Figure 75: VP7 existing 80°panoramic view

Figure 76: VP7 existing view (full frame photo)

VP8 Mount Dandenong Observatory

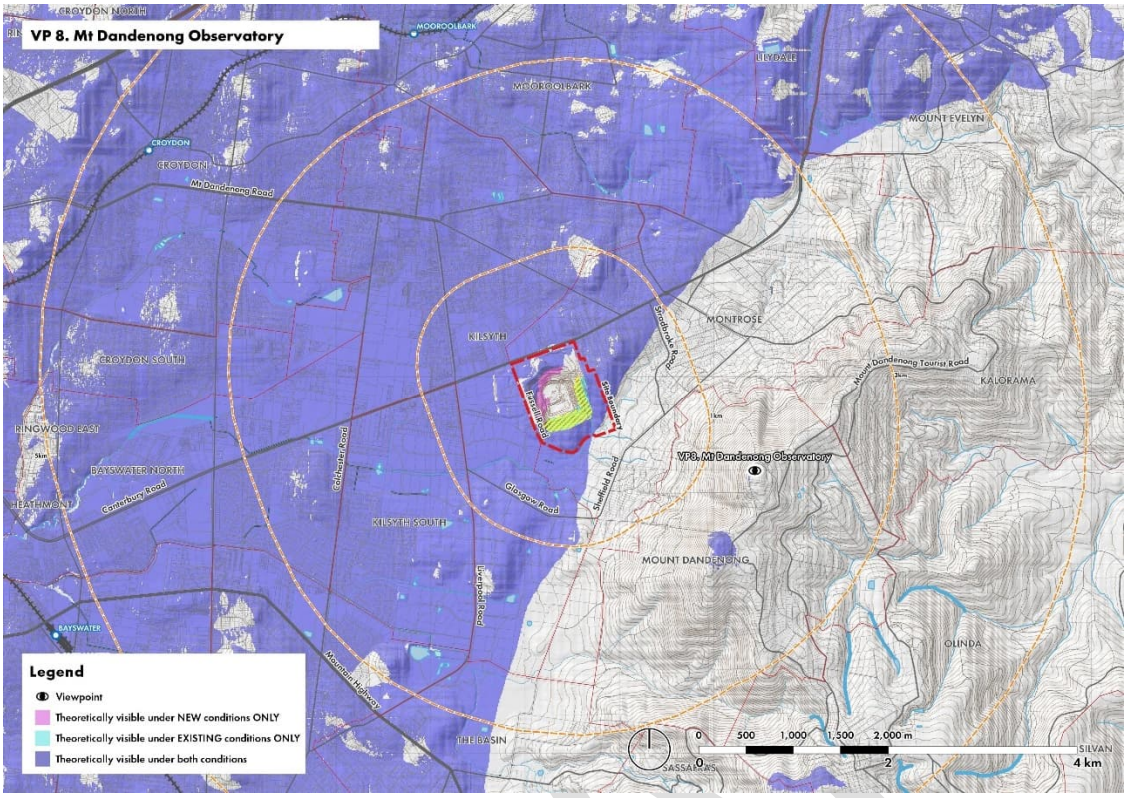

Figure 65: VP8 ZVI – inward line of sight visibility

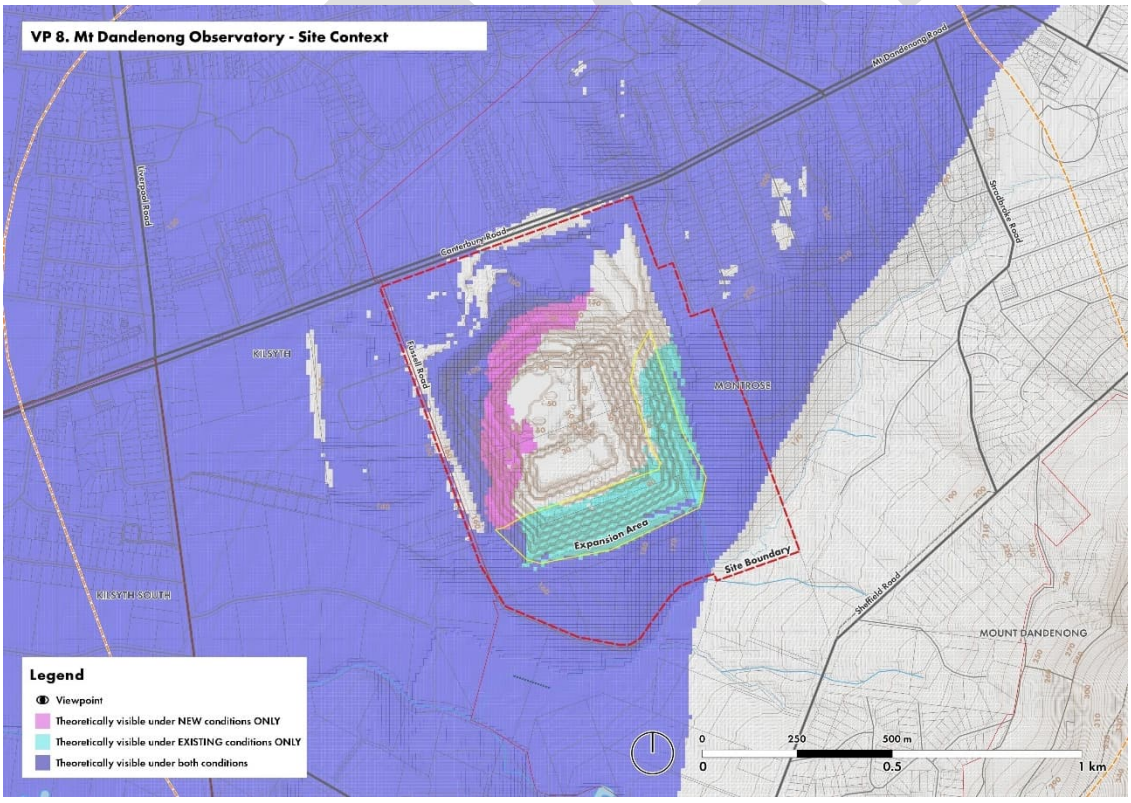

Figure 66: VP8 ZVI – inward line of sight visibility – enlargement

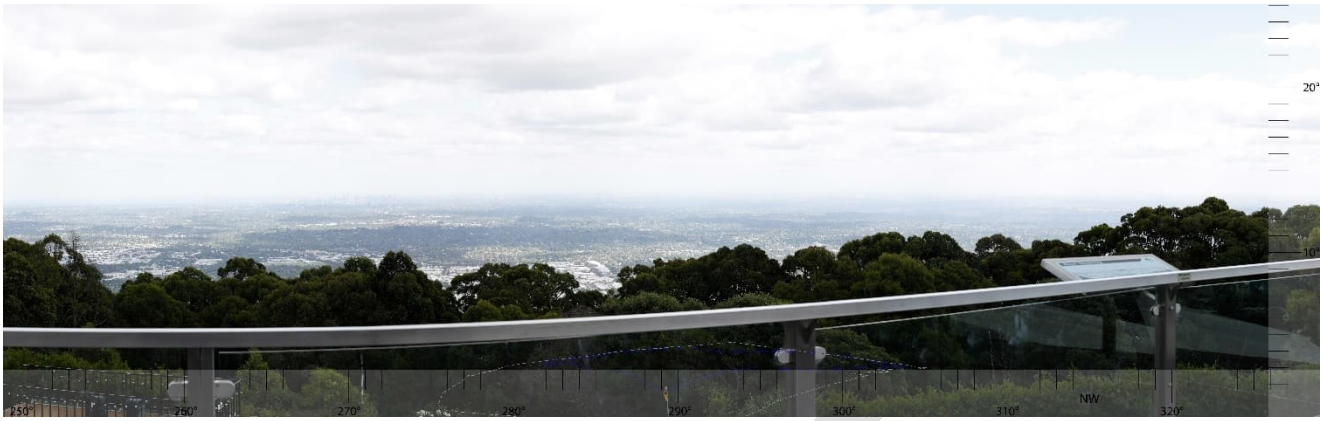

Figure 67: VP8 existing 80° panoramic view

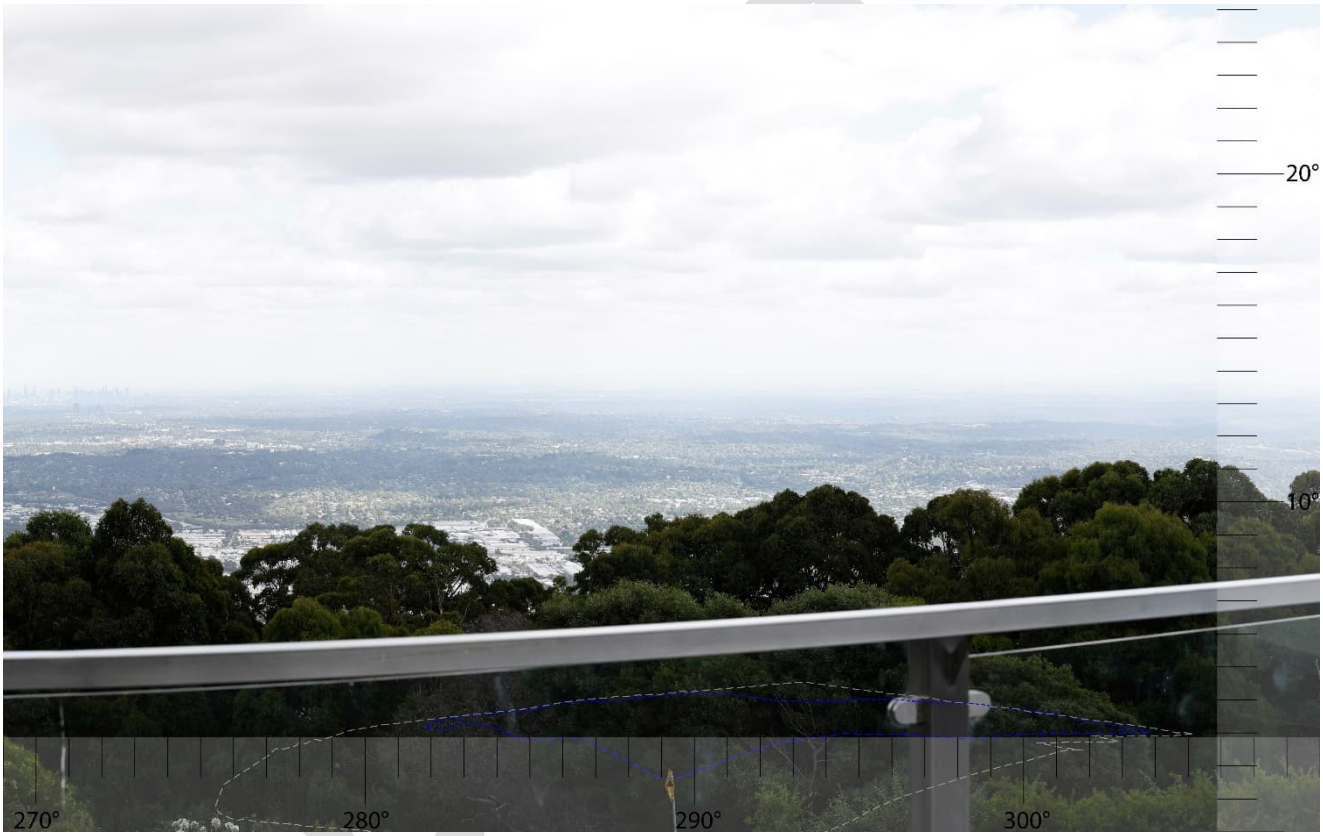

Figure 68: VP8 existing view (full frame photo)

VP9 8 Sherman Road

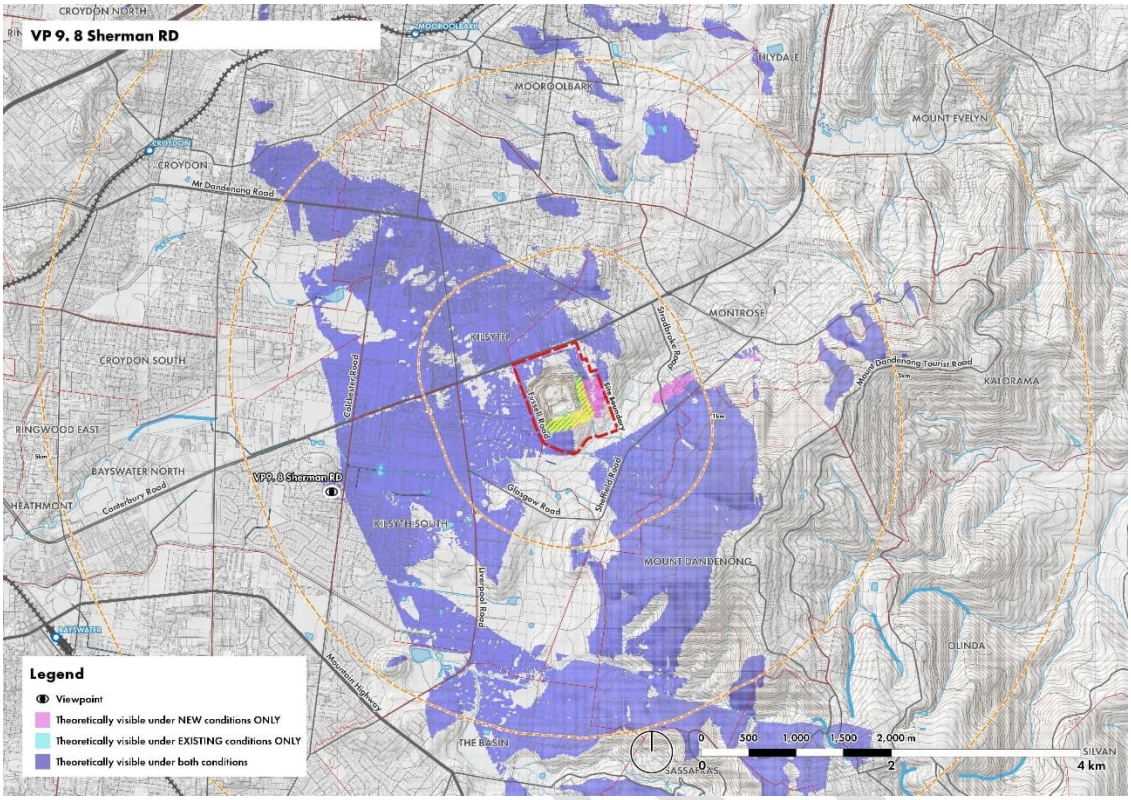

Figure 69: VP9 ZVI – inward line of sight visibility

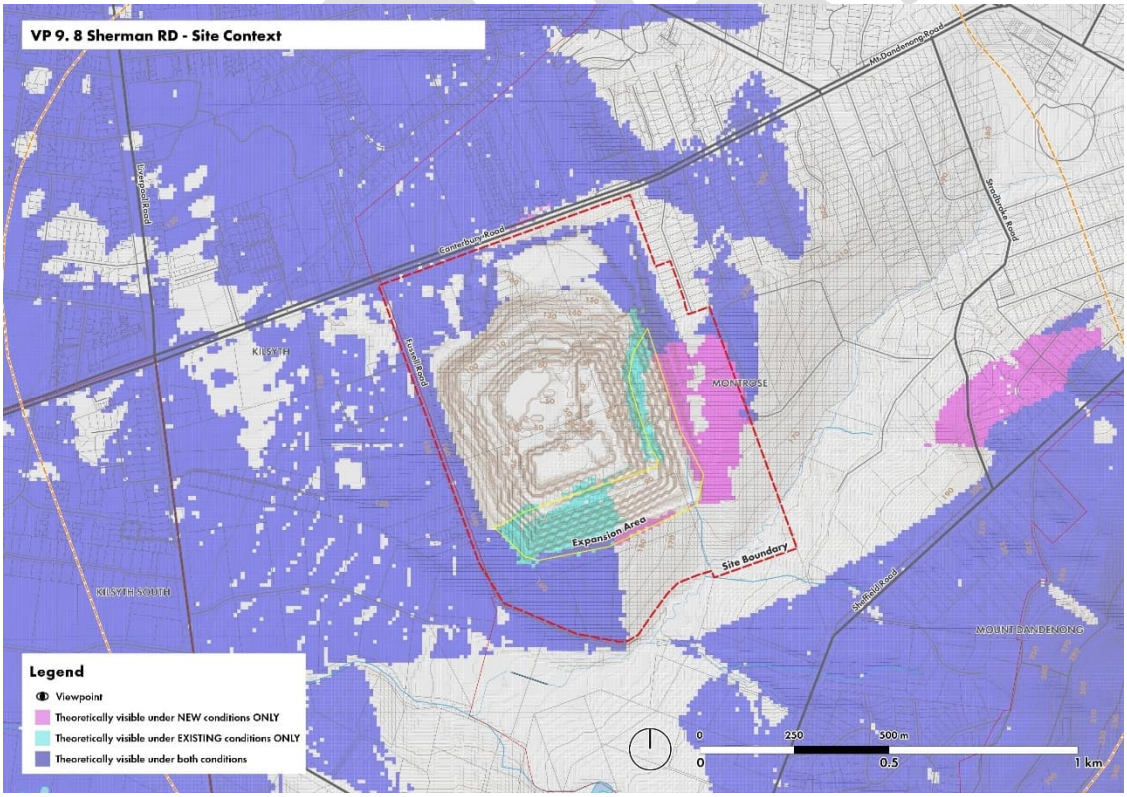

Figure 70: VP9 ZVI – inward line of sight visibility – enlargement

Figure 71: VP9 existing 80°panoramic view

Figure 72: VP9 existing view (full frame photo)

VP10 205 Sheffield Road

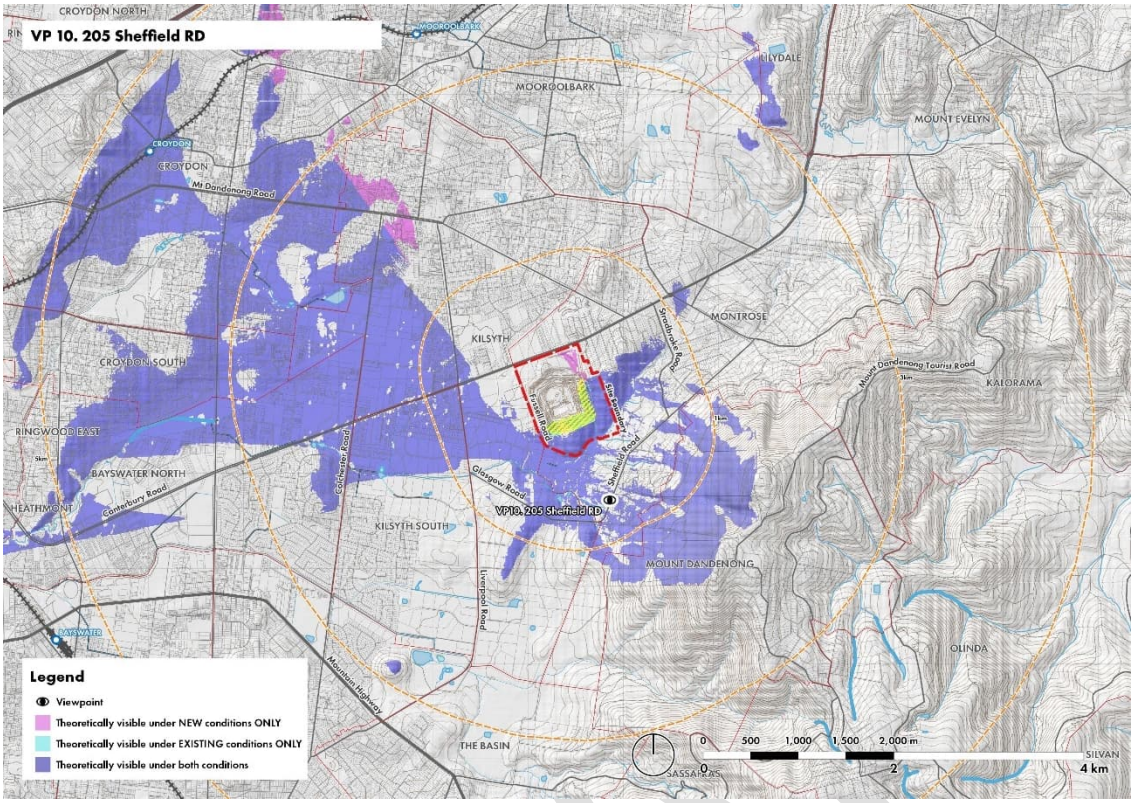

Figure 73: VP10 ZVI – inward line of sight visibility

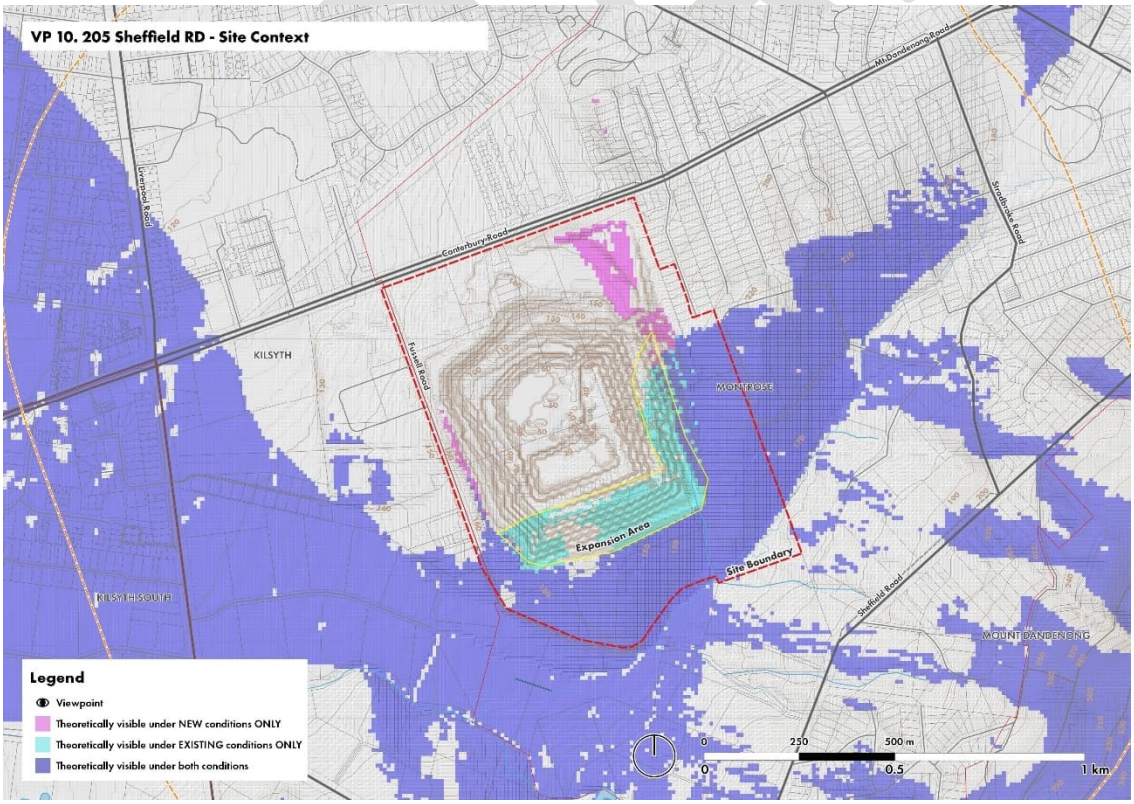

Figure 74: VP10 ZVI – inward line of sight visibility – enlargement

Figure 75: VP10 existing 80°panoramic view

Figure 76: VP10 existing view (full frame photo)

VP11 19 Glasgow Road

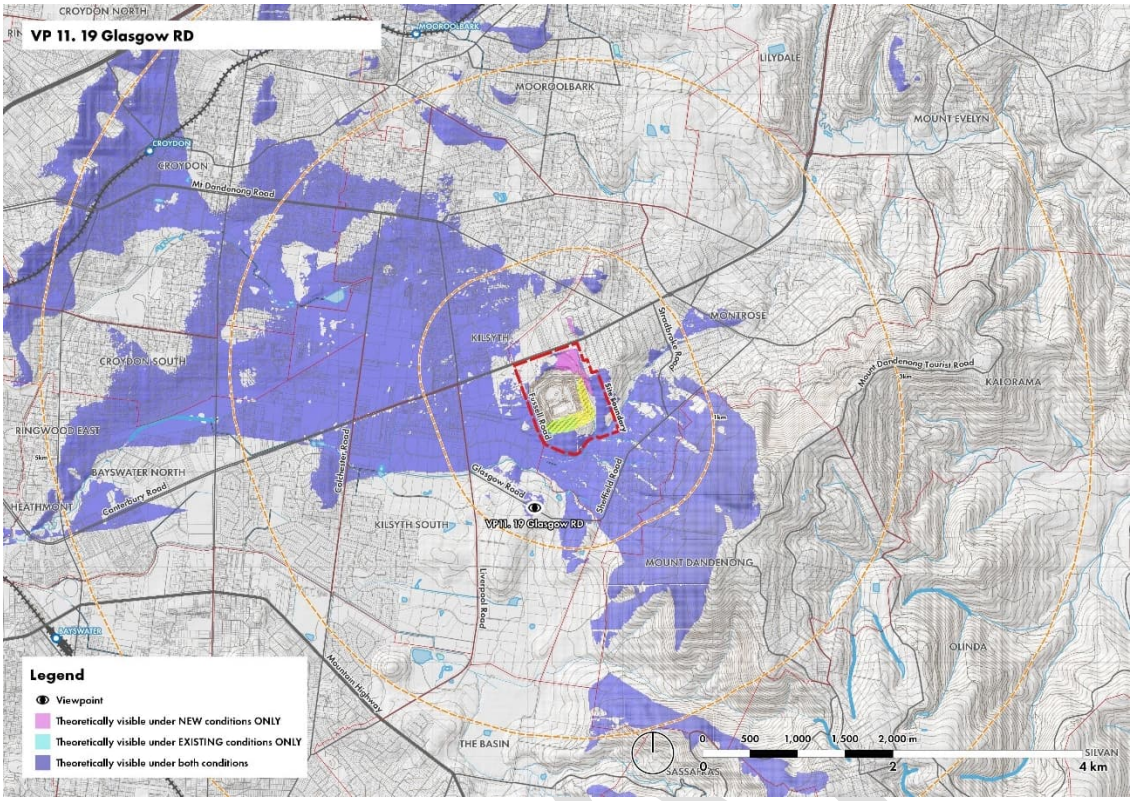

Figure 77: VP11 ZVI – inward line of sight visibility

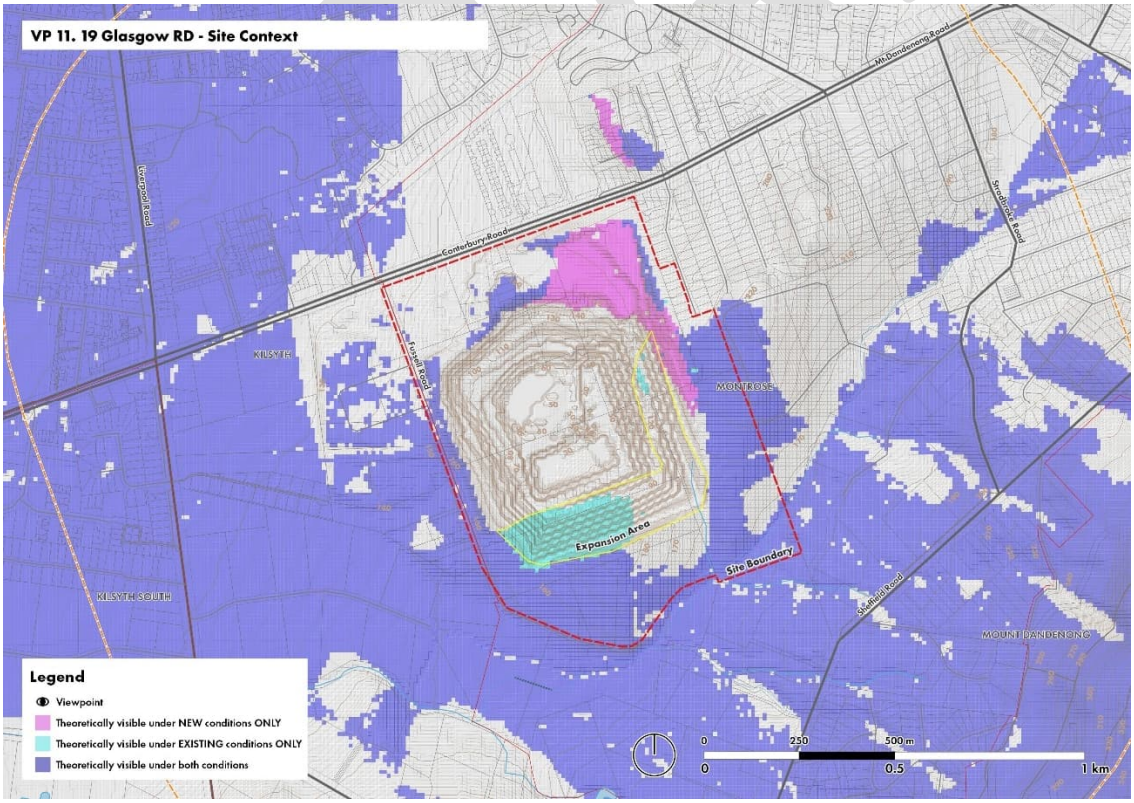

Figure 78: VP11 ZVI – inward line of sight visibility – enlargement

Figure 79: VP11 existing 80°panoramic view

Figure 80: VP11 existing view (full frame photo)

VP12 Burkes Lookout

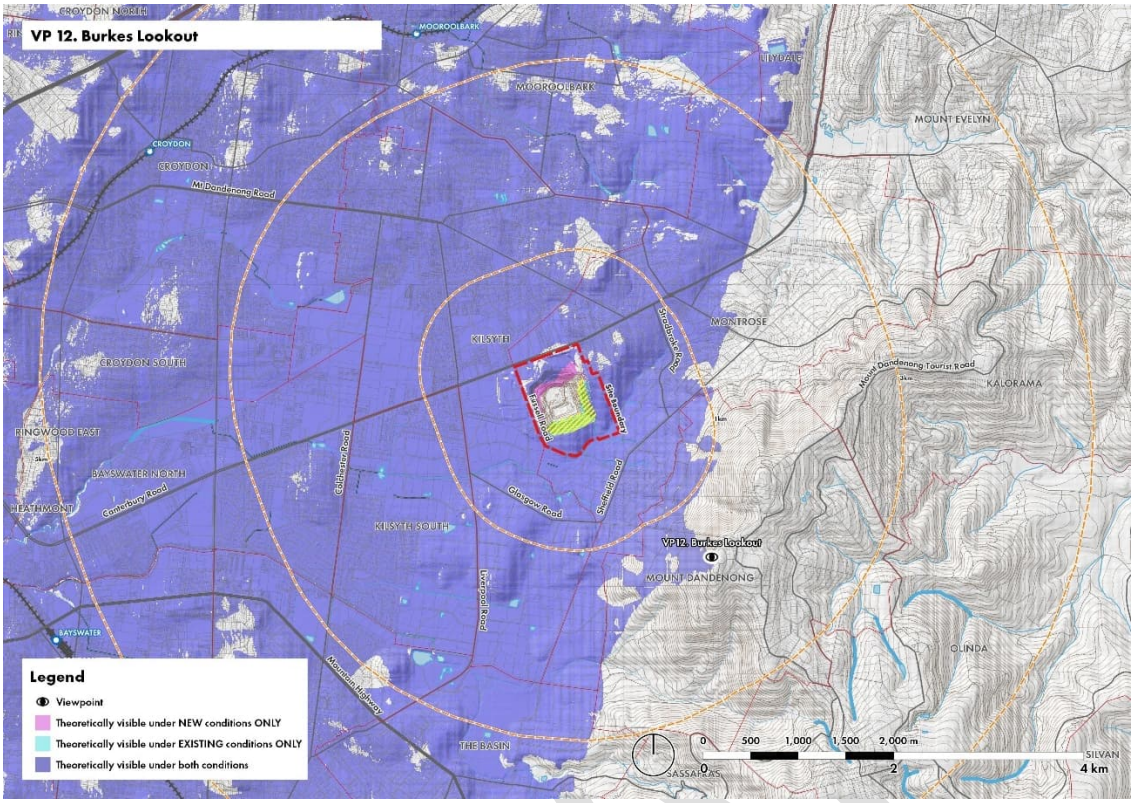

Figure 81: VP12 ZVI – inward line of sight visibility

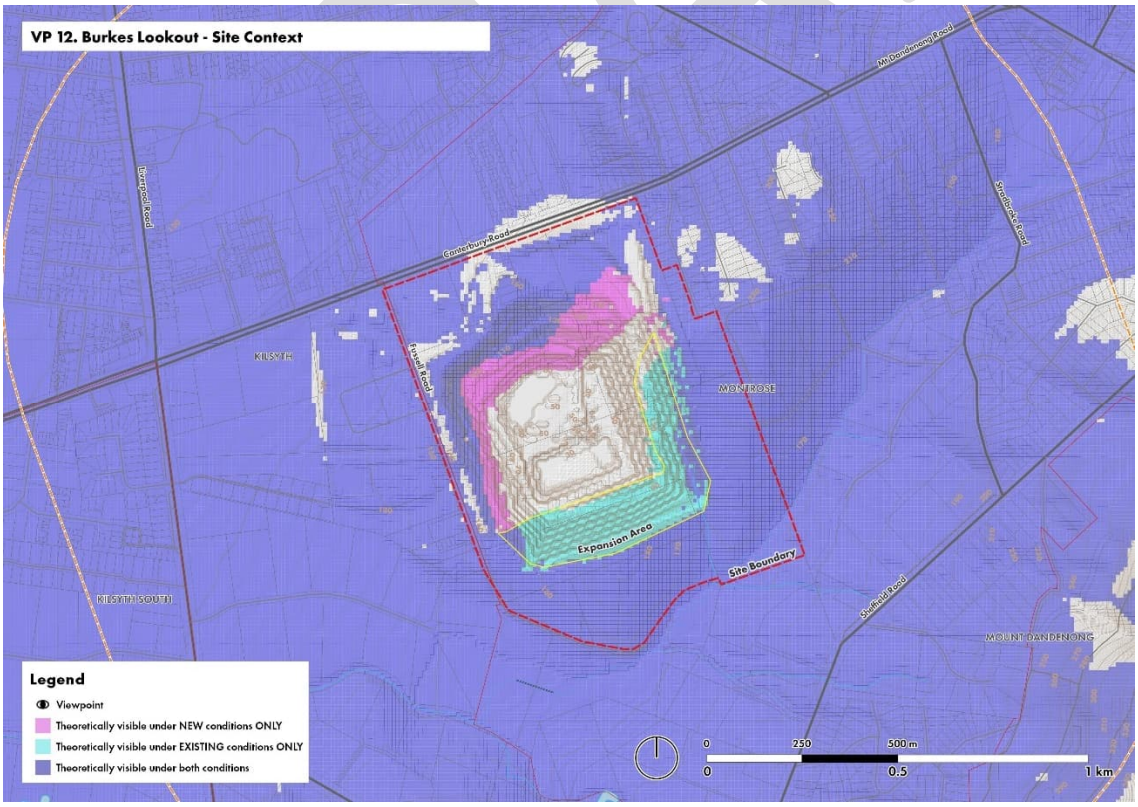

Figure 82: VP12 ZVI – inward line of sight visibility – enlargement

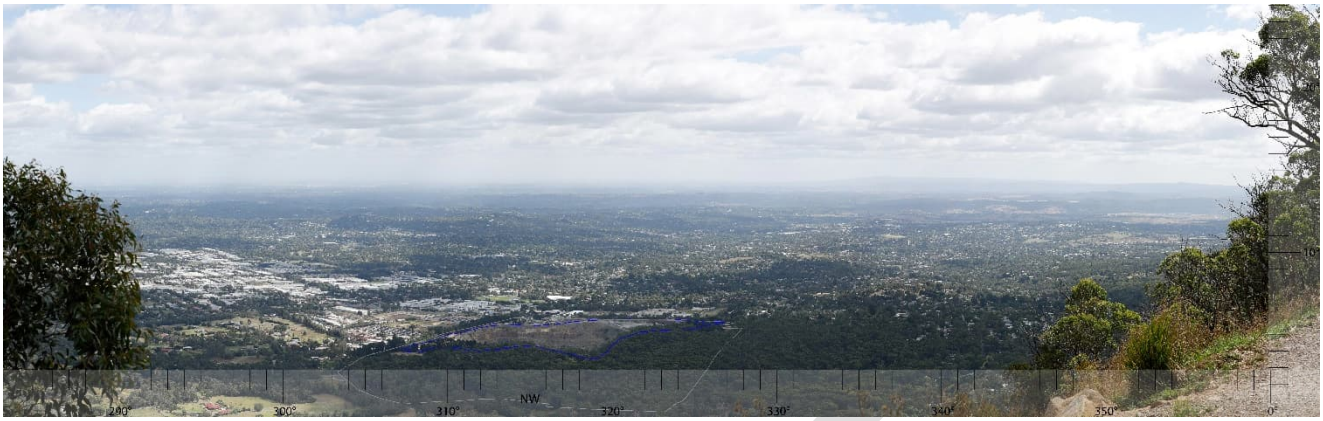

Figure 83: VP12 existing 80°panoramic view

Figure 84: VP12 existing view (full frame photo)

VP13 989 Mountain Highway

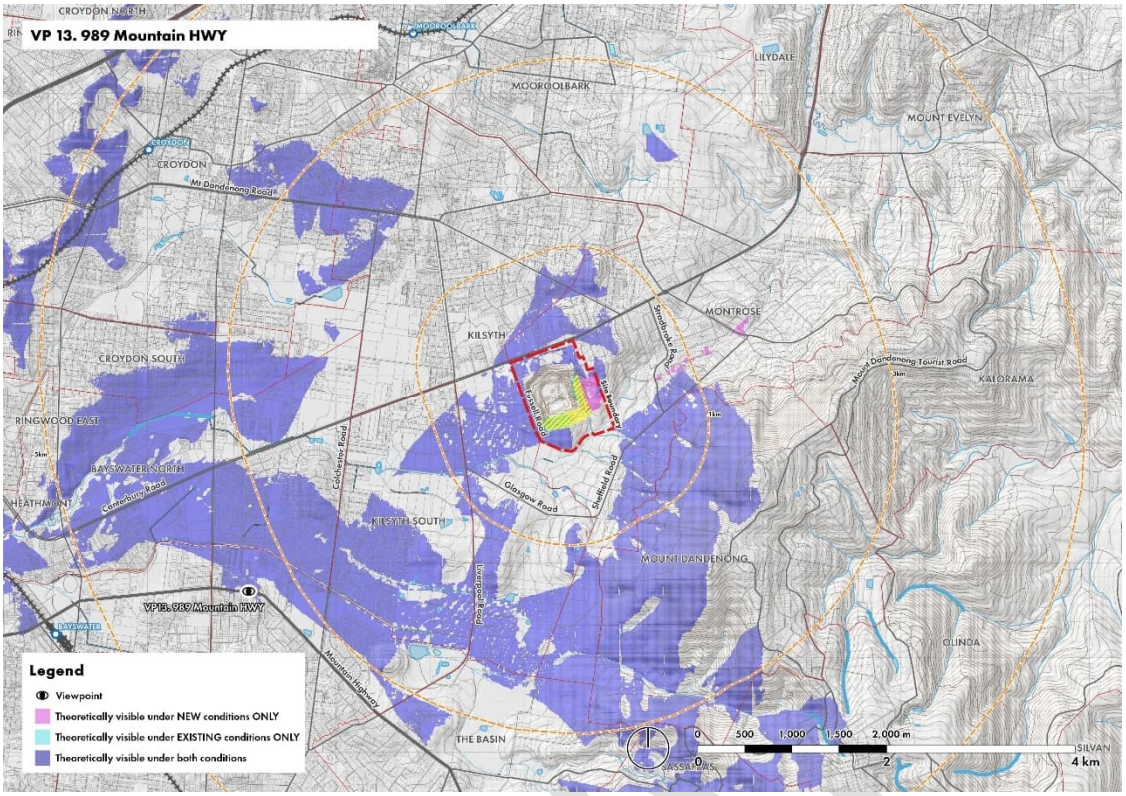

Figure 85: VP13 ZVI – inward line of sight visibility

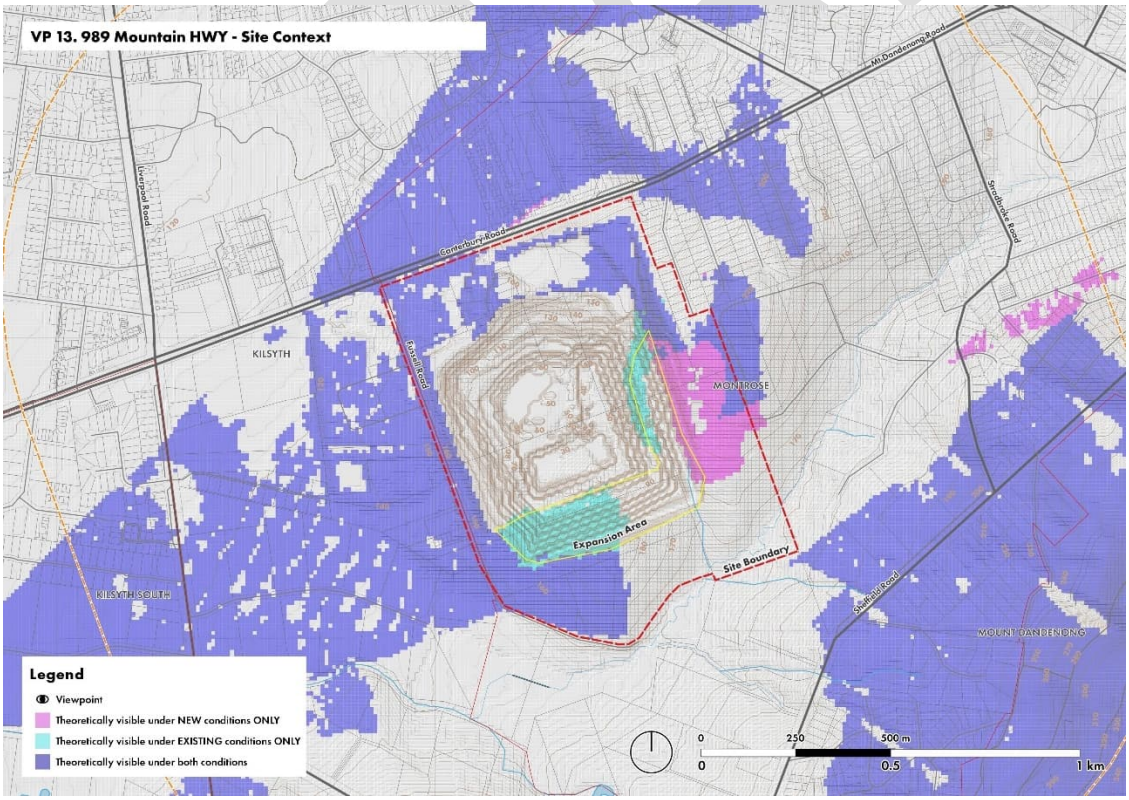

Figure 86: VP13 ZVI – inward line of sight visibility – enlargement

Figure 87: VP13 existing 80°panoramic view

Figure 88: VP13 existing view (full frame photo)

VP14 3 Basin-Olinda Road

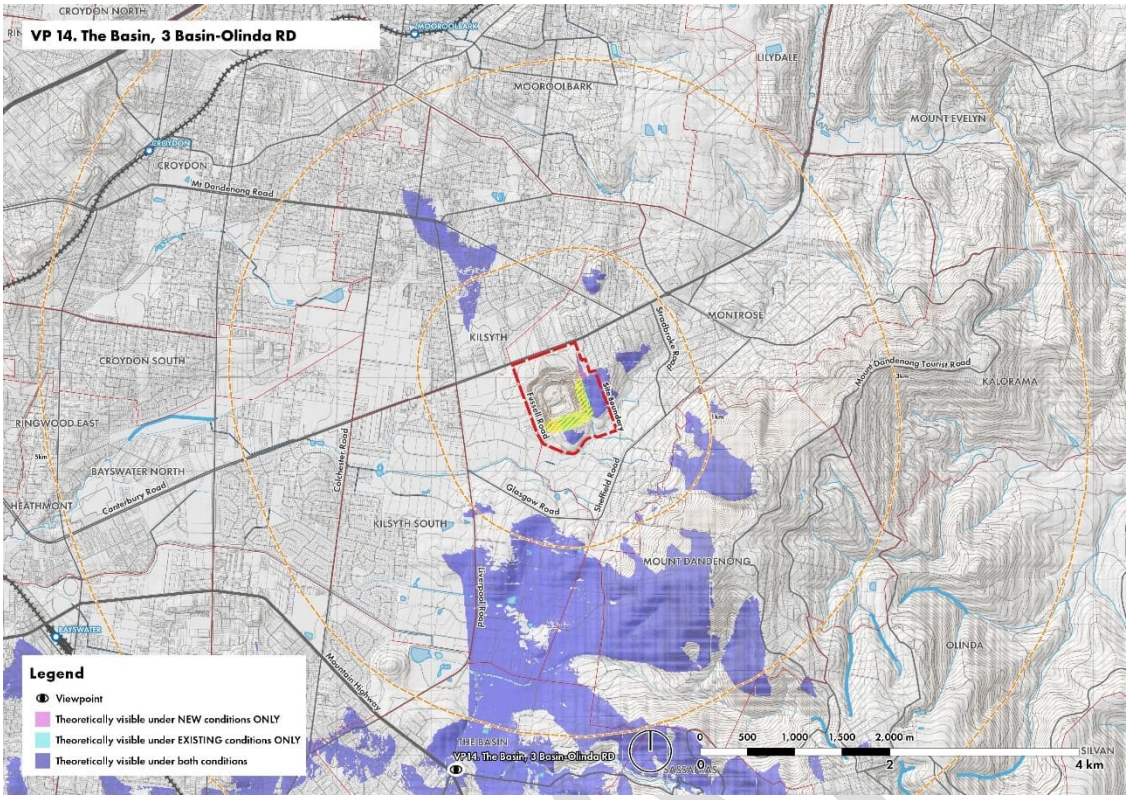

Figure 89: VP14 ZVI – inward line of sight visibility

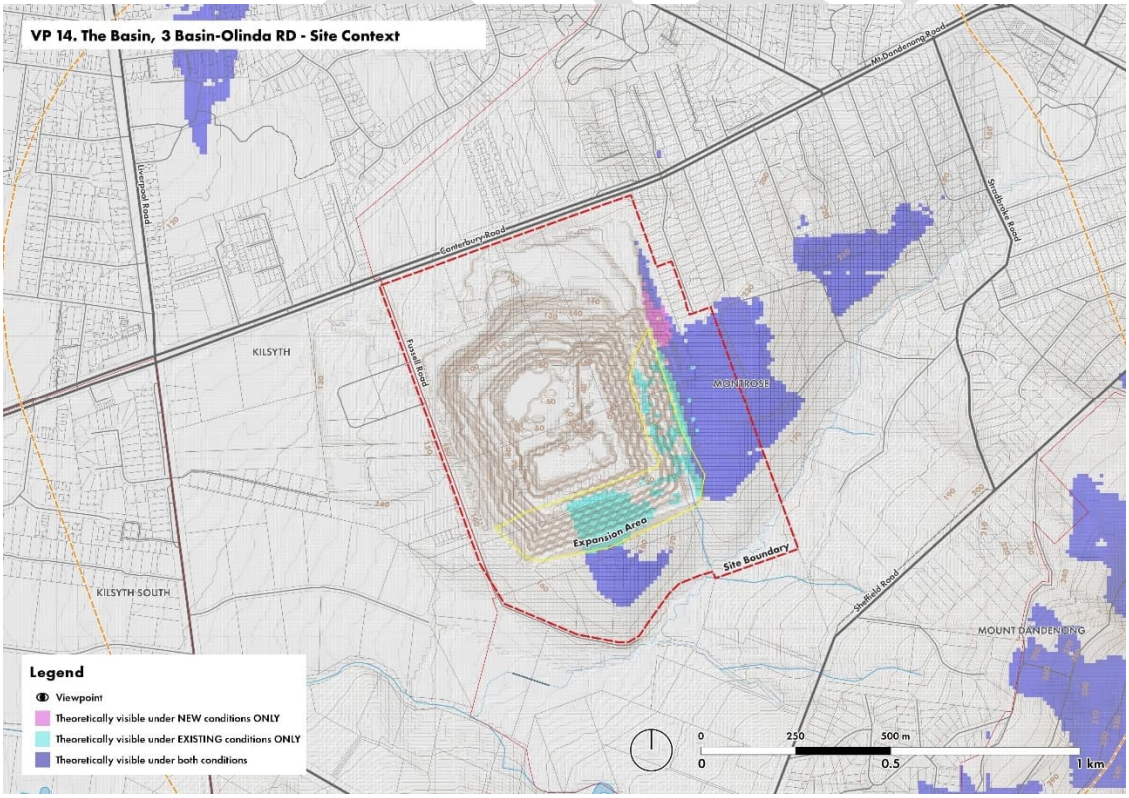

Figure 90: VP14 ZVI – inward line of sight visibility – enlargement

Figure 91: VP14 existing 80°panoramic view

Figure 92: VP14 existing view (full frame photo)

Table 8 Existing Conditions Assessment – Pattern of Viewing

Viewpoint & minimal viewing distance	Context	Existing landscape elements viewed
VP1 – Warburton Track 70-72 Cambridge Rd 2650m from pit	Residential setting Walking track north of the site	▪ Elevated location with a possible view to a small area of on-site vegetation. ▪ Views to the extraction & processing areas are screened by foreground residential vegetation and structures.
VP2 – 90 – 94 Mt Dandenong Rd 5240m from pit	Major road transport route Tourism route north-west of the site	▪ Elevated location with a road alignment that directs views toward the existing quarry site. ▪ View to existing extraction area is clearly evident as a light colour contrast that extends the width of the available view. ▪ The viewing distance reduces the level of detail to a colour contrast only. ▪ The landscape below the line of the quarry is characterised by a mosaic of tree canopies & industrial structures. The pattern of light-coloured roof forms provides a complex visual pattern that partly absorbs the colour contrast provided by the existing quarry.
VP3 – Pink's Reserve 860m from pit	Local sports ground north-west of the site	▪ The viewing location is on a slightly lower elevation than the quarry site. ▪ Views to the existing quarry pit & ground level development are blocked by existing vegetation & offsite industrial buildings. ▪ Views of the top of the asphalt and concrete plant structures are available but form part of a landscape that includes sports buildings, industrial buildings (white) and the quarry plant. ▪ Views of the top sections of the asphalt & concrete plant structures create a visual break in the line of the ridgeline tree canopy. The backdrop to the quarry (foreground) ridgeline is the Dandenong Ranges National Park.
VP4 – 62 Stephen Avenue 1060m from pit	Residential setting east of the site	▪ The viewing location is above the existing quarry level. ▪ The existing quarry pit and processing facilities are visually screened by street and garden vegetation.
VP5 – 89 – 91 Canterbury Rd 380m from pit	Major transport route on the site boundary immediately north-west of the site	▪ The viewing location is on the same level as the northern edge of the existing quarry site. ▪ The top of the concrete plant building and part of an adjoining conveyor is just visible over tree canopies but does not form a skyline silhouette and is not visually dominant. ▪ The most prominent view of on-site structures is from the corner of Canterbury Road and Fussell Road. Planted bunds and site edge plantations screen the quarry facility from other viewpoints. ▪ Existing tree planting within the Fussell Road reserve and the western quarry site buffer plantation provides a visual screen to the quarry activities from the west. ▪ The Dandenong Ranges formation is a dominant visual presence & skyline backdrop.
VP6 – Canterbury Rd & Mersey Rd 940m from pit	Major transport route-west of the site	▪ The viewing location is on the same level as the northern edge of the existing quarry site. ▪ The road-based view is dominated by commercial development on the south side of the road. ▪ The top of the concrete plant building is just visible over tree canopies but does not form a skyline silhouette and is not visually dominant. ▪ Existing tree planting within the Fussell Road reserve and the western quarry site buffer plantation provides a visual screen to the quarry activities from the west. ▪ The Dandenong Ranges formation is a dominant visual presence & skyline backdrop.
VP7 – 13 Taruna Rise 840m from pit	Residential setting south-east of the site	▪ The viewing location is at a level above the quarry site. ▪ The existing quarry pit and processing facilities are visually screened by street and garden vegetation.

VP8 – Mt Dandenong Observatory 1820m from pit	Tourism site (scenic lookout) south-east of the site	▪ The viewing location is at a level well above the quarry site. ▪ The viewpoint is set back from the edge of the landform which leads to land uses close to the base of the Dandenong Ranges landform being screened by the landscape of the National Park. ▪ The existing quarry site is screened by the National Park landscape.
VP9 – 8 Sherman Rd 2310m from pit	Residential setting west of the site	▪ The viewing location is at a level slightly below the level of the quarry site. ▪ A small layer of the existing quarry is visible as a colour change within a treed landscape. The seen area does not form a skyline silhouette and is barely discernible. ▪ Existing tree planting within Fussell Road and the western Quarry buffer provide a visual screen to the majority of the quarry site.
VP10 – 205 Sheffield Rd 810m from pit	Rural residential setting south of the site	▪ The viewing location is at a level slightly above the level of the quarry site. ▪ The existing quarry site is screened by existing on-site and off-site vegetation.
VP11 – 19 Glasgow Rd 780m from pit	Rural residential setting south-west of the site	▪ The viewing location is at a level slightly above the level of the quarry site. ▪ The existing quarry site is screened by existing landform as well as on-site and off-site vegetation.
VP12 – Burkes Lookout 1890m from pit	Tourism site (scenic lookout) south-east of the site	▪ The viewing location is at a level well above the quarry site and in a prominent cliff edge location. ▪ This location is designed as a scenic lookout for tourists and park users. Access is via vehicle and the Kyeema Track. ▪ The viewpoint is designed to provide a day/night panoramic view of the eastern suburbs of Melbourne, including the city skyline. The quarry sits at the visual boundary between the Ranges landscape and the eastern suburbs landscape. ▪ The viewing distance allows a clear view of the existing quarry pit, operational area & internal truck movement. The quarry sits at the bottom/centre of the panoramic view and at the lower edge of the wooded Ranges landscape. ▪ The quarry feature is visually connected to a complex landscape that includes housing development, major roads and large industrial developments in the Kilsyth & Bayswater areas. ▪ The visual complexity of the wider field of view is a feature of the view itself. On that basis, individual land uses are more easily visually absorbed and become less important that the overall pattern of land uses.
VP13 – 989 Mountain Hwy 3550m from pit	Major transport route south-west of the site	▪ The viewing location is at a similar level to the existing quarry. ▪ The existing quarry is largely screened by existing on-site and offsite vegetation and structures. ▪ A small layer of the extraction area is visible as a colour contrast, but not visually dominant. ▪ Foreground structures associated with the road system dominate the view and distract attention from the distant quarry element.
VP14 – 3 Basin-Olinda Rd 3680m from pit	Regional road & residential / rural interface setting south-west of the site	▪ The viewing location is at a level slightly above the level of the quarry site. ▪ The existing quarry site is screened by existing landform as well as on-site and off-site vegetation.

5.14 Baseline Conditions – Key Findings

Existing Planning Controls

Municipal Planning Strategy

The Municipal Planning Strategy (MPS) details contextual considerations and key issues for the municipality.

Clause 02.02 (Vision) seeks for the natural environment to remain the defining characteristic of the municipality.

Clause 02.03-2 (Environmental and Landscape Values) states that the natural environment including hills and trees is the defining characteristic of the municipality. The following strategies are highlighted:

- Avoid the incremental loss and further fragmentation of large intact remnant patches of indigenous vegetation.
- Sustainably manage habitat areas and improve connections between them.
- Offset unavoidable vegetation removal by revegetation or land management measures that achieve a net increase in key biodiversity assets.

Clause 02.03-5 (Built Environment and Heritage) describes scenic landscape as a key contributor to the identity of the municipality. Specifically, the provisions aim to 'protect and respect sensitive environments, significant landscapes and cultural and natural heritage.'

An important theme is the protection and enhancement of significant landscapes and open spaces that contribute to character, identity and sustainable environments. The scenic beauty and unique landscape features within Yarra Ranges is emphasised as a core component of its landscape quality. Within the study area, the foothills of the Dandenong Ranges and the visual amenity provided by the ranges represent a backdrop throughout the Shire. The planning scheme requires that these characteristics should be maintained and protected.

The Shire also supports the development and expansion of existing extractive industry resources while protecting environmentally sensitive areas. Specific mention is made of the requirement to prevent the expansion of existing quarry operations into established buffer areas that protect nearby residential areas and other sensitive land uses.

Zoning and Overlays

- The existing quarry pit lies within the SUZ1 and the proposed quarry expansion area lies within SUZ6. The purpose of SUZ6 is essentially the protection of properties in proximity from noise, dust and visual intrusion, and the preservation of the amenity of the immediate area. The purpose of this zone is also to preserve the option of future exploitation of stone resources, subject to due process and acceptable environmental standards.
- The proposed quarry expansion area is covered by an Environmental Significance Overlay, with an objective to ensure that any new development is sensitively designed and sited to reinforce the existing environmental characteristics of the area.
- The proposed quarry expansion area is also covered by a Significant Landscape Overlay (SLO1). Objectives relate to retaining a forest dominated landscape and maintaining the appearance of uninterrupted forest ranges when viewed from Melbourne's outer east and surrounds.
- Rural residential areas to the immediate south-west of the site are covered by a Significant Landscape Overlay (SLO6). Overlay objectives relate to allowing middle and long distance views from the valley and surrounding ranges and maintaining the appearance of an uninterrupted forested backdrop to views of the Dandenong Ranges.
- Residential areas along the foothills of the Dandenong Ranges National Park and to the north-east of the site are covered by a Significant Landscape Overlay (SLO22). Objectives relate to recognising the visual sensitivity of these residential areas and maintaining vegetation as a dominant visual element of the landscape setting.

Landscape policies

- Localised landscape planning policies seek to place restrictions on development in order to maintain iconic features such as the 'treed escarpments of the Dandenong Ranges and the visual amenity along main roads and tourist routes'. The emphasis of the policy is on the management of visual effects and landscape character, rather than the principle of change.
- The landscape significance of the Dandenong Ranges National Park and surrounding area has been recognised by the National Trust of Australia (Victoria). The Trust has classified a number of landscapes in the region, including the whole of the park and a number of locations within it. The plan states a requirement to maintain and upgrade existing viewpoints and encourages the application of environmental protection overlays when determining applications affecting land adjacent to the park. Although the Montrose quarry does not lie within the Dandenong Ranges National Park, the park landscape is relevant as a visual receptor and as a defining regional landscape feature.

Landscape Character:

- The non-urban vegetated slopes of the Dandenong Ranges National Park are of High scenic quality by virtue of landform and vegetation. These landscapes form an important visual backdrop to the study area and define the edge of the Melbourne metropolitan area.
- The Green Wedge areas and Rural Conservation areas south of the site and north of Montrose are of Moderate scenic quality by virtue of the landform, cultural landscape patterns and local roadside vegetation.
- Residential neighbourhoods east of the quarry site have a moderate to high scenic quality based on varying topography, tree canopy cover, well vegetated open space is abundant, visually recessive built form and visual connection to the Dandenong Ranges landscape.
- Industrial areas north and west of the quarry site are low scenic quality on the basis that vegetation cover is sparse and industrial / commercial building and road spaces are visually dominant.
- The active quarry site is an industrial use with a low scenic quality, although the scale of the pit is distinctive and with its own scenic qualities. The existing vegetated buffer areas to the south and east of the quarry pit have a moderate scenic quality based on the quality of existing landform and vegetation, and the visual connection to the rural residential areas and Dandenong Ranges reserve system landscapes to the south and south-west.

Landscape Condition

The landscape to the immediate north and west of the quarry site has developed as an industrial precinct, which extends down Canterbury Road to the south-west. With the exception of native street tree planting, the industrial setting generally has a minimal and fragmented landscape presence and is in a relatively poor condition.

The Canterbury Road landscape which forms a northern boundary to the site and the eastern Fussell Road boundary is generally a mixture of indigenous and native species. Street planting blends with the quarry site buffer planting to form a vegetated edge to the site.

The landscape of the site is formed by a combination of four land use areas:

- An active extraction pit, haul roads and stone processing area
- Concrete and asphalt plants and site administration facilities
- Perimeter native landscape buffer planting (refer Figure 29). This landscape buffer plantation is a combination of remnant indigenous planting and mixed native tree and shrub planting. The landscape buffer is in average condition as a result of 'edge effects', including weed intrusion.
- The indigenous woodland at the southern and eastern edges of the site. This landscape is a combination of remnant indigenous vegetation and some exotic tree planting and weed intrusion that is a legacy of past land uses. This vegetation varies from good to average condition, depending on the site location and the degree of disturbance that results from historic land uses, current and previous site uses and management practices. This site vegetation system adjoins the Dr Ken Leversha and Bungalook Creek Reserve systems and on that basis, forms a part of a locally important remnant vegetation network.

Landscape Value

Landscape value describes the relative value that is attached to the landscape by the community, although a landscape may be valued by different stakeholders for a variety of different reasons. It draws from both Landscape Character and Scenic Quality, but also considers the condition of the landscape (intactness) and the community / cultural associations and values placed on the landscape.

- The Yarra Ranges Planning Scheme recognises, through a series of Significant landscape Overlays. Landscape significance is attributed to locations south and east of the quarry site and to the woodland area within the quarry site. The SLO system recognises the specific qualities of each of the SLO landscapes as well as the visual relationship between each of the SLO landscapes, including the quarry site, and the Dandenong Ranges landscape from key eastern suburb and main road viewpoints.
- The Dandenong Ranges National Park is an important leisure destination and a conservation area of state significance. The value of the landscape for tourism and recreation is considered high, as scenic quality represents a drawcard for tourism. The Ranges landscape also provides a visual backdrop to nearby land use areas. The scenic quality of the mountain landscape and the views to the west over the city from designated scenic viewpoints are important features that reinforce the metropolitan value of the landscape.

Pattern of viewing

Two viewpoints provide a clear view of the existing quarry pit.

- Viewpoint 2 provides a distant road-based view of the pit, but the development is only seen as a colour change in a landscape that contains a mosaic of industrial and commercial land uses with similar light or contrasting colours.
- Viewpoint 12 (Burkes Lookout) provides the most prominent view of the quarry. The viewing distance allows for a detailed view of quarry features, plant buildings and related truck movements. The scenic lookout is based on a wide panoramic view that includes large scale industrial, retail and residential land uses. The diversity of land uses across the suburban area is the subject of the view and on that basis, the quarry is perceived as one component of a broader pattern of urban development, rather than as a visually discordant element. In that context, the quarry and its features and visible extent are less important in terms of view quality than its level of visibility suggest.

Two viewpoints provide slight views of the existing quarry pit.

- Viewpoint 9 provides a view of a thin layer of the quarry, but the development is seen as a small colour change within a dominant treed landscape.
- Viewpoint 13 provides a view of a thin layer of the quarry, but the development is seen as a small colour change within a dominant treed landscape. Foreground structures associated with the road system dominate the view and distract attention from the distant quarry element.

Three viewpoints provide views of the tops of existing quarry structures (concrete and asphalt plant buildings and related conveyor structure).

- Viewpoint 3 provides a clear view of the top half of the concrete and asphalt plant and conveyor structures, but these structures are seen as a part of a landscape that includes dominant views of industrial sheds and sport related structures. As a result, the visible quarry features provide visible, but not dominant elements within a visually complex landscape.
- Viewpoint 5 provides a slight view of the top of the concrete production building and adjoining conveyor structure. The most prominent view of on-site structures is from the south-western corner of Canterbury Road and Fussell Road. Planted bunds and site edge plantations screen the quarry facility from other viewpoints.
- Viewpoint 6 provides a slight view of the top of the concrete production building and adjoining conveyor structure. Although the view of the structures aligns with the edge of the road, the general road-based view is dominated by commercial structures which create a complex and visually dominant landscape.

Remaining viewpoints are not subject to views of the existing quarry.

Overall, the existing quarry is considered to have a low level of visibility within the study area. Where views of the quarry pit or building facilities exist, they are partial views only that are visually recessive as a result of the size of the view and the more dominant visual effect of other structures and land use patterns within the field of view.

The clearest view of the existing quarry operation is from Burkes Lookout, but the impact of the view is substantially lessened by the overall nature of the panoramic view which is based on a variety of land uses and development patterns. In this context, landscape patterns and variety are the basis of the view and do not in themselves, lessen scenic quality.

6 New Conditions - Assessment

6.1 Introduction

This section deals with potential effects on visual resources from changes in the composition and quality of views, and the overall effect on landscape character and visual amenity. The assessment of landscape character and visual impacts addresses the significance of likely changes in existing baseline conditions resulting from the development proposal.

Landscape impacts are changes in the fabric, character, and quality of the landscape as a result of development. In this context, landscape and its related scenic quality is considered as an environmental resource, independent of views.

Visual impacts relate to changes in the available views of the landscape and the effects of those changes on people (visual receptors).

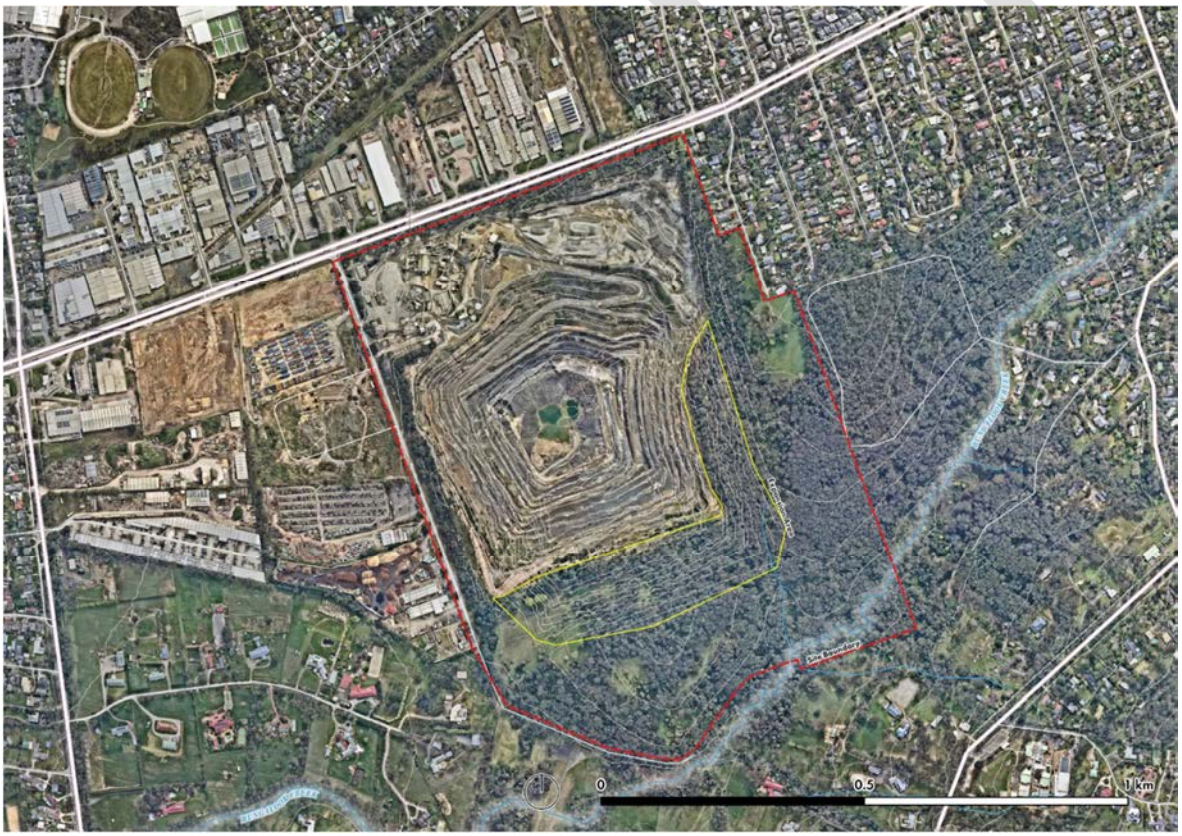

Figure 93: Montrose Quarry Site with Existing & Proposed Extraction Areas

6.2 Landscape Impact Assessment

The baseline values of the landscape have been described in Section 5 and summarised within Section 5.14.

Landscape impacts typically include:

- Direct impacts on specific landscape elements and related values such as scenic quality.
- More subtle effects on the overall pattern of elements that give rise to landscape character and regional and local distinctiveness.
- Impacts upon acknowledged special interests or values such as designated landscapes, conservation sites or cultural associations.
- Cumulative or indirect effects that extend beyond the study area boundary.

The impact assessment focusses on the effects of the final expanded footprint and assumes no interim mitigation works. as follows:

- **Stage 1** (0.5 years): Clearing of vegetation and upgrade of western haul road; clearing of vegetation and construction of eastern access ramp; clearing of vegetation and construction of southern access ramp; clearing of vegetation and commencement of works along the southern face (existing hill high point) to RL 192; clearing of vegetation and commencement of works along the eastern face to RL 192.
- **Stage 2** (0.5-2.3 years): Clearing of vegetation and advancement of works along half of the southern face (existing hill) from RL 192 to RL 144; clearing of vegetation and advancement of works along eastern face to RL 192.
- **Stage 3** (2.3-5.5 years): Clearing of vegetation and advancement of works along the entire southern face (existing hill) from RL 176 to RL 128; clearing of vegetation and works along the eastern face to RL 192
- **Stage 4** (5.5-7.3 years): Clearing of vegetation and advancement of works along eastern face to RL 176.
- **Stages 5 - 8** (7.3-29.3 years): No visual change to visual environment as works advance along southern and eastern faces.
- Site rehabilitation, as per the Work Plan. This does not consider longer term end use design options.

Staging and sequencing of the works will roll out over a period of 30 years before the final void is achieved, but a number of landscape impacts associated with expansion of the pit extent, such as vegetation clearance, are likely to occur within the first 7 years of the project.

Table 9: Landscape Impact Assessment – New Conditions

LANDSCAPE IMPACT ASSESSMENT – NEW CONDITIONS NATURE OF CHANGE					
· The proposed expansion of the Montrose Quarry will enlarge the existing pit by approximately 14 Ha. This expansion will take place across 9.53 Ha of remnant woodland vegetation and associated landform and 4.5 Ha of already cleared land. This represents an approximate 24% increase in operational size. The change will primarily occur in the south and east of the site, with an additional area of change in the west where the haul road will be upgraded. · The nature of the quarry operations and the operational intensity will not change. · The site boundary and vehicle access points will not change.					
Description of impacts	**Sensitivity**	**Nature & magnitude of change**	**Duration**	**Significance**	**Mitigation measure / Recommendations**
LAND USE					
· The existing site is used for quarrying, stone processing, concrete and asphalt production and related operational activities. · Southern and eastern site areas support remnant woodland (elevated landform areas) which provide a visual buffer and physical separation between the quarry pit and adjoining residential and rural residential land uses. · The proposed quarry expansion areas will not affect adjoining land ownership or land uses. · Traffic movement and operational activities will remain at existing levels. · The long-term land use is likely to be a combination of landscape and agricultural based land uses. There is also potential for residential and recreation uses given the nature of the landscape and its surrounding environment. ·	LOW	HIGH	Long-term change Partly reversible	MOD	· The effects of the land use change will be mitigated by the long-term rehabilitation of the site.
LANDFORM					
· The central parts of the site will be significantly changed · The eastern edges of the site have a relatively higher value based on landform & existing vegetation but that landform will change as a result of stage 2 quarrying within the ridgeline landscape.	LOW – MOD	HIGH	Long term change Not reversible	MOD	· The long-term nature of the land use will determine the character of the site and its relationship to woodland surroundings · Progressive rehabilitation of quarry stages.
VEGETATION					

· Existing vegetation will be removed as a result of future quarry development in the eastern part of the site. · New buffer planting and screen planting will potentially offset site vegetation losses. · The proposed eastern quarry pit (elevated pit) can potentially be rehabilitated and planted over time.	LOW	MOD	Long term change Partly reversible	MOD	· Pre-development planting (as early as possible) · Active management of vegetation areas to ensure maximum performance and habitat value. · Use of indigenous species where possible. · Use of plantations within the site (particularly boundaries) to reference typical regional landscape forms and patterns.
LANDSCAPE CHARACTER					
· The site and its principal land use will be changed by future quarrying and related site works, but the extent of visible changes will depend on rehabilitation practices and planting · A new landscape character may be developed for the site based on new landform, vegetation and water forms	LOW	MOD	Long term change Partly reversible	MOD	· Pre-development planting (as early as possible) · Use of indigenous species where possible will match the colours and appearance of the surrounding landscape. · Integrated landform rehabilitation to create more natural site landforms

NOTE: The landscape assessment considers scenic quality within the site as an environmental resource, independent of views.

6.3 Visual Impact Assessment

6.3.1 Visibility Analysis

A Zone of Visual Influence (ZVI) is a theoretical area within which an object located at a specific point is visible within the surrounding area. It is a quantitative function of the object height, the viewer height (depending on the activity the viewer might be engaged in) and the topography. The limitations of this modelling process are discussed within Section 2.7.

The ZVI modelling assesses the likely maximum extent of visibility (without vegetation) and shows the areas that can be seen in 'line of sight' from the proposed infrastructure and / or receptor heights. The purpose of the modelling is to:

- Identify all possible theoretical viewing areas and potential visual receptors.
- Highlight the possible differences in visibility that could exist within the study area onto the proposed structures
- Indicate possible representative or 'worst case scenario' viewing areas that could be further tested through the wireframe modelling process.

Actual levels of visibility will almost certainly be less than the modelled results due to:

- Existing vegetation and built form.
- Localised topographic elements that may not be included in the terrain model.
- View alignment and viewing distance.

ZVI: New Conditions

With an understanding of the theoretical ZVI of the existing quarry in hand, a ZVI of the proposed expansion of the quarry was generated to compare with the existing baseline, and explore how the visual baseline is likely to change as a result of the proposed expansion of the quarry pit. Again, a ZVI was generated from a set of points spaced at 20m intervals, but this time along the perimeter of the full extent of the expanded quarry pit (i.e. at the completion of Stage 8 of the proposed expanded operations). Again, no surface vegetation or built form is taken into consideration, therefore the results shown in the following two graphics represent a worst case scenario.

The following is noted in this regard:

- The extent of theoretical visual exposure remains almost identical to the existing conditions, with new areas of theoretical visual exposure limited to narrow slivers in the east and immediate south west of the site, and further afield to the south west.
- The areas of highest theoretical visual exposure (i.e. areas likely to see the most number of points) show an increase to the immediate south east of the site within the rural residential areas of Montrose located on the lower slopes of the Dandenong Ranges National Park. An increase is also noted to the west of the site across the flatter residential areas of Kilsyth and the industrial areas of Bayswater.
- Not shown on these ZVI's are those areas that will be affected by the removal of the hill in the south of the site, but who will not necessarily be exposed to the new quarry pit. Currently, this vegetated hill is visible to various receptors throughout the study area. Within the foreground, this hill is more visually prominent, and in places represents the skyline. The removal of the hill could result in a change in the skyline, a loss of visible landform and vegetation and potential exposure of previously non visible areas beyond.

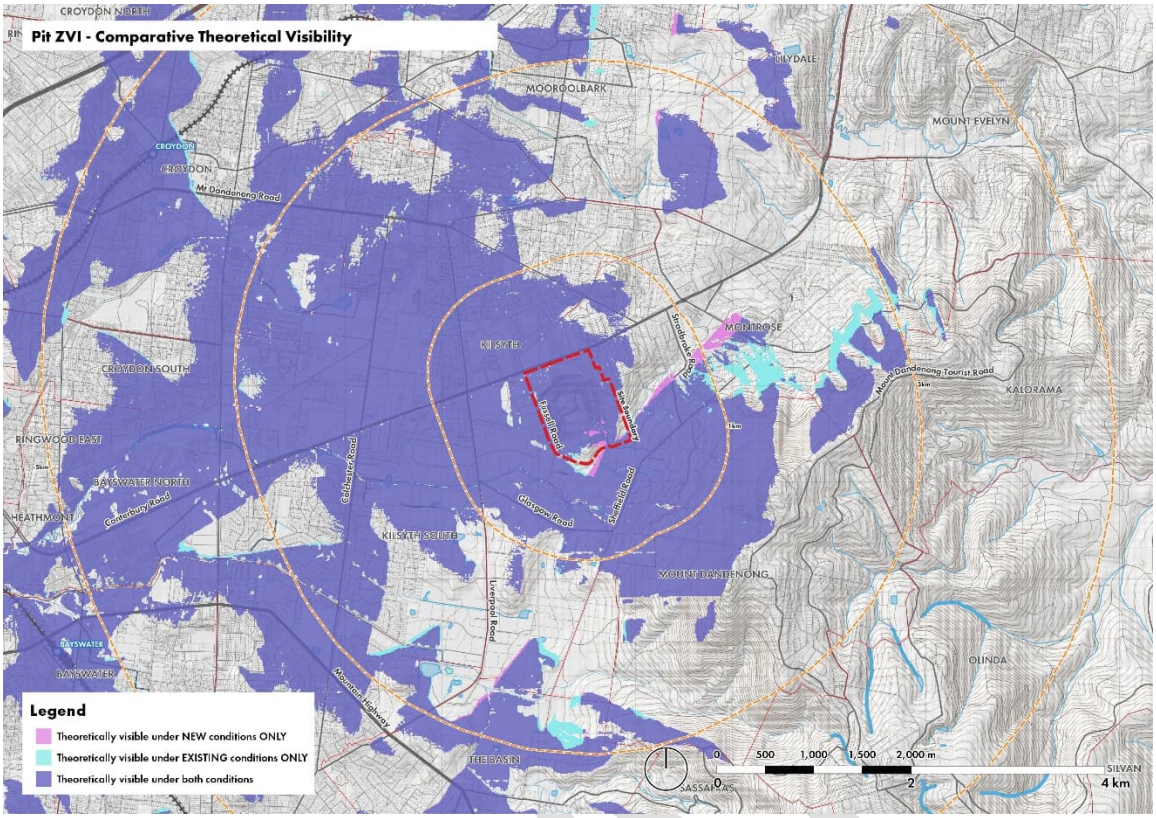

Figure 94. :ZVI.: New Conditions (No Vegetation and Structures)

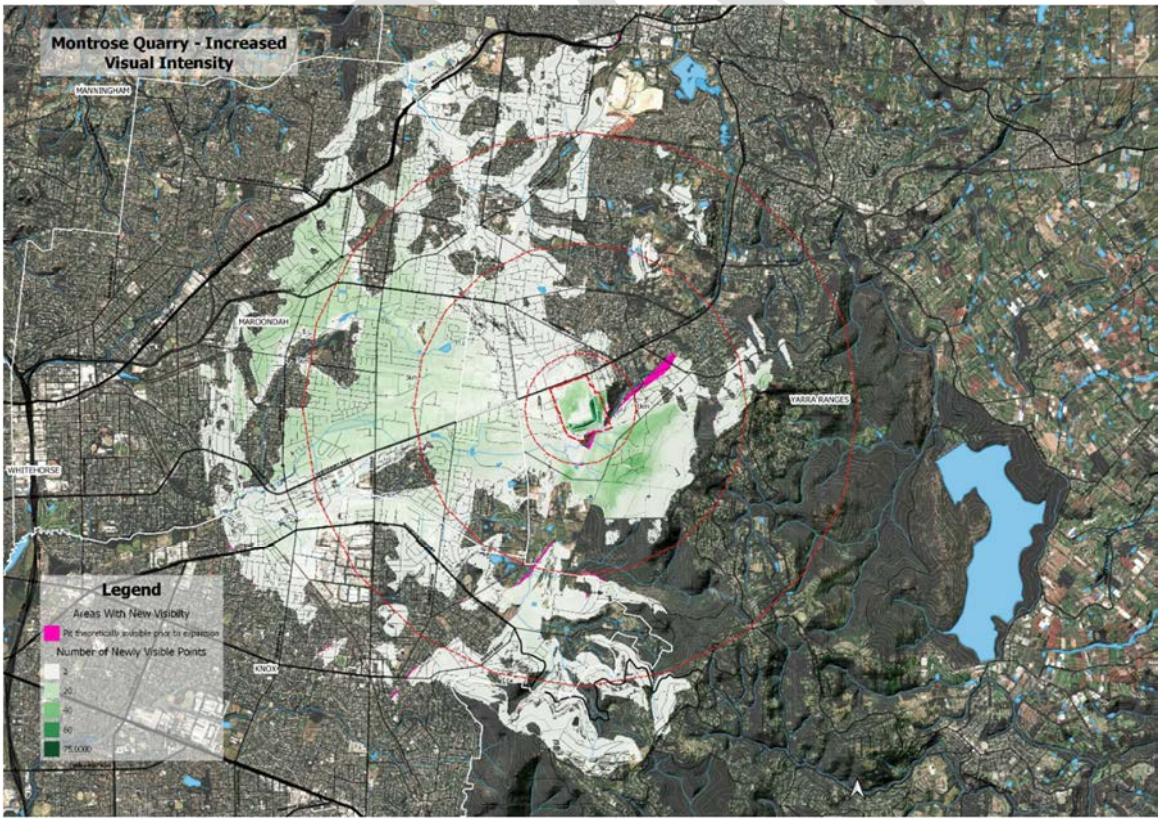

Figure 95: ZVI: Areas of Increased Visual Exposure (no vegetation & structures)

6.3.2 Potential Visual Receptors and Sensitivity

The main patterns of viewing within the study area were discussed in Section 5.12. Based on these patterns of viewing, potential visual receptors are understood to include the following (refer to Section 2.8 for additional information on selection methodology):

- Residential receptors, including residents of rural residential and suburban areas. Residential receptors are by their very nature highly sensitive to visual impact. Residential receptors in this study area are expected to have a fair amount of interest in the scenic quality of the environment and the character of the landscape, and are highly likely to perceive changes to views of the natural landscape and deterioration of the visual environment as negative.
- Tourism and recreation receptors, mainly accessing the tourism amenities Dandenong Ranges National Park via the Mount Dandenong Tourist Road, but also users of local recreation and conservation areas within the residential areas. The nature of tourism and recreation within the region is linked to scenic quality and landscape character and receptors are expected to have an acute interest in the scenic quality of the environment and the character of the landscape. The sensitivity of these receptors to changes in the visual environment is expected to be high and changes to views of the natural landscape and deterioration of the visual environment is likely to be perceived as negative.
- Road users, including commuters travelling for everyday homelife activities, as well as for business and commerce are potential visual receptors when travelling along roads in the region. Within the urban context, and especially along busy, regional connectors, road users would likely be distracted by the visual clutter of the built up area, so their perception of visual intrusion would likely be neutral. The sensitivity of these receptors to changes in the visual environment is expected to be low, especially since the speed of movement reduces the availability of views to the receptor. Perception is expected to be neutral.

6.3.3 Visual Absorption Capability

Visual Absorption Capability (VAC) is a measure of the area's ability to accommodate changes while maintaining existing landscape character and without a significant reduction in landscape and visual quality or amenity. Other than landform, three major factors are likely to influence the visual absorption capability of the receiving environment:

- Vegetation patterns, height and location that have the capacity to visually conceal development at the view source.
- Built form, and its location, arrangement, height, complexity and capacity to conceal development at the view source.
- Visual complexity of the field of view (i.e the irregularity of the landscape background) and the relative size of the proposed infrastructure.
- Prevailing atmospheric conditions, such as sun angle, haze, mist, low cloud or air pollution can restrict viewing distance and limit discernible detail.

Overall, the following is relevant for this assessment:

- The steep topography and densely vegetated mountain slopes represent areas of high VAC.
- Where the topography flattens out, and where vegetation has been cleared for rural residential or agriculture, VAC is lowered.
- The western part of the study area is urban in nature and highly vegetated. VAC is high throughout this urban zone.
- Where built form and vegetation is absent, such as along road corridors, VAC is low.

The mitigating effects of VAC are highly significant in this study area, and will be considered during the Visual Impact Assessment and taken into account in the Evaluation of the study in terms of potential visual and landscape impacts (refer to section 8).

6.3.4 Viewpoint Selection

The ZVI modelling undertaken in Section 6.3.1 revealed a range of areas from which the quarry would theoretically be visible at present, and from which the proposed expansion would theoretically be visible, and to what extent.

In order to progress this theoretical assessment, a number of potential representative viewpoints were selected to represent baseline visual values and assess the potential future effects related to the proposal. The locations for these viewpoints were selected to represent the range of viewing distances (foreground, middle ground, background and distant views), viewing orientation and visual receptor types (refer to Section 6.3.2). These viewpoints were taken to the field and tested in terms of actual visibility (i.e. taking into consideration VAC of existing vegetation and built form) of the existing quarry as well as the proposed expansion.

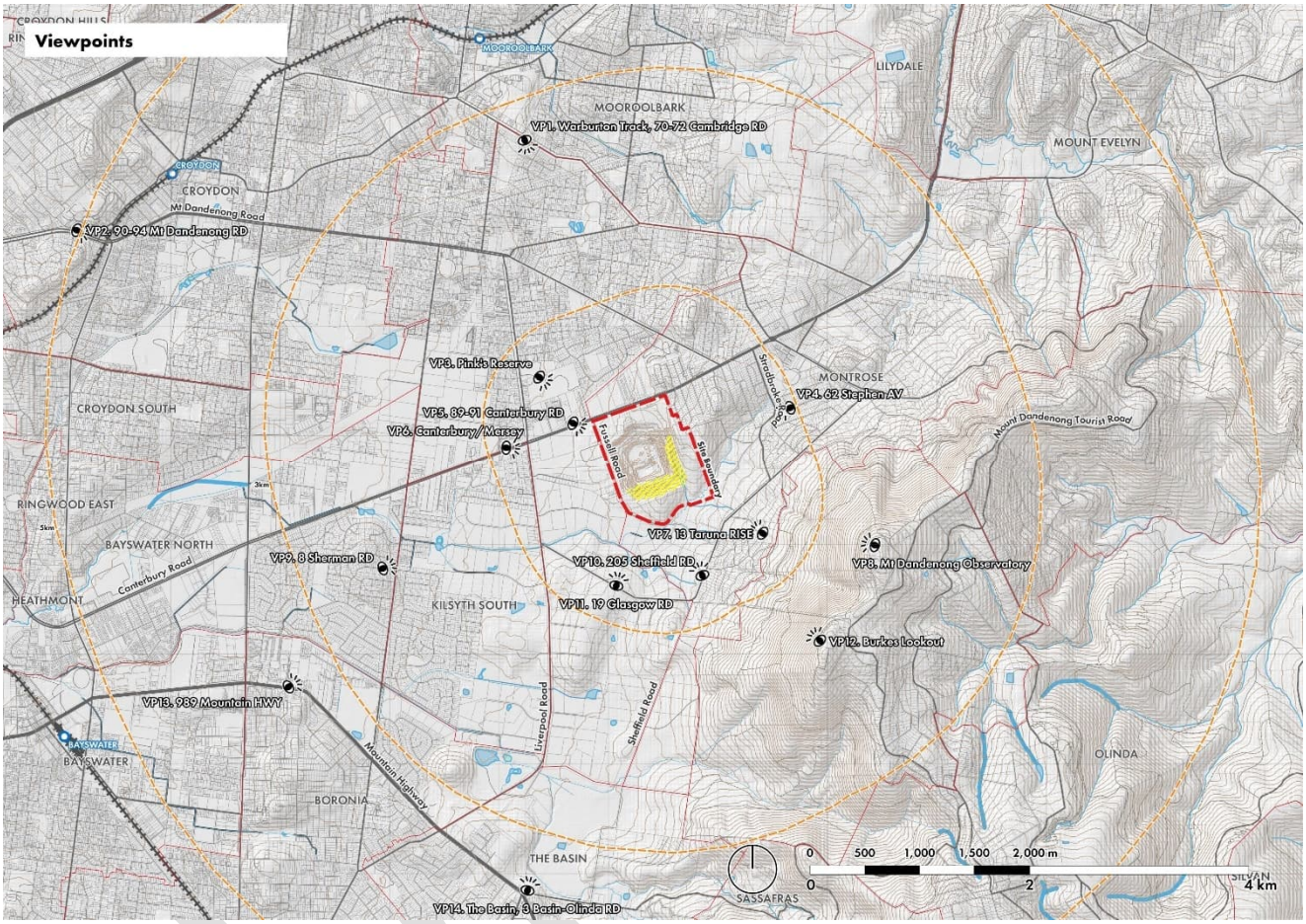

Figure 96: Viewpoint Locations

Of the viewpoints photographed in the field, ten were selected as a good representation of the proposal throughout the study area, and against which to assess potential visual impact.

6.3.5 Viewpoint Assessment

Essentially, the Visual Impact Assessment brings together the relevant discussions on visual receptors, perception, ZVI modelling and VAC in context of the baseline conditions. The assessment addresses the likely nature and magnitude of changes in the available views from the baseline conditions resulting from the likely impacts by the proposed development.

Visual impacts relate to changes in the available views of the landscape and the effects of those changes on people. Visual impact is therefore concerned with:

- The direct impacts of the proposed development on views of the landscape through intrusion, obstruction or loss.
- The likely reaction of viewers who may be affected.
- The overall impact on visual amenity, which can range from degradation through to enhancement.

- The capacity for impact mitigation and rehabilitation of landscape values

An assessment of the ten selected viewpoints has been provided below. The assessment defines the likely effects of change resulting from the anticipated impact based on the nature and magnitude of change identified within each viewpoint, based on the definitions provided in section 2.3.

Wireframe photomontage simulations have been created to help understand the likely visual effects of the proposal at the selected viewpoints; however, they also provide a basis for describing baseline values. The viewpoint photography for wireframe simulation was undertaken across three days as follows:

- 28 February 2023; cloudy and bright conditions with fair visibility deteriorating to rain and poor visibility by midday;
- 7 March 2023, partly cloudy and bright conditions with fair visibility, deteriorating somewhat mid afternoon;
- 4 April 2023, partly cloudy and bright conditions with good visibility.

The assessment that follows focusses on the final expanded footprint as a worst case scenario (i.e. Stage 8 Works) as follows:

- Stage 1 (0.5 years): Clearing of vegetation and upgrade of western haul road; clearing of vegetation and construction of eastern access ramp; clearing of vegetation and construction of southern access ramp; clearing of vegetation and commencement of works along the southern face (existing hill high point) to RL 192; clearing of vegetation and commencement of works along the eastern face to RL 192.
- Stage 2 (0.5-2.3 years): Clearing of vegetation and advancement of works along half of the southern face (existing hill) from RL 192 to RL 144; clearing of vegetation and advancement of works along eastern face to RL 192.
- Stage 3 (2.3-5.5 years): Clearing of vegetation and advancement of works along the entire southern face (existing hill) from RL 176 to RL 128; clearing of vegetation and advancement of works along the eastern face to RL 192
- Stage 4 (5.5-7.3 years): Clearing of vegetation and advancement of works along eastern face to RL 176.
- Stages 5 - 8 (7.3-29.3 years): No visual change to visual environment as works advance along southern and eastern faces.

According to the above, staging and sequencing of the works will roll out over a period of 30 years before the final void is achieved, but the visual impacts associated with expansion of the pit extent are likely to occur within the first 7 years (i.e. within the medium term).

The tables below detail the assessment of anticipated visual impacts by virtue of the representative viewpoints selected and discussed in section 6.3.4. Refer to section 2 for relevant definitions, to Appendix 1 for high resolution viewpoint photography and to Appendix 2 for high resolution wireframe visualisations.

The following is to be noted in the assessment that follows:

- The ZVI from the viewpoint is a tool to help understand the theoretical Zone of Visual Influence, and is indicative of the worst case scenario, without considering the VAC of either built form or vegetation.
- The viewpoint DEM's, and cross sections along the camera line of the DEM's are also tools to help understand the theoretical changes to visual environment as a worst case scenario, without considering the VAC of either built form or vegetation. It is particularly useful in understanding the theoretical visual implications of the removal of the hill to the south of the quarry pit.
- The Wireframe model illustrates the anticipated changes to the viewpoint:
  - The solid blue line represents the extent of the quarry property currently visible;
  - The dashed blue line represents the extent of the existing pit that is not visible from the viewpoint;
  - The solid red line represents the extent of the quarry property that will be visible with the proposed extension;
  - The dashed red line represents the extent of the extended pit that is will not be visible from the viewpoint.
  - The dashed yellow line, which has been included in selected wireframes, represents the existing vegetation buffer in place to the south and east of the pit. The buffer line has been positioned at a 15m offset outside of the expanded pit edge, and has been modelled at a height of 15m to represent the typical height of vegetation on the site. This vegetation line illustrates the VAC of the existing buffer vegetation to the south and east of the pit

Table 10 New Conditions Impact Assessment

VISUAL IMPACT ASSESSMENT – NEW CONDITIONS						
Viewpoint reference	**Representative view point Description of likely impacts**	**Receptor Sensitivity**	**Nature and magnitude of change**	**Duration**	**Significance rating**	**Mitigation measure / Recommendations**
Viewpoint 1 Warburton Track 70-72 Cambridge Rd 2650m from pit Residential setting Walking track north of the site	**Existing landscape elements viewed** ▪ Elevated location with a possible view to a small area of existing on-site vegetation. ▪ Views to the extraction & processing areas are screened by foreground residential vegetation and structures. **Likely impact of change** ▪ An area of vegetation currently viewed will be affected by the Stage 2 extraction, but the ground level in the viewed location will be lowered resulting in no views of stone extraction. ▪ Existing on-site vegetation (green dashed line) will maintain visual separation between the quarry and adjoining land uses.	**High**	**Negligible Neutral**	**Long term Partly Reversible**	**Low**	▪ General design mitigation measures ▪ Maintaining woodland buffers to the maximum extent possible. ▪ Progressive rehabilitation of the upper levels of the extraction pit. ▪ Additional tree planting between the pit and the processing / plant area

Figure 97: Viewpoint 1 Warburton Track 70 – 72 Cambridge Road (80°panorama)

Figure 98: Viewpoint 1 – Warburton Track 70 – 72 Cambridge Road (full frame)

VISUAL IMPACT ASSESSMENT – NEW CONDITIONS						
Viewpoint reference	**Representative view point Description of likely impacts**	**Receptor Sensitivity**	**Nature and magnitude of change**	**Duration**	**Significance rating**	**Mitigation measure / Recommendations**
Viewpoint 2 90 – 94 Mt Dandenong Rd 5240m from pit **KEY VIEW** Major road transport & tourism route north-west of the site	**Existing landscape elements viewed** ▪ Elevated location with a major road alignment that directs views toward the existing quarry site. ▪ View to existing extraction area is clearly evident as a light colour contrast that currently extends the width of the available view. ▪ The viewing distance reduces the level of detail to a colour contrast only and there is no perception of quarry activities. ▪ The existing quarry pit is already visually evident. ▪ The landscape below the line of the quarry is characterised by a mosaic of tree canopies & industrial structures which provide a pattern of light-coloured roof and building forms which result in a complex visual pattern that partly absorbs the colour contrast provided by the existing quarry. **Likely impact of change** ▪ The Stage 2 quarry extension will remove existing vegetation and lower ground levels at the rear of the pit, but on-site vegetation will maintain the visual separation between the quarry & adjoining residential properties, resulting in no obvious visual change. ▪ The viewing distance, the visual complexity of the industrial foreground and atmospheric conditions generally reduce the visual impact of specific changes in the landscape of the quarry setting. The industrial setting tends to be viewed as a layer that sits between the Dandenong Ranges landform and the heavily vegetated residential areas of Croydon South. ▪ As the existing quarry pit is clearly evident, the level of visual change represented by the stage 2 works will be low and similar in nature to the existing visual impact.	**Moderate**	**Low** **Minor adverse**	**Long term** **Partly Reversible**	**Low**	▪ General design mitigation measures ▪ Maintaining woodland buffers to the maximum extent possible. ▪ Progressive rehabilitation of the upper levels of the extraction pit. ▪ Additional tree planting between the pit and the processing / plant area ▪ Additional tree planting in Fussell Road reserve

Figure 99: Viewpoint 2 – 90 – 94 Mt Dandenong Road (80°panorama)

Figure 100: Viewpoint 2 – 90 – 94 Mt Dandenong Road (full frame)

VISUAL IMPACT ASSESSMENT – NEW CONDITIONS						
Viewpoint reference	**Representative view point Description of likely impacts**	**Receptor Sensitivity**	**Nature and magnitude of change**	**Duration**	**Significance rating**	**Mitigation measure / Recommendations**
Viewpoint 3 Pink's Reserve 860m from pit Local sports ground north-west of the site	**Existing landscape elements viewed** ▪ The viewing location is on a slightly lower elevation than the quarry site. ▪ Views to the existing quarry pit & ground level development are blocked by existing vegetation & offsite industrial buildings. ▪ Views of the top of the asphalt and concrete plant structures are available but form part of a landscape that includes sports buildings, industrial buildings (white) and the quarry plant. ▪ Views of the top sections of the asphalt & concrete plant structures create a visual break in the line of the ridgeline tree canopy. The backdrop to the quarry (foreground) ridgeline is the Dandenong Ranges National Park. **Likely impact of change** ▪ The Stage 2 pit changes will be visually screened by existing foreground structures and vegetation, resulting in no change from this viewpoint.	**Low**	**Neutral** **Neutral**	**Long term**	**Neutral**	▪ General design mitigation measures ▪ Maintaining woodland buffers to the maximum extent possible. ▪ Progressive rehabilitation of the upper levels of the extraction pit. ▪ Additional tree planting between the pit and the processing / plant area ▪ Additional tree planting in Fussell Road reserve

Figure 101: Viewpoint 3 – Pinks Reserve (80°panorama)

Figure 102: Viewpoint 3 – Pinks Reserve (full frame)

VISUAL IMPACT ASSESSMENT – NEW CONDITIONS						
Viewpoint reference	**Representative view point Description of likely impacts**	**Receptor Sensitivity**	**Nature and magnitude of change**	**Duration**	**Significance rating**	**Mitigation measure / Recommendations**
Viewpoint 4 62 Stephen Avenue 1060m from pit Residential setting east of the site	**Existing landscape elements viewed** ▪ The viewing location is above the existing quarry level. ▪ The existing quarry pit and processing facilities are visually screened by street, garden vegetation and landform. ▪ Existing site landform & vegetation will change in the area of the Stage 2 expansion, but an existing on-site vegetation will remain between the viewpoint and the new extraction area. **Likely impact of change** ▪ There is likely to be no change to the nature of the view.	**High**	**Neutral** **Neutral**	**Long term** **Reversible**	**Low**	▪ General design mitigation measures ▪ Maintaining woodland buffers to the maximum extent possible. ▪ Progressive rehabilitation of the upper levels of the extraction pit.

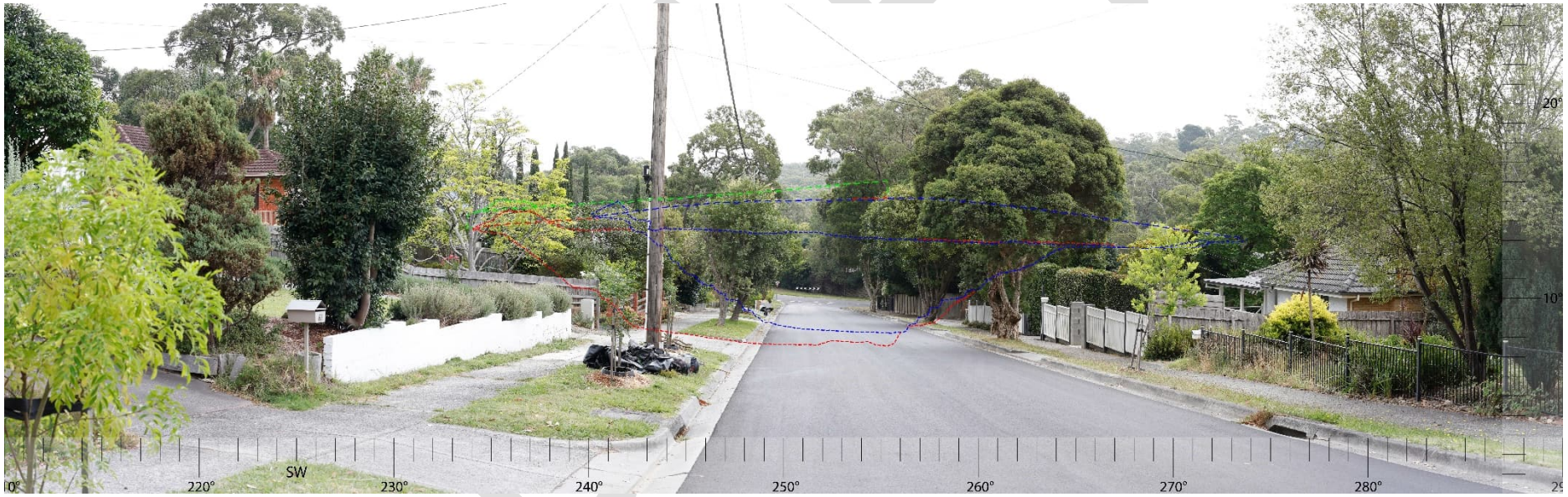

Figure 103: Viewpoint 4 – 62 Stephen Ave (80°panorama)

Figure 104: Viewpoint 4 – 62 Stephen Ave (full frame)

VISUAL IMPACT ASSESSMENT – NEW CONDITIONS						
Viewpoint reference	**Representative view point Description of likely impacts**	**Receptor Sensitivity**	**Nature and magnitude of change**	**Duration**	**Significance rating**	**Mitigation measure / Recommendations**
Viewpoint 5 89 – 91 Canterbury Rd 380m from pit Major transport route on the site boundary immediately north-west of the site	**Existing landscape elements viewed** ▪ The viewing location is on the same level as the northern edge of the existing quarry site. ▪ The top of the concrete plant building and part of an adjoining conveyor is just visible over tree canopies but does not form a skyline silhouette and is not visually dominant. ▪ The most prominent view of on-site structures is from the corner of Canterbury Road and Fussell Road. Planted bunds and site edge plantations screen the quarry facility from other viewpoints. ▪ Existing tree planting within the Fussell Road reserve and the western quarry site buffer plantation provides a visual screen to the quarry activities from the west. ▪ The Dandenong Ranges formation is a dominant visual presence & skyline backdrop. **Likely impact of change** ▪ There will be no visible change as a result of Stage 2 works. Landform and vegetation changes will be fully screened by Fussell Road and western buffer planting	**Moderate**	**Neutral** **Neutral**	**Long term** **Partly Reversible**	**Negligible**	▪ General design mitigation measures ▪ Maintaining woodland buffers to the maximum extent possible. ▪ Progressive rehabilitation of the upper levels of the extraction pit. ▪ Additional tree planting between the pit and the processing / plant area ▪ Additional tree planting in Fussell Road reserve

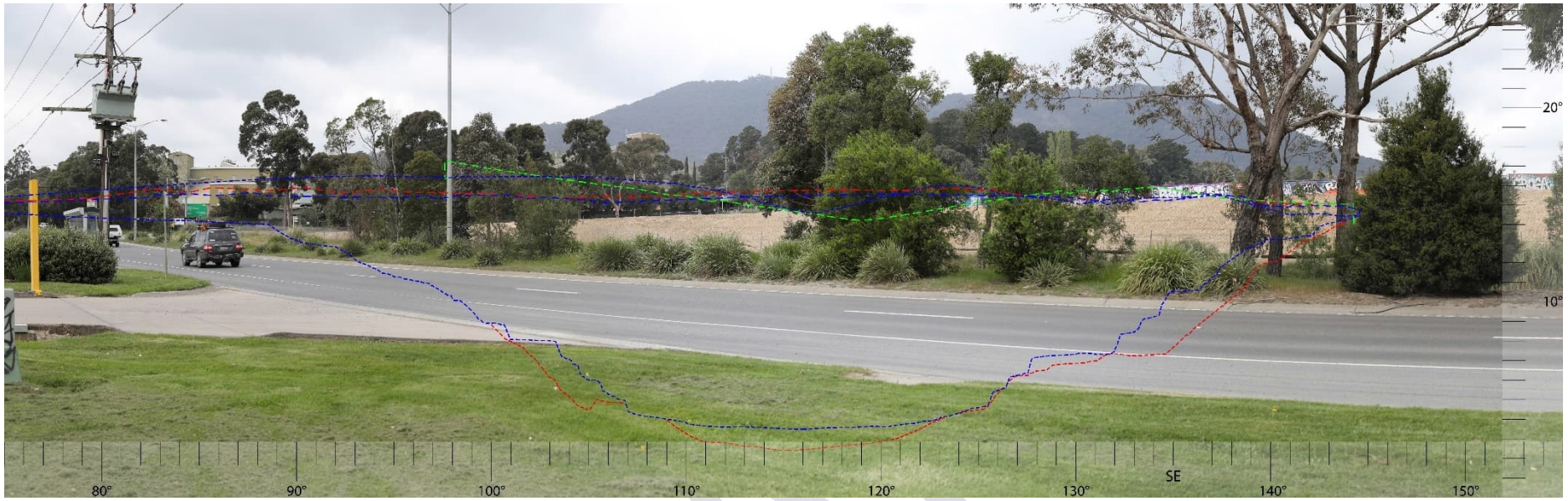

Figure 105: Viewpoint 5 – 89 – 91 Canterbury Road (80°panorama)

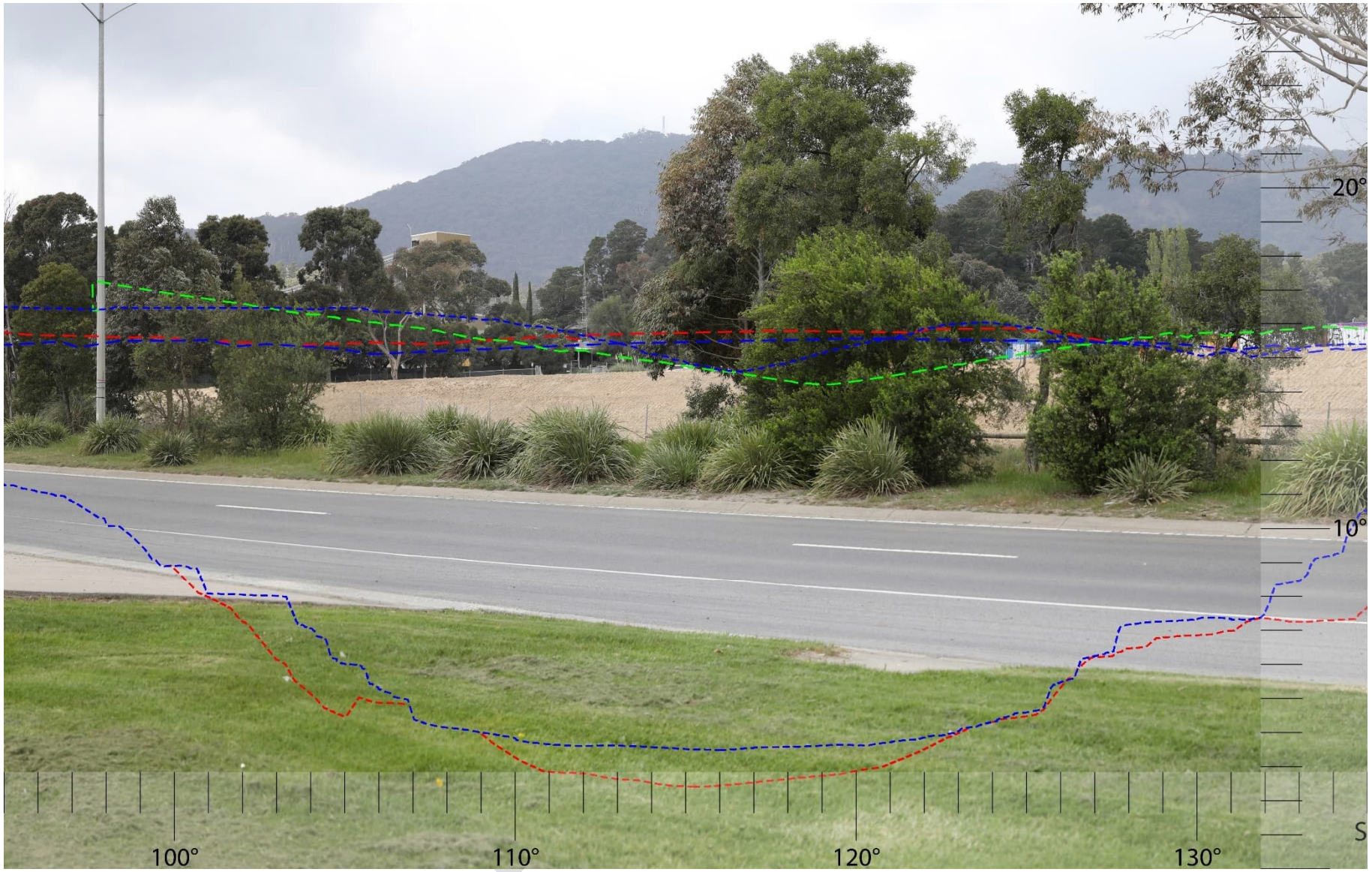

Figure 106: Viewpoint 5 – 89 – 91 Canterbury Road (full frame)

Viewpoint reference	Representative view point Description of likely impacts	Receptor Sensitivity	Nature and magnitude of change	Duration	Significance rating	Mitigation measure / Recommendations
Viewpoint 6 Canterbury Rd & Mersey Rd 940m from pit Major transport route-west of the site	**Existing landscape elements viewed** ▪ The viewing location is on the same level as the northern edge of the existing quarry site. ▪ The road-based view is dominated by commercial development on the south side of the road. ▪ The top of the concrete plant building is just visible over tree canopies but does not form a skyline silhouette and is not visually dominant. ▪ Existing tree planting within the Fussell Road reserve and the western quarry site buffer plantation provides a visual screen to the quarry activities from the west. ▪ The Dandenong Ranges formation is a dominant visual presence & skyline backdrop. **Likely impact of change** ▪ There will be no visible change as a result of Stage 2 works. Landform and vegetation changes will be fully screened by Fussell Road and western buffer planting	**Moderate**	**Neutral** **Neutral**	**Long term** **Partly Reversible**	**Low**	▪ General design mitigation measures ▪ Maintaining woodland buffers to the maximum extent possible. ▪ Progressive rehabilitation of the upper levels of the extraction pit. ▪ Additional tree planting in Fussell Road reserve

Figure 107: Viewpoint 6 – Canterbury Road & Mersey Road (80°panorama)

Figure 108: Viewpoint 6 – Canterbury Road & Mersey Road (full frame)

VISUAL IMPACT ASSESSMENT – NEW CONDITIONS						
Viewpoint reference	**Representative view point Description of likely impacts**	**Receptor Sensitivity**	**Nature and magnitude of change**	**Duration**	**Significance rating**	**Mitigation measure / Recommendations**
Viewpoint 7 13 Taruna Rise 840m from pit Residential setting south-east of the site	**Existing landscape elements viewed** ▪ The viewing location is at a level above the quarry site. ▪ The existing quarry pit and processing facilities are visually screened by street and garden vegetation. **Likely impact of change** ▪ There will be no visible change as a result of Stage 2 works. Landform and vegetation changes will be fully screened by existing on-site and off-site vegetation	**High**	**Neutral Neutral**	**Long term Partly Reversible**	**Low**	▪ General design mitigation measures ▪ Maintaining woodland buffers to the maximum extent possible. ▪ Progressive rehabilitation of the upper levels of the extraction pit.

Figure 109: Viewpoint 7 – 13 Taruna Rise (80°panorama)

Figure 110: Viewpoint 7 – 13 Taruna Rise (full frame)

VISUAL IMPACT ASSESSMENT – NEW CONDITIONS						
Viewpoint reference	**Representative view point Description of likely impacts**	**Receptor Sensitivity**	**Nature and magnitude of change**	**Duration**	**Significance rating**	**Mitigation measure / Recommendations**
Viewpoint 8 Mt Dandenong Observatory 1820m from pit Tourism site (scenic lookout) south-east of the site	**Existing landscape elements viewed** ▪ The viewing location is at a level well above the quarry site. ▪ The viewpoint is set back from the edge of the landform which leads to land uses close to the base of the Dandenong Ranges landform being screened by the landscape of the National Park. ▪ The existing quarry site is screened by the National Park landscape. **Likely impact of change** ▪ There will be no visible change as a result of Stage 2 works. Landform and vegetation changes will be fully screened by existing on-site and off-site vegetation and foreground landform	**High**	**Neutral** **Neutral**	**Long term** **Partly Reversible**	**Low**	▪ General design mitigation measures

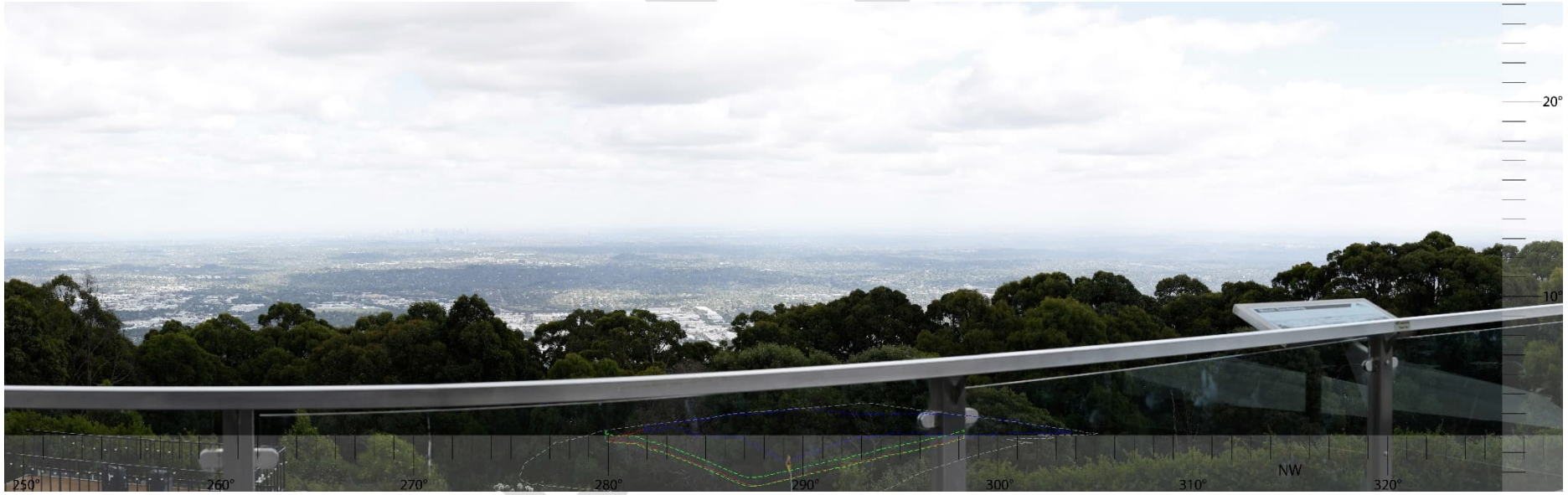

Figure 111: Viewpoint 8 – Mount Dandenong Observatory (80°panorama)

Figure 112: Viewpoint 8 – Mount Dandenong Observatory (full frame)

VISUAL IMPACT ASSESSMENT – NEW CONDITIONS						
Viewpoint reference	**Representative view point Description of likely impacts**	**Receptor Sensitivity**	**Nature and magnitude of change**	**Duration**	**Significance rating**	**Mitigation measure / Recommendations**
Viewpoint 9 8 Sherman Rd 2310m from pit Residential setting west of the site	**Existing landscape elements viewed** ▪ The viewing location is at a level slightly below the level of the quarry site. ▪ A small layer of the existing quarry is visible as a colour change within a treed landscape. The seen area does not form a skyline silhouette and is barely discernible. ▪ Existing tree planting within Fussell Road and the western Quarry buffer provide a visual screen to the majority of the quarry site. **Likely impact of change** ▪ There will be a minimal visible change based on the vegetation removal and lowered landform on the south-eastern edge of the quarry. ▪ Remaining vegetation on the eastern and south-eastern boundary of the quarry will maintain a visual separation between the quarry pit and adjoining residential areas.	**High**	**Low Minor adverse**	**Long term Partly Reversible**	**Moderate**	▪ General design mitigation measures ▪ Maintaining woodland buffers to the maximum extent possible. ▪ Progressive rehabilitation of the upper levels of the extraction pit. ▪ Additional tree planting in Fussell Road reserve

Figure 113: Viewpoint 9 – 8 Sherman Road (80°panorama)

Figure 114: Viewpoint 9 – 8 Sherman Road (full frame)

VISUAL IMPACT ASSESSMENT – NEW CONDITIONS						
Viewpoint reference	**Representative view point Description of likely impacts**	**Receptor Sensitivity**	**Nature and magnitude of change**	**Duration**	**Significance rating**	**Mitigation measure / Recommendations**
Viewpoint 10 205 Sheffield Rd 810m from pit Rural residential setting south of the site	**Existing landscape elements viewed** ▪ The viewing location is at a level slightly above the level of the quarry site. ▪ The existing quarry site is screened by existing on-site and off-site vegetation. **Likely impact of change** ▪ There will be no change to views based on the stage 2 works. Works will be fully screened by on-site and off-site vegetation	**Moderate**	**Neutral Neutral**	**Long term Partly reversible**	**Low**	▪ General design mitigation measures

Figure 115: Viewpoint 10 – 205 Sheffield Road (80°panorama)

Figure 116: Viewpoint 10 – 205 Sheffield Road (full frame)

VISUAL IMPACT ASSESSMENT – NEW CONDITIONS						
Viewpoint reference	**Representative view point Description of likely impacts**	**Receptor Sensitivity**	**Nature and magnitude of change**	**Duration**	**Significance rating**	**Mitigation measure / Recommendations**
Viewpoint 11 19 Glasgow Rd 780m from pit Rural residential setting south-west of the site	**Existing landscape elements viewed** ▪ The viewing location is at a level slightly above the level of the quarry site. ▪ The existing quarry site is screened by existing landform as well as on-site and off-site vegetation. **Likely impact of change** ▪ There will be no change to views based on the stage 2 works. Works will be fully screened by on-site and off-site vegetation	**Moderate**	**Neutral Neutral**	**Long term Partly reversible**	**Low**	▪ General design mitigation measures

Figure 117: Viewpoint 11 – 19 Glasgow Road (80°panorama)

Figure 118: Viewpoint 11 – 19 Glasgow Road (full frame)

VISUAL IMPACT ASSESSMENT – NEW CONDITIONS						
Viewpoint reference	**Representative view point Description of likely impacts**	**Receptor Sensitivity**	**Nature and magnitude of change**	**Duration**	**Significance rating**	**Mitigation measure / Recommendations**
Viewpoint 12 Burkes Lookout 1890m from pit **KEY VIEW** Tourism site (scenic lookout) south-east of the site	**Existing landscape elements viewed** ▪ The viewing location is at a level well above the quarry site and in a prominent cliff edge location. ▪ This location is designed as a scenic lookout for tourists and park users. Access is via vehicle and the Kyeema Track. ▪ The viewpoint is designed to provide a day/night panoramic view of the eastern suburbs of Melbourne, including the city skyline. The quarry sits at the visual boundary between the Ranges landscape and the eastern suburbs landscape. ▪ The viewing distance allows a clear view of the existing quarry pit, operational area & internal truck movement. The quarry sits at the bottom/centre of the panoramic view and at the lower edge of the wooded Ranges landscape. ▪ The quarry feature is visually connected to a complex landscape that includes housing development, major roads and large industrial developments in the Kilsyth & Bayswater areas. ▪ The visual complexity of the wider field of view is a feature of the view itself. On that basis, individual land uses are more easily visually absorbed and become less important that the overall pattern of land uses. **Likely impact of change** ▪ Stage 2 quarry development will have a clearly discernible, but not visually dominant effect on the available view. ▪ As the nature of the activity is already well established, only the magnitude of the impact will change and this will form part of an overall view which will continually change as a result of further development. The magnitude of the change will be partly mitigated by existing vegetation on the southern boundary of the quarry site.	**High**	**Low Minor adverse**	**Long term Partly reversible**	**Moderate**	▪ General mitigation measures

Figure 119: Viewpoint 12 – Burkes Lookout (80° panorama)

Figure 120: Viewpoint 12 – Burkes Lookout (full frame)

VISUAL IMPACT ASSESSMENT – NEW CONDITIONS						
Viewpoint reference	**Representative view point Description of likely impacts**	**Receptor Sensitivity**	**Nature and magnitude of change**	**Duration**	**Significance rating**	**Mitigation measure / Recommendations**
Viewpoint 13 989 Mountain Hwy 3550m from pit Major transport route south-west of the site	**Existing landscape elements viewed** ▪ The viewing location is at a similar level to the existing quarry. ▪ The existing quarry is largely screened by existing on-site and offsite vegetation and structures. ▪ A small layer of the extraction area is visible as a colour contrast, but not visually dominant. ▪ Foreground structures associated with the road system dominate the view and distract attention from the distant quarry element. **Likely impact of change** ▪ The stage 2 works will have no effect on the view as the lower surface levels related to the new extraction area will be below existing ground levels. ▪ Existing site vegetation will maintain a visual separation between the quarry and adjoining residential areas.	**Moderate**	**Neutral Negligible**	**Long term Partly reversible**	**Low**	▪ General mitigation measures ▪ Maintaining woodland buffers to the maximum extent possible. ▪ Progressive rehabilitation of the upper levels of the extraction pit. ▪ Additional tree planting in Fussell Road reserve

Figure 121: Viewpoint 13 – 989 Mountain Hwy (80°panorama)

Figure 122: Viewpoint 13 – 989 Mountain Hwy (full frame)

VISUAL IMPACT ASSESSMENT – NEW CONDITIONS						
Viewpoint reference	**Representative view point Description of likely impacts**	**Receptor Sensitivity**	**Nature and magnitude of change**	**Duration**	**Significance rating**	**Mitigation measure / Recommendations**
Viewpoint 14 3 Basin-Olinda Rd 3680m from pit Regional road & residential / rural interface setting south-west of the site	**Existing landscape elements viewed** ▪ The viewing location is at a level slightly above the level of the quarry site. ▪ The existing quarry site is screened by existing landform as well as on-site and off-site vegetation. **Likely impact of change** ▪ The stage 2 works will have no effect on the view as the lower surface levels related to the new extraction area will be below existing ground levels. ▪ Existing site vegetation will maintain a visual separation between the quarry and adjoining residential areas.	**Low**	**Neutral** **Neutral**	**Long term** **Partly reversible**	**Low**	▪ General mitigation measures ▪ Maintaining woodland buffers to the maximum extent possible. ▪ Progressive rehabilitation of the upper levels of the extraction pit. ▪ Additional tree planting in Fussell Road reserve

Figure 123: Viewpoint 14 – 3 Basin Olinda Road (80°panorama)

Figure 124: Viewpoint 14 – 3 Basin Olinda Road (full frame)

6.4 Landscape and Visual Impact Assessment – Key Findings

The proposed stage 2 works will result in an expansion of the extent of the current pit by approximately 25%, including 9.53 Ha of remnant vegetation and 4.5 Ha of already cleared land.

The proposed development will reduce existing landform levels along the eastern and southern edges of the quarry pit and remove vegetation in the new extraction area. Existing operational patterns and plant will remain the same.

Landscape impacts will be similar in nature to existing quarry impacts but cover a greater area. The reduction in vegetation and landform change is the major landscape impact. Landscape impacts are considered to have a relatively **Low level of significance** on the basis of the size of the change and the potential for at least partial mitigation (revegetation) over time as a result of quarry rehabilitation and likely future end use development.

Visual impact. The assessment indicates that:

- Nine viewpoints (3 – 8, 10 – 11 & 14) have no view of the existing quarry or proposed stage 2 works.
- Three sites (1, 9 & 13) have existing partial views of the quarry pit. These views will experience a change as a result of stage 2 works, but the change will be minimal and consistent with existing effects. On that basis the visual impact of stage 2 works is considered **Low significance**.
- Two sites will experience more significant levels of visual change as a result of stage 2 works.
  - Site 2 (Mt Dandenong Road) will experience clear views of the quarry pit, but the viewing distance (5km+) and the complexity of the existing visual field means that the changes are likely to be substantially visually absorbed, and on that basis, have a **low level of significance**.
  - Site 12 (Burkes Lookout) will experience clear views of the Stage 2 pit changes and operations. At a distance of 1.8km the changes will be clearly evident with only minimal screening potential. The panoramic view from this location is based on views of suburban development, including large scale industrial land uses. The visual complexity and changing nature of the view is itself the point of interest. It also acts to absorb visual changes. On that basis, the visual impact of stage 2 change is considered to be Moderate level of significance only and partly reversible with site rehabilitation over time.

Cumulative Impacts:

Assessment results indicate that across the study area, the overall nature of effects will remain consistent with existing conditions. Four sites will experience a change in the shape of the quarry extraction area, but those changes will occur within the existing seen area and on that basis, are not considered to represent a cumulative impact. The magnitude of change will be clearly evident at viewpoint 12 (Burkes Lookout), but this impact is likely to be seen as an isolated change and is not considered to trigger a cumulative change.

The urban landscape is likely to become more complex and built up over time, and as a result, more capable of absorbing visual changes. Given the existing industrial context, the isolated nature and the limited extent of visual impacts, the site specific visual impact is considered to be Moderate, but the potential for cumulative impacts is assessed to be low.

7 Mitigation Measures

The objective of mitigation is to avoid, reduce, remedy or offset any significant adverse effects on the landscape or visual environment arising from the proposed development. Mitigation measures may involve on-site or offsite works or relate to the timing or staging of proposed quarry development works or the timing of progressive quarry rehabilitation works.

7.1 Landscape buffers and site rehabilitation

Existing on-site and offsite vegetation (street trees, shelter belt tree plantations and private gardens) function as the primary visual impact mitigation measure at this time and have the capacity to provide this function into the future.

- Retain as much of the existing EVC vegetation already existing on site, including remnant woodland vegetation and quarry buffer plantations. Ensure that all new or infill planting is based on local EVC species.
- Supplement existing vegetation with new EVC planting, remove weeds and manage vegetation to optimise growth and climate change adaptation.
- Retain and further develop the existing planting buffer along the Fussell Road western boundary and minimise the removal of vegetation during the construction of the Western Haul Road. Supplement the buffer with additional random spaced tree planting within the Fussell Road reservation where possible.
- Where possible, increase the level of street tree planting in Canterbury Road within 1km of the quarry site boundary.
- Develop tree planting where possible along the northern edge of the pit to visually isolate the processing area and concrete / asphalt plant areas and to offset effects from southern viewpoints.
- Progressively reinstate / rehabilitate quarry faces as these become available, to soften the visual contrast and improve the visual offering. The short-term rehabilitation of the upper benches on the northern and eastern faces in particular have potential to mitigate visual impacts likely to be experienced by sensitive receptors in close proximity to the site.

7.2 Other measures

- Ensure that infrastructure utilises non-reflective materials with low colour contrast colours.
- Minimise light spill and radiance from existing operations.

7.3 End use planning

- Develop a long-term End Use Master Plan for the quarry pit. This master plan will provide post closure rehabilitation and site use option(s). All end use site planning options will retain, and potentially enhance, visual screening and site vegetation systems that visually integrate the site with the surrounding landscape.

8 Evaluation

Evaluation

Based on the results of the landscape and visual impact assessment, the proposed Stage 2 quarry development proposal is likely to have a minimal effect on the surrounding environment and on that basis, is considered to represent an acceptable change.

With an optimal mitigation design treatment, the Stage 2 quarry proposal represents an **acceptable change to the landscape and scenic values of the Montrose study area**.

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Appendices

Refer to separate A3 report Appendix containing:

Appendix 1 Study Area

- 1.1 Study area
- 1.2 Site development plan (existing and proposed)
- 1.3 Quarry staging plan

Appendix 2 Zone of Visual Influence (ZVI) modelling

- 2.1 Cumulative ZVI plan (looking outward from the existing quarry)
- 2.2 ZVI changes resulting from the new development
- 2.3 Representative view-points plan

Appendix 3 Existing conditions photography from key visual receptor locations

- 3.1 80° panorama (visual context)
- 3.2 Key viewpoint ZVI (inward looking from individual viewpoints)
- 3.3 Single frame image of the existing quarry site (visual effect)

Appendix 4 Existing conditions + new conditions wireframe modelling from key visual receptor locations

- 4.1 80° panorama with existing & proposed condition (visual context)
- 4.2 Single frame image of the quarry site with existing & proposed condition (visual effect)