

## CHAPTER 13 VISUAL AMENITY

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## **13 VISUAL AMENITY**

*This chapter provides an overview of the local visual landscapes, identifies locations from where changes to the Rasp Mine will be viewed and provides management measures to minimise the potential for adverse impacts.*

### **13.1 INTRODUCTION**

The Project Area is a brownfields site with past mining building and infrastructure distributed over the area. A visual assessment was conducted to determine the extent to which the Project will impact on the existing visual landscape, within the local landscape setting of the site.

The potential for adverse impacts to visual amenity were determined as 'low risk' by preliminary assessment investigations.

The visual amenity study and chapter were completed by ERM.

### **13.2 METHODOLOGY**

The methodology used in this visual assessment included:

- characterisation of the visual character of the local landscape and Rasp Mine and identification of potential viewing points. This was based on a site inspection and analysis of still photographs, aerial photographs and topographic maps;
- analysis of the proposed site layout to identify changes to the visual character of the Rasp Mine site; and
- development of management measures to be implemented to minimise the potential for adverse visual impacts.

### **13.3 EXISTING ENVIRONMENT**

The Project Area is situated on the ridge line through the centre of Broken Hill that was the Line of Lode. Due to mining activities over the last century this ridge has changed in height and appearance. The site has now been replaced with the storage waste rock, tailings and other land disturbances. This new landform acts as a visual and physical barrier between north and south Broken Hill. As discussed in *Section 1.5*, the site is surrounded by urban areas, commercial, transport infrastructure and industrial development.

The Rasp Mine and neighbouring Perilya mining operations (and their associated infrastructure) are a locally dominant feature in the landscape. In particular, the external mullock slopes and slag heaps that border Rasp Mine are a significant visual feature of the City. However, much of the Project Area is not visible from Broken Hill because it is the highest topographic feature in Broken Hill.

The mine is visible from roads and many residential properties and forms a visual backdrop to the main shopping area within Broken Hill. Slopes have been shaped from overburden over many years of mining operations. The Rasp Mine provides a prominent visual reminder of the history of Broken Hill as a mining town, and has a high visual heritage value.

### **13.3.1 Visual catchment**

The visual catchment is defined as the area in which the development is visible, and is limited by distance, topography and the presence of any screening features such as vegetation. The Project Area can be viewed from areas directly surrounding the site and from rises in the northern and southern sections of Broken Hill.

## **13.4 IMPACT ASSESSMENT**

As detailed in *Chapter 2*, construction works will be temporary, taking place for up to twelve months. Construction activities will be concentrated in areas where operations will be focussed therefore potential visual impacts associated with construction and operations have been considered together.

*Table 13-1* summarises receptors where viewscales may change and assesses the potential impact on the basis of visual absorption capacity and visual sensitivity. This assessment focuses on the impact of changes to the viewscape resulting from the Project. These components are described below. Potential impacts resulting from site lighting are also below.

### *Ten metre raise of existing TSF (TSF1)*

The TSF will be raised by 10 m and will be benched from the edge of the existing TSF which will bring it almost in line with the height of the adjacent Mount Hebbard tailings facility (slightly lower).

### *General site movements*

Mine trucks transporting ore to the ROM pad and returning to Kintore Pit will be the most common movement across the site. Other movements will include the water truck and other vehicles making deliveries to the site and smaller utilities transporting personnel to and from activity areas.

### *Processing plant and associated infrastructure including ROM pad*

The processing plant will be on a north-south axis and include a series of tanks, conveyors and platforms. Components of the plant will be constructed in a depression limiting views. Cladding and other noise management structures such as the acoustic barrier (required in the processing area) will appear as typical industrial infrastructure. The ROM pad will be elevated and will appear as an extension of the existing landform. The processing plant, associated infrastructure and ROM pad layouts can be seen on *Figure 2-3*.

### *Mine back fill plant*

The mine back fill plant components will be contained at a single location. The plant will comprise a series of tanks and cyclones with an enclosed control room.

**Table 13-1 Receptor locations, changes to viewscales resulting from the Project and impact assessment**

Receptor	Changes resulting from the Project	Visual absorption capacity	Visual sensitivity	Impact assessment
Road users and residents directly to the south of the mine ( <i>Photograph 13-1</i> )	<ul style="list-style-type: none"> <li>Ten metre raise of existing TSF;</li> <li>General site movements.</li> </ul>	High	Low	<p>This area is considered to have a low visual sensitivity given its existing viewscape to the north is dominated by the mine.</p> <p><i>Photograph 13-1</i>, depicts the existing view of the TSF from the closest receptors located on Eyre St. The form of the TSF will not change however it will appear slightly larger. Trucks may be viewed when working in the southern section of the site however these movements will be infrequent. These impacts will not be significant.</p>
Road users and residents on rises within the southern section of town	<ul style="list-style-type: none"> <li>Ten metre raise of existing TSF.</li> </ul>	High	Low	The raise of the TSF will not have a significant impact on these receptors due their proximity to the mine (distant views) and their existing northern outlook, which is dominated by the mine.
Properties and road users directly to the south west of site ( <i>Photograph 13-2</i> and <i>13-3</i> )	<ul style="list-style-type: none"> <li>Processing plant and associated infrastructure including ROM pad;</li> <li>Trains on railway.</li> </ul>	High	Moderate	These residents and road users have a moderate visual sensitivity given their proximity to the processing plant area. Some components of the plant may be viewed from these areas. However, these residents and road users have significant existing views of mine infrastructure, road traffic and transmission lines ( <i>Photographs 13-2</i> and <i>13-3</i> ). Management measures recommended in <i>Section 13.5</i> will minimise potential visual impacts.
Road users and residents on rises within the northern section of town ( <i>Photograph 13-4</i> )	<ul style="list-style-type: none"> <li>General site movements;</li> <li>Mine back fill plant.</li> </ul>	High	Low	General site movements and the mine back fill plant will not have a significant impact on these receptors due their proximity to the mine and their existing southern outlook which is dominated by the mine.
From Crystal Street	<ul style="list-style-type: none"> <li>Mine back fill plant.</li> </ul>	High	Low	The view from road users is interrupted by the Broken Hill railway station and associated infrastructure. In addition, the speed limit along Crystal Street is 50 km/hr. Therefore, potential for adverse impacts is considered minimal.

Receptor	Changes resulting from the Project	Visual absorption capacity	Visual sensitivity	Impact assessment
Road leading towards Miner's Memorial ( <i>Photograph 13-5</i> )	<ul style="list-style-type: none"><li>Mine back fill plant.</li></ul>	High	Low	The area proposed for the back fill plant is a rehabilitated overburden emplacement area containing no vegetation. A small section of the road leading towards the Miner's Memorial will have clear views of the mine back fill plant ( <i>Photograph 13-5</i> ). The plant will fit the theme of the Miners Memorial and will not detract from the tourist value of the memorial.

***Photograph 13-1 Looking north west towards Mount Hebbard from Eyre St***



***Photograph 13-2 Looking north from Eyre and Bonanza St intersection***



*Photograph 13-3 Looking north west from Eyre St*



*Photograph 13-4 Looking east towards Rasp Mine from Crystal St*





**Photograph 13-5 Looking west from road adjacent to Delprat Shaft entrance**



#### *Site lighting*

Mining operations will be undertaken over a twenty-four hour period. To ensure that night-time operations are carried out in a safe and efficient manner a substantial amount of lighting is required. Lighting that may be visible from off-site will be located at the:

- processing plant and associated infrastructure including ROM pad;
- along internal access roads and from haul truck headlights; and
- other infrastructure zones frequented by staff including car parks.

The visual impact of lighting on the areas around the site will vary according to topography and proximity of activities to surrounding land uses.

Lighting of stockpiling and disposal areas will be directed inwards and light spill beyond the site will be further restricted by buildings and distance. In general, lighting will be restricted to the minimum necessary for safety and efficiency purposes and will be directed into the site through the use of directional lighting equipment and shielding.

Shielding by the external mullock slopes and buildings mean that site lighting is unlikely to produce glare to an extent that would reduce the vision of motorists on adjacent roads. It should be noted that the facility is in the township of Broken Hill, with associated lighting from residences and business and street lighting.

Subject to the management measures discussed in *Section 13.5*, lighting from the Project is expected to have a low visual impact on the surrounding area.

**13.5     MANAGEMENT MEASURES**

Visual impacts will be minimised by implementation of the following management measures:

- material stockpiles, waste, plant, equipment and vehicle parking will be restricted to designated areas;
- where possible, avoid the use of highly reflective materials and colours on the site, unless necessary for safety reasons;
- lighting being kept to a minimum necessary to safely carry out operations;
- lighting being directed away from residences through the use of directional lighting equipment and shielding; and
- implementation of a rehabilitation and mine closure strategy post operations, aimed at retaining the mining character of the site (refer to *Chapter 11*).

**13.6     CONCLUSIONS**

The Project Area is considered to be an integral part of the visual and heritage character of Broken Hill and can be viewed from many parts of town. Changes to the viewscape resulting from the Project will be relatively minor. Retention of much of the original landscape features and implementation of management measures discussed in Chapter 11.5 will minimise potential impacts to the visual amenity. The proposed rehabilitation and mine closure strategy will maintain the visual heritage value of the Project Area.