

**DE HOOP
132kV TRANSMISSION LINE**

VISUAL ASSESSMENT

For consideration in the land use application

For

EnviroAfrica

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Final Report Amended

July 2024

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CONTENT

1	BACKGROUND	4
2	TERMS OF REFERENCE	6
3	Principles and Methodology.....	8
3.1	Principles.....	8
3.1.1	Principles.....	9
3.1.2	Fatal flaw statement.....	9
3.1.3	Gaps, limitations, and assumptions	9
3.2	Assessment methodology.....	10
3.3	Legal Context.....	11
3.3.1	National Environmental Management Act, 107, 1998 and relevant Guidelines	11
3.3.2	Western Cape PSDF	11
3.3.3	Swartland Municipal Spatial Development Framework, 2023.....	11
3.3.4	Swartland Zoning Scheme.....	11
4	Development Proposal	12
4.1	Operational elements	14
4.2	Construction elements	14
5	RECEIVING VISUAL ENVIRONMENT	15
5.1	Landscape description and sense of place.....	15
5.2	View catchment.....	19
6	VISUAL RECEPTORS	21
6.1	Potential Receptors.....	21
6.2	Assessment of Receptors	24
6.2.1	Receptor 1. Wesbank Residential area	24
6.2.2	Receptor 2 and 3. N7 view in both directions.	26
6.2.3	Receptor 4 . Abbotsdale	27
6.2.4	Receptor 5. Rural Landscape	29
6.2.5	Receptor 6 - Homestead	32
6.3	Conclusion	33
7	CUMULATIVE IMPACT	33
7.1	Methodology.....	33
7.2	Space Crowding	34

7.3	Conclusion	35
8	CONSTRUCTION	35
9	FINDINGS	36
10	MITIGATION MEASURES	36

Photos

<i>Photo 1 Residential area and urban edge</i>	15
<i>Photo 2 View from starting point towards Abbotsdale</i>	16
<i>Photo 3 Undulating landscape</i>	17
<i>Photo 4 Typical rural-agricultural landscape</i>	17
<i>Photo 5 Abbotsdale character</i>	17
<i>Photo 6 Visibility of powerline from Receptor 1</i>	24
<i>Photo 7 View from Receptor 1 towards Abbotsdale</i>	25
<i>Photo 8 View along N7 in northeast direction</i>	26
<i>Photo 9 View along N7 in a southwestern direction.....</i>	27
<i>Photo 10 View from Old Malmesbury Road entrance towards Abbotsdale</i>	28
<i>Photo 11 View from Old Malmesbury Road in direction of the proposed powerline.....</i>	29
<i>Photo 12 View along Old Malmesbury Road.....</i>	30
<i>Photo 13 View from Old Malmesbury road towards grid connection point</i>	31
<i>Photo 14 Receptor 6</i>	32

Tables

<i>Table 1: Requirements for visual assessment</i>	6
<i>Table 2: Nature of intended development.....</i>	6
<i>Table 3 Assessment framework to rate impact.....</i>	10
<i>Table 4 Potential Receptors.....</i>	22
<i>Table 5 Wesbank impact assessed</i>	25
<i>Table 6 Impact on N7 assessed.....</i>	27
<i>Table 7 Assessment of Receptor 5, Abbotsdale</i>	28
<i>Table 8 Assessment of Rural landscape as receptor.....</i>	31
<i>Table 9 Receptor 6 assessment</i>	32

Table 10 Summary of Assessment	33
Table 11: Types and characteristics of cumulative effects.....	33

Figures

Figure 1: Regional locality.....	4
Figure 2: Locality.....	5
Figure 3 Properties traversed by powerline	5
Figure 4 Typical Pylons to be used.	12
Figure 5 Properties over which powerline traversed.....	13
Figure 6 Landscape View	18
Figure 7 Potential view catchment within 30km radius.....	20
Figure 8 Viewshed within 10km radius.	20
Figure 9 Viewshed of amended section compared.....	21
Figure 10 Potential Receptors.....	23
Figure 11 Illustration of portions of line visible from Old Malmesbury Road Intersection	30
Figure 12 Existing Powerline in area	35

Relevant Qualifications & Experience of the Author

Ms Sarien Lategan holds an Honours Degree in Geography as well as a Masters Degree in Town and Regional Planning from the University of Stellenbosch. She has 7 years experience as Town Planner at a local government, 3 years with South African National Parks as planner and project manager of various GEF and World Bank managed, tourist facilities in the Table Mountain National Park and since 2004 as private practitioner involved in inter alia Site Analysis and Visual Impact assessments for various types of developments ranging from housing, tourism to infrastructure developments.

Declaration of Independence

I, Sarah C. Lategan, declare that I am an independent consultant to EnviroAfrica CC and, has no business, financial, personal, or other interest in the proposed project or application in respect of which I was appointed, other than fair remuneration for work performed in connection with the application. There are furthermore no circumstances which compromise my objectivity in executing the task appointed for.



SC Lategan

July 2024

EXECUTIVE SUMMARY

The objective of this report is to assess the potential visual impact of 132kV powerline as part of the Malmesbury De Hoop Bulk Upgrade project within the Swartland municipal area. The visual impact assessment informs the land use planning and environmental processes to authorize the construction of the powerline. During July 2024 the alignment has been amended and this report is amended to include the amended alignment.

The project comprises the construction of a 5km long 132kV powerline as part of the Malmesbury De Hoop bulk electrification upgrade. The powerline will follow the route as indicated in Figure 5. A multi-cable line is proposed with monopole type pylons of 20m in height as illustrated in Figure 4.

The powerline traverses the Wesbank and Abbotsdale residential area but cuts primarily through farmland. The area can be described as a production landscape character. The topography is of an undulating nature, but no strong and unique scenic characteristics or prominent elements exist in the landscape.

The undulating landscape has a high level of visual absorption, and the total powerline will not be visible from a specific point. Each viewer will only have a partial view of the powerline. The extent of the view catchment is thus tested with ground verification and adapted to accommodate the area most likely to be within the viewshed.

Due to the topography and the nature of the infrastructure the viewshed within which receptors are to be assessed can be reduced to a 10km radius.

Due to the linear nature of the powerline, no single receptors were assessed but rather areas of interest. The following potential visual receptors have been identified -

Receptor	Detail
Receptor 1	Wesbank residential area close to powerline
Receptor 2	N7 view in both directions
Receptor 3	
Receptor 4	Abbotsdale
Receptor 5	Rural area

The evaluation of the exposure and obstruction level of the powerline concluded that the overall visual impact is rated as low.

Although the powerline adds to the space crowding component, the scale is low and within acceptable levels of change.

The study concludes that the overall impact is low, and no issues have been identified which require further studies or modelling. No mitigation measures are deemed necessary.

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VIA: De Hoop 132kV transmission line

1 BACKGROUND

The objective of this report is to assess the potential visual impact of 132kV powerline as part of the Malmesbury De Hoop Bulk Upgrade project within the Swartland Municipal area. The visual impact assessment informs the land use planning and environmental processes to authorize the construction of the powerline. A small section of the powerline has been realigned since the original assessment. This amendment is illustrated below. The re-alignment does not change the properties traversed by the line.

The line will consist of a multi cable line of 20m high pylons. It will traverse Erven: 373; 12496; 12081; Farms RE/1113; 18/766; 10/766; RE/8/766; RE/14/766; 22/766; 24/766 and RE/15/766

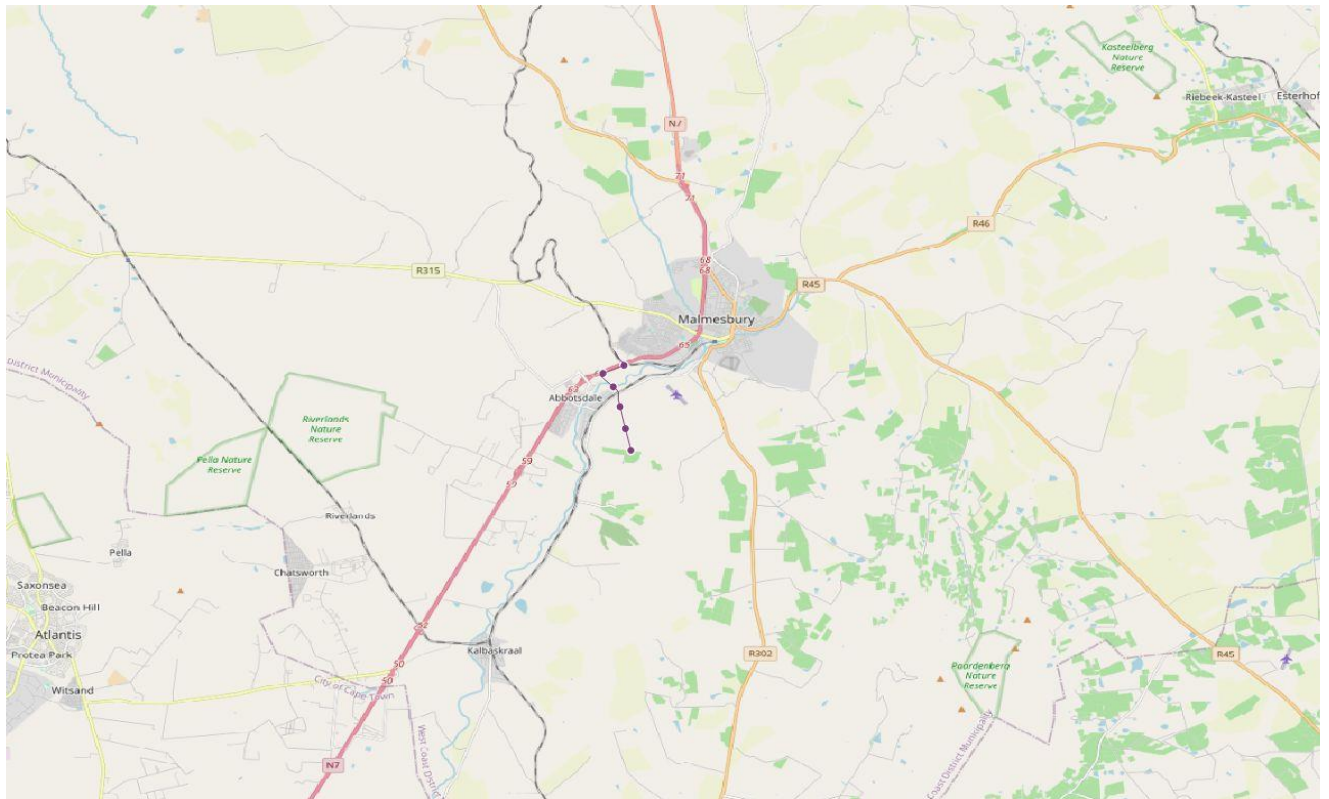


Figure 1: Regional locality.

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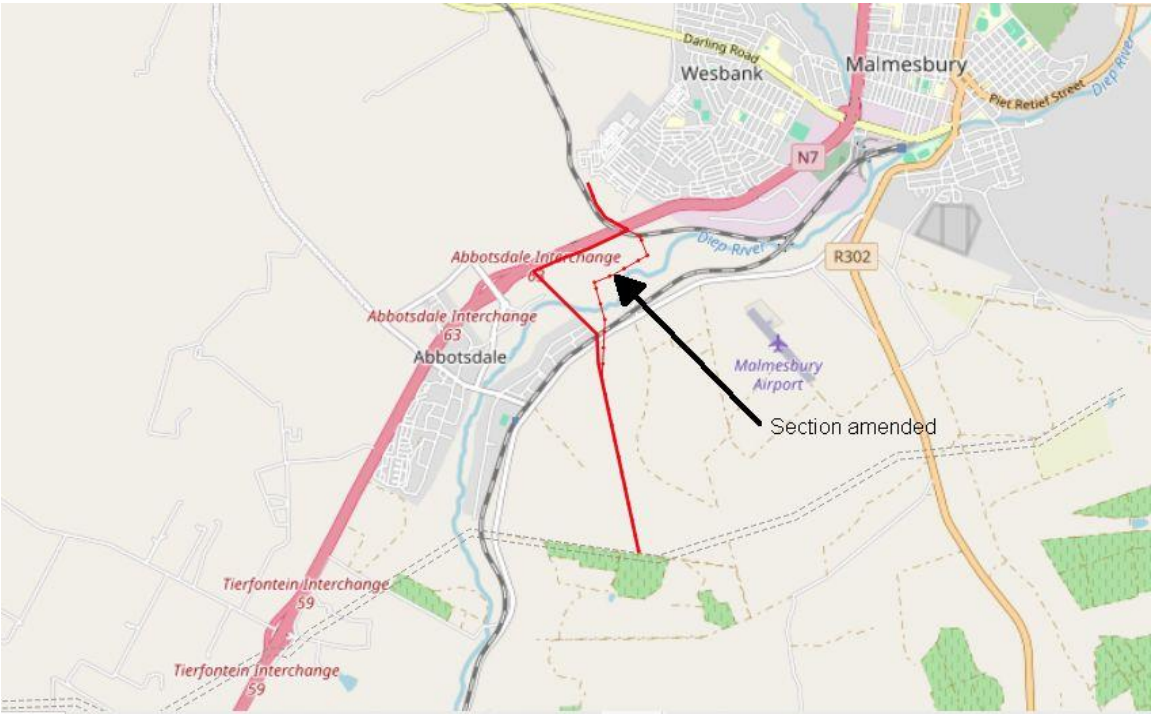


Figure 2: Locality

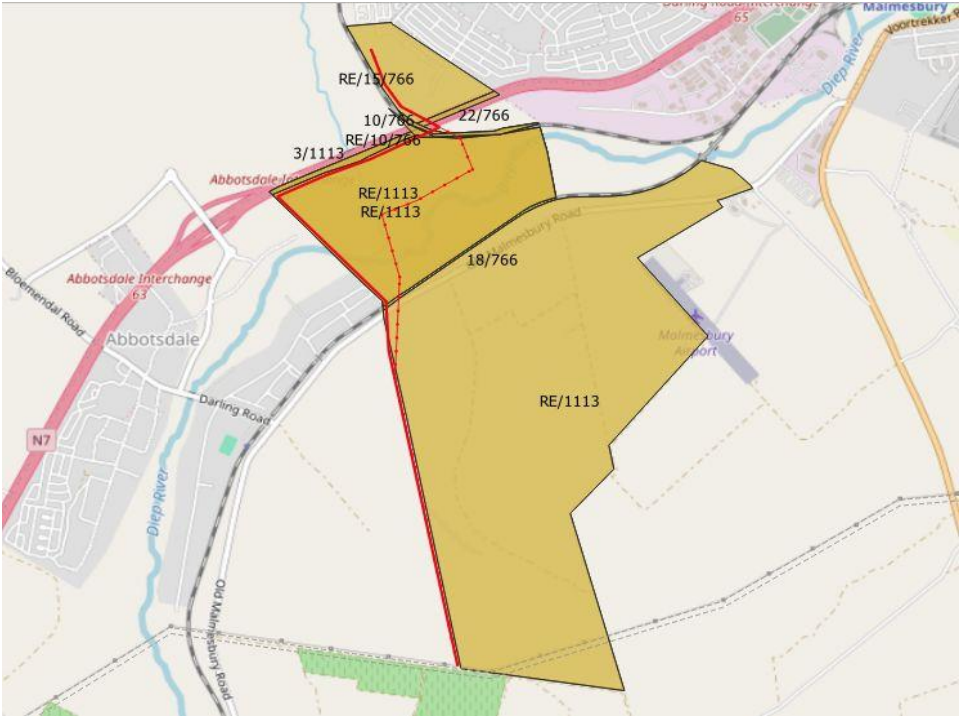


Figure 3 Properties traversed by powerline

2 TERMS OF REFERENCE

The objective of the Visual Impact assessment is to determine the significance of any visual impact which may result from the construction of the proposed 132kV powerline. This assessment will describe the receiving environment, identify potential receptors and assess the impact of the powerline on these receptors or areas of influence. If required, mitigation measures will be proposed.

To determine the potential extent of the VIA required, the following broad criteria are considered.

Table 1: Requirements for visual assessment

Areas with protection status, e.g. nature reserves	None Identified
Areas with proclaimed heritage sites or scenic routes	None known
Areas with intact wilderness qualities, or pristine ecosystems	None
Areas with intact or outstanding rural or townscape qualities	The area is dominated by agricultural activities. The powerline is on the boundary of a neighbourhood.
Areas with a recognized special character or sense of place	Potentially
Areas with sites of cultural or religious significance	None known
Areas of important tourism or recreation value	None identified
Areas with important vistas or scenic corridors	None identified.
Areas with visually prominent ridgelines or skylines.	None

Table 2: Nature of intended development

High-intensity type projects including large-scale infrastructure	Powerline of 5km with maximum pylon height of 20m
A change in land use from the prevailing use	Partially

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A use that conflicts with an adopted plan or vision for the area	None identified
A significant change to the fabric and character of the area	Potentially
A significant change to the townscape or streetscape	Potentially
Possible visual intrusion in the landscape	Potentially
Obstruction of views of others in the area	Potentially

From the above, it is clear that the receiving environment holds certain visual elements which may be impacted on by the proposed development. To assist authorities to make an informed decision, the input of a specialist is required to assist in the project design and assess the visual impact of the preferred project proposal.

The term visual and aesthetic is defined to cover the broad range of visual, scenic, cultural, and spiritual aspects of the landscape. The terms of reference for the specialist are to:

- Provide the visual context of the site regarding the broader landscape context and site-specific characteristics.
- Provide input in compiling layout/design alternatives.
- To describe the affected environment and set the visual baseline for assessment,
- Identify the legal, policy and planning context related to visual impact,
- Identifying visual receptors,
- Predicting and assessing impacts,
- Recommending mitigation measures.

3 Principles and Methodology

3.1 Principles

Table 4: Summary of methodology

Task undertaken	Purpose	Resources used
A screening of the site and environment	To obtain an understanding of the site and area characteristics and potential visual elements. Describe the receiving environment.	Photographs Site visit
Digital model of potential view catchment area and identify visual receptors within the catchment.	To assess the visual impact from specific viewpoints	Photographs Digital elevation model
Contextualize the site within the visual resources	To present an easy-to-understand context of the site within the visual resource baseline and identify potential impacts.	Specialist: S. Lategan Graphic presentation
Assess any cumulative impacts	Evaluate the impact of adding the powerline to the existing infrastructure in the area.	Specialist: S. Lategan Photos Provincial Guidelines

Throughout the evaluation the following fundamental criteria were applied:

- Awareness that “visual’ implies the full range of visual, aesthetic, cultural and spiritual aspects of the environment that contribute to the area's sense of place.
- Consideration of both the natural and cultural (urban) landscape and their interconnectivity.
- The identification of all scenic resources, protected areas and sites of special interest, as well as their relative importance in the region.
- Understanding of the landscape processes, including geological, vegetation and settlement patterns which give the landscape its character or scenic attributes.
- The inclusion of both quantitative criteria, such as visibility and qualitative criteria, such as aesthetic value or sense of place.

VIA: De Hoop 132kV transmission line

- The incorporation of visual input as an integral part of the project planning and design process, so that the findings and recommended mitigation measures can inform the final design and quality of the project.

3.1.1 Principles

The following principles to apply throughout the project:

- The need to maintain the integrity of the landscape within a changing land use process.
- To preserve the special character or 'sense of place' of the area,
- To minimize visual intrusion or obstruction of views,
- To recognize the regional or local idiom of the landscape.

3.1.2 Fatal flaw statement

A potential fatal flaw is defined as an impact that could have a "no-go" implication for the project. A "no-go" situation could arise if the proposed project were to lead to (Oberholzer, 2005):

1. Non-compliance with Acts, Ordinance, By-laws and adopted policies relating to visual pollution, scenic routes, special areas or proclaimed heritage sites.
2. Non-compliance with conditions of existing Records of Decision.
3. Impacts that may be evaluated to be of high significance and that are considered by the majority of stakeholders and decision-makers to be unacceptable.

The initial screening of the site did not reveal any of the above issues which may result in a fatal flaw.

3.1.3 Gaps, limitations, and assumptions

1. Information provided: The assessment is based on the information provided by the developer. No alternatives have been presented and therefore no alternatives will be considered in this assessment.
2. Visual presentation: Photos are taken to closely resemble what the human eye would see from a specific position and at that distance.

3. Level of assessment: Based on the DEA&DP guidelines (2005) the powerline is a Category 3 type of development in an area of moderate to minimal scenic, cultural, and historical significance and therefore a Level 2 – 3 should be undertaken. A level 2 assessment should provide sufficient information to make an informed decision or alternatively identify issues which may require further investigation or modelling.

3.2 Assessment methodology

Visual Impact relates not only to the physical visibility of a structure or development but the context of that structure within the environment. The assessment therefore firstly describes the receiving environment from a socio-cultural-, heritage- and physical landscape perspective to set a baseline from which to evaluate the appropriateness of a new element in that specific environment. Although every effort is made to rate and explain the visual impact, it is not an exact science and holds a significant level of intangible community values.

A broad potential view catchment area is then determined using digital elevation modelling techniques. This provides the area within which specific viewpoints, called visual receptors are identified. Specific views from these receptors are then assessed with the use of photos and illustrations. Based on these, the significance of the impact is then determined through the rating of the exposure level, receptor sensitivity and intrusion level (Refers Table 3)

Table 3 Assessment framework to rate impact

Criteria	High	Moderate	Low
Exposure	Dominant, clearly visible	Recognizable to the viewer	Not particularly noticeable to the viewer
Sensitivity	Residential, nature reserves, scenic routes	Sporting, recreational, places of work	Industrial, mining, degraded areas
Intrusion/Obstructive	A noticeable change, discordant with surroundings	Partially fits but clearly visible	Minimal change or blends with surroundings

Exposure is a tangible criterion, which refers to the visibility of the element.

Intrusion or Obstructive is a less tangible criterion which refers to what level an element is "acceptable" within a setting.

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Sensitivity deals with the receiving environment and the landscape elements which are appropriate within such an environment.

A sensitive receptor with low exposure and/or low intrusion rate can be regarded as a low significance rating. A receptor of low sensitivity but with high exposure can be of high significance if the intrusion rate is also high but is reduced if the intrusion rate is medium or low.

The overall significance, therefore, depends not only on the sensitivity of the receptor but also on the exposure and intrusion rate and thus a combination of the criteria.

The purpose of mitigation measures is to lower the exposure or intrusion level in order to lower the overall significance of the rating.

3.3 Legal Context

3.3.1 National Environmental Management Act, 107, 1998 and relevant Guidelines

This assessment forms part of the application submitted in terms of the NEMA regulations.

3.3.2 Western Cape PSDF

No specific references on this scale of development

3.3.3 Swartland Municipal Spatial Development Framework, 2023

A portion of the powerline will be located in Zones K and O of Malmesbury. Zone K focuses on industrial and business expansion, linking Malmesbury and Abbotsdale, while Zone O features medium to high-density residential, government uses, sports grounds, and educational facilities. The De Hoop. The proposed powerline aims to supply electricity to the new De Hoop Integrated Development on Malmesbury's western periphery. Aligned with the SDF, the proposal suggests creating a third Eskom bulk supply point for the development, supporting future housing demands and enhancing residential density in Malmesbury. The De Hoop Integrated Development aligns with the SDF's vision for integrated opportunities and diverse housing types in planned developments."

3.3.4 Swartland Zoning Scheme

A land use application in process to permit a powerline over the relevant properties. The majority of properties are zoned agriculture.

4 Development Proposal

The project comprises the construction of a 5km long 132kV powerline as part of the Malmesbury De Hoop bulk electrification upgrade. The powerline will follow the route as indicated in Figure 5. A multi-cable line is proposed with monopole-type pylons of 20m in height as illustrated in Figure 4.

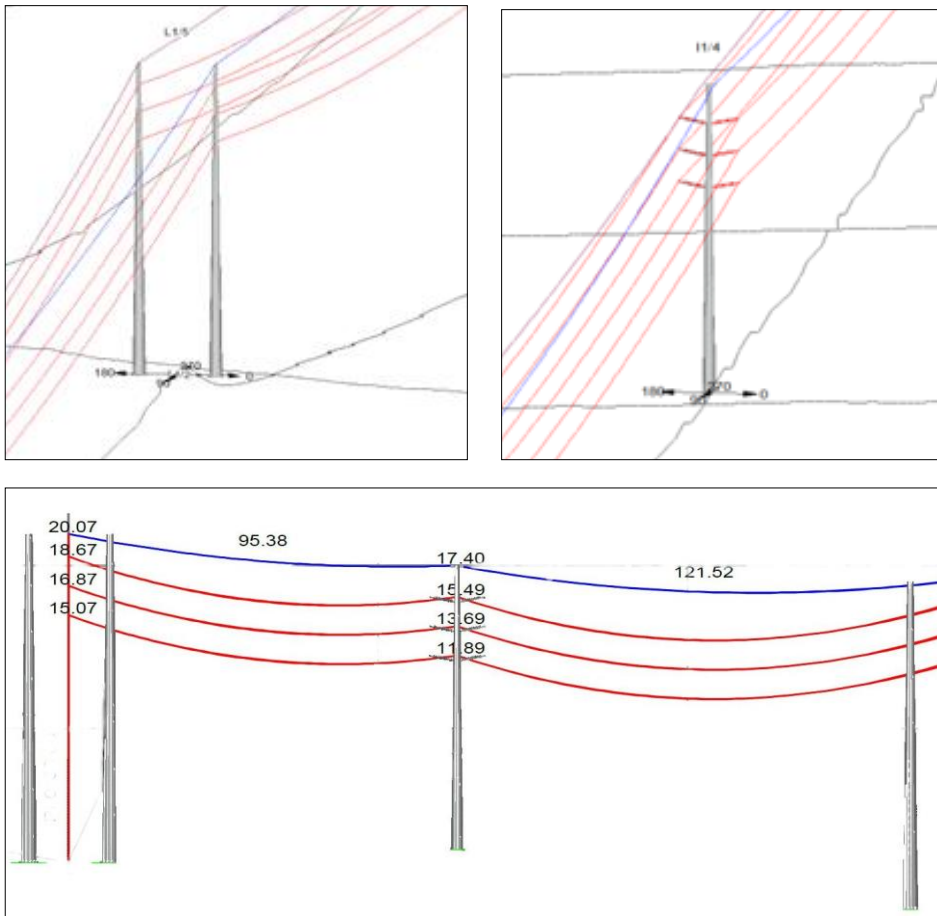


Figure 4 Typical Pylons to be used.

VIA: De Hoop 132kV transmission line

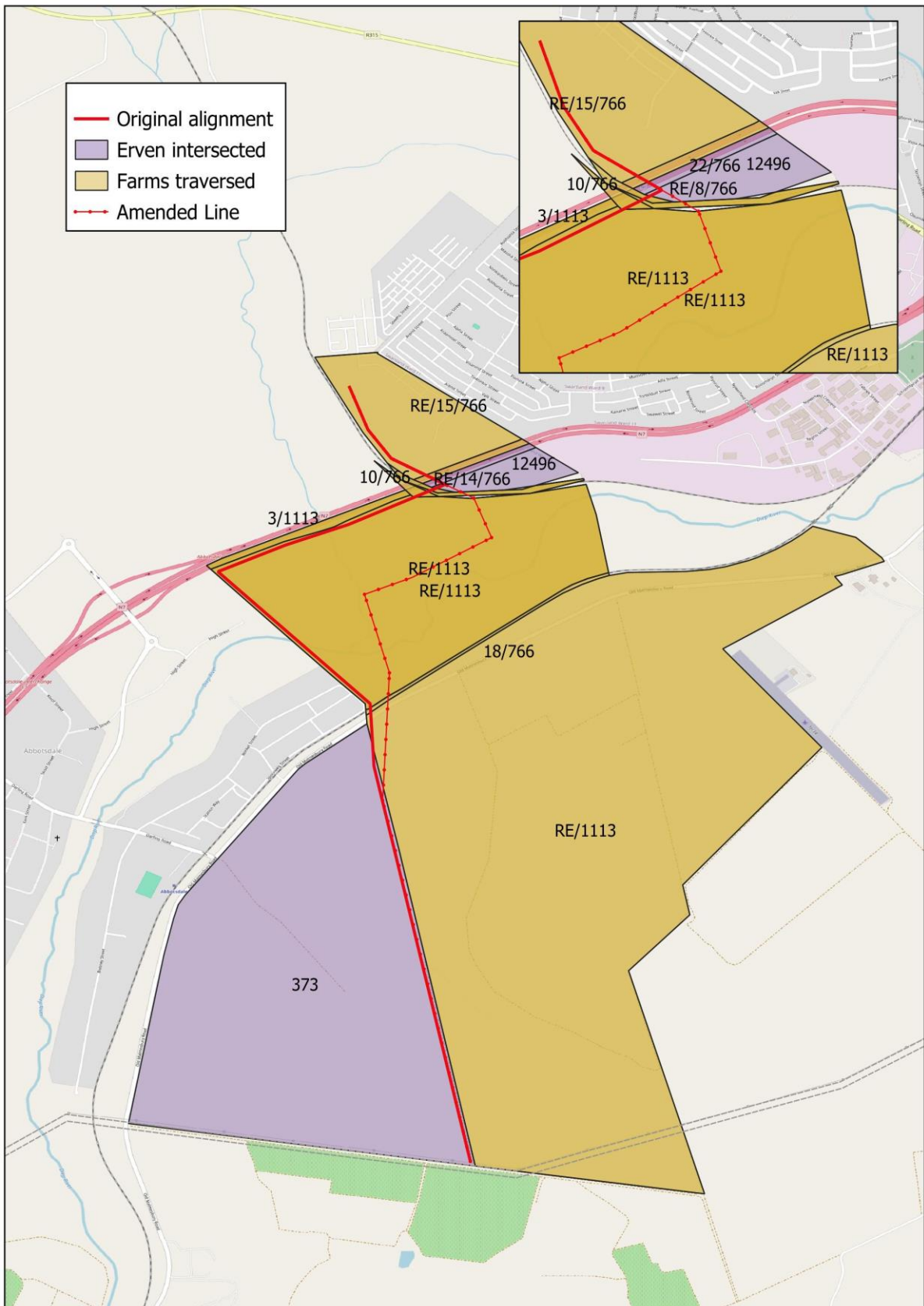


Figure 5 Properties over which powerline traversed.

VIA: De Hoop 132kV transmission line

4.1 Operational elements

Only occasional maintenance is required. The site is serviced by light delivery vehicles, cable operating vehicles and lifts and small trucks.

4.2 Construction elements

For construction of the powerline trucks will be used to transport materials and equipment to erect the pylons and clear ground area of any vegetation which may impact on the line. Cranes and lifts are used to fix the cables. A laydown area where materials are stored during construction will be created.

5 RECEIVING VISUAL ENVIRONMENT

5.1 Landscape description and sense of place

The powerline runs along the boundary of the Wesbank residential area, cross the N7 to just north of the river where it turns westward until it turns southward along the northeastern boundary of Abbotsdale and finally cut across farmland where it meets up with an existing high voltage powerline. The northern section of the line traverse the medium density Wesbank neighbourhood (Photo 1). Wesbank does not represent a specific architectural style or streetscape. An existing powerline also runs along this stretch of line. Abbotsdale consists mainly of small holdings with a rural character (Photo 5) . The farmlands are primarily used for grain farming and thus create a monotone landscape which has seasonal colour changes ranging from brown, green and golden-yellow (Photo 3, Photo 4). Various powerlines traversed the area. A landing strip mainly used for crop spraying is approximately 2km to the east of the powerline.

The area can be described as a production landscape character. The topography is of an undulating nature, but no strong and unique scenic characteristics or prominent elements exist in the landscape (Figure 6).



Photo 1 Residential area and urban edge

VIA: De Hoop 132kV transmission line



Photo 2 View from starting point towards Abbotsdale

VIA: De Hoop 132kV transmission line



Photo 4 Typical rural-agricultural landscape



Photo 3 Undulating landscape.

Photo 5 Abbotsdale character

VIA: De Hoop 132kV transmission line



Figure 6 Landscape View

5.2 View catchment

The view catchment refers to the area from where the powerline would potentially be visible. A viewshed was modelled based on the topography but excluding existing buildings and urban elements. The viewshed did take into account a maximum infrastructure height of 30m although the proposed maximum height of pylons is about 20m.

On a flat surface the maximum distance that the human eye can theoretically view an object is 30km due to the curvature of the earth. This is influenced by the size, colour and height of an object. When a viewer is elevated above the level of the object such object will be visible from a greater distance.

Landscape elements and the topography holds screening value which can absorb elements to such an extent that they are either not visible or not intrusive.

The theoretical view catchment within a 30km radius is illustrated in Figure 7. This can be reduced significantly by landscape elements such as buildings and vegetation. Although an object may be visible from a specific point, the view may not be directed towards the object due to various reasons and therefore view lines should also be considered in assessing the visual impact.

The undulating landscape has a high level of visual absorption, and the total powerline will not be visible from a specific point. Each viewer will only have a partial view of the powerline. The extent of the view catchment is thus tested with ground verification and adapted to accommodate the area most likely to be within the viewshed.

Due to the topography and the nature of the infrastructure the viewshed within which receptors are to be assessed can be reduced to a 10km radius.

VIA: De Hoop 132kV transmission line

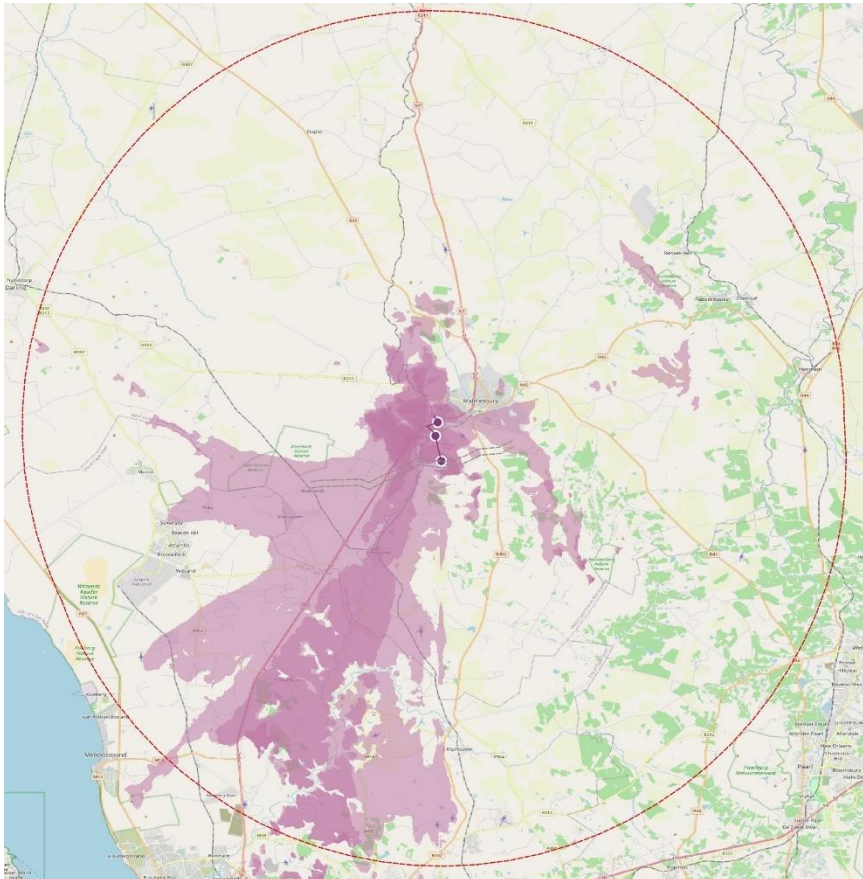


Figure 7 Potential view catchment within 30km radius

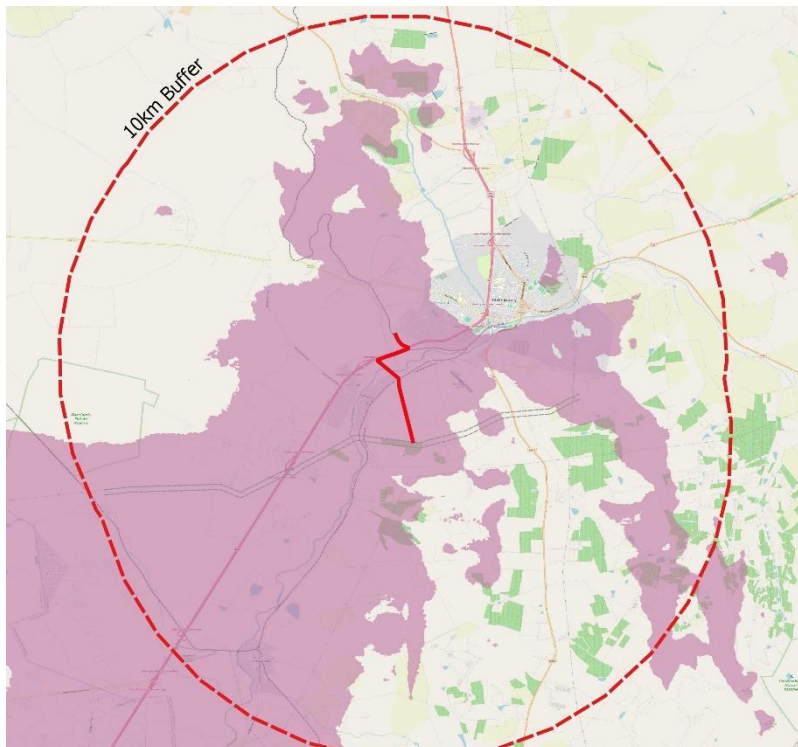


Figure 8 Viewshed within 10km radius.

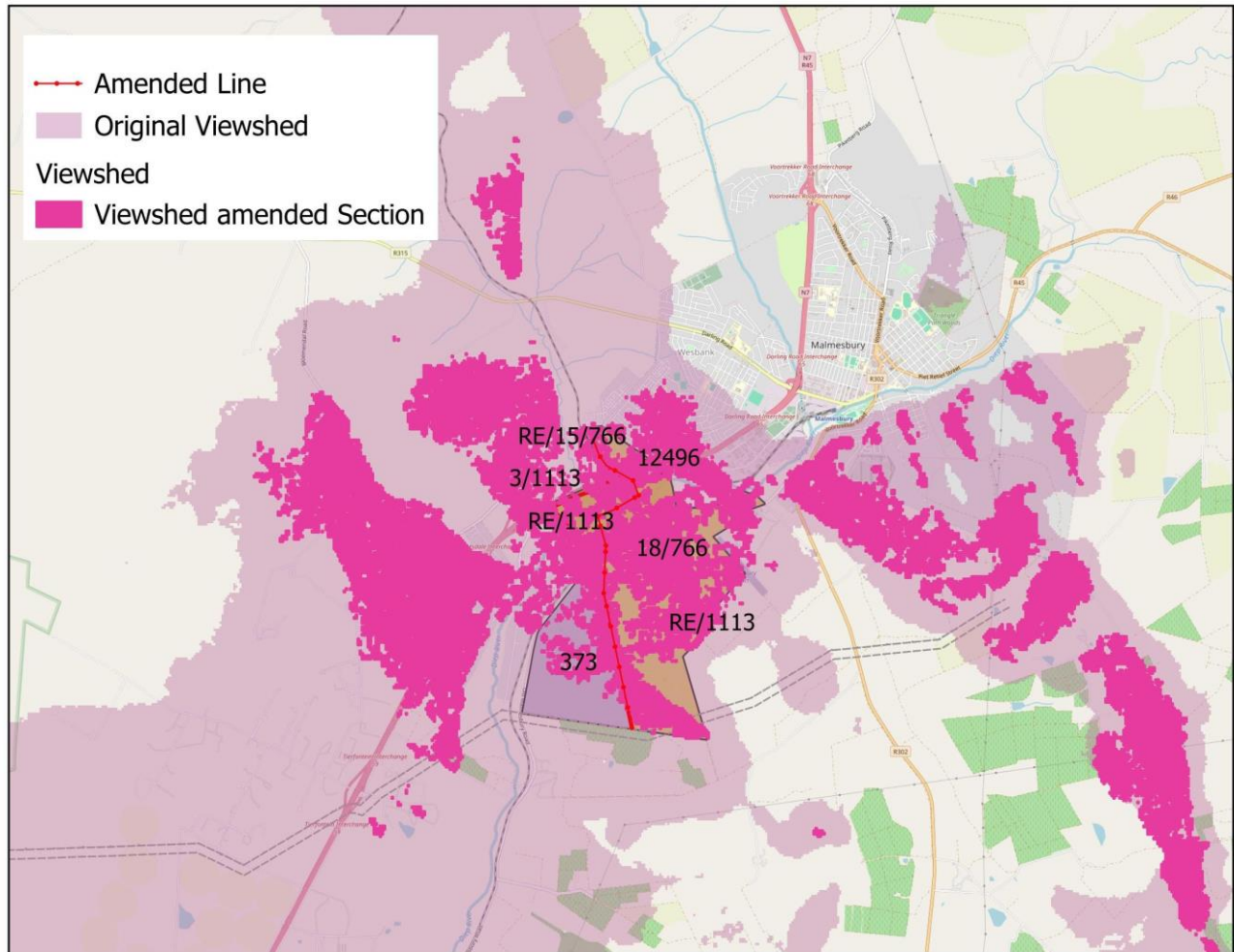


Figure 9 Viewshed of amended section compared

The viewshed is not changed by the amended alignment as illustrated in Figure 9.

6 VISUAL RECEPTORS

6.1 Potential Receptors

Visual receptors are those positions from where the powerline is potentially visible and that are sensitive to a change in the visual environment. Generally, residential areas and tourism-related destinations and routes are sensitive to visual intrusions as they relate to the well-being of residents and the tourism quality of the area.

A screening of any potential viewpoints which may be sensitive to change in the visual landscape on identify a few general areas of interest.

VIA: De Hoop 132kV transmission line

Due to the linear nature of the powerline, no single receptors were assessed but rather areas of interest. The following potential visual receptors have been identified (refer Figure 10):

The landing strip is about 2km from the powerline and parallel to the line. The line is therefore not in the departure and approach path of the landing strip and therefore not assessed in terms of visual impact.

Table 4 Potential Receptors

Receptor	Detail
Receptor 1	Wesbank residential area close to powerline
Receptor 2	N7 view in both directions
Receptor 3	
Receptor 4	Abbotsdale
Receptor 5	Rural area
Receptro 6	Homestead

In the original alignment, the homestead along the old Malmesbury Rd was not impacted due to the distance the line was from the house. The new alignment put the line within 300m from the homestead and it is thus added as a potential receptor.

VIA: De Hoop 132kV transmission line



Figure 10 Potential Receptors

VIA: De Hoop 132kV transmission line

6.2 Assessment of Receptors

6.2.1 Receptor 1. Wesbank Residential area

The Wesbank residential area is situated on a hill to the northeast of the powerline. The western and southern sections of the neighbourhood have general views in the direction of the powerline.

The general view direction of this neighbourhood is to the southwest.

The section of powerline from the start point towards the N7 will, due to the topography, mainly be below the line of site of the neighbourhood. Although this section will be visible from certain positions, it will not be intrusive. *Photo 6* illustrates the visibility of the line from this receptor. Once the line crosses the N7, the distance between the neighbourhood and the presence of the national road, railway line and other infrastructure become indistinguishable from the other elements.



Photo 6 Visibility of powerline from Receptor 1

VIA: De Hoop 132kV transmission line



Photo 7 View from Receptor 1 towards Abbotsdale

The powerline is only one element in the landscape and became indistinguishable from the total landscape.

Table 5 Wesbank impact assessed

Criteria	High	Moderate	Low
Exposure	Dominant, clearly visible	Recognizable to the viewer	Not particularly noticeable to the viewer
Sensitivity	Residential, nature reserves, scenic routes	Sporting, recreational, places of work	Industrial, mining, degraded areas
Intrusion/Obstructive	A noticeable change, discordant with surroundings	Partially fits but clearly visible	Minimal change or blends with surroundings

Although residential areas are sensitive to visual changes to the landscape, the proposed powerline will add a minimal element to the landscape. Only limited sections in the residential area will have a view of the powerline and therefore the overall visual impact from this area is medium to low.

VIA: De Hoop 132kV transmission line

6.2.2 Receptor 2 and 3. N7 view in both directions.

The powerline crosses the N7 in the vicinity of the railway line and then runs along the N7 for approximately 960m. The N7 is not identified as a scenic route and thus the sensitivity is



Photo 8 View along N7 in northeast direction

low. The position of the line does not impact on the functioning of the road or the safety of traffic. The minimum clearance of the lines are 13 meters. Such infrastructure is common along and across main roads and thus do not deduct from the landscape experience of the traveller. Photo 9 shows similar powerlines crossing the road in the vicinity of the proposed powerline.

VIA: De Hoop 132kV transmission line



Photo 9 View along N7 in a southwestern direction

Table 6 Impact on N7 assessed

Criteria	High	Moderate	Low
Exposure	Dominant, clearly visible	Recognizable to the viewer	Not particularly noticeable to the viewer
Sensitivity	Residential, nature reserves, scenic routes	Sporting, recreational, places of work	Industrial, mining, degraded areas
Intrusion/Obstructive	A noticeable change, discordant with surroundings	Partially fits but clearly visible	Minimal change or blends with surroundings

The overall visual impact is thus low in both directions of the N7.

6.2.3 Receptor 4 . Abbotsdale

The line will traverse the eastern boundary of Abbotsdale, a rural village with a small holding character. Properties vary in size but the overall visual experience of a well vegetated rural village. Most of the settlement is in a low-lying area and screened from the powerline (Photo 10).

There are however no sensitive receptors which may be negatively affected, and the overall visual impact is low as illustrated in Table 7.

VIA: De Hoop 132kV transmission line

Table 7 Assessment of Receptor 5, Abbotsdale

Criteria	High	Moderate	Low
Exposure	Dominant, clearly visible	Recognizable to the viewer	Not particularly noticeable to the viewer
Sensitivity	Residential, nature reserves, scenic routes	Sporting, recreational, places of work	Industrial, mining, degraded areas
Intrusion/Obstructive	A noticeable change, discordant with surroundings	Partially fits but clearly visible	Minimal change or blends with surroundings



Photo 10 View from Old Malmesbury Road entrance towards Abbotsdale

6.2.4 Receptor 5. Rural Landscape

The landscape surrounding the village of Abbotsdale can be categorized as a *production landscape*¹ with elements ranging from agricultural, agricultural industries and various infrastructure present. Elements such as powerlines are thus common and expected to be present in the landscape and a reasonable level of tolerance exist in such areas for infrastructure components (Photo 11). A critical level of tolerance however do exist on the concentration of infrastructure and therefore the cumulative impact should be considered as well (Refer 7.2).

When exiting Abbotsdale via the Old Malmesbury Road the powerline will be partially visible as illustrated in Figure 11.



Photo 11 View from Old Malmesbury Road in direction of the proposed powerline

¹ Production landscape lies on the continuum of urban to rural and wilderness whereas the landscape holds land uses of agricultural production and related infrastructure such as agri-industries, power-, water- and communication infrastructure to support the economic activities and large-scale buildings relevant to agricultural activities such as farm sheds etc.

VIA: De Hoop 132kV transmission line



Figure 11 Illustration of portions of line visible from Old Malmesbury Road Intersection



Photo 12 View along Old Malmesbury Road



Photo 13 View from Old Malmesbury road towards grid connection point

Table 8 Assessment of Rural landscape as receptor

Criteria	High	Moderate	Low
Exposure	Dominant, clearly visible	Recognizable to the viewer	Not particularly noticeable to the viewer
Sensitivity	Residential, nature reserves, scenic routes	Sporting, recreational, places of work	Industrial, mining, degraded areas
Intrusion/Obstructive	A noticeable change, discordant with surroundings	Partially fits but clearly visible	Minimal change or blends with surroundings

As Table 8 indicates, the overall impact is medium to low as the powerline will be visible but not obtrusive.

6.2.5 Receptor 6 - Homestead

The new alignment of the powerline moves it closer to the homestead next to the old Malmesbury road. The line is however across from the river and is screened by trees along the river as well as on the property. The house is at a height of approximately 107m and the powerline at 96m. This means that the lower section of the line and pylons are below the eye level line viewed from the homestead.



Photo 14 Receptor 6

Table 9 Receptor 6 assessment

Criteria	High	Moderate	Low
Exposure	Dominant, clearly visible	Recognizable to the viewer	Not particularly noticeable to the viewer
Sensitivity	Residential, nature reserves, scenic routes	Sporting, recreational, places of work	Industrial, mining, degraded areas
Intrusion/Obstructive	A noticeable change, discordant with surroundings	Partially fits but clearly visible	Minimal change or blends with surroundings

The overall impact of the amended alignment on the homestead is moderate to low and does not have a significant impact on the enjoyment of the property.

6.3 Conclusion

Table 10 provides a summary of the assessment of the various identified receptors and the overall impact is low.

Table 10 Summary of Assessment

Receptor	Detail	Exposure	Sensitivity	Intrusion/ Obstructive	Overall
1	Wesbank residential area				Medium to low
2 & 3	N7 view in both directions				Low
4	Abbotsdale				Low
5	Rural area				Medium to low
6	Homestead				Medium to low

7 CUMULATIVE IMPACT

7.1 Methodology

The Department of Environment and Tourism issued a guideline document in terms of which cumulative impacts should be assessed.² This guideline document identifies types and characteristics of different cumulative effects as summarized in the table below.

Table 11: Types and characteristics of cumulative effects

TYPE	CHARACTERISTIC	IDENTIFY POTENTIAL IMPACT (only relating to visual impact)
Time Crowding	Frequent and repetitive effects.	Activity remains at same pace, frequency and intensity over time. No time crowding impacts.
Time Lags	Delayed effects.	No time lag impacts.
Space Crowding	High spatial density of effects.	Additional powerline to the existing HV lines in close proximity. Refers Par 7.2 below.
Cross-boundary	Effects occur away from the source.	No impact
Fragmentation	Change in landscape pattern.	No fragmentation

² DEAT (2004) Cumulative Effects Assessment, Integrated Environmental Management, Information Series 7, Department of Environmental Affairs and Tourism (DEAT), Pretoria

VIA: De Hoop 132kV transmission line

Compounding Effects	Effects arising from multiple sources or pathways.	No compounding impacts.
Indirect Effects	Secondary effects.	No impact
Triggers and Thresholds	Fundamental changes in system functioning and structure.	None identified

7.2 Space Crowding

The proposed powerline will connect to an existing high voltage line running east-west, south of Abbotsdale and Malmesbury. On the ESKOM datasets an additional planned line is indicated approximately parallel to the existing high voltage line. The proposed 132kV line is aligned perpendicular to these existing lines. It adds an additional line to the area but do not compound the alignment of the existing HV lines. It is also smaller in scale as monopole pylons are used and thus does not create a significant increase in visual space crowding.

VIA: De Hoop 132kV transmission line

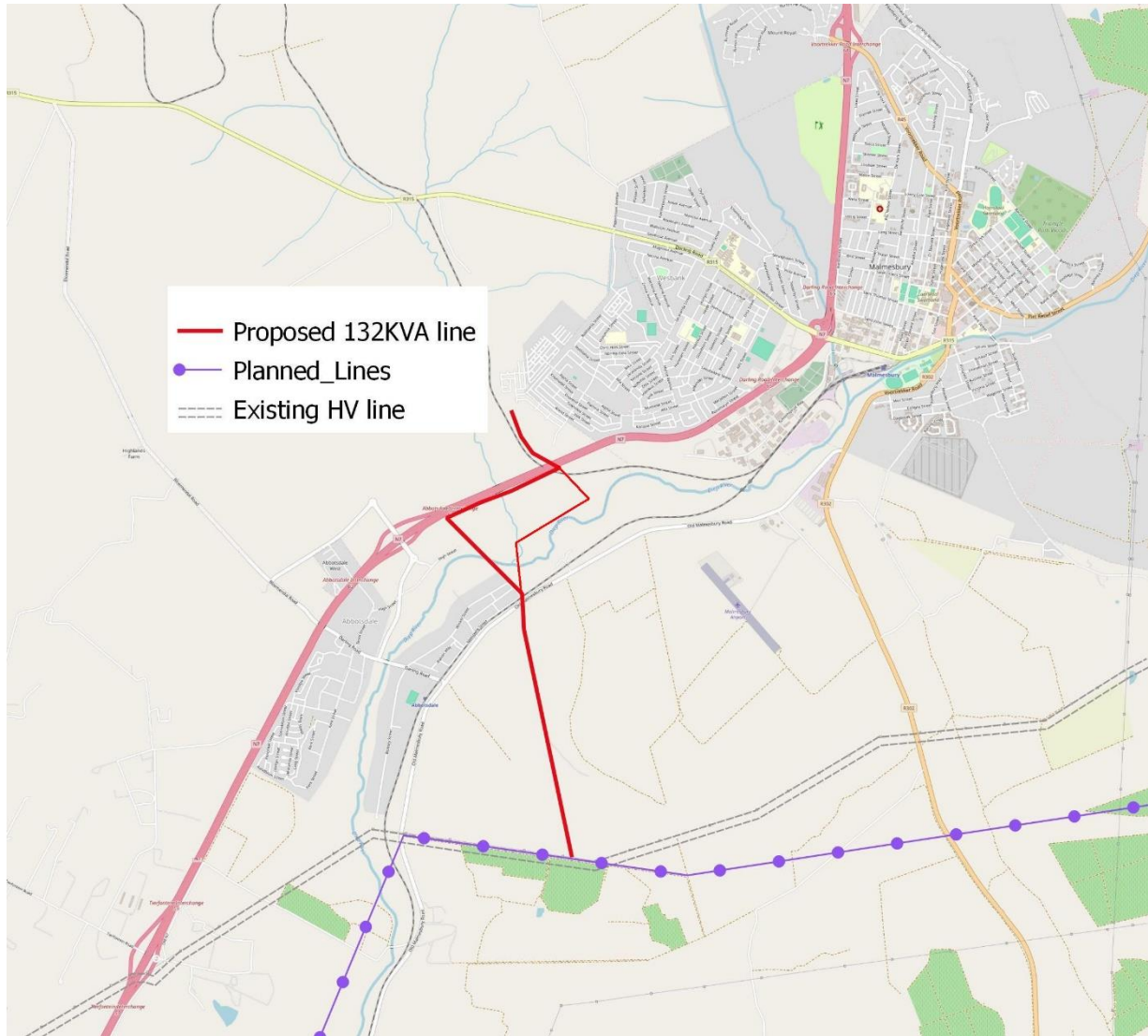


Figure 12 Existing Powerline in area

7.3 Conclusion

The addition of the 132KV powerline will have little cumulative impact as it is of smaller scale than the existing high voltage lines. It does not create a visual compounding effect due to the alignment.

Space crowding is low and within acceptable limits of change.

8 CONSTRUCTION

Construction comprises broadly three stages, namely preparing the route by removing any limiting elements, and setting up a site office and lay down area. The second phase is

VIA: De Hoop 132kV transmission line

the transport and positioning of the pylons. The final stage is the fixing the cables. All three stages involve a medium level of activity and the movement of large vehicles.

This impact is however temporary and not uncommon during construction of infrastructure. The visual impact during construction is therefore low and temporary.

9 FINDINGS

The landscape holds certain rural and urban qualities. The sense of experience by residents and visitors are thus of a production and partially urban landscape.

An assessment of the potential receptors however indicates that the overall visual impact is medium to low and within acceptable levels of change.

The amended alignment does not have a significant visual impact.

The assessment did not identify any issues which require further studies or modelling and thus provide sufficient information to make an informed decision.

10 MITIGATION MEASURES

The overall impact is rated as medium to low, and no mitigation measures are deemed necessary.

ADDENDUM TO REPORT MAL-000-01 DATED 17 JAN 2024

Compliance with Appendix 6 of the EIA Regulation

Specialist reports

1. (1) A specialist report prepared in terms of these Regulations must contain—

- (a) details of—
 - (i) the specialist who prepared the report; and
 - (ii) the expertise of that specialist to compile a specialist report including a curriculum vitae;

Compliance:

- *Refer pre-amble of report MAL-000-01 (Sep 2024) with heading “Relevant Qualification & experience of the Author*
- *Attached CV*

- (b) a declaration that the specialist is independent in a form as may be specified by the competent authority;

Compliance:

- *Refer pre-amble of report MAL-000-01 (Sep 2024) with heading “Relevant Qualification & experience of the Author*
- *Attached signed declaration*

- (c) an indication of the scope of, and the purpose for which, the report was prepared;

(cA) an indication of the quality and age of base data used for the specialist report

(cB) a description of existing impacts on the site, cumulative impacts of the proposed development and levels of acceptable change

Compliance:

- *Refer paragraphs 1 to 3 of the report*
- *Base data for viewshed modelling: SRTM DEM 30 ARC.*
- *Photo’s taken during site visit 25/10/2023*
- *Refer paragraphs 5 – 9 of Report MAL-000-01*

- (d) the duration, date and season of the site investigation and the relevance of the season to the outcome of the assessment;

Compliance:

- *Site visit on day on 25 October 2023.*
- *Season not relevant to the outcome of the assessment*

- (e) a description of the methodology adopted in preparing the report or carrying out the specialised process inclusive of equipment and modelling used;

Compliance:

- *Refer paragraph 3 of the report MAL-000-01*

- (f) details of an assessment of the specific identified sensitivity of the site related to the proposed activity or activities and its associated structures and infrastructure, inclusive of a site plan identifying site alternatives;

Compliance:

- *Refer paragraphs 3-9 of the report MAL-000-01*
- *No site alternatives provided*

- (g) an identification of any areas to be avoided, including buffers;

Compliance:

- *Refer paragraphs 5.2 of the report MAL-000-01*

- (h) a map superimposing the activity including the associated structures and infrastructure on the environmental sensitivities of the site including areas to be avoided, including buffers;

Compliance:

- *Refer paragraphs 5.- 6 of the report MAL-000-01*

- (i) a description of any assumptions made and any uncertainties or gaps in knowledge;

Compliance:

- *Refer paragraph 3.1 of the report MAL-000-01*

- (j) a description of the findings and potential implications of such findings on the impact of the proposed activity or activities;

Compliance:

- *Refer paragraphs 5.- 9 of the report MAL-000-01*

- (k) any mitigation measures for inclusion in the EMPr;

Compliance:

- *Refer paragraph 10 of the report MAL-000-01*

- (l) any conditions for inclusion in the environmental authorisation;

Compliance:

- *Refer paragraphs 9 - 10 of the report MAL-000-01*

- (m) any monitoring requirements for inclusion in the EMPr or environmental authorisation;

Compliance:

- *Refer paragraphs 9 - 10 of the report MAL-000-01. No monitoring requirements required.*

- (n) a reasoned opinion—

- (i) whether the proposed activity, activities or portions thereof should be authorised;

- (iA) regarding the acceptability of the proposed activity or activities; and
- (ii) if the opinion is that the proposed activity, activities or portions thereof should be authorised, any avoidance, management and mitigation measures that should be included in the EMPr, and where applicable, the closure plan;

Compliance:

- *Refer paragraph 9 of the report MAL-000-01*

- (o) a description of any consultation process that was undertaken during the course of preparing the specialist report;

Compliance:

- *Non required for completion of the VIA*

- (p) a summary and copies of any comments received during any consultation process and where applicable all responses thereto; and

Compliance:

- *N/A*

- (q) any other information requested by the competent authority.

Compliance:

- *This addendum*

(2) Where a government notice *gazetted* by the Minister provides for any protocol or minimum information requirement to be applied to a specialist report, the requirements as indicated in such notice will apply.

Compliance:


- *https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf Published in Government Notice No. 320 GOVERNMENT GAZETTE 43110 20 MARCH 2020*
- *Where a specialist assessment is required and no specific environmental theme protocol has been prescribed, the required level of assessment must be based on the findings of the site sensitivity verification and must comply with Appendix 6 of the EIA Regulations. No specific protocols/requirements have been published for VIA's and therefore compliance with Appendix 6 is applicable.*

DECLARATION OF THE SPECIALIST : Visual Impact Assessment - Report MAL-000-01

Note: Duplicate this section where there is more than one specialist.

I SC Lategan....., as the appointed Specialist hereby declare/affirm the correctness of the information provided or to be provided as part of the application, and that:

- In terms of the general requirement to be independent:
 - other than fair remuneration for work performed in terms of this application, have no business, financial, personal or other interest in the development proposal or application and that there are no circumstances that may compromise my objectivity; or
 - am not independent, but another specialist (the "Review Specialist") that meets the general requirements set out in Regulation 13 of the NEMA EIA Regulations has been appointed to review my work (Note: a declaration by the review specialist must be submitted);
- In terms of the remainder of the general requirements for a specialist, have throughout this EIA process met all of the requirements;
- I have disclosed to the applicant, the EAP, the Review EAP (if applicable), the Department and I&APs all material information that has or may have the potential to influence the decision of the Department or the objectivity of any Report, plan or document prepared or to be prepared as part of the application; and
- I am aware that a false declaration is an offence in terms of Regulation 48 of the EIA Regulations.


Signature of the Specialist:


08/10/2024
Date:

Name of company (if applicable):

Sarah Carina Lategan
"Sarien"
 Geospatial Specialist
 Renewable Energy Analyst

Email sarien@travellingtortoise.com
LinkedIn Sarien-Lategan
Mobile +27 76 7824 007
Address Baardskeerdersbos, South Africa, 7271


As a geographer with 30 years of experience, and a passion for understanding the interconnectedness between man and landscape, my skills in Geographical Information Systems provide the ultimate tool to analyse and visualise these intricate patterns and processes for better decision-making. I have focused on using my experience to analyse the physical landscape but also the visual and heritage landscape to inform the planning of projects.

 **Skills**

♦ Visual Impact Assessments	★ ★ ★ ★ ★	♦ Continuum3 (wind flow modelling)	★ ★ ★ ★ ★
♦ Data collection & evaluation/ Geospatial intelligence	★ ★ ★ ★ ★	♦ ArcGis Pro and Portal	★ ★ ★ ★ ★
♦ Geospatial Database	★ ★ ★ ★ ★	♦ Inkscape, GIMP	★ ★ ★ ★ ★
♦ Remote sensing /Imagery interpretation	★ ★ ★ ★ ★	♦ Excel, Word, Powerpoint	★ ★ ★ ★ ★
♦ Analysis	★ ★ ★ ★ ★	♦ Google Earth Pro	★ ★ ★ ★ ★
♦ Mapping/Cartography	★ ★ ★ ★ ★	♦ Grass	★ ★ ★ ★ ★
♦ Modelling	★ ★ ★ ★ ★	♦ Geosetter	★ ★ ★ ★ ★
♦ Wind Resource Assessments	★ ★ ★ ★ ★	♦ Blender	★ ★ ★ ★ ★
♦ Digitizing	★ ★ ★ ★ ★	♦ Creative	★ ★ ★ ★ ★
♦ 3D Modelling	★ ★ ★ ★ ★	♦ Project management	★ ★ ★ ★ ★
♦ Site assessment & acquisition	★ ★ ★ ★ ★	♦ intuition	★ ★ ★ ★ ★
♦ Urban planning/ zoning maps & registers	★ ★ ★ ★ ★	♦ Self-disciplined	★ ★ ★ ★ ★
♦ Sensitivity mapping	★ ★ ★ ★ ★	♦ Time management	★ ★ ★ ★ ★
♦ QGIS	★ ★ ★ ★ ★	♦ Professionalism	★ ★ ★ ★ ★
♦ Glint & Glare Assessments	★ ★ ★ ★ ★	♦ Motivated	★ ★ ★ ★ ★
		♦ Reliable	★ ★ ★ ★ ★
		♦ Responsible	★ ★ ★ ★ ★
		♦ Problem solver	★ ★ ★ ★ ★
		♦ Tech savvy	★ ★ ★ ★ ★

 **Language**

♦ English	★ ★ ★ ★ ★
♦ Afrikaans	★ ★ ★ ★ ★
♦ Portuguese	★

 **Education**

- 1988 **Bachelor of Arts: Geography**
University of Stellenbosch
- 1989 **Honours Degree: Geography**

University of Stellenbosch

1991 **Master of Arts: Town and Regional Planning**
University of Stellenbosch

Other relevant courses

- Environmental Risk Assessment: Rhodes University, 2007 (Module to MBA as stand-alone curriculum)
- Tier 3 Triton SODAR Technician Certificate (sonic wind profiler).



Accomplishments

- Published a Travellers Map to Angola, 2014. ISBN 9780992175429
- Africa's Top Geological Sites, 2016. ISBN 9781775844488. Co-author to Chapter 23, "The Natural Wonders of Pedras Negras in Angola".



Work History

2017 –
current

Specialist Consultant GIS / Freelancer

Freelance - Remote

- Combine remotely collected and on-site data acquired to generate unified geographic mapping information.
- Used GIS technology and equipment to produce detailed maps.
- Completed mapping projects involving sensitivity maps, 3D modelling and layout features.
- Leveraged modelling, rendering and plotting skills to visually represent geospatial data.
- Transferred and rescaled information from aerial photographs to complete maps
- Managed GIS databases and modified parameters for different needs
- Mapped local land boundaries and service connections.
- Collected, compiled, and integrated GIS data remote sensing or cartographic data for inclusion in map manuscripts.
- Wind resource assessment for global Renewable Energy companies

2004 –
2017

Specialist Spatial Planning and GIS consultant

Geostratics, Somerset West

- Responsible for Project Management of large government projects
- Compile and submit land use applications to relevant authorities.
- Project costing and budget control

2000 –
2004

Spatial Development Project Manager

South African National Parks, Cape Town

- Project Management for new developments
- Provide input on behalf of SANParks on developments which may impact the parks.
- Conservation Planning

1997 –
1998

Meteorologist Observer

Dept of Environmental Affairs – South Africa based on Gough Island

- Hourly weather observation and data capturing

1991 –
1997

Town Planner

Strand municipality, Strand

- Assess land use applications and submit recommendations to Council.
- Advise landowners and developers on land use requirements.
- Maintain land use registers.
- Deliver presentations on planning initiatives and research.



Experience

- **Renewable Energy Site Assessment and Wind resource assessment.** Modelling meteorological data and combine with site evaluation to assess site suitability for renewable energy development.
- **Geo-Spatial Analysis & geo-database development:**
 - **Visual Impact Assessments (including 3D visualizations):** Various renewable energy projects (solar, hydrogen, wind, renewable vehicle charge stations, and infrastructure projects (transmission lines, communication towers).
 - **Glint & Glare Assessments:** Primarily for utility scale solar projects
 - **Base mapping** for multi-disciplinary teams to coordinate and integrate field data.
 - **Sensitivity mapping:** for Environmental impact and planning applications.
 - **Conservation Area and Tourism resource mapping:** Paarl Mountain, Paarl Arboretum, Drakenstein resorts, Dept. of Agriculture. Conservation Area and Tourism resource mapping: Angola 2010 Angola: Mapping Cameia National Park, routes and services. Angola National Park boundaries – share data with Protected Planet. Mapping using remote sensing the Soyo region, Angola.
 - **Development/Socio-economic survey and mapping:** Dept of Agriculture emerging farmer survey, geodatabase development and socio-economic survey.
 - **Bio-mapping and data analysis:** Small Mammal Survey: Mt Moco, Angola 2010 (data form design, fieldwork.) Assist *Echotrack* with GIS solutions to data analysis for wind energy projects (radar-derived data into 3D flightpath animation and turbine siting).
 - **Wind energy assessment:** Wind effect analysis. Space wind model animations.
- **Wind & Solar projects (Environmental management, GIS):** Assist in environmental compliance and spatial orientation for various solar and wind exploration projects in South Africa, Botswana Central Kalahari and Mozambique.
- **Conservation / Biodiversity Planning:** South Africa National Parks - facility development within the Table Mountain National Park. Projects funded by inter alia World Bank, GEF and IDC. Development plans for Local authority conservation areas e.g., Paarl Mountain Reserve and Paarl Arboretum.
- **Land use management and systems:** 7 years local government, 18 years private sector.
- **Tourism & Resort Planning:** Various private resorts & local authority resorts. Concession development proposals. Plan and Implement tourism development projects with related social empowerment projects in the context of the Namibian concession program.
- **Paarl Mountain Advisory Board** – advises authority on management and development-related matters.
- **Property Due diligence and facility siting:** Project-based contractual to WCPG (Transport and Public works).



Current Clients (2024)

- **Afriweather:** Site assessments, wind resource assessments, modelling
- **EnviroAfrica:** Visual Impact Assessments, Sensitivity mapping
- **Genesis Energy Pty (New Zealand):** Ongoing consultant to Renewable Energy development team responsible for developing and maintaining GIS database, Wind and solar resource assessments and general site evaluations
- **Genesis Energy South Africa:** Wind Resource Assessment.
- **Highwave Consultants:** Visual Impact Assessments for infrastructure projects
- **Pan Solar - UK and Caribbean:** Mapping and site assessments of renewable energy projects
- **Solar Capital (South Africa):** Visual impact, Glint & Glare assessments for solar projects