

## 20.1 INTRODUCTION

The EIS Study Area lies within a mainly desert landscape of open woodland and shrubland on dunes and sandplains, and low shrubland on interdune swales and gibber plains. Much of the area is gently undulating with occasional hills and mesas. Olympic Dam is dominated visually by processing infrastructure, electricity transmission lines, the tailings storage facility (TSF) and the town infrastructure of Roxby Downs. The coastal landscape at the sites of the proposed desalination plant and landing facility consists of hills and ranges, rocky foreshores, beaches and occasional dunes. The Santos oil facility and the Playford and Northern Power Stations are dominant industrial features in Upper Spencer Gulf.

This chapter describes the visual effects of proposed project infrastructure from adjacent viewpoints. The assessment considers the degree to which project infrastructure would be visible from sensitive viewing locations such as roads and residences in Roxby Downs, Point Lowly and Port Augusta, and roads along the infrastructure corridors. It also explains how infrastructure has been located and designed to reduce visual impacts.

Within the Special Mining Lease (SML), much of the proposed infrastructure would be an extension to existing facilities (e.g. the TSF and metallurgical plant). Elsewhere, the new infrastructure would be located adjacent to existing infrastructure (e.g. the electricity transmission line, water supply pipeline and rail line). In areas where new infrastructure was introduced to the landscape, however, visual effects would be more substantial (e.g. the open pit, rock storage facility (RSF), desalination plant and landing facility).

The visual impact of the proposed expansion has been assessed in terms of the degree of change to the existing visual landscape. Management measures to reduce visual impacts have been identified.

## 20.2 ASSESSMENT METHODS

The visual amenity assessment was conducted by Hassell Pty Ltd, Wax Design Pty Ltd and Swanbury Penglase. The existing visual character of the EIS Study Area and surrounding landscape was recorded during two three-day field surveys in May and July 2006. The landscape was assessed in terms of the existing infrastructure, geomorphology, landform, colour, texture and vegetation patterns at 32 viewpoints around Olympic Dam, along the infrastructure corridors, at the landing facility and at Point Lowly (see Figure 20.1). Representative photographs were taken at each viewpoint and the locations were recorded with a global positioning system (GPS).

Assessment of visual impacts assumes that all infrastructure is fully built and the RSF and the expanded TSF are at their 40 year design height and footprint (see Figure 5.6b). The approach was therefore to assess the greatest visual effect, rather than at progressive stages of the expansion. During the construction and early operation phase, the visual impact of the RSF and TSF would be much less than the levels presented in this chapter.

The criteria used to predict the level of visual impact have been developed previously by Wilson (2002) specifically for visual assessments and are different from those used elsewhere in the Draft EIS (as described in Chapter 1, Introduction, Section 1.6.2).

Two approaches were used to assess the visual impact:

- a detailed objective assessment at six viewpoints for which photomontages were constructed
- a subjective assessment at the remaining 26 viewpoints.

The following sections describe the method for each approach (see Appendix R for details).

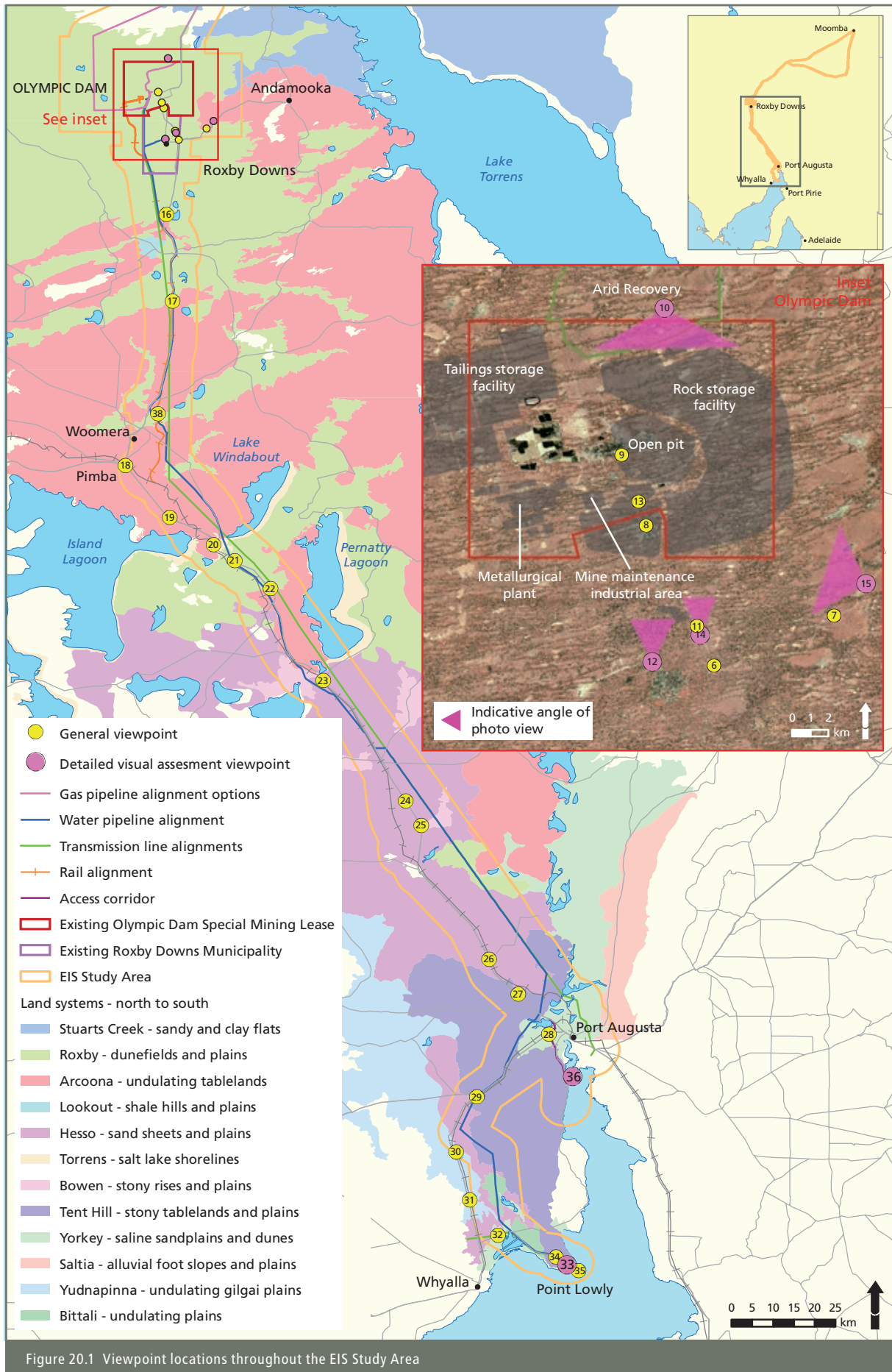


Figure 20.1 Viewpoint locations throughout the EIS Study Area

### Detailed objective assessment

The detailed visual assessments were carried out from four viewpoints near Roxby Downs and Olympic Dam, one site near the desalination plant at Point Lowly and one site near the landing facility in Upper Spencer Gulf (see Figure 20.1 for the location of all viewpoints and the proposed infrastructure). Sites with panoramic views of the area where the proposed infrastructure would be located, and which are frequented by members of the public, were selected. Photomontages of the combined RSF and TSF, the desalination plant and the landing facility were developed from the six viewpoints in two stages:

- Wire-line digital models of the RSF, TSF and desalination plant and landing facility were produced and superimposed on high-resolution photographs taken from the six viewpoints. The photographs were taken with a 35 mm reflex camera with a 50 mm lens, which closely resembles the perspective of the human eye.
- The photomontages were refined from the viewpoint by checking them against other reference points such as buildings, trees and landmarks to confirm the proposed location and size of the project component in the landscape.

When the photomontages had been prepared, they were assessed in terms of the criteria summarised in Table 20.1 (see Appendix R for more detailed information).

A score between 1 and 5 was assigned to each element of these criteria against set values (see Appendix R for how values are assigned to each). The sum of the scores determines the visual effect as follows (method as per Wilson 2002):

- 18–20 is severe
- 14–17 is substantial
- 10–13 is moderate
- 7–9 is slight
- 4–6 is negligible
- 0–3 is no effect.

### Subjective assessment

The impact of existing infrastructure (particularly the rail line, transmission line and SA Water above-ground water pipeline in the existing infrastructure corridor) and the character of the land systems that they traverse, or in which they occur (see Chapter 10, Topography and Soils, for a description of the relevant land systems) was assessed subjectively from the remaining 26 viewpoints shown in Figure 20.1.

The ability of the surrounding landscape and/or existing infrastructure to absorb the visual impact of the proposed infrastructure was assessed. The viewer's mode of viewing (i.e. from a stationary or moving vehicle or during recreational activities) was also considered, as well as the number of observers (established from projected population growth figures for Roxby Downs and Hiltaba Village and from traffic volumes near the linear infrastructure).

## 20.3 EXISTING VISUAL LANDSCAPES

### 20.3.1 OLYMPIC DAM MINE SITE

The landscape at Olympic Dam comprises undulating plains, gibber (rock covered) plains and risers, and red sand dunes up to six metres high, occasionally with clay pans in the interdune swales (see Chapter 10, Topography and Soils, for details). The dunes are orientated in an east–west direction, producing successive low ridgelines that obscure views north and south and create an enclosed visual character. The landscape character and its relationship to the current infrastructure at each of the photomontage viewpoints in the mine site are described in Appendix R.

The existing mine site is a large industrial operation covering an area of about 1,500 ha. Its main visual features are the:

- metallurgical plant
- tailings storage facility (TSF)
- associated infrastructure including roads, office and workshop buildings
- 132 kV and 275 kV transmission lines to Olympic Dam and a 33 kV transmission line from Olympic Dam to Roxby Downs.

**Table 20.1 Assessment criteria to determine the visual effect**

Criteria	Description
Landscape absorption capacity	This is the visual change that would occur in the existing landscape because of the proposed development. Using the photomontage, the percentage of screening due to topography and vegetation was electronically calculated as a percentage of the active field of view. It is calculated as the percentage change in pixellation and takes into consideration the visual skyline and screening from existing vegetation and other physical forms from the viewpoint
Horizontal visual effect	The field of vision experienced by the human eye is described as an angle of 200–220° horizontally (Pirenne 1967). This field of view includes the peripheral vision, which is described as 40° for each eye. Within the peripheral vision, colour, shapes and forms are not registered. For the assessment, the angle of peripheral vision was subtracted from the field of view, producing an 'active field of view' of 120–160°. The centre of the development was established with an angle of approximately 80° each side, and the extent of the visual effect was measured within this zone. The entire development rather than the individual components was assessed
Vertical visual effect	The vertical visual effect was assessed similarly to the horizontal visual effect, although the active field of view is approximately 150°. This assessment ensured that the visual effect considered the proximity and vertical scale of the proposed development. It is measured as the percentage change within the active vertical field of view
Distance of visual effect	This measures how visual impact is affected by distance. The effect of scale, topography and vegetation changes with distance, and changes the degree of visual effect

The largest component of mining infrastructure in the region is the TSF, which covers 400 ha and is currently about 20 m high (although its design height is 30 m). Although the TSF is extensive and visible from at least 5 km away, its visual impact from the ground is not substantial because its walls have a low, flat profile and its colour resembles natural tablelands. From the air, however, the TSF is highly visible and easily identified as an industrial feature.



Plate 20.1 Existing mine infrastructure visible on the skyline at Olympic Dam



Plate 20.2 Natural vegetation on the dunes within Roxby Downs



Plate 20.3 Open view across a gibber plain

Although smaller in area than the TSF, the metallurgical plant and smelter stacks are considerably higher; the tallest stack is 90 m. They create a series of tall industrial features in an otherwise flat landscape and are visible from Roxby Downs and up to 30 km away in Andamooka (see Plate 20.1 for visibility of infrastructure on the skyline).

Intermittent visible emissions from the site include dust, smoke and steam, which have a relatively minor impact on the existing visual amenity of the area.

### 20.3.2 ROXBYS TOWNSHIP

Established in 1988 to service Olympic Dam, Roxby Downs comprises about 1,400 houses or units, a commercial centre, light and heavy industrial areas, two caravan parks, community facilities and a variety of recreation facilities.

The landscape character of Roxby Downs is arid. Native trees surrounding the town and landscaping trees in the town (see Plate 20.2) screen the distant views of the mine infrastructure to a significant degree.

The landscape on the fringes of Roxby Downs is defined by east–west oriented dunes, which support White Cypress-pine *Callitris glaucophylla* woodland. The taller mine infrastructure, such as the stack, is visible from the road just north of the town and elevated sites in town.

Aspects of the town’s design that enhance its visual amenity are the curved streets, large-scale planting of native shrubs and trees along the streets, in parks and around dwellings, a number of attractive civic parks and public amenities, the golf course and a well landscaped commercial centre.

Roxby Downs was expanded to the south during the 1997 mine expansion, resulting in a more sprawling town structure that allowed a large number of mature trees to be retained.

### 20.3.3 HILTABA VILLAGE AND AIRPORT

The visual character of the proposed site of Hiltaba Village and airport, located on a gibber plain 17 km north-east of Roxby Downs, is very different from the dunefields surrounding the town (see Plate 20.3). There is no infrastructure on the gibber plains at present, and the area is defined by very expansive vistas with distant views of the existing mining infrastructure.

### 20.3.4 INFRASTRUCTURE CORRIDORS

The proposed transmission line, water supply pipeline, rail line and access corridor to the pre-assembly yard are within existing road, water pipeline and transmission line corridors (see Plates 20.4 and 20.5).

The landscape character of the existing infrastructure corridors is described in terms of the land systems they traverse.

The landscape character of each land system is described in Table 20.2 (see Figure 20.1 for viewpoint locations and land systems; see Appendix R for more detailed descriptions).



### 20.3.5 DESALINATION PLANT

An historic lighthouse and associated cottages, rocky and sandy beaches and coastal homes are important aesthetic features of Point Lowly (see Plate 20.6). The visual character of the area is also semi-industrial, with the establishment of the Santos oil facility on Point Lowly in 1983. Its large tanks for liquid petroleum gas and crude oil, and fractionation facilities are clearly visible from at least 30–40 km across Spencer Gulf and from Whyalla. The white tanks are highly visible and are in sharp contrast to the surrounding landscape. The 2.4 km jetty dominates the seascape (see Plate 20.7). The generally low shrubland on Point Lowly provides little screening of these facilities.

Although much smaller and less intrusive than the Santos facility, the aquaculture rings in Fitzgerald Bay and shore facilities on Point Lowly also add to the region’s emerging industrial/commercial character.



Plate 20.4 Transmission line crossing the main road between Roxby Downs and Woomera



Plate 20.5 Existing SA Water pipeline and transmission line near Woomera

**Table 20.2 Landscape character of the infrastructure corridors**

Land system	Landscape character description	Viewpoints
Roxby	Undulating plains with dunes, sandplains and low gibber (rock) capped rises	6, 8–14, 16, 20–22
Arcoona	Broad, gently undulating gibber plateau, grading to steep marginal slopes in the south	7, 15, 17–19, 38
Torrens	Salt crusted lake bed and shoreline, Lake Torrens salt lake and shoreline	23
Hesso	Gently undulating sandy plain in the northern section, grading to calcareous rises in the centre and low sand ridges in the south, supporting open Myall and Mulga woodland	23–27
Tent Hill	Plateau with steep escarpments and long foot slopes leading down to Spencer Gulf	27, 29, 33–35, 36
Yorkey	Salt marshes, yellow and red dunefields and drainage channels and salt lagoons, with drainage to Spencer Gulf or landlocked saltpans	28, 32
Yudnapinna	Undulating plains supporting Myall woodland, and gilgai plain with low shrubland	30, 31
Bittali	Calcareous plains with foot slopes of mallee woodlands on sandy loam soil	–

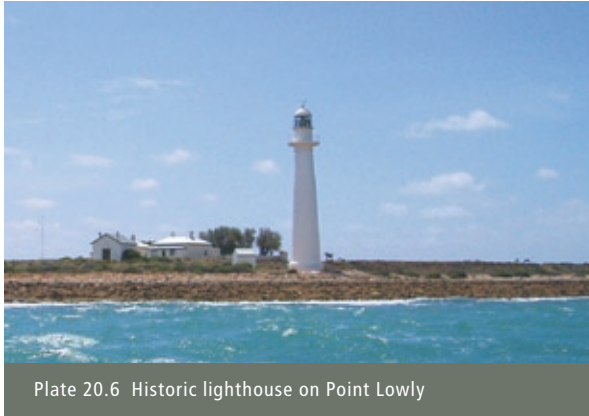


Plate 20.6 Historic lighthouse on Point Lowly



Plate 20.7 Santos oil facility and jetty at Port Bonython

### 20.3.6 LANDING FACILITY

The visual amenity of the proposed landing facility is defined in the east by the views across Spencer Gulf to the southern Flinders Ranges, and in the west by the nearby hills and escarpments supporting intact shrubland in the Department of Defence's Cultana Training Area.

The visual character of the landing facility site is semi-industrial, with the Playford and Northern Power Stations being very prominent industrial features across the gulf to the north-east (see Plate 20.8).

The local landscape is dominated by the coastal homes and sections of low mangrove woodland that occur in the more sheltered areas.



Plate 20.8 Landing facility site with the Northern Power Station

### 20.3.7 PORT FACILITIES

Outer Harbor and Port Adelaide are highly industrialised, with its landscape and visual character defined by corrugated iron warehouses, administration buildings, cement plants, cranes and the ABB Grain Ltd silos (see Plate 20.9).

Despite the presence of heavy industry, wharves and shipping, Port Adelaide is also the centre of a significant urban regeneration program, which has resulted in many areas being upgraded to housing and/or canal-like estates and the development of new infrastructure corridors such as the Port River Expressway.

BHP Billiton leases two port facilities at Port Adelaide – the sulphur storage facility and the warehouse and transport facilities (see Figure 19.22). The existing sulphur storage facility consists of a large concrete and sheet metal warehouse located on the eastern edge of the Port Adelaide industrial area. It is relatively isolated from other industrial buildings, with a watercourse on the western side of the building. The second facility consists of an office, a large warehouse, containers and truck and train loading facilities (see Plate 20.9) embedded within a heavily industrialised area.

The proposed facilities at the Port of Darwin would be located within existing port infrastructure at East Arm, approximately 5 km south-east of Darwin, across Frances Bay. East Arm currently supports bulk mineral and containerised exports, a supply and service base for off-shore oil and gas projects, fuel and acid unloading facilities and heavy lift and storage facilities for imports. The Darwin Port Corporation plans to expand the facilities and is revising the East Arm Master Plan. The nearest urban areas occur 4 km north-west across Darwin Harbour in the Darwin CBD and 6 km north-east of East Arm in the suburb of Berrimah.

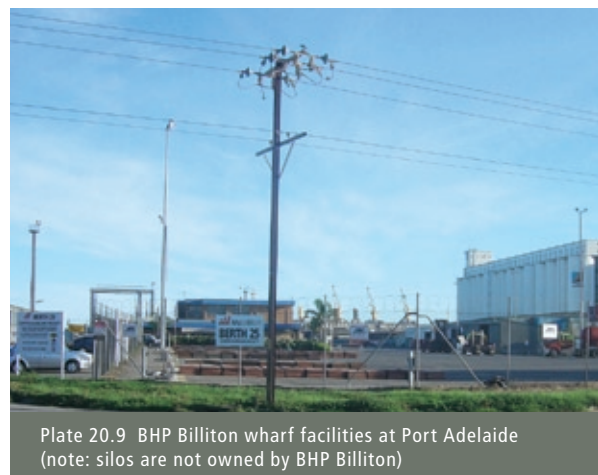


Plate 20.9 BHP Billiton wharf facilities at Port Adelaide (note: silos are not owned by BHP Billiton)



## 20.4 DESIGN MODIFICATIONS TO PROTECT LANDSCAPE VALUES

### 20.4.1 LANDSCAPE VALUES

At Olympic Dam and along the infrastructure corridors, the main landscape values relate to the region's relatively pristine deserts, wilderness and scenic beauty that are enjoyed by Outback travellers, tourists and local residents.

In Upper Spencer Gulf, the landscape values are similar but relate more to the region's scenic beauty and relatively undeveloped coastal environment.

### 20.4.2 MAJOR ELEMENTS OF THE PROJECT DESIGN

The siting and design of infrastructure provides some opportunity to minimise the potential impacts on visual amenity. This would be achieved by:

- locating the new transmission line adjacent to the two existing transmission lines
- aligning transmission line towers with the existing towers, when possible
- locating the proposed desalination plant adjacent to the existing Santos facility
- burying the gas supply pipeline
- burying most of the water supply pipeline
- retaining some of the natural sand dunes and vegetation within the Roxby Downs expansion area.

Additional measures that would reduce visual impacts of infrastructure components are described in Section 20.5.

## 20.5 IMPACT ASSESSMENT AND MANAGEMENT

An objective assessment of the predicted visual impacts of the RSF, TSF and the desalination plant was carried out. A subjective assessment was conducted on the other major project components. This section discusses the findings of these assessments and describes management measures that could reduce identified impacts.

### 20.5.1 ROCK AND TAILINGS STORAGE FACILITIES

The RSF and TSF have been assessed as a single entity as their forms tend to merge when seen from distant viewpoints.

The results of the objective assessment of the visual effect of the RSF, TSF and the desalination plant are summarised in Table 20.3 (see Appendix R for details).

It should be noted that one of the main reasons for locating Arid Recovery within the Olympic Dam SML was to confirm that threatened species could coexist with a large-scale mining operation. The effect of the expanded operation on visual amenity within Arid Recovery should therefore be considered in this context.

Of the assessed components of the proposed mine expansion, the RSF would have the greatest visual effect. Its predicted visual impacts would vary from 'substantial' when viewed from the viewing platform within Arid Recovery to 'moderate' when viewed from the northern fringe of Roxby Downs (see Table 20.3, Plates 20.10a–d).



Plate 20.10a Viewpoint 10 showing the proposed rock storage facility and tailings storage facility from Arid Recovery – 50 mm lens photomontage (*human field of view*)



Plate 20.10b Viewpoint 12 showing the proposed rock storage facility from the edge of Roxby Downs – 50 mm lens photomontage (*human field of view*)



Plate 20.10c Viewpoint 14 showing the proposed rock storage facility from near the Sunset Picnic Ground – 50 mm lens photomontage (*human field of view*)



Plate 20.10d Viewpoint 15 showing the proposed rock storage facility from the road to Andamooka – 50 mm lens photomontage (*human field of view*)

The flat-topped RSF and TSF would resemble natural mesas that occur in northern South Australia, which would tend to reduce their visual effect (see Plate 20.11). They would be visible for up to 30 km from the site and would be the most prominent features within the regional landscape. The RSF would tend to enclose, screen and thereby lessen the visual impact of the existing mine infrastructure, particularly when viewed from Arid Recovery.

In addition to the design considerations outlined in Section 20.4, the potential visual impact of the proposed RSF and TSF would be further minimised by creating suitable conditions for vegetation growth around the base of the RSF and TSF.

The residual impact of the RSF and TSF would be moderate when viewed from Roxby Downs, and substantial when viewed from the viewing platform within Arid Recovery.



Plate 20.11 Natural mesa in northern South Australia

## 20.5.2 DESALINATION PLANT AND LANDING FACILITY

The results of the detailed objective assessment of the visual effect of the desalination plant and landing facility are summarised in Table 20.3 (see Appendix R for details).

The visual impact of the proposed desalination plant is consistent with the area's industrial character and has been assessed as 'moderate' (see Table 20.3, Plate 20.12). Views of the desalination plant from the recreational sites at the lighthouse and coastal homes on Point Lowly would be screened to some extent by the topography. Views from the sea and across the gulf would be screened by the Santos facility, which would continue to dominate the visual character of Point Lowly. Similarly, at night, lights associated with the Santos facility would dominate any light emanating from the desalination plant.

In addition to the design considerations outlined in Section 20.4, the potential visual impact of the proposed desalination plant would be further minimised by:

- selecting colours for the desalination plant that suit the surrounding landscape
- landscaping appropriately to provide screening of the desalination plant and associated infrastructure (e.g. the building for the seawater intake sump).

The residual visual impact of the desalination plant would be moderate.

The visual impact of the landing facility has been assessed as 'slight' from the group of homes that start about 240 m south of the proposed facility. Although the landing facility would

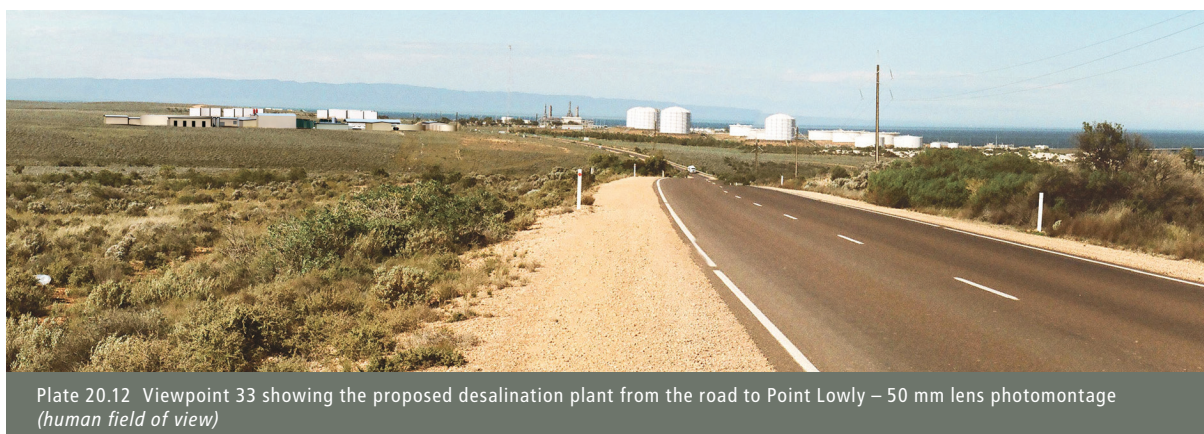


Plate 20.12 Viewpoint 33 showing the proposed desalination plant from the road to Point Lowly – 50 mm lens photomontage (human field of view)

**Table 20.3 Visual effects of the RSF, TSF, desalination plant and landing facility**

Project component	Viewpoint (vp)	Predicted visual impact from viewpoint
Rock and tailings storage facilities	Arid Recovery (vp 10)	Substantial
	Northern edge of Roxby Downs (vp 12)	Moderate
	Sunset picnic ground, Roxby Downs (vp 14)	Moderate
	7 km along Andamooka Road (vp 15)	Moderate
Desalination plant	Point Lowly lighthouse (vp 33)	Moderate
Landing facility	Nearest group of houses (vp 36)	Slight



extend 200 m into Spencer Gulf, the presence of the Playford Power Station across Spencer Gulf would lessen somewhat the visual effect of the facility (see Plate 20.13).

### 20.5.3 OTHER INFRASTRUCTURE

The results of the subjective visual assessment of the remaining infrastructure are shown in Table 20.4. The visual impact of the

access corridor linking the landing facility to Port Augusta has been assessed as 'substantial' to 'slight', depending on the distance from major viewpoints (mainly roads). The visual impact of Hiltaba Village and the airport has been assessed as 'moderate' because of their size and proximity to Roxby Downs. The visual impact of the remaining project components has been assessed as 'negligible' to 'slight'.



Plate 20.13 Viewpoint 36 showing the proposed landing facility jetty – 50 mm lens photomontage (*human field of view*)

Table 20.4 Predicted visual impact of remaining project components

Project component	Description	Predicted visual impact
Open pit	It would be possible to see into the pit up to 1.2 km away from its edge. The top section of the pit wall would be visible from up to 1.75 km. Beyond this, the dunes and vegetation would effectively screen views. The pit would be visible from the air. In the longer term, the location of the RSF around the edge of the pit would limit the view. Light spill from the open pit at night would result in a slight glow that would be visible for 10–30 km, depending on the ambient light conditions	Slight
Gas-fired power station and expanded metallurgical plant	Although the power station and expanded metallurgical plant would be substantial additions to the facilities at Olympic Dam, the new infrastructure would be consistent with the existing industrial landscape and would only marginally increase the visual impact of the site. Although lights associated with the expanded industrial facilities would be greater in number and visible for tens of kilometres, the visual effect would be similar to that of the existing facilities	Slight
Hiltaba Village	The isolation of Hiltaba Village (17 km from Roxby Downs) lessens its visual impact	Moderate
Roxby Downs township expansion	The proposed expansion is considered to be in keeping with the existing landscape character. In some instances the Master Plan would improve the existing character	Slight
Transmission line	The additional transmission line would be located adjacent to two existing lines and therefore is considered consistent with the existing visual effect	Slight
Airport	The development is isolated and would be noticeable only to people travelling between Roxby Downs and Andamooka	Moderate
Access corridor	The visual impact of the access corridor linking the landing facility to the Stuart Highway via the pre-assembly yard varies significantly, depending on the openness of the terrain, the presence of screening vegetation and the offset from existing roads and viewpoints	Substantial to slight
Rail line	Although much of the rail line is located adjacent to the main road to Olympic Dam, its impact would be slight because it would have a low profile and would be screened from view for much of its length by the dunefield vegetation and the valley associated with Wirrawirralu Creek to the east of the Olympic Dam to Pimba Road	Slight
Water supply pipeline	The pipeline would be buried, with the exception of about 1.5 km that would be associated with watercourse crossings and inlet to Lake Windabout. Pumping stations would be visible in the distance from the main road. In the short term, the clearing of vegetation for pipeline construction would increase the visual effect	Negligible to slight
Gas supply pipeline	The pipeline would be buried and traverse remote country rarely visited by the public	Negligible
Port facilities	An upgrade to facilities would be consistent with the existing industrialised character of Outer Harbor and the Port of Darwin	Negligible

In addition to the design considerations outlined in Section 20.4, potential visual impacts of the various infrastructure components would be further minimised by:

- encouraging the selection of appropriate building colours for infrastructure that suit the surrounding landscape
- landscaping appropriately to provide screening of infrastructure, thereby enhancing the visual amenity of those areas frequented by the public
- rehabilitating access tracks, laydown areas and construction worksites as soon as possible after construction is completed.

The visual effect of the open pit may be viewed as positive if visits to Olympic Dam by tourists become more important. BHP Billiton would investigate the installation of a viewing platform to allow organised tour groups to safely view the open pit and mining operations.

## 20.6 FINDINGS AND CONCLUSIONS

### Rock and tailings storage facilities and open pit

- The flat-topped RSF and TSF would resemble the natural mesas that occur in northern South Australia. They would be visible for up to 30 km from the site and would be the most prominent features within the regional landscape.
- Residual impact of the RSF would be moderate when viewed from Roxby Downs, and substantial when viewed from the viewing platform within Arid Recovery. The visual impact within Arid Recovery may be alleviated to some extent by the RSF screening the mining shafts and associated infrastructure. It is worth noting, however, that Arid Recovery was located intentionally close to the Olympic Dam operation to confirm that a successful conservation initiative could coexist with a large-scale mining operation.
- The open pit would be the largest in Australia and likely to provide spectacular views. The residual visual effect of the open pit would probably be positive because it could potentially become a significant tourist attraction.

### Desalination plant

- The visual character of Point Lowly is, and would continue to be, dominated by the Santos crude oil storage and port facility.
- Views of the desalination plant from recreational sites at the lighthouse and coastal homes on Point Lowly would be screened somewhat by the topography. Views from the sea and across the gulf would be screened by the Santos facility.
- Residual visual impact of the desalination plant would be moderate.

### Landing facility

- Although the landing facility area is relatively natural, its visual character is affected to some extent by views of the Playford and Northern Power Stations across Spencer Gulf to the north-east.
- The residual impact of the landing facility would be slight to moderate, depending on distance from the facility and line of sight when viewing the jetty from adjacent coastal homes.

### Other infrastructure

The residual visual effect of other infrastructure was assessed as:

- positive for the proposed expansion of Roxby Downs, because the preservation of numerous dunes and natural vegetation would enhance the visual character of the new residential areas
- slight for the proposed gas-fired power station and expanded metallurgical plant, because they would be consistent with the existing industrial landscape
- substantial to slight for the access corridor linking the landing facility to the Stuart Highway, depending on the offset from existing roads and tracks
- slight for the proposed transmission line, because its visual effect would be reduced by its location next to two existing transmission lines
- moderate for the proposed airport and Hiltaba Village, because they would be clearly visible when travelling along Andamooka Road
- negligible to slight for the rail line and water supply pipeline, because they would be generally located adjacent to existing linear infrastructure, and most of the water supply pipeline would be buried
- negligible for the proposed gas supply pipeline, because it would be buried
- negligible for the proposed port facilities at Outer Harbor and the Port of Darwin, because the facilities would be consistent with the existing industrial use and character of the ports.