

15.0 LANDSCAPE CHARACTER AND VISUAL AMENITY

15.1 LANDSCAPE

15.1.1 Background and Methodology

In order to identify the visual value of the existing site, a landscape character assessment has been undertaken. This assessment includes consideration of landscape elements and how they combine to create the character of the subject area. This assessment addresses the way different components of the environment, both natural (vegetation, geology, topography, etc.) and cultural (land use, built environment, enclosure, etc.), interact with each other to be seen by residents or visitors to the area as creating a distinct combination of features. By defining the existing character of the area, any changes as a result of development can be easily identified and characterised as either contributing to the local character or detracting from the existing character of the area.

15.1.2 Existing Environment

The landscape character of the district surrounding the proposed substation generally comprises three distinct land use types – crop land, grazing land with scattered native trees and areas of native woodland. Beyond the flat agricultural plains, the land is gently undulating between 300 to 360 metres above sea level and is largely covered with a combination of grazing land and dry eucalypt woodland.

Also in the immediate landscape is the Kogan Powerstation, coal mine and associated infrastructure.

The landscape of the region is characterised by the following distinctive elements:

- Very low density and generally small scale of development;
- Long straight rural roads with open or filtered views of the rural landscape;
- The meandering Condamine River, associated floodplains and riparian vegetation;
- Open flat or undulating rural plains with a patchwork of agricultural uses;
- Rolling grazing land and vegetated foothills; and
- Dry eucalypt woodland.

As discussed previously, the proposed substation site consists of two lots. The northern lot is approximately 110ha with an 800m frontage on Banana Bridge Road, the southern lot is approximately 118ha with a 570m frontage on Banana Bridge Road. Both lots are generally flat with only a very slight slope from approximately 335m above sea level at the north western corner to approximately 330m above sea level at the south eastern corner. The majority of the northern lot is densely wooded with a mixture of eucalypts, cypress and Bull oak, the north east corner of the lot has been cleared in the past for a farm house and agricultural use. The southern lot is sparsely vegetated with a mixture of native trees and grasses and has been used recently as pasture. Approximately 50% of the proposed substation suite will be located on previously disturbed farming lands.

Across Banana Bridge Road to the north east of the Project site, the existing Kogan Power Station is the dominant feature of the local environment.

15.1.3 Potential Impacts

There is an existing house located approximately 400m to the west of the proposed substation location which may be impacted.

A large portion of the existing woodland vegetation on the northern portion of the site will be cleared to construct the proposed substation. However, as the site is generally flat at the moment, no significant changes to the existing topography are required. Existing screening vegetation will be retained where possible including a buffer strip of approximately 500m width to the Banana Bridge Road frontage, the development of the substation will not change the character of the existing vegetation.

Due to the generally flat topography of the region, the scale of the substation development in comparison to the adjacent power station and the screening of the site by existing native vegetation, the proposed substation will have no significant impact on the landscape character of the region and only limited impact upon the landscape character of the local area in the short term.

Any impact the proposed substation will have on the local landscape character will be minimal in comparison to the existing Kogan Power Station.

15.1.4 Mitigation Measures

The position of the proposed substation on the site allows space to install vegetated buffers to screen the substation, although the connecting transmission lines may impact these areas. To the east a width of 500m will be left undeveloped, to the south a width of 300m will be left undeveloped and to the west a width of 160m will be left undeveloped. Enhancement of the existing vegetation to the southeast of the substation site and installation of new native woodland screen planting to the west of the substation will adequately screen the development from adjacent properties and public roads, allowing it to blend into the local landscape character.

During construction and whilst vegetation planted for screening matures, there will be a visual impact for those residing in the house 400m to the west of the substation site. Once construction of the substation is complete and new screen plantings to the south and west mature, the substation will have no significant impact on the local landscape character.

15.2 VISUAL AMENITY

15.2.1 Background and Methodology

The visibility of the substation site can be assessed by investigating what can be “seen” of the surrounding landscape from within the proposed substation site. Assuming a maximum substation height of 15m above the existing ground level, a viewshed map indicating land visible from this position was plotted based on a GIS digital elevation model and an average woodland vegetation height of 12m (see **Figure 15.1**). With the screening effect of the Kogan Power Station and the existing vegetation on the surrounding lots, the proposed substation site is visible from only a very limited area of adjacent land to the southeast and west.

15.2.2 Existing Environment

The existing woodland to the north and east of the proposed substation ranges in height from a 5-7m tall cypress to 12-15m tall eucalypts with a very dense understorey of Bull oak. (for a detailed assessment of the species and characteristics of the existing vegetation, see **Section 10**).

From the substation site there are intermittent views to the west and to the south east. Views to the northwest through to the east are screened by the existing woodland vegetation. Intermittent views to the south are available to the adjacent lots but are limited at a distance of approximately 1km from the site by woodland vegetation and the undulating terrain.

Isolated remnant vegetation associated with road corridors and property boundaries provide intermittent screening to views of the site from Banana Bridge Road in the southeast and Sixteen Mile Hall Road in the west.

15.2.3 Potential Impacts

The proposed substation is assumed to be between 15 - 25m in height and consists of electrical equipment and overhead wires; through which views of the adjacent woodland planting will be visible.

The existing woodland vegetation to the north and east of the proposed substation site will be retained and along with the position of the existing Kogan Power Station, the site cannot be seen from the Warego Highway. There are no local viewpoints from which the site is visible. The visual impact of the proposed substation development will be minimal on a regional scale.

Local visual impact will be moderate due to clearance of existing vegetation during the site preparation, line installation and construction period when the site will be partly visible from Banana Bridge Road, Sixteen Mile Hall Road, the existing house to the west of the site on lot RP176346-1 and other local properties.

Any visual impact the proposed substation will have on the local area will be minimal in comparison to the existing Kogan Creek Power Station.

15.2.4 Mitigation Measures

The position of the proposed substation on the site allows space to install vegetated buffers to screen the substation. To the east a width of 500m will be left undeveloped, to the south a width of 300m will be left undeveloped and to the west a width of 160m will be left undeveloped. Enhancement of the existing vegetation to the southeast of the substation site and installation of new native woodland screen planting to the west of the substation will adequately screen views of the development from adjacent properties and public roads.

Development of the site should include the following requirements:

- Minimise the removal of existing woodland vegetation outside of the immediate construction site area;
- Enhance existing vegetation buffers by the addition of new plantings of native tree species matching the existing species mix; and
- Install new native woodland vegetation buffer planting to the west of the substation site, with a species mix matching the existing vegetation buffer to the east of the site.

With the enhancement of woodland buffers to the south and west of the site, the permanent facility will have no long-term visual impacts regionally and will have no significant long-term visual impacts locally.

All works are to be undertaken in accordance with the EMP (see **Appendix E**).