

## INFORMATION ON THE METHODOLOGY ADOPTED IN THE ASSESSMENT OF IDENTIFIED IMPACTS

The methodology adopted for the assessment of identified impacts is the Impact Rating Matrix, which is explained below.

<b>NATURE:</b> The character of the impact			
<b>EXTENT</b>	<b>DURATION</b>	<b>PROBABILITY</b>	<b>MAGNITUDE</b>
Area	Time Frame	Likelihood	Intensity of impact to destroy or alter the environment.
<b>IRREPLACEABLE LOSS OF RESOURCES</b>	This describes the degree to which resources will be irreplaceably lost as a result of a proposed activity.		
<b>REVERSIBILITY</b>	This describes the degree to which an impact can be successfully reversed upon completion of the proposed activity		
<b>SIGNIFICANCE:</b> Implication of the impact both with or without mitigation			
<b>TYPE:</b> Description as to whether the impact is negative or positive or neutral.			
<b>MITIGATION:</b> Possible impact management, minimization, and mitigation of the identified impacts.			

### Nature of Impact

Nature of impact describes the character of the impact in terms of the effect on the relevant environmental aspect.

### Spatial Extent of Impact

Measures the area extent, physical and spatial scale over which the impact will occur. This implies the scale limited to the Project Site (footprint) - including adjacent areas, or the town and neighbouring areas (localized), or the Local Municipality area (regional) or the entire Province (Provincial), or the entire country (National) or beyond the borders of South Africa.

Criteria	Footprint/ Surroundings (F)	Site/Local (S-L)	Regional (R)	Provincial (P)	National and Beyond (International) (N)
Rating	1	2	3	4	5

### Duration of Impact

Duration measures the timeframe of the impact in relation to the lifetime of the project. It gives an assessment of whether the impact can be eliminated by mitigation immediately (0-1 year) after a short time (1-5 years), medium term (5-10 years), long term (11- 30 years of the Project activities), or permanent (persists beyond life) due to the Project activities.

Criteria	Temporary (T)	Short Term (ST)	Medium Term (MT)	Long Term (LT)	Permanent (P)
Rating	1	2	3	4	5

**Magnitude/Intensity of Impact**

Magnitude or intensity of the impact measures whether the impact is destructive or benign, whether it destroys, alters the functioning of the environment, or alters the environment itself. It is rated as insignificant, low, medium, high or very high.

Criteria	Very Low (VL)	Low (L)	Medium (M)	High (H)	Very High (VH)
Rating	2	4	6	8	10

**Irreplaceability of Natural Resources being impacted upon**

This describes the degree to which resources will be irreplaceably lost as a result of a proposed activity.

Criteria	Very Low (VL)	Low (L)	Moderate (M)	High (H)	Definite (D)
Rating	1	2	3	4	5

**Reversibility of Impact**

This describes the degree to which an impact can be successfully reversed upon completion of the proposed activity

Criteria	Reversible (R)	High Reversibility (HR)	Moderate Reversibility (MR)	Low Reversibility (LR)	Irreversible (IR)
Rating	1	2	3	4	5

**Probability of Impact**

Probability measures the probability or likelihood of the impact occurring, as either probable, possible, likely, highly likely or definite (impact will occur regardless of preventative measures).

Criteria	Probable (PR) (0-10%)	Possible (PO) (10-25%)	Likely (L) (25-50%)	Highly Likely (HL) (50-75%)	Definite (D) (75-100%)
Rating	1	2	3	4	5

## Significance of Impact

Significance measures the foreseeable significance of the impacts of the Project both with and without mitigation measures. The significance on the aspects of the environment is classified as:

<b>Significance Score (SS) =</b>	(Extent + Duration + Magnitude + Irreplaceability + Reversibility) x Probability
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**The Significance Score is then used to rate the Environmental Significance of each potential environmental impact with or without mitigation.**

Significance Score	Significance Rating	Description/ Criteria
125-150	<b>Very High</b>	the impact will result in large, permanent and severe impacts, such as local species extinction, minor human migrations or the local economy collapses; even projects with major benefits may not go ahead with this level of impact; project alternatives which are substantially different should be looked at, otherwise, the project should not be approved.
100-124	<b>High</b>	the impact will affect the environment to such an extent that permanent damage is likely, and recovery will be slow and difficult; the impact is unacceptable without significant mitigation efforts or reversal plans; project benefits must be proven to be very substantial; the approval of the project will be in jeopardy if this impact cannot be addressed.
75-99	<b>Medium-High</b>	the impact is significant and will affect the integrity of the environment; effort must be made to mitigate and reverse this impact; in addition, the project benefits must be clearly shown as outweighing the negative impact.
50-74	<b>Medium</b>	the impact will be noticeable but should be localised or occur over a limited time period and not cause permanent or unacceptable changes; it should be addressed in the EMPr and managed appropriately.
<50	<b>Low</b>	the impact should cause no real damage to the environment, except where it could contribute to cumulative impacts.
+	<b>Positive Impact</b>	A positive impact is likely to result in a beneficial consequences/effect and should therefore be viewed as a motivation for the development

IMPACT ASSESSMENT

PLANNING AND DESIGN PHASE

<b>ASPECT: Non-Compliance to applicable Environmental Legislation</b>		
<b>NATURE OF IMPACT: Continuation of the project without obtaining the necessary authorisation, licenses of permits in terms of the applicable legislation could result in continuation of illegal activities.</b>		
<b>Status (positive or negative)</b>	Negative	
	<b>Without Mitigation</b>	<b>With Mitigation</b>
<b>Extent</b>	Regional (3)	Regional (3)
<b>Duration</b>	Long term (4)	Temporary (1)
<b>Magnitude</b>	Very High (4)	Low (4)
<b>Irreplaceable loss of resources?</b>	High (4)	Low (2)
<b>Reversibility</b>	Low (4)	Reversible (1)
<b>Probability</b>	Definite (5)	Highly Likely (1)
<b>Significance</b>	High (95)	Medium (11)
<b>Can impacts be mitigated or augmented</b>	Yes	
<b>Mitigation:</b>		
<ul style="list-style-type: none"> <li>◇ Application for Environmental Authorisation and Water Use License in terms of National Environmental Management Act (Act 107 of 1998) and National Water Act (Act 36 of 1998), is in progress and commencement of the construction phase will only happen once the necessary authorisation and permits are granted.</li> <li>◇ Borrow pits that will be used to source construction material must have a Mining Permit/ Right in terms of Mineral Petroleum Resources Development Act (28 of 2002) and Environmental Authorisation in terms of NEMA, 1998 as amended or material must be obtained from a commercial quarry..</li> </ul>		
<b>Cumulative impacts:</b>		
None		
<b>Residual Impacts:</b>		
High		
<b>Discussion:</b>		
Should the municipality go ahead with the construction of the proposed pipeline across the watercourse without obtaining the necessary approvals from competent authorities, they will be in contravention of the applicable environmental legislation and this could result in an administration fine or jail term.		

**CONSTRUCTION PHASE:**

<b>ASPECT: SOCIO-ECONOMIC</b>		
<b>NATURE OF IMPACT:</b> Employment opportunities for the local community during the construction phase due to the current unemployment rate (economic impact)		
<b>Status (positive or negative)</b>	Positive	
	<b>Without Mitigation</b>	<b>With Mitigation</b>
<b>Extent</b>	Provincial (4)	Local (2)
<b>Duration</b>	Short term (2)	Short term (2)
<b>Magnitude</b>	Low (4)	Low (4)
<b>Irreplaceable loss of resources?</b>	Very Low (1)	Very Low (1)
<b>Reversibility</b>	Irreversible (5)	Irreversible (5)
<b>Probability</b>	Probable (2)	Highly Likely (4)
<b>Significance</b>	Low (32)	Medium (70)
<b>Can impacts be mitigated or augmented</b>	Yes	
<p><b>Mitigation:</b>                      No mitigation is required because it is a positive impact, however, it can be augmented by the following:</p> <ul style="list-style-type: none"> <li>◇ Local labourers, especially from the affected and Small, Medium, and Micro Enterprises should be utilized to a greater extent and recruitment should consider gender equality in mind.</li> <li>◇ Workforce should include youth, women, and the disabled. Expanded Public Works Programme targets should be met.</li> <li>◇ Labour-intensive construction methods should be adopted where possible.</li> <li>◇ Community Liaison Officer should be appointed, and Community Project Steering Committee established prior to construction to ensure that all social issues are resolved, and the project does not result in any delays due to unresolved social issues, e.g., recruitment of local labourers, sourcing of material, etc.</li> <li>◇ Appropriate and accredited training should be provided as well as skills development for the local sub-contractors to improve their CIBD grading level.</li> </ul>		
<p><b>Cumulative impacts:</b>                      Yes</p>		
<p><b>Residual Impacts:</b>                      The general workers would have gained experience and skill to work in similar projects in the future and the Construction Industry Development Board grading level of local sub-contractors will improve.</p>		
<p><b>Discussion:</b>                      It is important to involve the CLO, CPSC, and Ward Councillor during labour recruitment. A skills audit must be undertaken to determine the training that could be offered to the general workers. It is important that the contractor only uses skilled labourers from other areas if they are not available locally. There should be a database of local sub-contractors that will be empowered from this project detailing how they were empowered.</p>		

ASPECT: FLORA		
<b>NATURE OF IMPACT:</b> Destruction of riparian vegetation due to clearance on the watercourse including its banks.		
<b>Status (positive or negative)</b>	Negative	
	<b>Without Mitigation</b>	<b>With Mitigation</b>
<b>Extent</b>	Local (2)	Local (2)
<b>Duration</b>	Long Term (4)	Long Term (4)
<b>Magnitude</b>	Very Low (2)	Very Low (2)
<b>Irreplaceable loss of resources?</b>	Low (2)	Low (2)
<b>Reversibility</b>	Low (4)	Low (4)
<b>Probability</b>	Moderate (3)	Possible (2)
<b>Significance</b>	Low (42)	Low (28)
<b>Can impacts be mitigated or augmented</b>	Yes	
<b>Mitigation:</b>		
<ul style="list-style-type: none"> <li>◇ Vegetation clearance must be restricted to the linear development footprint</li> <li>◇ Construction must take place during the dry season.</li> <li>◇ The degree and duration of the construction impacts of the proposed development on the watercourse must be minimised as far as practically possible.</li> <li>◇ Adequately cordon off the proposed development construction footprint area and ensure that the construction machinery and equipment are within the proposed construction footprint area and to ensure environmentally responsible construction practices and activities.</li> <li>◇ No unnecessary/unauthorised footprint expansion into the surrounding undeveloped area must take place.</li> <li>◇ Disturbed areas within and immediately surrounding the proposed development footprint associated with the watercourse crossing, must be adequately rehabilitated, as soon as practicably possible/feasible after construction</li> </ul>		
<b>Cumulative impacts:</b>		
Low		
<b>Residual Impacts:</b>		
Limited		
<b>Discussion:</b>		
<p>Although there is no riparian vegetation growth on the watercourse, the contractor must ensure that the construction activities including movement of the construction machinery and vehicles are confined to the development footprint to lessen the impact on the ecological characteristics of the watercourse. Indiscriminate destruction of the riparian and surrounding terrestrial vegetation must be avoided. Rehabilitation including clean-up and reinstatement of the environment in all disturbed areas must be implemented before construction leaves the site. Due to the permanent nature of the development, the transformation will be limited to the development footprint.</p>		

ASPECT: SOIL EROSION		
<b>NATURE OF IMPACT:</b> Clearing of vegetation and earthmoving activities could result in accelerated soil erosion.		
<b>Status (positive or negative)</b>	Negative	
	<b>Without Mitigation</b>	<b>With Mitigation</b>
<b>Extent</b>	Local (2)	Local (2)
<b>Duration</b>	Long Term (4)	Short Term (2)
<b>Magnitude</b>	Very Low (2)	Very Low (2)
<b>Irreplaceable loss of resources?</b>	Moderate (3)	Very Low (1)
<b>Reversibility</b>	High (2)	High (2)
<b>Probability</b>	Low (2)	Probable (1)
<b>Significance</b>	Low (26)	Low (9)
<b>Can impacts be mitigated or augmented</b>	Yes	
<b>Mitigation:</b> <ul style="list-style-type: none"> <li>◇ Vegetation clearance and excavations must be restricted to the development footprint to minimize the exposure of bare soil.</li> <li>◇ Adequate Stormwater and Erosion Management measures must be implemented for the proposed sewer bridge area in order to sufficiently manage stormwater runoff to prevent any significant erosion from occurring. These include measures to stabilize riverbank within disturbed areas as well as areas subject to perpetual present erosional features making use of geotextiles, silt traps, or silt fences along areas with steep slopes and gabions in areas that suffer greater erosional impacts.</li> <li>◇ ECO must routinely inspect erosion management features for functionality.</li> <li>◇ Stockpile of topsoil must be kept litter and weed free and there must be no walking, driving and storing of any equipment to avoid flattening. They must be protected from wind, air and traffic.</li> <li>◇ All excavations must be filled and rehabilitated before construction moves off site to abate channel and gully formation.</li> <li>◇ Disturbed areas within and immediately surrounding the proposed development area associated with the watercourse must be adequately rehabilitated.</li> </ul>		
<b>Cumulative impacts:</b> Low		
<b>Residual Impacts:</b> Limited		
<b>Discussion:</b> Routine inspection of the construction area must be done to ensure that any signs of erosion are attended to. The topsoil must be preserved for use during rehabilitation of the disturbed areas so as to enhance natural revegetation.		

ASPECT: ALIEN INVASIVE SPECIES		
<b>NATURE OF IMPACT: Spread of alien invasive species</b>		
<b>Status (positive or negative)</b>	Negative	
	<b>Without Mitigation</b>	<b>With Mitigation</b>
<b>Extent</b>	Regional (3)	Local (2)
<b>Duration</b>	Long Term (4)	Medium Term (3)
<b>Magnitude</b>	Low (4)	Very Low (2)
<b>Irreplaceable loss of resources?</b>	Medium (3)	Low (2)
<b>Reversibility</b>	Moderate (3)	High (2)
<b>Probability</b>	High (4)	Probable (1)
<b>Significance</b>	Medium (68)	Low (11)
<b>Can impacts be mitigated or augmented</b>	Yes	
<b>Mitigation:</b>		
<ul style="list-style-type: none"> <li>◇ Construction activities must be limited to the development footprint.</li> <li>◇ All the identified alien invasive species individuals must be actively eradicated from the assessment area and adequately disposed of in accordance with the National Environmental Biodiversity Act (Act 10 of 2004); Alien and Invasive Species Regulations, 2014.</li> <li>◇ Adequate Alien Invasive Species Establishment Management and Prevention Plan compiled by a suitably qualified and experienced Ecologist must be implemented during the construction and operational phase.</li> <li>◇ Areas within and immediately surrounding the proposed development footprint must be adequately rehabilitated as soon as practicably possible after construction in order to prevent significant alien invasive species establishment.</li> <li>◇ Routine monitoring must be undertaken to control the spread of invasive species.</li> </ul>		
<b>Cumulative impacts:</b>		
Low		
<b>Residual Impacts:</b>		
Limited		
<b>Discussion:</b>		
The disturbance of soils will enhance the growth and recruitment of exotic and pioneering vegetation, therefore, the construction site must be kept weed and alien invasive species free because if there is an infestation, it could spread to the surrounding undeveloped areas.		



ASPECT: WATER QUALITY OF THE WATERCOURSES		
<b>NATURE OF IMPACT: Contamination of the watercourse due to construction activities.</b>		
<b>Status (positive or negative)</b>	Negative	
	<b>Without Mitigation</b>	<b>With Mitigation</b>
<b>Extent</b>	Regional (3)	Regional (3)
<b>Duration</b>	Short Term (2)	Short Term (2)
<b>Magnitude</b>	Low (4)	Medium (6)
<b>Irreplaceable loss of resources?</b>	Moderate (3)	Low (2)
<b>Reversibility</b>	Low (4)	Medium (3)
<b>Probability</b>	High (4)	Possible (2)
<b>Significance</b>	Medium (64)	Low (32)
<b>Can impacts be mitigated or augmented</b>	Yes	
<b>Mitigation:</b> <ul style="list-style-type: none"> <li>◇ Implement an adequate Stormwater and Erosion Management Plan to sufficiently manage stormwater runoff and clean/dirty water separation.</li> <li>◇ If hydrocarbons or other chemicals are to be stored on site during the construction phase, the storage areas must be situated as far away as practicably possible from the watercourse.</li> <li>◇ The storage areas must be adequately bunded in order to be able to contain a minimum of 150% of the capacity of the storage tanks/units.</li> <li>◇ Adequate hydrocarbon and other chemical storage, handling, usage, and emergency spill procedures must be developed, and accidental spills must be reported and cleaned immediately. Contaminated soils must be removed and disposed of at a registered disposal site. All relevant construction personnel must be sufficiently trained on- and apply these procedures during the entire construction phase.</li> <li>◇ The construction equipment and machinery must be properly maintained and serviced.</li> <li>◇ Erosion control of disturbed areas must be implemented to avoid silts entering into the aquatic habitat and impacting water quality downstream of the site.</li> <li>◇ No dumping of rubble or excess material must take place within the watercourse.</li> <li>◇ General waste must be collected in drum containers and disposed of weekly or when full at the Ladybrand solid waste site. No dumping of waste is allowed within the watercourse.</li> <li>◇ If ready mix concrete is not to be used, concrete mixing must be done on impermeable surfaces at designated areas and no concrete mixing would be allowed within the watercourse. All visible remains of concrete must be physically removed as soon as possible and disposed to a suitable site. All used cement bags should be properly disposed of after emptying.</li> </ul>		
<b>Cumulative impacts:</b> High		
<b>Residual Impacts:</b> Limited		

**Discussion:**

The municipality must take immediate steps to locate and remediate the sources of the continued raw sewage contamination of the watercourse to minimise cumulative impact on the deterioration of the water quality. Water quality deterioration as a result of siltation of the watercourse through erosional features, fluid leaks, poor waste management, is a common issue for construction projects taking place within watercourses, therefore, the contractor must ensure that workforce including sub-contractor are trained on measures to be implemented so as to lessen the impact. Good construction practices must be in place to ensure the ecological functionality and integrity of the catchment is maintained post-construction.

<b>ASPECT: DISTURBANCE OF THE WATERCOURSE CHARACTERISTICS AND IMPEDING WATER FLOW</b>		
<b>NATURE OF IMPACT: Impeding and diverting water flow of the Sand River.</b>		
<b>Status (positive or negative)</b>	Negative	
	<b>Without Mitigation</b>	<b>With Mitigation</b>
<b>Extent</b>	Regional (3)	Regional (3)
<b>Duration</b>	Short Term (2)	Short Term (2)
<b>Magnitude</b>	Medium (6)	Medium (6)
<b>Irreplaceable loss of resources?</b>	High (4)	Low (2)
<b>Reversibility</b>	Medium (3)	High (2)
<b>Probability</b>	High (4)	Possible (2)
<b>Significance</b>	Medium (72)	Low (30)
<b>Can impacts be mitigated or augmented</b>	Yes	
<b>Mitigation:</b>		
<ul style="list-style-type: none"> <li>◇ A water use license must be obtained from the Department of Water and Sanitation in accordance with the National Water Act (Act 36 of 1998).</li> <li>◇ Construction must be commenced during dry season as the watercourse is seasonal to minimize the need for impeding water flow.</li> <li>◇ Adequate stormwater measures must be implemented during the construction and operation phase to ensure the continued flow of the watercourse.</li> <li>◇ The pipeline must be placed over the watercourse and only the columns of the steel pipe bridge will be within the watercourse.</li> <li>◇ Any material used to impede or divert the water flow must be removed immediately when the construction of the sewer pipe bridge is completed.</li> <li>◇ No dumping of rubble or excess building material should take place within the watercourse including the riparian zones.</li> <li>◇ The construction footprint must be adequately rehabilitated as soon as practicably possible after construction in order to ensure the continued flow and subsequent ecological functionality and integrity of the watercourse and wetland.</li> <li>◇ A Rehabilitation Management Plan must be developed for this by a suitably qualified and experienced Ecologist.</li> </ul>		
<b>Cumulative impacts:</b>		
Low		
<b>Residual Impacts:</b>		
Limited		

**Discussion:**

There should be no hinderance to the water flow post construction as there will be a single watercourse crossing. Therefore, all the material that was introduced to impede or divert the water flow must be removed. Continuation of construction without a Water Use License is a transgression to the National Water Act, 1998.

ASPECT: TRAFFIC IMPACT		
NATURE OF IMPACT: Impact on the traffic flow on the Municipal Road		
Status (positive or negative)	Negative	
	Without Mitigation	With Mitigation
<b>Extent</b>	Local (2)	Local (2)
<b>Duration</b>	Temporary (1)	Temporary (1)
<b>Magnitude</b>	High (8)	Low (4)
<b>Irreplaceable loss of resources?</b>	Very Low (1)	Very Low (1)
<b>Reversibility</b>	Reversible (1)	Reversible (1)
<b>Probability</b>	Likely (3)	Possible (2)
<b>Significance</b>	Low (39)	Low (18)
<b>Can impacts be mitigated or augmented</b>	Yes	
<b>Mitigation:</b>		
<ul style="list-style-type: none"> <li>◇ Traffic management plan should be compiled prior to construction activities.</li> <li>◇ Compliance with traffic control regulations should be mandatory.</li> <li>◇ Only drivers with valid licenses must be allowed to drive on the construction site and operate the equipment they are licensed for.</li> <li>◇ Road users must be notified timeously of any delays.</li> <li>◇ In the event of abnormal vehicles, the local Department of Traffic must be notified timeously.</li> </ul>		
<b>Cumulative impacts:</b>		
Low		
<b>Residual Impacts:</b>		
None		
<b>Discussion:</b>		
The movement of construction vehicles must be effectively managed in a way that other road users are alerted of any impact on the traffic flow so as to avoid any incidences/accidents.		

<b>ASPECT: HERITAGE ARTEFACTS</b>		
<b>NATURE OF IMPACT: Destruction of Heritage Artefacts during by construction activities.</b>		
<b>Status (positive or negative)</b>	Negative	
	<b>Without Mitigation</b>	<b>With Mitigation</b>
<b>Extent</b>	Regional (3)	Local (2)
<b>Duration</b>	Permanent (5)	Temporary (1)
<b>Magnitude</b>	High (8)	Low (4)
<b>Irreplaceable loss of resources?</b>	Definite (5)	Low (2)
<b>Reversibility</b>	Irreversible (5)	High (2)
<b>Probability</b>	Highly Likely (4)	Possible (2)
<b>Significance</b>	High (104)	Low (22)
<b>Can impacts be mitigated or augmented</b>	Yes	
<ul style="list-style-type: none"> <li>◇ A Paleontologist must be appointed to monitor excavations on the entire pipeline route.</li> <li>◇ Should the contractors make any archaeological, geological, or paleontological findings, it must be reported to the Resident Engineer and an archaeologist and/or archaeologist should confirm the findings. SAHRA should be informed of the findings within 24 hours. Construction work must not proceed if it will cause damage to such findings. Unauthorized persons may not remove artefacts or cultural or historical importance from the site.</li> </ul>		
<b>Cumulative impacts:</b>		
Low		
<b>Residual Impacts:</b>		
Limited		
<b>Discussion:</b>		
The contractor must work diligently and train the workforce so that the understand the process that needs to be followed in case there is unearthing of Archaeological, Palaeontological Artefacts or human remains during earthmoving activities.		

ASPECT: HEALTH AND SAFETY		
NATURE OF IMPACT: Impact on the health and safety of the workers and neighbouring land users		
Status (positive or negative)	Negative	
	Without Mitigation	With Mitigation
Extent	Local (2)	Local (2)
Duration	Temporary (1)	Temporary (1)
Magnitude	Medium (6)	Low (4)
Irreplaceable loss of resources?	Low (2)	Low (2)
Reversibility	Low (4)	Moderate (3)
Probability	Highly Likely (4)	Possible (1)
Significance	Medium-High (76)	Low (12)
Can impacts be mitigated or augmented	Yes	
<b>Mitigation:</b>		
<ul style="list-style-type: none"> <li>◇ The construction site must adhere to the Occupational Health and Safety Act (Act 85 of 1993)</li> <li>◇ The Contactor must provide employees with suitable equipment to protect them from hazards being presented and that will allow them to work without risk to their health in a hazardous environment, e.g. hard hats, gloves, boots, etc.</li> <li>◇ An emergency preparedness plan should be compiled and approved by the resident engineer and ECO before construction commences. A list of all emergency telephone numbers, i.e. fire, ambulance, safety officer, etc. should be available all the time at the construction site.</li> <li>◇ A medical first aid kit should be available on-site for the duration of the project.</li> <li>◇ Safety nets/danger tapes must be placed around excavations.</li> <li>◇ Pedestrian management measures must be in place to ensure free-flowing of movement between Manyatseng and Ladybrand.</li> <li>◇ Warning signage must be in place to alert the public of the dangers of undergoing construction activities.</li> <li>◇ Construction site must be secured against unauthorized access.</li> </ul>		
<b>Cumulative impacts:</b>		
None		
<b>Residual Impacts:</b>		
None		
<b>Discussion:</b>		
There is a constant movement of people between Ladybrand and Manyatseng, therefore, good construction practices must be in place to ensure the safety of the public and also not subject the workers to working conditions that are harmful to their health and well-being.		

**Operational Phase**

No impacts were assessed for the operation phase because if all the recommended mitigation measures for the construction phase are adequately implemented and managed, it should prove sufficient in preventing any continued impeding of or significant impact of the local and Quaternary surface water catchment and drainage area. Stormwater and Erosion Management and control of alien invasive species.

**No-Go Option**

ASPECT: NO PROVISION OF WATER SUPPLY TO MANYATSENG RESIDENTS		
<b>NATURE OF IMPACT:</b> Inability for the municipality to provide adequate water supply to the Manyatseng residents.		
<b>Status (positive or negative)</b>	Negative	
	<b>Without Mitigation</b>	<b>With Mitigation</b>
<b>Extent</b>	Regional (4)	Local (2)
<b>Duration</b>	Long term (2)	Short term (2)
<b>Magnitude</b>	High (8)	Low (4)
<b>Irrepl loss of resources?</b>	High (4)	Low (2)
<b>Reversibility</b>	N/A	N/A
<b>Probability</b>	Definite (5)	Possible (2)
<b>Significance</b>	Medium-High (90)	Medium (20)
<b>Can impacts be mitigated or augmented</b>	Yes	
<b>Mitigation:</b> ◇ The proposed development should go ahead as planned to enable the municipality to provide a reliable and adequate water supply.		
<b>Cumulative impacts:</b> High		
<b>Residual Impacts:</b> Limited		
<b>Discussion:</b> Should the proposed project not go ahead as planned, the municipality would not be able to provide water services to the Manyatseng area, and this could result in social unrest as water shortage challenges will not be addressed. Therefore, this is deemed as not a feasible option because it would hinder the municipality's plans to improve bulk water reticulation thus ensuring sustainable provision of potable water.		