330  | 20    |
|  | A2                        | 10   | 10    | 10   | 10    |
|  | A3                        | 330  | 20    | 0  | 20    |
| Eastern bridges, including compound C2                           | A4, A5, A6 and A7         | 330  | 20    | 330  | 20    |
| Terminal 1 connection and western bridges, including compound C3 | <u>A7</u>                 | 10   | 20    | 10   | 20    |
|  | <u>A8</u>                 | <b>100</b>                                       | 0     | <b>100</b>   | 0     |
| Qantas Drive, including compound C4                              | A9 for access to compound | 50   | 20    | 50   | 20    |
| Terminals 2/3 access, including compound C5                      | A10                       | 100  | 20    | 100  | 20    |
| Airport Drive  | A11                       | 10   | 10    | 10   | 10    |
|  | A12                       | 10   | 10    | 10   | 10    |
| Qantas Drive   | A13                       | 30   | 20    | 30   | 15    |

Table 8.8 of the EIS/MDP also describes the construction traffic movements required for earthworks activities.

Further refinement of the earthworks quantities has resulted in a reduction of the number of vehicles required for the importation of fill. As a result, the required number of vehicle movements to import fill have reduced to 9,800 from 10,200.

Also, as described in section 1.1.2 of this report, the number of truck movements required to transfer landfill waste to off-site disposal locations has increased. Table 1.4 provides the updated construction traffic volumes required for earthworks activities including these two changes (underlined and in bold font).

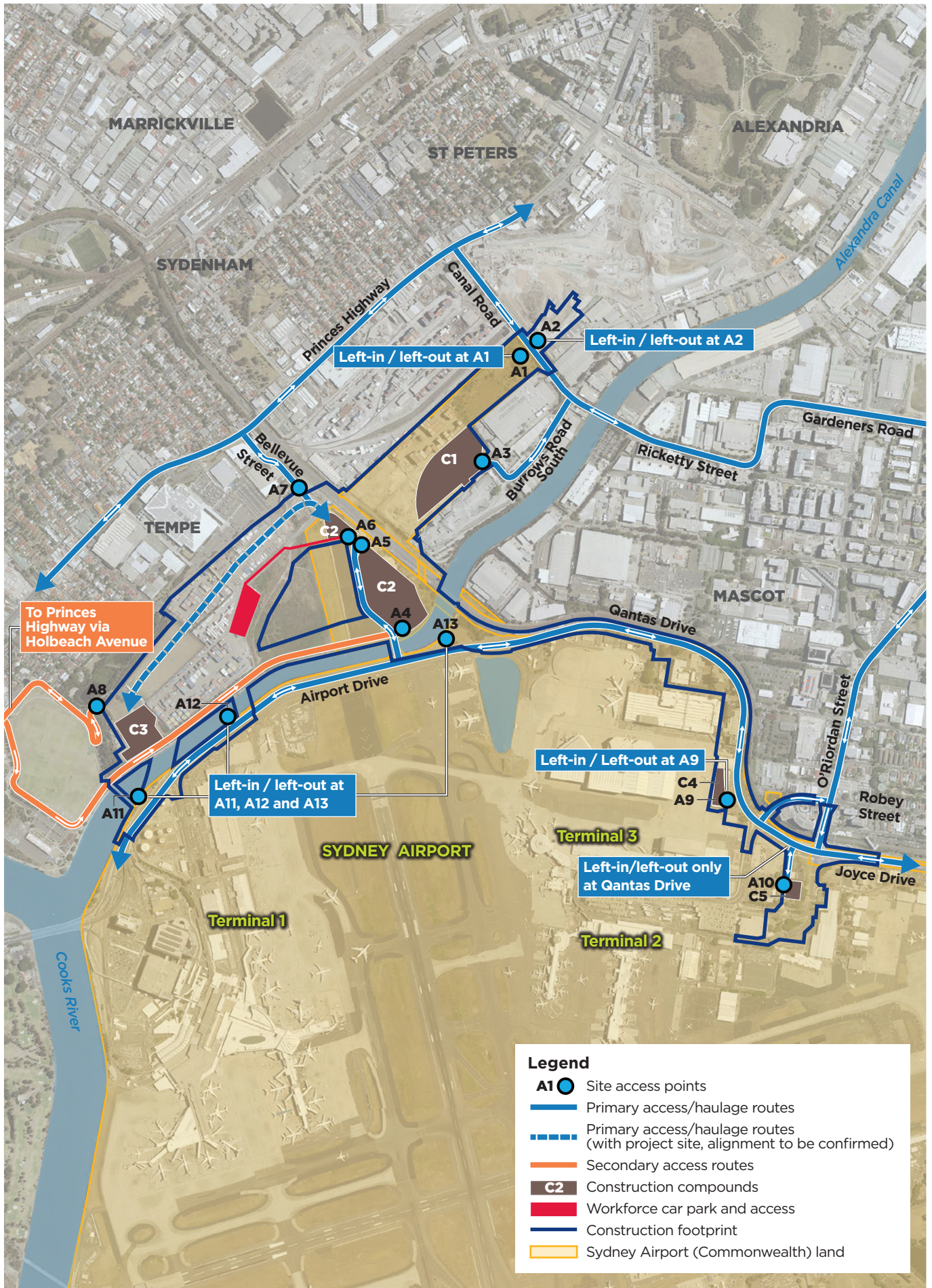


Figure 1.7 Preliminary site accesses and haulage routes

**Table 1.4 Revised indicative earthworks traffic volumes**

| Work area   | Access points                        | Direction of movement | Total movements     |
|---|--------------------------------------|-----------------------|---------------------|
| St Peters interchange connection, including compound C1 | A1 or A3                             | Inbound               | 27,600              |
| Terminal 1 and western bridges, including compound C3   | A7                                   | Inbound               | <b><u>9,800</u></b> |
|   |                                      | Outbound              | <b><u>6,900</u></b> |
| Terminals 2/3 access, including compound C5             | Off Sir Reginald Ansett Drive or A10 | Inbound               | 1,700               |
|   |                                      | Outbound              | 300                 |

### 1.2.4 Impacts to advertising structures

As described in section 19.3.3 of the EIS/MDP, the project would require some structures to be removed. Since exhibition, further work has been undertaken to minimise impacts on advertising structures. As a result of these further investigations, it is confirmed that the project would result in direct impacts (ie removal) of 24 advertising structures. This is three less structures than proposed in the EIS/MDP. The change in impacts is a result of the following:

- Avoiding a structure located adjacent to Sir Reginald Ansett Drive (see Figure 1.8)
- Confirming that two structures initially identified as advertising structures are currently used for wayfinding signage. The location of these two structures are shown on Figure 1.8.

The resulting impacts on advertising structures by the project would reduce from 27 to 24 structures.

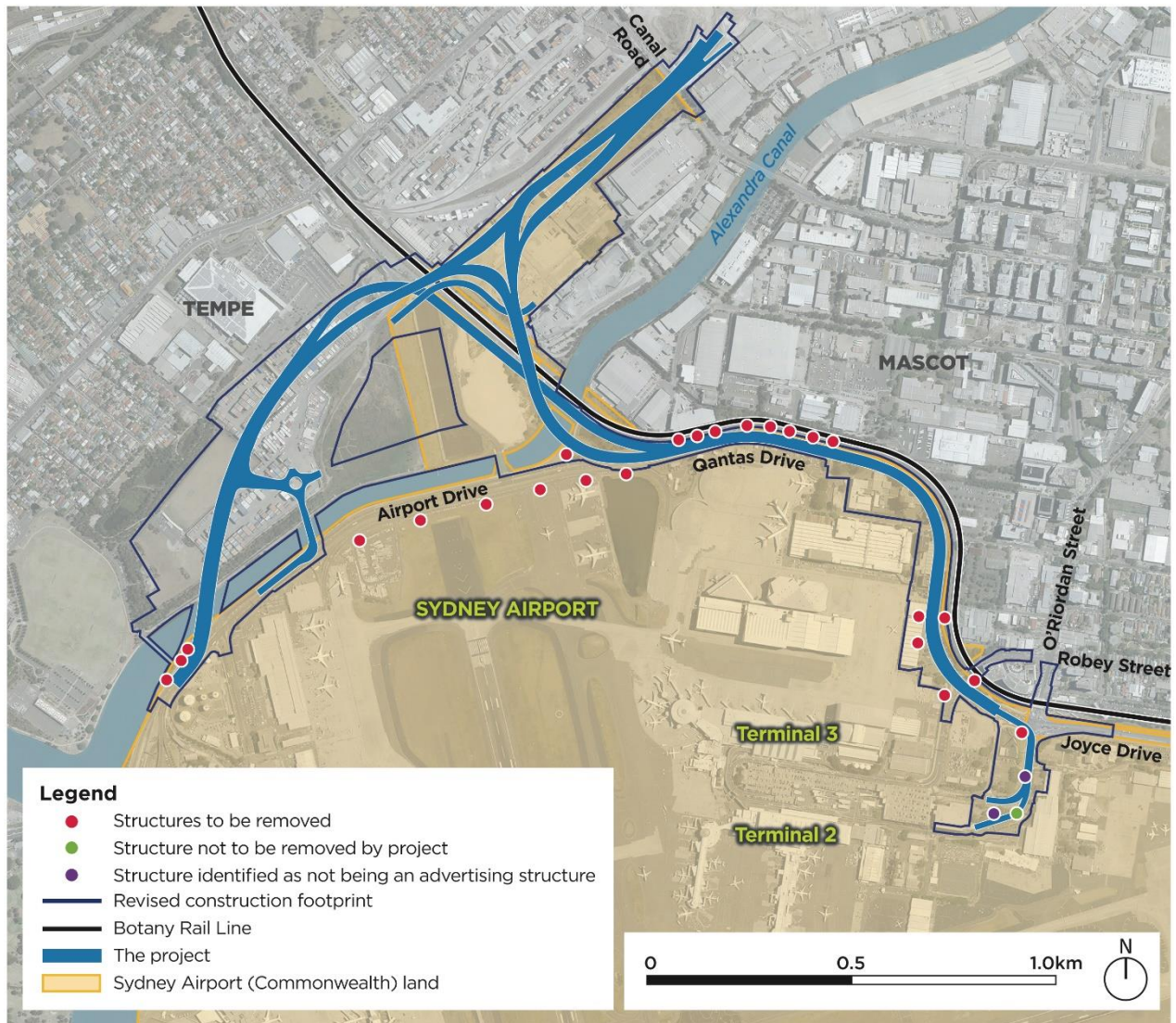


Figure 1.8 Changes to impacts on advertising structures

### 1.2.5 Providing direct access to Canal Road

A number of the key stakeholder submissions received during the exhibition period made comment on the need for direct access to the project for freight vehicles (via the provision of ramps to/from Canal Road) and queried why this was not proposed as part of the project. About 23 per cent of key stakeholder submissions provided comments on this matter. Comments included:

- How the project objectives can be met without providing direct access to Canal Road
- Impacts of not providing direct access to Canal Road, particularly in terms of ongoing traffic congestion in Mascot and associated amenity impacts on residents
- Efficiency of empty container deliveries to Port Botany without the Canal Road access ramps.

The following sections provide clarification and additional information in relation to these comments.

## Meeting the project objectives without providing direct access to Canal Road

Without infrastructure investment, forecast freight demand in and around Sydney Airport and the Port Botany precinct is expected to place further pressure on existing road infrastructure in the area.

As stated in the section 5.3 of the EIS/MDP, the objectives of the project are to:

- Improve connectivity to Sydney Airport terminals by providing high capacity direct road connections that cater for forecast growth in passenger and air freight volumes
- Support the efficient distribution of freight to and from Sydney Airport and Port Botany to logistic centres in Western Sydney
- Improve the liveability of Mascot town centre by reducing congestion and heavy vehicle movements on the local road network.

The project has been designed to achieve these objectives. The new road infrastructure would provide high capacity, direct connections between Sydney Airport and the Sydney motorway network, and would support efficient distribution of freight to and from Sydney Airport and Port Botany by reducing congestion in the network.

Modelling indicates that the project would provide additional network capacity for up to 60,000 vehicle trips per day in 2036. The forecast demand for the project would attract traffic away from other local and arterial roads within the study area, resulting in lower traffic volumes on most roads compared with the volumes predicted without the project. Heavy vehicles travelling from south-west and western Sydney would be able to use the Sydney motorway network and the project to travel to and from Port Botany, bypassing the local road network in Mascot. The modelling indicates that the project would significantly reduce heavy vehicle movements through Mascot along routes such as O’Riordan Street and Botany Road. As a result, the road network is predicted to operate with substantially less congestion than it would have without the project being implemented.

Transport recognises the important role of the Cooks River Intermodal Terminal in the container supply chain. However, only a proportion of the heavy vehicle movements in the local area travel directly between the Cooks River Intermodal Terminal and Port Botany. The former Roads and Maritime Services considered an early concept for access ramps on and off the project at Canal Road. Options for both tolled and untolled ramps were modelled. The results of modelling indicated that the ramps would lead to an increase in vehicles accessing Princes Highway and Canal Road from outside the local area network, which would reduce capacity and traffic performance along these key routes.

This analysis informed the decision that the future transport and general traffic benefits of including ramps at Canal Road as part of the project would be low compared to the estimated costs of constructing the ramps and acquiring additional land from Sydney Airport Corporation and the Australian Government. The analysis also indicated that the project objectives would be achieved without providing direct access to and from Canal Road.

Freight-only ramps were considered as a result of consultation with the freight industry. However, the traffic benefits for freight-only ramps would be less than for ramps open to general traffic, with a similar cost of construction.

Following feedback, Transport has been working with the freight industry throughout 2019 to further consider dedicated heavy vehicle access onto and off the project at Canal Road. While the ramps are not part of the project’s scope or funding package approved by the NSW Government, the project team has refined the design of the project to ensure future construction of the ramps is not precluded. Future ramps would be subject to funding approval, land agreements and planning approvals.

## Impacts on traffic congestion and amenity in Mascot

Without infrastructure investment, forecast freight demand in and around Sydney Airport and the Port Botany precinct is expected to place further pressure on existing road infrastructure in Mascot.

The project would reduce congestion and heavy vehicle movements in Mascot. Modelling indicates that the project would provide additional network capacity for up to 60,000 vehicle trips per day in 2036. The forecast demand for the project would attract traffic away from other local and arterial roads within the study area, resulting in lower traffic volumes on most roads compared with the volumes predicted without the project. As a result, the road network is predicted to operate with substantially less congestion than it would have without the project being implemented.

In relation to the routes used by heavy vehicle travelling between the Cooks River Intermodal Terminal and Port Botany, predicted traffic demand would shift from O’Riordan Street and Botany Road in the Mascot town centre. It is predicted that these roads would carry between 25 to 30 per cent less traffic in 2036 than they would have without the project, as vehicles use the project to bypass the surrounding road network. Heavy vehicles travelling from south-west and western Sydney would be able to use the Sydney motorway network and the project to travel to and from Port Botany, bypassing the local road network in Mascot. The performance of the road network in Mascot would be further enhanced by the Mascot intersection improvement, and the Airport East Precinct Upgrade and the Airport North Precinct Upgrade.

Providing direct access between the project and Canal Road or the Cooks River Intermodal Terminal would remove a proportion of trucks from the Mascot area. However, the ramps are not needed to reduce congestion and heavy vehicle movements on the local road network and improve the liveability of Mascot town centre.

### **Efficiency of empty container deliveries to Port Botany**

Freight vehicles travelling to Port Botany from Cooks River Freight Terminal would continue to travel through Mascot. However, as traffic would be attracted away from the local road network and onto the project, there is predicted to be an improvement in travel times along this route compared to without the project. It is predicted that O’Riordan Street and Botany Road would carry between 25 to 30 per cent less traffic in 2036 than they would have without the project, as vehicles use the project to bypass the surrounding road network. The project would also reduce the volume of heavy vehicles on Gardeners Road and reduce traffic growth on General Holmes Drive and Southern Cross Drive. These traffic reductions would take pressure of the local road network, ease congestion, and improve the efficiency of empty container deliveries from the Cooks River Intermodal Terminal to Port Botany.

Transport is also delivering the Mascot intersection improvement program of works to support the opening of the New M5, the M4-M5 Link and the project. The program includes line marking and intersection upgrades. Key intersections to be upgraded in Mascot include:

- Gardeners Road/Botany Road
- Kent Road/Ricketty Street
- Coward Street/Bourke Street
- Gardeners Road/O’Riordan Street
- Kent Road/Coward Street.

These measures, in conjunction with the recently completed Airport East Precinct Upgrade and the Airport North Precinct Upgrade (anticipated to be completed by the end of 2020), will provide additional local network capacity in Mascot and further enhance the benefits that would be provided by the project.

### **1.2.6 Impacts on empty container storage**

Transport acknowledges the challenges that the freight industry faces in relation to the management and storage of empty containers. An assessment of the empty container sector in Sydney was provided in Technical Working Paper 12 (Business Impact Assessment) as part of the EIS/MDP. The assessment notes that ‘Since 2017, trade imbalances and the drought have caused a substantial build-up of empty containers in Sydney with ECPs reported to be 85 to 95 per cent of capacity and with overflow storage of empty containers at more than 20 transport depots’.



As described in section 20.3.4 of the EIS/MDP, the supply of empty containers requiring storage in Sydney has increased in recent years due a reduction in agricultural exports and the drought, together with increased container trade. The supply of empty containers in Sydney is expected to increase further. The volume of containers handled at Port Botany is forecast to grow to 2.9 million twenty-foot equivalents (TEUs) by 2021, almost 3.4 million TEUs by 2026, and four million TEUs by 2031. Noting the predicted increases in container supply, empty container storage capacity in Sydney has remained largely unchanged since 2015.

The assessment of the empty container sector and potential impacts due to the project presented in Appendix D to Technical Working Paper 12 in the EIS/MDP noted that the empty container park sector has reached a critical situation. The growth in demand for empty container storage has exhausted the available capacity of existing empty container parks in Sydney. The closure of the Tyne Container Services empty container park at Tempe due to the project would exacerbate current issues associated with empty container capacity. There is a lack of available industrial land close to Port Botany onto which the business could relocate. However, the assessment also noted there are underlying challenges facing the sector that need to be addressed irrespective of the project.

The assessment concluded that new intermodal terminals, which are currently being delivered, and changes in mode share towards rail would eventually address any capacity constraints faced by the industry in general. However, operational and commercial changes would be required across the sector to facilitate these changes.

Recognising the challenges currently facing the empty container supply chain in Sydney, Transport's Freight Industry Branch commissioned the NSW Empty Container Supply Chain Study in July 2019. The study notes there is already a deficit in empty container park capacity in Sydney to adequately manage the cycles in demand. It also notes that, while the demand for empty container storage has been growing in recent years, there has been no meaningful investment in empty container parks. This has been exacerbated by trade imbalances, and issues with current transactional and commercial arrangements and operational practices within the industry. The study considers the potential loss of empty container storage capacity if the Tyne Container Services empty container park at Tempe closes. It notes that recent and current developments associated with intermodal terminals in Sydney should address the loss in capacity. However, changes would be required in the logistics of managing empty containers to realise the additional capacity that the intermodal terminals can provide. The proposed Botany Rail Duplication would complement the increased use of intermodal terminals for empty container storage by providing increased capacity for delivery of empty containers to Port Botany by rail.

The study identifies a range of recommendations to address commercial, operational and information issues currently faced by the industry. The recommendations are largely actions for the industry to implement. The recommendations include Transport establishing an empty container working group, with assistance from the Port Transport and Logistics Taskforce, to facilitate the implementation of recommendations by industry.

The draft study report was completed in late 2019. In December 2019 the freight industry was engaged for comment via the Port Transport and Logistics Taskforce. Transport's Freight Industry Branch is currently reviewing the draft report, including comments from the industry, with a view to finalising the report in 2020 and facilitating implementation of the key recommendations.

Tyne Container Services has advised that half of the approximately 10,000 TEUs (equating to around 6,500 containers) currently stored at their Tempe facility will be relocated to their Punchbowl and Molineux Point sites between April and September 2020. To offset the remaining 5,000 TEUs in the short term, Transport is working with industry participants, including NSW Ports and Tyne Container Services, to explore options for additional storage at alternative facilities or for containers to be moved offshore by shipping lines to ease capacity for the whole market.

In February and March 2020 shipping lines acted to improve empty container capacity by collecting a significant number of empty containers and shipping them back to Asia. This helped reduce the number of empty containers and improve existing empty container park use, from around 95 per cent of current capacity in early February 2020 to around 85 per cent.

### 1.2.7 Additional use of construction compound C1

Part of construction compound C1 as outlined in section 8.4.2 of the EIS/MDP (and shown on Figure 8.14 of EIS/MDP) is proposed to be made available for use by a third party during construction of the project. This land would no longer form part of the project site. The area would be located where workforce parking is shown on Figure 8.14 and would have an area of about 0.46 hectares.

The continued use of this portion of land beyond the construction period, if required, would require lease agreement with Sydney Airport Corporation.

### 1.2.8 Consistency with the Airports Regulations, subregulation 5.04

Subsection 91(3) of the Airports Act and subregulation 5.04 of the Airports Regulations require a MDP to address the obligations of the airport-lessee company as sub-lessor under any sub-lease of the airport site concerned and the rights of the sub-lessee under any sub-lease.

The Sydney Gateway road project will impact on several current sub-leases and tenancies at Sydney Airport. The details of these agreements are summarised in the tables below.

**Table 1.5 Agreements to be terminated**

| Tenant  | Current use                                       | Lease expiry date | Comment   |
|---|---|-------------------|---|
| Express Freighters Australia Pty Ltd T/A Qantas Freight | Hardstand and vehicular parking                   | 22-Oct-16         | Occupation by way of monthly holdover. Vacant Possession to be achieved by giving one month's notice. |
| Roads and Maritime Services                             | Public cycleway                                   | 31-Dec-06         | Occupation by way of monthly holdover. Vacant Possession to be achieved by giving one month's notice. |
| oOh! Media Group Limited                                | Landscaping, beautification and assessing signage | 31-Dec-16         | Occupation by way of monthly holdover. Vacant Possession to be achieved by giving one month's notice. |
| Qantas Airways Limited                                  | Operation of the Jet Base                         | 30-Jun-20         | Land to be vacated at expiry of current lease term  |
| DHL Express (Australia) Pty Ltd                         | Car parking                                       | 30-Oct-19         | Occupation by way of monthly holdover. Vacant Possession to be achieved by giving one month's notice. |
| Visy Paper Pty Ltd                                      | Recycling facility                                | 29-Feb-20         | Occupation by way of monthly holdover. Vacant Possession to be achieved by giving one month's notice. |
| Qantas Airways Limited                                  | Car parking                                       | 22-Dec-12         | Occupation by way of monthly holdover. Vacant Possession to be achieved by giving one month's notice. |

**Table 1.6 Agreements within project footprint to remain on foot**

| Tenant                                   | Current use   | Lease expiry date              | Comment                     |
|--|---|--------------------------------|-----------------------------|
| Jemena Gas Networks (NSW) Ltd            | Gas pipeline  | 30-Oct-75                      | Agreement to remain on foot |
| Qantas Airways Limited                   | Optic fibre cable   | 30-Apr-04                      | Agreement to remain on foot |
| Sydney Metropolitan Pipeline Pty Limited | Pipeline licence  | 31-Jul-88                      | Agreement to remain on foot |
| Caltex Oil (Australia) Pty Limited       | Pipeline licence  | 31-Aug-89                      | Agreement to remain on foot |
| Pipe Networks Pty Ltd                    | Telecommunications facility   | 30-Apr-22                      | Agreement to remain on foot |
| Optus Fixed Infrastructure Pty Ltd       | Licence for optic fibre   | 3 years from commencement date | Agreement to remain on foot |
| Ausgrid                                  | Substation together with rights of way and easements for cables           | 31-Dec-06                      | Agreement to remain on foot |
| Shell Company of Australia Limited       | Pipeline licence  | 30-Sep-24                      | Agreement to remain on foot |
| Sydney Desalination Plant Pty Limited    | Pipeline licence  | 30-Sep-24                      | Agreement to remain on foot |
| Qantas Airways Limited                   | Operation of elevated road for vehicles and pedestrians over Qantas Drive | 30-Jun-20                      | Agreement to remain on foot |

**Table 1.7 Agreements terminated prior to 30 April 2020**

| Tenant                              | Current use                      | Lease expiry date              |
|-------------------------------------|----------------------------------|--------------------------------|
| Maritime Container Services Pty Ltd | Empty shipping container storage | Site vacated 30 September 2019 |
| Boral Resources (NSW) Pty Limited   | Concrete recycling facility      | Site vacated 29 February 2020  |

## 1.3 Additional information and assessments

The following assessments have been undertaken since exhibition:

- Additional noise and vibration assessment
- Additional windshear and turbulence modelling
- Additional odour assessment
- Development of proposed surface water quality discharge criteria
- Historical Archaeological Assessment for 30 Canal Road, St Peters
- Additional contamination investigation.

The assessments were undertaken to assist with considering and responding to comments provided in submissions and during consultation with stakeholders and/or to further progress commitments made in the EIS/preliminary draft MDP.

An overview of these additional assessments is provided in the following sections.

### 1.3.1 Additional noise and vibration assessment

A noise and vibration assessment was undertaken as part of the EIS/MDP to assess the potential construction and operation noise and vibration impacts of the project. The results of this assessment are provided in Technical Working Paper 2 (Noise and Vibration) and summarised in Chapter 10 of the EIS/MDP.

Following exhibition of the EIS/MDP, an additional assessment of the potential construction and operation noise and vibration impacts of the project was undertaken. The purpose of the additional assessment was to assess changes in predicted noise and vibration levels as a result of the proposed realignment to avoid the Cooks River Intermodal Terminal (see section 1.1.1 of this report), and to respond to comments and queries in submissions. The additional assessment considered:

- Changes to noise levels as a result of a proposed realignment to avoid the Cooks River Intermodal Terminal
- Potential noise and vibration impacts at the building at 396 Princes Highway
- Screening offered by the building at 396 Princes Highway and the effect on noise levels at other sensitive receivers
- The contribution of noise levels from existing traffic on Unwins Bridge Road where impacts were predicted as a result the project
- Potential noise levels at passive recreation areas, including additional areas within Tempe Recreation Reserve and at the Tempe Wetlands
- Potential impacts at the new (relocated) Qantas Flight Training Centre, which received planning approval in November 2019
- A waste emplacement mound between Alexandra Canal, Terminal 1 connection and the freight terminal access.

Key findings of the assessment in relation to the above comments are provided in section 1.1.

### 1.3.2 Additional windshear and turbulence modelling

A windshear and turbulence assessment was undertaken as part of the EIS/MDP in accordance with *National Airports Safeguarding Framework Guideline B: Managing the Risk of Building Generated Windshear and Turbulence at Airports* (DITCRD, 2018). The results of this assessment are provided in Technical Working Paper 3 (Airport Operations) and summarised in Chapter 11 of the EIS/MDP.

Following exhibition, an additional assessment of the potential windshear and turbulence effects of the project was undertaken. The assessment involved a sensitivity analysis of various project elements using computer modelling (computational fluid dynamics) to understand the influence on windshear and turbulence. It included an assessment of changes in windshear and turbulence as a result of the proposed refinement to the emplacement mounds (see section 1.1.2 of this report).

The testing included configurations with and without the proposed emplacement mound. The configurations were tested in nine wind directions at 22.5° intervals in accordance with *National Airports Safeguarding Framework Guideline B* (DITCRD, 2018). In five of the wind directions, the wake zone of the mound intersects the northern approach to the main north–south runway.

For each test configuration and wind direction, the wind speeds required to exceed the wind shear and turbulence criterion from *National Airports Safeguarding Framework Guideline B* were measured in the wind tunnel across an array of measurement points. The points extended 1,200 metres to the north of the runway threshold and up to 70 metres above the runway. Lower wind speeds were required to exceed the turbulence criterion (compared to the windshear criteria), confirming that turbulence is the limiting criteria.

Key findings of the assessment with respect to the proposed emplacement mounds are provided in section 1.1.2.

### 1.3.3 Additional odour assessment

An odour assessment was undertaken as part of the EIS/MDP to assess the potential for odour impacts during works at the former Tempe landfill. The results of this assessment are provided in Technical Working Paper 17 (Odour Assessment) and summarised in Chapter 12 of the EIS/MDP.

Following exhibition, an additional assessment of the potential for odour impacts during works at the former landfill was undertaken. The purpose of the assessment was to consider the potential for odour to be generated from leachate during excavation. The assessment provided additional information to respond to comments provided by Inner West Council, and other stakeholders.

In summary, the additional assessment predicts a small reduction in potential odour emissions from works at the former Tempe landfill compared to the predictions made in Technical Working Paper 17. This reduction is attributed to the emplacement mounds design refinement (see section 1.1.2). As a result of this refinement, the majority of excavated waste at the former landfill would be loaded into trucks and removed off site. This refinement considerably reduces the area of exposed waste and more than compensates for the additional odour emissions from storage of surface leachate on site.

### 1.3.4 Surface water quality discharge criteria

Section 16.1.4 of the EIS/MDP describes the proposed approach to developing water quality discharge criteria for the project. It provided preliminary criteria based on 15 months of water quality monitoring that was undertaken within Alexandra Canal and Cooks River during the assessment process. These preliminary criteria, provided in Appendix B of Technical Working Paper 8 (Surface Water) were developed with reference to the *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* (Australian and New Zealand Governments (ANZG), 2018) (the Water Quality Guidelines) and the *Australian Guidelines for Water Quality Monitoring and Reporting* (ANZECC/ARMCANZ, 2000) (the ANZECC guidelines).

Transport has revised the preliminary discharge criteria taking into account additional baseline monitoring data collected over an 11 month period between April 2019 and February 2020. Transport would adopt this criteria for any extracted groundwater that is intended to be discharged to Alexandra Canal. The criteria have been developed to ensure that any construction phase discharge from the project that meets the criteria would not result in a material change to existing water quality.

### 1.3.5 Historical Archaeological Research Design and Excavation Methodology

Mitigation measure NAH8 commits to preparing and implementing a Historical Archaeological Assessment Research Design and Excavation Methodology at the following locations within the project site:

- Intact sections of Alexandra Canal along the western bank of the canal on either side of the existing pedestrian and rail bridges
- Vacant land at 30 Canal Road (Lot 4 DP 555771 and Lot 3 DP 825649)
- Land located north of Canal Road that is currently used for the construction (stockpiling) of the New M5 (Lot A DP 391775, Lot B DP 394647 and Lot 2 DP1168612)
- Sydney Airport land considered to contain low or moderate archaeological potential
- Land along Qantas Drive considered to contain low or moderate archaeological potential
- Sydney Airport land located east of Sydney Airport northern lands car park and west of Botany Rail Line (Lot 1 DP 826101)
- Land to the west of Boral's St Peters facility and east of the Botany Rail Line.

Mitigation measure NAH8 commits to identifying the specific features of archaeological significance that could be present at these locations and provide a scope for further investigations to confirm and specify appropriate archaeological management for any remains identified.

Artefact Heritage commenced preparing the Historical Archaeological Assessment Research Design and Excavation Methodology for 30 Canal Road in December 2019. This included considering the likelihood of intact and significant archaeological remains associated with non-Aboriginal land use from 1830 onwards to occur within the site. The likelihood assessment was determined by detailed analysis of historical plans, land titles and contamination reports, which included site history details for the site.

This assessment concluded that:

- There was low and moderate potential for archaeological remains at the site
- Any remains would not meet the threshold of archaeological significance
- Earlier more significant remains associated with the pre-1880 land use are unlikely to have survived
- The project would not impact locally or state significant archaeological remains at the site.

The assessment made the following recommendations:

- Transport's *Unexpected Heritage Items Heritage Procedure 02* (Roads and Maritime, 2015a) would be implemented during all excavation works
- All relevant staff, contractors and subcontractors must be made aware of statutory obligations for heritage under the *Heritage Act 1977* (NSW) and best practice guidelines as outlined in the Burra Charter (Australia ICOMOS, 2013) to ensure no significant unexpected archaeological remains are impacted
- If human remains, or suspected human remains, are found during the works, all work in the vicinity must cease, the site should be secured, and the NSW Police and Heritage Council must be notified in accordance with the *Unexpected Heritage Items Heritage Procedure 02*.

### 1.3.6 Additional contamination investigations

Technical Working Paper 5 (Contamination and soils) included an evaluation of contamination risks in accordance with the *National Environment Protection (Assessment of Site Contamination) Measure 1999*. The evaluation was based on development of a preliminary conceptual site model, which was informed by:

- Assessing historical land use activities at and adjacent to the project site
- Reviewing historical contamination investigations undertaken by others
- Contamination investigations carried out at 154 locations within the project site.

Following exhibition of the EIS/MDP, further targeted contamination investigations were undertaken at 262 locations. The additional investigations were undertaken in areas where information gaps were considered to exist and for due diligence purposes.

A key focus for the additional investigations was the Sydney Airport northern lands, located west of Alexandra Canal and south of the Botany Rail Line. During earlier investigations, a black 'tar-like' substance was identified within shallow soils and fill material in this location. The additional investigations confirmed the presence of tar within the Sydney Airport northern lands at depths of up to two metres. Further contamination investigations are required to better understand the extent and volume of this tar material, including its presence on Sydney Airport land or adjacent properties.

## 1.4 Summary of changes from preliminary draft MDP to the final MDP

Table 1.8 provides a summary of key changes to the exhibited preliminary draft MDP.

**Table 1.8 Summary of changes to preliminary draft MDP**

| Chapter of EIS/pdMDP | Issue   | Changes from preliminary draft EIS/MDP to final MDP  |
|----------------------|---|--|
| 1                    | Introduction  | Nil  |
| 2                    | Location and setting  | Nil  |
| 3                    | Statutory context, approval requirements  | Nil  |
| 4                    | Consultation  | Nil  |
| 5                    | Strategic context and project need  | Nil  |
| 6                    | Project alternatives and options  | Nil  |
| 7                    | Realignment to avoid the Cooks River Intermodal Terminal                            | The design refinements will aim to minimise the potential impacts to properties (see section 3).   |
|                      | Emplacement area and mounds   | Only one emplacement mound is now proposed in the area bounded by Terminal 1 connection, the freight terminal access and the western side of Alexandra Canal (see section 3.10.2). |
|                      | Improved access to residual land  | Inclusion of a stub road connection on the freight terminal access roundabout (see section 3.8.1).   |
|                      | Seventh Street pedestrian crossing  | Inclusion of a signalised pedestrian crossing from Robey Street and Qantas Drive towards Terminals 2/3 (see section 3.4.2).  |
|                      | Sydney desalination pipeline maintenance vehicle turning area                       | Construction of a vehicle turning area for Sydney desalination pipeline maintenance vehicles (see section 3.4).  |
| 8                    | Alternate alignment considerations over Alexandra Canal for active transport links. | Inclusion of additional construction footprint area adjacent to Alexandra canal to the east of the Nigel Love bridge (see section 4.1.3).  |
|                      | Emplacement mounds  | Inclusion of only one emplacement mound will require removal of about 55,000 cubic metres of excavated landfill material (see section 4.2.5).                                      |
|                      | Holbeach Avenue heavy vehicle use   | Reduction of the usage of Holbeach Avenue by construction vehicles (see section 4.6).  |
| 9                    | Traffic, transport and access   | Nil  |
| 10                   | Odour from leachate   | Additional odour assessment was completed, as the refinements reduce the area of exposed waste.  |
|                      | Noise and vibration   | Further noise assessment predicted 'minor' impact on Tempe Wetlands.   |
|                      | Noise and vibration   | Further noise assessment predicted increased traffic noise levels for a small area north of Barden Street.   |
| 11                   | Airport operations  | Additional windshear and turbulence assessment considering one mound is slightly less than the original two mounds.  |
| 12                   | Air quality   | Further assessment predicted minor changes in air quality.   |

| Chapter of EIS/pdMDP | Issue   | Changes from preliminary draft EIS/MDP to final MDP   |
|----------------------|---|---|
| 13                   | Contamination and soils                             | Nil   |
| 14                   | Flooding  | Nil   |
| 15                   | Groundwater   | Nil   |
| 16                   | Surface water discharge criteria                    | Revision of preliminary discharge criteria.   |
|                      | Industrial land drainage                            | Redesign of the drainage of industrial land due to included stub road.                      |
| 17                   | Non-Aboriginal heritage                             | Nil   |
| 18                   | Aboriginal heritage                                 | Nil   |
| 19                   | Emplacement mounds land use                         | Reduction in availability of residual land from about 10 hectares to eight hectares.        |
|                      | Impact to advertising structures                    | Reduction of the number of advertising signs impacted by construction.                      |
| 20                   | Socio-economic impacts                              | Nil   |
| 21                   | Landscape character and visual amenity increase     | Emplacement mounds would result in minor temporary increase in landscape character impacts. |
| 22                   | Biodiversity  | Nil   |
| 23                   | Health, safety and hazards                          | Nil   |
| 24                   | Waste management                                    | Nil   |
| 25                   | Sustainability                                      | Nil   |
| 26                   | Climate change, greenhouse gases                    | Nil   |
| 27                   | Approach to environmental management and mitigation | Nil   |
| 28                   | Project justification and conclusion                | Changes and amendments have been made to the mitigation measures (see section 2).           |
| 29                   | References  | Nil   |