



APPENDIX M

Landscape and Visual Impact Assessment

Confidential and Privileged

Melbourne Regional landfill

Landscape and Visual Impact Assessment -
MRL Extension

For: Landfill Operations Pty Ltd

REFERENCE: 0295969 MRL RPT1/ Final/ February 2016



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For and on behalf of
Environmental Resources Management Australia

Approved by: Alan Simonic

Position: Partner

Signed:



Date: 2 February 2016

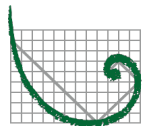
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1 INTRODUCTION

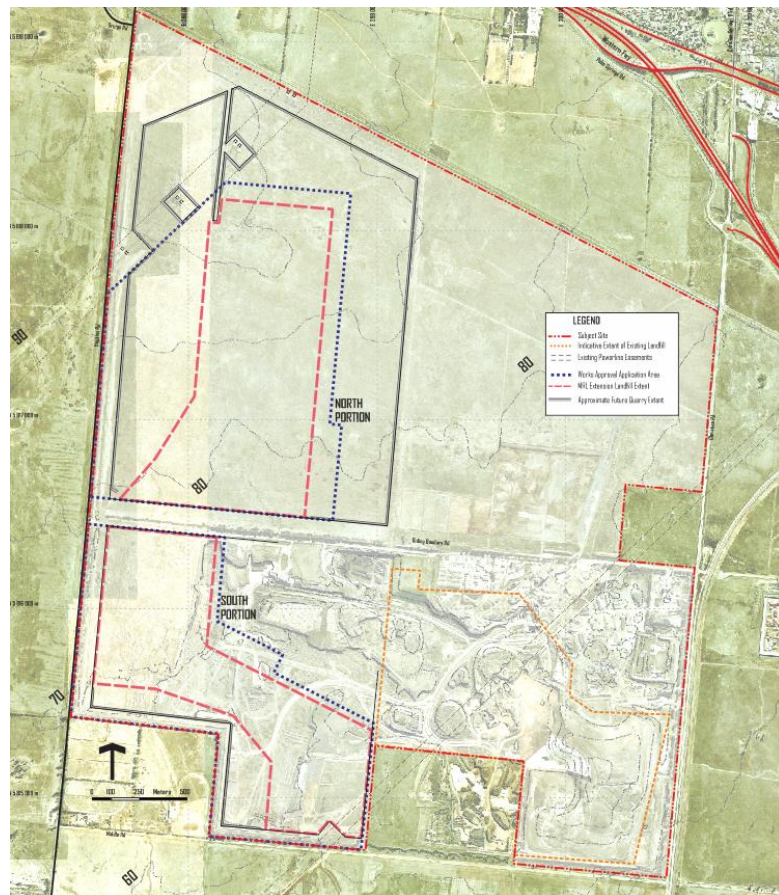
Landfill Operations Pty Ltd (Landfill Ops), a wholly owned subsidiary of Cleanaway Waste Management (Cleanaway), is seeking to develop an extension to the Melbourne Regional Landfill (MRL Extension). The MRL Extension is at 408-546 Hopkins Road, Truganina and 1154-1198 Christies Road, Ravenhall (Land).

Environmental Resource Management Australia Pty Ltd (ERM) has been engaged by Norton Rose Fulbright acting on behalf of Cleanaway to prepare a Landscape and Visual Impact Assessment as well as Landscape Rehabilitation Plans for the Extension.

1.1 The Proposed MRL Extension

At present Boral operates a quarry on the Land. On the south east of the Land, Landfill Ops has an existing landfill in operation. Landfill Ops now seeks to progressively utilise the cut created by the quarry for the extension of the landfill (MRL Extension). The existing site has a gently undulating topography that slopes from the north (108 m AHD) to south (60 m AHD) over an approximate distance of 3.5 km. Figure 1-1 is an aerial of the existing site.

Figure 1-1 Existing site (Aerial - Nearmap)



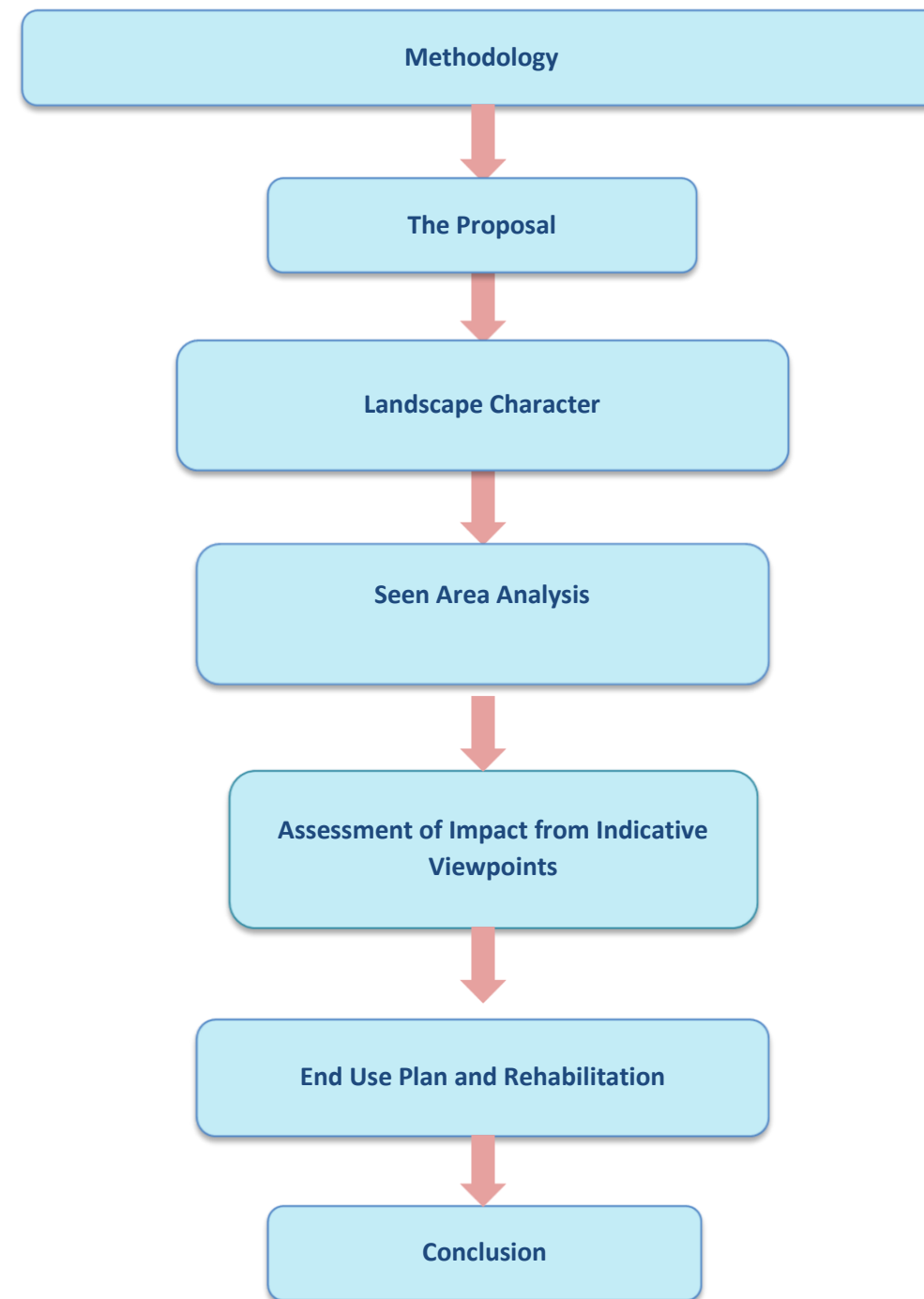
The proposed MRL Extension comprises of two portions, the south portion and north portion, located to the south and north of Riding Boundary Road respectively.

It is intended the south portion will be utilised first prior to moving into the north portion.

1.2 Assessment Structure

This report will discuss the landscape and visual impacts of the MRL Extension. The proposed structure is set out in Figure 1-2. Details of the methodology are set out later in this report.

Figure 1-2 Visual Impact Assessment Structure



2 METHODOLOGY

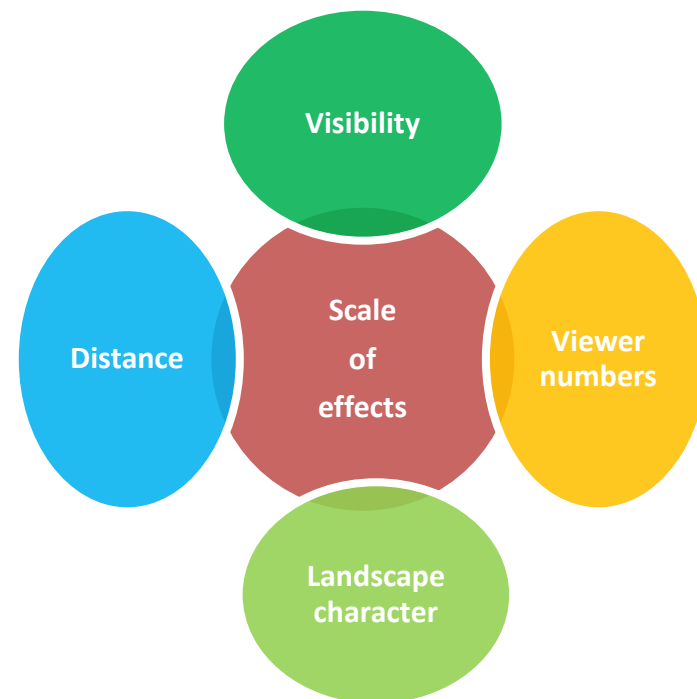
The methodology used in this assessment firstly analyses the visual impact from public viewpoints around the MRL Extension and then rates the visual impact using a scale of effects.

2.1 Public viewpoints

For public viewpoints the associated scale of effects are primarily based on the assessment of the following four criteria:

- **Visibility:** The visibility of a development, which can be affected by intervening topography, vegetation and buildings.
- **Distance:** The distance of the viewer from the MRL Extension. The level of visual impact decreases as distance increases.
- **Landscape character:** The character of the surrounding landscape, both around the site and adjacent to the viewing location, must be considered. Generally, a man-modified landscape is considered of low sensitivity and a pristine landscape is considered highly sensitive.
- **Number of viewers:** The level of visual impact decreases where there are fewer people able to view the development. Alternatively, the level of visual impact increases where views are from a recognised vantage point.

Figure 2-1 Scale of effects



These four criteria need to be considered in the assessment of each viewpoint. However the ratings of each criteria are not numerically based and cannot be simply added together to arrive at an overall rating.

For example:

- If the distances to the MRL Extension were great then even if the viewer numbers and the landscape sensitivity were high, the overall visual impact would be minor because the MRL Extension would be just visible in the landscape.

- If viewer numbers were low (i.e. few people can see the MRL Extension from the publicly accessible viewpoint), then even if the Extension was near the nominated viewpoint and the landscape sensitivity was high, the overall visual impact would be minor because the change to the landscape is not visible to many viewers.
- If landscape sensitivity was low (i.e. within a highly man-modified landscape) then even if the MRL Extension was near the viewpoint and was visible to a large number of viewers, the overall visual impact would be low because the viewpoint is not in a landscape of such sensitivity that further change would be unacceptable.

Therefore, the assessment of the overall visual impact needs to be informed by these criteria and a balanced judgement made as to the overall visual impact.

2.2 Residential viewpoints

The assessment of visual impact from residential properties is slightly different to one undertaken from publicly accessible viewpoints.

An assessment of viewer numbers is not applicable and the landscape sensitivity is always rated as “high,” as it must be recognised that people feel most strongly about the view from their house and from their outdoor living spaces.

Therefore, the visibility of the MRL Extension and the distance between the residential location and the MRL Extension are the two criteria that are used to assess a visual impact from a residential property.

Mitigation Measures for Residential Viewpoints

Mitigation measures may also include landscape treatments, both on the subject site and specifically targeted at residential dwellings.

2.3 Scale of Effects

The scale of effects for assessing the overall visual impact of the MRL Extension from a publicly accessible viewpoint ranges from negligible to high visual impact.

Negligible visual impact

Negligible – minute level of effect that is barely discernible over ordinary day-to-day effects. The assessment of a “negligible” level of visual impact is usually based on distance. That is, the development is at such a distance that, when visible in good weather, it would be a minute element in the view within a man-modified landscape or will be predominantly screened by intervening topography and vegetation.

Low visual impact

Low – visual impacts that are noticeable but that will not cause any significant adverse impacts. The assessment of a “low” level of visual impact can be derived if the rating of any one of four criteria, that is visibility, distance, viewer numbers and landscape sensitivity, is assessed as low. Therefore, an additional piece of infrastructure in a landscape which is man-modified and which already contains many examples of existing infrastructure may be rated as a low level of visual impact.

Medium visual impact

Medium – visual impact occurs when significant effects may be able to be mitigated / remedied. The assessment of a “medium” visual impact will depend upon all four-assessment criteria being assessed as higher than “low.”

High visual impact

High or unacceptable adverse effect – extensive adverse effects that cannot be avoided, remedied or mitigated. The assessment of a “high or unacceptable adverse effect” from a publicly accessible viewpoint requires the assessment of all these three elements to be high. For example, a highly sensitive landscape, viewed by many people, with the development in close proximity and largely visible would lead to an assessment of an unacceptable adverse effect.

2.4 Photomontages

Photomontages are used to assist in evaluating the visual impact of the development from representative viewpoints. These photomontages are prepared using computer programs that give accurate placement of the facilities.

2.4.1 Lens size and base photos used within the photomontages

Photomontages typically show the changes in a 60° horizontal field of view. The 60° horizontal field of view represents the central cone of view in which symbol recognition and colour discrimination can occur (refer Figure 1-2).

The 60° horizontal field of view is important if the photomontage images represent the change in the landscape. The A3 photomontages, which are appended to this report in Annex B, include a 60° horizontal field of view. One of the sheets within the photomontage set shows a wireframe view of the computer model to illustrate how the photomontages were derived. Vertical 'poles' within this wireframe are merely points on the landscape such as a group of trees, a corner of an existing building etc., which allow the computer model (prepared in 3D Studio Max) and the photograph to be accurately aligned. This ensures that the proposed facility is accurately located within the photograph and then the rest of the model is removed and the development and the proposed landscape are rendered into the image.

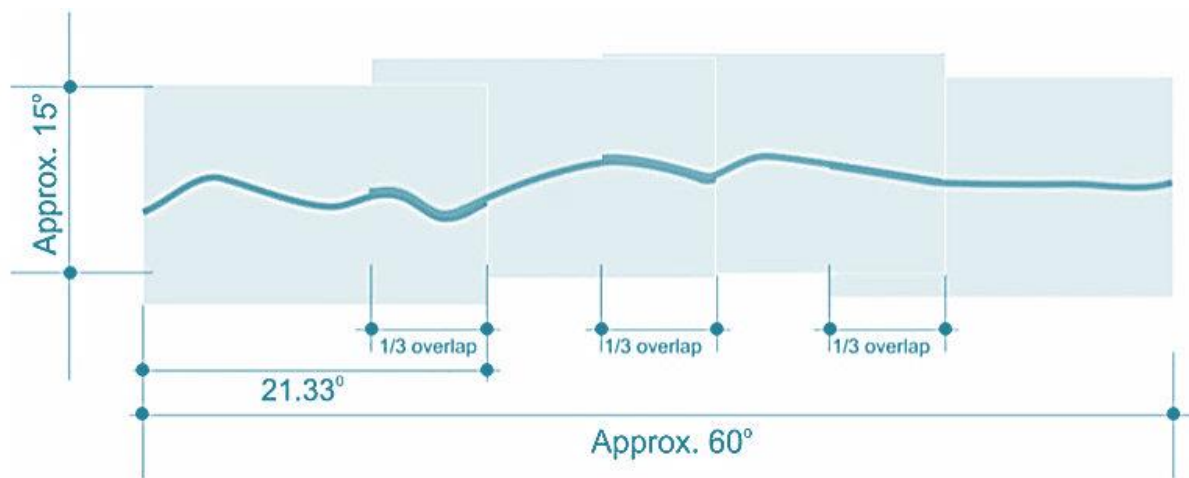
Seven photomontages have been prepared. These photomontages are appended to this report (Refer Annex B for A3 size photomontages with a 60° field of view).

2.4.2 Photographs

A 70 mm lens on a Nikon D3 digital camera has a picture angle of 26.5° and a horizontal angle of view of approximately 21.3°. http://nikonimaging.com/global/products/lens/af/micro/af_micro60mmf_28d/.

Four photographs overlapped 1/3 to create an image approximately the same as the central cone of view of human vision, i.e. 50° - 60° horizontal and 15° vertical. Figure 2-2 demonstrates this theory.

Figure 2-2 Photomontage layout



2.4.3 Computer modelling and the wireframe model

Cadastral data as well as the proposed development are modelled within a computer program (3D Max). A virtual camera is set up in the model at the GPS coordinates for each of the photographs that are being used within the panorama.

The digital model or wireframe view is then overlaid on the photographic panorama. Known points within survey information such as topography, building locations or other infrastructure are registered into the base photographs (or other

predetermined points). For technical accuracy, these points must align. This verifies the location and apparent height and scale of the proposed development.

After the background reference points have been aligned, the wireframe is removed, leaving only the proposed MRL Extension, which is rendered, either to match the lighting conditions at the time the photographs were taken or, more typically, to maximise its visibility by increasing its contrast against the background sky.

Photomontages are prepared with a 60° field of view, which follows the parameters of human vision, as discussed earlier. Wider panoramas are also used to indicate the full extent of the proposed MRL Extension where appropriate.

2.4.4 GPS Co-ordinates and distance to the MRL Extension

The Nikon D3 camera also records the GPS coordinates as part of the metadata. GPS coordinates are also taken based on a separate hand held GPS and the locations from which the photographs were taken is also marked on a digital map at the location of each photograph.

2.4.5 Perceptual accuracy

It is recognised that the small photographs and the A3 photomontages included within this assessment are not indicative of the actual visual impact. The A3 images, appended to this report (Annex B), are clearer than the smaller images in the text, which are used as a reference to the text.

However, to view the photomontages in a way that they appear perceptually accurate, they need to be printed and viewed on A0 sized sheets and held at arms' length. When viewed at A0 the photomontages are representative of the level of visual alteration.

3 THE PROPOSAL

The proposed MRL Extension will be progressively filled over 16 cells. The south portion is comprised of seven cells (highpoint of 110 m AHD), while the north portion will comprise of nine cells (highpoint of 140 m AHD). The existing landfill (highpoint of approximately 105 m AHD) and quarry to the south east is shown in Figure 3-2.

Figure 3-1 Proposed Landfill

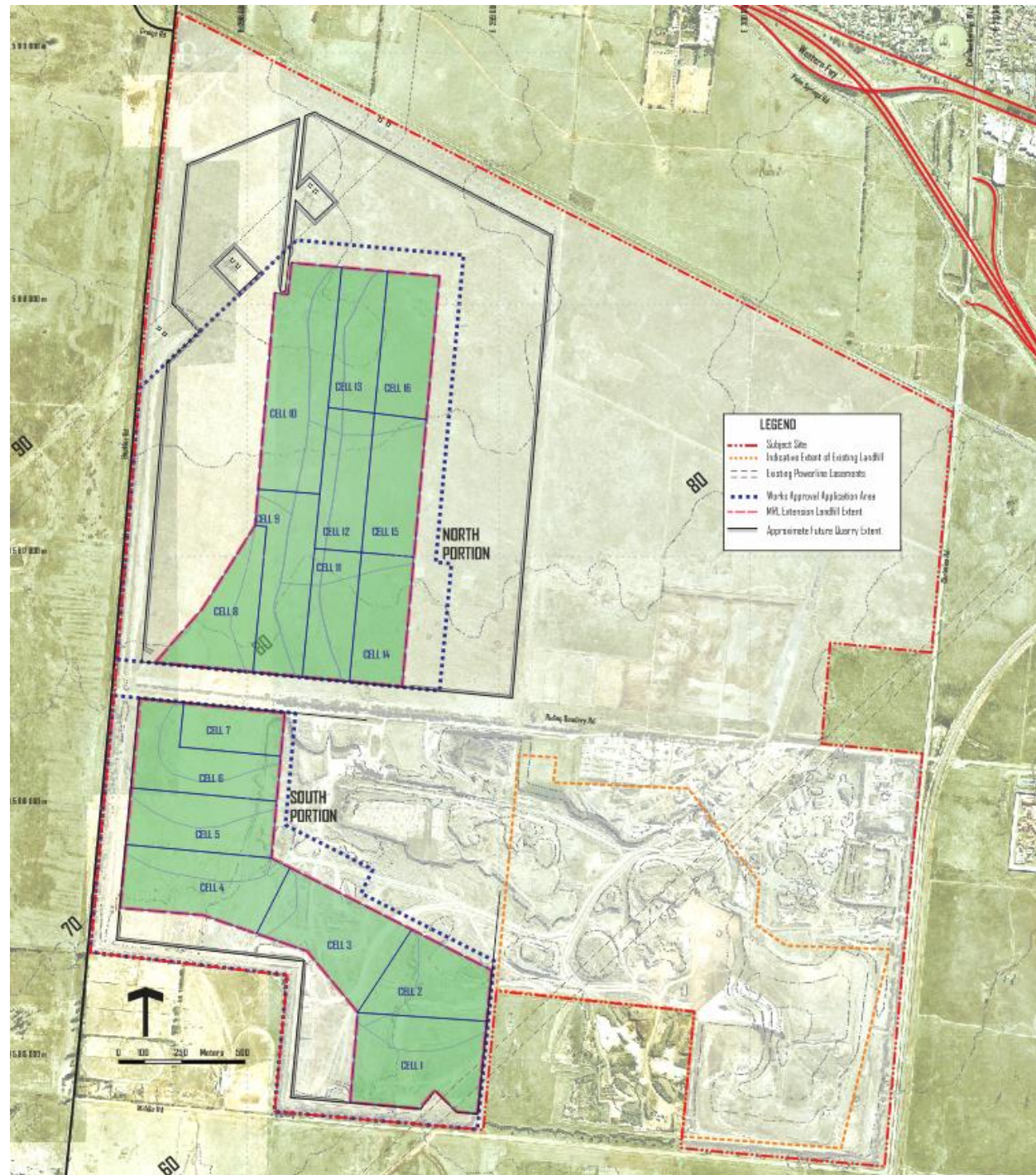


Figure 3-2 View south west from existing landfill towards quarry



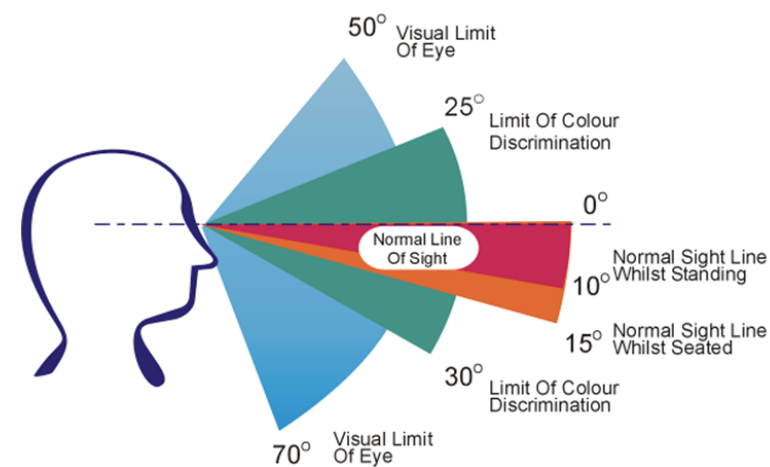
3.1 The Viewshed

The area that may potentially be visually impacted by the MRL Extension is called the viewshed. The viewshed is the study area for the assessment of the visual impact. The viewshed is not the same as the extent of visibility as it may be possible to see the MRL Extension from areas outside the viewshed. Beyond the viewshed the proposed MRL Extension, if visible, would be a minute element in the landscape and would not create a visual impact.

The landfill's topography is designed to mimic other landforms in the area and rises approximately 40 metres above the pre-quarry ground level. The site falls approximately 30 metres from north to south, and although the landfill is 40 metres above the pre-quarry levels, when viewed from lower lying areas, the top of the landfill is approximately 70 metres above the ground level. To provide a conservative basis for estimating the extent of the viewshed, this "apparent" vertical height of 70 metres has been used as a basis for this calculation.

The central vertical field of view for most people covers an angle of between 10° to 15°. The theoretical extent of the viewshed can be considered to extend to a distance at which the tallest component of the development would take up less than 5% of the vertical field of view. Typically, the field of view of a person is 10°. Therefore 5% of this vertical field of view is approximately 0.5°. The central vertical cone of vision is shown in Figure 3-3.

Figure 3-3 The vertical field of view



For readers not familiar with viewshed calculations and the parameters of human vision, further information is provided in Annex A.

A vertical height of 70 metres (the maximum perceived height of the MRL Extension) takes up less than 0.5° of the vertical field of view at approximately 8 km. Similar calculations can provide the basis for the zones of visual influence within this 8 km viewshed.

3.2 Zones of Visual Influence

The extent of the viewshed for an apparent 70 metre high MRL Extension is approximately 8 km. As stated previously a 70 m apparent height is a conservative basis for the viewshed, as the MRL Extension is approximately 40 m above the pre-quarry levels.

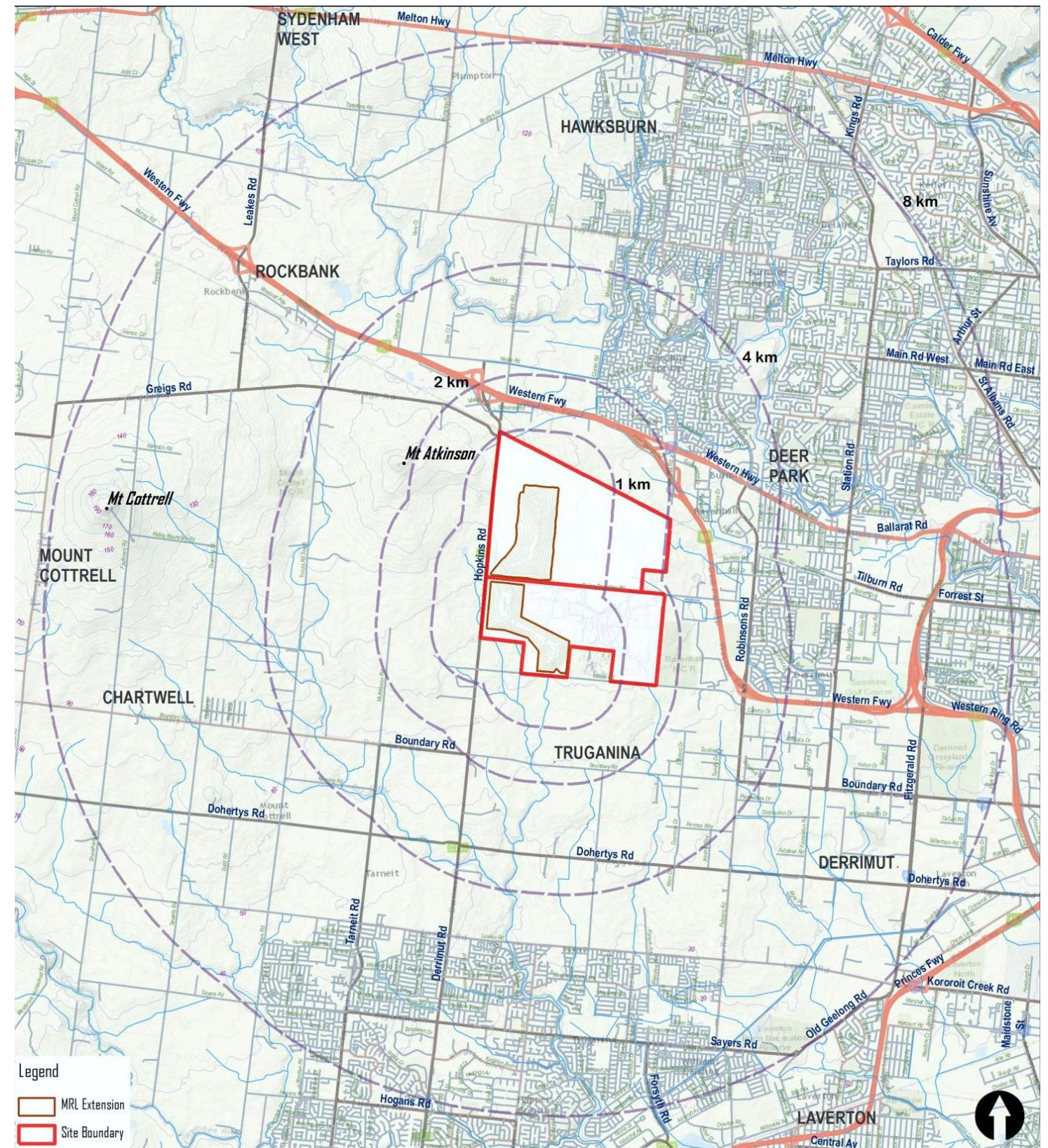
At 8 km, the landfill would be visually insignificant. At one kilometre, a 70 m high object will take up approximately 50% of the 10° vertical field of view. Similar calculations can determine other distance ranges or Zones of Visual Influence, which can assist in the assessment.

These Zones of Visual Influence are set out in Table 3-1 and mapped in Figure 3-4.

Table 3-1 Zones of Visual Influence

Distance to proposed MRL Extension	Zones of visual influence
> 8 km	Visually insignificant A very small element in the viewshed, which is difficult to discern and will be invisible in some lighting or weather circumstances.
4 - 8 km	Potentially noticeable, but will not dominate the landscape The degree of visual intrusion will depend on the landscape sensitivity and the sensitivity of the viewer; however, the development does not dominate the landscape.
2 - 4 km	Potentially noticeable and can dominate the landscape The degree of visual intrusion will depend on the landscape sensitivity and the sensitivity of the viewer
1 - 2 km	Highly visible and will usually dominate the landscape The degree of visual intrusion will depend on placement within the landscape and factors such as foreground screening.
< 1 km	Will be visually dominant in the landscape Dominates the landscape unless screened.

Figure 3-4 Viewshed and Zones of Visual Influence of MRL Extension



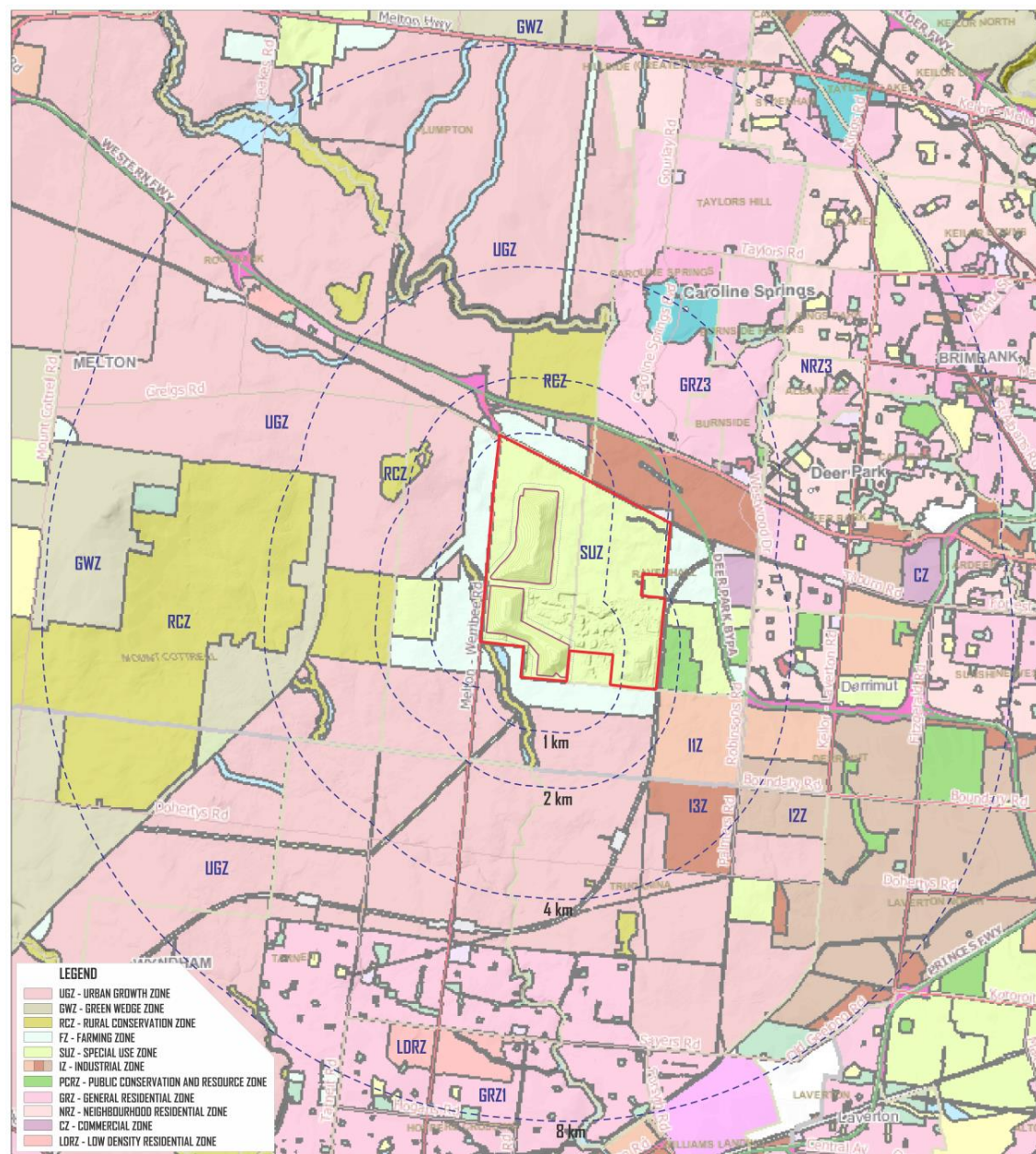
4 PLANNING BACKGROUND

The proposed MRL Extension is located within the Shire of Melton. The viewshed of the MRL Extension also extends into Werribee City Council. The following section will examine the planning background relevant to this landscape and visual impact assessment.

4.1 Zoning

The MRL Extension is located within a Special Use Zone and is surrounded by land within the Urban Growth Zone. Areas that have been designated as Conservation Zones occur to the west and north of the MRL Extension as shown in Figure 4-1.

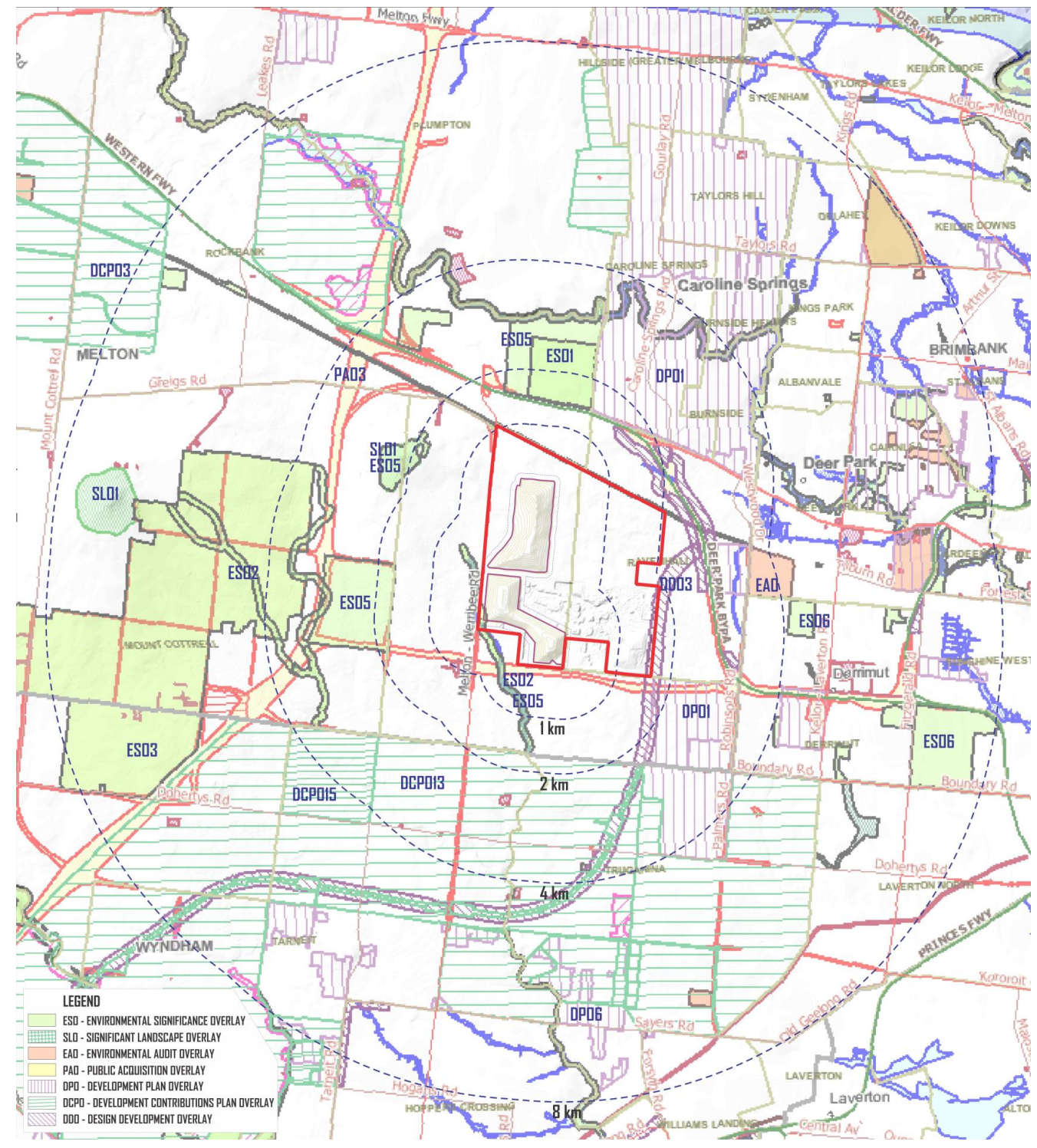
Figure 4-1 Planning Zones



4.2 Overlay

The overlays within the viewshed (refer Figure 4-2) that refer to landscape issues are the Environmental significance Overlay which roughly corresponds to the RCZ Zoning shown in Figure 4-1.

Figure 4-2 Planning Overlays



4.3 Mt Atkinson Precinct Structure Plan

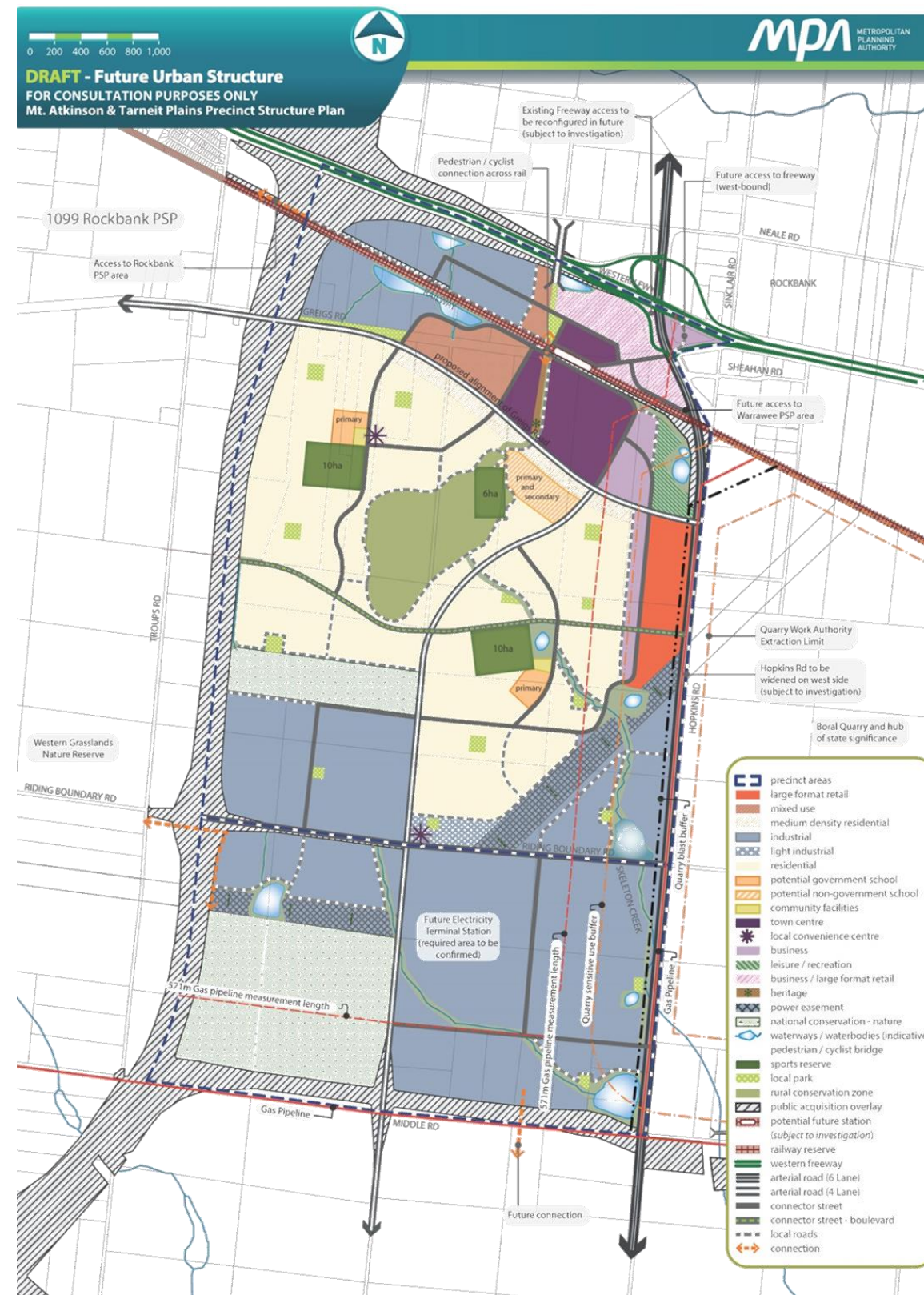
The MPA has developed a Structure Plan for the land to the west of the MRL Extension. It shows an area centred on Mt Atkinson as a focal open space and there are proposed open space links to the east and Hopkins Road; as well as to the north towards the proposed railway station.

These linkages are shown in Figure 4-3. These linkages may form the basis for continued linkages in the proposed end use plan for the MRL Extension.

It is also apparent in the Structure Plan that the land uses along the western edge of Hopkins Road are not sensitive residential uses, but rather industrial and commercial uses.

The Structure Plan also shows the 100m buffer between Hopkins Road and the “Quarry Works Authority Extraction Limit.” This area is extensively landscaped and will be discussed further in this report.

Figure 4-3 Mt Atkinson PSP (April 2015)



5 LANDSCAPE CHARACTER

Landscape character is defined by areas with similar visual characteristics in terms of topography and geological features such as creeks and drainage lines, soil, vegetation and land use.

- Land use
 - The predominant land use is currently rural to the west with residential and industrial areas to the east.
 - This is an area undergoing change and as illustrated by the Structure Plan there will be a significant change in the surrounding land uses in the future.
- Topography
 - The MRL Extension is located within the Volcanic Plains of Victoria. The topography within the viewshed is predominantly flat to gently undulating with low rises. Mt Atkinson and Mt Cottrell are small volcanic cones to the west of the MRL Extension.
- Vegetation
 - The newer volcanic landscapes of Western Victoria have undergone many changes since European settlement and this is particularly true of the landscape around the MRL Extension. Taller vegetation is confined to roadsides, fence lines and boundaries, watercourses and windbreaks within rural areas.

Based on the current land uses and overlays, the existing landscape within the viewshed of the MRL Extension can be characterised as follows:

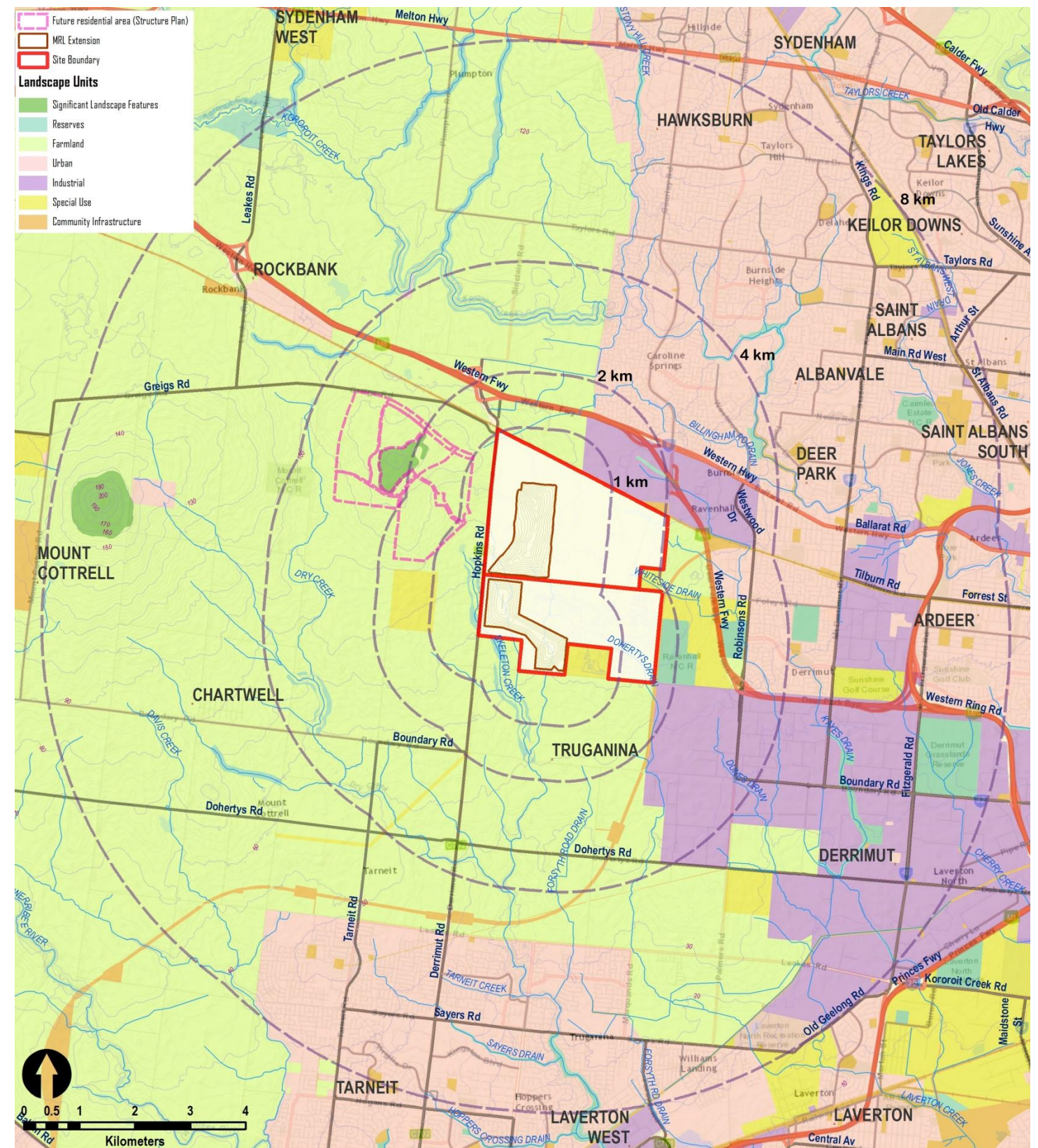
- Landscape features and highpoints
- Farmland
- Urban areas
 - Urban residential
 - Reserves
 - Industrial
 - Special use areas

In undertaking this visual impact assessment the landscape has been rationalised to consider the future land uses such as the Mt Atkinson Precinct Structure Plan that will occur during the lifetime of the MRL Extension and the sensitivity ratings adjusted. The Landscape sensitivity ratings are summarised in Table 5-1.

Table 5-1 Landscape Sensitivity

Landscape units	Landscape Sensitivity
Areas currently residential or future residential	Medium Because these areas contain or will contain residential properties, they are given a medium level of sensitivity.
Remnant Farmland, Industrial and Commercial Areas	Low These areas are heavily modified and some of the existing rural properties are designated as industrial, commercial areas. These are considered to have a low level of visual sensitivity.
Landscape features and highpoints	High At a higher elevation to the surroundings, this unit offers views to both natural and constructed elements and offers a distinctive silhouette when viewed from the surrounding plains. The landscape sensitivity is rated high.

Figure 5-1 Existing Landscape Units



6 SEEN AREA ANALYSIS

The visual impact implications of the proposed MRL Extension can be quantified using GIS based Seen Area Analysis (SAA). The Seen Area Analysis can graphically map the visibility of the proposed MRL Extension from areas in the viewshed. A SAA has been used to:

- Map those areas in the viewshed from which the MRL Extension may be visible; and
- Map the change in visibility of the MRL Extension in comparison to the visibility of the current landfill operations.

6.1 Visibility of the Extension

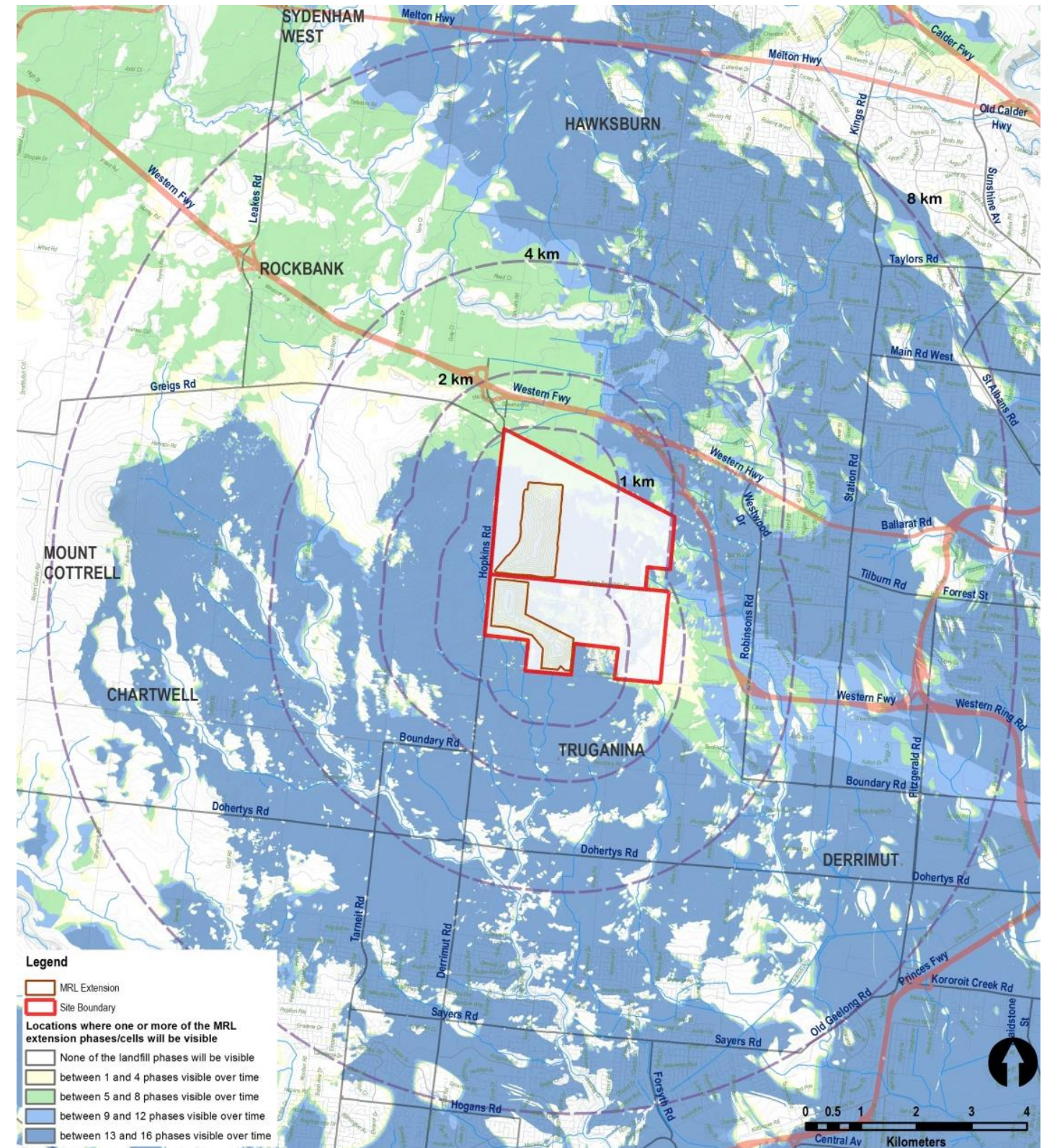
Figure 6-1 illustrates those areas from which the proposed MRL Extension may be visible and the number of cells/ phases that may be visible.

Areas to the north west and south east of the proposed landfill may have at most, visibility to eight progressive stages of landfill. While areas to the north east and south west will have visibility to most of the progressive landfill cells/ phases over the course of the landfilling operations.

The extent of visibility is only mapped using topography. Because of the flat surrounding terrain, the MRL Extension is potentially visible from a large proportion of the viewshed.

It is acknowledged that this visibility may be greatly reduced by vegetation and development.

Figure 6-1 Visibility of the MRL Extension



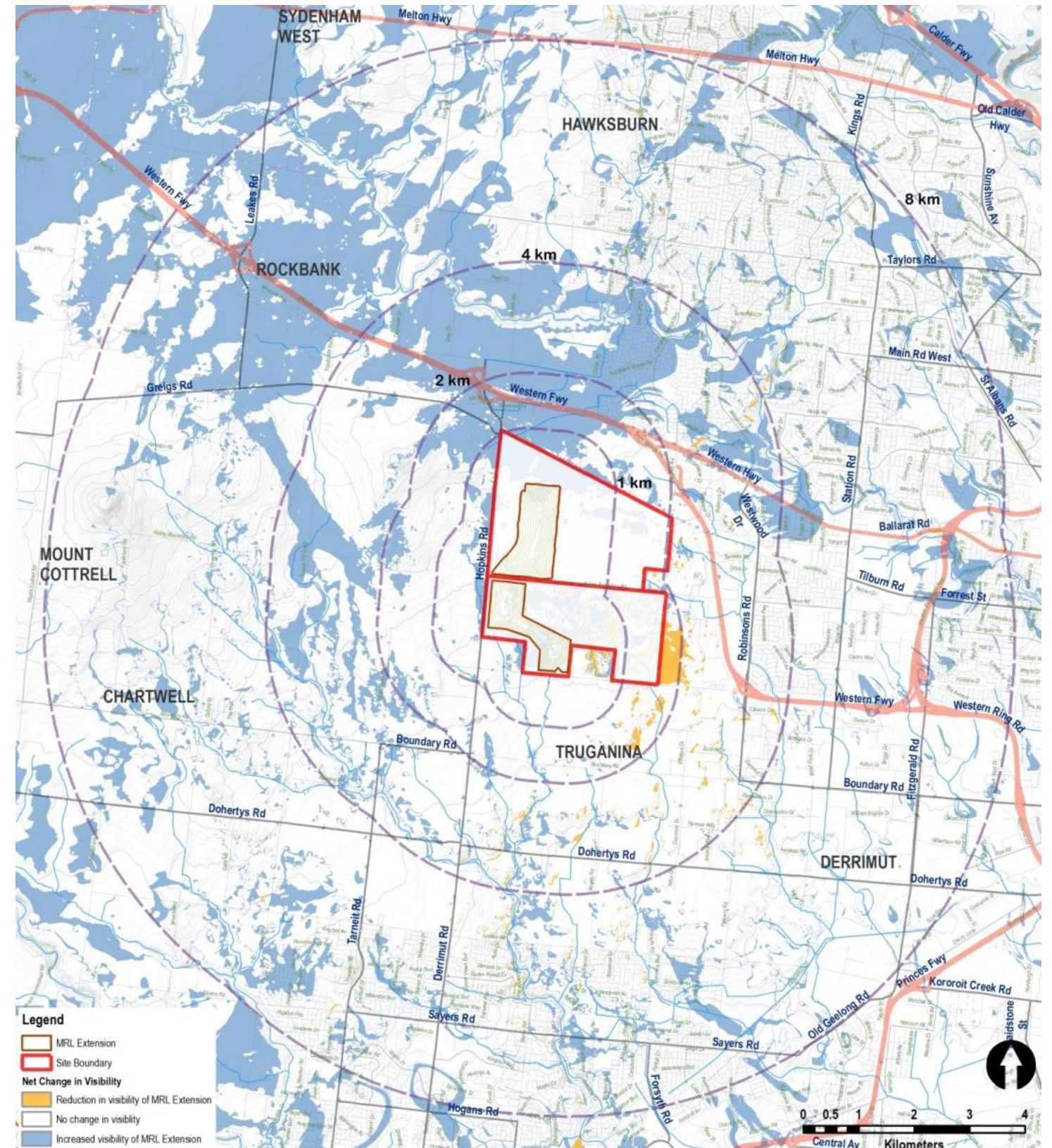
6.2 Change in overall visibility of the MRL Extension in comparison to current landfill operations

However, there is a current landfill operation on the site and that is visible from the surrounding areas. In order to understand the incremental change to the visibility a SAA has been mapped which shows areas, which are impacted by the proposed Extension.

Figure 6-2 shows the areas that will have potential views to the Extension but would not have been able to view the current permitted landfill.

There will be an increased visibility of the proposed MRL Extension to the north and west. This change in the visibility of the MRL Extension is not of an order that would substantially increase the level of visual impact of the MRL Extension.

Figure 6-2 Net change to the visibility of MRL Extension between existing and approved landfills



7 ASSESSMENT OF IMPACT FROM INDICATIVE VIEWPOINTS

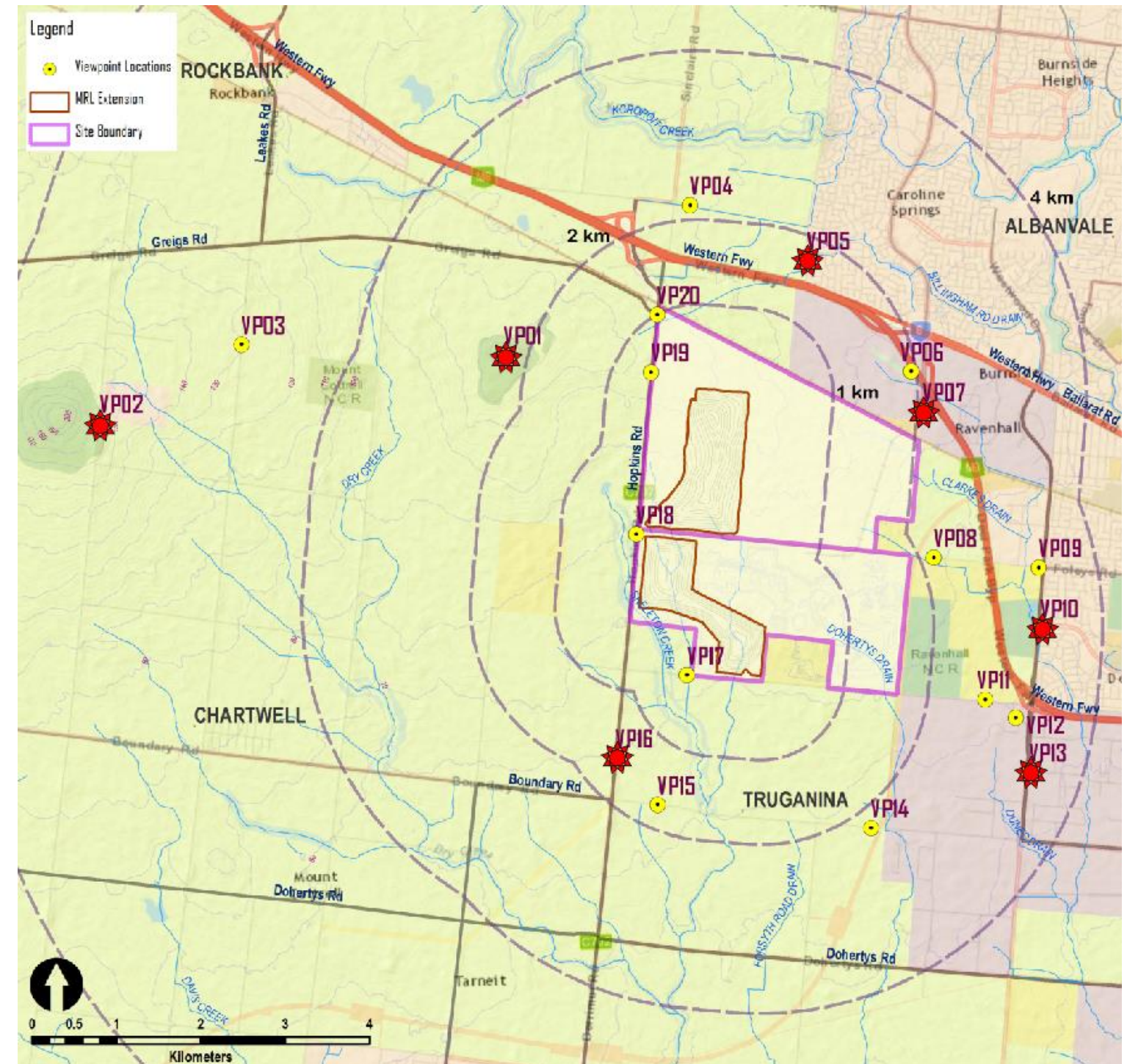
In order to assess the visual impact of the MRL Extension on viewers within the viewshed, indicative viewpoints were selected from the surrounding road network at locations where views towards the MRL Extension were generally uninterrupted by roadside vegetation/road cuttings etc.

Photomontages have been prepared from selected viewpoints. An A3 version of the photomontages is included in Annex B. The viewpoints, which have formed the basis of this visual assessment, are:

- Viewpoint VP01 – Mt Atkinson
- Viewpoint VP02 – Faulkners Road near entrance to reserve on Mt Cottrell
- Viewpoint VP03 – Downing Street
- Viewpoint VP04 – Neale Road - west
- Viewpoint VP05 – Clarke Road
- Viewpoint VP06 – Palm Springs Road
- Viewpoint VP07 – Christies Road
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- Viewpoint VP16 – Hopkins Road
- Viewpoint VP17 – Middle Road on the landfill site boundary
- Viewpoint VP18 – Hopkins Road on the landfill site boundary
- Viewpoint VP19 – Hopkins Road on the landfill site boundary
- Viewpoint VP20 – Hopkins Road near Greigs Road intersection

The visual impact of the MRL Extension on each of these viewpoints is assessed in the following sections of this report.

Figure 7-1 Viewpoint Locations



7.1 Viewpoint VP01 – Mt Atkinson

Viewpoint VP01 is located at the summit of Mt Atkinson approximately 2.1 km west of the edge of the MRL Extension. The city skyline is visible from the summit of Mt Atkinson.

During construction, the main impact will be as a result of the geotextile, which appears as the white rectangular surface in the existing view. If this was continued on the MRL Extension the visual impact would be assessed as **medium**. However, the use of a light brown or sepia geotextile would reduce the visual impact during construction to **low**.

After construction, part of the view to the city will be obscured by the MRL Extension, although the Rialto view line is unaffected. It is worth noting that the view to the city skyline and this uninterrupted view across the plain will also change

with the development envisaged within the Mt Atkinson Precinct Structure Plan. At completion the MRL Extension will be a grassed backdrop to the development in the foreground, which will include residential, commercial and industrial buildings. Although the summit of Mt Atkinson would be publically accessible, given the changes occurring in the foreground / middle distance the visual impact of the MRL Extension is assessed as **low - negligible**.

Once the MRL Extension was completed and following the successful rehabilitation that incorporates bands of vegetation the MRL Extension would offer a point of focus, much like Mt Atkinson does from the surrounding areas. At this time, the visual impact may be regarded as **positive**.

Figure 7-2 Viewpoint VP01 – Mt Atkinson



7.2 Viewpoint VP02 – Faulkners Road near entrance to reserve on Mt Cottrell

Viewpoint VP02 is located on Faulkners Road approximately 6.2 km west of the edge of the MRL Extension. VP02 is immediately to east of the summit of Mt Cottrell. Mt Cottrell is not publically accessible and access to the summit is gated on Faulkner Road.

During construction, the proposed MRL Extension will be a small vertical element in the panorama and may only be noticeable with the continued use of a reflective geo-textile. Currently this local road has a low level of viewer numbers. For these reasons, the overall visual impact is assessed as **negligible**.

Once the MRL Extension was completed, the eye is drawn to the city skyline created by the valley. Even without any additional planting, the overall visual impact at completion is assessed as **positive**.

Figure 7-3 Viewpoint VP02 – near Mt Cottrell



7.3 Viewpoint VP03 – Downing Street

Viewpoint VP03 is located on Downing Street approximately 5 km west of the edge of the MRL Extension. VP02 is located on an unmade road, with few viewer numbers.

At this distance the proposed MRL Extension, during construction and at completion, will be a small element in the panorama and only seen from this local road, which has a low level of viewer numbers. For these reasons, the overall visual impact is assessed as **negligible**, both during construction and at completion.

Figure 7-4 Viewpoint VP03 Downing Street



7.4 Viewpoint VP04 – Neale Road - west

Viewpoint VP04 is located on the western end of Neale Road approximately 2.1 km north of the edge of the MRL Extension. VP04 is located on a sealed road, with medium viewer numbers.

The MRL Extension, during construction and at completion, will be a noticeable element in the panorama. However, the existing landscape is a highly man-modified landscape, which therefore has a low sensitivity to change. For these reasons, the overall visual impact is assessed as **low**.

Other developments along Neale Road, between this viewpoint and the MRL Extension will mean that the MRL Extension may not be visible. Once the landfill operations were completed, the contoured shape of the landfill could provide a backdrop to this development.

After construction, the MRL Extension will appear as a low hill in the background. At this time, the overall visual impact would be assessed as **negligible to positive**.

Figure 7-5 Viewpoint VP04 - Neale Road West



7.5 Viewpoint VP05 – Clarke Road

Viewpoint VP05 is located on Clarke Road approximately 1.8 km north of the edge of the MRL Extension. VP05 is located on an unsealed road, with low viewer numbers. This road runs along the western edge of the existing Caroline Springs residential area.

This is the nearest existing residential area to the MRL Extension. Existing planting along the residential area together with high fencing and noise wall (refer Figure 7-6) screen view to the hinterland from Caroline Springs. A viewpoint was sought within Caroline Springs that could see the MRL Extension. However, views to the MRL Extension from publically accessible viewpoints within Caroline Springs were screened by existing vegetation and built form.

The lack of long distance views across a residential landscape is indicative of the level of potential impact from the future residential areas surrounding Mt Atkinson and envisaged on the Structure Plan.

From the edge of the residential area of Caroline Springs at VP05, the MRL Extension during construction will be a noticeable element in the panorama. However, the MRL Extension will only be seen from this local road, which has a medium level of viewer numbers. For these reasons, the overall visual impact is assessed as **low**.

After construction, the MRL Extension will appear as a low hill in the background. At this time the overall visual impact would be assessed as **negligible to positive**

Figure 7-6 Viewpoint VP05 – Clarke Road



7.6 Viewpoint VP06 – Palm Springs Road

Viewpoint VP06 is located on Palm Springs Road approximately 2 km north east of the edge of the MRL Extension. VP06 is located on a sealed road, with medium viewer numbers.

The MRL Extension, during construction will be a noticeable element in the panorama. However, the MRL Extension will only be seen from the local road that has a medium level of viewer numbers. For these reasons, the overall visual impact is assessed as **low**.

After construction, the MRL Extension will appear as a low hill in the background. At this time the overall visual impact would be assessed as **negligible to positive**

Figure 7-7 Viewpoint VP06 – Palm Springs Road



7.7 Viewpoint VP07 – Christies Road

Viewpoint VP07 is located on Christies Road approximately 2 km north east of the edge of the MRL Extension. VP07 is located on a sealed road, with medium viewer numbers.

The MRL Extension, during construction, will be a noticeable element in the panorama. However, this landscape is undergoing change as evidenced by the earthworks in the 'Existing View'. It also contains development such as the overhead transmission lines. Therefore, during construction, the overall visual impact is assessed as **Low**, as although noticeable, the MRL Extension will not cause any significant adverse visual impacts.

After construction, the MRL Extension will appear as a low hill in the background. At this time, the overall visual impact would be assessed as **negligible to positive**.

Figure 7-8 Viewpoint VP07 – Christies Road



7.8 Viewpoint VP08 – Riding Boundary Road

Viewpoint VP08 is located on Riding Boundary Road approximately 2 km north east of the edge of the MRL Extension. VP08 is located on a sealed road, with medium viewer numbers.

The MRL Extension, during construction will be a noticeable element in the panorama. However, the MRL Extension will only be seen from the local road that has a low level of viewer numbers. For these reasons, the overall visual impact is assessed as **low**.

After construction, the MRL Extension will appear as a low hill in the background. At this time the overall visual impact would be assessed as **negligible to positive**

Figure 7-9 Viewpoint VP08 – Riding Boundary Road



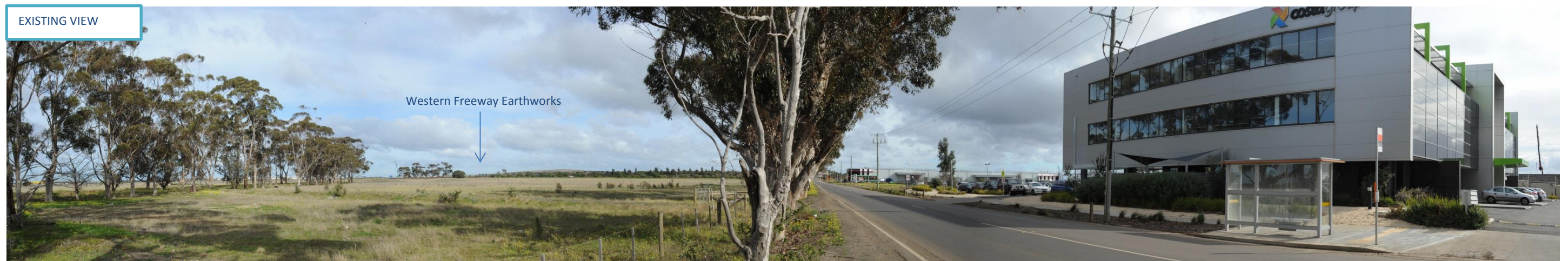
7.9 Viewpoint VP09 – Riding Boundary Road near Robinsons Road intersection

Viewpoint VP09 is located on Riding Boundary Road approximately 2.7 km east of the edge of the MRL Extension with the Western Freeway earthworks visible in the background.

The MRL Extension, during construction, will be partially visible from some sections of this road which are not screened by existing planting and earthworks along the Western Freeway. However, as additional planting along the Western Freeway matures, visibility to the proposed landfill would decrease. For these reasons, the overall visual impact is assessed as **negligible**.

After construction, the MRL Extension will appear as a low hill in the background through breaks in freeway planting. At this time, the overall visual impact would be assessed as **negligible to positive**.

Figure 7-10 Viewpoint VP09 – Riding Boundary Road / Robinsons Road intersection



7.10 Viewpoint VP10 –Robinsons Road / Windsor Boulevard intersection

Viewpoint VP10 is located on Robinsons Road approximately 2.7 km east of the edge of the MRL Extension. It is just south of VP09 at the intersection of Windsor Boulevard. This Boulevard services the residential areas further east.

The MRL Extension, during construction will be visible from the road. However, development is proceeding on the opposite side of Robinsons Road, which will filter views to the MRL Extension. As additional planting matures along the Western Freeway the visibility of the MRL Extension would further decrease. For these reasons, the overall visual impact is assessed as **negligible**.

After construction, views afforded to the MRL Extension will appear as a low hill in the background. At this time, the overall visual impact would be assessed as **negligible to positive**.

Figure 7-11 Viewpoint VP10 – Robinsons Road / Windsor Boulevard intersection



7.11 Viewpoint VP11 – Middle Road outside the Remand Centre

Viewpoint VP11 is located on Middle Road approximately 2.3 km south east of the edge of the MRL Extension. It is at the entry to the western entry to the Metropolitan Remand Centre.

The MRL Extension, during construction and at completion, will be visible from this entry location. Maturing vegetation will screen any views to the MRL Extension. For these reasons, the overall visual impact is assessed as **negligible**.

Figure 7-12 Viewpoint VP11 – Middle Road outside the Remand Centre



7.12 Viewpoint VP12 – Middle Road

Viewpoint VP12 is located on Middle Road approximately 2.5 km south east of the edge of the MRL Extension. The existing landfill is visible in the background.

During construction the MRL Extension, will be just visible adjacent to the existing landfill. However, the MRL Extension will remain a small element in this panorama. For these reasons, the overall visual impact is assessed as **low**.

After construction, the MRL Extension will appear as a low hill in the background. At this time, the overall visual impact would be assessed as **negligible to positive**.

Figure 7-13 Viewpoint VP12 – Middle Road



7.13 Viewpoint VP13 - Robyns Road / Australis Drive intersection

Viewpoint VP13 is located on Robyns Road at the intersection of Australis Drive approximately 2.7 km south east of the edge of the MRL Extension. The existing landfill is just visible in the background.

While the MRL Extension will be a noticeable element during construction, it will be a small element in this panorama. For these reasons, the overall visual impact is assessed as **low**.

After construction, the MRL Extension will appear as a low hill in the background. At this time, the overall visual impact would be assessed as **negligible to positive**.

Figure 7-14 Viewpoint VP13 – Robyns Road / Australis Drive intersection



7.14 Viewpoint VP14 – Boundary Road - east

Viewpoint VP14 is located at the eastern end of Boundary Road approximately 2.1 km south east of the edge of the MRL Extension. The existing landfill is just visible in the background.

The MRL Extension, during construction, will be visible. However, the MRL Extension is a small element in this panorama. For these reasons, the overall visual impact is assessed as **low**.

After construction, the MRL Extension will appear as a low hill in the background. At this time, the overall visual impact would be assessed as **negligible to positive**.

Figure 7-15 Viewpoint VP14 – Boundary Road



EXISTING VIEW

7.15 Viewpoint VP15 – Boundary Road - west

Viewpoint VP15 is located at the western end of Boundary Road approximately 1.8 km south of the edge of the MRL Extension. The existing landfill is just visible in the background.

The MRL Extension, during construction, will be noticeable. However, the MRL Extension is not a dominant element in this panorama. For these reasons, the overall visual impact is assessed as **low**.

After construction, the MRL Extension will appear as a low hill in the background. At this time, the overall visual impact would be assessed as **negligible to positive**.

Figure 7-16 Viewpoint VP15 – Boundary Road - west



7.16 Viewpoint VP16 – Hopkins Road

Viewpoint VP16 is located on Hopkins Road approximately 1.6 km south of the edge of the MRL Extension. The existing landfill is just visible in the background. Existing transmission lines are also visible in this landscape.

The MRL Extension, during construction, will be a noticeable element in the landscape as viewed from Hopkins Road. However, the existing landscape is a highly man-modified landscape, which therefore has a low sensitivity to change. For these reasons, the overall visual impact is assessed as **low**.

After construction, the MRL Extension will appear as a hill in the background. At this time, the overall visual impact would be assessed as **negligible to positive**.

Figure 7-17 Viewpoint VP16 – Hopkins Road



7.17 Viewpoint VP17 – Middle Road on the landfill site boundary

Viewpoint VP17 is located at the western end of Middle Road on the landfill site boundary approximately 100 m south of the edge of the MRL Extension.

The MRL Extension, during construction, will be a dominant element in this landscape. Screen planting along the boundary will be able to filter views. However as it is a dominant element, especially during construction, the overall visual impact is assessed as **medium**.

However, this will change dramatically once the landfill is revegetated. Even as a low grassy hill the MRL Extension will be another addition to this landscape. The overall visual impact once the landfill is rehabilitated is assessed as **positive**.

Figure 7-18 Viewpoint VP17 – Middle Road on the landfill site boundary



7.18 Viewpoint VP18 – Hopkins Road on the landfill site boundary

Viewpoint VP18 is located on Hopkins Road on the landfill site boundary approximately 100 m west of the edge of the MRL Extension.

The MRL Extension, during construction and at completion, will be a dominant element in this landscape. Screen planting along the boundary will be able to filter views and this is illustrated by the existing vegetation along Hopkins Road as evident in Figure 7-19. However, at this location, given the proximity of the north and south portion of the MRL Extension, the landfill will be a dominant element, especially during construction. Therefore, the overall visual impact is assessed as **medium**.

However, this will change dramatically once the landfill is revegetated. The planting and the rehabilitation will integrate with the existing landscape and will be just another addition to this landscape and the overall visual impact once the landfill is rehabilitated is assessed as **positive**.

Figure 7-19 Viewpoint VP18 – Hopkins Road on the landfill site boundary



7.19 Viewpoint VP19 – Hopkins Road on the landfill site boundary

Viewpoint VP19 is located on Hopkins Road on the landfill site boundary approximately 400 m north west of the edge of the MRL Extension.

The MRL Extension, during construction and at completion, will be a visually prominent element in this landscape. Screen planting along the boundary as seen in Figure 7-20, will be able to filter views of the site and the proposed MRL Extension. However although it is a prominent element, at 400 m it will be able to be screened by intervening vegetation and therefore the overall visual impact is assessed as **low**.

This visual impact will change once the landfill is revegetated. Even as a low grassy hill it will be another addition to this landscape and the overall visual impact once the landfill is rehabilitated is assessed as **positive**.

Figure 7-20 Viewpoint VP19 – Hopkins Road on the landfill site boundary



7.20 Viewpoint VP20 – Hopkins Road near Greigs Road intersection

Viewpoint VP20 is located on Hopkins Road near the Greigs Road intersection approximately 1 km north west of the edge of the MRL Extension.

The MRL Extension, during construction, will be visible and a prominent element in the landscape. Screen planting along the boundary will be able to filter views and this is illustrated by the existing vegetation along Hopkins Road and evident in Figure 7-20. However, at 1 km it is not a dominant element, even without intervening vegetation. Therefore, the overall visual impact is assessed as **low**.

This visual impact will slightly change once the landfill is revegetated. Even if it appears as a grassy hill in the background, the MRL Extension will be addition to this landscape. However, unlike closer viewpoints, this will only be a marginal improvement and therefore the overall visual impact once the landfill is rehabilitated is assessed as **slightly positive**.

Figure 7-21 Viewpoint VP20 – Hopkins Road near the Greigs Road intersection



EXISTING VIEW

7.21 Summary of Visual Impact

The MRL Extension is potentially visible from much of the surrounding area within the viewshed. This has been shown in the SAA in the previous chapter. Putting aside the incremental change between the visibility of the approved landfill and the Extension, the topography means that views are possible from many viewpoints around the Extension.

However, this flat landscape also means that vegetation and buildings that are relatively close to a viewer will easily screen long and medium distance views to the Extension.

Another contributing factor in this assessment is the landfill itself. It has been designed to merge with a landscape, which includes low rises such as Mt Atkinson and Mt Cottrell. The form of the landfill is not at odds with this landscape. Once grassed and even without tree canopy, it will appear as a low hill and for many people it may appear as a “natural” element in the built up landscape, which will eventually surround the MRL Extension.

7.21.1 Visual impact during construction

For these reasons and for others that are particular to the individual viewpoint assessment, the level of visual impact is generally assessed as **low to negligible** during the construction phase. Closer viewpoints (generally those within 2 km of the MRL Extension) are assessed as having a **medium** level of visual impact.

This level of visual impact is largely a result of being able to see the large scale earthworks, especially when these are covered with a reflective geo-textile. The colour of this geotextile draws the eye to the earthworks. However, we have been instructed that Cleanaway can source a light brown or sepia geotextile. The use of an appropriately coloured geotextile would reduce the visual impact during construction, as it would blend the earthworks into the surrounding landscape.

Planting around the perimeter of the site or closer to individual viewpoints would also lessen the visual impact.

7.21.2 Visual impact after construction

After construction this assessment has shown that the MRL Extension will be read as a part of the landscape and one which does not appear as an alien element. The grading and contouring of the final shape will mimic other landforms in the area. Once the final earth form is grassed, it will not appear dissimilar to other low hills in the vicinity.

Furthermore, the rehabilitation strategy may introduce planting onto the cap, which could further increase the attractiveness of what will appear as an area of open space within this locality of Melbourne, which is becoming increasingly urbanised. Therefore, after construction and rehabilitation the MRL Extension will have a **positive** visual impact.

The rehabilitation strategy is discussed in the following chapter.

8 END USE PLAN AND REHABILITATION

It is proposed that a staged landscape rehabilitation program be commenced, not only to provide short term screening to the areas discussed previously especially along Hopkins Road and Middle Road, but also to implement a landscape program that will lead to an end use land use that is consistent with the surrounding landscape pattern of the area.

8.1 Rehabilitation Plan

The rehabilitation of the landfill will be undertaken progressively following completion of the northern and southern portions of the landfill. The progressive rehabilitation is shown in Figure 8-1.

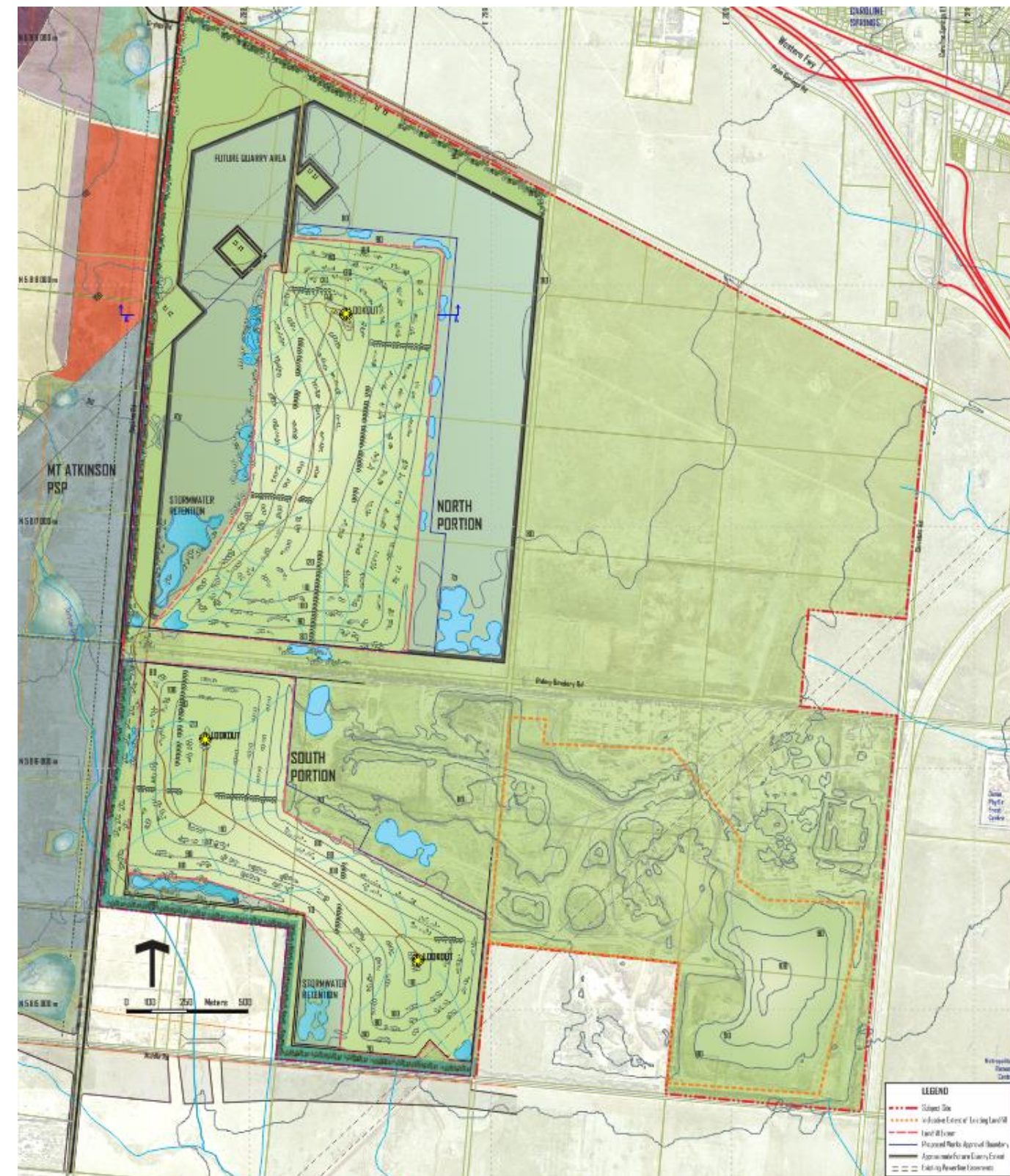
Existing perimeter planting to the western and southern boundaries will be retained. Planting will be undertaken within gaps in vegetation to the northern section of the western perimeter.

Stormwater ponds will be strategically located along the perimeter of the landfill. These will be ephemeral in nature and will sustain native vegetation.

A swale along the western boundary will integrate with the existing drainage line such as the Skeleton Creek. Ephemeral wetlands are proposed behind existing perimeter planting. Figure 8-3 shows the section across the northern portion of the MRL Extension.

Planting to the landfill will be undertaken following the capping. Planting on the landfill will be undertaken in hedgerows that will mimic existing windrow along property lines in the farmland area as well as in copses that will mimic remnant patches of indigenous vegetation. Such planting will integrate with the existing landscape character of the area upon establishment.

Figure 8-1 Rehabilitation Plan



8.1.1 Potential pedestrian network

A shared pedestrian and bicycle access track will allow future users to walk or cycle to the summit of the landfill portions and enjoy the views over the surrounding landscape.

The Structure Plan for Mt Atkinson shows a pedestrian connection to the eastern boundary of the structure plan. This connection should be continued on the eastern side of Hopkins Road. Such a connection is shown as a black dotted line in Figure 8-2.

The pedestrian network would also connect to highpoints located on the northern and southern portions of the landfill, which would afford views to the surrounding landscape.

Figure 8-2 Pedestrian network

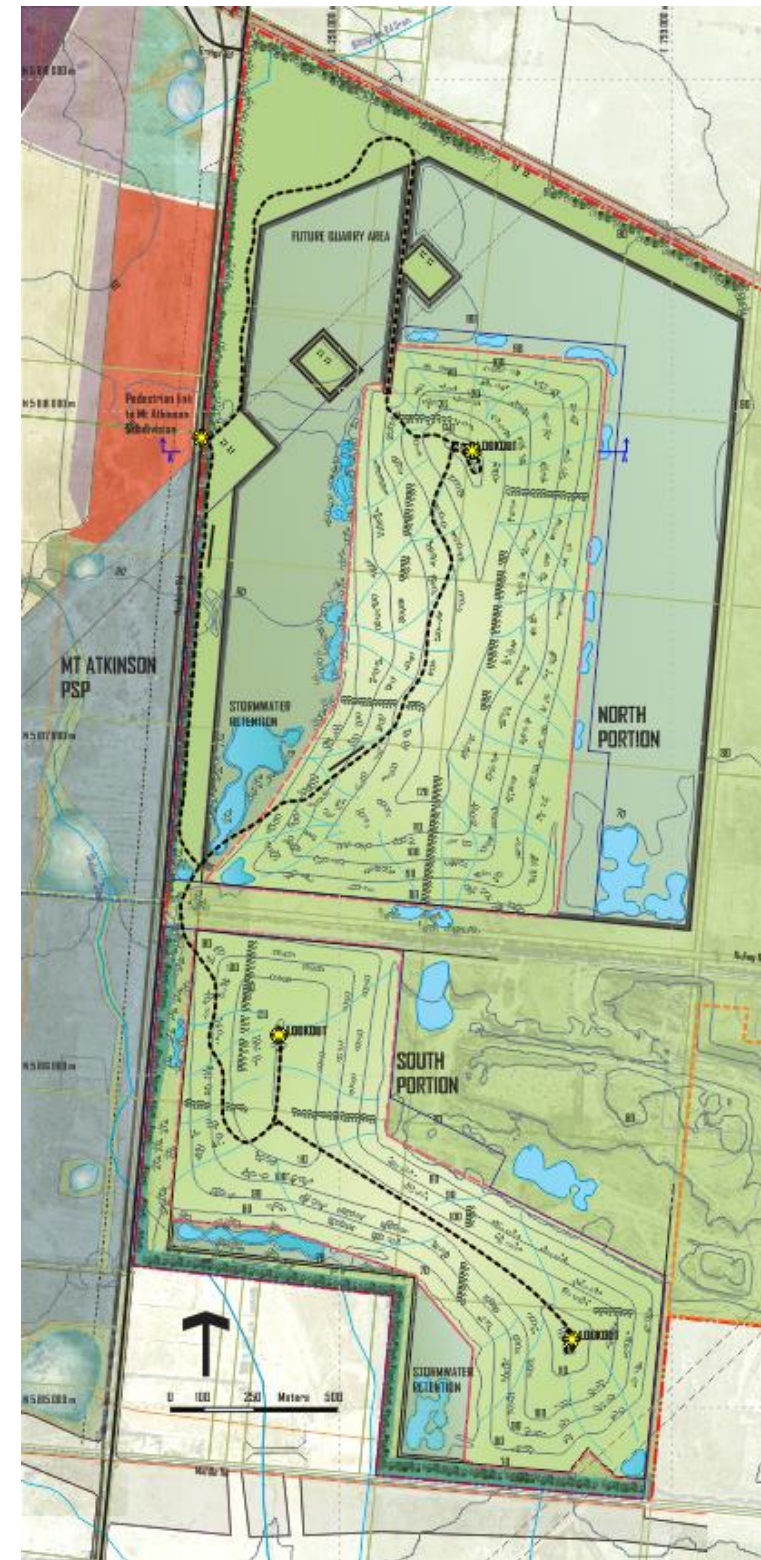
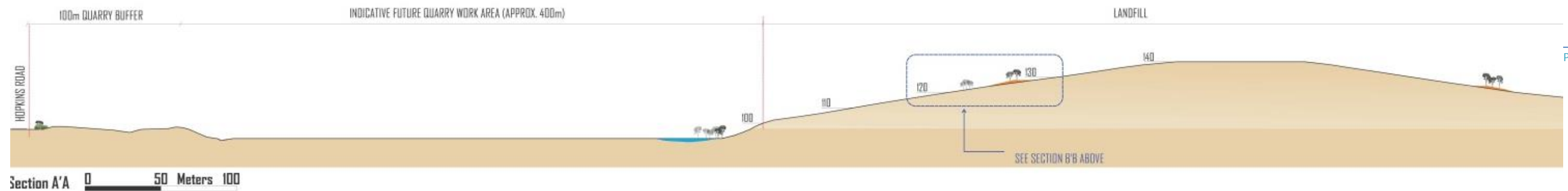


Figure 8-3 Section of land fill illustrating the rehabilitation on the landfill and perimeter



8.2 Landscape Rehabilitation

Landscape rehabilitation will be undertaken at the completion of each stage in order to stabilise the final soil profile and to reduce the visibility of future stages. Planting must be based on the characteristics of the final surface, which are:

- Planting will be on a 1.5 m – 2.0 m topsoil mound above the clay capping of the landfill. This capping must not be penetrated by root systems and so trees are to be placed on these low mounds (refer to Figure 8-4).
- For maintenance reasons, it is preferable that the majority of the site is slashable which reduces the probability of Eucalypts self-seeding on landfill areas.
- As landscape rehabilitation will occur in stages concurrent with landfill staging, vehicular and emergency access and drainage must define planting schedule and locations. This should be reassessed after the completion of all stages.
- As the landfill settles, there may be minor changes in elevation, which may require future grading.

Figure 8-4 Typical planting on topsoil mounds on top of landfill cap



It is intended to use a variety of planting techniques including tube and cell planting, hydro-seeding and direct seeding.

8.2.1 Planting at commencement

It is proposed to thicken up planting to boundary areas where gaps or thinning vegetation exists and to stabilise and vegetatively cover exposed earth surfaces.

Species selected for screening will contain a high proportion of fast growing indigenous native shrubs and small trees, as well as larger but slower growing canopy tree species.

8.2.2 Rehabilitation Techniques

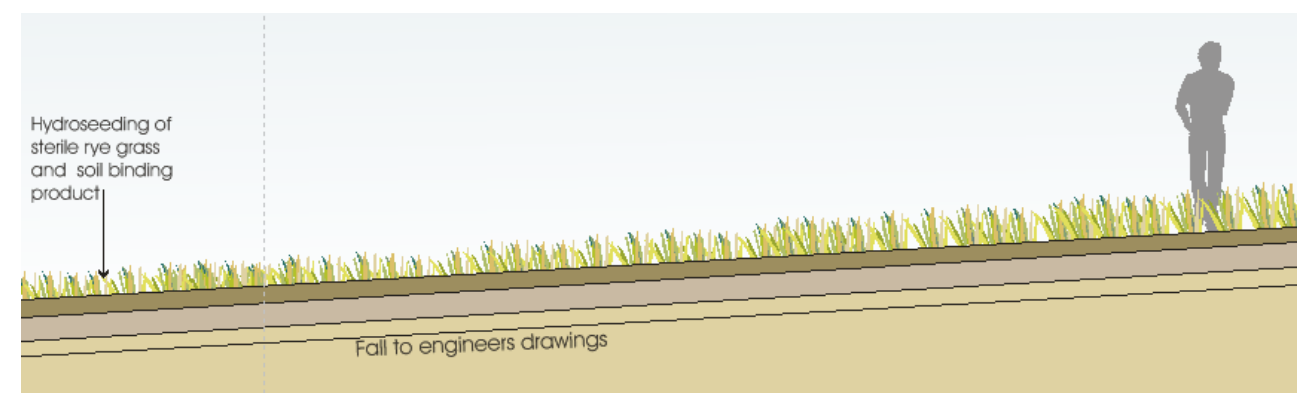
Tube stock and cell planting involves placement of developed seedlings into the soil. These are protected by a plant guard and are usually staked to increase survival rates. Hydro-seeding involves the application of a liquid solution containing seed and usually a soil binding product and/or fertiliser. This process is used to apply seed over large areas or areas at grade. Planting techniques will aim to provide a final establishment rate of:

- Canopy species - 2 plant per 10m² (Proposed planting technique - tube stock or enviro cells)
- Mid storey species - 2 plant per 10m² (Proposed planting technique - tube stock or enviro cells)

It is also proposed that on site soil reserves (stockpiled from selected material delivered to the MRL Extension) will be used to provide the topsoil above the clay capping and will be used on exposed surfaces where grass can be established. Rye grass seed will be introduced to provide initial soil stabilisation, and would be used instead of native seed due to greater germination success, and therefore soil stabilisation. Rye grass is also cost effective, as most of the site will require slashing to manage Eucalyptus or other tree germination on the landfill areas.

The seed would be applied via hydro-seeding containing a mixture of seed and a soil-binding product. A soil-binding product (such as Terramax) provides a binder within the soil that lasts approximately 18 months, in which time germination would have occurred. This improves hydro-seeding success rates.

Figure 8-5 Grass establishment



8.2.3 Plant Selection

It is not intended that this planting re-create the species mix of the indigenous EVCs, but rather select species to provide an upper storey canopy and which will also provide a stable and vegetated appearance.

9 CONCLUSION

The visual assessment has shown that the creation of the landfill profile will have minimal visual impact and that the proposed landscape of the MRL Extension could create a positive community benefit from this site.

9.1 Visual impact

Major roads are some distance away and although the creation of the landfill will be visible from these roads, the MRL Extension will have a negligible to low visual impact. Roads around the perimeter of the landfill already are substantially planted, screening views into the existing quarry. Further boundary planting as shown on the rehabilitation plan will ameliorate existing views to the landfill operations areas from these nearby roads.

The visual impact during construction would be more apparent if white reflective geotextile was used to stabilise the slopes (as is currently undertaken). We have been instructed that Cleanaway can source a light brown or sepia toned geotextile, and assuming this is used in the MRL Extension the visual impact during construction will be reduced.

Any visual impact will reduce as the landscape rehabilitation of the final cap takes place and grassing and planting become established. At this time, a grassed hill will be apparent from viewpoints surrounding the proposed MRL Extension on which bands of vegetation are establishing.

Currently Mt Atkinson and Mt Cottrell provide focal points for the area. There are panoramic views available from the top of Mt Atkinson, looking over the areas covered by the Structure Plan, where the changes brought about by housing and industrial development will be readily perceptible. This residential and industrial development at the base of the hill will be a major change. The panoramic view from Mt Atkinson will be across the developing suburb, and the quarry and the MRL Extension will be visible in the background. As this created landform is graded to its final contours, it will appear as a natural landform, not dissimilar to that of Mt Atkinson.

The landfill will be progressively rehabilitated and the low rising hill that is created is a feature that is not dissimilar to other topographical features in this volcanic plain landscape and could provide another elevated viewing location across the plain. Planting will also be undertaken in a series of stages to firstly stabilise the soil and secondly to provide a landscape that responds to and merges with the adjacent landscape.

Once planting on the newly created landform was established, it could be seen by many viewers as a positive development within this landscape.

9.2 Landscape potential

Much of the surrounding areas are being developed. Mt Atkinson will be surrounded by development. Therefore, the creation of what could potentially become a large area of passive open space is a positive outcome for the communities that will be created around the MRL Extension.

In the future, the Council could also consider more active open space uses along the Hopkins Road boundary to service community recreational needs.

Annex A Parameters of Human Vision

A.1 PARAMETERS OF HUMAN VISION

The viewshed for the MRL Extension can be determined by determining the extent to which an object is part of an observer's static field of view. In past projects, the viewshed in a man-modified landscape has been delineated to that area in which an object takes up at least 5% of the field of view.

The measurement of the field of view is based upon the parameters of human vision outlined below. These provide a basis for assessing and interpreting the impact of a development by comparing the extent to which the development will intrude into the central field of vision (both horizontally and vertically).

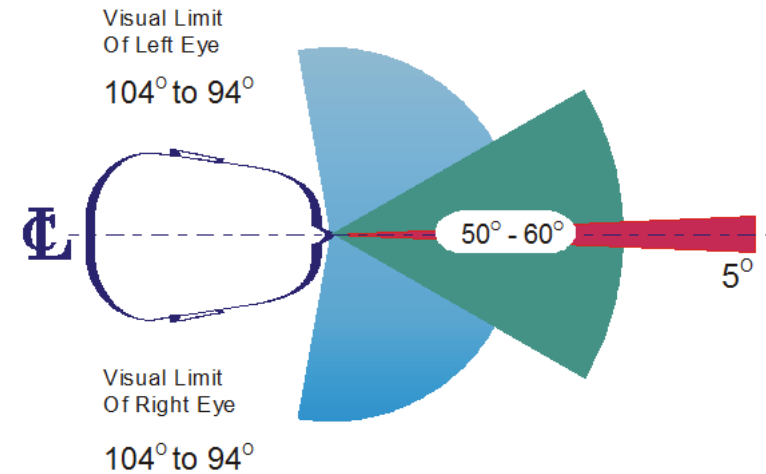
A.1.1 Horizontal Field of View

The central field of vision for most people covers an angle of between 50° to 60°. Within this angle, both eyes observe an object simultaneously. This creates a central field of greater magnitude than that possible by each eye separately.

This central field of vision is termed the 'binocular field' and within a field images are sharp, depth perception occurs and colour discrimination is possible.

These physical parameters are illustrated in Figure A-1. The visual impact of a development will vary according to the proportion a development occupies the central field of vision.

Figure A-1 Horizontal field of view



Developments, which take up less than 5% of the central binocular field, are usually insignificant in most man-modified landscapes (5% of 50° = 2.5°)

A.1.2 Viewshed based on the horizontal field of view

The MRL Extension is comprised of a landform that is of varying height. The highest point of the landform will be the ridge-line of the final landform that will also be the most visible element of the development. There are two highpoints within the southern portion approximately 800 m wide (100 m AHD) approximately 1 km wide (110 m AHD), and one highpoint within the northern portion approximately 2 km wide (highpoint of 140 m AHD).

For simplicity, the diagonal width of the north portion at 2km of either the north or south portion of MRL Extension is considered as the widest part of the MRL Extension. The viewshed of a MRL Extension is calculated on the extent to which the diagonal, which is approximately 2 km in wide (in this example the widest section of the MRL Extension), would intrude into the 60° central field of vision. Table A-1 summarises the extents to which the diagonal of the MRL Extension would occupy the horizontal field of view from varying distances.

Table A-1 Viewshed based on the degree to which the diagonal of the MRL Extension would take up in the horizontal field of view

Horizontal field of view	Distance from an observer to 300 m wide ridge (diagonal) of MRL Extension	Visual Impact
<2.5° of view (5% of 50° = 2.5°)	> 45 km	Insignificant The landfill (north and south portion together) would take up less than 5% of the central field of view. The MRL Extension, unless particularly conspicuous against the background, will not intrude significantly into the view. The extent of the vertical angle will also affect the visual impact.
2.5° - 30° of view (60% of 50° = 30°)	45 km - 3.5 km	Potentially Noticeable The MRL Extension may be noticeable and its degree of visual intrusion will depend greatly on its ability to blend in with its surroundings and particularly the sky.
>30° of	< 3.5 km	Potentially Visually Dominant At this distance the arms of the MRL Extension will fill more than 50 % of the central field of vision and will always be noticed and sympathetic treatments, such as paint colours to blend against a sky and will only be able to partially mitigate visual effect

These calculations suggest that the impact of the 2 km wide MRL Extension would reduce to insignificance at approximately 45 km, as the entire north or south portion (assuming the same height) would at this distance, form less than 5% or 2.5° of the horizontal field of view. At distances less than 3.5 km, a 2 km wide landfill, would be potentially visually dominant. However, these calculations assume that the landfill is of uniform height and does not allow for the varied and gradual tapering of the landform into the landscape.

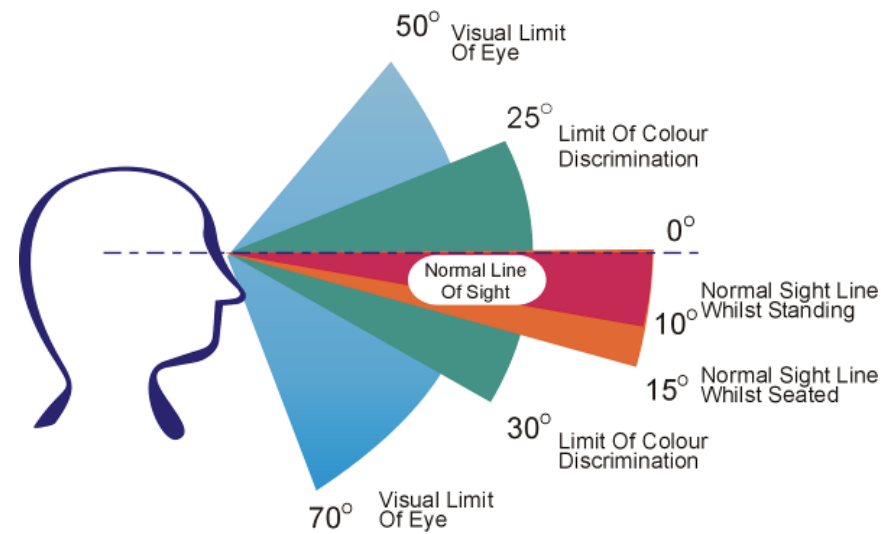
The point from which the MRL Extension becomes an indistinct line on the landscape, better determines the viewshed. It is the point at which the vertical size of a range of the MRL Extension diminishes to an imperceptible component within the vertical field of view. As an observer moves further away from a horizontal object the width may still be apparent, however the vertical dimension reduces to insignificance.

This effect can also be demonstrated by the example of a farm fence that may be several kilometres in width, yet as one moves further away, it becomes less apparent, until at some distance it is not possible to separate this element from the horizontal plane of the landscape. Similarly, the viewshed of a long horizontal object such as a landfill can also be determined by its height. For these reasons, the extent of the viewshed is to be based on an analysis of the extent to which the landfill will extend into the vertical field of view.

A.1.3 Vertical field of view

A similar analysis can be undertaken based upon the vertical line of sight for human vision. These physical parameters are illustrated below.

Figure A-2 Vertical Field of View



As can be seen in the Figure above, the typical line of sight is considered horizontal or 0° . A person's natural or normal line of sight is normally a 10° cone of view below the horizontal and, if sitting, approximately 15° .

Objects, which take up 5% of this cone of view (5% of $10^\circ = 0.5^\circ$) will only take up a small proportion of the vertical field of view, and are only visible when one focuses on them directly. However, they are not dominant, nor do they create a significant change to the existing environment when such short objects are placed within a disturbed or man-modified landscape.

A.1.4 Viewshed based on the vertical field of view

Objects that take up 5% of this cone of view (5% of $10^\circ = 0.5^\circ$) are considered visually insignificant. That is not to imply that the objects become invisible at this distance, rather they become such a minor element in an already man modified landscape that their visual impact can be considered to be insignificant.

Once objects take up at least 10% of the vertical field of view, they can be more readily discernible (10% of $10^\circ = 1^\circ$) and this visibility increases as the apparent height of an apparent 70 m high landfill increasingly takes up a greater proportion of the vertical field of view.

When the objects take up at least 25% of the vertical field of view (i.e. 2.5°), they become visually prominent and when they take up 50% of the vertical field of view (i.e. 5°), they will dominate the view.

Table A-2 Visual impact based on the vertical field of view to an apparent 70 m high landfill

Vertical angle of an apparent 70 m high landfill	Distance from an observer	Visual Impact
< 0.5° of vertical angle (5% of $10^\circ = 0.5^\circ$)	8 km (Vertical FOV: <8,021 m)	Visually insignificant. The extent of the viewshed occurs when the visual impact is negligible, at which point an apparent 70 m landfill is no longer an easily recognisable element in a man-modified landscape. This 8 km distance is used to define the edge of the viewshed based on the upper limit defined in the horizontal field of view.
$0.5^\circ - 1^\circ$ of vertical angle	4 km – 8 km (Vertical FOV: 8,021 m – 4,010 m)	Visually recognisable visual impact occurs between the ranges of 4 km to 8 km. At these distances, an apparent 70 m high landfill is a small element in the landscape but is discernible in most lighting conditions.
$1^\circ - 2.5^\circ$ of vertical angle	2 km – 4 km (Vertical FOV: 1603 m – 4010 m)	Visually noticeable visual impact occurs between the ranges of 2 km to 4 km where 70 m high landfill is visible in the landscape in most lighting conditions. Landscape between the viewer and the apparent 70 m high landfill can reduce visual impact, more so if vegetation is closer to the viewer.
$2.5^\circ - 5^\circ$ of vertical angle	1 km – 2 km (Vertical FOV: 800 m – 1603 m)	Visually prominent visual impact occurs at distances between 1 km and 2 km where the 70 m high landfill have increased visibility and are visually prominent in the landscape. Vegetation is less effective at screening the apparent 70 m high landfill unless it is in close proximity to the viewer.
> 5° of vertical angle	< 1 km (Vertical FOV: <800 m)	Visually dominant visual impact occurs when a viewer is 1 km or less. An apparent 70 m high landfill visible at this distance dominates the landscape. Vegetation, to be effective as a screen, must be located immediately adjacent to the viewer.

Table A-2 shows the some distance bands which recognise that as a viewer is closer to a 70 m high landfill, the landfill takes up a greater percentage of the vertical field of view and its impact increases.

As this calculation is intended as only a guide to setting the viewshed, all figures have been rounded to the nearest appropriate half a kilometre).

Annex B Photomontages

Annex C Rehabilitation Plan

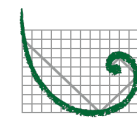
Annex D Addendum Report – Future Landfill Area

Annex E Photomontages – Future Landfill Area

Annex F Rehabilitation Plan – Future Landfill Area

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