

B13

VOLUME B: AIRPORT AND SURROUNDS
Landscape and Visual

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KEY FINDINGS SUMMARY

- Views to the New Parallel Runway (NPR) site are limited by areas of vegetation located to the north of the site, intervening development, and the relatively flat terrain which surrounds the site. In addition, the areas surrounding the site, particularly to the west and south, will undergo considerable change over the coming years. In particular, the Port of Brisbane development and Gateway Upgrade Project will be visually prominent during day and night time conditions. Further development associated with the Airport itself will also contribute to the changing character of this landscape. This additional development generally reduces the visual impact of the NPR project, with a number of these developments being considerably more visually prominent during both day and night time conditions.
- During construction, areas close to the site will be subject to some visual impact due to a small area of vegetation clearance on the southern bank of Kedron Brook. The most prominent of these views will be from the Kedron Brook cycle and pedestrian path, where the runway site is closest to a publicly accessible area. Although the sensitivity of this receptor is considered to be minor, the visual impact is considered to be moderate adverse. In this view, the impacts are created primarily by the opening up of views to existing elements of the Airport rather than the development of any new structures.
- Views from the long term car park, located within the Airport, will include broad views over the construction activity from an elevated position. Due to the height and proximity, it is considered that there is a minor adverse impact to views from the long term car parking structure, although this is considered to be a low sensitivity receptor.
- Upon completion of the NPR, the most significant impact has been identified as a moderate adverse impact upon views from the Kedron Brook shared cycle and footpath.
- The landing light structure will create localised visual impacts from areas at Nudgee Beach, within the Bay, and from Shorncliffe Pier.
- In all other areas negligible and minor adverse impacts have been identified again due to the retention of vegetation to the north of the site, distance and a context of prominent industrial development.
- By 2035 there will be more aircraft arriving and departing the Brisbane Airport and therefore there will be more air traffic visible across Brisbane generally. There will likely be more aircraft visible from those locations under the existing flight paths. There will also be additional aerial traffic visible over those areas under the south-western corridor of the new runway. Areas closer to the site, where aircraft crosses the view, will see additional aircraft as both parallel routes are visible in the one view.
- At night the bright lights of the Port of Brisbane, including some expansion, and the context of lit development reduces the visual impact of the NPR. Generally, the NPR project has unidirectional lighting and lighting on planes is minimal considering their size, so there is little light spill. These lighting sources will be viewed as moving objects; however, they are located within the context of the existing Airport and will therefore not contrast with the surrounding night time environment.

- There are possible interactive effects caused by the effect of visibility on the perception of noise impacts. This will be the case particularly for views toward the Airport, where aerial traffic is visible. From views in close proximity to the site, such as the Kedron Brook cycle and pedestrian path, it is likely that the sound of aircraft will increase the overall experience of the Airport from this view, however, in terms of the visual impact the cumulative effects do not significantly worsen the impact. The loss of vegetation upon the site, although not highly visible, and the rapidly increasing development of this area interacts with the perception of environmental effects. The perceived loss of environmental value may marginally affect the perception of visual impact where there are existing views over the plantation vegetation which currently occupies much of the site.
- It is likely that with the implementation of some minor mitigation measures, there will be some lessening of the visual effects of the NPR, particularly during construction. Depending upon the success of vegetation retention and supplementary planting to the eastern bank of the Kedron Brook, there is likely to be some reduction in the significance of the visual effect upon the Kedron Brook path view.

13.1 Introduction

The Brisbane Airport Corporation (BAC) proposes to develop a New Parallel Runway (NPR) on its land immediately to the north-west of the existing runway and domestic terminal. The area from which the various elements of the project are likely to be seen, while not including large numbers of residential areas, is sensitive in parts due to the recreational uses that occur. Moreton Bay is a regional recreation resource with various types of boat users on the bay and on associated waterways, such as the Kedron Brook Floodway and Brisbane River. The foreshores also contain recreation areas such as Nudgee Beach Reserve and the Boondall Wetlands.

Visual impacts from the runway project will be derived not only from the runway itself, but from the clearing of vegetation, the landing light system in Moreton Bay, additional air traffic, as well as construction activities including dredging in the Bay. These impacts will vary from day to night.

This chapter evaluates the visual impacts of the NPR on local residents, workers, and road users through the use of representative publicly accessible viewpoints.

The chapter includes the following:

- A description of the proposed development in terms of its visual character.
- A description of the methods used to undertake the landscape visual assessment.
- A description of the limitations and assumptions of this method.
- An evaluation of the baseline condition, i.e. the existing visual character of the surrounding area.
- A description of the consultation, policies and guidelines which have been used to inform this assessment.
- A description of the visual components of the proposed development and how they differ from the existing.

- An assessment of the visual impact of the proposal focusing on an evaluation of representative views.
- An assessment of the cumulative and interactive effects of any identified impacts.
- A description of measures being incorporated into the site planning and landscape design to mitigate these visual impacts.
- An assessment of the residual effects, considering the implementation of these mitigation measures.
- An assessment summary matrix, which summarises the results of this assessment.

13.2 Proposed Development

The landscape and visual features of this project include a number of elements and processes that will change the landscape and visual character of the site and its surrounds.

These elements are located on Airport land, land surrounding the Airport and also on the Bay. They will change continually during construction, some elements will be visible during the day and others will be illuminated at night. There will also be change to the air traffic situation as viewed from the ground.

The following list indicates the main visual features of the site during daylight hours:

During construction (Duration - 2008 up to 2015):

- Site office, site compound, concrete plant, asphalt plant.
- Clearance of vegetation on the site.
- The surcharging of the runway site, which will be visible as fill upon the site of up to 7 m in height above existing ground levels.
- The dredge vessel moving between Middle Banks and the pump-out site at Luggage Point.

Upon completion (From 2015):

- The runway and access roads.
- The landing light system structure protruding out over Moreton Bay.
- Security fencing.
- Air traffic, including both decreases and increases in air traffic visible from different locations across the city.

The following list indicates the main visual features of the site during hours of darkness:

During construction (Duration - 2008 to 2015):

- Security/functional lighting around site compound, site office, concrete plant and asphalt plant.
- Lighting of the site in some areas and at some times for night time construction activities.
- Moving light sources from additional vehicular traffic generated by construction workers, materials delivery and disposal.
- Dredging activities - safety lighting.

Upon completion (From 2015):

- General lighting to the runway and access roads.
- Nautical navigation lights on the landing light structure protruding out over Moreton Bay.
- Increased aerial traffic visible as flickering point source lighting upon aircraft at varying heights in the sky.

13.3 Methodology

13.3.1 Assessment Guidance

There is no guidance on the assessment of landscape and visual impact specifically for Australia. However, the industry typically refers to the guidance offered by the Landscape Institute in the United Kingdom. The following methodology conforms with the guidance offered by the Guidance for Landscape and Visual Impact Assessment (GLVIA).

As is expected of an international airport located within a thriving city, the proposed development will be in use during both day and night. There is again, little guidance locally on the assessment of night time visual impact. Therefore, the current methodology is again drawn from the UK. The Institute of Lighting Engineers' (ILE) *Guidance Notes for Reduction of Light Pollution* includes a range of categories with which to describe the lit situation of the landscape. These environmental zones are supported by design guidance for the reduction of light pollution which can then inform proposed mitigation techniques.

13.3.2 Landscape and Visual Impact Assessment

The following steps were undertaken in the assessment of the visual impacts of the proposal.

Preliminary Viewshed Analysis

A viewshed analysis was undertaken for the site to provide an initial indication of the visual influence of the site (from which parts of the surrounding area could potentially view some part of the site).

The viewshed analysis was carried out using a Geographic Information System (GIS), which interpreted digital three-dimensional ground surface data. Three sets of terrain data (supplied by BAC) were used in the viewshed analysis. These were:

- Post construction levels for the new parallel runway area at 0.5 m contour interval.
- Existing ground levels for the Airport and surrounding area at 0.5 m contour interval.
- Existing ground levels for the wider surrounding area at 10 m contour interval.

Baseline Conditions

A series of site inspections were carried out between September and October 2005 to verify the results of the preliminary viewshed analysis and evaluate the existing visual character of the area. This evaluation led on to specifically identify locations that represent the visibility of the site, and thus consider locations which are likely to be subject to visual impacts from the proposed development.

Photographs were taken from key viewpoints, some during night-time hours, for later use for visual simulation of the development.

Due to the amount of change anticipated in the visual character of this area of the rapidly growing city of Brisbane (excluding the New Parallel Runway project), baseline conditions have been considered at three time horizons. An assessment of the existing condition has been taken at the present day, 2005, and considering a number of assumptions based on proposals for development within this area, a baseline condition has been prepared for the years 2015 and 2035. These assumptions have been outlined in the following section 13.4 Limitations and Assumptions.

In order to appreciate the baseline condition, a series of representative viewpoints have been selected to comprehensively illustrate the visual influence of the site. These views represent publicly accessible viewpoints from a range of locations and viewing situations.

A site inspection was then undertaken in the evening, focused upon a selection of the representative viewpoints which are publicly accessible at night, and representative of the night scene. The study area, overall, has been considered in terms of the Institution of Lighting Engineers (ILE) environmental zones, identified for consideration of the lit condition of the landscape.

These zones are:

- E1: *Intrinsically dark landscapes* - National parks, areas of outstanding natural beauty, etc.
- E2: *Low district brightness areas* - Rural, small village, or relatively dark urban locations.
- E3: *Medium district brightness areas* - Small town centres or urban locations.
- E4: *High district brightness areas* - Town/city centres with high levels of night time activity.

Specific features of the lit landscape are then described in terms of:

- *Sky glow* - the brightening of the night sky above our towns, cities and countryside.
- *Glare* - the uncomfortable brightness of a light source when viewed against a dark background.

- *Light Trespass* - the spilling of light beyond the boundary of the property or area being lit.

Visualisation of the Development

A digital three-dimensional model was constructed for the project that included the main components of the development based on the design outlined in Chapters A4 and A5.

A digital three-dimensional model of the project during construction, at a point in time which was considered to represent the highest visual impact was also prepared.

Views were generated from the models that matched camera positions of photographs taken from the representative viewpoints and combined with the photographs to create simulated views of the proposal from a number of these key viewpoints.

With this appreciation of the site and the proposed development, a set of environmental design objectives were established (section 13.5.7) to guide the development of mitigation proposals during both day and night situations.

Assessment of Visual Impact

A qualitative assessment of visual impact has been undertaken for this study. The visual impact of the proposal has been primarily evaluated on the basis of a combination of two main factors, visual modification and visual sensitivity. These factors are described below along with the way in which they are combined to identify a level of visual impact.

Visual Modification

Visual modification refers to the change to the landscape that would occur as a result of the development from a given viewpoint. This includes what has changed, and how it has changed. This will be described as the extent of change and will identify elements which are removed or added, any change in colour and texture, changes in movement patterns and the amount of movement. For the purposes of this assessment, the percentage of a view that is changed as a function of distance will be considered within modification.

The following terminology will be used to describe visual modification:

Considerable reduction or improvement - Substantial part of the view is altered.

Noticeable reduction or improvement - Alteration to the view is clearly visible.

No perceived reduction or improvement - Either the development is not visible, or if it is, the change in the view is not clearly visible.

Visual Sensitivity

Visual sensitivity refers to the nature and duration of views. The level of visual sensitivity is independent of how much of the development can be seen, as this is considered as a part of visual modification. Locations from which a view would potentially be seen for a longer duration, where there are higher numbers of potential viewers and where visual amenity is important to viewers can be regarded as having a higher visual sensitivity. Residential areas are of higher visual sensitivity, for example, than industrial areas. Other areas of higher sensitivity include roads where, despite a short duration of view there are large numbers of potential viewers, and parks where the duration of views is not particularly long but where a high degree of importance is placed on visual amenity.

The following terminology will be used to describe visual sensitivity:

National visual sensitivity - Heavily experienced view to a national icon, e.g. view to Sydney Opera House from Circular Quay, view to Parliament House down Anzac Parade.

State level visual sensitivity - Heavily experienced view to a feature or landscape that is iconic to the state, e.g. views of the Brisbane River and Story Bridge from key riverbank locations.

Regional visual sensitivity - Heavily experienced view to a feature or landscape that is iconic to a city or a non-metropolitan region, or heavily used vantage point from which an entire region can be viewed. e.g. a view to Brisbane from Mt Coot-tha, view of Brisbane from approaching and departing aircraft.

Local visual sensitivity - High quality view experienced by concentrations of residents and/or local recreational users, and/or large numbers of road or rail users. e.g. views towards Moreton Bay from Hamilton Hill, views across Moreton Bay from Scarborough Pier.

Less than local visual sensitivity - Views of not particularly high quality experienced by residents, road/rail users, or from recreational areas where visual amenity is not a primary value.

Visual Impact

Visual impact for each representative viewpoint is described qualitatively on the basis of an assessment of the above factors and against the significance criteria described in section 13.3.3.

The visual assessment, based on the assessment of representative viewpoints, is then summarised for the completed project. The overall visual impact is also considered in terms of the construction process; cumulative and interactive effects, mitigation measures, and residual effects. The combination of construction and completed project impacts are then assessed.

It should be noted that visual impact is dependent on the perception of viewers. The assessment is based on the assumption that the introduction of Airport elements into a view, will in some situations have a negative effect on visual amenity. While this is a valid assumption based on experience, there will be some viewers (particularly aircraft enthusiasts) for which increased Airport visibility is a positive outcome.

Cumulative and Interactive Effects

Incorporating cumulative and interactive effects into the impact assessment widens the assessment to include not only direct effects, but collective and indirect effects.

Cumulative effects occur between projects, where the combination of effects created by multiple projects may be greater than the sum of the individual effects. Cumulative impacts between projects will be addressed based on assumptions about the likely implementation of neighbouring projects (refer section 13.4 Limitations and Assumptions).

Interactive effects refer to effects where one or more environmental variables within the overall project bring about an effect on another.

This impact will be considered as how this interaction effects the landscape and visual impact only. This separation of impact is necessary to ensure no double counting of the impact occurs. The difficulty in forecasting likely change to and from other projects over time is particularly challenging on this project, and any uncertainty will be discussed where it arises.

Mitigation Measures

Proposals to mitigate visual impacts that are not inherent in the concept design, are identified. Mitigation may be approached through techniques such as buffer planting, site planning adjustments, staging and construction methodology changes, materials and colour selection for built elements for example.

The extent of compliance with the Environmental Design Objectives will also be identified in relation to these proposed measures.

Residual Effects

The effects that remain after consideration of the proposed mitigation measures are described, and again assigned with a significance level, as described in section 13.3.3 Landscape and Visual Assessment Criteria, to follow.

13.3.3 Landscape and Visual Assessment Significance Criteria

Although there are no recognised standards for determining the significance of visual impact, there is a need to assign a significance to this assessment so that any impacts can be considered in relation to the other environmental, engineering, social and economic impacts identified in association with the proposed development. The following significance criteria have been developed specifically for this project to allow for this consistency to occur:

Significance Level	Description
Major Adverse	Any reduction in the amenity of a view of national visual sensitivity. Considerable reduction in the amenity of a view of state level visual sensitivity.
High Adverse	Noticeable reduction in the amenity of a view of state level sensitivity. Considerable reduction in the amenity of a view of regional visual sensitivity.
Moderate Adverse	Noticeable reduction in the amenity of a view of regional level visual sensitivity. Considerable reduction in the amenity of a view of local visual sensitivity.
Minor Adverse	Noticeable reduction in the amenity of a view of local level sensitivity. Considerable reduction in the amenity of a view of less than local visual sensitivity.
Negligible	No perceived reduction or improvement in the amenity of a view (although development may be visible).
Minor Beneficial	Considerable improvement in the amenity of a less than local visual sensitivity. Noticeable improvement in the amenity of a view of local visual sensitivity.
Moderate Beneficial	Considerable improvement in the amenity of a view of local visual sensitivity. Noticeable improvement in the amenity of a view of regional visual sensitivity.
High Beneficial	Considerable improvement in the amenity of a view of regional visual sensitivity. Noticeable improvement in the amenity of a view of state level visual sensitivity.
Major Beneficial	Considerable improvement in the amenity of a view of state level visual sensitivity. Any improvement in the amenity of a view of national visual sensitivity.

13.3.4 Scope

The scope of this report is structured around the consideration of the visual impacts of the development within the context of a rapidly developing region, the extent of which is described in section 13.4 Limitations and Assumptions. The assessment has been divided into a number of scenarios:

- Base - which reflects current operations.
- Do Nothing - which reflects all relevant planned projects to occur between the base case and the forecast year.
- New Parallel Runway (NPR) - which includes new runway operations and reflects all relevant planned projects to occur between base and the forecast year.

The *Do Nothing* and *NPR* scenarios are assessed at two time horizons, 2015 and 2035, to allow for the changing landscape and staged development of the project to be incorporated into the assessment. Section 13.4 Limitations and Assumptions, illustrates the assumptions that are to be made at each time horizon for both the Do Nothing, and NPR scenarios. Impacts of the NPR during construction are also discussed.

13.4 Limitations and Assumptions

The study area will undergo considerable change in the years ahead. This change will take the form of new development and redevelopments including Airport related, Australia TradeCoast and major transport infrastructure as well as a likely increase in residential density and development in line with the South East Queensland Regional Plan (2005). To separate the landscape and visual impacts of this change from the change created by the NPR, the following scenarios have been considered as being representative of the likely elements that will comprise the landscape of the study area across the impact assessable timeframes, 2015 and 2035. These assumptions are based on the implementation recommendations of the Airport Master Plan (2003) and other guiding documents such as the Gateway Upgrade Project Invitation to Tender Documents (2005), and the Australia TradeCoast web site (2005).

These guiding documents have given varying levels of certainty to these assumptions and differing levels of detail as to their descriptions of the scale, form and implementation schedules for each future project.

Project Assumptions for the 2015 Scenario

It has been assumed that the following projects, planned for the study area, will occur prior to the forecast year of 2015:

Airport related development in line with the Airport Master Plan (2003)

- Number 1 Airport Drive - including golf course, retail, commercial and office facilities to the east and west of Airport Drive.
- Da Vinci Centre.
- Additional rail station adjacent to Number 1 Airport Drive.
- Additional aircraft maintenance facilities at Aerotech Park.
- Additional freight handling capacity.
- Additional public and staff carparking facilities including remotely located facilities.
- Additional aviation support facilities.
- Business, industry and commercial developments.
- Expansion and upgrade of Airport trunk services.
- On-Airport road network upgrades associated with linkages to the completed Gateway Upgrade Project and Northern Access Road.
- Two level terminal face road system at the domestic terminal.
- Maintenance of the environmental zone (BMS) on Airport land at the Kedron Brook mouth.
- Passenger terminal expansion and apron development at both the international and domestic terminals.
- Northern Access Road to Airport from the Gateway Motorway.

Surrounding area development

- Gateway Upgrade Project (GUP) - including a new four lane motorway between the old and new Brisbane Airport sites, across Airport Drive and Kedron Brook Floodway, to reconnect with the existing Gateway Motorway south of Nudgee Road; and duplication of the Gateway bridge to the north of the existing bridge.
- Gateway Industrial Precinct.
- Chapman Place.
- Trade Coast Central.
- Eagle Farm Estate.
- Northshore Hamilton - most Port uses relocated to the Port and some urban renewal beginning to the eastern end of the site.
- TransApex Airport link.
- Extension to the Port of Brisbane of approximately 1.8 km.
- Portside Wharf and Cruise Terminal and Port Central.
- Various industrial developments on the south side of the Brisbane River will be completed, including: Colmslie Business Park / Metroplex on Gateway / Murrarie Industrial Precinct / Murrarie Business Park / Gateway Business Park / Lytton Junction Estate / Hemmant Industrial Estate / Axis Industrial Park / Portlink Industrial Park / Brisbane Marine Industry Park / Lytton Industrial Estate / and the Whyte Island Estate.

Project Assumptions for the 2035 Scenario

It has been assumed that the following projects, planned for the study area, will occur prior to the forecast year of 2035:

Airport related development in line with the Airport Master Plan (2003) at

- Airport Industrial Park.

Surrounding area development

- Extension to the Port of Brisbane.
- Northshore Hamilton.
- Port Motorway Stage 2.

13.5 Baseline

13.5.1 Visual Character of the Surrounding Area

The site lies within a mosaic of semi-natural, recreational, industrial, and residential land uses located on low lying, predominantly flat topography. The site is bound to the north by the Moreton Bay Marine Park. The Brisbane River, to the south-east of the site, runs generally west to east. The Kedron Brook Floodway runs south to north, and lies to the west of the site. Large pockets of vegetation exist in this area. The most notable of these being the Ramsar protected Boondall Wetlands to the north west, and the plantation casuarina vegetation located upon the BAC lands, including the site itself.

The site is located approximately 10 km from the centre of Brisbane, and is serviced by a number of major transport corridors. The Gateway Motorway (M1), a major arterial route, runs to the south of the site from the Gateway Bridge. This bridge rises to a height of 65 m above the Brisbane River, and is located to the south of the site. Airport Drive, running generally north south, connects from the Motorway into the Airport land and onto the Airport's domestic and international terminals. The Airtrain runs parallel to the east-west arterial road across the low lying lands surrounding the Airport, and is located primarily on embankment and structures for this reason.

The existing Airport infrastructure, which lies to the east of the proposed development site, is characterised by a broad expanse of blacktop runway and managed grassland. The Airport buildings are mainly clustered along Airport Drive, the most significant of which is the Air Traffic Control Tower, which stands proud of the surrounding buildings and vegetation to a height of 70 m.

A large complex of commercial freight centres, warehouses associated with the Airport functions, and more recently developed retail warehouse outlets occur to the east of Airport Drive. Further to the east of the site industrial uses are located along the northern side of the Brisbane River, including the BP Oil Refinery and the Luggage Point Waste Water Treatment Plant at Pinkenba. East of the River is



Figure 13.5a: Location of Study Site.

the Port of Brisbane at Fisherman Islands which protrudes some 7 km, 3.5 km of which is currently developed. The western edge of the Port of Brisbane is lined with Container Terminals which include brightly coloured cranes and stacked shipping containers.

The area to the south of the site, and west of the Gateway Motorway, are the residential suburbs of Clayfield, Albion and Hamilton. These suburbs are characterised by more elevated land and offer views both north and south, over the bay or city respectively. The main road corridor of Kingsford Smith Drive runs along the Brisbane River, connecting these areas to the Motorway.

To the north west of the site lies the Kedron Brook Floodway, and associated regional bicycle pathway and open space. The suburbs of Northgate, Banyo and Nudgee lie to the west, beyond the Gateway Motorway. The landform rises slightly in this area, with the Australian Catholic University being located on one of the highest points locally.

The Nudgee Golf Club is the nearest neighbour to the project site, located to the west of Kedron Brook and nestled in a 90 degree bend in the waterway. The Nudgee Transfer Station and Hardfill Site are located to the north of the Golf Course, and has generated an artificial landform of some elevation. This land is being regenerated with an open space corridor running west towards the Boondall Wetlands.

Further towards Moreton Bay at Nudgee Beach, there are a number of recreational areas, including a formalised boat ramp and jetty on Kedron Brook, and creekside parkland and beaches further east.

The existing visual character of the site and surrounding area is illustrated by the existing aerial photography, shown in **Figure 13.5a**: Location of the Study Site.

During night time hours, it is considered that this area falls within the *high district brightness area, ILE environmental zone E4, Town/city centres with high levels of night time activity*. There is a general sky glow throughout the area, with more intense sky glow emanating from adjacent residential areas and key industrial sites. In particular, the Port of Brisbane creates a striking glare, as it creates an intensely bright light source viewed against the relatively dark background.

13.5.2 Visual Character of the Site

The site itself is characterised by its low lying, visually flat topography, mainly densely vegetated with a casuarina plantation. The site is traversed by the remnant sections of Serpentine Creek west to east, and Jacksons Creek which links the Kedron Brook Floodway with the Serpentine Creek. Mangrove populations exist along these creeks. There is a series of Airport unsealed roads providing access throughout. An existing terminal area radar is located to the northern end of the site, beyond Serpentine Creek. At this end of the site there is also a clearing where the 14/32 runway (north west to south east) is currently located, adjacent to the seawall (**Figure 13.5b**).

The south of the site is currently visually exposed from Kedron Brook where it bends around the golf club, due to its proximity and the thinning of vegetation at this point. A landing point for hovercraft was created in the 1980s and is now disused. Somewhat in line with the southern most point of the study site, and located in the existing Airport complex along Airport Drive, is the air traffic control tower. It is the most visually prominent feature in the area, and is a useful marker of the site's location, particularly from distant views.

The slope and elevation analysis (**Figures 13.5c and 13.5d**) clearly illustrate the site's location within a predominantly broad and flat landscape. In selecting representative viewpoints of the site, it is clear that views to the site are likely to be from three key areas:

- Adjacent to the site, where vegetation and built form does not intervene.
- Across the Bay.
- From distant elevated areas to the south-west.

Further to the slope and elevation analysis, the likely visible influence of the site has been plotted using the terrain model in GIS. In this analysis the bay is highlighted as a major area from which the runway project is likely to be seen.

Upon the land, the area of visual influence is much more limited, constrained by the flatness of the landform and intervening development and vegetation. The area of visual influence over the land, however, is likely to extend south to the elevated residential areas of Hamilton and Clayfield, and west to the suburbs of Nudgee Beach and across the Bay to Shorncliffe.

During night time hours the site is currently unlit, however, some sky glow is visible above the site. The site is considered to be set within an ILE environmental zone E4, - *high district brightness area* which is described as: town/city centres with high levels of night time activity.

Figure 13.5b: Site Features.



Note: Two separate data sets were used to create this analysis. A data edge is visible where the difference in data has been encountered. The data set including the Airport and immediate surrounds is of greater accuracy and resolution.

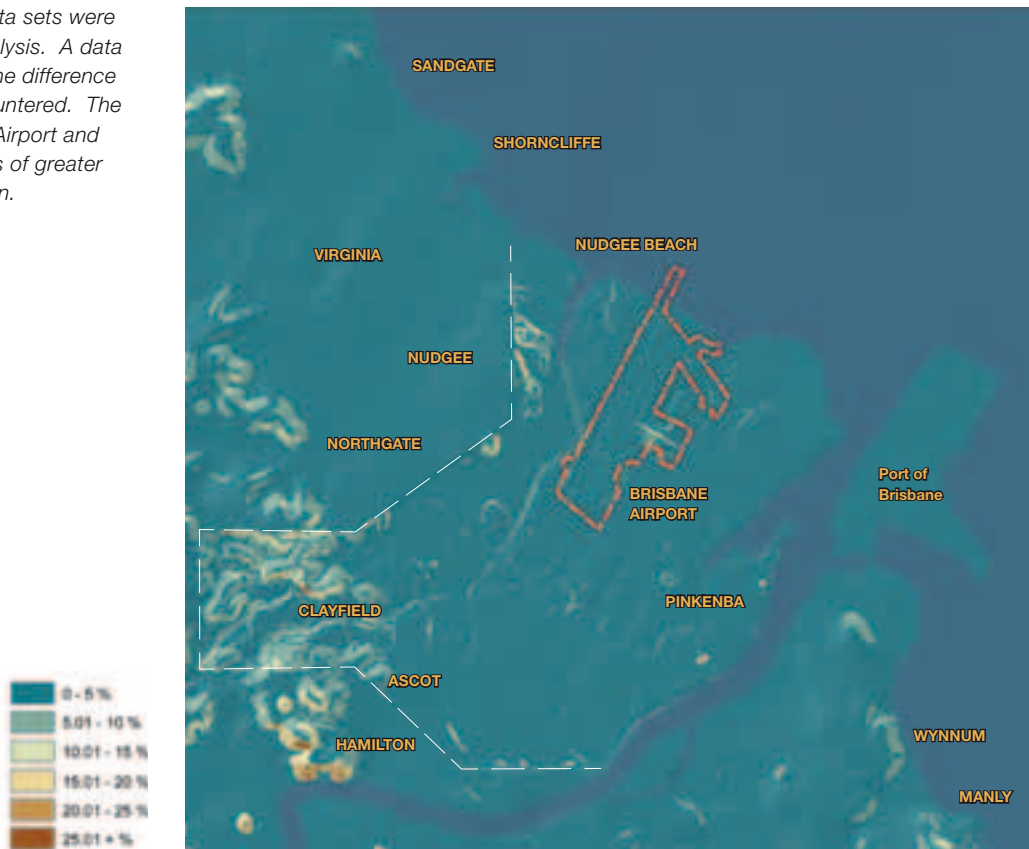


Figure 13.5c: Slope Analysis.

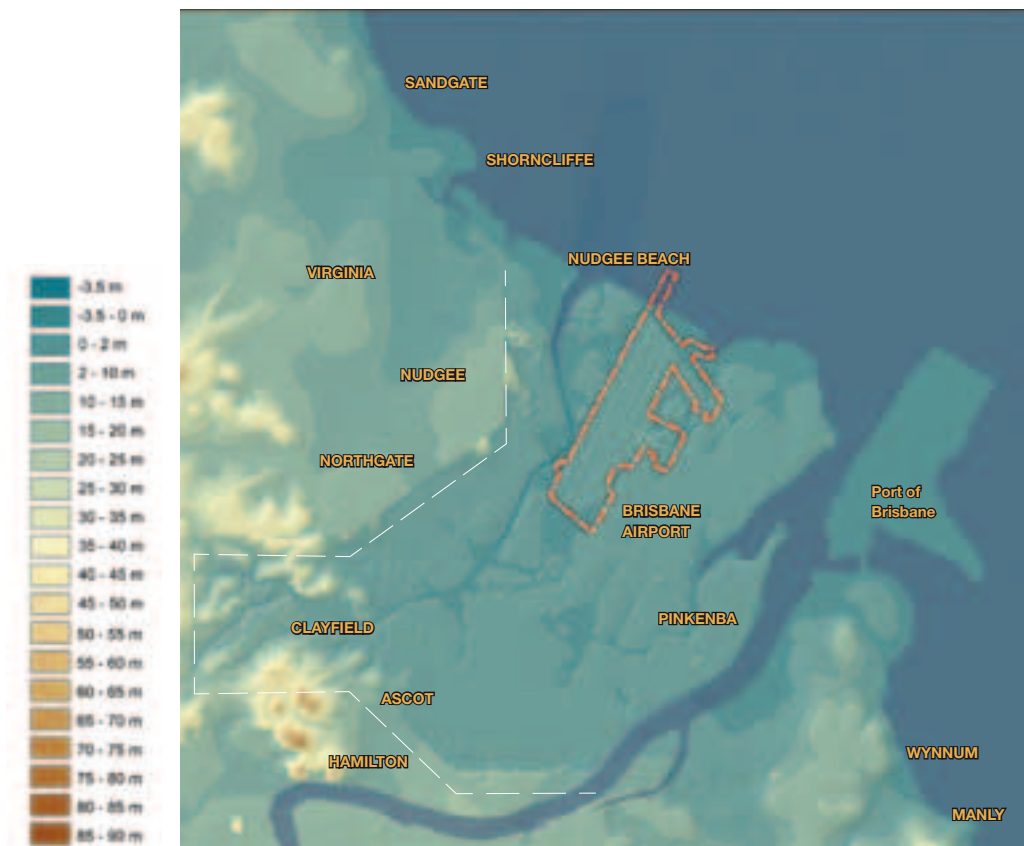


Figure 13.5d: Elevation Analysis.

13.5.3 Visual Influence of the Site - Base 2005 (Figure 3.5e)

From the north, views to the site are possible from the headland and pier at Shorncliffe. These places are popular recreational areas, however the site is difficult to distinguish at this distance. The most visible Airport related elements in this view are aircraft taking off and landing. This view also includes industrial uses, which influence the visual character of this area. The focal point of views in this location is the bay and islands, generally drawing focus away from the Airport.

At closer proximity to the site, there are views from Nudgee Beach and various recreational locations along Kedron Brook. Although in close proximity to the site, the existing Airport and site are not highly visible in these views. The control tower and aircraft movements are the main visual indicator of this nearby land use. The tails of large jet aircraft on the main runway are visible above the treeline from some locations.

At the Nudgee Transfer and Hardfill Station an elevated viewing platform has been created. From this elevated location, broad 180 degree views are possible across Kedron Brook, the site, and to the bay and islands. From this elevated location, the northern edge of the site is visible across the treetops.

To the west of the site, and at close proximity to the site boundary, parkland on the banks of Kedron Brook offer views from a pedestrian and cycle path to the site within only a few metres of its boundary. Views from the Golf Course include less of the site due to intervening vegetation located upon the course itself.

Further west, the elevated areas of Northgate and Banyo are afforded broad views over the site, which appears predominantly wooded, and the Port of Brisbane on the horizon.

To the south, at a distance of approximately 7 - 8 km from the site, the hills of Hamilton and Clayfield rise high enough to reveal unobstructed elevated views over the entire lowlands of the north-eastern suburbs including the Boondall Wetlands in the north, and the Port of Brisbane in the south. These views include a broad expanse of industrial and infrastructure land

uses, set within large areas of vegetation, and with the bay and islands visible beyond. The Airport itself is distinctive with the protruding control tower and large scale buildings, including the terminals, contrasting with surrounding vegetation.

The site is visible from the Gateway Bridge within the context of 180+ degree views over eastern Brisbane. It is also possible to see the arrival and departure of aircraft intermittently from this location. Although being significantly elevated, the site comprises a small component of a broad view. This view is only available within the context of moving vehicles, and is a transient view due to the 80 km/hr speed of traffic moving across the bridge. Northbound vehicle users are more likely to view the site than southbound vehicle users as the view tends to be in front (and to the right).

From the Brisbane River, in the south, there are a range of views to the site. At the river mouth a number of industrial elements on the northern bank of the river feature in the foreground of these views toward the Airport and site.

The site is visible to some extent from most parts of Moreton Bay. As the distance from the shore increases, the northern most edge of the Airport site appears as a continuous vegetated edge. The control tower is visible protruding above the vegetated edge of the Airport land. The site becomes imperceptible from Moreton Bay at between 10 km and 20 km. It is also possible to see the arrival and departure of aircraft to and from the Airport intermittently from the bay. Although the area over which views are possible is expansive, the number of users is relatively low. The duration of such views would also be limited as although viewers are typically involved in recreational activity, the site would comprise a small part of a view in which there is a range of visually prominent elements, such as the CBD skyline, Port of Brisbane, and the bay islands.



Shorncliffe Pier.

During night time hours, the site is visible from those areas discussed that are publicly accessible at night. For example, the Nudgee Golf Course is unlikely to be used at night. However the clubhouse is used to some extent. People at other locations may have night time viewing opportunities, such as residents, those fishing from on the bay and beaches at night, and students attending night lectures at ACU. Due to the lack of lighting, however, the site generally has a low night time visibility.

Air traffic can be viewed as it flies overhead and when it passes through views to the site. These views are therefore transient, typically of short duration and viewed at varying distances. Air traffic typically moves on a generally north-east to south-west axis approaching and departing from the main runway (01/19). This means that a considerable amount of air traffic will be viewed across the Bay or along a corridor to the south-west along the runway axis. A smaller number of flights mainly (only non-jet aircraft), arrive and depart roughly parallel to the coastline in line with the cross-runway (14/32). These movements create a corridor to the north-west along the runway axis.



Distant CBD views from Moreton Bay.

It can be generally assumed that the greater the distance from the Airport, the higher aircraft will be and therefore the less visually prominent these aircraft are in views toward them.

These patterns of movement are relatively consistent, but alter day to day according to weather conditions. For example, in poor weather aircraft will all use an instrument arrival approach, which is more consistent, whereas in other times the approach is visual and therefore more varied.

At night the lights of the arriving and departing aircraft will be visible in the view. The frequency of air traffic at night is also less.

Figure 13.5e: Visual Influence of the Site.



 The area from which the site may theoretically be seen, based on topographic data.

13.5.4 Visual Influence of the Site - Do Nothing, 2015

From the north the visual influence of the site will not change due to the additional development anticipated in the 2015 Scenario. The context of the site will, however, change quite significantly.

Views toward the site from the Shorncliffe headland and pier will include the extended Port of Brisbane development at Fishermans Island, which will be visually prominent at both day and night time. From Nudgee Beach and various recreational locations along Kedron Brook, views will continue to be to the vegetated lands along the banks of the Kedron Brook Floodway during the day, however at night, the additional development which will have occurred upon the Airport site will create additional sky glow above the Airport site, and surrounding industrial areas.

From the elevated locations to the west, such as at the ACU and viewing platform at the Nudgee Transfer and Hardfill Station, considerable change

in the view will be perceived. The development of the western Airport lands including Export Park West, and Banksia Place and the Northern Access Road will change the character of part of this view, from vegetated to, large scale development. Beyond Airport Drive, the developments of the Airport and additional development at Trade Coast Central will create a continuous extent of industrial scale development and associated infrastructure. The upgraded Gateway Motorway will be visible following its new alignment through the Airport lands and meeting with the duplicated Gateway Bridge on the horizon. The extended Port of Brisbane will also be visible protruding into the bay. At night this will be a more intensely lit environment across all of the new development areas, particularly at the Port.

In the south west, from the hills of Hamilton and Clayfield, the site will remain visible across areas of new industrial and commercial development. This additional development would include the developments proposed for the western areas of the

Airport lands and upgrades to the existing international and domestic terminals, new access roads and the new rail station, as well as those developments proposed at Trade Coast Central and along the northern bank of the Brisbane River. The upgraded Gateway Motorway will cut across this panorama. The extension to the Port will also be visible toward the horizon. At night these new development areas will be brightly lit so that they seem more continuous across the middle ground of this view.

In the 2015 scenario, there may be some additional view points created between the Airport and the CBD. The development of Northshore Hamilton with its residential towers and the Portside cruise ship terminal are likely to include some elevated public areas from which the site may be visible within a context of development similar to that visible from the hills of Hamilton.

From the Gateway Bridge the Airport and proposal site will continue to be a small component of a broad view that will include a considerable extent of new development across the Airport lands and old Airport sites, as well as the upgraded Gateway Motorway corridor and new Gateway Bridge. Again, at night this view will be more intensely lit, with a number of infill sites developed and occupied.

From the Brisbane River, some parts of the view to the site may be obscured by intervening development at Aerotech Park. From the Bay, however, views to the site will remain relatively unchanged, with the extension to the Port, both during the day and at night, being the most notable change within this stretch of the coast.

13.5.5 Visual Influence of the Site - Do Nothing, 2035

Again in the 2035 Scenario, the visual influence of the site will not alter significantly. Based on the assumptions listed in section 13.4, the context within which the site is viewed will have only changed slightly from that observed within the 2015 scenario.

Some of the developments identified within the Brisbane Airport Master Plan and the Australia Trade Coast development plans will be completed in this timeframe, and will be perceived as a further filling in of areas within this major development area.

Visible in views from a number of locations, the Port of Brisbane will have been extended and developed to the limit of the seawall. This development will be a visually prominent element within views during both day and night time hours.

13.5.6 Selection of Representative Viewpoints

The GIS based viewshed analysis described in section 13.3.2, was undertaken to determine the potential visual influence of the site. Site inspections were subsequently undertaken within the area of potential visual influence to identify the location and nature of major views to the site. Nineteen points were then selected as representative of the range of views that occur now and will occur once the project is complete.

The representative viewpoints are locations where a reduction in visual amenity would have some visual impact either because of the duration of the view (such as views from residential areas), the importance of visual amenity to the experience of the location (such as recreational areas) or where there are large numbers of potential viewers (such as busy roads). The location of these representative viewpoints is shown in **Figure 13.5f**.

Photographs have been taken from all locations during daylight hours, and from selected locations at night. View 17 is taken in the vicinity of the preferred location identified for the dredge pump-out at Luggage Point.

The visual impact from each representative viewpoint is evaluated in section 13.8.1.

13.5.7 Environmental Design Objectives

Considering the visual influence of the site, generally and from the representative viewpoints, the following Environmental Design Objectives have been identified to guide the development of proposals for measures to mitigate the likely landscape and visual impacts. These objectives are:

- Retain and enhance as much vegetation along the western boundary of the site as possible;
- Minimise extent of bare sand during construction through establishment of cover crops on surcharge areas;
- Minimise light spill from the site;
- Reduce the extent of vegetation removal required for the dredge pipelines and associated access road infrastructure. Rehabilitate the dredge pipe corridor upon completion of dredging; and
- Locate construction infrastructure (including site sheds, concrete plant, asphalt plant, topsoil stockpiles and machinery) in areas of low visibility.

13.6 Consultation

While no formal consultation has been required with state agencies, visual aspects of the project have been raised as part of the Working Group process (refer Volume A).

13.7 Policies and Guidelines

Brisbane Airport Environment Strategy, Brisbane Airport Corporation, 2004

The Environment Strategy identifies objectives and actions under a range of what it terms “Environmental Elements”. Visual amenity is not included as an environmental element.

Brisbane Airport Master Plan, Brisbane Airport Corporation, 2003

This Master Plan outlines the BAC’s vision for the Airport as an Airport City. This master plan includes the provision of:

- Additional Airport Facilities such as the new parallel runway, terminal area development, Airport services and facilities, airfield operational services, airline support facilities, services and utilities, management, administration and commercial buildings.
- Surface Transport.
- Business and Industry Land Development, including the Domestic and International Terminal Precincts, Export Park - international air freight precinct, Banksia Place - express freight and apron operations, Aerotech Park - Aviation maintenance, Airport Industrial Park - industry, and Number 1 Airport Drive - business, retail and Airport centre.

The Master Plan provides a strategy for the Airport’s growth for the period 2003 to 2023, including the implementation of the NPR.

Brisbane Airport Landscape Masterplan, Brisbane Airport Corporation, 2005

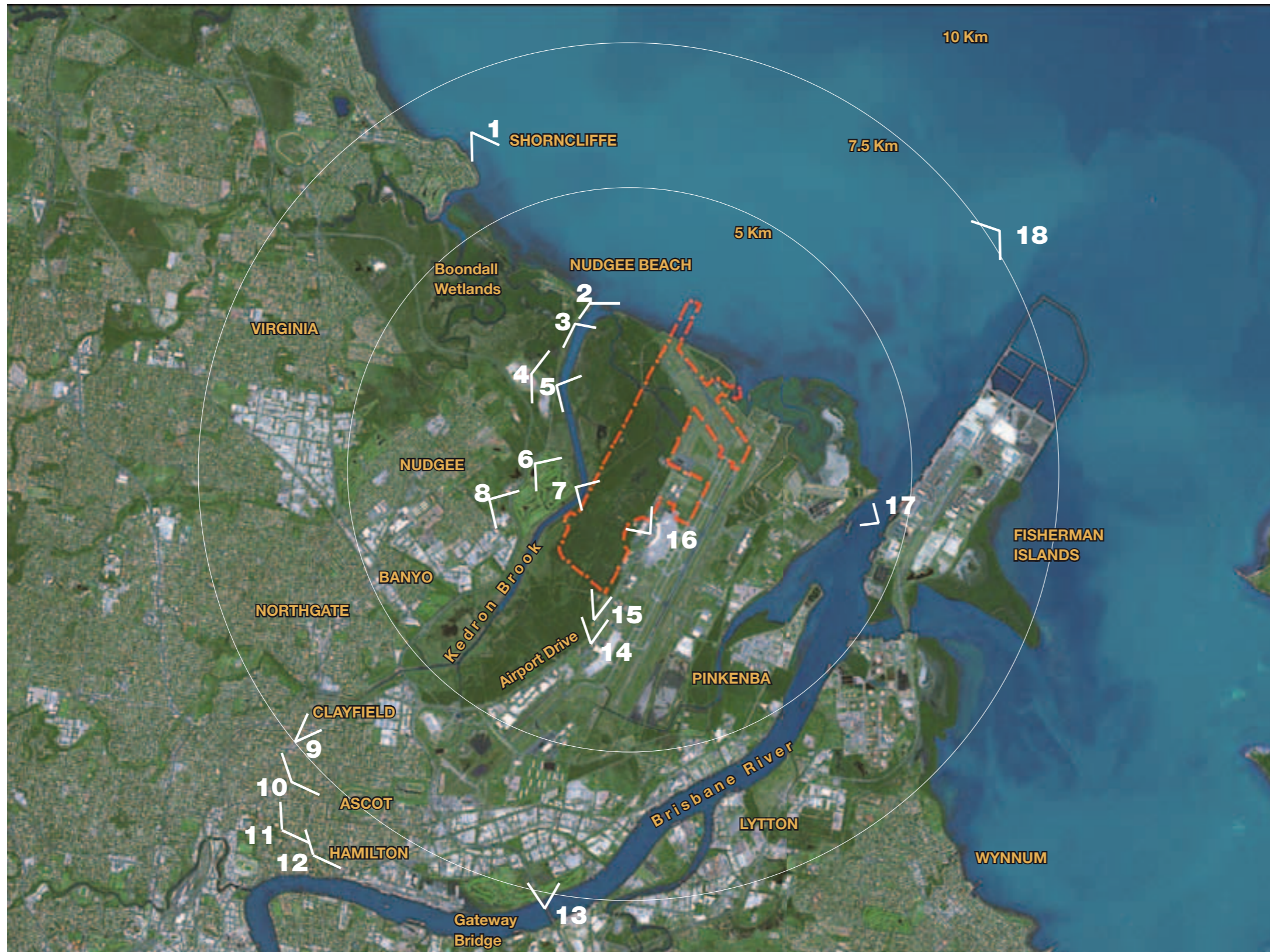
The Landscape Master Plan has been developed to ensure a consistent and considered landscape approach to the various precincts of development identified within the Airport Master Plan. BAC’s vision for the landscape of the Airport lands is that it has a uniquely Queensland character.

The Landscape Master Plan in connection with the Brisbane Airport Biodiversity Management Strategy contains specific recommendations regarding the maintenance and enhancement of wetland areas identified as being environmentally significant under the Airport Environment Strategy 2004. These areas, at Jacksons Creek and at Serpentine Inlet, are outside the development footprint of the NPR and will be retained free of development in the long term providing for both an ecological and visual buffer.

Brisbane Airport Landscape Design Guidelines, Brisbane Airport Corporation, 2005

These Landscape Guidelines set the minimum standards that will be applied across the leasehold and BAC land as the Airport Master Plan is implemented. These guidelines have been written to ensure that landscape issues are considered early in the design process and a consistent quality is achieved. There are no specific provisions regarding the NPR site.

Figure 13.5f: Representative Viewpoint Locations



- View 1 Shorncliffe Pier, view south
- View 2 Nudgee Beach, view south
- View 3 Tuckeroo Park, view south
- View 4 Nudgee Transfer Station lookout, view east
- View 5 Nudgee Boat Ramp, view east
- View 6 Nudgee Golf Course club house, view east
- View 7 Kedron Brook Path, view east
- View 8 Australian Catholic University, view south east
- View 9 Sandgate Road, Clayfield
- View 10 Enderley Street Clayfield, view north
- View 11 Sykes Street Clayfield, view north
- View 12 Lawes Street Clayfield, view north
- View 13 Gateway Bridge, northbound
- View 14 Airtrain Station, International Airport, view north
- View 15 Airport Drive, view north
- View 16 Domestic Terminal Long Term Carpark, view north west
- View 17 Luggage Point
- View 18 Main shipping channel, view west
- View 19 Mt Coot-tha
(not shown on **Figure 13.5f**)

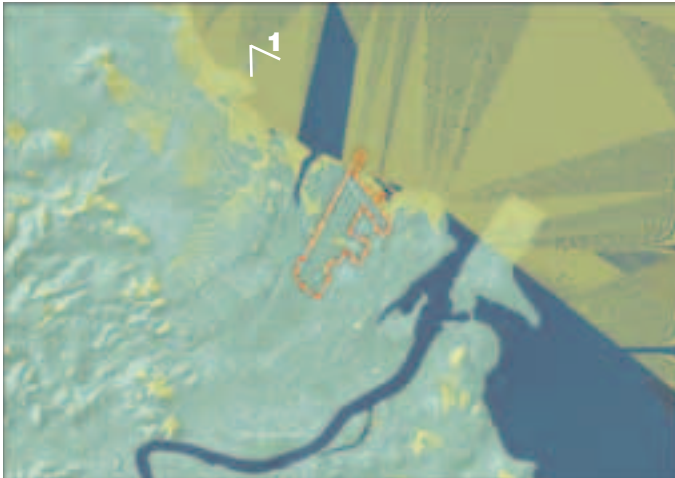
South East Queensland Regional Plan 2005-2026, Queensland Government - Office of Urban Management, 2005

This Plan identifies the Queensland Government's policy on the acknowledgement, protection and management of significant scenic amenity. Areas of high scenic amenity with outstanding natural beauty, identified within this plan, includes the Moreton Bay Islands.

13.8 Assessment

13.8.1 Assessment of Representative Viewpoints

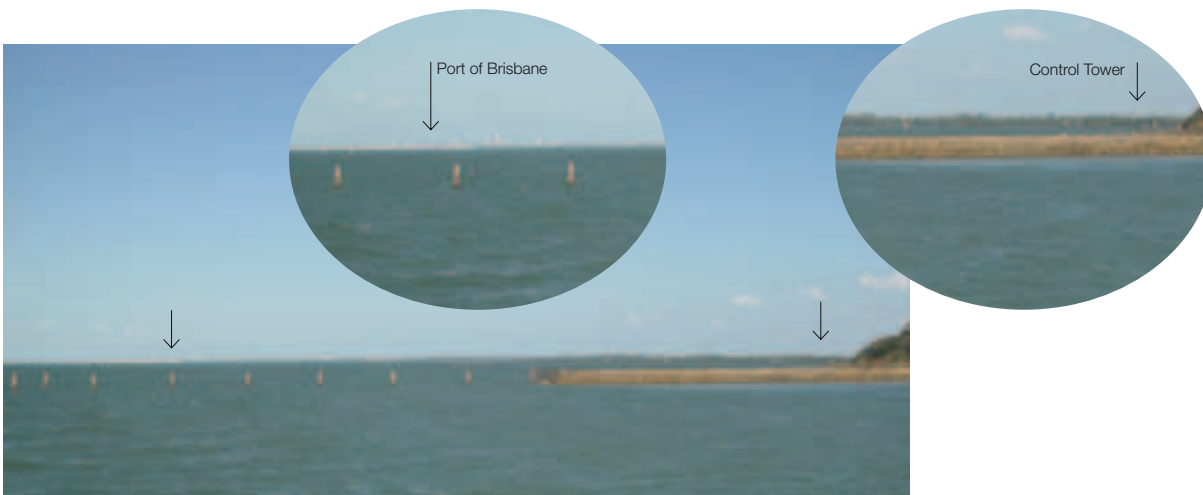
The following assessment of visual impact identifies impacts from each of the 19 representative viewpoints. Construction, cumulative and interactive impacts are discussed in more general terms after the evaluation of representative viewpoints. Mitigating measures and the residual environmental impacts (impacts occurring after the implementation of mitigating measures) are similarly discussed at the end of this section.



Zone of Visual Influence.



Existing Night Time View.



Existing View.



Photographic Simulation with Landing Light Structure Visible.

Location	Shorncliffe Pier, view south east
Viewing Distance	6 - 7 km from the study site
BASE 2005	
Visual Condition	<p>Views south-east from the Shorncliffe pier include the existing Airport in the distant background. The existing runway lies in parallel to this view, however, only the control tower and the cleared easternmost edge of the existing runway are visible due to intervening vegetation on the BAC site.</p> <p>The arrival and departure of aircraft across the bay can be seen intermittently from this location. The Airport and associated air traffic are viewed within the context of the Port of Brisbane, which, although being located at a greater distance from this location than the Airport, is more visually prominent due to the scale and brightly coloured cranes which rise above this site.</p> <p>During hours of darkness the lights of the Airport are barely perceptible at this distance. Aircraft are visible taking off and landing across the Bay. The visual prominence of these elements is diminished by the intense glow and relatively large cluster of lights surrounding the Port of Brisbane to the east of the Airport.</p>
Visual Sensitivity	<p>Local sensitivity level.</p> <p>The sensitivity of this view relates to its recreational and scenic qualities, with views across Moreton Bay. Shorncliffe Pier is a local landmark and is heavily used as a recreational facility either for walking/viewing the bay, or for fishing. The duration of these views is variable depending on the recreational activity being undertaken, but are generally of long duration.</p>
DO NOTHING 2015	
Visual Modification	It is likely that this view in 2015 will include additional development of the Port of Brisbane at Fishermans Island, of some 750 m in length toward the existing seawall, and associated light sources.
Visual Sensitivity	It is assumed that the function of Shorncliffe Pier will be substantially the same in 2015. Increased population in the Brisbane metropolitan area may create higher use levels and therefore slightly higher sensitivity. The level of sensitivity would still be regarded as <i>local</i> .
DO NOTHING 2035	
Visual Modification	It is likely that this view in 2035 will include the completed Port of Brisbane expansion (to the existing seawall) at Fishermans Island, and associated light sources.
Visual Sensitivity	It is assumed that the function of Shorncliffe Pier will be substantially the same in 2035. Increased population in the Brisbane metropolitan area may create higher use levels and therefore slightly higher sensitivity. The level of sensitivity would still be regarded as <i>local</i> .
NEW PARALLEL RUNWAY 2015	
Visual Modification	The only element of the New Parallel Runway project that will be visible will be the landing light structure that is located in Moreton Bay to a point approximately 660 m offshore. The view from the pier will be at approximately right angles to the structure, which will most likely be just discernible. The structure will be backdropped by the coastline elements in the vicinity of the mouth of the Brisbane River, including wetlands and the Port of Brisbane. Nautical navigation lights would be visible from the structure at night.
Visual Sensitivity	It is assumed that the function of Shorncliffe Pier will be substantially the same in 2015. Increased population in the Brisbane metropolitan area may create higher use levels and therefore slightly higher sensitivity. The level of sensitivity would still be regarded as <i>local</i> .
NEW PARALLEL RUNWAY 2035	
Visual Modification	The visual condition in 2035 will be largely the same as in 2015, except that the landing light structure will be viewed in the context of further extension to the Port of Brisbane and therefore more industrial elements in the landscape.
Visual Sensitivity	It is assumed that the function of Shorncliffe Pier will be substantially the same in 2035. Increased population in the Brisbane metropolitan area may create higher use levels and therefore slightly higher sensitivity. The level of sensitivity would still be regarded as <i>local</i> .
VISUAL IMPACT	The likely visual impact from Shorncliffe Pier is regarded as <i>negligible*</i> for day and night views for both the 2015 and 2035 scenarios, based on there being no perceived reduction or improvement in the amenity of the view.

* Refer to section 13.3.3 for an explanation of visual impact significance criteria



Zone of Visual Influence.



Existing View, East to South-East.



Existing View, South-East to South.

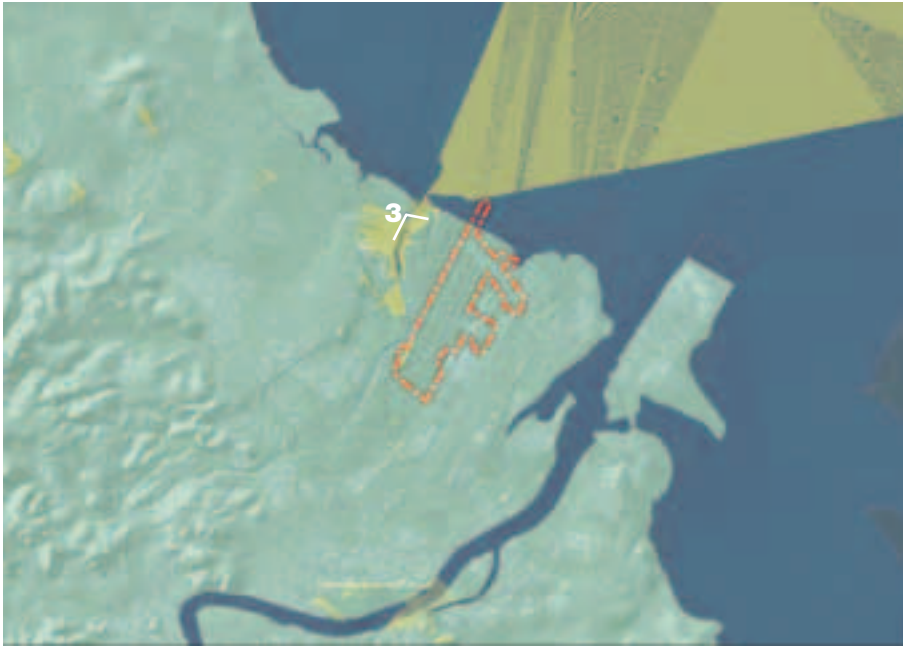
Location	Nudgee Beach, south east (this view from land adjacent to the Kedron Brook Floodway)
Viewing Distance	Approximately 1.7 km from the study site
BASE 2005	
Visual Condition	<p>The Airport is located beyond Kedron Brook and existing vegetation which comprise the middle ground of this view. The length of the existing main runway lies in parallel to this view, however, only the control tower, just distinguishable in the distance and not protruding significantly above the treeline, is visible due to intervening vegetation within the BAC site. Kedron Brook bends to an east-west alignment creating a view corridor in the direction of the western part of the development. The arrival and departure of aircraft across the bay can be seen intermittently from this location, traveling mainly to and from the east.</p> <p>At night, lit recreational facilities along Kedron Brook, sky glow above the Airport and from the Port of Brisbane beyond, would be visible above the darkness of the vegetation. The flickering point lights will be visible on aircraft arriving and departing across the view.</p>
Visual Sensitivity	<p><i>Local</i> sensitivity level.</p> <p>The sensitivity of this view relates to the high levels of use of Nudgee Beach for recreational activities and the importance of visual amenity to these recreational users. These views would typically be of long duration.</p>
DO NOTHING 2015	
Visual Modification	It is likely that this view in 2015 will not include additional visible elements during daylight hours. At night there will be additional skyglow visible above the site due to the extent of additional development which has occurred as a part of the Airport Masterplan and new major developments beyond the intervening vegetation.
Visual Sensitivity	It is assumed that the role of Nudgee Beach will be similar in 2015 to 2005 and that it will therefore have a similar level of visual sensitivity. Some increased recreational use may occur as a result of population increases and future upgrades of facilities, however it is anticipated that the sensitivity level will still fall within the definition of <i>local</i> .
DO NOTHING 2035	
Visual Modification	It is likely that in 2035 this view will include no additional visible elements during daylight hours. It is also anticipated that the additional skyglow from further development in areas beyond the intervening vegetation will not create a perceptible change in the view.
Visual Sensitivity	It is assumed that the role of Nudgee Beach will be similar in 2035 to 2005 and that it will therefore have a similar level of visual sensitivity. Some increased recreational use may occur as a result of population increases and future upgrades of facilities; however it is anticipated that the sensitivity level will still fall within the definition of <i>local</i> .
NEW PARALLEL RUNWAY 2015	
Visual Modification	<p>Several hundred metres of the northern end of the landing light structure will be visible from Nudgee Beach once the runway construction is complete. While not a dominant feature on the landscape, it will be clearly visible and is likely to detract slightly from the visual amenity of the view. Aircraft movements will also be clearly visible and considerably more prominent than those experienced in 2005, associated with the existing runways. With the conversion of the 14/32 cross runway into a taxiway, aircraft movements in this direction will cease.</p> <p>Nautical safety lights on the landing light structure will be clearly visible at night along with aircraft movements. This will be viewed in the context of some additional skyglow from nearby development.</p>
Visual Sensitivity	It is assumed that the role of Nudgee Beach will be similar in 2015 and that it will therefore have a similar level of visual sensitivity. Some increased recreational use may occur as a result of population increases and future upgrades of facilities, however it is anticipated that the sensitivity level will still fall within the definition of <i>local</i> .
NEW PARALLEL RUNWAY 2035	
Visual Modification	There are no anticipated changes that would make the visual condition in 2035 different to 2015, other than the night time view of the landing light structure and aircraft movements being in the context of slightly higher levels of skyglow.
Visual Sensitivity	It is assumed that the role of Nudgee Beach will be similar in 2035 and that it will therefore have a similar level of visual sensitivity. Some increased recreational use may occur as a result of population increases and future upgrades of facilities, however it is anticipated that the sensitivity level will still fall within the definition of <i>local</i> .
VISUAL IMPACT	The likely visual impact from Nudgee Beach is regarded as <i>minor adverse*</i> during the day for both the 2015 and 2035 scenarios, as there would be a noticeable reduction in the amenity of a view of a local sensitivity level. Night time impacts would be negligible as there would not be a perceptible reduction in the amenity of the view.

* Refer to section 13.3.3 for an explanation of visual impact significance criteria



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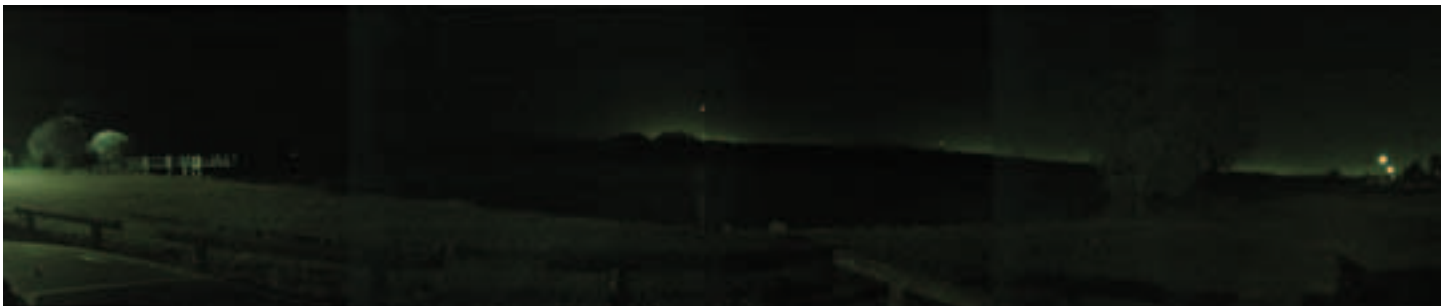
VIEW 3: Tuckeroo Park, view south east



Zone of Visual Influence.



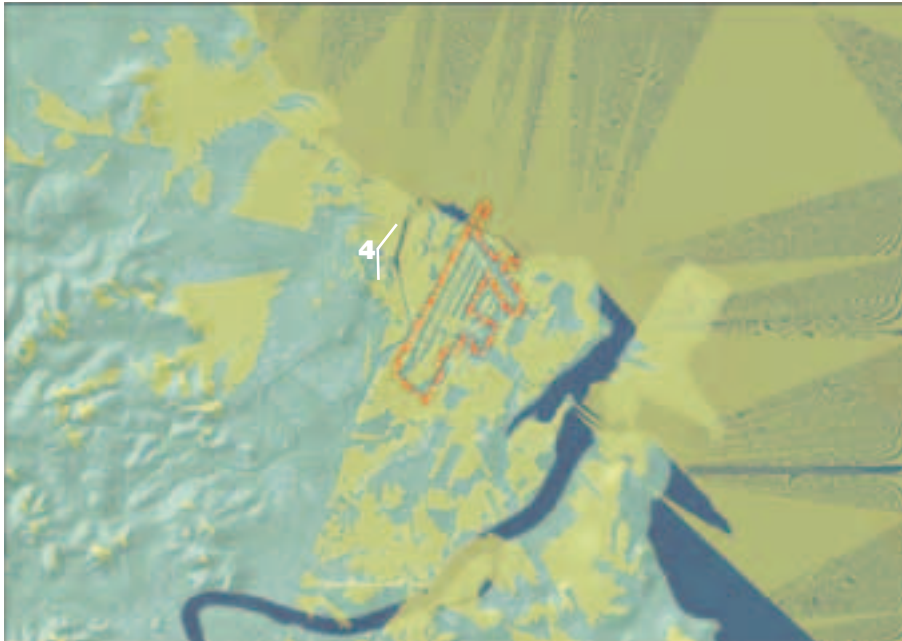
Existing Daytime View.



Existing Night Time View.

Location	Tuckeroo Park, view south east
Viewing Distance	Approximately 1.5 km from the study site
BASE 2005	
Visual Condition	<p>The Airport is located beyond Kedron Brook and existing vegetation comprising the middle ground of this view. The length of the runway lies in parallel to this view, however, only the control tower, just distinguishable in the distance and not protruding significantly above the treeline, is visible due to intervening vegetation on the BAC site. Kedron Brook bends to an east-west alignment providing a view corridor in the direction of the western part of the site. The site is not visible along this corridor, however, other elements are visible such as the Nudgee Transfer Station, boat ramp, jetty and car parking facilities, and a series of power lines. The arrival and departure of aircraft, traveling across the centre of this view, from the east and west can be seen intermittently from this location.</p> <p>At night the car parking area located within this park is brightly lit. A number of areas of sky glow are visible above the darkness of the existing vegetation on the Airport site, across Kedron Brook. A light source is visible at the control tower to the west, and the flickering point source lights of aircraft moving across the view are also visible.</p>
Visual Sensitivity	<p>Local sensitivity level.</p> <p>The sensitivity of this view relates to the high levels of use of Tuckeroo Park for recreational activities (primarily fishing and use of the dog off-leash area) and the importance of visual amenity to these recreational users. Despite the proximity to the Airport site, this location has a limited visual exposure to this adjacent landuse. Views would typically be of long duration due to this area's use for recreational purposes. Minimal use reduces the sensitivity of this view at night.</p>
DO NOTHING 2015	
Visual Modification	It is likely that this view in 2015 will include no additional visible elements during daylight hours. At night there will be additional skyglow visible above the site due to the extent of additional development which has occurred as a part of the Airport Masterplan and new major developments beyond the intervening vegetation.
Visual Sensitivity	It is assumed that the role of Tuckeroo Park will be similar in 2015 and that it will therefore have a similar level of visual sensitivity. Some increased recreational use may occur as a result of population increases and future upgrades of facilities, however it is anticipated that the sensitivity level will still fall within the definition of <i>local</i> .
DO NOTHING 2035	
Visual Modification	It is likely that in 2035 this view will include no additional visible elements during daylight hours. It is also anticipated that the additional skyglow from further development in areas beyond the intervening vegetation will not create a perceptible change in the view.
Visual Sensitivity	It is assumed that the role of Tuckeroo Park will be similar in 2035 to 2005 and that it will therefore have a similar level of visual sensitivity. Some increased recreational use may occur as a result of population increases and future upgrades of facilities, however it is anticipated that the sensitivity level will still fall within the definition of <i>local</i> .
NEW PARALLEL RUNWAY 2015	
Visual Modification	The view upstream along Kedron Brook from Tuckeroo Park will change marginally with the tops of aircraft on the runway visible above the tree line. Vegetation clearance will be obscured by the remaining vegetation. The landing light structure is likely to be obscured by intervening coastline. Aircraft ground movements and takeoffs/landings will be clearly visible at night. Despite the visibility of the development, its lack of prominence on the view suggests that there would be no perceived reduction in visual amenity from Tuckeroo Park.
Visual Sensitivity	It is assumed that the role of Tuckeroo Park will be similar in 2015 to 2005 and that it will therefore have a similar level of visual sensitivity. Some increased recreational use may occur as a result of population increases and future upgrades of facilities, however it is anticipated that the sensitivity level will still fall within the definition of <i>local</i> .
NEW PARALLEL RUNWAY 2035	
Visual Modification	There are no anticipated changes that would make the visual condition from Tuckeroo Park in 2035 different to 2015, other than the night time view of the aircraft movements being in the context of slightly higher levels of skyglow.
Visual Sensitivity	It is assumed that the role of Tuckeroo Park will be similar in 2035 to 2005 and that it will therefore have a similar level of visual sensitivity. Some increased recreational use may occur as a result of population increases and future upgrades of facilities; however it is anticipated that the sensitivity level will still fall within the definition of <i>local</i> .
VISUAL IMPACT	The likely visual impact from Tuckeroo Park is regarded as <i>negligible</i> * during day and night for both the 2015 and 2035 scenarios, based on there not likely to be a perceived reduction or improvement in the amenity of the view.

* Refer to section 13.3.3 for an explanation of visual impact significance criteria



Zone of Visual Influence.



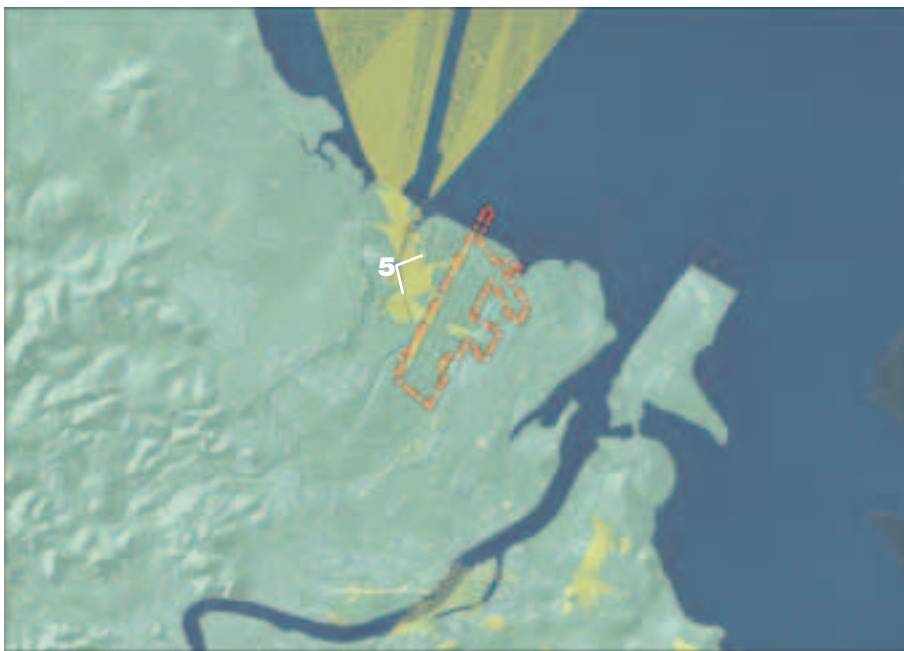
Existing View.



Photographic Simulation Showing New Parallel Runway.

Location	Nudgee Transfer Station lookout, view east
Viewing Distance	Approximately 1.5 km from the study site
BASE 2005	
Visual Condition	<p>This elevated view is directed over the Nudgee Transfer Station, across Kedron Brook to the BAC land to the oil refinery and Port of Brisbane on the horizon. The Airport control tower is visible to the right hand side of this view, beyond a stockpile, protruding above the vegetation of the Airport site.</p> <p>The arrival and departure of aircraft, from the north and south, travelling across the centre of this view can be seen intermittently from this location. The tops of large aircraft can be seen on the main runway and taxiways.</p> <p>The night scene from this location includes a general sky glow above the existing Airport; the lights of the Kedron Brook boat ramp in the middleground; a point source of light at the control tower to the east; and the flickering point source lights on aircraft moving across the view. The visual prominence of these elements, however, are diminished by the intense glow and relatively long length of lights along the Brisbane River, including the Port of Brisbane, oil refinery, and warehousing buildings.</p>
Visual Sensitivity	<p>Local sensitivity level.</p> <p>This viewpoint is sensitive as it is located within a recreational use area, in a location designed for viewing out and over the surrounding landscape to areas including the Airport, Kedron Brook and across the Bay. These views would typically be appreciated over a long duration and accessible to a range of viewers as it is located within parkland adjacent to a regional bicycle path.</p>
DO NOTHING 2015	
Visual Modification	It is likely that this view in 2015 will include a number of new elements in areas to the centre and right, mid to background. These will include development in the western Airport lands such as Export Park West and Banksia Place, the Northern Access Road and the new Gateway Motorway alignment. In the centre of this view, further development of the Port of Brisbane, approximately 750 m in length toward the existing seawall, will be visible on the horizon. At night all of these elements will be lit, particularly the Port of Brisbane, which will be dominant in this view.
Visual Sensitivity	The Nudgee Landfill is being progressively rehabilitated and converted to recreational uses. It is likely that this recreation area will have higher usage in 2015 than 2005 and therefore higher visual sensitivity. With intensive development of recreation facilities, it is possible that the visual sensitivity could increase to a level that could be described as <i>regional</i> , however it is more likely that the sensitivity level in 2015 will be <i>local</i> .
DO NOTHING 2035	
Visual Modification	It is likely that in 2035 some further development will have occurred on the right of this view, however, it will not be perceptible at this distance. Additional development at the Port of Brisbane, to the existing seawall, will be visible behind the centre of the site and will be brightly lit at night.
Visual Sensitivity	It is likely that the visual sensitivity will remain at a <i>local</i> level in 2035, unless there is intensive development of recreation facilities.
NEW PARALLEL RUNWAY 2015	
Visual Modification	The new runway will be relatively prominent in the view from this location, the elevated position allowing views across much of the site. The removal of vegetation could also be expected to open up views to parts of the existing Airport.
Visual Sensitivity	The Nudgee Landfill is being progressively rehabilitated and converted to recreational uses. It is likely that this recreation area will have higher usage in 2015 than 2005 and therefore higher visual sensitivity. With intensive development of recreation facilities, it is possible that the visual sensitivity could increase to a level that could be described as <i>regional</i> , however it is more likely that the sensitivity level in 2015 will be <i>local</i> .
NEW PARALLEL RUNWAY 2035	
Visual Modification	The new runway would have the same prominence in 2035 as in 2015, but will be seen in the context of a slightly more industrialised landscape with the further extension to the Port of Brisbane.
Visual Sensitivity	It is likely that the visual sensitivity will remain at a <i>local</i> level in 2035, unless there is intensive development of recreation facilities.
VISUAL IMPACT	The likely visual impact from the Nudgee Transfer Station viewing is regarded as <i>minor adverse*</i> for both the 2015 and 2035 scenarios, as there would be a noticeable reduction in the amenity of a view of a local sensitivity level. Likely visual impact at night is regarded as negligible based on there being no perceived reduction in visual amenity.

* Refer to section 13.3.3 for an explanation of visual impact significance criteria



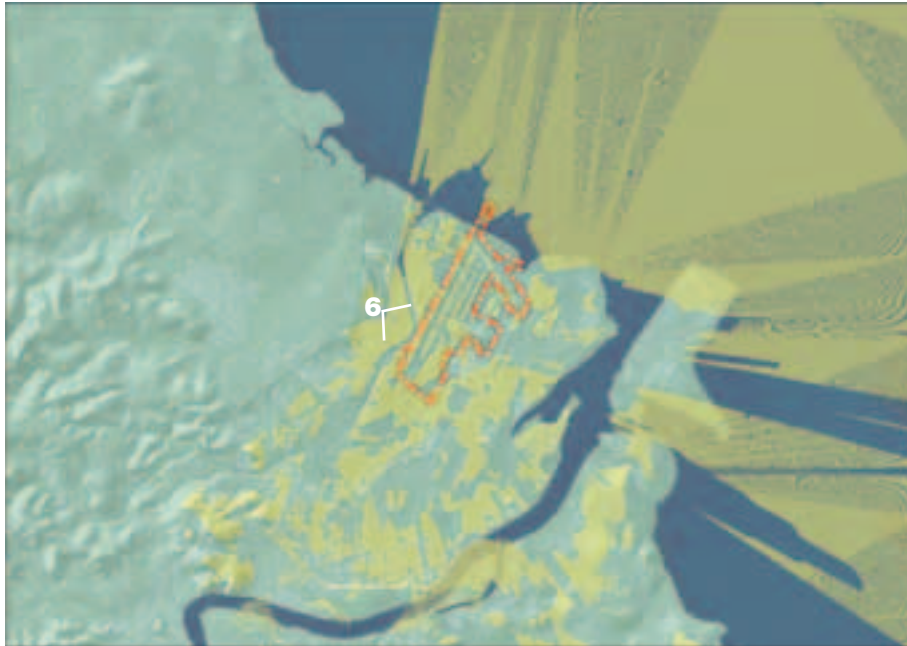
Zone of Visual Influence.



Existing View.

Location	Nudgee Boat Ramp, view east
Viewing Distance	Approximately 1.5 km from the study site
BASE 2005	
Visual Condition	<p>The Airport is located beyond Kedron Brook and existing vegetation comprising the middle ground of this view. The existing runway lies behind vegetation in the centre and left of this view. However, only the control tower, distinguishable in the distance above the treeline, is visible due to intervening vegetation within the BAC site. Kedron Brook bends to an east-west alignment creating a view corridor to where the site comes closest to the waterway. The arrival and departure of aircraft, from the north and south, travelling across the centre of this view can be seen intermittently from this location.</p> <p>At night the car parking area located adjacent to this boat ramp is brightly lit. Sky glow is visible above the darkness of the existing vegetation on the eastern bank of Kedron Brook. A light source is visible at the control tower to the east, and the flickering point source lights of aircraft moving across the view would also be visible.</p>
Visual Sensitivity	<p>Local sensitivity level.</p> <p>The sensitivity of this view relates to this location's recreational and scenic qualities. The location is less remote than at the mouth of the Kedron Brook with carparking and amenity facilities. Views would typically be of long duration for people using the reserve for fishing or picnicking, while a large number of people come to the reserve to use the boat ramp and therefore are subject to shorter duration views.</p>
DO NOTHING 2015	
Visual Modification	It is likely that this view in 2015 will include no additional visible elements during daylight hours. At night there will be additional skyglow visible above the site due to the extent of additional development which has occurred on Airport land and new major nearby developments beyond the intervening vegetation.
Visual Sensitivity	It is assumed that the role of the Nudgee Boat Ramp and associated reserve will be similar in 2015 and that it will therefore have a similar level of visual sensitivity. Some increased recreational use may occur as a result of population increases and future upgrades of facilities, however it is anticipated that the sensitivity level will still fall within the definition of <i>local</i> .
DO NOTHING 2035	
Visual Modification	It is likely that in 2035 this view will include no additional visible elements during daylight hours, it is also anticipated that the additional skyglow from further development in areas beyond the intervening vegetation will not create a perceptible change in the view compared to 2015.
Visual Sensitivity	It is assumed that the role of the Nudgee Boat Ramp and associated reserve will be similar in 2035 to 2005 and that it will therefore have a similar level of visual sensitivity. Some increased recreational use may occur as a result of population increases and future upgrades of facilities, however it is anticipated that the sensitivity level will still fall within the definition of <i>local</i> .
NEW PARALLEL RUNWAY 2015	
Visual Modification	The new runway will be visible approximately 1.8 km east of the Nudgee Boat Ramp at the point where the runway is closest to Kedron Brook. The remainder of the runway elements will be obscured by retained vegetation within the site. Aircraft taking off and landing will be prominent with the tops of aircraft on the ground visible above the trees. Some runway lights may be visible at night in the distance, while the lights of aircraft taking off and landing will be prominent. There is not anticipated to be a noticeable change in visibility at this location due to the small component of the view that will comprise the new runway and associated vegetation clearing.
Visual Sensitivity	It is assumed that the role of the Nudgee Boat Ramp and associated reserve will be similar in 2015 and that it will therefore have a similar level of visual sensitivity. Some increased recreational use may occur as a result of population increases and future upgrades of facilities, however it is anticipated that the sensitivity level will still fall within the definition of <i>local</i> .
NEW PARALLEL RUNWAY 2035	
Visual Modification	The new runway and associated elements will have essentially the same prominence within a similar landscape context in 2035 as in 2015.
Visual Sensitivity	It is assumed that the role of the Nudgee Boat Ramp and associated reserve will be similar in 2035 to 2005 and that it will therefore have a similar level of visual sensitivity. Some increased recreational use may occur as a result of population increases and future upgrades of facilities, however it is anticipated that the sensitivity level will still fall within the definition of <i>local</i> .
VISUAL IMPACT	The likely visual impact from Nudgee Boat Ramp is regarded as negligible* during day and night for both the 2015 and 2035 scenarios, based on there not likely to be a perceived reduction or improvement in the amenity of the view.

* Refer to section 13.3.3 for an explanation of visual impact significance criteria



Zone of Visual Influence.



Existing View.

Location	Nudgee Golf Course clubhouse, view south east
Viewing Distance	Approximately 1.5 km from the study site
BASE 2005	
Visual Condition	<p>This elevated view looks over the Nudgee Golf Course towards the Airport. Views to the Airport site are blocked by mature intervening vegetation located within the golf course. The Airport control tower is visible protruding above this vegetation, in the centre of this view. The arrival and departure of aircraft from the north and south, travelling across the centre of this view can be seen intermittently.</p> <p>At night there would be a general sky glow visible above the darkness of the existing Airport site beyond the Golf Course. A light source on the control tower and the flickering point source lights of aircraft moving across the view would also be visible.</p>
Visual Sensitivity	<p>Local sensitivity level.</p> <p>The sensitivity of this view relates to the role of the clubhouse as a recreational and social hub and therefore its high level of use. Many views would be of long duration due to this area's use as a social gathering place. The clubhouse is subject to higher levels of use at night than other recreation related viewpoints in the area.</p>
DO NOTHING 2015	
Visual Modification	It is likely that this view in 2015 will include no additional visible elements during daylight hours, at night there will be additional skyglow visible above the site due to the extent of additional development which has occurred on Airport land and new major nearby developments beyond the intervening vegetation.
Visual Sensitivity	The Nudgee Golf Course clubhouse is likely to perform a similar role in 2015 as in 2005. If there are future expansions of the clubhouse, use levels may increase however visual sensitivity would be expected to remain at the <i>local</i> level.
DO NOTHING 2035	
Visual Modification	It is likely that in 2035 this view will include no additional visible elements during daylight hours, it is also anticipated that the additional skyglow from further development in areas beyond the intervening vegetation will not create a perceptible change in the view.
Visual Sensitivity	The Nudgee Golf Course clubhouse is likely to perform a similar role in 2035 as in 2005. If there are future expansions of the clubhouse, use levels may increase however visual sensitivity would be expected to remain at the <i>local</i> level.
NEW PARALLEL RUNWAY 2015	
Visual Modification	A small component of the vegetation clearing associated with the new runway may be visible from the clubhouse, however this will be largely obscured by the golf course vegetation. Aircraft movements will be prominent at both day and night. Runway elements are unlikely to be visible at night.
Visual Sensitivity	The Nudgee Golf Course clubhouse is likely to perform a similar role in 2015 as in 2005. If there are future expansions of the clubhouse, use levels may increase however visual sensitivity would be expected to remain at the <i>local</i> level.
NEW PARALLEL RUNWAY 2035	
Visual Modification	The only likely change in visibility of the runway between 2035 and 2015 would be due to increased extent of trees on the golf course resulting in further screening.
Visual Sensitivity	The Nudgee Golf Course clubhouse is likely to perform a similar role in 2035 as in 2005. If there are future expansions of the clubhouse, use levels may increase however visual sensitivity would be expected to remain at the <i>local</i> level.
VISUAL IMPACT	The likely visual impact from Nudgee Golf Course clubhouse is regarded as negligible* during day and night for both the 2015 and 2035 scenarios, based on there not likely to be a perceived reduction or improvement in the amenity of the view.

* Refer to section 13.3.3 for an explanation of visual impact significance criteria



Zone of Visual Influence.



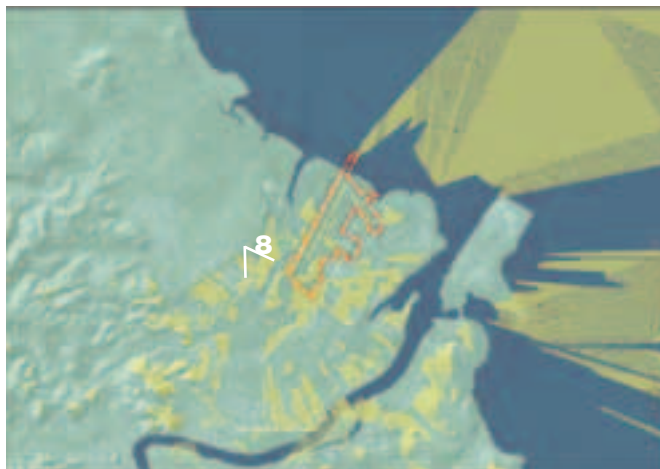
Existing View.



Photographic Simulation Showing New Parallel Runway and Existing Airport in the Background.

Location	Kedron Brook Path, view south east
Viewing Distance	Approximately 150 m from the study site
BASE 2005	
Visual Condition	<p>The study site is in close proximity to this view (approximately 150 m to the site boundary), and is visible in the middle ground through breaks in the intervening mangrove vegetation. The Airport control tower is just visible through a dip in the canopy line of site vegetation. The arrival and departure of aircraft, from the north and south, travelling across the centre of this view can be seen intermittently from this location.</p> <p>At night there would be a general sky glow visible above the darkness of the existing Airport site. A light source on the control tower and the flickering point source lights of aircraft moving across the view will also be visible.</p>
Visual Sensitivity	<p>Local sensitivity level.</p> <p>This viewpoint is sensitive due to its function as part of a recreational corridor. Most views would typically be of moderate duration with the majority of viewers being cyclists using the Nundah to Nudgee bike path. The location is also accessible for fishing activities. People golfing in the adjacent Nudgee Golf Course also experience this view. Few people visit this area at night, suggesting a <i>less than local</i> sensitivity level at this time.</p>
DO NOTHING 2015	
Visual Modification	It is likely that this view in 2015 will include no additional visible elements during daylight hours, at night there will be additional skyglow visible above the site due to the extent of additional development which has occurred as part of the Airport Masterplan and new major developments beyond the intervening vegetation.
Visual Sensitivity	There is likely to be a steady increase in the use of the Nundah to Nudgee bike path due to increase population and increased facilities and promotion of the corridor. This will increase its visual sensitivity but would not take it beyond the <i>local</i> level of significance.
DO NOTHING 2035	
Visual Modification	It is likely that in 2035 this view will include no additional visible elements during daylight hours, it is also anticipated that the additional skyglow from further development in areas beyond the intervening vegetation will not create a perceivable change in the view.
Visual Sensitivity	Further increases in use of the bike path and golf course will increase visual sensitivity but not beyond the <i>local</i> level of significance.
NEW PARALLEL RUNWAY 2015	
Visual Modification	The runway will be the dominant feature in the view from this location. Aircraft will be similarly prominent, both day and night. The clearing of vegetation will also open up views to the existing Airport, particularly the domestic terminal and long term car park. While prominent at night, there would not be an noticeable reduction in visual amenity.
Visual Sensitivity	There is likely to be a steady increase in the use of the Nundah to Nudgee bike path due to increased population, facilities and promotion of the corridor. This will increase its visual sensitivity but would not take it beyond the <i>local</i> level of significance.
NEW PARALLEL RUNWAY 2035	
Visual Modification	The prominence of the runway and other Airport elements is likely to be essentially the same in 2035 as in 2015. Future development in the area will not be visible (other than increases in skyglow at night) and will not change the context of the view.
Visual Sensitivity	Further increases in use of the bike path and golf course will increase visual sensitivity but not beyond the <i>local</i> level of significance.
VISUAL IMPACT	The likely visual impact at this Section of the Kedron Brook Path is regarded as <i>moderate adverse*</i> during the day for both the 2015 and 2035 scenarios based on there being a considerable reduction in the amenity of a view of local significance. The likely visual impact at night for the 2015 and 2035 scenarios is regarded as negligible based on there being no perceived reduction in visual amenity.

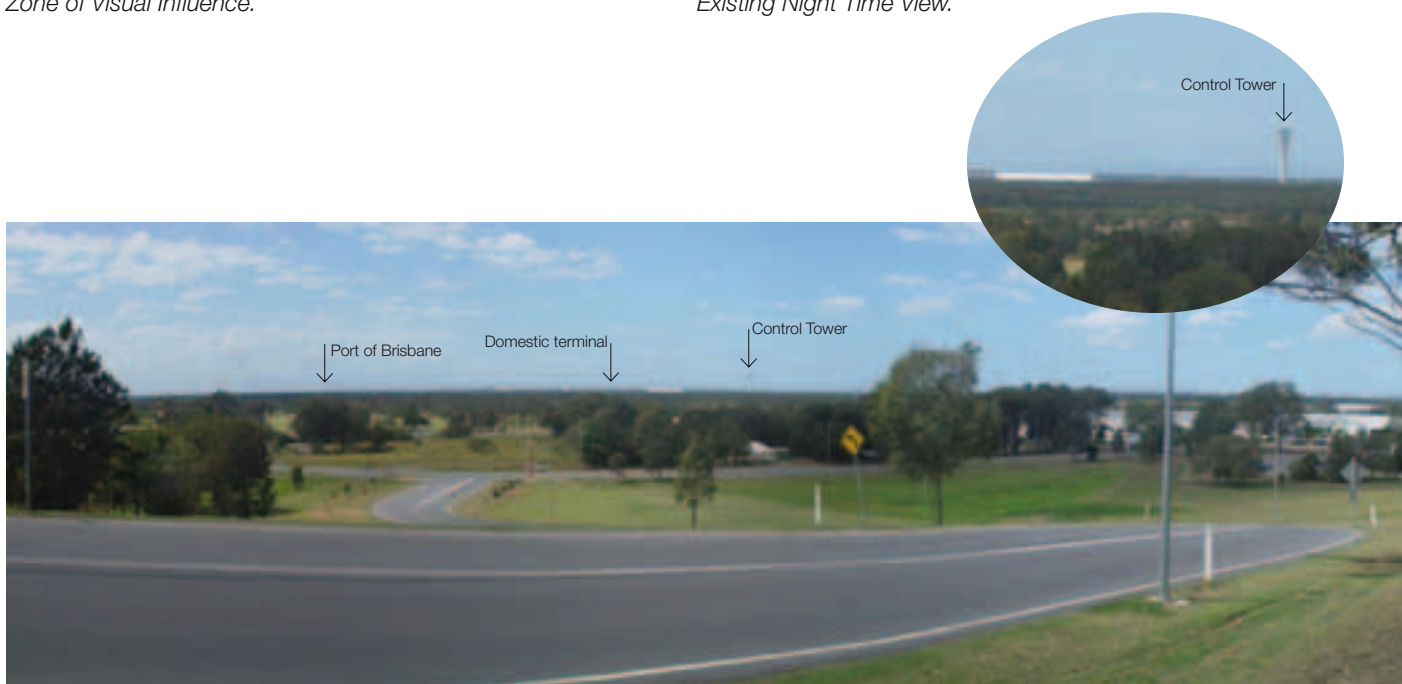
* Refer to section 13.3.3 for an explanation of visual impact significance criteria



Zone of Visual Influence.



Existing Night Time View.



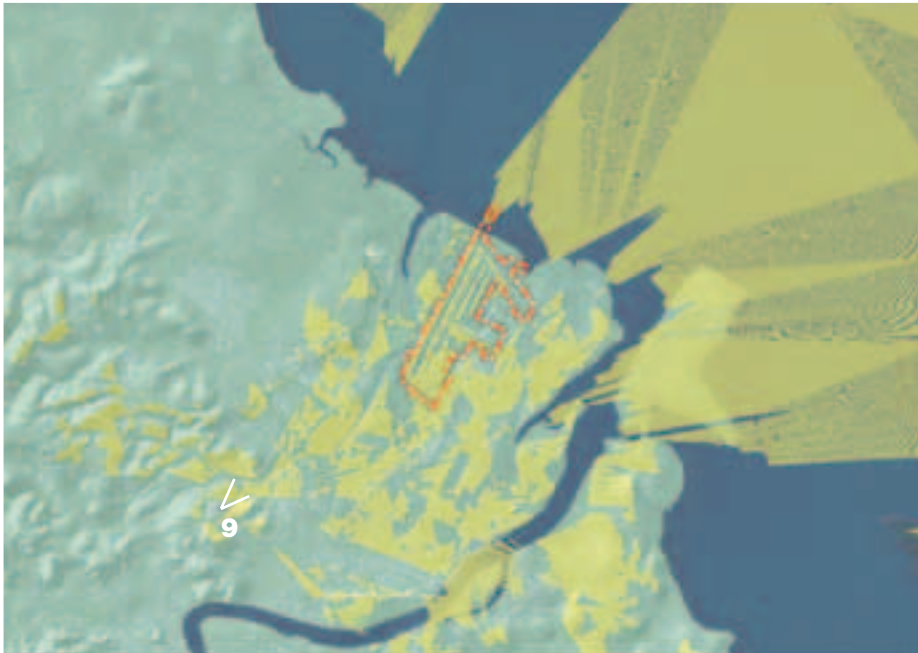
Existing Daytime View.



Photographic Simulation Showing New Parallel Runway and Existing Airport in the Background.

Location	Australian Catholic University, view south east
Viewing Distance	Approximately 2 km from the study site
BASE 2005	
Visual Condition	<p>This elevated view is from the car park of the Australian Catholic University. It represents the most expansive view towards the site from the Australian Catholic University Campus. It includes a broad panorama comprising predominantly vegetation in the middle to background. On the Airport, the control tower, domestic and international terminals are visible above this vegetation. The international terminal and parts of the domestic terminal are visually prominent due to their contrasting white colour. Beyond the existing Airport this view includes the Port of Brisbane and the BP Oil Refinery, which are visible on the horizon. The arrival and departure of aircraft from the north and south, travelling across the centre of this view can be seen intermittently from this location.</p> <p>The night scene from this location includes a general sky glow above the existing Airport and a strong line of lights along the Brisbane River including the intensely lit Port of Brisbane; oil refinery; industrial and warehousing buildings. The flickering point source lights on aircraft moving across the view are visible as well as a point source light on the control tower. In the foreground the car parking and roads in this area, including the Gateway Motorway and a service centre, are brightly lit.</p>
Visual Sensitivity	<p>Local sensitivity level.</p> <p>Views would typically be of short duration, but are accessible to a range of viewers as it is available from the carpark of a busy University Campus. Visual amenity is of some importance in this situation. The use levels are lower at night than during the day, however there is still some activity in this area.</p>
DO NOTHING 2015	
Visual Modification	It is likely that this view in 2015 will include a number of new elements across this view. These will include development in the western Airport lands including Export Park West and Banksia Place, the Northern Access Road and most notably the new Section of the Gateway Motorway. The Gateway upgrade will run across the view and adjacent to the existing area of the Motorway which is currently visible in the middleground of this view. Further development at the Port of Brisbane will also be visible on the horizon. At night all of these elements will be lit, particularly the Port of Brisbane and Gateway Motorway which will dominate this view.
Visual Sensitivity	It anticipated that this view will have a similar visual sensitivity level in 2015 as 2005. If the campus expands there would be more viewers and a greater visual sensitivity, but the view would remain at a <i>local</i> sensitivity level.
DO NOTHING 2035	
Visual Modification	It is likely that in 2035 some further development will have occurred within the western Airport lands and surrounding area, however, these will not be perceptible at this distance. Additional development at the Port of Brisbane, to the existing seawall, will be visible on the horizon, and will be brightly lit at night.
Visual Sensitivity	Further slight increase in sensitivity may occur with increased student and staff numbers, however the view would remain at a <i>local</i> sensitivity level.
NEW PARALLEL RUNWAY 2015	
Visual Modification	The New Parallel Runway development will result in the clearing of large areas of vegetation that are currently in this view. This will open up the view to a range of Airport elements including the new runway itself and associated air traffic movements, as well as a greater proportion of the domestic terminal and car park than can currently be seen. Overall the Airport will be considerably more prominent in the view. The increased prominence of the Airport however will be in the context of a range of new development which will decrease visual amenity, most importantly, the upgraded Gateway Motorway. There would be no perceptible change in visual amenity at night due to the large number of surrounding light sources.
Visual Sensitivity	It anticipated that this view will have a similar visual sensitivity level in 2015 as 2005. If the campus expands there would be more viewers and a greater visual sensitivity, but the view would remain at a <i>local</i> sensitivity level.
NEW PARALLEL RUNWAY 2035	
Visual Modification	It is not anticipated that the visual condition will change greatly between 2015 and 2035, however the view will have an increased industrial context with the further extension to the Port of Brisbane.
Visual Sensitivity	Further slight increase in sensitivity may occur with increased student and staff numbers, however the view would remain at a <i>local</i> sensitivity level
VISUAL IMPACT	The likely visual impact from the Australian Catholic University is <i>minor adverse*</i> for the 2015 and 2035 scenarios, based on there being a noticeable reduction in amenity of a view of local significance. The likely visual impact at night for the 2015 and 2035 scenarios is regarded as <i>negligible</i> based on there being no perceived reduction in visual amenity.

* Refer to section 13.3.3 for an explanation of visual impact significance criteria



Zone of Visual Influence.



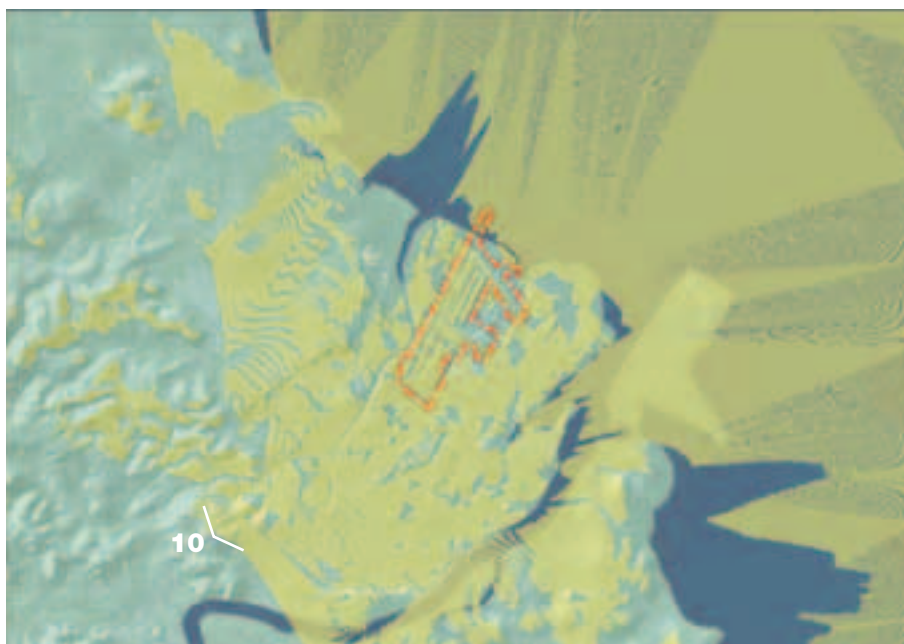
Existing View.



Photographic Simulation Showing New Parallel Runway and Existing Airport in the Background.

Location	Sandgate Road, Clayfield, view north east
Viewing Distance	Approximately 7 - 8 km from the study site
BASE 2005	
Visual Condition	<p>The existing landscape viewed from this elevated Section of Sandgate Road includes a brief glimpse of a broad expanse of industrial and infrastructure land uses in a location just before the road and this view sinks below the surrounding commercial and residential character areas in the foreground. The Airport itself is distinctive with the control tower and large scale buildings of the terminals quite prominent in the view. The site is visible in front and adjacent to the existing Airport facilities and comprises the tree tops of casuarina plantations. These elements are viewed beyond a large swathe of vegetation, visually separating the viewpoint from the Airtrain viaduct and the light poles of the East-West Arterial Road in the middle ground. The arrival and departure of aircraft are visible intermittently from this location.</p> <p>The night view from this location would include a general sky glow above the existing Airport, a spot of light on the control tower, and flickering point source lights on aircraft arriving and departing from the Airport. Arterial road and local street lights create a brightly lit environment around the viewer.</p>
Visual Sensitivity	<p><i>Local</i> sensitivity level.</p> <p>This view is brief and at some distance from the site. It is however a focused view, framed between the commercial buildings on Sandgate Road and there are high numbers of viewers (vehicle users traveling east on Sandgate Road).</p>
DO NOTHING 2015	
Visual Modification	The western Airport lands, visible in front of the control tower in this view, will be developed and likely be visible in 2015. This includes Export Park West and Banksia Place, the Northern Access Road and the new Gateway Motorway alignment which will run across the view. At night these areas will be lit.
Visual Sensitivity	Increases in traffic on Sandgate Road will slightly increase the sensitivity of the view. The sensitivity would not go beyond the <i>local</i> level however.
DO NOTHING 2035	
Visual Modification	It is likely that in 2035 some further development will have occurred within the western Airport lands and surrounding area, however, these will not be perceptible at this distance.
Visual Sensitivity	Slight increases in sensitivity will continue to occur with higher traffic levels, however the sensitivity would not go beyond the <i>local</i> level.
NEW PARALLEL RUNWAY 2015	
Visual Modification	Clearance of vegetation will result in more of the existing Airport elements becoming visible, particularly in the vicinity of the domestic terminal. While visible, these elements will not be prominent in the view and will be seen in the context of increased urban development and road infrastructure.
Visual Sensitivity	Increases in traffic on Sandgate Road will slightly increase the sensitivity of the view. The sensitivity would not go beyond the <i>local</i> level however.
NEW PARALLEL RUNWAY 2035	
Visual Modification	The context of the view may change slightly between 2015 and 2035, with further development of the western Airport lands. The prominence of Airport related elements is likely to be largely the same.
Visual Sensitivity	Slight increases in sensitivity will continue to occur with higher traffic levels, however the sensitivity would not go beyond the <i>local</i> level.
VISUAL IMPACT	The likely visual impact from this Section of Sandgate Road is regarded as <i>negligible*</i> during day and night for both the 2015 and 2035 scenarios due to there being no perceived reduction in the amenity of the view.

* Refer to section 13.3.3 for an explanation of visual impact significance criteria



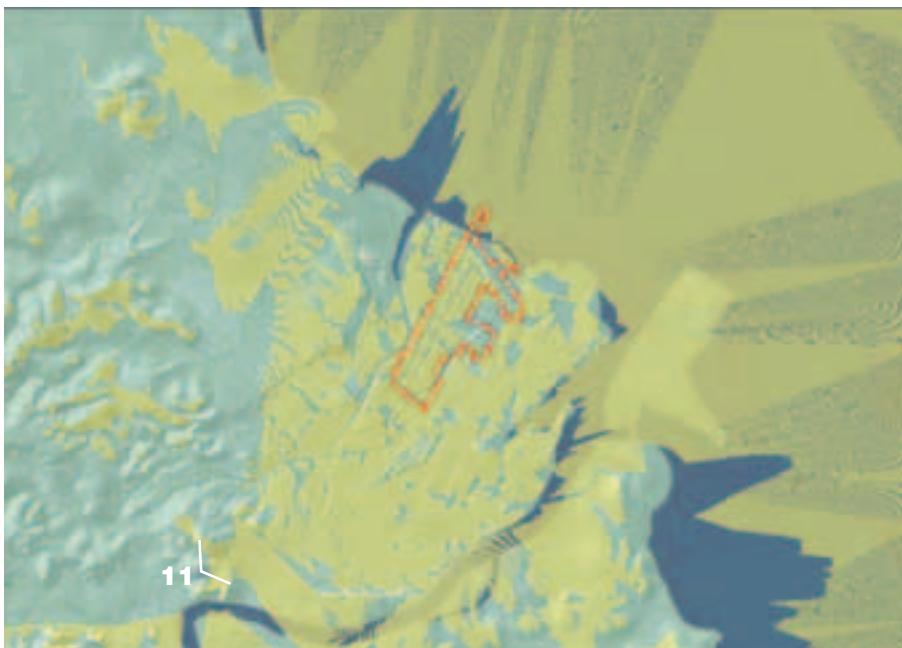
Zone of Visual Influence.



Existing View.

Location	Enderley Street Clayfield, view north east
Viewing Distance	Approximately 7 - 8 km from the study site
BASE 2005	
Visual Condition	<p>The existing landscape viewed from this elevated residential street comprises a broad expanse of industrial and infrastructure land uses, residential character areas in the foreground, and the Moreton Bay beyond. The Airport itself is distinctive with the control tower, and the domestic terminal being prominent in the view. These elements are viewed beyond a large swathe of vegetation, visually separating the viewpoint from the industrial area of Eagle Farm in the foreground. This view is glimpsed through local vegetation and between houses, however it offers a clear view over the existing Airport, and proposed runway site. Many of the houses in the vicinity of this view would have more direct views towards the site. The arrival and departure of aircraft are visible intermittently from this location.</p> <p>The night view from this location would include a general sky glow above the existing Airport, a spot of light on the control tower, and flickering point source lights on aircraft arriving and departing from the Airport. Brightly lit industrial areas exist in front of the Airport, and local street lights create a generally lit environment around the viewer.</p>
Visual Sensitivity	<p><i>Local</i> sensitivity level.</p> <p>The visual sensitivity of this location derives from it being in a residential area, where visual amenity is important and where residents are subject to long duration views.</p>
DO NOTHING 2015	
Visual Modification	The western Airport lands, visible in front of the control tower in this view, will be developed and likely be visible in 2015. This includes Export Park West and Banksia Place, the Northern Access Road and the new Gateway Motorway alignment which will run across the view. At night these areas will be lit.
Visual Sensitivity	The sensitivity of this view would be expected to be the same in 2015 as in 2005, as the number of viewers and the duration of the views is unlikely to change.
DO NOTHING 2035	
Visual Modification	It is likely that in 2035 some further development will have occurred within the western Airport lands and surrounding area, however, these will not be perceptible at this distance.
Visual Sensitivity	The sensitivity of this view would be expected to be the same in 2035 as in 2005, as the number of viewers and the duration of the views is unlikely to change.
NEW PARALLEL RUNWAY 2015	
Visual Modification	Vegetation clearance for the new parallel runway will result in a noticeable change in the view and reduction in visual amenity in the vicinity of this view, particularly from houses that have an unobstructed view towards the Airport and Moreton Bay. The new runway and a greater proportion of existing Airport structures will be visible. The view will be in the context of additional changes due to future development such as the Gateway Motorway upgrade. There would be no noticeable reduction in visual amenity at night, given the large number of surrounding light sources.
Visual Sensitivity	The sensitivity of this view would be expected to be the same in 2015 as in 2005, as the number of viewers and the duration of the views is unlikely to change.
NEW PARALLEL RUNWAY 2035	
Visual Modification	Further development may change the context of the view slightly by 2035. The visibility of the development and the remainder of the Airport will be essentially the same.
Visual Sensitivity	The sensitivity of this view would be expected to be the same in 2035 as in 2005, as the number of viewers and the duration of the views is unlikely to change.
VISUAL IMPACT	The likely visual impact from this location is regarded as <i>minor adverse</i> * for both the 2015 and 2035 scenarios due to there being a noticeable reduction in the amenity of a view of local significance. The likely visual impact at night for the 2015 and 2035 scenarios is regarded as <i>negligible</i> based on there being no perceived reduction in visual amenity.

* Refer to section 13.3.3 for an explanation of visual impact significance criteria



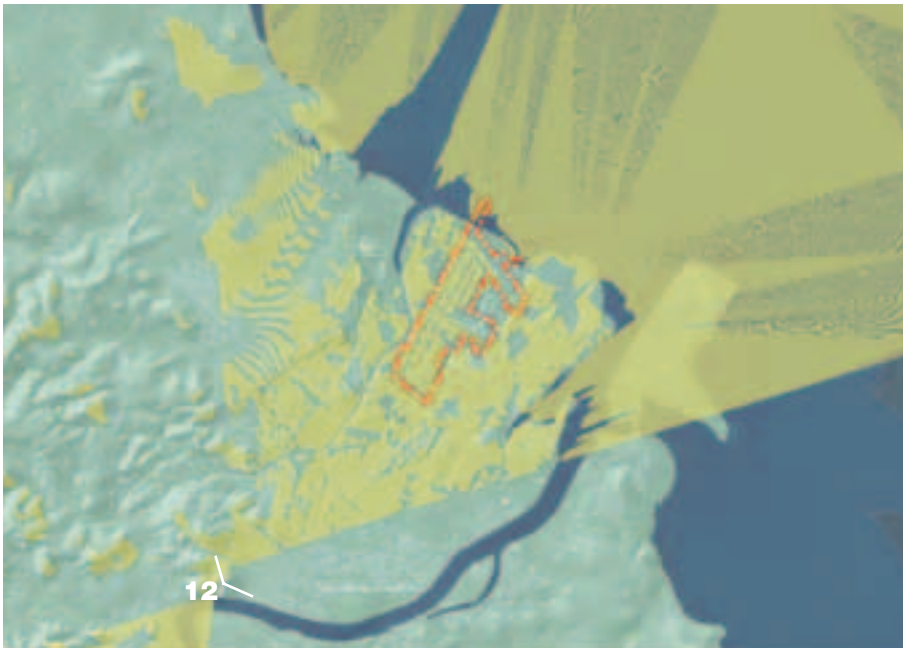
Zone of Visual Influence.



Existing View.

Location	Sykes Street Clayfield, view north east
Viewing Distance	Approximately 7 - 8 km from the study site
BASE 2005	
Visual Condition	<p>The existing landscape viewed from this elevated residential street comprises a broad expanse of industrial and infrastructure land uses, residential character areas in the foreground and Moreton Bay beyond. The Airport itself is distinctive with the control tower, and the domestic terminal being prominent in the view. These elements are viewed beyond a large swathe of vegetation, visually separating the viewpoint from the industrial area of Eagle Farm in the foreground. This view is glimpsed through local vegetation and between houses, however it offers a clear view over the existing Airport, and proposed runway site. Many of the houses in the vicinity of this view would have more direct views towards the site. The arrival and departure of aircraft are visible intermittently from this location.</p> <p>The night view from this location would include a general sky glow above the existing Airport, a spot of light on the control tower, and flickering point source lights on aircraft arriving and departing from the Airport. The brightly lit industrial areas of Hendra and Doomben to the west of the Gateway Motorway will be visible in the middle ground and local street lighting will create a generally lit environment for the viewer.</p>
Visual Sensitivity	<p><i>Local</i> sensitivity level.</p> <p>The visual sensitivity of this location derives from it being in a residential area, where visual amenity is important and where residents are subject to long duration views.</p>
DO NOTHING 2015	
Visual Modification	The western Airport lands, visible to the right of the control tower in this view, and nearby development sites will have been developed and will likely be visible in 2015. This includes Export Park West and Banksia Place, the Northern Access Road and the new Gateway Motorway alignment which will run across the view. At night these areas will be prominently lit.
Visual Sensitivity	The sensitivity of this view would be expected to be the same in 2015 as in 2005, as the number of viewers and the duration of the views is unlikely to change.
DO NOTHING 2035	
Visual Modification	It is likely that in 2035 some further development will have occurred within the western Airport lands and surrounding area, however, these will not be perceptible at this distance.
Visual Sensitivity	The sensitivity of this view would be expected to be the same in 2035 as in 2005, as the number of viewers and the duration of the views is unlikely to change.
NEW PARALLEL RUNWAY 2015	
Visual Modification	Vegetation clearance for the new parallel runway will result in a noticeable change in the view and reduction in visual amenity in the vicinity of this view, particularly from houses that have an unobstructed view towards the Airport and Moreton Bay. The new runway and a greater proportion of existing Airport structures will be visible. The view will be in the context of additional changes due to future development such as the Gateway Motorway upgrade. There would be no noticeable reduction in visual amenity at night, given the large number of surrounding light sources.
Visual Sensitivity	The sensitivity of this view would be expected to be the same in 2015 as in 2005, as the number of viewers and the duration of the views is unlikely to change.
NEW PARALLEL RUNWAY 2035	
Visual Modification	Further development may change the context of the view slightly by 2035. The visibility of the development and the remainder of the Airport will be essentially the same.
Visual Sensitivity	The sensitivity of this view would be expected to be the same in 2035 as in 2005, as the number of viewers and the duration of the views is unlikely to change.
VISUAL IMPACT	The likely visual impact from this part of Sykes Street, Clayfield is regarded as <i>minor adverse</i> * for both the 2015 and 2035 scenarios due to there being a noticeable reduction in the amenity of a view of local significance. The likely visual impact at night for the 2015 and 2035 scenarios is regarded as <i>negligible</i> based on there being no perceived reduction in visual amenity.

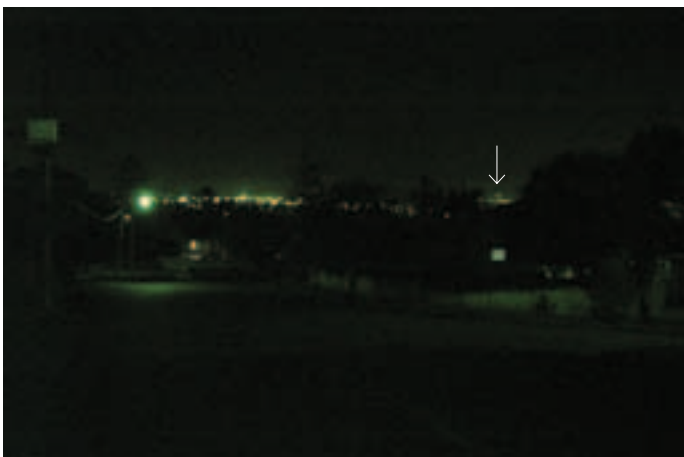
* Refer to section 13.3.3 for an explanation of visual impact significance criteria



Zone of Visual Influence.



Existing Daytime View.



Existing Night Time View.



Existing Night Time View, along Perry Street to Gateway Bridge and Surrounds.

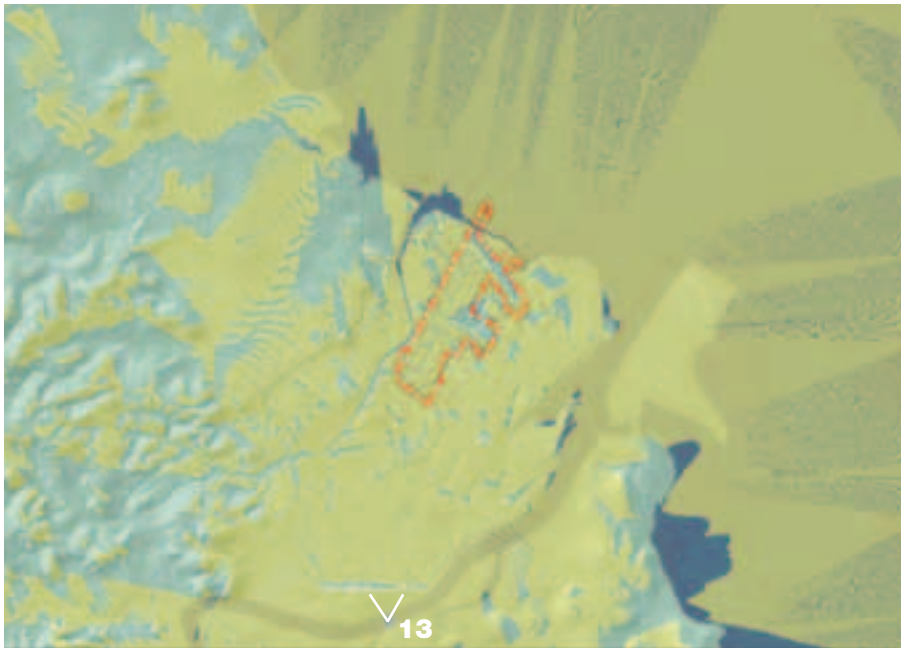
Location	Lawes Street Clayfield, view north east across Perry Street
Viewing Distance	Approximately 8 km from the study site
BASE 2005	
Visual Condition	<p>The existing landscape viewed from these elevated residential areas comprises a broad expanse of industrial and infrastructure land uses with Moreton Bay beyond. This view is filtered by local vegetation, however, it offers a clear view to the existing Airport and proposal site. The arrival and departure of aircraft from all angles to the Airport are visible intermittently from this location.</p> <p>The night view from this location includes a general sky glow above the existing Airport, a light on the control tower, and flickering point source lights on aircraft arriving and departing from the Airport. The lights of the residential areas of Nudgee, Banyo, and Nundah are visible to the north. Further south, brightly lit industrial areas are visible including the Gateway Bridge and surrounding developed areas. In the foreground, local street lighting create a generally lit environment for the viewer.</p>
Visual Sensitivity	<p><i>Local</i> sensitivity level.</p> <p>The visual sensitivity of this location derives from it being in a residential area, where visual amenity is important and where residents are subject to long duration views.</p>
DO NOTHING 2015	
Visual Modification	The western Airport lands, visible to the right of the control tower in this view, and nearby development sites will have been developed and likely be visible in 2015. This includes Export Park West and Banksia Place, the Northern Access Road and the new Gateway Motorway alignment which will run across the view. At night these areas will be prominently lit.
Visual Sensitivity	The sensitivity of this view would be expected to be the same in 2015 as in 2005, as the number of viewers and the duration of the views is unlikely to change.
DO NOTHING 2035	
Visual Modification	It is likely that in 2035 some further development will have occurred within the western Airport lands and surrounding area, however, these will not be perceptible at this distance.
Visual Sensitivity	The sensitivity of this view would be expected to be the same in 2035 as in 2005, as the number of viewers and the duration of the views is unlikely to change.
NEW PARALLEL RUNWAY 2015	
Visual Modification	Vegetation clearance for the New Parallel Runway will result in a noticeable change in the view and reduction in visual amenity in the vicinity of this view, particularly from houses that have an unobstructed view towards the Airport and Moreton Bay. The new runway and a greater proportion of existing Airport structures will be visible. The view will be in the context of additional changes due to future development such as the Gateway Motorway upgrade. There would be no noticeable reduction in visual amenity at night, given the large number of surrounding light sources.
Visual Sensitivity	The sensitivity of this view would be expected to be the same in 2015 as in 2005, as the number of viewers and the duration of the views is unlikely to change.
NEW PARALLEL RUNWAY 2035	
Visual Modification	Further development may change the context of the view slightly by 2035. The visibility of the development and the remainder of the Airport will be essentially the same.
Visual Sensitivity	The sensitivity of this view would be expected to be the same in 2035 as in 2005, as the number of viewers and the duration of the views is unlikely to change.
VISUAL IMPACT	The likely visual impact from this part of Lawes Street, Clayfield is regarded as <i>minor adverse</i> * for both the 2015 and 2035 scenarios due to there being a noticeable reduction in the amenity of a view of local significance. The likely visual impact at night for the 2015 and 2035 scenarios is regarded as <i>negligible</i> based on there being no perceived reduction in visual amenity.

* Refer to section 13.3.3 for an explanation of visual impact significance criteria



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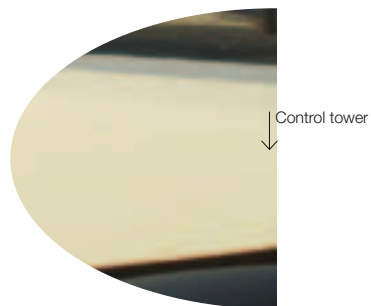
VIEW 13: Gateway Bridge, northbound



Zone of Visual Influence.

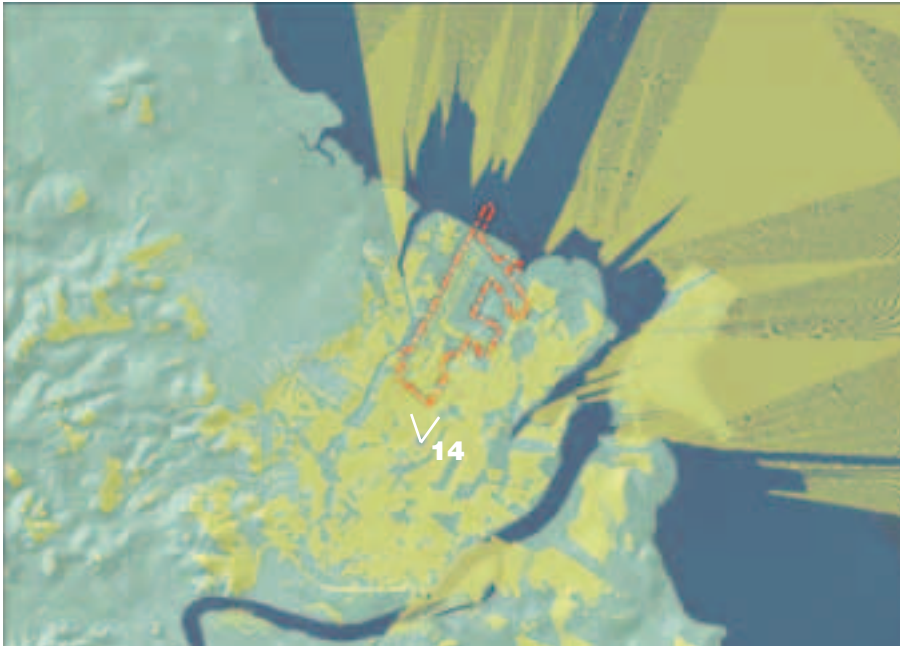


Existing View.



Location	Gateway Bridge, northbound
Viewing Distance	Approximately 8 km from the study site
BASE 2005	
Visual Condition	<p>The existing landscape viewed from this elevated location comprises a broad expanse of industrial and infrastructure land uses. These components are viewed across two lanes of traffic, above concrete barriers and through the vertical bars of the safety fencing. This elevated location, some 64 m above sea level, offers a view which includes the whole extent of the existing Airport and proposal site. It is also possible to see the arrival and departure of aircraft to and from the Airport, with landing aircraft often passing directly above the Gateway Bridge.</p> <p>At night, the foreground of this view is brightly lit by roadway lighting on the bridge itself, and the moving lights of traffic travelling on multiple lanes north and southbound. In the distance, a general skyglow as well as numerous clusters of light would be visible across the view. This includes sky glow above the Airport, a light on the control tower, and flickering point source lights on aircraft arriving and departing from the Airport.</p>
Visual Sensitivity	<p><i>Local</i> sensitivity level.</p> <p>Large numbers of viewers creates a degree of visual sensitivity on the Gateway Bridge. This is moderated somewhat by the short duration of the view and the obstacles to the view on the bridge which focus the view towards the motorway.</p>
DO NOTHING 2015	
Visual Modification	<p>The western Airport lands, visible to the left of the control tower in this view, and nearby development sites will be developed and likely be visible in 2015. The main change to the view will be the addition of the second Gateway Bridge which will be to the north (downstream) of the existing bridge. The existing bridge will comprise northbound traffic only, with views being of the site and existing Airport being partly obscured by the new bridge. Other changes in the view will include the northern part of the Gateway Motorway upgrade, the Northern Access Road, Export Park West and Banksia Place and TradeCoast Central. The Northern Access Road will also be visible in this view. At night all of these development areas will be brightly lit creating a continuous lit area.</p>
Visual Sensitivity	<p>The sensitivity of this view would be expected to be greater in 2015 than 2005, due to greatly increased traffic on the Gateway Bridge. The addition of a pedestrian/cycle path on the new bridge will also increase its sensitivity. The sensitivity level would still be regarded as <i>local</i> due to the short duration of views.</p>
DO NOTHING 2035	
Visual Modification	<p>It is likely that in 2035 some further development will have occurred within the western Airport lands and surrounding area, however, these are not likely to be perceptible at this distance.</p>
Visual Sensitivity	<p>Further traffic increases and increased use of the pedestrian/cycle path on the Gateway Bridge between 2015 and 2035 would slightly increase the visual sensitivity of this view. The sensitivity level would still be regarded as <i>local</i> however.</p>
NEW PARALLEL RUNWAY 2015	
Visual Modification	<p>The clearance of vegetation and aircraft movements on the ground are likely to be visible in the distance, however their prominence would not be enough to create a perceivable reduction in visual amenity. The New Parallel Runway would be viewed in the context of a partly industrial landscape.</p>
Visual Sensitivity	<p>The sensitivity of this view would be expected to be greater in 2015 than 2005, due to greatly increased traffic on the Gateway Bridge. The addition of a pedestrian/cycle path on the new bridge will also increase its sensitivity. The sensitivity level would still be regarded as <i>local</i> due to the short duration of views.</p>
NEW PARALLEL RUNWAY 2035	
Visual Modification	<p>There would not be a noticeable change in the prominence of the new parallel runway between 2015 and 2035. It would however be seen in the context of a marginally more industrialised landscape.</p>
Visual Sensitivity	<p>Further traffic increases and increased use of the pedestrian/cycle path on the new Gateway Bridge between 2015 and 2035 would slightly increase the visual sensitivity of this view. The sensitivity level would still be regarded as <i>local</i> however.</p>
VISUAL IMPACT	<p>The likely visual impact from the Gateway Bridge is regarded as negligible* during day and night for both the 2015 and 2035 scenarios due to there being no perceivable reduction or improvement in visual amenity.</p>

* Refer to section 13.3.3 for an explanation of visual impact significance criteria



Zone of Visual Influence.



Existing View.



Location	Airtrain Station, International Airport, view north
Viewing Distance	Approximately 3.5 km from the study site
BASE 2005	
Visual Condition	<p>The view from this elevated position includes the proposal site in the background. It is viewed within the context of the domestic terminal, control tower and Airtrain route. These elements are viewed across the railway station and international terminal car parking areas, and through a cluster of lighting poles associated with this infrastructure. It is also possible to see the arrival and departure of aircraft to and from the Airport intermittently from this location.</p> <p>At night, the foreground of this view is brightly lit by lighting of the railway station and international terminal, the moving lights of trains along the Airtrain route and cars moving around the carpark below, will also be visible. There is a general skyglow across the view, as well as a cluster of light visible at the domestic terminal, a spot of light on the control tower, and flickering point source lights on aircraft arriving and departing from the Airport.</p>
Visual Sensitivity	<p><i>Less than local</i> sensitivity level.</p> <p>This sensitivity of this viewpoint is low despite there being high numbers of viewers. It is a transient space within the international Airport complex - a place where views to other Airport infrastructure is expected and where visual amenity is not particularly important in the broader view. Views would typically be of short to moderate duration, as a passenger waits for the regularly arriving trains, and is accessible to existing Airport users on their journey to and from the Airport.</p>
DO NOTHING 2015	
Visual Modification	The character of this area will change dramatically as the Airport lands to the west (left) of the railway line will be developed, including Banksia Place and the Northern Access Road. At night these newly developed areas will be brightly lit.
Visual Sensitivity	Increased passenger use is likely on the Airtrain over time, however the limited importance of visual amenity to potential viewers suggests its visual sensitivity will remain at a <i>less than local</i> level.
DO NOTHING 2035	
Visual Modification	It is likely that in 2035 some further development will occur both sides of the railway line. This will include terminal and apron development, general aviation and aviation support facilities.
Visual Sensitivity	Increased passenger use is likely on the Airtrain between 2015 and 2035, however the limited importance of visual amenity to potential viewers suggests its visual sensitivity will remain at a <i>less than local</i> level.
NEW PARALLEL RUNWAY 2015	
Visual Modification	The clearance of vegetation for the new parallel runway is likely to be visible from this location, however it will not be prominent due to intervening vegetation obscuring much of the new runway area. Aircraft ground movements are also likely to be visible in the new runway area. Given the extent of future surrounding development and the limited prominence of the project, there is unlikely to be a perceivable change in visual amenity.
Visual Sensitivity	Increased passenger use is likely on the Airtrain over time, however the limited importance of visual amenity to potential viewers suggests its visual sensitivity will remain at a <i>less than local</i> level.
NEW PARALLEL RUNWAY 2035	
Visual Modification	Increased development in the vicinity of the Airport by 2035 will further reduce the relative prominence of the new parallel runway.
Visual Sensitivity	Increased passenger use is likely on the Airtrain between 2015 and 2035, however the limited importance of visual amenity to potential viewers suggests its visual sensitivity will remain at a <i>less than local</i> level.
VISUAL IMPACT	The likely visual impact from the International Terminal Airtrain Station is regarded as negligible* during day and night for both the 2015 and 2035 scenarios due to there being no perceivable reduction or improvement in visual amenity.

* Refer to section 13.3.3 for an explanation of visual impact significance criteria



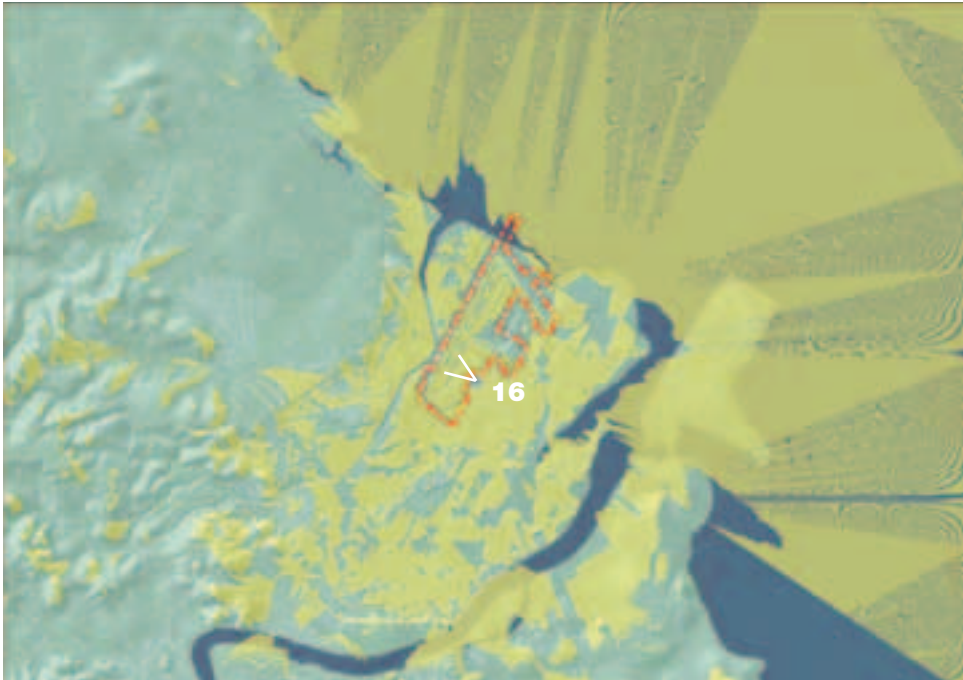
Zone of Visual Influence.



Existing View.

Location	Airport Drive, view north
Viewing Distance	Approximately 3 km from the study site
BASE 2005	
Visual Condition	<p>Airport Drive is a long entrance road leading to the domestic and international terminals. It is framed on its eastern side by developments associated with the Airport and on its western side by swathes of open or landscaped land and casuarina plantation. The proposal site sits beyond the casuarina plantation vegetation located in the background of this view, north-west of Airport Drive. Views toward the site from Airport Drive are gained almost exclusively at speed from within a moving vehicle and will therefore be of short duration. This view is set on the journey north within the context of the international and domestic terminals, control tower, Airtrain, and landscaped verges with associated road signs, advertising billboards and lightpoles. The arrival and departure of aircraft to and from the Airport are regularly seen from this location.</p> <p>At night, the foreground of this view will be brightly lit by road lighting, billboard lighting and the moving lights of road traffic and trains along the airtrain route. There is a general skyglow across the southern extent of the view as well as a cluster of lights visible at both terminals, a spot of light on the control tower, and flickering point source lights on aircraft arriving and departing from the Airport.</p>
Visual Sensitivity	<p><i>Less than local</i> sensitivity level.</p> <p>While Airport Drive is heavily used and has an important gateway function for visitors to Brisbane (for southbound traffic), the views for northbound vehicle users are of lower sensitivity, as they are arriving at an Airport where associated infrastructure is expected and where the importance of visual amenity is not great.</p>
DO NOTHING 2015	
Visual Modification	The character of this area will change dramatically as the Airport lands on either side of the road will be developed, in particular the north-western areas of Banksia Place and the Northern Access Road. At night these newly developed areas will be brightly lit.
Visual Sensitivity	Increased traffic on Airport Drive would not increase the visual sensitivity beyond the <i>less than local</i> level.
DO NOTHING 2035	
Visual Modification	It is likely that in 2035 some further development will occur on both sides of the road. This will include terminal and apron development, general aviation and aviation support facilities.
Visual Sensitivity	Increased traffic on Airport Drive would not increase the visual sensitivity beyond the <i>less than local</i> level.
NEW PARALLEL RUNWAY 2015	
Visual Modification	The visibility of the new parallel runway from Airport Drive will be minimal, with road landscape and other remaining vegetation potentially obscuring the entire area. There would therefore be no perceivable reduction in visual amenity from this location.
Visual Sensitivity	Increased traffic on Airport Drive would not increase the visual sensitivity beyond the <i>less than local</i> level.
NEW PARALLEL RUNWAY 2035	
Visual Modification	The visibility on the new parallel runway in 2035 would be similarly low.
Visual Sensitivity	Increased traffic on Airport Drive would not increase the visual sensitivity beyond the <i>less than local</i> level.
VISUAL IMPACT	The likely visual impact from Airport Drive is regarded as negligible* during day and night for both the 2015 and 2035 scenarios due to there being no perceivable reduction or improvement in visual amenity.

* Refer to section 13.3.3 for an explanation of visual impact significance criteria



Zone of Visual Influence.



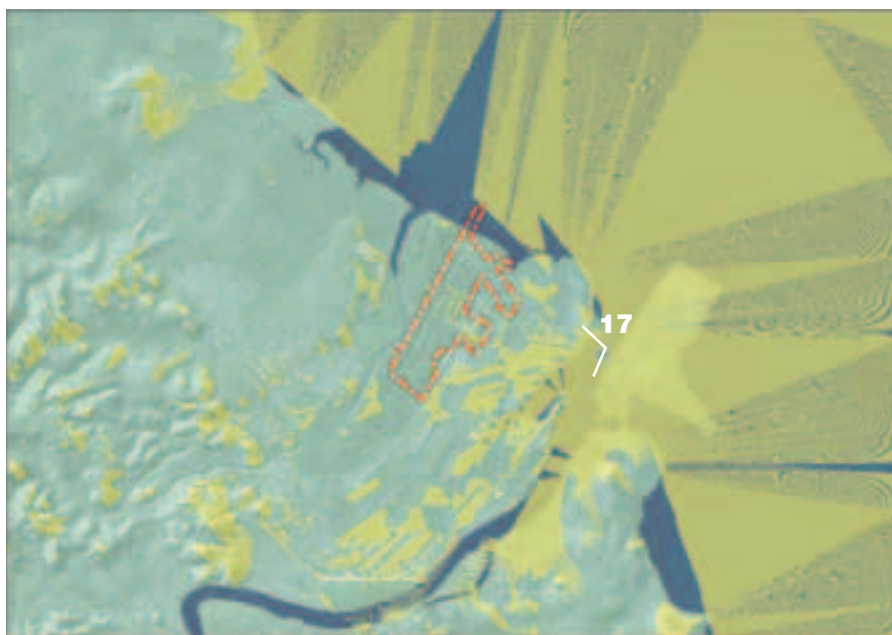
Existing View.



Photographic Simulation Showing the New Parallel Runway Development.

Location	Long Term Carpark, Domestic Terminal, view north-west
Viewing Distance	Approximately 1 km from the study site
BASE 2005	
Visual Condition	<p>The panoramic view from this elevated position includes the proposal site to the west and north-west in the middle ground and background. The site is visible as the casuarina plantation treetops, amongst other vegetated areas. It is viewed within the context of the Airport runway, Dryandra Drive, the open air section of the long term carpark, and the control tower. There is a clear and unobstructed view of these elements and to parts of the site. It is also possible to see the arrival and departure of aircraft to and from the Airport, intermittently from this location.</p> <p>At night, the foreground of this view is dominated by the lighting of the open air carpark and by the moving lights of cars along Dryandra Road, trains along the Airtrain route and cars moving around the carpark below. Flickering point source lights on aircraft arriving and departing from the Airport are highly visible.</p>
Visual Sensitivity	<p><i>Less than local</i> sensitivity level.</p> <p>This viewpoint is of low sensitivity as, although it is located at close proximity to the site, it is a transient space within the domestic terminal complex - a place where views to other Airport infrastructure are expected. These views would typically be of brief duration as air passengers arrive or depart from the carpark, and are accessible to the relatively limited number of Airport users who utilise parts of the long term carpark that are subject to this view.</p>
DO NOTHING 2015	
Visual Modification	Most new development near this viewpoint, such as Banksia Place along Airport Drive and the Northern Access Road, will be to the south of the view. Some new development may be just visible. At night these newly developed areas will slightly increase the amount of skyglow in the area.
Visual Sensitivity	Increased use of the long term carpark will marginally increase the visual sensitivity of this location. Visual sensitivity would be expected however, to remain at the <i>less than local level</i> .
DO NOTHING 2035	
Visual Modification	It is likely that in 2035 some further development will occur to the south of the site. This will have limited visibility from this location.
Visual Sensitivity	Increased use of the long term carpark between 2035 and 2015 will marginally increase the visual sensitivity of this location. Visual sensitivity would be expected however, to remain at the <i>less than local level</i> .
NEW PARALLEL RUNWAY 2015	
Visual Modification	The long term carpark will offer expansive views towards the New Parallel Runway, with the vegetation clearance and runway development resulting in a considerable change in the character of the view and a noticeable reduction in visual amenity. The view at night will have an increase in lighting, primarily the large number of relatively low-intensity runway and taxiway lights.
Visual Sensitivity	Increased use of the long term carpark will marginally increase the visual sensitivity of this location. Visual sensitivity would be expected however, to remain at the <i>less than local level</i> .
NEW PARALLEL RUNWAY 2035	
Visual Modification	Development between 2015 and 2035 would not be expected to change the context of the view from this location.
Visual Sensitivity	Increased use of the long term carpark between 2035 and 2015 will marginally increase the visual sensitivity of this location. Visual sensitivity would be expected however, to remain at the <i>less than local level</i> .
VISUAL IMPACT	<p>The likely visual impact from the long term carpark is regarded as <i>minor adverse*</i> for both the 2015 and 2035 scenarios due to there being a noticeable reduction in the visual amenity of a view of <i>less than local</i> sensitivity. The likely visual impact at night for the 2015 and 2035 scenarios is regarded as negligible due to there being no perceivable reduction or improvement in visual amenity.</p>

* Refer to section 13.3.3 for an explanation of visual impact significance criteria



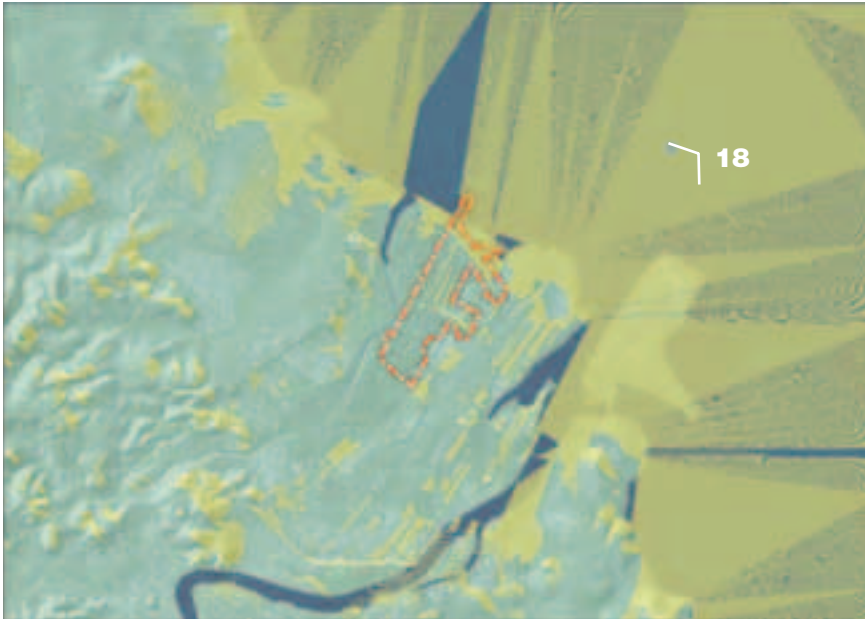
Zone of Visual Influence.



Existing View.

Location	Luggage Point, view west
Viewing Distance	Approximately 4.5 km from the study site (dredge berthing facility preferred site)
BASE 2005	
Visual Condition	<p>The view from the Brisbane River at Luggage Point is dominated by an elevated pipeline and tanker wharf associated with the BP oil refinery on Bulwer Island. Oil tankers can frequently be seen docked at the terminal. The shore line at Luggage Point has a patchy cover of estuarine vegetation behind which is a waste water treatment plant and glimpses to the Airport. The existing runway lies perpendicular to this view, however only the control tower and some large scale industrial buildings associated with the treatment plant and the aviation industry are visible due to the intervening vegetation. In the background are the mountain ranges of Brisbane Forest Park and the D'Aguiar Range.</p> <p>The proposal site constitutes a narrow portion of the vegetated edge of Boggy Creek just to the north of the waste water treatment plant.</p> <p>The arrival and departure of aircraft can be seen intermittently from this location. The Airport and associated air traffic are viewed within the context of the Port of Brisbane which, although being located to the east, is more visually prominent due to the scale and brightly coloured cranes which rise above this site.</p> <p>At night, the lights of the Airport, and a spot of light of the control tower, is perceptible at this distance, and the lights of arriving and departing aircraft are visible. The visual prominence of these elements would be diminished by the intense glow and relatively large cluster of lights surrounding the Port of Brisbane located behind the viewpoint.</p>
Visual Sensitivity	<p><i>Local</i> sensitivity level.</p> <p>Some visual sensitivity at this location is derived from the importance of visual amenity to recreational boat users and visitors to Brisbane arriving on cruise ships. The view is not a key Brisbane River view however (one where the CBD or Gateway Bridge is central), which moderates its sensitivity somewhat. At night the view has a lower level of sensitivity as boat traffic on the river is less.</p>
DO NOTHING 2015	
Visual Modification	It is likely that this view in 2015 will include additional developments at Aerotech Park and associated light sources east of the existing runway.
Visual Sensitivity	Increased recreational traffic, particularly larger numbers of cruise ships will increase the visual sensitivity of this view between 2005 and 2015. The sensitivity is however, likely to remain at the <i>local</i> level.
DO NOTHING 2035	
Visual Modification	It is likely that this view in 2035 will remain constant or be marginally reduced due to further developments at Aerotech Park.
Visual Sensitivity	Further recreational and cruise ship traffic on the river will increase visual sensitivity between 2015 and 2035, however not beyond the <i>local</i> level of significance.
NEW PARALLEL RUNWAY 2015	
Visual Modification	The dredge mooring structure will have been removed and therefore there will be no impact on visual amenity remaining.
Visual Sensitivity	Increased recreational traffic, particularly larger numbers of cruise ships will increase the visual sensitivity of this view between 2005 and 2015. The sensitivity is however, likely to remain at the <i>local</i> level.
NEW PARALLEL RUNWAY 2035	
Visual Modification	The dredge mooring structure will have been removed and therefore there will be no impact on visual amenity remaining.
Visual Sensitivity	Further recreational and cruise ship traffic on the river will increase visual sensitivity between 2015 and 2035, however not beyond the <i>local</i> level of significance.
VISUAL IMPACT	The likely visual impact from Luggage Point is regarded as negligible* during day and night for both the 2015 and 2035 scenarios due to there being no perceivable reduction or improvement in visual amenity.

* Refer to section 13.3.3 for an explanation of visual impact significance criteria



Zone of Visual Influence.



Existing View.

Location	Main Shipping Channel, view south west
Viewing Distance	7.5 km from the study site
BASE 2005	
Visual Condition	<p>Views to the existing Airport from the main shipping channel are obscured by a dense band of vegetation along the shoreline. The length of the runway lies parallel to this view however only the control tower, distinguishable in the distance and protruding above the treeline, is visible due to intervening vegetation upon the BAC site. In the middle ground, to the east of the view shown in this image, is the Port of Brisbane. In the background, the mountain ranges of the D'Aguiar Range are visible.</p> <p>The arrival and departure of aircraft can be seen intermittently from this location and are viewed within the context of the Port of Brisbane which, although being located to the south-east of this receptor, is visually prominent due to the scale and brightly coloured cranes.</p> <p>During hours of darkness the lights of the Airport would be barely perceptible at this distance, although the lights of arriving and departing aircraft and a light source at the control tower would be visible. Sky glow above the Airport would be also visible however the visual prominence of these elements is diminished by the intense glow and relatively large cluster of lights of the Port of Brisbane to the south-east of the viewing position.</p>
Visual Sensitivity	<p><i>Local</i> sensitivity level.</p> <p>Some visual sensitivity at this location is derived from the importance of visual amenity to recreational boat users and visitors to Brisbane arriving on cruise ships. At night the view has a lower level of sensitivity as boat traffic on the river is less.</p>
DO NOTHING 2015	
Visual Modification	It is likely that this view in 2015 will include an additional 750 m of Port of Brisbane development at Fishermans Island, extending toward the existing seawall, and associated light sources.
Visual Sensitivity	Increased recreational traffic, particularly larger numbers of cruise ships will increase the visual sensitivity of this view between 2005 and 2015. The sensitivity is however, likely to remain at the <i>local</i> level.
DO NOTHING 2035	
Visual Modification	It is likely that this view in 2035 will include the completed Port of Brisbane expansion (to the existing seawall) at Fishermans Island, and associated light sources.
Visual Sensitivity	Further recreational and cruise ship traffic on the river will increase visual sensitivity between 2015 and 2035, however not beyond the <i>local</i> level of significance.
NEW PARALLEL RUNWAY 2015	
Visual Modification	The New Parallel Runway project is likely to create a small break in the shoreline vegetated edge on the right of this view. Aircraft movements will also be noticeable. Overall the change to the landscape would not be of a magnitude to create a noticeable reduction in visual amenity. There would be no perceptible change in the night view as a result of the development.
Visual Sensitivity	Increased recreational traffic, particularly larger numbers of cruise ships will increase the visual sensitivity of this view between 2005 and 2015. The sensitivity is however, likely to remain at the <i>local</i> level.
NEW PARALLEL RUNWAY 2035	
Visual Modification	The view will have a greater industrial context by 2035, with the further development of the Port of Brisbane. The overall change in visual amenity will remain at an imperceptible level.
Visual Sensitivity	Further recreational and cruise ship traffic on the river will increase visual sensitivity between 2015 and 2035, however not beyond the <i>local</i> level of significance.
VISUAL IMPACT	The likely visual impact from the main shipping is regarded as <i>negligible</i> * during day and night for both the 2015 and 2035 due to there being no perceivable reduction or improvement in visual amenity.

* Refer to section 13.3.3 for an explanation of visual impact significance criteria



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VIEW 19:

Mt Coot-tha Lookout, looking east



Existing View.

Location	Mt Coot-tha lookout looking east
Viewing Distance	15 km+
BASE 2005	
Visual Condition	<p>On a clear day, the view from this regionally significant Brisbane hilltop includes a broad panorama of the city. To the north of the CBD the Airport and proposal site are visible within this view. The Airport lands are viewed in the context of the northern suburbs, nearby industrial areas, and the bay beyond, all at a significant distance. At a slightly closer distance, but within the context of this view, the Archerfield Airfield is also visible, creating a similar visual feature across this broad view.</p> <p>At night this view includes a general skyglow across the view as well as scattered and clustered light sources across the suburbs, the City, along major streets, and seen on moving vehicles. At the Airport a spot of light on the control tower and flickering point source lights on aircraft as they approach across the city will be visible.</p>
Visual Sensitivity	<p><i>Regional</i> sensitivity level.</p> <p>Mt Coot-tha is Brisbane's most important lookout. It has very heavy visitation due to the ability to see most of the metropolitan area and the facilities available to visitors. The lookout is also regarded as having a regional sensitivity level at night, as it is also regularly used at this time.</p>
DO NOTHING 2015	
Visual Modification	The western Airport lands, visible to the right of the control tower in this view, and nearby development sites will be developed and will comprise a small part of this panoramic view. At night these areas will be lit. The Airport will no longer be viewed as an island of development surrounded by vegetation, which is currently the case.
Visual Sensitivity	Increased population and visitation to Brisbane would be expected to increase the use and therefore the visual sensitivity of Mt Coot-tha Lookout. Its sensitivity is still likely to be regarded as being at a <i>regional</i> level in 2015.
DO NOTHING 2035	
Visual Modification	It is likely that in 2035 some further development will have occurred within the western Airport lands and surrounding area, however, these will not be perceptible at this distance.
Visual Sensitivity	Increased population and visitation to Brisbane would be expected to increase the use and therefore the visual sensitivity of Mt Coot-tha Lookout. Its sensitivity is still likely to be regarded as being at a <i>regional</i> level in 2035.
NEW PARALLEL RUNWAY 2015	
Visual Modification	The new parallel runway and associated vegetation clearance is likely to be just visible from Mt Coot-tha. The context of the view will also include increased surrounding development. The lighting associated with the development would be difficult to distinguish at night from the surrounding light sources.
Visual Sensitivity	Increased population and visitation to Brisbane would be expected to increase the use and therefore the visual sensitivity of Mt Coot-tha Lookout. Its sensitivity is still likely to be regarded as being at a <i>regional</i> level in 2015.
NEW PARALLEL RUNWAY 2035	
Visual Modification	The visibility of the new parallel runway and the character of its immediate context is unlikely to change between 2015 and 2035 based on anticipated development.
Visual Sensitivity	Increased population and visitation to Brisbane would be expected to increase the use and therefore the visual sensitivity of Mt Coot-tha Lookout. Its sensitivity is still likely to be regarded as being at a <i>regional</i> level in 2035.
VISUAL IMPACT	The likely visual impact from Mt Coot-tha Lookout is regarded as <i>negligible*</i> during day and night for both the 2015 and 2035 due to there being no perceivable reduction or improvement in visual amenity.

* Refer to section 13.3.3 for an explanation of visual impact significance criteria

13.8.2 Visual Impact - New Parallel Runway, 2015

Impacts from the north at Shorncliffe, Nudgee Beach and locations along the northern areas of Kedron Brook, are generally negligible. At Nudgee Beach the landing light structure is visible from relatively close proximity creating additional localised impacts. A higher impact has been identified at the Kedron Brook footpath where the view is within close proximity to the proposal. In this view, the impacts are created primarily by the opening up of views to existing elements of the Airport rather than the development of any new structures.

Elevated areas such as the Transfer Station and ACU are considered to have minor impact in this timeframe due to the increased visibility of the proposal from this elevated position. This is balanced, however, against the reduced sensitivity created by the large amount of new development that will also be visible within these views.

Views from the elevated areas around Ascot, Clayfield and Hamilton to the south west are considered to experience minor adverse impact due to the ability to view the proposal from their elevated positions. Views from the Gateway Bridge, another high point to the south will have negligible impact due to distance, the developing context of these views and various intervening elements.

Views from within the Airport complex itself, such as those from the Airtrain station and along Airport Drive have negligible impacts due to intervening vegetation, and the location of these views adjacent to the existing Airport, a landscape within which Airport style development is anticipated. Due to the height and proximity, it is considered that there is a minor adverse impact to views from the long term car parking structure, although this is considered a low sensitivity receptor.

At night the bright lights of the Port of Brisbane, including some expansion, and the context of lit developments reduces the impact of the Airport development. Generally the new parallel runway project has unidirectional lighting and lighting on planes is minimal considering their size, so there is little light spill. These lighting sources will be viewed as moving objects, however, they are located within the context of the existing Airport and will therefore not contrast with the surrounding night time environment.

13.8.3 Visual Impact - New Parallel Runway, 2035

Impacts from the north at Shorncliffe, Nudgee Beach and locations along the northern areas of Kedron Brook, will continue to be generally negligible in the longer term with additional aircraft movements visible in the view. From Shorncliffe, these views will be in the context of the Port of Brisbane development which will dominate the distant areas of this view. From areas along Kedron Brook and at the Golf Course views will remain largely unchanged from 2015. Elevated areas to the north, such as the Transfer Station and ACU will view a slightly more industrialised landscape, which reduces somewhat the impact of the parallel runway development.

Views from the elevated areas around Ascot and Hamilton to the south west, as well as the Gateway Bridge, will continue to experience minor impact with an increasingly developed context to these views.

Increased development within the Airport itself will further reduce the relative prominence of the runway development in views from within the Airport complex itself, such as those from the Airtrain station, along Airport Drive and from the long term car parking structure.

The visual context of views from the Brisbane River mouth will change marginally between 2015 and 2035, and there will likely be increased recreational and cruise ship traffic on the river, neither of which will greatly alter the visual impact upon views.

At night the bright lights of the Port of Brisbane, including the completed expansion, and the further expanded setting of lit developments further reduces the impact of the new runway development. Any additional light generated by the increased usage of the Airport, is contained within the context of the existing Airport and will therefore not contrast with the surrounding night time environment.

By 2035 there will be more aircraft arriving and departing the Brisbane Airport and therefore there will be more aerial traffic visible across Brisbane generally. There will likely be more aircraft visible from those locations under the existing flight paths. There will also be additional aerial traffic visible over those areas under the south-western corridor of the new runway. Areas closer to the site, where aircraft crosses the view, will see additional aircraft as both parallel routes are visible in the one view.

13.8.4 Construction Impacts

Construction impacts will occur over a period of approximately seven years and will vary depending on what construction activities are occurring at any given time. The main sources of visual impact during construction will be:

- Clearance of vegetation on the new parallel runway site and for the dredge pipeline.
- The establishment of temporary construction buildings, particularly asphalt and concrete plants.
- The stockpiling of soil.
- The construction of a bund around the perimeter of the site.
- The surcharging of dredged sand across the site.
- The creation of a dredge mooring facility and construction of a dredge pipeline between the Brisbane River and the NPR site.

Areas close to the site, to the north west, including the Nudgee area and the Kedron Brook corridor will be subject to some initial impact from vegetation clearance and will have some views of the sand surcharge stockpiles. The most prominent of these views will be on the Kedron Brook cycleway, where the runway site is closest to a publicly assessable area. In this location the stockpiles will be prominent features along with the perimeter bund. Elevated locations in this area, such as the park adjacent to Nudgee Transfer Station and the Australian Catholic University will have more distant but expansive views of construction activities including the surcharge stockpiles, and the asphalt and concrete plants. The view from the long term car park includes a large portion of the view from an elevated position. Impacts in these areas will be largely *negligible* but may be up to *moderate adverse* in some isolated locations based on the significance criteria described in Section 13.3.3.

The elevated residential areas of Ascot, Clayfield and Hamilton will be subject to distant views of construction activities. In most situations, the magnitude of visual modification would not be great enough to have a perceivable effect on visual amenity. The visual impact of construction from these areas would therefore generally be regarded as *negligible*.

Views from within the Airport, such as from the Airtrain and from Airport Drive, would be minimal. This minimal visibility, combined with the relatively low visual sensitivity of views from these locations, suggests that visual impacts from within the existing Airport would be *negligible*.

Dredge pump-out activities will be visible from the areas adjacent to Luggage Point on Brisbane River, however, the impacts would be *negligible* due to low visual sensitivity and the change being minimal within the context of riverside industrial development.

13.9 Cumulative and Interactive Effects

The areas surrounding the proposal, particularly to the west and south, will undergo considerable change during the coming years (refer section 13.4 Limitations and Assumptions). In particular, the Port of Brisbane development, Gateway Upgrade Project will be visually prominent during day and night time conditions. Further development associated with the Airport itself will also contribute to the changing character of this landscape. This additional development generally reduces the impact of the new parallel runway project, with a number of these developments being considerably more visually prominent during both day and night time conditions.

There are possible interactive effects caused by the effect of visibility on the perception of noise impacts. This will be the case particularly for views toward the Airport, where aerial traffic is visible. Whereas, aerial traffic across the city is typically heard before it is seen. From views in close proximity to the site, such as the Kedron Brook view, it is likely that the sound of aircraft will increase the overall experience of the Airport from this view, however, in terms of the visual impact the cumulative effects do not significantly worsen the impact.

The loss of vegetation upon the site, although not highly visible, and the increasing industrialisation / urbanisation of this area interacts with the perception of environmental effects. The perceived loss of environmental value may marginally affect the perception of visual impact where there are existing views over this vegetation.

13.10 Mitigation Measures

A number of measures have been proposed to mitigate the visual impacts which have been identified. In particular, to address the effects upon views during construction, which are generally considered to have greater impacts; and views from the Kedron Brook path during the operation of the new parallel runway, which has been identified as likely to experience a *moderate adverse* impact.

During Construction:

- Progressively establish a sterile cover crop on bunds, surcharge areas, and topsoil stockpiles as appropriate.
- Adequately maintain vegetation on boundary mounding to ensure vegetation establishes and maintains healthy growth.
- Locate asphalt plant, concrete batching plant, site sheds, and machinery/vehicle parking areas to minimise visibility from publicly accessible areas.
- Minimise ground disturbance associated with construction of the dredge pipeline and rehabilitate any disturbed ground progressively, as necessary.

Upon Completion and during Runway Operation:

- Maintain vegetation health and coverage upon remaining boundary mounding, temporary sand storage mounds, and in other planted areas;
- Supplementary planting on Airport land, if practicable, along the eastern bank of the Kedron Brook Floodway, adjacent to the Kedron Brook path;
- Maintain existing vegetation located to the perimeter of the site in good health;
- Revegetate residual site areas where suitable.

13.11 Residual Effects

It is likely that with the implementation of the suggested mitigation measures, there will be some lessening of the visual effects of the proposal, particularly during construction. Depending upon the success of vegetation retention and supplementary planting to the eastern bank of the Kedron Brook Floodway, there is likely to be some reduction in the significance of the visual effect upon the Kedron Brook path view. The implementation of these mitigation measures are likely to reduce the significance of the visual effect from moderate to minor adverse in this view. Therefore, the residual effects would all be of minor adverse significance.



Photographic Simulation of Construction Activities from Nudgee Transfer Station Lookout.



Photographic Simulation of Construction Activities from Kedron Brook Path.



Photographic Simulation of Construction Activities from Australian Catholic University.

13.12 Assessment Summary Matrix

EIS Area: Visual Assessment Feature/ Description	Current Value (visual sensitivity) + Substitutable Y:N	Description of Impact			Additional Compensation (beyond standard practice)
		Impact	Mitigation inherent in design/ standard practice amelioration	Significance Criteria	
View 1 Shorncliffe Pier	Local sensitivity level Not substitutable	View of the landing light structure in Moreton Bay, 600 m offshore in both 2015 and 2035.	No visual mitigation works are proposed	2015 day: negligible adverse, LT, D 2015 night: negligible adverse, LT, D 2035 day: negligible adverse, LT, D 2035 night: negligible adverse, LT, D	Nil
View 2 Nudgee Beach	Local sensitivity level Not substitutable	Several hundred metres of the northern end of the landing light structure will be visible with associated aircraft movements in both 2015 and 2035.	No visual mitigation works are proposed	2015 day: minor adverse, LT, D 2015 night: negligible adverse, LT, D 2035 day: negligible adverse, LT, D 2035 night: negligible adverse, LT, D	Nil
View 3 Tuckeroo Park	Local sensitivity level Not substitutable	Tops of aircraft on runway above the treeline will be viewed. Aircraft movements and takeoffs/ landings visible at night. No difference predicted between 2015 and 2035.	No visual mitigation works are proposed	2015 day: negligible adverse, LT, D 2015 night: negligible adverse, LT, D 2035 day: negligible adverse, LT, D 2035 night: negligible adverse, LT, D	Nil
View 4 Nudgee Transfer Station lookout	Local sensitivity level Not substitutable	Removed vegetation and new runway will be prominent in the view. No difference predicted between 2015 and 2035.	No visual mitigation works are proposed	2015 day: minor adverse, LT, D 2015 night: negligible adverse, LT, D 2035 day: minor adverse, LT, D 2035 night: negligible adverse, LT, D	Nil

EIS Area: Visual Assessment Feature/ Description	Current Value (visual sensitivity) + Substitutable Y:N	Description of Impact			Additional Compensation (beyond standard practice)
		Impact	Mitigation inherent in design/ standard practice amelioration	Significance Criteria	
View 5 Nudgee Boat Ramp	Local sensitivity level Not substitutable	New runway at the point closest to Kedron Brook will be visible.	No visual mitigation works are proposed	2015 day: negligible adverse, LT, D 2015 night: negligible adverse, LT, D 2035 day: negligible adverse, LT, D 2035 night: negligible adverse, LT, D	Nil
View 6 Nudgee Golf Course club house	Local sensitivity level Not substitutable	A small component of the vegetation clearing associated with the new runway may be visible. By 2035 level of screening predicted to increase on golf course.	No visual mitigation works are proposed	2015 day: negligible adverse, LT, D 2015 night: negligible adverse, LT, D 2035 day: negligible adverse, LT, D 2035 night: negligible adverse, LT, D	Nil
View 7 Kedron Brook Path	Local sensitivity level Not substitutable	The cleared vegetation, new runway and associated aircraft movements will be a dominant feature in the view both day and night. Visual change will reduce by 2035 with the establishment of the proposed mitigation planting.	No visual mitigation works are proposed	2015 day: moderate adverse, LT, D 2015 night: negligible adverse, LT, D 2035 day: minor adverse, LT, D 2035 night: negligible adverse, LT, D	Planting along the eastern bank of the Kedron Brook Floodway, on Airport land, if practicable.
View 8 Australian Catholic University	Local sensitivity level Not substitutable	Large areas of vegetation clearance, the new runway, associated traffic movements and a greater proportion of the existing terminal and car park will be viewed. No difference predicted between 2015 and 2035.	No visual mitigation works are proposed	2015 day: minor adverse, LT, D 2015 night: negligible adverse, LT, D 2035 day: minor adverse, LT, D 2035 night: negligible adverse, LT, D	Nil

EIS Area: Visual Assessment Feature/ Description	Current Value (visual sensitivity) + Substitutable Y:N	Description of Impact			Additional Compensation (beyond standard practice)
		Impact	Mitigation inherent in design/ standard practice amelioration	Significance Criteria	
View 9 Sandgate Road, Clayfield	Local sensitivity level Not substitutable	More of the existing Airport elements will be visible as a result of vegetation clearance.	No visual mitigation works are proposed	2015 day: negligible adverse, LT, D 2015 night: negligible adverse, LT, D 2035 day: negligible adverse, LT, D 2035 night: negligible adverse, LT, D	Nil
View 10 Enderley Street Clayfield	Local sensitivity level Not substitutable	The vegetation clearance will result in views of the new runway and a greater portion of existing Airport structures. No change in visibility predicted between 2015 and 2035.	No visual mitigation works are proposed	2015 day: minor adverse, LT, D 2015 night: negligible adverse, LT, D 2035 day: minor adverse, LT, D 2035 night: negligible adverse, LT, D	Nil
View 11 Skyles Street Clayfield	Local sensitivity level Not substitutable	Vegetation clearance will result in the new runway and a greater proportion of the existing Airport structures being visible. No change in visibility predicted between 2015 and 2035.	No visual mitigation works are proposed	2015 day: minor adverse, LT, D 2015 night: negligible adverse, LT, D 2035 day: minor adverse, LT, D 2035 night: negligible adverse, LT, D	Nil
View 12 Lawes Street Clayfield	Local sensitivity level Not substitutable	Vegetation clearance will result in the new runway and a greater proportion of the existing Airport structures being visible. No change in visibility predicted between 2015 and 2035.	No visual mitigation works are proposed	2015 day: minor adverse, LT, D 2015 night: negligible adverse, LT, D 2035 day: minor adverse, LT, D 2035 night: negligible adverse, LT, D	Nil

EIS Area: Visual Assessment Feature/ Description	Current Value (visual sensitivity) + Substitutable Y:N	Description of Impact			Additional Compensation (beyond standard practice)
		Impact	Mitigation inherent in design/standard practice amelioration	Significance Criteria	
View 13 Gateway Bridge (northbound)	Local sensitivity level Not substitutable	The clearance of vegetation, the new parallel runway and aircraft movements on the ground are likely to be visible. No change in visibility predicted between 2015 and 2035.	No visual mitigation works are proposed	2015 day: negligible adverse, LT, D 2015 night: negligible adverse, LT, D 2035 day: negligible adverse, LT, D 2035 night: negligible adverse, LT, D	Nil
View 14 AirTrain Station (international)	Less than local sensitivity level Not substitutable	Vegetation clearance, sections of the new runway and associated aircraft ground movements are likely to be visible. Increased development will reduce the prominence of the runway by 2035.	No visual mitigation works are proposed	2015 day: negligible adverse, LT, D 2015 night: negligible adverse, LT, D 2035 day: negligible adverse, LT, D 2035 night: negligible adverse, LT, D	Nil
View 15 Airport Drive	Less than local sensitivity level Not substitutable	Glimpsed views of the new parallel runway. No change in visibility predicted between 2015 and 2035.	No visual mitigation works are proposed	2015 day: negligible adverse, LT, D 2015 night: negligible adverse, LT, D 2035 day: negligible adverse, LT, D 2035 night: negligible adverse, LT, D	Nil
View 16 Long term carpark (domestic)	Less than local sensitivity level Not substitutable	Vegetation clearance and the new parallel runway will result in a considerable change in the view. In addition the view at night will have increased lighting. No change in visibility predicted between 2015 and 2035.	No visual mitigation works are proposed	2015 day: minor adverse, LT, D 2015 night: negligible adverse, LT, D 2035 day: minor adverse, LT, D 2035 night: negligible adverse, LT, D	Nil

EIS Area: Visual Assessment Feature/ Description	Current Value (visual sensitivity) + Substitutable Y:N	Description of Impact			Additional Compensation (beyond standard practice)
		Impact	Mitigation inherent in design/ standard practice amelioration	Significance Criteria	
View 17 Luggage Point	Local sensitivity level Not substitutable	The dredge mooring structures will be removed. No change in visibility predicted between 2015 and 2035.	No visual mitigation works are proposed	2015 day: negligible adverse, LT, D 2015 night: negligible adverse, LT, D 2035 day: negligible adverse, LT, D 2035 night: negligible adverse, LT, D	Nil
View 18 Main Shipping Canal	Local sensitivity level Not substitutable	A small break in the shoreline vegetated edge on the right of this view will be viewed. Aircraft movements will also be noticeable. No change in visibility predicted between 2015 and 2035.	No visual mitigation works are proposed	2015 day: negligible adverse, LT, D 2015 night: negligible adverse, LT, D 2035 day: negligible adverse, LT, D 2035 night: negligible adverse, LT, D	Nil
View 19 Mt Cootha Lookout	Regional sensitivity level Not substitutable	The new parallel runway and vegetation clearance maybe just visible. No change in visibility predicted between 2015 and 2035.	No visual mitigation works are proposed	2015 day: negligible adverse, LT, D 2015 night: negligible adverse, LT, D 2035 day: negligible adverse, LT, D 2035 night: negligible adverse, LT, D	Nil

Key:

Significance Criteria: Major, High, Moderate, Minor Negligible
beneficial positive; adverse negative

D – direct; I – indirect

C – cumulative; P – permanent; T – temporary

ST – short term; MT – medium term; LT long term

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