

A. ASPECT / ACTIVITY: Transport of Equipment / Material to Site (pre-construction site establishment)

No.	IMPACT	L/P	E/S	D/F	C: RE	C: T	Pre- Mitigation Score (Baseline)	L/P	E/S	D/F	C: RE	C: T	Post- Mitigation Score (Impact assessment)	Short Description of Mitigation Measures
1	Particulate and gaseous emissions due to use of vehicles/machinery	32	4	32	1	32	20,2	32	1	32	1	32	19,6	Vehicles serviced regularly/well maintained. Vehicles not allowed to idle for extended periods. Fugitive particulate emissions minimised by enforcing speed limits on dirt roads. Adherence to the EMPr with regards to the appropriate use of machinery.
2	Potential impedance of normal traffic flow on main access road	16	4	16	1	1	7,6	2	2	8	1	1	2,8	If required, traffic management method statement to be in place. Comply with legislative requirements. If necessary, use traffic controllers.
3	Animal/human interaction/accident with vehicles	2	2	1	1	1	1,4	2	2	1	1	1	1,4	Training and awareness regarding road safety. Routine checks to ensure vehicles in good condition.
4	Spillages of fuel/oil/HCSs from vehicles/vehicle loads	32	2	32	1	8	15	16	2	16	1	8	8,6	Oil/fuel or any hazardous substance to be used or stored on site, must adhere to the EMPr and Standard Management Procedures/Method statements. Training and awareness regarding use and storage of fuel/oil/HCSs. Adequate drip trays and spill clean up kits provided. Routine monitoring of vehicle loads and vehicles for leaks. Adherence to the EMPr. Prevent contamination of natural environment at all cost. In the event of a spill, prompt action must be taken to clear the polluted or affected areas.
5	Noise from heavy vehicles	32	2	16	1	1	10,4	16	1	16	1	1	7	Vehicles serviced regularly/well maintained. Vehicles not allowed to idle for extended periods. Ensure vehicle exhaust pipes in good condition. Vehicles not to be used outside of normal working hours.
6	Potential littering along route from drivers/personnel in vehicles	32	16	16	8	1	14,6	16	2	16	2	1	7,4	Training and awareness regarding littering. Provision of rubbish bags for inside vehicle when travelling.
7	Impact of slowed traffic due to possible abnormal loads being transported on public roads	16	16	8	1	1	8,4	8	16	4	1	1	6	Limit transport of abnormal loads to site if possible. Avoid built up areas during peak traffic times.
8	Aesthetic/visual impact of stored/parked vehicles and equipment	32	1	32	1	1	13,4	16	1	16	1	1	7	Park vehicles and store equipment at designated areas
9	Environmental training/awareness e.g. at on-site start up													All staff must receive Environmental Awareness training as per the EMPr prior to the commencement of the activities. All staff are aware of the conditions linked to the EA and WUL within the EMPr and made aware of their individual roles and responsibilities in achieving compliance with the EA and EMPr

B. ASPECT / ACTIVITY: Site Clearance ("grub and clear")

No.	IMPACT	L/P	E/S	D/F	C: RE	C: T	Pre-Mitigation Score (Baseline)	L/P	E/S	D/F	C: RE	C: T	Post-Mitigation Score (Impact assessment)	Short Description of Mitigation Measures
1	Poor access control/fencing	32	1	32	1	1	13,4	2	1	8	1	1	2,6	Secure fencing of site to take place before any materials/equipment brought to site. Access to be controlled via locked gate and security services.
2	Non adherence to demarcation of the site footprint	32	2	8	1	1	8,8	32	1	4	1	1	7,8	Site clearly defined before any material/equipment arrives on site. Area to be within the footprint applied for as part of BAR. Routine site inspection for adherence to footprint.
3	Ablutions for site labour (non-adherence to designated areas)	32	2	32	1	4	14,2	16	1	16	1	1	7	Training and awareness regarding designated ablation areas and need for adherence. Provision of sufficient ablutions area in line with legal requirements on site Adherence to the EMPr & Implementation of Standard Management Procedures. Method statement to be in place
4	Gaseous emissions due to use of vehicles/machinery	32	4	32	1	32	20,2	32	1	32	1	32	19,6	Vehicles serviced regularly/well maintained. Vehicles not allowed to idle for extended periods. Fugitive particulate emissions minimised by enforcing speed limits on dirt roads. Adherence to the EMPr with regards to the appropriate use of machinery.
5	Dust (particulate) emission generation	32	2	32	1	32	19,8	16	2	16	1	1	7,2	Fugitive particulate emissions minimised by enforcing speed limits on dirt roads. Vehicles confined to roads only. Vehicles serviced regularly/well maintained. Vehicles not allowed to idle for extended periods.
6	Topsoil removal/stockpiling	32	2	32	1	1	13,6	32	1	4	8	1	9,2	Topsoil removal/ stockpiling as per EMPr and implementation of Standard Management Procedures should topsoil be required for landscaping on site or elsewhere on erf. Method statement to be in place at on-site start up meeting. Routine site checks to ensure compliance.

7	Erosion & sedimentation from site clearance	8	1	8	1	2	4	8	1	4	1	1	3	Remain within the demarcated development footprint. Remain on access routes. Indiscriminate clearing of any area outside of the construction footprint must be avoided. Leave as much vegetation as possible. Adherence to the EMPr and implementation of Standard Management Procedures in terms of erosion and sedimentation (should a rain even occur). Method statement to be in place at on-site start up meeting to install erosion and sedimentation controls before work starts and maintain these features. Leave as much vegetation as possible. All cleared material, not used for landscaping on the site/erf., must either be composted or disposed of in the correct manner.
8	Habitat loss (effect on fauna)	32	1	32	1	1	13,4	32	1	32	1	1	13,4	Due to the nature of the development, habitat loss will take place irrespective of mitigation measures. No natural vegetation will be lost as the site is transformed.
9	Loss of ecological processes or ecosystems connectivity													Loss of ecological processes will not occur and could not be rated. The development will not take place in a CBA/ESA.
10	Loss of riparian biodiversity (flora)													Loss of ecological processes will not occur. The development will not take place in riparian habitat or near any wetlands/ watercourses,
11	Animal interaction/fatalities	2	2	1	1	1	1,4	2	2	1	1	1	1,4	Designation of no-go areas on site to be defined at on-site start up meeting. Environmental awareness/training. Routine site compliance checks.
12	Heritage discovery (archaeological or palaeontological) due to excavation	8	1	8	1	1	3,8	2	1	2	1	1	1,4	Designation of no-go areas on site to be defined at on-site start up meeting. No-go areas restricted. Environmental awareness/training. Routine site compliance checks as per EMPr. It is recommended that the HWC Fossil Finds Procedure be implemented throughout the development phase.

13	Erosion due to potential removal of tall Pine Trees on site.	32	4	8	1	1	9,2	1	1	4	1	1	1,6	Removal and eradication of exiting tall pine trees as guided by the Department and Competent Authority as per the legislation such a way to not cause damage and erosion to the environment.
14	Spreading of alien biodiversity (existing tall Pine trees on site)	32	4	32	1	1	14	1	1	8	1	1	2,4	Management measures as per the CARA Demarcation Permit which allows the land user to retain the pine trees on the site with the condition that that trees are managed and prevented from spreading from the demarcated area. Without the investigation of the proposed development, these pine trees would not have been managed and spreading would have occurred. Management includes: Removal of young saplings using manual labour (i.e. hands). Saplings can be left in-situ to decompose. The site must be inspected by the land user/owner every three months to ensure no new saplings have sprouted, New saplings to be removed manually immediately. Fallen pine cones to be controlled and stored in bags to prevent seeds from spreading. Pine cones can be sold/used for firewood or burned on site (to prevent seeds from spreading). Burning pine cones on site is the least recommended control mechanism. However, if pine cones are to be controlled in this manner, they must be collected and burned in a designated area and in a controlled and safe manner so not to cause a fire hazard - Consultation with the municipality with regards to permissible burning periods/season is required and correct authorisations must be obtained, if necessary. No herbicides to be used/ sprayed on site.
15	Local employment opportunities													
16	Environmental training/awareness e.g. at on-site start up meeting													All staff must receive Environmental Awareness training as per the EMPr prior to the commencement of the activities. All staff are aware of the conditions linked to the EA and WUL within the EMPr and made aware of their individual roles and responsibilities in achieving compliance with the EA and EMPr

C ASPECT / ACTIVITY: Construction

No.	IMPACT	L/P	E/S	D/F	C: RE	C: T	Pre- Mitigation Score (Baseline)	L/P	E/S	D/F	C: RE	C: T	Post- Mitigation Score (Impact assessment)	Short Description of Mitigation Measures
1	Poor access control/fencing	32	1	32	1	1	13,4	2	1	8	1	1	2,6	Secure fencing of site to take place before any materials/equipment brought to site. Access to be controlled via locked gate and security services.
2	Non adherence to demarcation of site footprint	32	2	8	1	1	8,8	32	1	4	1	1	7,8	Site clearly defined before any material/equipment arrives on site. Area to be within the footprint applied for as part of BAR. Routine site inspection for adherence to footprint.
3	Ablutions for site labour (non-adherence to designated areas)	32	2	32	1	4	14,2	16	1	16	1	1	7	Training and awareness regarding designated ablution areas and need for adherence. Provision of sufficient ablutions area in line with legal requirements on site Adherence to the EMPr and implementation of Standard Management Procedures. Method statement to be in place
4	Littering	32	2	16	1	1	10,4	16	1	8	1	1	5,4	Training and awareness regarding littering. Provision of rubbish bags for inside vehicle when travelling.
5	Habitat loss (effect on fauna)	32	1	32	1	1	13,4	32	1	32	1	1	13,4	Due to the nature of the development, habitat loss will take place irrespective of mitigation measures. No natural vegetation will be lost as the site is transformed.

6	Soil erosion and sedimentation	8	1	8	1	2	4	8	1	4	1	1	3	Remain within the demarcated development footprint. Remain on access routes. Indiscriminate clearing of any area outside of the construction footprint must be avoided. Leave as much vegetation as possible. Adherence to the EMPr and implementation of Standard Management Procedures in terms of erosion and sedimentation. Method statement to be in place at on-site start up meeting to install erosion and sedimentation controls before work starts and maintain these features. Leave as much vegetation as possible. All cleared material on must either be stockpiled for topsoil appropriately on site/ disposed of in the correct manner.
7	Animal interaction/fatalities	2	2	1	1	1	1,4	2	2	1	1	1	1,4	Designation of no-go areas on site to be defined at on site start up meeting. Environmental awareness/training. Routine site compliance checks.
8	Aesthetic: Visual impact during construction of telecommunication mast/ tower - (Irrespective of mast design/Alternative 1 - 4)	32	2	32	1	1	13,6	16	1	1	1	1	4	EMPr must be enforced and monitored by the ECO. Contractor to restrict all activities, materials, personnel to within the area specified/demarcated. Construction material to be stored in areas designated by the site agent and in a neat and orderly manner. Contractor must ensure that all structures, equipment, materials and facilities used or created on site during construction activities are removed, to the satisfaction of the ECO, once the project has been completed. Construction only to take during normal working hours.
9	Resource use: water	32	2	32	1	1	13,6	32	1	32	1	1	13,4	Training and awareness regarding sound water use/management. Storm water management plan in place at on-site start up meeting. Ad hoc checks to ensure compliance in line with training and management plans/programmes.
10	Resource use: land	32	2	32	1	1	13,6	32	1	32	1	1	13,4	Training and awareness regarding land management on site. Ad hoc checks to ensure compliance in line with training and management plans/programmes.

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D ASPECT / ACTIVITY: Operation and Maintenance

No.	IMPACT	L/P	E/S	D/F	C: RE	C: T	Pre- Mitigation Score (Baseline)	L/P	E/S	D/F	C: RE	C: T	Post- Mitigation Score (Impact assessment)	Short Description of Mitigation Measures
1	Poor access control/fencing	32	1	32	1	1	13,4	2	1	8	1	1	2,6	Secure fencing of site to take place before any materials/equipment brought to site. Access to be controlled via locked gate and security services.
2	Littering	32	2	16	1	1	10,4	16	1	8	1	1	5,4	Training and awareness regarding littering. Provision of sufficient rubbish bins on site.
3	Habitat loss (effect on fauna)	32	1	32	1	1	13,4	32	1	32	1	1	13,4	Due to the nature of the development, habitat loss will take place irrespective of mitigation measures. No natural vegetation will be lost as the site is transformed.
4	Spreading of alien biodiversity (existing tall Pine trees on site)	32	2	32	1	1	13,6	1	1	8	1	1	2,4	Management measures as per the CARA Demarcation Permit which allows the land user to retain the pine trees on the site with the condition that that trees are managed and prevented from spreading from the demarcated area. Without the investigation of the proposed development, these pine trees would not have been managed and spreading would have occurred. Management includes: Young saplings must be removed from the soil using manual labour (i.e. hands) and can be left in-situ to decompose. The site must be inspected by the land user/owner every three months to ensure no new saplings have sprouted, New saplings to be removed manually immediately. Fallen pine cones to be controlled and stored in bags to prevent seeds from spreading. Pine cones can be sold/used for firewood or burned on site (to prevent seeds from spreading). Burning pine cones on site is the least recommended control mechanism. However, if pine cones are to be controlled in this manner, they must be collected and burned in a designated area and in a controlled and safe manner so not to cause a fire hazard - Consultation with the municipality with regards to permissible burning periods/season is required and correct authorisations must be obtained, if necessary. No herbicides to be used/ sprayed on site.

5	Aesthetic: Visual impact during - Alternative 2a - 25m Tree Mast (Trees remain)	16	2	32	1	1	10,4	16	2	8	1	1	5,6	Tall pine trees, in demarcated area, must remain on site for entire duration of proposed development life (up to decommissioning of telecommunications mast) i.e. the pine trees will not be removed through either deliberate, accidental or natural causes while the proposed telecommunications mast exists. Existing tall pine trees provide best visual absorption, regardless of mast type, however a tree mast will blend into the existing backdrop and will have the least visual impact (as per Appendix G). The EMPr must be enforced and monitored by the ECO. Contractor to restrict all activities, materials, personnel to within the area specified/demarcated. Construction material to be stored in areas designated by the site agent and in a neat and orderly manner. Contractor must ensure that all structures, equipment, materials and facilities used or created on site during construction activities are removed, to the satisfaction of the ECO, once the project has been completed. Construction only to take during normal working hours.
6	Aesthetic: Visual impact during - Alternative 2b - 25m Tree Mast (Trees removed)	32	2	32	1	1	13,6	32	2	32	1	1	13,6	Tree mast will not be camouflaged since it will be out of context. However, EMPr must be enforced and monitored by the ECO during construction and the applicant and landowner during operation. Contractor to restrict all activities, materials, personnel to within the area specified/demarcated. Construction material to be stored in areas designated by the site agent and in a neat and orderly manner. Contractor must ensure that all structures, equipment, materials and facilities used or created on site during construction activities are removed, to the satisfaction of the ECO, once the project has been completed. Construction only to take during normal working hours.

7	Aesthetic: Visual impact during construction - Alternative 3a - 25m Monopole Mast (Trees remain)	16	2	32	1	1	10,4	16	2	32	1	1	10,4	Keep existing tall pine trees on site (not removed). Existing tall pine trees provide best visual absorption, regardless of mast type. Applying a dark green or dark grey colour will compliment similar coloured landscape elements and further reduce the exposure level. EMPr must be enforced and monitored by the ECO during construction and by the applicant and landowner during operation. Contractor to restrict all activities, materials, personnel to within the area specified/demarcated. Construction material to be stored in areas designated by the site agent and in a neat and orderly manner. Contractor must ensure that all structures, equipment, materials and facilities used or created on site during construction activities are removed, to the satisfaction of the ECO, once the project has been completed. Construction only to take during normal working hours.
8	Aesthetic: Visual impact during construction - Alternative 3b - 25m Monopole Mast (Trees removed)	32	2	32	1	1	13,6	32	2	32	1	1	13,6	Applying a dark green or dark grey colour to the entire structure will compliment similar coloured landscape elements and further reduce the exposure level. Nonetheless, the mast will still be out of context. However, EMPr must be enforced and monitored by the ECO during construction and the applicant and landowner during operation. Contractor to restrict all activities, materials, personnel to within the area specified/demarcated. Construction material to be stored in areas designated by the site agent and in a neat and orderly manner. Contractor must ensure that all structures, equipment, materials and facilities used or created on site during construction activities are removed, to the satisfaction of the ECO, once the project has been completed. Construction only to take during normal working hours.

9	Aesthetic: Visual impact during construction - Alternative 4a - 25m Lattice Mast (Trees remain)	16	2	32	1	1	10,4	16	2	16	1	1	7,2	Keep existing tall pine trees on site (not removed). Existing tall pine trees provide best visual absorption, regardless of mast type. Applying a dark green or dark grey colour will compliment similar coloured landscape elements and further reduce the exposure level. EMPr must be enforced and monitored by the ECO during construction and by the applicant and landowner during operation. Contractor to restrict all activities, materials, personnel to within the area specified/demarcated. Construction material to be stored in areas designated by the site agent and in a neat and orderly manner. Contractor must ensure that all structures, equipment, materials and facilities used or created on site during construction activities are removed, to the satisfaction of the ECO, once the project has been completed. Construction only to take during normal working hours.
10	Aesthetic: Visual impact during construction - Alternative 4b - 25m Lattice Mast (Trees removed)	16	2	32	1	1	10,4	16	2	32	1	1	10,4	Applying a dark green or dark grey colour will compliment similar coloured landscape elements and further reduce the exposure level. EMPr must be enforced and monitored by the ECO. Contractor to restrict all activities, materials, personnel to within the area specified/demarcated. Construction material to be stored in areas designated by the site agent and in a neat and orderly manner. Contractor must ensure that all structures, equipment, materials and facilities used or created on site during construction activities are removed, to the satisfaction of the ECO, once the project has been completed. Construction only to take during normal working hours.
11	Erosion & Sedimentation Control (positive impact)													Remain within the demarcated development footprint. Remain on access routes. Indiscriminate clearing of any area outside of the construction footprint must be avoided. Leave as much vegetation as possible. Adherence to the EMPr and implementation of Standard Management Procedures in terms of erosion and sedimentation (during rain events). Method statement to be in place at on-site start up meeting to install erosion and sedimentation controls before work starts and maintain these features. Cleared areas to be rehabilitated must be revegetated with indigenous species, as far as possible.
12	Training/Skills transfer (positive impact)													
13	Local employment opportunities (positive impact)													
14	Socio-economic - increased cellular network coverage (cumulative positive impact)													Sharing of mast structure by various service providers (as per Applicant's business strategy) to provide increased coverage of telecommunication services.

E ASPECT / ACTIVITY: Decommissioning/Demolition

No.	IMPACT	L/P	E/S	D/F	C: RE	C: T	Pre- Mitigation Score (Baseline)	L/P	E/S	D/F	C: RE	C: T	Post- Mitigation Score (Impact assessment)	Short Description of Mitigation Measures
1	Poor access control/fencing	32	1	32	1	1	13,4	2	1	8	1	1	2,6	Secure fencing of site to take place before any materials/equipment brought to site. Access to be controlled via locked gate and security services.
2	Non adherence to demarcation of site footprint	32	2	8	1	1	8,8	32	1	4	1	1	7,8	Site clearly defined before any material/equipment arrives on site. Area to be within the footprint applied for as part of BAR. Routine site inspection for adherence to footprint.
3	Ablutions for site labour (non-adherence to designated areas)	32	2	32	1	4	14,2	16	1	16	1	1	7	Training and awareness regarding designated abluion areas and need for adherence. Provision of sufficient ablutions area in line with legal requirements on site Adherence to the EMPr and implementation of Standard Managent Procedures. Method statement to be in place.
4	Littering	32	2	16	1	1	10,4	16	1	8	1	1	5,4	Training and awareness regarding littering. Provision of rubbish bags for inside vehicle when travelling.
5	Habitat loss - effect on fauna (potential for habitat gain)	32	1	32	1	1	13,4	16	1	32	1	1	10,2	Due to the nature of the development, habitat loss had taken place irrespective of mitigation measures. No natural vegetation will be lost as the site is decomissioned. However, landscaping and re-vegetation with indigenous vegetation as much as possible will create potential habitat for indigenous fauna.
7	Soil erosion and sedimentation	8	1	8	1	2	4	8	1	4	1	1	3	Remain within the demarcated development footprint. Remain on access routes. Indiscriminate clearing of any area outside of the construction footprint must be avoided. Leave as much vegetation as possible Adherence to the EMPr and implementation of Standard Management Procedures in terms of erosion and sedimentation (during rain events). Method statement for erosion and sedimentation controls to be in place before deconstruction work starts. Landscape and re-vegetate with indigenous vegetation as much as possible.

8	Animal interaction/fatalities	2	2	1	1	1	1,4	2	2	1	1	1	1,4	Designation of no-go areas on site to be defined at on site start up meeting. Environmental awareness/training. Routine site compliance checks.
9	Aesthetic: Visual impact during decommissioning of telecommunication mast/tower	32	2	32	1		13,4	16	1	1	1	1	4	EMPr must be enforced and monitored by the ECO during construction and by applicant and landowner during operation, maintenance and decommissioning. Contractor to restrict all activities, materials, personnel to within the area specified/demarcated. Demolition material to be stored in areas designated by the site agent and in a neat and orderly manner. Contractor must ensure that all structures, equipment, materials and facilities used or created on site during demolition activities are removed, to the satisfaction of the applicant/competant authority, once the project has been completed.
10	Resource use: water	32	2	32	1	1	13,6	32	1	32	1	1	13,4	Training and awareness regarding sound water use/management. Storm water management plan in place at on-site decommissioning initiation meeting. Ad hoc checks to ensure compliance in line with training and management plans/programmes.
11	Resource use: land	32	2	32	1	1	13,6	32	1	32	1	1	13,4	Training and awareness regarding land management on site. Ad hoc checks to ensure compliance in line with training and management plans/programmes.
12	Resource use: hydrocarbons/fuels	32	2	32	1	16	16,6	32	2	32	1	2	13,8	Training and awareness regarding efficient fuel/hydrocarbon use. Ad hoc checks to ensure compliance in line with training and management plans/programmes.
13	Recycling of waste products where possible													
14	Potential leakage or spillage of water by runoff containing construction related substances such as cement/paint/oil/fuel etc soil & ground water	32	2	32	1	8	15	16	1	8	1	1	5,4	Cement/paint/oil/fuel or any hazardous substance to be used or stored on site, must adhere to the EMPr. Routine site and vehicle checks. Ensure all vehicles are in good working on. Prevent contamination of natural environment at all cost. In the event of a spill, prompt action must be taken to clear the polluted or affected areas.

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