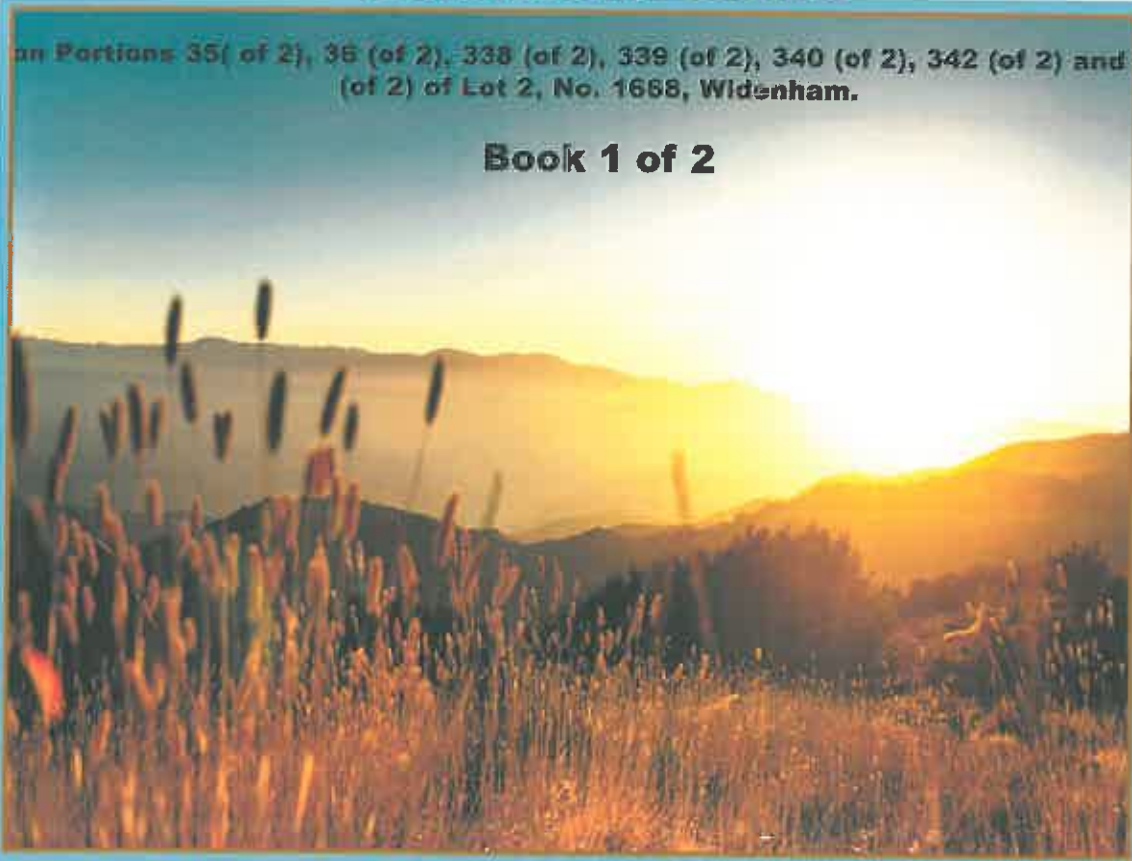


**FINAL BASIC ASSESSMENT AND
ADDENDUM TO BASIC ASSESSMENT AS
REQUESTED BY KZN DEPARTMENT OF
AGRICULTURE & ENVIRONMENTAL
AFFAIRS**

Widenham Stand

on Portions 35 (of 2), 36 (of 2), 338 (of 2), 339 (of 2), 340 (of 2), 342 (of 2) and 343
(of 2) of Lot 2, No. 1668, Widenham.

Book 1 of 2



DM/0147/08

DECEMBER 2013



**BOKAMOSO
LANDSCAPE ARCHITECTS &
ENVIRONMENTALCONSULTANTS
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MAROELANA
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APPENDIXES

Appendix A

Site Plan (Lay-out Plan)

- Figure 1 – Locality Map
- Figure 2 – Aerial Map
- Figure 3 – Layout of Stands
- Figure 4 – Proposed Units along the periphery of the Study Area
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- Figure 8 - Surrounding Road Network Map
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- Appendix 1 – Proposed Development Concept
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Appendix D

Specialist Reports

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- Appendix 4 – Sewage Disposal Management Report
- Appendix 5 - Report in Consideration of the Layout in Terms of the Potential Impacts on the Wetland Areas
- Appendix 6 – Wetland and Open Space Rehabilitation Plan

Appendix E - Public Participation Information

Appendix 1 – Issues and Responses Report

Appendix 2 – Proof of site notice

Appendix 3 – Proof of newspaper advertisements

Appendix 4 – Written notices issued to stakeholder, authorities & Surrounding residents

Appendix 5 - Copy of the register of I&AP's

Appendix 6 – Comments raised at the public and or stakeholders meetings

Appendix 7 - Communications to and from persons

Appendix 8– Comments from I&Aps on Basic Assessment (BA) Report

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Appendix 10 – Comments From DWA and other stakeholders on the Draft Basic Assessment Report

Appendix F - Information in Support of Applications for Exemption

Appendix G - Specialist Reports

Appendix 1 – Feedback Letter Received From the Appointed Town and Regional Planners

Appendix 2 – Details of Alternative Processes and Other Alternatives that were Assessed

Appendix 3 – Alternative 2

Appendix H - Environmental Management Plan (EMP)



KZN Agriculture and Environmental Affairs
Mnyango: eZolimo neZemvelo
SIFUNDAZWE SAKWAZULU-NATALI

Private Bag X9059
PIETERMARITZBURG 3200

Basic Assessment Report
In terms of the
Environmental Impact Assessment Regulations, 2006

Kindly note that:

1. This basic assessment report meets the requirements of regulation 23 of the EIA Regulations, 2006 and is meant to streamline applications.
2. The report must be typed within the spaces provided in the form. The size of the spaces provided is not necessarily indicative of the amount of information to be provided. The report is in the form of a table that can extend itself as each space is filled with typing.
3. Where applicable tick the boxes that are applicable or black out the boxes that are not applicable in the report.
4. An incomplete report may be returned to the applicant for revision.
5. The use of "not applicable" in the report must be done with circumspection because if it is used in respect of material information that is required by this department for assessing the application, it may result in the rejection of the application as provided for in the regulations.
6. The report must be compiled by an independent environmental assessment practitioner.
7. Unless protected by law, all information in the report will become public information on receipt by this department. Any interested and affected party should be provided with the information contained in this report on request, during any stage of the application process.
8. This department may require that for specified types of activities in defined situations only parts of this report need to be completed. In addition, if it is clear to the EAP that because of the particular circumstances of the case it is not sensible to complete any of the sections indicated under paragraph 3 of this report, he or she may apply for exemption from completing that part of the report in the spaces provided in the report. It must however be noted that if the application for exemption is turned down, the report may have to be resubmitted.
9. No faxed or e-mailed reports will be accepted.
10. This application must be handed in or posted to the appropriate Regional Office of the KwaZulu-Natal Department of Agriculture and Environmental Affairs at one of the following addresses:

- **FOR APPLICATIONS IN NORTHERN KWAZULU-NATAL** (Amajuba, Umkhanyakude, Uthungulu, Umzinyathi and Zululand District Municipalities)

Environment: North Region
KwaZulu Natal Department of Agriculture and Environmental Affairs
Private Bag X1048
RICHARDS BAY
3900

4th Floor ABSA Building
Lakeview Terrace
RICHARDS BAY

Contact Person: Ms Zama Mbanjwa
Telephone No.: (035) 780 6706

| | | |
|---|--|--------------|
| Department of Agriculture & Environmental Affairs, KwaZulu-Natal | Basic Assessment Report Version 3, January 2007 | Page 1 of 94 |
|---|--|--------------|

- **FOR APPLICATIONS IN SOUTHERN KWAZULU-NATAL** (Ethekwini Metro and Iembe, Sisonke, Ugu, Umgungundlovu and Uthukela District Municipalities):

Environment: South Region
KwaZulu-Natal Department of Agriculture and Environmental Affairs
Private Bag X6005
HILTON
3245

A Block
4 Pin Oak Avenue
HILTON

Contact Person: Ms Mavis Padyachee
Telephone No.: (033) 343 3428

COMPLETION OF THIS REPORT

Please indicate the numbers of the sections of this report that have not been completed:

| | | | | | | | | | | | | |
|------------|------|------|------|------|------|------|------|------|------|------|------|----|
| Section B: | 8(a) | 8(b) | 8(c) | 8(d) | 7 | 8 | 8(c) | 8(e) | 8(f) | 8(g) | 8(h) | 11 |
| Section C: | 1 | 2 | 3 | 4 | 5 | 6 | | | | | | |
| Section D: | 1(a) | 1(b) | 1(c) | 1(d) | 1(f) | 1(g) | 3 | | | | | |

Provide detailed reasons for not completing the sections indicated:

| Section | Reasons for not completing |
|---------|----------------------------|
| | |

SECTION A: APPLICATION FOR EXEMPTION

Please provide details regarding any application for exemption from the requirements of the EIA Regulations, 2006:

| | | |
|---|-----|---------|
| Has an application for exemption been submitted to the Department? | YES | NO X |
| Has an Exemption Notice in respect of an application for exemption been issued? | YES | NO X |
| Is a copy of the Exemption Notice attached to this report? | YES | NO X |

SECTION B: ACTIVITY INFORMATION

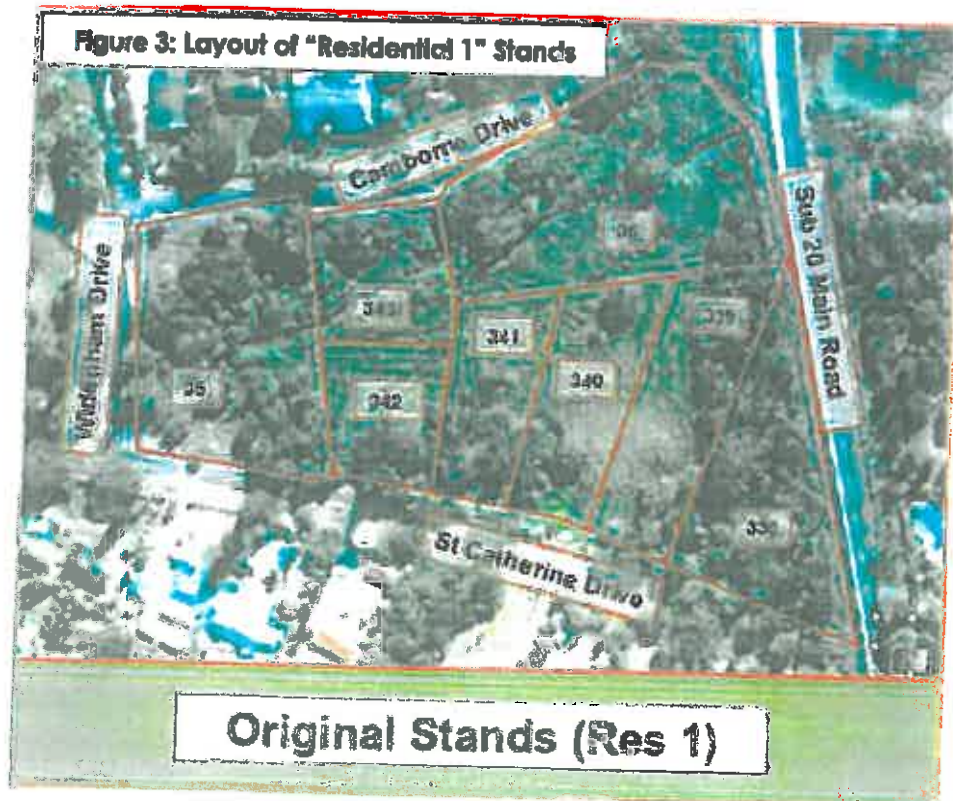
1. ACTIVITY DESCRIPTION

Describe the activity, which is being applied for in detail (A1):

CCCT Family Trust is applying for the establishment of a proposed Township to be known as Widenham Stand, on Portions 35 (of 2), 36 (of 2), 338 (of 2), 339 (of 2), 340 (of 2), 342 (of 2) and 343 (of 2) of Lot 2, No. 1668, Widenham, situated within the Area of Jurisdiction of the eThekweni Local Municipality. (See Appendix A - Figure 1: Locality Map, Figure 2: Aerial Map and Figure 3: Layout of Stands).

The proposed application site is wedged in between 4 roads. Widenham Road forms the western boundary of the study area, Camborne Road forms the northern boundary and St. Catherine Road forms the southern boundary. The Umkomaas Golf Course is situated further to the south, the R102 road, which is used to act as a link road between coastal towns such as Scottburgh and Umkomaas runs along the eastern boundary of the application site. Large sections of this road have however been severely damaged by flooding and such damage caused major interruptions in the continuity of this internal link road, which was often used as picturesque alternative to the N2 freeway that runs inland (mainly in a south-north direction), west of the study area.

The study area is approximately 2, 0144 Hectares in extent. Currently the application site is sub-divided into eight separate erven, which is zoned "residential 1".

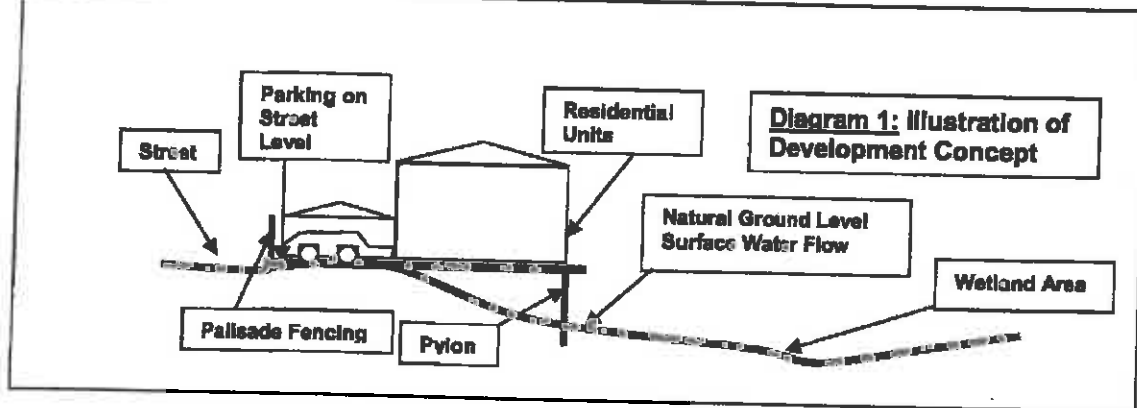


It is however proposed (in the preferred development proposal) to consolidate the eight separate erven into one big property and to concentrate the development along the periphery of the proposed application site. Refer to Figure 4 below. Such peripheral development will not only aim to avoid the wet areas on the site, but it will also limit the ecological footprint to the sections of the study area that are most affected by the "edge effect" and that are mainly situated within the wetland buffer or the seasonal wetland areas.

The proposed structures to be developed on the site will consist of 8 blocks. The ecological footprint of these units will be limited and the parking for the units will also be provided along the periphery of the property. Where required, the units and the parking areas will be elevated above ground level by means of pylons.



Diagram 1: Illustration of Development Concept



This will prevent unnecessary cutting and filling exercises within the wetland areas and the wetland buffer zones, especially in the areas with steeper slopes towards the wetland and historical drainage line in centre of the study area. **See Diagram 1 above for illustration of Development Concept**

In order to allow for uninterrupted views onto the green strip in the central section of the study area, visual axis will be provided in between the proposed residential blocks. The surrounding community will not only be able to enjoy views onto the green strip, but the community will also be allowed to take recreational strolls through the site, which will be fenced by black permeable palisade fencing for security purposes. Access onto the property will be monitored and the applicant is willing to put an effective system (i.e. the provision of remotes to the surrounding residents that want to make use of the open space) in place in order to provide such residents with safe and free access to the green area. The palisade fence will also allow for the movement of smaller faunal species onto and from the study area through the provision of a special faunal gate.

The central green area, which is traversed (from east to west) by the canalized Widenham Stream and which currently has medium ecological sensitivity, but high ecological potential, will remain undeveloped and will be rehabilitated to function as important storm water attenuation facility within the catchment area, storm water purifier, attractive passive recreation area for the residents of the development and the surrounding community, habitat creator for various indigenous and preferably endemic fauna and flora species and valuable ecosystem within the larger continuous regional open space system to which it is connected. The rehabilitation of the green areas will also include the eradication of exotic invaders (including *Pennisetum clandestinum*) and weeds on a continuous basis.

At present the canalized storm water is concentrated to flow along the northern boundary of the study area. The existing canal does not cater effectively for flooding and it incorporates no silt traps or flood attenuation measures. The applicant's proposal provides for an improved storm water attenuation facility through the central portion of the study area, which distributes storm water evenly across the entire green strip. The proposed residential units will not be influenced by the flood line, because such units will be elevated, by means of raised platforms with pillars that will allow for free storm water flow around the units and that will elevate the units out of flood areas. The concept for the proposed improved storm water attenuation facility

on the study area has been work shopped during integration meetings between the ecologist/ wetland specialist and the storm water engineer. This discipline integration allows for a "green" and more sustainable storm water approach that will not only be beneficial to the study area, but also to the larger regional open space system to which it is connected.

As already mentioned, the purpose of the application is to establish a township comprising of 1 Erf for Residential purposes which will accommodate 8 clustered residential blocks (with footprints that are similar to the footprint sizes of the residential 1 units originally proposed on the separate stands on the property).

The proposed ecological footprint will cover approximately 33% (one third) of the study area and therefore it is recommended that at least one third of the monthly levies to be paid by the home/unit owners be allocated for on-going rehabilitation and maintenance of the wetland area.

Original Development Concept:

The involved town and regional planners and marketing team of the applicant originally recommended that the 54 units be constructed with the following development control measures:

Coverage: 30%

Height: 3 Storeys

FAR: 0.3

63 Open parking bays and 63 covered parking bays would have been provided on the site (2 parking bays per unit) with an additional 32 open bays for visitors (0, 5 parking bays per unit).

The reason why the 54 units were regarded as ideal is due to the fact that the study area will require a significant amount of rehabilitation and maintenance work during the construction an operational phases and more units will make the rehabilitation and maintenance works more affordable.

Viability Calculations:

At least two permanent workers at minimum salaries of approximately R 4 000.00 per month each (R 8 000.00) and one site supervisor with a salary of at least R 2 000.00 per month (on a part time basis) will be required for the on-going monthly maintenance and rehabilitation works. At least R 1 500.00 per month must be allowed for the purchasing of equipment, fertilisers, plants etc. The maintenance and rehabilitation works will amount to approximately R 12 500.00 per month.

If the monthly levy to be paid by each unit owners is R 600.00, the total amount of money available for the monthly rehabilitation works, maintenance of the wetlands, maintenance of the formal gardens, maintenance and operation of the sewage system, other general maintenance and security provisions will amount to approximately R 32 400.00. If a third of the levies paid is allocated to wetland rehabilitation and maintenance works, only R 10 800.00 and not R 12 500.00 per month will be available for such works. It is however foreseen that it will be possible to do sufficient rehabilitation and maintenance works for

approximately R 10 800.00 per month if such maintenance and rehabilitation works are well planned and managed.

The remainder of the monthly levies raised namely R 21 600.00 will then be utilised for the other services required. At the stage the estimated service fees are as follows:

Security – R 12 000.00 per month;

General building and garden maintenance – R 5 000.00 per month;

Sewage System Maintenance and Operation – R 5 000.00 per month

This amounts to R 22 000.00 and the financial provisions were conservatively calculated.

On order to achieve the 54 units, it will be necessary for the Town and Regional Planners to apply for 3 storeys and not 2 storeys as prescribed by the local authority for developments in the area. The appointed Town and Regional Planners discussed the possibility of a development with 3 storeys (with coverage and FAR as set out above) with the Town Planning Division of the local authority, but the local authority indicated that the institutional framework of the area only allows for 2 storey developments and it was indicated that the Town Planning Division will not consider it at this stage to approve developments that are in conflict with the planning frameworks and policies for the area. **Refer to Appendix C (f) for feedback letter received from the appointed Town and Regional Planners which confirms the preliminary discussions with the Town Planning Section of the Local Authority.**

The option of increasing the ecological footprint in order to accommodate more units was also considered, but from an ecological point of view the larger footprint could have a detrimental impacts on the storm water management and ecological integrity of the study area and therefore this was not regarded as a viable option.

The Proposed/ Preferred Alternative (The alternative recommended in this Basic Assessment):

According to the Town and Regional Planners the Town Planning Section will only consider it to support an 8 block development with 2 storeys. If the 8 blocks are designed to accommodate 4 units each, the total number of units proposed will amount to 32 residential units. **According to the feasibility studies conducted 32 units are the absolute minimum required for a viable and sustainable project.**

The maintenance and rehabilitation works and the other costs as listed above will not decrease if less units are developed and the only way to achieve high maintenance and management standards will be through increasing the levies payable by the individual unit owners. At this stage it is estimated that the monthly levies payable by each unit owner will amount to approximately R 1015.00 per unit owner (above average). It will most probably be necessary for the developer and HOA to determine ways of reducing these very high levies in order to make it more affordable to the individual owners.

Options that were not regarded as viable:

The options of only developing 8 or 16 units were also investigated, but from an ecological and financial point of view these alternatives were not regarded as viable or sustainable. The individual levies payable for 16 units will amount to approximately R 2 025.00 and the individual levies payable for only 8 units will amount to approximately R 4 050.00. The average individual levies payable at golf estates with large stands range between R 800.00 and R 2 000.00 per month. Furthermore, the proposed sewage treatment facility in the north-eastern corner of the study area will be expensive to implement and it requires enough sewage on an on-going basis to function optimal and to provide enough grey water for the proposed grey water recycling system to be elaborated upon in this document.

ACTIVITIES APPLIED FOR IN TERMS OF THE 2006 NEMA REGULATIONS AND THE APPLICABILITY OF THE AMENDED NEMA REGULATIONS WHICH CAME INTO EFFECT ON 2 AUGUST 2010

The Minister of Environmental Affairs and Tourism passed (in April 2006) Environmental Impact Assessment Regulations¹ (the Regulations) in terms of Chapter 5 of the National Environmental Management Act, 1998² (NEMA). The Regulations replaced the environmental impact assessment (EIA) regulations, which were promulgated in terms of the Environmental Conservation Act, 1989³ in 1997. The new regulations came into effect on 3 July 2006 and this application was made in terms of the 2006 NEMA Regulations.

Notice No. R 386 and R 387 of the New Regulations list activities which require that the EIA Process be followed. The Activities listed in Notice No. R 386 requires that a Basic Assessment Process be followed and the Activities listed in Notice No. R 387 requires that the Scoping and EIA process be followed. The proposed development only include listed activities according to Notice No. R386, therefore the proposed development requires a Basic Assessment Procedure to be completed. This Report represents the Basic Assessment Report as required.

It is important to note that this application was submitted prior to 2 August 2010, the date on which the Amended NEMA Regulations came into effect. Chapter 9, Regulation 76 of the 2010 Environmental Impact Assessment Regulations deals with transitional arrangements and requires that pending applications, submitted in terms of the 2006 NEMA Regulations, also take the impacts of the newly listed activities into consideration and adequately assess such activities.

ACTIVITIES APPLIED FOR AND ACTIVITIES THAT MUST BE TAKEN INTO CONSIDERATION

The New NEMA EIA Regulations consist of two lists of activities that require EIA authorisation from KZN Agriculture and Environmental Affairs. In order to ensure that all the possible activities are included as part of the application, it was decided to list and incorporate every possible activity that could be triggered by the proposed development into the public participation processes followed for the Basic Assessment Process.

¹ Environmental Impact Regulations, 2006

² Act No. 107 of 1998

³ Act No. 73 of 1989

The applicant is applying for the following listed activities:

No. 2. 366, 21 April 2006, Activity 1 m: The construction of facilities or infrastructure, including associated structures or infrastructure, for -Any purpose in the one in ten year flood line of a river or stream, or within 32 meters from the bank of a river or stream where the flood line is unknown, excluding purposes associated with existing residential use, but including

(i) canals;

(ii) channels;

(iii) bridges;

(iv) dams; and

(v) weirs.

The existing storm water channel will be removed and the drainage line will be altered to allow for free and distributed storm water flow across the study area. The storm water that enters the study area from the channel to the west will be redirected and distributed just after it entered the site. Energy dissipaters and attenuation measures will be implemented throughout the study area. It is however important to note that the proposed attenuation of the storm water will not affect the up-stream or down-stream flood lines and no attenuation of storm water will take place on the property to the west of the study area. More detail regarding the storm water management concept can be obtained in **Appendix C (ii)** of this Basic Assessment.

2386, 21 April 2007 Activity 4: The dredging, excavation, infilling, removal or moving of soil, sand or rock exceeding 5 cubic metres from a river, tidal lagoon, tidal river, lake, in-stream dam, floodplain or wetland.

The larger part of the application site consists of a wetland (a large portion of the wetland is man-made) and floodplain. It will therefore be necessary to dredge, excavate, fill-in, remove and move soil, sand and rock exceeding 5 cubic meters.

Transitional Arrangements:

Table 2 below lists all possible activities that could be applicable in terms of the 2010 Amended NEMA Regulations (as required in terms of Section 76 (3) of the Regulations). It is however not necessary for the Department to approve such activities. It is only necessary for the EAP to take these activities into consideration and to assess such activities.

Table 2: Possible activities that could be applicable in terms of the 2010 Amended NEMA Regulations (as required in terms of Section 76 (4) of the Regulations)

Note: It is not necessary for the Department to approve such activities. It is only necessary for the EAP to take these activities into consideration and to assess such activities. In order to ensure that the new listed activities identified in terms of the 2010 Regulations are also taken into consideration, the mitigation measures as

proposed in this section will also be incorporated as part of the EMP.

| Indicate the number and date of the relevant notice: | Activity No (s) (In terms of the relevant or notice: | Describe each listed activity: |
|--|--|---|
| Listing Notice 1, 2010 | Activity 11 | The construction of : (vi) bulk storm water outlet structures; (x) buildings exceeding 50m ² or more in size; or (xi) infrastructure or structures covering 50m ² or more where such construction occurs within a watercourse or within 32metres of the watercourse, measured from the edge of a watercourse, excluding where such construction will occur within the development setback line |

Reason for inclusion:

The proposed development will include structures larger than 50m² within a watercourse and within the 1:100 year flood line.

Necessity to assess separately:

Activity 4 and 1 (m) of the GN 386, 2006 Regulations are similar and Activity 11 of the 2010 Regulations will be assessed together with Activities 4 and 1 (m). The only difference between the 2006 and 2010 activities is the fact that the activities are now triggered when a 32m metre buffer zone as measured from the edge of a watercourse is encroached. In terms of the 2006 Regulations, the activities were only triggered if the wetland was directly affected/ If the 1:10 year flood line/the area within 32m from the embankment of the river were encroached.

Assessment of Impacts:

Possible impacts:

- Siltation, erosion and water pollution;
- Destruction of the wetland system;
- Impact on the surface hydrology;
- Impacts on the eco-systems associated with the larger open space systems to which it is connected;
- Sustainability of wetland system could be affected

Mitigation Possibilities: Good, if the mitigation measures as listed below are implemented.

If not planned and managed correctly, the proposed development could have an impact on the long term sustainability and integrity of the wetland area. It is however important to note that the groundcover of the wetland area is currently disturbed and invaded by *Pennisetum clandestinum* (kikuyu – an exotic

invader capable of invading and destroying sensitive areas, especially wetlands and riparian vegetation).

- Storm water planning must provide for the even distribution of surface water across the wetland area and it must prevent siltation, erosion and water pollution;
- The implementation of cut-off trenches during the construction and operational phases must be avoided at all times; and
- Temporary storm water measures must be put in place to prevent erosion, siltation and water pollution during the construction phase.

Relevance of Listing Notice 3

There is also a possibility that activities as listed in Listing Notice 3 will be triggered, but the impacts and mitigation measures will be similar (of ecological and hydrological nature) than the impacts listed and mitigation measures provided for the activities as listed above. It will not be necessary to assess or consider impacts associated with any activities in Listing Notice 3 separately.

Conclusion:

Even though the activities in Listing Notices 1, 2 and 3 of the 2010 Regulations were taken into consideration, and assessed (where applicable), the conclusion and recommendation section of this Basic Assessment only recommends that the applicable 2006 activities as listed and motivated above be approved.

2. ALTERNATIVES (Important: Also refer to Appendix G (ii and iii) for process and other alternatives considered and assessed)

Describe alternatives that are considered in this application. Alternatives should include a consideration of all possible means by which the purpose and need of the proposed activity could be accomplished in the specific instance taking account of the interest of the applicant in the activity. The no-go alternative must in all cases be included in the assessment phase as the baseline against which the impacts of the other alternatives are assessed. The determination of whether site or activity (including different processes etc.) or both is appropriate needs to be informed by the specific circumstances of the activity and its environment. After receipt of this report the competent authority may also request the applicant to assess additional alternatives that could possibly accomplish the purpose and need of the proposed activity if it is clear that realistic alternatives have not been considered to a reasonable extent.

2(a) Site alternatives:

Describe site alternative 1 (S1), (selected site) for the activity described above, or for any other activity alternative:

No site alternatives were considered, because the applicant originally purchased the 2,0144 hectare study area, which consisted and still consists of 8 individual stands with "Residential 1" zonings for the development of the 8 individual residential units.

When the applicant submitted the building plans for the separate units, the involved local authority informed the applicant that they were not in a position to approve such plans, because the 8 stands formed part of a wetland system and important storm water attenuation facility in the area. The local authority currently uses the study area as a storm water attenuation area and constructed a concrete channel along the northern boundary of the site that eventually enters into the culvert underneath the main road along the eastern boundary. Storm water outlets and culverts in the northern section of the study area discharge water into the concrete channel and outlets that are distributed along the southern boundary, discharge storm water directly into the wetland areas. No litter traps were implemented to trap litter that entered into the storm water system higher up in the catchment and the study area, especially the south-eastern portion of the wetland, is continuously being polluted with bags and other waste items.

During a public meeting some of the surrounding residents raised serious concerns regarding the ineffectiveness of the storm water management around the study area. According to the residents flooding is a common phenomenon in Camborne Drive and the filling station to the north-east of the study area floods regularly. Apparently the filling station has been constructed below the 1:100 year flood line. According to the civil engineer, the current flooding problems stem from blockages in the system along Camborne Road and the flooding problem in the vicinity of the filling station can be contributed to former bad planning. According to the civil engineer, it will not be possible for the applicant to resolve the storm water management problems in the area. The existing blockages and the flooding problem at the filling station should urgently be investigated by DWA and the storm water management division of the local authority. If well planned and managed, the proposed development will not worsen the flooding problems. In fact, the new storm water management concept for the study area will most probably improve the current conditions, especially in terms of the quality, speed and quantity of the storm water that will exit the study area.

According to the wetland specialist, the civil engineer and the Department of Water Affairs (DWA) that visited the study area, the existing concrete channel along the northern boundary of the study area is not the ideal storm water management solution. The water that is discharged into the system flows very fast, especially during heavy rainfall and then builds-up along the eastern boundary of the study area before it enters through the small culverts underneath main road. The permanent wetland along the eastern boundary is mainly a man-made wetland created by surface-water drainage. According to the above mentioned specialists, it would improve the situation if the storm water channel is replaced by a storm water management system that allows for the even distribution of storm water across the study area. This even distribution of storm water holds the following benefits:

- Purification of storm water before it exits the study area;
- Breaking of the speed of the water;
- The vegetative coverage will act as natural energy dissipater;
- Will promote the long term sustainability of the study area;
- Will promote the creation of habitats; and
- Better penetration of storm water into the soil layers of the wetland area.

The development option is most definitely regarded as the preferred option for the study area.

Describe site alternative 2 (S2), if any, for the activity described above, or for any other activity alternative:

The land swap option was also considered and discussed with the involved local authority. The proposal was to swap the study area for another similar site that belongs to the local authority. The study area will then become the property of the local authority and it will become part of the larger open space system and will continue to act as storm water attenuation facility in the area. The local authority will then be responsible for the management and maintenance of the study area.

That land that will become the property of the applicant will then be rezoned for a development in line with the proposed residential land-use as described in this application.

According to the local authority they are not currently considering land-swap transactions and therefore this alternative was not regarded as a workable alternative.

None of the departments (DWA, DAEA-KZN and the environmental management division of the local authority) regarded it as impossible to develop the study area.

DWA indicated that they would support a development along the periphery of the study area and that they would welcome a storm water management system that distributes the storm water evenly across the wetland area in the central section of the site. DWA also indicated (verbally during a meeting in November 2010) that they would support an on-site sewer facility in the north-eastern corner of the study area if the sewer manhole is elevated to daylight above the 1:100 year flood line.

DAEA-KZN also indicated during discussion meetings (at least x3 meetings were held with the department) that they would consider it to support a development along the periphery. One of the discussion meetings took place on the study area and representatives of DWA and DAEA-KZN attended the meeting. DWA and DAEA-KZN agreed that it would be better to implement a "cluster and space" development with development along the periphery than the 8 residential units that will be distributed across the entire study area.

During several meetings at the environmental division of the local authority it was indicated that the Town Planning Section will be responsible for the development guidelines regarding the coverage and height of the proposed development. The environmental division recommended that the Town Planning division be consulted and requested to supply the necessary design guidelines.

According to the environmental division they only deal with ecological and storm water management aspects. The functioning, management and maintenance of the open spaces in the larger continuous open space system (as delineated in the DMOSS) as well as the maintenance and functioning of the isolated open spaces are the responsibility of this division. According to the involved local authority the study area and especially the existing wetland currently has an important storm water management function and the removal of this site/ wetland from the system could have detrimental ecological, hydrological and storm water management impacts. According to the local authority they will not object to a development on the study area if the important ecological, hydrological and storm water management system and functioning of these systems are equalized or improved. The local authority also suggested that the wetland area be rehabilitated and that the site be maintained by the HOA to be established.

Describe site alternative 3 (S3), if any, for the activity described above, or for any other activity alternative:

N/A

(2)(b) Activity alternatives:

Describe activity alternative 1 (A1), if any, for any or all of the site alternatives as appropriate:

Alternative A1: The Preferred Alternative (Refer to Appendix C(1) for more detail regarding the proposed development concept)

The activity applied for is to consolidate the 8 erven and to rezone it for a **32 unit residential development** that will have a smaller or equal ecological footprint than the 8 erven. At present the 8 individual "residential 1" erven allows for development across the wetland areas, but the proposed consolidation of the erven will allow for a "cluster and space" development along the periphery that will be positioned and elevated to avoid the wetland areas. The central green spine through the development will remain and will be rehabilitated and modified to accommodate a wetland area with improved ecological, hydrological and storm water management functions. As already described above, the existing canal will be removed and the storm water will be evenly spread across the central wetland area. This improved storm water management and attenuation system will assist with the creation of habitats, the breaking of the speed of the storm water, the improvement of the storm water quality when exiting the site and it will ensure that the pre-construction flow equals the post-construction flow of the storm water that exits the study area.

A long-term rehabilitation plan will form part of the Environmental Management Plan (EMP) that will be compiled for the open spaces of the study area. This rehabilitation plan will include the on-going removal of exotic invaders and weeds and for the establishment of indigenous and preferably endemic vegetation species that will attract birds and insects. According to the wetland and ecological specialist the ground cover of the area is very disturbed and almost taken over by invaders, but the trees and some of the shrubs are indigenous and must (where possible) be maintained and incorporated as part of the development.

Monitored access points will be implemented along Camborne Road, Widenham Drive and St Catherine Drive in order to make the central open area accessible to the surrounding residents for passive recreational purposes.

The following development control measures will be applicable to the proposed 32 unit development:

Coverage: 10%

Height: 2 Storeys

FAR: 0.3

Describe activity alternative 2 (A2), if any, for any or all of the site alternatives as appropriate:

Alternative A 2: (Refer to Appendix G (iii) Alternative 2)

The involved town and regional planners and marketing team of the applicant originally recommended that the 54 units be constructed with the following development control measures:

Coverage: 30%

Height: 3 Storeys

FAR: 0,3

63 Open parking bays and 63 covered parking bays would have been provided on the site (2 parking bays per unit) with an additional 32 open bays for visitors (0, 5 parking bays per unit).

The reason why the 54 units were regarded as ideal is due to the fact that the study area will require a significant amount of rehabilitation and maintenance works during the construction an operational phases and more units will make the rehabilitation and maintenance works more affordable.

Viability Calculations:

At least two permanent workers at minimum salaries of approximately R 4 000.00 per month each (R 8 000.00) and one site supervisor with a salary of at least R 2 000.00 per month (on a part time basis) will be required for the on-going monthly maintenance and rehabilitation works. At least R 1 500.00 per month must be allowed for the purchasing of equipment, fertilisers, plants etc. The maintenance and rehabilitation works will amount to approximately R 12 500.00 per month.

If the monthly levy to be paid by each unit owners is R 600.00, the total amount of money available for the monthly rehabilitation works, maintenance of the wetlands, maintenance of the formal gardens, maintenance and operation of the sewage system, other general maintenance and security provisions will amount to approximately R 32 400.00. If a third of the levies paid is allocated to wetland rehabilitation and maintenance works, only R 10 800.00 and not R 12 500.00 per month will be available for such works. It is however foreseen that it will be possible to do sufficient rehabilitation and maintenance works for approximately R 10 800.00 per month if such maintenance and rehabilitation works are well planned and managed.

The remainder of the monthly levies raised namely R 21 600.00 will then be utilised for the other services required. At the stage the estimated service fees are as follows:

Security – R 12 000.00 per month;

General building and garden maintenance – R 5 000.00 per month;

Sewage System Maintenance and Operation – R 5 000.00 per month

This amounts to R 22 000.00 and the financial provisions were conservatively calculated.

On order to achieve the 54 units, it will be necessary for the Town and Regional Planners to apply for 3 storeys and not 2 storeys as prescribed by the local authority for developments in the area. The appointed Town and Regional Planners discussed the possibility of a development with 3 storeys (with coverage and FAR as set out above) with the Town Planning Division of the local authority, but the local authority indicated that the institutional framework of the area only allows for 2 storey developments and it was indicated that the Town Planning Division will not consider it at this stage to approve developments that are in conflict with the planning frameworks and policies for the area. **Refer to Appendix G (i) for feedback letter received from the appointed Town and Regional Planners which confirms the preliminary discussions with the Town Planning Section of the Local Authority.**

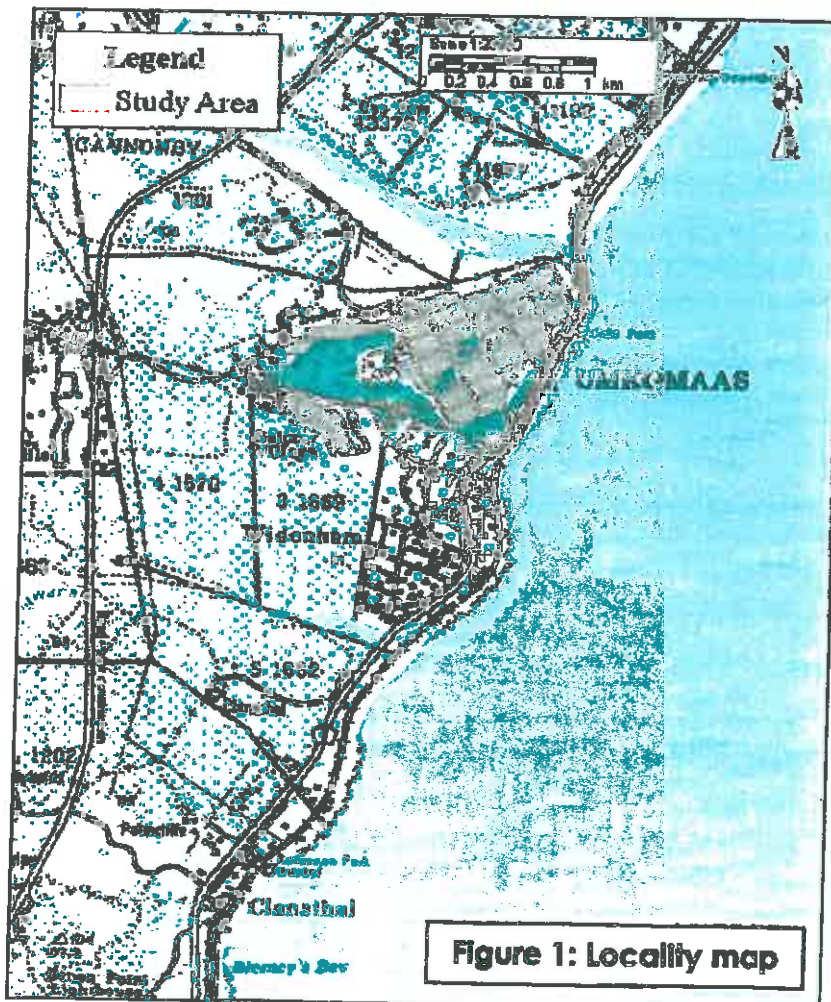
Describe activity alternative 3 (A3), if any, for any or all of the site alternatives as appropriate:

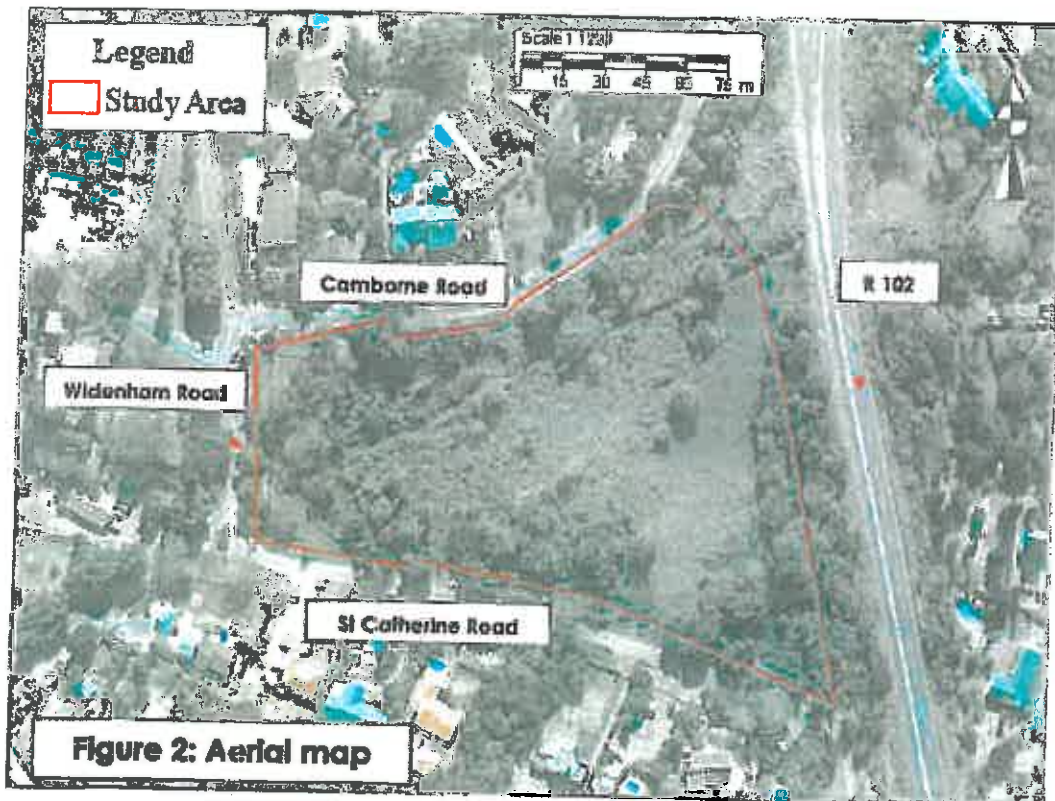
Alternative A3: The options that were not regarded as viable

Note: Due to the fact that these options were not regarded as viable, it was not assessed or considered in more detail. Only Alternatives A1 and A2 above were assessed and considered in more detail.

The options of only developing 8 or 16 units were also investigated, but from an ecological and financial point of view these alternatives were not regarded as viable or sustainable. The individual levies payable for 16 units will amount to approximately R 2 025.00 and the individual levies payable for only 8 units will amount to approximately R 4 050.00. The average individual levies payable at golf estates with large stands range between R 800.00 and R 2 000.00 per month. Furthermore, the proposed sewage treatment facility in the north-eastern corner of the study area will be expensive to implement and it requires enough sewage on an on-going basis to function optimal and to provide enough grey water for the proposed grey water recycling system to be elaborated upon in this document.

3. ACTIVITY POSITION





The proposed application site is wedged in between 4 roads. Widenham Road forms the western boundary of the study area, Camborne Road forms the northern boundary and St. Catherine Road forms the southern boundary. The Umkomaas Golf Course is situated further to the south. Road R102, which used to act as a link road between coastal towns such as Scottburgh and Umkomaas runs along the eastern boundary of the application site.

Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in degrees and decimal minutes. The minutes should have at least three decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection.

Alternative:

Alternative S1¹ (preferred or only site alternative)

Alternative S2 (if any)

Alternative S3 (if any)

In the case of linear activities:

Alternative:

Alternative S1 (preferred or only route alternative)

- Starting point of the activity
- Middle point of the activity
- End point of the activity

Alternative S2 (if any)

- Starting point of the activity
- Middle point of the activity
- End point of the activity

Alternative S3 (if any)

- Starting point of the activity
- Middle point of the activity
- End point of the activity

| Latitude (S): | | Longitude (E): | |
|---------------|---------|----------------|---------|
| 30° | 217626' | 30° | 794602' |
| | | | |
| | | | |

| Latitude (S): | | Longitude (E): | |
|---------------|--|----------------|--|
| | | | |
| | | | |
| | | | |

| Latitude (S): | | Longitude (E): | |
|---------------|--|----------------|--|
| | | | |
| | | | |
| | | | |

| Latitude (S): | | Longitude (E): | |
|---------------|--|----------------|--|
| | | | |
| | | | |
| | | | |

¹ "Alternative S..." refer to site alternatives.

For route alternatives that are longer than 500m, please provide an addendum with co-ordinates taken every 250 meters along the route for each alternative alignment.

4. PHYSICAL SIZE OF THE ACTIVITY

Refer to Appendix A: Figure 1: Locality Map
Figure 2: Aerial Map

Indicate the physical size of the preferred activity/technology as well as alternative activities/technologies (footprints):

Alternative:

Alternative S1^a (preferred activity alternative)

Alternative S2 (if any)

Alternative S3 (if any)

or, for linear activities:

Size of the activity:

| |
|---------------------|
| 20114m ² |
| |
| |

Length of the activity:

| |
|---------------------|
| 20114m ² |
| 20114m ² |
| N/A |

Alternative:

Alternative A1^a (preferred activity alternative)

Alternative A2 (if any)

Alternative A3 (if any)

Indicate the size of the alternative sites or servitudes (within which the above footprints will occur):

Alternative:

Alternative A1 (preferred activity alternative)

Alternative A2 (if any)

Alternative A3 (if any)

Size of the site/servitude:

| |
|-----|
| N/A |
| N/A |
| N/A |

5. SITE ACCESS (BOTH ACTIVITY ALTERNATIVES AS DESCRIBED BELOW WILL TAKE PLACE ON SITE ALTERNATIVE S1)

Refer to Appendix C(I): Layout Plan
Appendix A: Figure 5 - Site Access

Alternative A1 (Preferred Alternative/ Proposal)
Does ready access to the site exist, or is access planned?

NO

If NO, what is the distance over which a new access road is planned?
Describe the type of access road planned:

YES

At least x4 vehicular access points and at least x2 pedestrian access points are planned from the existing road network (north of site) and St. Catherine Road (south of site). If any objections from Interested and Affected Parties, were that they are not satisfied with the proposed access points in the area. The proposed x4 vehicular access points will decrease the ecological footprint of the project. Internal circulation roads will push the development back into the site. The pedestrian entrances will provide monitored pedestrian access to the site area.

Widenham
 Vergadering
 more

Note:

The original "residential 1" stands enjoyed x 8 access points (5 access points on St. Catherine Road, x1 access on Widenham Road and x2 accesses on Cambarne Road)

Include the position of the access road on the site plan.

⁵ Site Alternative
^a Activity Alternative



Figure 5: Site Access Map

Alternative 2 (54 Residential Units)

Does ready access to the site exist, or is access directly from an existing road?

| | |
|-----|----|
| YES | NO |
| X | |
| m | |

If NO, what is the distance over which a new access road will be built
Describe the type of access road planned:

At least x4 vehicular access points and at least x3 pedestrian access points are proposed.

Access points are planned from the existing Widenham Road (west of site), Camborne Road (north of site) and St. Catherine Road (south of the site). One of the issues raised by Interested and Affected Parties, were that they are concerned about the increase in the traffic in the area. The proposed x4 vehicular access points will assist with the distribution of traffic and it will decrease the ecological footprint of the proposed development on the open space area. Internal circulation roads will push the development away from the periphery of the site. The pedestrian entrances will provide monitored public access to the central open space area.

Note:

The original "residential 1" stands enjoyed x 8 access points (5 access points on St. Catherine Road, x1 access on Widenham Road and x2 accesses on Camborne Road)

Include the position of the access road on the site plan.

6. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

Alternative A1 (Proposal/ Preferred Alternative)

6(a) Solid waste management

Will the activity produce solid construction waste during the construction/initiation phase?

| | |
|---------------|----|
| YES | NO |
| X | |
| Not available | |

If yes, what estimated quantity will be produced per month?

How will the construction solid waste be disposed of (describe)?

During the construction phase the disposal of solid waste will be the responsibility of the developer. An area on the application site will be earmarked for dumping of solid waste to be disposed off during construction. This area must be situated carefully outside the floodplain and wetland area to prohibit the washing away of waste into the sensitive ecosystem. The demarcated area must also be situated carefully to not be visible from the surrounding residents and must be easily available for dumping trucks to collect the waste. During the operational phase all disposal of solid waste will be the responsibility of the Local Authority.

Where will the construction solid waste be disposed of (describe)?

All construction solid waste will be disposed off at the nearest registered dumping site. No solid waste will be dumped on open areas, vacant land or adjacent properties (Refer to the attached EMP: Appendix H)

Will the activity produce solid waste during its operational phase?

| | |
|---------------|----|
| YES | NO |
| X | |
| Not available | |

If yes, what estimated quantity will be produced per month?

How will the solid waste be disposed of (describe)?

During the operational phase the disposal of all solid waste will be the responsibility of the Local Authority. All waste will be collected within the proposed development and stored at a central disposal area, where the Municipality will collect and dispose the waste once a week. The waste collection points must be situated as close as possible to the site accesses and some litter bins (to be emptied at least once a week) must be implemented along boardwalks to be constructed within/ elevated above the wetland area). The maintenance worker/s will be responsible for the emptying of the litter bins and these litter bins must be emptied into the larger waste bins stored in the waste areas at the accesses.

Where will the solid waste be disposed if it does not feed into a municipal waste stream (describe)?

If the solid waste (construction or operational phases) will not be disposed of in a registered landfill site or be taken up in a municipal waste stream, this must be brought to the attention of the competent authority.

Can any part of the solid waste be classified as hazardous in terms of the relevant legislation?

| | |
|-----|----|
| YES | NO |
| | X |

If yes, inform the competent authority and request a change to an application for scoping and EIA. Is the activity that is being applied for a solid waste handling or treatment facility?

| | |
|-----|----|
| YES | NO |
| | X |

If yes, the applicant must consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

Describe the measures, if any, that will be taken to ensure the optimal reuse or recycling of materials:

Has a specialist been consulted to assist with the completion of this section?

| | |
|-----|----|
| YES | NO |
| | X |

If YES, please complete:

Name of the specialist:

Qualification(s) of the specialist:

Postal address:

Postal code:

Telephone:

E-mail:

Call:

Fax:

Are any further specialist studies recommended by the specialist?

| | |
|-----|----|
| YES | NO |
| | |

If YES, specify:

If YES, is such a report(s) attached?

| | |
|-----|----|
| YES | NO |
| | |

Signature of specialist:

Date:

6(b) Liquid effluent

Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system?

| | |
|-----|----|
| YES | NO |
| | X |

If yes, what estimated quantity will be produced per month?

Will the activity produce any effluent that will be treated and/or disposed of on site?

| | |
|-----|----|
| N/A | |
| Yes | NO |
| X | |

If yes, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

Will the activity produce effluent that will be treated and/or disposed of at another facility?

| | |
|-----|----|
| YES | NO |
| | X |

If yes, provide the particulars of the facility:

Facility name: _____
Contact person: _____
Postal address: _____
Postal code: _____
Telephone: _____
E-mail: _____
Cell: _____
Fax: _____

Describe the measures that will be taken to ensure the optimal reuse or recycling of waste water, if any:

Waste water will be recycled and re-used for irrigation and grey-water recycling purposes.

Has a specialist been consulted to assist with the completion of this section?

| | |
|--|----|
| YES | NO |
| | X |
| A specialist will be appointed to assist with the design of the proposed system. The system will be designed to comply with DWA requirements and the effluent will be treated to comply with <i>DWA Special Standards</i> . The details of the proposed on-site sanitation system will be provided to the Department as soon as finalized and proof of DWA support will also be supplied as soon as available. | |

If YES, please complete:

Name of the specialist: _____
Qualification(s) of the specialist: _____
Postal address: _____
Postal code: _____
Telephone: _____
E-mail: _____
Cell: _____
Fax: _____

Are any further specialist studies recommended by the specialist?

| | |
|-----|----|
| YES | NO |
| | |

If YES, specify:

If YES, is such a report(s) attached?

| | |
|-----|----|
| YES | NO |
| | |

Signature of specialist: _____

Date: _____

6(c) Emissions into the atmosphere

Will the activity release emissions into the atmosphere?

| | |
|-----|----|
| YES | NO |
| | X |
| YES | NO |
| | |

If yes, is it controlled by any legislation of any sphere of government?

If yes, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

If no, describe the emissions in terms of type and concentration:

The only emissions that will be released into the atmosphere as a result of the development will be the additional traffic exhaust fumes that will be released. This will however be insignificant.

Has a specialist been consulted to assist with the completion of this section?

| | |
|-----|----|
| YES | NO |
| | X |

If YES, please complete:

Name of the specialist: _____
Qualification(s) of the specialist: _____
Postal address: _____
Postal code: _____

Telephone: Cell:
 E-mail: Fax:
 Are any further specialist studies recommended by the specialist? YES NO
 If YES, specify:
 If YES, is such a report(s) attached? YES NO
 Signature of specialist: _____ Date:

6(d) Generation of noise
 Will the activity generate noise?

| | |
|-----|---------|
| YES | NO X |
| YES | NO |

If yes, is it controlled by any legislation of any sphere of government?
 If yes, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.
 If no, describe the noise in terms of type and level:

During the construction phase some noise will be generated by the construction vehicles and their associated activities. The construction working hours will however be restricted to 6h00 – 18h00 during the week and from 8h00 until 13h00 on a Saturday. No work is to take place on Sundays or on Public Holidays and surrounding residents must be notified (in person) if additional working hours are required. (Refer to Annexure H: EIA).

Has a specialist been consulted to assist with the completion of this section? YES NO

If YES, please complete:

Name of the specialist:
 Qualification(s) of the specialist:
 Postal address:
 Postal code:
 Telephone: Cell:
 E-mail: Fax:
 Are any further specialist studies recommended by the specialist? YES NO
 If YES, specify:
 If YES, is such a report(s) attached? YES NO
 Signature of specialist: _____ Date:

7. WATER USE

Please indicate the source(s) of water that will be used for the activity by ticking the appropriate box(es)

| | | | | | |
|---|--------------------------------------|--------------------------------------|---|--------------------------------|--|
| <input checked="" type="checkbox"/> Municipal | <input type="checkbox"/> water board | <input type="checkbox"/> groundwater | <input type="checkbox"/> river, stream, dam or lake | <input type="checkbox"/> other | <input type="checkbox"/> the activity will not use water |
|---|--------------------------------------|--------------------------------------|---|--------------------------------|--|

If water is to be extracted from groundwater, river, stream, dam, lake or any other natural feature, please indicate the volume that will be extracted per month:

Does the activity require a water use permit from the Department of Water Affairs and Forestry?

| | |
|---|-----------------------------|
| N/A | |
| <input checked="" type="checkbox"/> YES There is a possibility | <input type="checkbox"/> NO |

During the site visit with DWA it was indicated that DWA will most probably not require Section 21 Water-Use licenses for the alteration of a drainage line/ flow, because the drainage line has already been altered when the storm water channel was implemented by the local authority. The watercourse is not regarded as a natural watercourse anymore. DWA also indicated that the proposed on-site sanitation system will qualify for a General Authorization and not for a Section 21 Water-use license. The Section 21 Water-use license requirements will however be discussed and confirmed with DWA as soon as more detail becomes available. Proof of all comments from DWA and communication with DWA regarding the license requirements will be provided to the Department as soon as available. A copy of the Draft BA Document was also submitted to DWA for comments. Refer to Appendix E (x) for comments.

8. ENERGY EFFICIENCY

Describe the design measures, if any, that have been taken to ensure that the activity is energy efficient:

The developer will promote energy efficiency, renewable energy and post contract energy management as follows :

All residential units will be designed and orientated to enjoy maximum daylight exposure. This will reduce the usage of electrical lighting during the day. The usage of gas stoves and solar geysers will be compulsory and this requirement will be incorporated as part of the house rules.

Where possible solar driven exterior lighting will be implemented, especially in the communal natural open space area.

Describe how alternative energy sources have been taken into account or been built into the design of the activity, if any:

The following alternative energy sources were investigated :-

- **Hydro Power**

This option was rejected because the hydrological conditions required for hydro generation in this area could not be met i.e. water quantity, etc

- **Wind turbines**

This option was rejected because the wind conditions required cannot be met in this region.

- **Biomass**

This option was rejected because the fuel required for producing electricity is not locally available, the distance between the source of biomass and the power plant must be short for economic viability.

- **Coal fired generation**

This option was rejected because of the distance from the coal fields and because pollution is not allowed in this area.

- **Nuclear**

This option could not be considered due to South Africa's nuclear policy.

- **Solar**

Solar power generation will be encouraged with each individual Residential Unit development however cannot be considered as the prime generation system.

Note: Conservation and protection of Water Resource

The development proposal includes the implementation of an on-site sanitation system that will purify the recycled water to DWA special standards. The water will be utilized for irrigation and grey water recycling purposes (i.e. flushing of toilets).

The development proposal also includes an improved storm water system that will promote:

- The long term sustainability of the wetland system;
- The creation habitats;
- The purification of the storm water;
- Attenuate of storm water;
- Slower movement of storm water; and
- The distribution of storm water

Alternative A2(54 Residential Units)

Does ready access to the site exist, or is access directly from an existing road?
If NO, what is the distance over which a new access road will be built

| | |
|-----|----|
| YES | NO |
| X | |
| m | |

Describe the type of access road planned:

At least x4 vehicular access points and at least x3 pedestrian access points are proposed.

Access points are planned from the existing Widenham Road (west of site), Camborne Road (north of site) and St. Catherine Road (south of the site). One of the issues raised by Interested and Affected Parties, were that they are concerned about the increase in the traffic in the area. The proposed x4 vehicular access points will assist with the distribution of traffic and it will decrease the ecological footprint of the proposed development on the open space area. Internal circulation roads will push the development away from the periphery of the site. The pedestrian entrances will provide monitored public access to the central open space area.

Note:

The original "residential 1" stands enjoyed x 8 access points (5 access points on St. Catherine Road, x1 access on Widenham Road and x2 accesses on Camborne Road)

Include the position of the access road on the site plan.



9. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

Alternative A2 (54 units)

9(a) Solid waste management

Will the activity produce solid construction waste during the construction/initiation phase?

| | |
|-----|----|
| YES | NO |
| X | |

If yes, what estimated quantity will be produced per month?
 How will the construction solid waste be disposed of (describe)?

Not available

During the construction phase the disposal of solid waste will be the responsibility of the developer. An area on the application site will be earmarked for dumping of solid waste to be disposed off during construction. This area must be situated carefully outside the floodplain and wetland area to prohibit the washing away of waste into the sensitive ecosystem. The demarcated area must also be situated carefully to not be visible from the surrounding residents and must be easily accessible for dumping trucks to collect the waste. During the operational phase all disposal of solid waste will be the responsibility of the Local Authority.

Where will the construction solid waste be disposed of (describe)?

All construction solid waste will be disposed off at the nearest registered dumping site. No solid waste will be dumped on open areas, vacant land or adjacent properties (Refer to the attached EMP: Appendix H)

Will the activity produce solid waste during its operational phase?

| | |
|---------------|----|
| YES | NO |
| X | |
| Not available | |

If yes, what estimated quantity will be produced per month?
 How will the solid waste be disposed of (describe)?

During the operational phase the disposal of all solid waste will be the responsibility of the Local Authority. All waste will be collected within the proposed development and stored at a central disposal area, where the Municipality will collect and dispose the waste once a week. The waste collection points must be situated as close as possible to the site accesses and some litter bins (to be emptied at least once a week) must be implemented along boardwalks to be constructed within/ elevated above the wetland area). The maintenance worker/s will be responsible for the emptying of the litter bins and these litter bins must be emptied into the larger waste bins stored in the waste areas at the accesses.

Where will the solid waste be disposed if it does not feed into a municipal waste stream (describe)?

If the solid waste (construction or operational phases) will not be disposed of in a registered landfill site or be taken up in a municipal waste stream, this must be brought to the attention of the competent authority.
 Can any part of the solid waste be classified as hazardous in terms of the relevant legislation?

| | |
|-----|----|
| YES | NO |
| | X |

If yes, inform the competent authority and request a change to an application for scoping and EIA.
 Is the activity that is being applied for a solid waste handling or treatment facility?

| | |
|-----|----|
| YES | NO |
| | X |

If yes, the applicant must consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

Describe the measures, if any, that will be taken to ensure the optimal reuse or recycling of materials:

Has a specialist been consulted to assist with the completion of this section?

| | |
|-----|----|
| YES | NO |
| | X |

If YES, please complete:

Name of the specialist:

Qualification(s) of the specialist:

Postal address:

Postal code:

Telephone:

E-mail:

Cell:

Fax:

Are any further specialist studies recommended by the specialist?

| | |
|-----|----|
| YES | NO |
| | |

If YES, specify:

If YES, is such a report(s) attached?

| | |
|-----|----|
| YES | NO |
| | |

Signature of specialist:

Date:

9(b) Liquid effluent

Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system?

| | |
|-----|----|
| YES | NO |
| | X |

If yes, what estimated quantity will be produced per month?

Will the activity produce any effluent that will be treated and/or disposed of on site?

| | |
|-----|----|
| N/A | |
| Yes | NO |
| X | |

If yes, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.
 Will the activity produce effluent that will be treated and/or disposed of at another facility?

| | |
|-----|----|
| YES | NO |
| | X |

If yes, provide the particulars of the facility:

| | | |
|-----------------|--|-------|
| Facility name: | | |
| Contact person: | | |
| Postal address: | | |
| Postal code: | | |
| Telephone: | | Cell: |
| E-mail: | | Fax: |

Describe the measures that will be taken to ensure the optimal reuse or recycling of waste water, if any:

Waste water will be recycled and re-used for irrigation and grey-water recycling purposes.

Has a specialist been consulted to assist with the completion of this section?

| | |
|-----|----|
| YES | NO |
| | X |

A specialist will be appointed to assist with the design of the proposed system. The system will be designed to comply with DWA requirements and the effluent will be treated to comply with DWA Special Standards. The details of the proposed on-site sanitation system will be provided to the Department as soon as finalized and proof of DWA support will also be supplied as soon as available.

If YES, please complete:

| | | |
|---|-----|-------|
| Name of the specialist: | | |
| Qualification(s) of the specialist: | | |
| Postal address: | | |
| Postal code: | | |
| Telephone: | | Cell: |
| E-mail: | | Fax: |
| Are any further specialist studies recommended by the specialist? | YES | NO |
| If YES, specify: | | |
| If YES, is such a report(s) attached? | YES | NO |

Signature of specialist: _____

Date: _____

(e) Emissions into the atmosphere

Will the activity release emissions into the atmosphere?

| | |
|-----|----|
| YES | NO |
| | X |
| YES | NO |

If yes, is it controlled by any legislation of any sphere of government?

If yes, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

If no, describe the emissions in terms of type and concentration:

The only emissions that will be released into the atmosphere as a result of the development will be the additional traffic exhaust fumes that will be released. This will however be insignificant.

Has a specialist been consulted to assist with the completion of this section?

| | |
|-----|----|
| YES | NO |
| | X |

If YES, please complete:

| | | |
|---|-----|-------|
| Name of the specialist: | | |
| Qualification(s) of the specialist: | | |
| Postal address: | | |
| Postal code: | | |
| Telephone: | | Cell: |
| E-mail: | | Fax: |
| Are any further specialist studies recommended by the specialist? | YES | NO |
| If YES, specify: | | |
| If YES, is such a report(s) attached? | YES | NO |

Signature of specialist: _____ Date: _____

6(d) Generation of noise
Will the activity generate noise?

| | |
|-----|---------|
| YES | NO X |
| YES | NO |

If yes, is it controlled by any legislation of any sphere of government?
If yes, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.
If no, describe the noise in terms of type and level:

During the construction phase some noise will be generated by the construction vehicles and their associated activities. The construction working hours will however be restricted to 6h00 – 18h00 during the week and from 8h00 until 13h00 on a Saturday. No work is to take place on Sundays or on Public Holidays and surrounding residents must be notified (in person) if additional working hours are required. (Refer to Annexure H: EMP).

Has a specialist been consulted to assist with the completion of this section? YES NO
X

If YES, please complete:

Name of the specialist: _____

Qualification(s) of the specialist: _____

Postal address: _____

Postal code: _____

Telephone: _____ Cell: _____

E-mail: _____ Fax: _____

Are any further specialist studies recommended by the specialist? YES NO

If YES, specify: _____

If YES, is such a report(s) attached? YES NO

Signature of specialist: _____ Date: _____

10. WATER USE

Please indicate the source(s) of water that will be used for the activity by ticking the appropriate box(es)

| | | | | | |
|---|--------------------------------------|--------------------------------------|---|--------------------------------|--|
| <input checked="" type="checkbox"/> Municipal | <input type="checkbox"/> water board | <input type="checkbox"/> groundwater | <input type="checkbox"/> river, stream, dam or lake | <input type="checkbox"/> other | <input type="checkbox"/> the activity will not use water |
|---|--------------------------------------|--------------------------------------|---|--------------------------------|--|

If water is to be extracted from groundwater, river, stream, dam, lake or any other natural feature, please indicate the volume that will be extracted per month:

Does the activity require a water use permit from the Department of Water Affairs and Forestry?

| | |
|-------------------------------|----|
| N/A | |
| YES There is a possibility | NO |

During the site visit with DWA it was indicated that DWA will most probably not require Section 21 Water-Use licenses for the alteration of a drainage line/ flow, because the drainage line has already been altered when the storm water channel was implemented by the local authority. The watercourse is not regarded as a natural watercourse anymore. DWA also indicated that the proposed on-site sanitation system will qualify for a General Authorization and not for a Section 21 Water-use license. The Section 21 Water-use license requirements will however be discussed and confirmed with DWA as soon as more detail becomes available. Proof of all comments from DWA and communication with DWA regarding the license requirements will be provided to the Department as soon as available. A copy of the Draft BA Document was also submitted to DWA for comments. Refer to Appendix E (x) for comments.

11. ENERGY EFFICIENCY

Describe the design measures, if any, that have been taken to ensure that the activity is energy efficient:

The developer will promote energy efficiency, renewable energy and post contract energy management as follows :

All residential units will be designed and orientated to enjoy maximum daylight exposure. This will reduce the usage of electrical lighting during the day. The usage of gas stoves and solar geysers will be compulsory and this requirement will be incorporated as part of the house rules.

Where possible solar driven exterior lighting will be implemented, especially in the communal natural open space area.

Describe how alternative energy sources have been taken into account or been built into the design of the activity, if any:

The following alternative energy sources were investigated :-

- **Hydro Power**

This option was rejected because the hydrological conditions required for hydro generation in this area could not be met i.e. water quantity, etc

- **Wind turbines**

This option was rejected because the wind conditions required cannot be met in this region.

- **Biomass**

This option was rejected because the fuel required for producing electricity is not locally available, the distance between the source of biomass and the power plant must be short for economic viability.

- **Coal fired generation**

This option was rejected because of the distance from the coal fields and because pollution is not allowed in this area.

- **Nuclear**

This option could not be considered due to South Africa's nuclear policy.

- **Solar**

Solar power generation will be encouraged with each Individual Residential Unit development however cannot be considered as the prime generation system.

Note: Conservation and protection of Water Resource

The development proposal includes the implementation of an on-site sanitation system that will purify the recycled water to DWA special standards. The water will be utilized for irrigation and grey water recycling purposes (i.e. flushing of toilets).

The development proposal also includes an improved storm water system that will promote:

- The long term sustainability of the wetland system;
- The creation habitats;
- The purification of the storm water;
- Attenuate of storm water;
- Slower movement of storm water; and
- The distribution of storm water.

12. SITE OR ROUTE PLAN

Refer to Appendix A

A detailed site or route plan(s) must be prepared for each alternative site or alternative activity. It must be attached as Appendix A to this document. The site or route plans must indicate the following:

- 10(a) The scale of the plan (appropriate to the extent of the development);
- 10(b) the property boundaries and erf or farm numbers of the adjoining properties;
- 10(c) the current land use as well as the land use zoning of each of the properties adjoining the site or sites;
- 10(d) the position of each element of the application as well as any other structures on the site;
- 10(e) the position of services (e.g. electricity supply cables, water supply pipelines, boreholes, sewage pipelines and storm water infrastructure) including servitudes and the purpose of such servitudes;
- 10(f) sensitive environmental elements on the site/s and within 100m of the site/s including (but not limited thereto):
 - Rivers, streams and drainage lines;
 - wetlands;
 - the 1:100 year flood line (where available or where it is required by DWAF);
 - ridges;
 - cultural and historical features;
 - areas with indigenous vegetation including protected plant species (even if it is degraded or invaded with alien species);
- 10(g) contour intervals appropriate to the scale of the development must be indicated on the plan; and
- 10(h) the positions from where photographs of the site were taken must be indicated.

13. SITE PHOTOGRAPHS

Refer to Appendix B

Colour photographs must include important features of the site and a description of each photograph must be provided. Photographs must be attached under Appendix B to this form.

14. FACILITY ILLUSTRATION (Alternative A1 and S1)

Refer to Appendix C

A detailed illustration of the activity must be provided at a scale that is appropriate for the extent of the development and attached as Appendix C. The illustrations must be to scale and must represent a realistic image of the planned activity. The illustration must give a representative view of the activity.

Note: A detailed Site Development Plan and Elevations and sections of the proposed development will be supplied to the local authority and the surrounding land-owners for consideration/ perusal prior to the submission of the building plans. At this stage the intention is to establish a concept that will be acceptable to the various authorities and to the surrounding land-owners. The compilation and submission of the detailed Site Development Plan (SDP) and the other more detailed design drawings can be incorporated as one of the conditions of the authorisation, if the Department should decide to authorise the development.

15. ACTIVITY MOTIVATION (A1 – Proposal – 32 Units)

15(a) **Socio-economic value of the activity**

What is the expected capital value of the activity on completion?

What is the expected yearly income that will be generated by or as a result of the activity?

| |
|--|
| ± R 70 million |
| Rates and taxes, at least 15 permanent jobs and levies available for the maintenance and rehabilitation of the open space area |

Will the activity contribute to service Infrastructure?

Is the activity a public amenity?

How many new employment opportunities will be created in the development phase of the activity?
 What is the expected value of the employment opportunities during the development phase?
 What percentage of this will accrue to previously disadvantaged individuals?
 How many permanent new employment opportunities will be created during the operational phase of the activity?

What is the expected current value of the employment opportunities during the first 10 years?
 What percentage of this will accrue to previously disadvantaged individuals?

18(b) Need and desirability of the activity

Motivate and explain the need and desirability of the activity (including demand for the activity):

As already mentioned the study area incorporates x8 stands that are currently zoned "Residential 1". This allows for the development of at least x8 larger single residents. The current rights allows for the development of the houses across the wetland area and does not take the existing storm water management, the value of the open stands to the surrounding community and the ecological potential of the study area into consideration.

At present the study area is exposed to exotic invaders, security risks, littering and bad storm water management. The marketing team of the applicant already indicated that there is a need in the market

| | |
|---|----|
| YES Upgrading of roads, upgrading of the existing sub-standard storm water system, upgrading of sewer (if surrounding residents without sewer are allowed to connect to the on-site sewer system) | NO |
| YES - partially Although the open space area will be zoned "private open space" a special agreement will be established to make the open space available for storm water management and for the provision of access to the surrounding residents | NO |
| At least 100 | |
| ± R 12 000 000.00 | |
| ± 70% | |
| ± 15 (2 site workers/ maintenance workers and at least 13 domestic workers - during peak seasons at least 25 domestic workers) | |
| ± R 6 000 000.0 | |
| ±95% | |

for higher and more affordable upmarket residential units in the area.

The proposed development will not only supply in the residential needs of the area, but it will also hold the following other advantages:

- Improved storm water and flood management;
- Improved security for movement through the open space;
- Monthly maintenance and management of the storm water system and the open space;
- Habitat creation and removal of exotic invaders and weeds;
- Job creation;
- Improvement of infrastructure; and
- Enhancement of "sense of place" and qualitative environment.

The involved local authority and the DWA already indicated that they would consider it to support the proposed development concept if the development will contribute to improved storm water and ecological systems and if the proposed development (in terms of the design, height, coverage, land-use type) is supported by the Town Planning and Engineering Divisions of the local authority.

Indicate any benefits that the activity will have for society in general:

- Public access to a private open space, which is not maintained by tax payer's money;
- Improved storm water system;
- Improved water quality; and
- Central open space will be developed as sustainable link/ open space system within the larger regional open space system.

Indicate any benefits that the activity will have for the local communities where the activity will be located:

- Improved safety and security in the area (mainly operational phase);
- Monitored access to a private open space;
- Improvement of existing storm water measures on the study area;
- The implementation of an on-site sewer system that could also be utilized by surrounding land-owners (to be negotiated with the authorities and the applicant);
- Upgrading of local roads;
- Improved storm water system in the surrounding area;
- Upliftment of the area (if well planned and managed);
- Improved water quality; and
- Central open space will be developed as sustainable link/ open space system within the larger regional open space system.

16. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

List all legislation, policies and/or guidelines of any sphere of government that are applicable to the application as contemplated in the EIA regulations, if applicable:

Title of legislation, policy or guideline:

Administering authority:

Promulgation Date:

| National Environmental Management Act No. 107 of 1998 | National & Provincial | 27 November 1998 |
|---|----------------------------------|----------------------|
| <p>The NEMA is primarily an enabling Act in that it provides for the development of environmental implementation plans and environmental management plans. The principles listed in the act serve as a general framework within which environmental management and implementation plans must be formulated.</p> | | |
| <p>Notice R. 386 published in the Government Notice No. 28753 of the National Environmental Management Act, 1998 (Act No. 107 of 1998)</p> | <p>National & Provincial</p> | <p>21 April 2006</p> |

The Minister of Environmental Affairs and Tourism passed (in April 2006) Environmental Impact Assessment Regulations⁷ (the Regulations) in terms of Chapter 5 of the National Environmental Management Act, 1998⁸ (NEMA). The new regulations came into effect on 3 July 2006.

Notice No. R 386 and R 387 of the New Regulations list activities which require that the EA Process be followed. The Activities listed in Notice No. R 386 requires that a Basic Assessment Process be followed and the Activities listed in Notice No. R 387 requires that the Scoping and EA process be followed.

Implications to the development:

The application for the proposed Mews @ Southbeach Development consist only of activities listed under Notice No. R 386, therefore a Basic Assessment Report is required to be submitted for the authorization from the Local Authority. This Report concludes the Basic Assessment Report.

National Water Act, 1998 (Act No. 36 of 1998)

National & Provincial

20 August 1998

The purpose of this Act is to ensure that the nation's water resources are protected, used, developed, conserved, managed and controlled in ways that take into account, amongst other factors, the following:

- Meeting the basic human needs of present and future generations;
- Promoting equitable access to water;
- Promoting the efficient, sustainable and beneficial use of water in the public interest;
- Reducing and preventing pollution and degradation of water resources;
- Facilitating social and economic development; and
- Providing for the growing demand for water use.

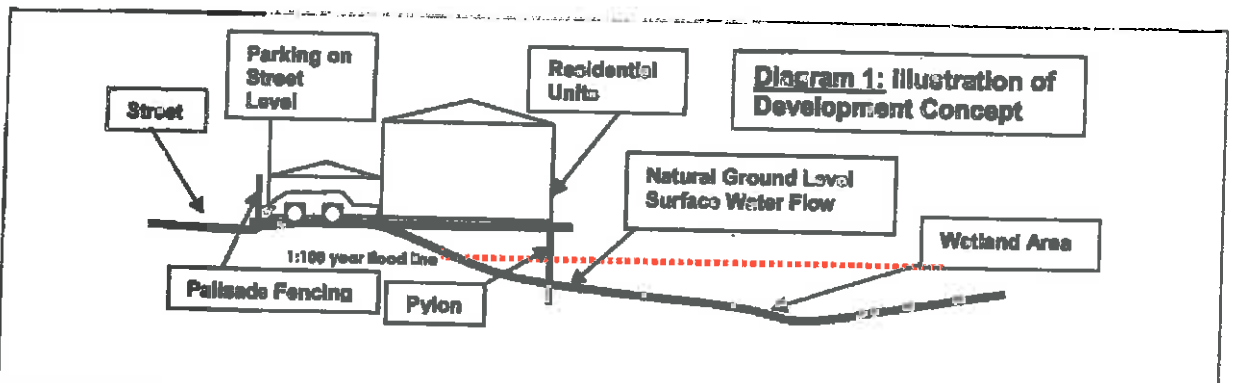
Implications for the Development

During the site visit with DWA it was indicated that DWA will most probably not require Section 21 Water-Use licenses for the alteration of a drainage line/ flow, because the drainage line has already been altered when the storm water channel was implemented by the local authority. The watercourse is not regarded as a natural watercourse anymore. DWA also indicated that the proposed on-site sanitation system will qualify for a General Authorization and not for a Section 21 Water-use license. The Section 21 Water-use license requirements will however be discussed and confirmed with DWA as soon as more detail becomes available. Proof of all comments from DWA and communication with DWA regarding the license requirements will be provided to the Department as soon as available. A copy of the Draft BA Document was also submitted to DWA for comments. *Refer to Appendix E (x) for comments.*

According to Section 144 of the Water Act, the 1:100 year flood line must be indicated on all planning / development drawings/ plans. Although the Water Act does not prohibit development below the flood line, it is recommended that development take place above the flood line. In the case of the proposed development, the units will be elevated by means of elevated platforms to be above the 1:100 year flood line.

⁷ Environmental Impact Regulations, 2006

⁸ Act No. 107 of 1998



| | | |
|---|-----------------|-------------|
| National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004) | National | 2004 |
|---|-----------------|-------------|

The objectives of this Act are-

(a) within the framework of the National Environmental Management Act, to provide for-

- (i) the management and conservation of biological diversity within the Republic and of the components of such biological diversity;
- (ii) the use of indigenous biological resources in a sustainable manner; and
- (iii) the fair and equitable sharing among stakeholders of benefits arising from bio-prospecting involving indigenous biological resources;

(b) to give effect to ratified international agreements relating to biodiversity which are binding on the Republic;

(c) to provide for co-operative governance in biodiversity management and conservation; and

(d) to provide for a South African National Biodiversity Institute to assist in achieving the objectives of this Act.

Implications for the Development:

No Red Listed Species were identified on site, and the vegetation of the study area is regarded as disturbed. The connectivity with the larger regional open space system will be conserved through the protection of the central wetland.

| | | |
|--|-----------------|-------------|
| National Environmental Management: Air Quality Act, 2004 (Act 39 of 2004) | National | 2004 |
|--|-----------------|-------------|

The purpose of the Act is "To provide for the prevention of the pollution of the atmosphere.

Implications for the development:

During the construction phase, dust pollution can become a significant factor, especially to the surrounding residences and landowners. Dust control would be adequately minimised during this phase by way of water spraying and possible dust-neis, when working close to existing residential dwellings.

The additional vehicles generated by the proposed development is according to the involved Traffic Engineers minimal and air pollution created by the additional vehicles can be regarded as insignificant.

| | | |
|--|---|-------------------|
| National Environmental Management Protected Areas Act, 2003 (Act No. 57 of 2003) | National | 2003 |
| <p>The purpose of this Act is to provide for the protection, conservation and management of ecologically viable areas representative of South Africa's biological biodiversity and its natural landscapes.</p> <p>Implications for the development:</p> <p>Not Significant. The study area is not situated in a Protected Area identified in terms of the protected areas act.</p> <p>Scientific Aquatic Services was appointed to conduct an ecological assessment of the site and to verify the presence of wetland features on the site. According to the verification assessment supplied by the Scientific Aquatic Services cc, the proposed development (as proposed) could improve the existing ecological and hydrological conditions of the study area and its surroundings.</p> <p>The mitigation measures supplied by the specialist must be implemented (EMP- Refer to Appendix H).</p> | | |
| National Heritage Resources Act, 1999 (Act No. 45 of 1965) | National & Provincial | April 1965 |
| <p>The National Heritage Resources Act legislates the necessity and heritage impact assessment in areas earmarked for development, which exceed 0.5ha. The Act makes provision for the potential destruction to existing sites, pending the archaeologist's recommendations through permitting procedures. Permits are administered by the South African Heritage Resources Agency (SAHRA).</p> <p>Implications for the development:</p> <p>Although no features of Heritage importance were identified during the Assessment, if any such features are discovered during construction activities and clearing of the application site, the correct "procedures for an Environmental Incident" (at the end of EMP, Appendix H) must be followed.</p> | | |
| National Environmental Management: Waste Act, Act. No 59 of 2008 | | |
| <p>This new act came into effect on 1 July 2009 and it replaces Section 20 of the Environmental Conservation Act. This Act requires that permits be obtained for certain listed activities (as listed under this act). One of the activities that require a permit under the Waste Act is the onsite treatment of effluent. On 3 July 2009 the treatment of effluent (more than 15 000m³ per annum) was classified as a Category B waste, namely Hazardous Waste that requires a waste license and authorisation for the National Department of Environmental Affairs (DEA).</p> <p>Implications for the Proposed Development:</p> <p>No permits will be required in terms of the Waste Act for the proposed development, because the amounts of sewer generated will be below the threshold.</p> | | |
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Conservation of Agricultural Resources Act, 1983 (Act No. 43 of 1983)

This Act provides for control over the utilization of the natural agricultural resources of the Republic in order to promote the conservation of the soil, the water sources and the vegetation and the combating of weeds and invader plants; and for matters connected therewith.

Implications for the Proposed Development:

The study area is too small to act as viable economical agricultural unit and the fact that the study area is currently zoned for "Residential 1" and not for agricultural uses must also be taken into consideration.

The Development Facilitation Act, 1995 (Act No 47 of 1995) (DFA)

This Act is specifically aimed at creating a single legal mechanism to deal with all the diverse aspects of land development in an integrated fashion revolving around:

- The promotion of integration of the social, economic, institutional and physical aspects of land development;
- The promotion of integrated land development in rural and urban areas in support of each other;
- The promotion of the availability of residential land and employment opportunities in close proximity to or integrated with each other;
- The promotion of a combination of diverse land-uses, with each proposed land development area to be judged on its own merit and no specific use, whether residential, commercial, conservation etc., to be regarded as less important;
- Discouraging urban sprawl to promote more compact towns/cities;
- Encouraging environmentally sound land development practices; and
- Promoting sustained protection of the environment.

The Development Principles, listed in Chapter 1 to the Development Facilitation Act, 1995 (the Act), legislate matters of general principle whilst providing mechanisms for more detailed principles and policies to acquire statutory force at national and provincial levels of government. The responsibility of Government as to the day-to-day administration of land development is encapsulated in these principles. The principles aim to reduce the likelihood of capricious or arbitrary decisions in respect of land development proposals by preventing incidents in response to political pressures or otherwise. Such principles were intended to render the development environment more predictable and rational when compared to past planning systems.

The Development Facilitation Act, 1995 allows a prospective developer of a land development area to approach a single provincial planning tribunal for authorization. Such planning tribunal has wide powers to incorporate and decide on any related legislative requirements during one consolidated process (i.e. cancel of servitudes; impose zoning restrictions, subdivision of land, etc.).

Implications for the Proposed Development:

Not significant, the proposed development will be in line with the principles contained in the DFA.

POLICIES, GUIDELINES, FRAMEWORKS ETC.

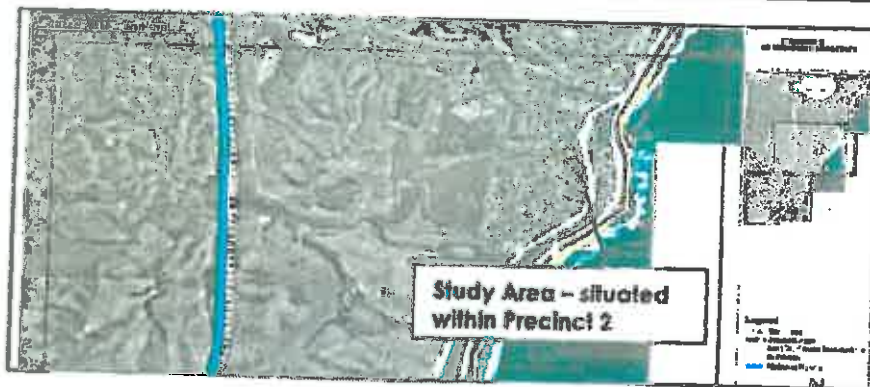
D'MOSS

D'MOSS stands for the Durban Metropolitan Open Space System, which was also previously known as the eThekweni Environmental Services Management Plan or EESMP. D'MOSS is a system of open spaces, some 74 000 ha of land and water, that incorporates areas of high biodiversity value linked together in a viable network of open spaces.

Implications for the Proposed Development:

The study area forms part of the D'MOSS system and according to the involved local authority it plays an important role in storm water management and attenuation. The function of the study area within the larger open space system must be retained

Draft Umgababa Coastal Management Plan, July 2009



7.2.3 Urbanised Precinct

| Phase | Issues | Implications |
|-------------|---------------------------|---|
| Development | Key Issues | <ul style="list-style-type: none"> • Contaminated runoff: water quality, accelerated siltation & high oil loads caused by upstream land uses; discharge of treated wastewater effluent from WWTW at head of estuary impacting on estuary quality, ecology & recreational potential. • Accelerated stormwater run-off & soil erosion from agriculture & future development, causing impacts on Maitongweni estuary. • Limited available capacity for additional effluent discharge into estuary as a result of ecological recovery requirements (future development limitations). • Limited and fragmented natural habitat - needs to be expanded, enhanced & rehabilitated. • High value agricultural land under pressure for further development. • Precinct 1 (agricultural) separated by R2, R200. |
| | Risks | <ul style="list-style-type: none"> • Spills / releases of industrial effluent from Umgababa WWTW causing human health risks & ecological impacts, reduced recreational capacity. • Spills at R2 & R200 causing ecological impacts to estuary. • Uncontrolled fire associated with sugar cane. • Siltation / Collapse of sediment structures or erosion is a result of sediment land use / changes. • Sea level rise causing increased flood levels along estuary frontage • Degradation of riparian areas (artificial embankment) • Sand mining (artificial embankment) • Alien invasive plants (Agave & Sarcocolla weed invasion). • CAPPI BACCOR Damage |
| Management | Risks | <ul style="list-style-type: none"> • Leisure & entertainment - generating employment & tourism attraction. • Residential & residential • Coastal flood's opportunity cost: residential & leisure. • Coastal recreation: estuary and forest. • Environmental education associated with estuary and forest. • Tourism and marine recreation. • Wetlands and estuary provide waste and water and sanitation services. • Precinct 1, forms part of national scenic corridor. |
| | Use / Activity Guidelines | <ul style="list-style-type: none"> • Control development activities that are likely to cause future sea level rise implications & need to protect access to estuary for recreation • Control development activities that are likely to cause future sea level rise implications & need to protect access to estuary for recreation • All developments to include stormwater collection & stormwater quality management to protect estuary. • No further erosion of estuary or erosion of riparian environment. |

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| | | |
|--|---|---|
| Coastal Development and Management Responses | <ul style="list-style-type: none"> Protect forests from development, with appropriate development buffers. Control use of estuary for recreation, no parking or recreation, no motorised traffic Traditional resource use practices and cultural activities shall, where appropriate, be protected despite the adverse impact of modern practices. Clearance of indigenous coastal vegetation shall be strictly controlled and monitored. Provision of urban services shall avoid negative impacts on coastal ecosystems. Distinct local architectural style shall be promoted. Preference shall be given to decreasing building heights if works in a sensitive area. Viewpoints shall be established to enhance scenic enjoyment. | |
| | Work with the Department of Environmental Affairs to establish an integrated coastal management plan in the project. | Local Government / Department |
| | Establish formalised protection beach reserves through clear signage that governs the beach, and close off illegal access points. | EM (Police) |
| | Upgrade storm water drains along beaches to reduce flood damage & pollution risk. Implement additional / further measures to prevent spillage of sewage from storm drains to beaches. | EM (Wardens & Coastal Management) / EM (Waste Management) |
| | Review of signs and signage at all beaches, and areas where facilities have been installed, to ensure that signage is clearly visible. | EM (Police) |
| | Review and upgrade signage of beaches used for recreational and sporting purposes. | EM (Police / Warden) |
| | Vegetation & forests rehabilitation programs to be implemented as part of development work-out in the project. | Landowners / developers |
| | Use of erosion control measures that pose a risk to coastal erosion. | EM (Coastal) |
| | Develop a Coastal Management Plan for Lowvuse Development | EM (Coastal Management) |
| | Leverage conditional management funding from Working for Water / Working for Coastal Protection | EM (Coastal Management) / EM (Water Management) / EM (Coastal Management) / EM (Coastal Management) |
| | Investigate sustainable sewage management alternatives for coastal areas that minimise risk of sewage spills & discharge of substandard effluent to coastal zone. | EM (Coastal Management) / EM (Waste Management) / EM (Coastal Management) |
| | Investigate alternative / best possible stormwater disposal / discharge design for beach areas. | EM (Coastal Management) |
| | Monitor & enforce coastal protection measures to be prepared to make in coastal areas. | EM (Coastal Management) |
| | Prepare Strategy for Shoreline Protection. | EM (Coastal Management) & Government Department |

| | | |
|--|---|---|
| Coastal Development and Management Responses | <ul style="list-style-type: none"> Monitor and enforce coastal protection measures to be prepared to make in coastal areas. Prepare Strategy for Shoreline Protection. | EM (Coastal Management) & Government Department |
| | Develop a Coastal Management Plan for Beach Protection | EM (Coastal Management) |
| | Investigate sustainable sewage management alternatives for coastal areas that minimise risk of sewage spills & discharge of substandard effluent to coastal zone. | EM (Coastal Management) / EM (Waste Management) / EM (Coastal Management) |
| | Investigate alternative / best possible stormwater disposal / discharge design for beach areas. | EM (Coastal Management) |
| | Monitor & enforce coastal protection measures to be prepared to make in coastal areas. | EM (Coastal Management) |
| | Prepare Strategy for Shoreline Protection. | EM (Coastal Management) & Government Department |
| | Develop a Coastal Management Plan for Beach Protection | EM (Coastal Management) |
| | Investigate sustainable sewage management alternatives for coastal areas that minimise risk of sewage spills & discharge of substandard effluent to coastal zone. | EM (Coastal Management) / EM (Waste Management) / EM (Coastal Management) |
| | Investigate alternative / best possible stormwater disposal / discharge design for beach areas. | EM (Coastal Management) |
| | Monitor & enforce coastal protection measures to be prepared to make in coastal areas. | EM (Coastal Management) |
| | Prepare Strategy for Shoreline Protection. | EM (Coastal Management) & Government Department |
| | Develop a Coastal Management Plan for Beach Protection | EM (Coastal Management) |
| | Investigate sustainable sewage management alternatives for coastal areas that minimise risk of sewage spills & discharge of substandard effluent to coastal zone. | EM (Coastal Management) / EM (Waste Management) / EM (Coastal Management) |
| | Investigate alternative / best possible stormwater disposal / discharge design for beach areas. | EM (Coastal Management) |

8.3 Umkomaas Precinct

8.3.1 Overview of features, facilities and activities

| Features Summary | Facilities Summary | Activities Summary |
|--|--|--|
| <p>Umkomaas Estuary:</p> <ul style="list-style-type: none"> Regional feature. Large estuary with significant reedbeds. Protected area. 50% of the estuary is grassland and reeds which makes it maintain a good reef. There is a Sappi Seacoal Industry alongside the estuary. <p>College Forest Complex: Large patch of dense scrub and forest between Umkomaas and Makhongwa estuary.</p> <p>Land Use/ Cover Along catchments: Water Source, Crops, Trees, Grass, Urban, Bare earth, Mining, quarries, arable, Rural dwelling, Pasture</p> | <p>Sewage Treatment Works: Major sewage treatment works placed along the Umkomaas river catchment</p> <p>Heavy INDUSTRY: Sappi Seacoal Heavy Industry.</p> <p>Freeways: roads/ Roads: N2 - major transport route R102 Roads: The South Coast Rd</p> <p>Local Beach Access:</p> | <p>Natural and Built environment:</p> <ul style="list-style-type: none"> Formal coastal development of green suburban character There are also some high density, high rise coastal developments <p>Sugar Cane Farming: High value agriculture and Sugar cane farming takes place on parts of agricultural holdings</p> <p>Catchment average land use</p> <ul style="list-style-type: none"> Average Percentage of urban and rural land use cover for all the Catchments within the precinct falling under the eThekweni Marginal Area Rural - 16.3% Urban - 8% On average the catchments within this precinct are covered and dominated by crops. <p>Coastal Natural Resources</p> <ul style="list-style-type: none"> Exclusive fishing (limited), affected to some extent by the loss of sediment Ball collection (estuary, local) |

ENVIRONMENTAL PLANNING AND DEVELOPMENT CONSULTANTS

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STATIONARY PLANT

UMKOMAAS COAST, KwaZULU-NATAL

| | | |
|---|---|--|
| <p>Coastal Waters:</p> <ul style="list-style-type: none"> a) High-energy coastal waters with strong wave action that places limitations on coastal use and represents a threat to existing infrastructure. b) Northern in-shore current that carries large quantities of sediment necessary for beach maintenance c) Provides attractive views from land with potential for beach watching <p>Marine Living Resources:</p> <ul style="list-style-type: none"> a) Accessible to on-shore fisheries and harvesting. b) Cannot sustain large commercial catches | <p>There is very limited beach access routes within the area There are footpaths however there are formalised parking spaces</p> <p>Damage to dunes: significant</p> <p>Beaches: Mankosi, Stoney Bay, Mankosi Bay</p> | <ul style="list-style-type: none"> Harvesting of reeds (local) Sand mining <p>Water-based recreational activities:</p> <ul style="list-style-type: none"> Swimming takes place along the coastline. The Alfred Shiba walks along the SEA Boat launching <p>Residential: There are few structures very close to the Coast and these structures are between the coast and the railway line (beyond the coastal setback line)</p> <p>Farming: High value agricultural land. Forestry takes place alongside sugar cane</p> |
|---|---|--|

8.3.2 Risks

- Inefficient sediment management: high silt loading, frequent flooding, poor water quality.
- Reduced beach WWTW at head of estuary.
- High sea winds, erosion and loss of beachside habitat.
- Local electronic rubbish containing pollutants (major waste threat).
- Infrastructure (road bridges) restricting water flows and impacting on estuarine functionality.
- Moderate levels of natural resource harvesting (green, fish, mud prawn).
- Animal and bird poaching, medicinal plant harvesting.
- Illegal dumping.
- Illegal quarrying.
- Urban.
- Development, agricultural and alien vegetation encroachment into natural coastal.
- Uncontrolled fire (associated with sugar cane).
- Loss of biodiversity asset through re-arrangement.
- Destabilisation of coastal dunes due to illegal access paths.
- Sea level rise and associated erosion of the coastline.
- Pollution as a result of inadequate estuarine management.
- Destabilisation of dune areas.

9 APPENDIX TWO: DETAILED ASSESSMENT OF THE COASTAL PRECINCTS

3.3 Umkomoas

| SITUATIONAL ASSESSMENT OF THE PERFORMANCE OF THE PRECINCT: UMKOMOAS | | | |
|---|--|---|---|
| Precinct Area Rules | Features | Facilities and Infrastructure | Activities |
| NATIONAL ROLES | | | |
| Military | - | - | - |
| Cruise-Ship Tourism | - | - | - |
| Airport Operation | - | - | - |
| National Biodiversity Corridor | The continuous stretch of coastal terrestrial and marine assets links the area into South Africa's coastline and adjacent countries (Mozambique) coastline. The Admiralty Reserve and adjacent areas including dune forests, beaches, rocky shores, estuaries, and near-shore ocean are significant national and local assets. | Golf course/ Bush along with infrastructure, (roads and storm water pipelines) fragmenting the coastal corridor. | Use of biodiversity corridor recreation (walking) at all beaches. Potential use of the corridor for recreational trails (sections were formerly used). Protection of beaches from industry and sea attacks. Continued pressure for incursions into coastal corridor through historic land ownership practices where private individuals own sections of the international corridor. |
| ECONOMIC ROLES | | | |
| Economic Generator/Multiple | The views of the sea, the natural assets of the coastal dune and estuarine marine resources support tourism. The SPA nature of the precinct supports tourism. | The ocean point at Swaney Bay and coastal dune paths support tourism. Poor east west road linkages and only one major road link to the city detracts from coastal tourism. | Beach maintenance activities support tourism. Limited maintenance of the coastal paths detracts from tourism. All pollution activities outside the area and the coastal study area detract from tourism. |

Used, Adapted from
ENVIRONMENTAL PLANNING & DEVELOPMENT CONSULTANTS

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| SITUATIONAL ASSESSMENT OF THE PERFORMANCE OF THE PRECINCT: UMKOMOAS | | | |
|---|--|---|---|
| Precinct Area Rules | Features | Facilities and Infrastructure | Activities |
| Economic Generator | | Recreational and healthy areas provide opportunities for domestic employment. | |
| SOCIAL | | | |
| Coastal Lifestyle | The views of the sea, the natural assets of the coastal dune and estuarine marine resources support coastal lifestyle. The clear coastal dune links access points to the coast and detracts from coastal lifestyle. Underutilised sea front. | The ocean point to the Swaney Bay and coastal dune paths support coastal lifestyle. Limited Storage Underpass - sea front Access to Alton Sheel | Beach maintenance activities support tourism. Limited maintenance of the coastal paths detracts from coastal lifestyle. Beach front structuring and management of development pressures |
| Coastal Recreation | The natural state of the coastal dune and proximity to the sea support coastal recreation. | The Swaney Bay ocean point and coastal dune paths support coastal recreation. Poor east west road linkages and only one major road link to the city detracts coastal recreation. | Beach maintenance activities support coastal recreation. Limited maintenance of the coastal paths detracts from coastal recreation. |
| Food Resources | The proximity and productivity of the sea support the exploitation of coastal food resources. The steep coastal dune links access points to the coast and detracts from exploitation of coastal food resources | The Swaney Bay ocean point supports exploitation of coastal food resources. | Over-exploitation of the marine resources may detract from exploitation of coastal food resources. Wastewater disposal in the beach area may impact on the quality of the catch. Waste disposal activities that result in occupational pressures in the Umkomoas Estuary detract from |

| SITUATIONAL ASSESSMENT OF THE PERFORMANCE OF THE PRESENTING MUNICIPALITY | | | |
|--|---|--|--|
| Present Area / Role | Features | Factors contributing to the | Activities |
| Environmental Education | The ecotourism with Umkomaas, and natural dune system supports Environmental Education. | | Impact on the society of the sector is the key point for exploitation activities. |
| ENVIRONMENTAL SERVICES | | | |
| Land Stability | Well-vegetated areas of the dune system protect land stability. However, the dunes are highly unstable and inappropriate activities that damage vegetation and result in a loss of stability. | Lignified and stabilised neighbourhood access points from dunes to beaches with appropriate pathways / roads protect land stability. Multiple access pathways from individual homes : erodes down steep slopes causing instability and erosion. Pipelines and conduits requiring to be kept clear of trees destabilising slopes. Storm water discharge from roads destabilising slopes and causing erosion. Cut and fill for development causing slope destabilisation. | Chopping of dune vegetation to enhance better sea views destabilising dune slopes (residential, parking lots) |
| Terrestrial Marine Estuarine regeneration | A variety of ecological processes provide in: Forested / grassy dunes, beaches, rocky shores and the near-shore ocean all contribute to natural regeneration. | Artificially remove and disturb areas protect regeneration processes. Infrastructure, development and illegal pathways that destabilise slopes and change natural accretion to other local terrestrial regeneration processes. | Unmanaged alien plant invasions, chopping of vegetation for sea views and natural resource harvesting. Illegal dumping in natural and recreational use of the area, air pollution and effluent deposited on the marine shoreline, sand mining all impact on the regeneration ability of the area. Management activities in natural areas caused by alien plants are limited because of a lack of funds. Limited incentives for management of |

| SITUATIONAL ASSESSMENT OF THE PERFORMANCE OF THE PRESENTING MUNICIPALITY | | | |
|--|---|--|--|
| Present Area / Role | Features | Factors contributing to the | Activities |
| | | | Use of private ownership containing natural areas. Recreational areas and result in over utilisation of natural resources (e.g. fishing / spearfishing). Access to beaches through dunes / use of dunes as part of beachside resulting in loss of dune vegetation. |
| Water Assessment / Drain | The near-shore ocean plays a waste assimilation role. The high-energy wave action of the near-shore combined with strong current act to disperse waste quickly. | Umkomaas merged wastewater discharges upstream of Umkomaas estuary. Air emissions infrastructure in Umkomaas that results in pollution outside into ocean / natural areas. Sea outfalls allow effluent to be accepted in the near shore environment. Air emissions infrastructure in the Umkomaas area results in pollution outside into ocean / natural areas. | Establishment monitoring programmes for water quality in near-shore ocean and the beaches and monitoring programmes for air quality in the Umkomaas Management Area and coastal zone help track the waste assimilation ability of the area. Illegal discharges of industrial wastewater into storm water systems that may contain pollutants impact on the waste assimilation potential of the area. |
| Air Pollution Dispersion | The land and sea breeze of the area help to disperse air pollution. Steep dune scrub and forest slopes create windbreak which limits air movement and associated pollutants between sea and land. | Secondary air pollutants emitted stacks in Umkomaas to reach airflows over dune scrub and forest. | Vehicles utilising the A2 and R102 industrial emissions caused by the nearby SAPPAPATOR paper mill some 2 km's upstream from the Umkomaas river mouth. The landfill site. |
| Climate Control | Natural assets in the coastal zone inherently play a role in regulating local climate and the climate of adjacent Umkomaas area (Near-shore ocean and Forested dune edges.) | | |

| SITUATIONAL ASSESSMENT OF THE PERFORMANCE OF THE PRESCRIBED UNIFORMS | | | |
|--|--|--|------------|
| Predicted Area Roles | Features | Facilities and Infrastructure | Activities |
| Sea Erosion Protection | The dune scrub and forest and the coastal forests system large land barrier protecting the area from high-energy seas that can result in coastal erosion. Sediment supply from the near-shore ocean compensates for erosion of beaches. | | |
| Visual Amenity | The near-shore ocean, beaches and rocky shores, forested / grassy dune slopes, bays and estuaries, the agricultural all contribute to the visual amenity of the area. | Residential, commercial and recreational development maximizing use and protection of visual amenity. The old main rd (R102) and the railway line run parallel to the coast and within 200m of the high water mark, which poses a negative visual impact. The town area moving towards the R102 has dilapidating buildings which also creates a negative visual transition on the area and surrounding landscape. | |

9.5.6 Tourism in Umkomas

Tourism in Umkomas is primarily driven by the scuba diving industry, a more adventurous market segment than that of the Moyo and Kariene Beach areas to the North. The primary gateway to Umkomas is through Durban which requires passing through the Umgababa area either on the N2 or R102. This scuba diver market can provide additional tourist volume.

9.5.6.1 Brief Description of the Scuba Diving Industry in Umkomas

The representative body of the scuba diving industry is the Alival Shoal Charter Boat Owners Association (ASCBOA). The following has been established from representative members

- Alival Shoal is a top ten ranked dive site in the world
- The Alival Shoal Boat Owners Association was formed in 2005 to serve as forum for addressing operational and strategic issues for the Umkomas diving industry
- There are approximately 10 dive companies employing 60 people
- Approximately 18 000 divers make 32 000 paid dives annually
- It has been established that only a third of what the divers spend goes directly to dive companies, two thirds being a downstream spend

9.5.7 SSDP Tourism Suggestions with regards to the Study Area

- Feasibility study into upgrading existing tourism facilities in the South and creating a range of both coastal and inland opportunities.
- Providing guidance for and encouraging private investment in the range of tourism opportunities and developing appropriate support mechanisms.
- Where relevant providing appropriate support amenities.
- Supporting and guiding in particular the development of a range of tourism and recreational opportunities in the Umgababa and Umkomas areas with appropriate reference to environmental issues.

eThekweni Municipality: Integrated Development Plan (IDP) – 5 year plan 2006/07 to 2010/11

The Eight Point Plan is listed as:

- 1. Sustaining our natural and built environment.**
- 2. Economic development and job creation.**
- 3. Quality living environment.**
- 4. Safe, healthy and secure environment.**
- 5. Empowering citizens.**
- 6. Celebrating our cultural diversity.**
- 7. Good governance.**
- 8. Financial viability and sustainability.**

KZN Provincial IDP Management Plan 2008/09 to 2009/10

Implications of the above mentioned Policies, Frameworks, Guidelines etc for the Proposed Development:

The above-mentioned policies, frameworks, development plans, guidelines etc. must be taken into consideration when planning the proposed development.

SECTION C: SITE/AREA DESCRIPTION

Note: There is only one site alternative namely S1 and therefore this section will not be repeated.

Important note: For linear activities (pipelines etc) as well as activities that cover very large sites, it may be necessary to complete Section C for each part of the site that has a significantly different environment. In such cases please complete copies of Section C and indicate the area, which is covered by each copy No. on the Site Plan.

Section C Copy No. (e.g. A):
(complete only when appropriate)

1. GRADIENT OF THE SITE

Indicate the general gradient of the sites.

Alternative S1:

| | | | | | | |
|------|-------------|------------------|-------------|--------------|-------------|------------------|
| Flat | 1:50 – 1:20 | 1:20 – 1:15 X | 1:15 – 1:10 | 1:10 – 1:7,5 | 1:7,5 – 1:5 | Steeper than 1:5 |
|------|-------------|------------------|-------------|--------------|-------------|------------------|

Alternative S2:

N/A

Alternative S3:

N/A

2. LOCATION IN LANDSCAPE

Indicate the landform(s) that best describes the site.

Alternative S1:

| | | | | | | | | |
|-----------|---------|-----------------------------|---------------|------------------|-------|----------------------------|------|-----------|
| Ridgeline | Plateau | Side slope of hill/mountain | Closed valley | Open valley X | Plain | Undulating plain/low hills | Dune | Sea-front |
|-----------|---------|-----------------------------|---------------|------------------|-------|----------------------------|------|-----------|

Alternative S2:

N/A

Alternative S3:

N/A

3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

Is the site(s) located on any of the following (tick the appropriate boxes)?

Shallow water table (less than 1.5m deep)
Dolomites, sinkhole or doline areas

Seasonally wet soils (often close to water bodies)
Unstable rocky slopes or steep slopes with loose soil
Dispersive soils (soils that dissolve in water)
Soils with high clay content (clay fraction more than 40%)
Any other unstable soil or geological feature
An area sensitive to erosion

Alternative S1:

| | |
|-----|----|
| YES | NO |
| YES | NO |
| YES | NO |
| YES | NO |
| YES | NO |
| YES | NO |
| YES | NO |

Refer to Appendix D (f) for the Hydrological Assessment and the Flood Line Determination

If you are unsure about any of the above or if you are concerned that any of the above aspects may be an issue of concern in the application, an appropriate specialist should be appointed to assist in the completion of this section. (Information in respect of the above will often be available as part of the project information or at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by the Council for Geo Science may also be consulted).

Has a specialist been consulted to assist with the completion of this section?

| | |
|-----|----|
| YES | NO |
| | X |

If YES, please complete:

Name of the specialist: _____
 Qualification(s) of the specialist: _____
 Postal address: _____
 Postal code: _____

Telephone: _____ Cell: _____
 E-mail: _____ Fax: _____

Are any further specialist studies recommended by the specialist? YES NO

If YES, specify: _____
 If YES, is such a report(s) attached? YES NO

Signature of specialist: _____ Date: _____

4. GROUND COVER

Tick the types of groundcover present on the site.
 Alternative A1, A2 & S1:

| | | | | |
|--|--|--|---------------------------------|-----------|
| Natural veld - good condition ^E | Natural veld with scattered aliens ^E X | Natural veld with heavy alien infestation X | Veld dominated by alien species | Gardens |
| Sport field | Cultivated land | Paved surface | Building or other structure | Bare soil |

If any of the boxes marked with an "E" is ticked, please consult an appropriate specialist to assist in the completion of this section if the environmental assessment practitioner doesn't have the necessary expertise.

Has a specialist been consulted? YES NO
 X

Refer to Appendix D (B) for wetland and ecological report

If YES, please complete the following:

Name of the specialist: Stephen van Staden
 Qualification(s) of the specialist: Pr. Sci. Nat
 Postal address: 347 Highland Road
 Kensington
 Postal code: 2094
 Telephone: (011) 616 7893 Cell: -
 E-mail: Stephen@sasenvironmental.co.za Fax: (011) 615 4165

Are there any rare or endangered flora or fauna species (including red data species) present on any of the alternative sites? YES NO
 X

If YES, specify and explain: _____

Are there any special or sensitive habitats or other natural features present on any of the alternative sites? YES NO
 X

If YES, specify and explain:

At present the site is vacant and has a non-perennial stream flowing through it. The flow in this system is augmented by ingress of storm water by several storm water canals entering the site. These canals have played a role in increasing the wetland size that has formed along the eastern part of the property. In addition to these wet areas, wetland conditions extend up the drainage lines running through the property. With the subject property located near to the coast line and due to the natural topography of the area, there is an extensive floodplain area surrounding the drainage feature. This floodplain currently covers the majority of the subject property.

Ecological condition and function on the proposed development sites is mixed with some aspects functioning well, however other aspects show signs of impact. The area provides good habitat and cover for fauna and flora species, however alien vegetation encroachment serves as an indication of past disturbances and the influence of the surrounding area. With the area forming a natural drainage line, the development site has a wetland habitat and associated community present. Due to the effects of the surrounding areas, the wetland has seen some impact from alien vegetation encroachment and some impacts on the water quality of the system are evident.

The local authority currently uses the study area as storm water attenuation facility and the natural drainage line has been altered to form a concrete channel along the northern boundary of the study area. According to the wetland specialist and DWA it will be possible to accommodate the proposed development on the study area without impacting on the current storm water and ecological functioning of the site. In fact, good planning and management can even improve the storm water management and promote the optimal development of the ecological potential of the site.

| | | |
|---|-----|---------|
| Are any further specialist studies recommended by the specialist? | YES | NO X |
| If YES, specify: If YES, is such a report(s) attached? | | |
| | YES | NO |

Signature of specialist: _____ Date: _____

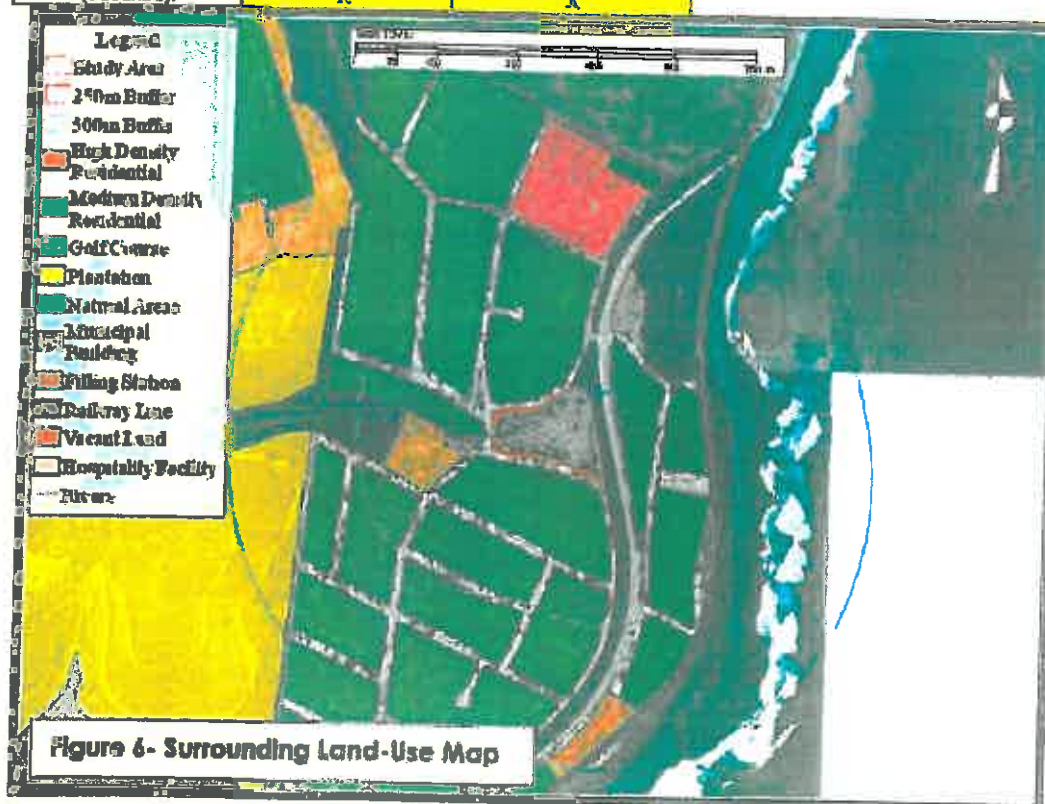
The location of all identified rare or endangered species or other elements should be accurately indicated on the site plan(s).

5. LAND USE CHARACTER OF SURROUNDING AREA

Tick the land uses and/or prominent features that currently occur within a 500m radius of the site

Alternative S1, A1 and A2:

| | | | | |
|---|---|--|---|-----------------------------------|
| Natural area X | Low density residential | Medium density residential X | High density residential X | Informal residential ^A |
| Retail | Commercial & warehousing | Light industrial | Medium industrial ^{AN} | Heavy industrial ^{AN} |
| Power station ^A | Office/consulting room | Military or police base/station/compound | Casino/entertainment complex | Hospitality facility X |
| Open cast mine | Underground mine | Spoil heap or slimes dam ^A | Quarry, sand or borrow pit | Dam or reservoir |
| Hospital/medical center | School | Tertiary education facility | Church | Old age home |
| Sewage treatment plant ^A | Train station or shunting yard ^N | Railway line ^N X | Major road (4 lanes or more) ^N | Airport ^N |
| Harbour | Sport facilities | Golf course X | Polo fields | Railway line ^N X |
| Landfill or waste treatment site ^A | Plantation X | Agriculture | River, stream or wetland X | Nature conservation area |
| Mountain, koppie or ridge | Museum | Historical building | Graveyard | Archaeological site |
| Other land uses (describe): | Vacant Land X | Municipal Building X | | |



If any of the boxes marked with an "X" are ticked, please consult an appropriate noise specialist to assist in the completion of this section.

Has a specialist been consulted?

| | |
|-----|---------|
| YES | NO X |
|-----|---------|

If YES, please complete the following:

Name of the specialist: _____
 Qualification(s) of the specialist: _____
 Postal address: _____
 Postal code: _____
 Telephone: _____ Cell: _____
 E-mail: _____ Fax: _____

Will the ambient noise level have a negative impact on the proposed activity? YES NO

If YES, specify and explain: _____

Are any further specialist or studies recommended by the specialist? YES NO

If YES, specify: _____

If YES, is such a report(s) attached? YES NO

Signature of specialist: _____ Date: _____

If any of the boxes marked with an "X" are ticked, please consult an appropriate air quality specialist to assist in the completion of this section.

Has a specialist been consulted?

| | |
|-----|----|
| YES | NO |
|-----|----|

If YES, please complete the following:

Name of the specialist: _____
 Qualification(s) of the specialist: _____
 Postal address: _____
 Postal code: _____
 Telephone: _____ Cell: _____
 E-mail: _____ Fax: _____

Will the ambient air pollution level have a negative impact on the proposed activity? YES NO

If YES, specify and explain: _____

Are any further specialist studies recommended by the specialist? YES NO

If YES, specify: _____

If YES, is such a report(s) attached? YES NO

Signature of specialist: _____ Date: _____

If any of the boxes marked with an "X" are ticked, please consult an appropriate health assessment specialist to assist in the completion of this section.

Has a specialist been consulted?

| | |
|-----|---------|
| YES | NO X |
|-----|---------|

If YES, please complete the following:

Name of the specialist: _____
 Qualification(s) of the specialist: _____
 Postal address: _____
 Postal code: _____
 Telephone: _____ Cell: _____
 E-mail: _____ Fax: _____

Will the surrounding land use pose any unacceptable health risk on the proposed activity? YES NO

If YES, specify and explain: _____

Are any further specialist studies recommended by the specialist? YES NO

If YES, specify: _____

If YES, is such a report(s) attached? YES NO

Signature of specialist: _____ Date: _____

6. CULTURAL/HISTORICAL FEATURES

Alternative 81

Are there any signs of culturally or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including archaeological or palaeontological sites, on or close (within 20m) to the site?

| | |
|-----------|---------|
| YES | NO X |
| Uncertain | |

If YES, explain:

Please note that Bokamoso Informed SAHRA of the proposed development, but received no comments.

If uncertain, conduct a specialist investigation by a recognised specialist in the field to establish whether there is such a feature(s) present on or close to the site.

Briefly explain the findings of the specialist:

Will any building or structure older than 60 years be affected in any way?

Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?

| | |
|-----|----|
| YES | NO |
| YES | NO |

If yes, please submit or, make sure that the applicant or a specialist submits the necessary application to SAHRA or the relevant provincial heritage agency and attach proof thereof to this application if such application has been made.

SECTION D: PUBLIC PARTICIPATION

1. ADVERTISEMENT

Refer to Appendix E (iii) - Proof of the Site Notice

E (iv) - Proof of Newspaper Article

The environmental assessment practitioner must follow any relevant guidelines adopted by the competent authority in respect of public participation and must at least –

- 1(a) Fix a notice in a conspicuous place, on the property where it is intended to undertake the activity which states that an application will be submitted to the competent authority in terms of these regulations and which provides information on the proposed nature and location of the activity, where further information on the proposed activity can be obtained and the manner in which representations on the application may be made.
- 1(b) Inform landowners and occupiers of adjacent land of the applicant's intention to submit an application to the competent authority
- 1(c) Inform landowners and occupiers of land within 100 metres of the boundary of the property where it is proposed to undertake the activity and whom may be directly affected by the proposed activity of the applicant's intention to submit an application to the competent authority;
- 1(d) Inform the ward councillor and any organisation that represents the community in the area of the applicant's intention to submit an application to the competent authority;
- 1(e) Inform the municipality which has jurisdiction over the area in which the proposed activity will be undertaken of the applicant's intention to submit an application to the competent authority; and
- 1(f) Inform any organ of state that may have jurisdiction over any aspect of the activity of the applicant's intention to submit an application to the competent authority; and
- 1(g) Place a notice in one local newspaper and any Gazette that is published specifically for the purpose of providing notice to the public of applications made in terms of these regulations.

2. CONTENT OF ADVERTISEMENTS AND NOTICES

Advertisements and notices must indicate that an application will be submitted to the competent authority in terms of the EIA regulations, the nature and location of the activity, where further information on the proposed activity can be obtained and the manner in which representations in respect of the application can be made;

3. PLACEMENT OF ADVERTISEMENTS AND NOTICES

Where the proposed activity may have impacts that extend beyond the municipal area where it is located, a notice must be placed in at least one provincial newspaper or national newspaper, indicating that an application will be submitted to the competent authority in terms of these regulations, the nature and location of the activity, where further information on the proposed activity can be obtained and the manner in which representations in respect of the application can be made, unless a notice has been placed in any Gazette that is published specifically for the purpose of providing notice to the public of applications made in terms of the EIA regulations.

Advertisements and notices must make provision for site alternatives where appropriate.

| | | |
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4. DETERMINATION OF APPROPRIATE MEASURES

The practitioner must ensure that the public participation is adequate and must determine whether a public meeting or any other additional measure is appropriate or not based on the particular nature of each case. Special attention should be given to the involvement of local community structures such as Ward Committees, ratepayers associations and traditional authorities where appropriate. Please note that public concerns that emerge at a later stage that should have been addressed may cause the competent authority to withdraw any authorisation it may have issued if it becomes apparent that the public participation process was inadequate.

5. COMMENTS AND RESPONSE REPORT

The practitioner must record all comments and respond to each comment of the public before the application is submitted. The comments and responses must be captured in a comments and response report as prescribed in the EIA regulations and be attached to this application. The comments and response report must be attached under Appendix E (1).

6. LOCAL AUTHORITY PARTICIPATION

Local authorities are key interested and affected parties in each application and no decision on any application will be made before the relevant local authority is provided with the opportunity to give input. The planning and the environmental sections of the local authority must be informed of the application at least 30 (thirty) calendar days before the submission of the application.

Has any comment been received from the local authority?

| YES | NO |
|--|----|
| <input checked="" type="checkbox"/> | |
| At this stage only verbal comments during the various meetings with the local authority. The local authority and DWVA however undertook to supply formal comments within 30 days of receipt of the Draft BA Report | |

If "YES", briefly describe the feedback below (also attach any correspondence to and from the local authority to this application):

During the Public Participation process the following parties were consulted regarding the proposed residential development:

- Ward Councillor – D. Clarke;
- The land-owners within 100m from the study area;
- Community forums/ associations in the area;
- WESSA;
- The local authority – Me. Penny Croucamp and Mrs. Nkuli Hadebe (x4 meetings)
- The National Department of Water Affairs (x4 meetings);
- KZN Agriculture and Environmental Affairs (x3 meetings); and
- The eThekwin! Local Authority Town Planning Division

The public participation also involved a preliminary meeting with representatives of the local community, one public meeting at the **Cuty Shark Hotel in Scottburgh on 15 March 2010**, which was ended due to the fact that the community regarded the meeting venue as too far for the all the residents to attend. A second public meeting was then successfully held at the **Italian Club in Umkomaas on 13 April 2010**.

This report represents the Draft Basic Assessment Report available for review by the public and other interested and affected parties. It was decided to make the report available from 8 December until the end of January 2011 for public and authority comments, because the report will then also be made available to the owners of holiday houses and apartments in the area.

Other Public Participation procedures that were followed include:

- The erection of x2 site notices at prominent points at the study area;
- The placement of newspaper advertisements;
- Distribution of written notices to the stakeholders (residents, tenants, authorities and other relevant parties) – by means of e-mails, faxes, hand deliveries

As EAP's Bokamoso feels satisfied that the public participation process followed complies with the relevant legislative requirements.

7. CONSULTATION WITH OTHER STAKEHOLDERS

Any stakeholder that has a direct interest in the site or property, such as servitude holders and service providers, should be informed of the application at least 30 (thirty) calendar days before the submission of the application and be provided with the opportunity to comment.

Has any comment been received from stakeholders?

| YES | NO |
|---|----|
| <input checked="" type="checkbox"/> Refer to e-mails and correspondence included as part of Appendix E (vii) and summary below | |

| | | |
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If "YES", briefly describe the feedback below (also attach copies of any correspondence to and from the stakeholders to this application):

8. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

List the issues raised by interested and affected parties.

1. Legal implications of building structures in a wetland;

Response:

There is no legislation that prohibits development within wetland areas. There are however legislation and policies that regard development within flood line areas, wetland and wetland buffers as activities that could be detrimental to the environment and therefore requires that authorization be obtained for such developments from the authorities (i.e. Activity 4 and 11 of the 2006 NEMA Regulations, Section 21 of the Water Act in the case of a natural wetland etc.). The applicant will not commence with any development activities until all authorizations and licenses in terms of all the applicable policies and legislation are obtained. If not possible to obtain authorization the development will not take place.

2. Desirability of any building in the wetland area and impact of the proposed development on the wetland area;

Response:

The impacts have been assessed and it is the EAP's opinion that the anticipated impacts can be mitigated to acceptable levels. In fact, if well planned and managed the impacts on the wetland and larger regional open space system (D'MOSS) could even be positive.

3. Concerned about the constant degradation of the site;

Response:

At present the study area appears neglected and it is invaded by exotic invaders. The applicant originally purchased the study area for development purposes, because the study area is zoned "Residential 1" and not open space/ conservation open space. At present the wetland that formed on the study area prevents the applicant from developing the site and the applicant does not have the funds to maintain and manage the site as an open space. It is also not reasonable for the surrounding community or the relevant authorities to expect an individual to manage and maintain a property for which the existing land-use rights cannot be exercised. The possibility of the local authority purchasing the property for storm water management purposes was also discussed with the local authority and due to a lack of sufficient funds this option was not regarded as a viable option.

After various alternatives were considered, the development option (in a sustainable manner) was regarded as the best option to follow for the study area. The proposed development must take the existing ecological potential and issues, the existing hydrological problems, the existing storm water management functions and problems, the concerns of the surrounding residents (especially with regards to the qualitative environment), the future management and maintenance requirements of the site and the existing; the future role of the study area in the larger regional open space system

[D'MOSS] into consideration and the development proposal must equalize or improve the existing ecological, hydrological, aesthetical, security, maintenance, management, Infrastructure conditions on and around the study area.

All the alternatives were thoroughly investigated and the opinion is that the proposed development (A1, S1) is the preferred alternative for the study area.

4. Increase in traffic – roads currently sub-standard and cannot even handle existing traffic:

A civil engineer has been appointed to investigate the current conditions of the surrounding roads and the access points to the study area. The proposed development will require some road upgradings and the civil engineer will supply more detail regarding the road upgrading as soon as the negotiations with the local authority has been completed.

According to the appointed civil engineers, the additional traffic generated can be accommodated if the necessary upgrading is done and he is of the opinion that the road upgrading will improve the existing road and circulation conditions. No upgrading will be done to the local roads without development, because the upgrading of the local roads around the study area is not regarded as a local authority priority project.

According to the appointed engineers it is anticipated that at least 50% of the housing units will be utilized as permanent residence, which will contribute towards peak traffic during the mornings and afternoons. Taking into consideration the 50% permanent residency, it can be expected that an additional 16-20 vehicles within a peak hour could be expected. Therefore a traffic impact analysis is not required and it is only required to evaluate the access to the property. Each access will be geometrically designed to reduce any unnecessary damming of traffic, furthermore the design will ensure safe traffic flow by means of taking into consideration sight distances, distances from existing intersections, accelerations and decelerations lanes and the radius for turning vehicles into and from the property. (Refer to Annexure D (iii) Traffic Impact Analysis)

5. Access of construction vehicles to site:

Response:

Addressed in the EMP (Refer to Appendix H)

6. Weight limit of construction vehicles:

Response:

Will be imposed and photographs will be taken of the existing local roads prior to construction and the contractors will be responsible for the protection of the local roads and for the fixing of roads damaged by the construction phase immediately after damaging the roads.

In order to protect the ecological sensitive areas, these areas will be demarcated and construction vehicles will be prohibited to enter into these areas.

7. Crime during construction phase;

Response:

According to the local frameworks and policies, the area is known for its high crime rates. It is true that the crime could even increase during the construction phase if no control measures are implemented. In order to prevent an increase in crime during the construction phase the applicant will appoint a security company to guard the site during the entire construction phase. Furthermore, no workers, except for the security personnel will be allowed to sleep on the site and no workers will be allowed to enter adjacent private properties without written consent of the legal owners to the contractor. The development phase will include the fencing of the study area, the provision of monitored access points that will supply public access to the wetland area and 24 hour security to be paid by the HOA.

8. Impact of the development on the fauna species and the larger continuous open space system;

Response:

The intention of the development is to improve the integrity of the ecological and wetland systems of the study area and the open spaces to which it is linked. There will be short term impacts on the ecological environment and some fauna species will move away during the construction period, but if well planned, implemented and managed the fauna species that moved away and new fauna and flora species will return/ establish in the newly created habitats, wetlands and eco-systems.

The proposed development plan for the subject property has targeted the northern, western and southern border areas which form the higher lying areas of the site. Immediately adjacent to the study area boundaries there will be some earthworks required to level the areas required for parking, as well as the stairwells of the residential units. The total area of all structures encroaching into the wetland/ flood area is 3166 m² of which 1685 m² will be developed on raised platforms supported by pillars.

Earthworks will reduce the size of the area under the flood-line by 1481 m². The impact of the alteration of the floodplain areas will have on the wetland system is regarded as being moderate to low in the construction phase of the development and low to positive in the operational phase of the development, provided that strict controls and implementation of mitigatory measures are undertaken (as indicated below).

The remainder of the development (the units themselves) are to be constructed on raised platforms supported by concrete pylons. This will be done in order to minimise earthworks and minimise the footprint of the proposed development within the 1:100 year flood-line and to ensure that the units are safe from flooding. With this design the proposed development will encroach into the temporary zone of the wetland and in some areas it is deemed likely to encroach on the seasonal zone of the wetland areas too.

As part of the proposed layout plan, the upper reaches of the stream are to be canalised. The stream in this area has already been physically impacted through incision and sedimentation. The system currently provides very limited habitat for aquatic macro-invertebrates, as well as wetland vegetation requiring permanently inundated soils. As development within the areas upstream in the catchment

continues, there will be an increased risk of erosion of these banks which already show signs of instability. As such, the canalisation of this section of the stream is deemed unlikely to significantly alter the ecological functioning and integrity of the system or the social functions of the system.

As stated above, the increased development upstream in the catchment will lead to increased demands on the wetland in terms of stream flow regulation, sediment trapping, erosion control, nutrient recycling and toxicant removal. The proposed development plan caters for the creation of three stormwater attenuation dams. These dams will be linked by the stream on the subject property which will be diverted in such a way as to allow the dams to be linked. Through the creation of the dams the ability of the wetland feature to fulfil its functions (as outlined above) will be significantly enhanced. The biodiversity of the system will also increase significantly through the creation of the dams providing habitat for wetland avifauna, and habitat and refuge areas for herpeto-fauna and aquatic macro-invertebrates.

As part of the proposed development, it is proposed that raised walkways be created through the wetland area which will allow human traffic through the area. The development of the raised walkways will significantly increase the social functions of the wetland feature through increased tourism and recreation facilities, education and research opportunities, and increased cultural significance of the feature through the improved access.

For each criterion a score out of 10 was awarded based on the perceived past importance of this system and the current state of the wetland, as well as the perceived future state based on the consideration of the proposed layout plan. The PEI, PES and DFS values were then defined as a percentage of the maximum possible value (140) for a wetland which is highly functional and has an important role in ecological and cultural processes. The findings also allow the importance of the wetland to be determined in terms of the ongoing functioning of the aquatic ecosystem in the area.

Based on this assessment method, the system can be said to have provided 19% of the services of a fully functional, ecologically important wetland in the past and as such the system can be considered to be of relatively limited importance. The PES of the system indicates a 28% service provision. The wetland can therefore be considered to be of limited importance and an insignificant deterioration in the service provision of the wetland from the past conditions has occurred.

In terms of the PFS of the system, there is some increase in the importance of the system mostly related to the increased value of the system when more people inhabit the area and the increased importance in managing the effects that an increased population in the area will have on the natural resources. In this regard mention is made of increased importance in terms of sediment trapping and erosion control, stream flow regulation and the removal of inorganic nutrients and toxicants. The importance of the system will also increase due to the increased opportunities for use of the system created by increased accessibility of the feature. The future importance of the system can therefore be described as providing 43% of the functions of a fully functional, ecologically and culturally important wetland indicating that the system can become relatively valuable on a localised scale. It must, however, be noted that in order to fulfil this role, the wetland feature will need to be carefully protected and managed throughout the life of the proposed development. The mitigatory measures in the EMP should be strictly adhered for the proposed development.

9. Number of people/ human density:

There is a need in the market for quality Residential developments and the proposed development will optimally provide in that need. The size of the development is not of extensive magnitude and therefore will not have such a large effect on the human density of the Widenham area. It is also predicted that most of the residential units will be owned by individuals using the units as holiday homes, which will only be occupied during the festive seasons.

The proposed coverage/ ecological footprint is in line with the requirements of the local authority. Due to the fact that the study area incorporates a large wetland area (almost two-thirds of the study area) that requires regular ad on-going maintenance and rehabilitation works, sufficient funds must be generated on a monthly basis to achieve the maintenance and rehabilitation goals. The applicant and his project team went through extensive exercises to determine the number of residential units required in order to generate sufficient funds from the levies for the management and maintenance of the wetland area. According to the calculations, the ideal number of units will be 54, because this will make the units and the monthly levies more affordable. In order to achieve the maintenance and rehabilitation goals at least one third of the monthly levies must be allocated for open space maintenance and rehabilitation purposes. The town planning guidelines for the area however does not allow for 3 storey developments and therefore the applicant decided to apply for the maximum number of units that will comply with the town planning guidelines, namely a coverage of 30% and height of 2 storeys.

The construction costs for the units will also be extremely high, because the existing site characteristics require that the following special measures be implemented:

- That the residential units be developed along the periphery of the site with multiple accesses;
- The existing channel must be replaced with a storm water management system that distributes the storm water across the entire central wetland area and it will also require the implementation of energy dissipaters, attenuation structures, silt traps etc.;
- The proposed residential structures must be elevated above the 1:100 year flood line by means of concrete platforms and pylons and the existing gradient of the study area must remain unchanged;
- An onsite sewer treatment facility must be implemented in the north-eastern corner of the study area and the system must make provision for the recycling of the purified water on the site. This will not only require significant piping works, but expensive pumps, back-up pumps and emergency measures to accommodate power failures must also be implemented;
- The piping of the units must also make provision for municipal water supply in circumstances of insufficient grey water supply;
- The sewer man hole must be elevated to daylight above the 1:100 year flood line; and
- Initial rehabilitation works in the wetland area.

All the above mentioned costs will make the development very expensive from the outset, but if well planned, implemented and managed, all environmental (economical, ecological and social) will eventually benefit from a sustainable development.

10. Visual impacts (open space not visible from surrounding properties):

Response:

Due to the topography of the study area and its surroundings (the surrounding properties are located significantly higher than the proposed units) the anticipated visual impacts of the proposed 2 storey units from the surrounding properties are not regarded as significant. The concerns raised were nevertheless taken into consideration and the layout therefore provides for 8 separate blocks with visual axis in between the blocks that allow for attractive views onto the central wetland area and associated landscaping.

11. Current flooding problems to the north of the site and to the north-east of the site (east of the R102):

Response:

The applicant appointed a civil engineer to investigate the current problem and to determine whether the proposed development will increase the existing flooding problems. According to the civil engineers, the flooding problems are caused by storm water system failures (i.e. blocked storm water rains and pipes) and the proposed development will not worsen the situation. If well planned and managed, the storm water management measures to be implemented as part of the development will improve the storm water management on and around the study area. The proposed units will not be affected by flooding, because the units will be elevated and constructed above the 1:100 year flood line. It is however recommended that the existing storm water and flooding problems be reported to the local authority and that the local authorities investigate and resolve the flooding problems. It is also recommended that DWA investigate the flooding and possible pollution problems in the vicinity of the filling station which has apparently been developed within the 1:100 year flood line area.

During a recent meeting with DWA, Ms. Lizelle Gregory of Bokamoso informed DWA of the flooding and pollution risks associated with the filling station and requested that DWA investigate the matter on an urgent basis. DWA undertook to investigate the situation.

12. Up-stream and down-stream impact on the hydrology/ flood line:

Response:

From a storm water management point of view, the impacts will not be significant, because the storm water design concept will aim to keep the post-development flows similar to the pre-construction flows.

From an ecological and hydrological point of view, the storm water management concept and the rehabilitation works will aim to create a better functioning system that will create habitats, purify the storm water, break the speed of the storm water, increase bio-diversity, act as valuable ecological link within the larger regional open space system etc.

If well planned, implemented and managed the proposed development will have positive impacts.

The status quo and proposed management measures are as follows:

Currently it is evident that appalling flooding takes place to residential homes further down of the proposed site. This is mainly because of the following reasons:

- The proposed development site forms a natural drainage line, being the lowest point in the valley of the surrounding area. In addition to the natural drainage of the site is evident that the drainage system receives additional runoff from (at least four) storm water canals in the area. These systems increase the flow in the system significantly and increases the duration of which surface water will persist in the area.
- The construction of the R102 to the east of the site has led to localized changes to the topography of the land thereby leading to altered drainage and runoff patterns. These changes have led to the formation of a permanent wet area on the eastern boundary of the property.
- The lack of maintenance to current stormwater canals. Vegetation, rubbish and sediment that is being washed away from upstream developments gets trap in the canals and stormwater in- and outlet structures. Resulting in these important stormwater structures to clog up and prohibiting water not to be effectively distributed downstream.

The above mentioned reasons result in the ineffective attenuating of stormwater flowing down from upstream developments. It is therefore proposed to construct for three stormwater attenuation dams. (Refer to Appendix C (f) Position of the Attenuation Dams) These dams will be linked by the stream on the subject property which will be diverted in such a way as to allow the dams to be linked. Through the creation of the dams the ability of the wetland feature to fulfill its functions will be significantly enhanced. The developer also proposes to maintain the stormwater canals and the in-and outlet structures, to prevent these structures of clogging up. The internal roads and parking areas to be utilized as storm water channels to channel stormwater away from the proposed development. (Refer to Appendix H: Environmental Management Plan).

13. Lack of sewage:

Response:

This is a problem in the area and will not be solved in the short term. The proposed sewer system in the north-eastern corner of the study area was discussed with DWA during a recent meeting and the department indicated that they would support a system that is designed and managed to comply with DWA standards. The effluent must also be treated to comply with DWA Special Standards. The only requirement of DWA is that the sewer manhole must daylight above the 1:100 year flood line, because that measure will prevent possible pollution incidents during flooding.

The proposed system will most probably qualify for a General Authorization at DWA and the details of the proposed system will be supplied to the Department as soon as available.

At this stage the proposal is to implement a Calcamite Treatment System (a DWA acceptable system) and the system will be planned and designed as per the normal engineering requirements stipulated in the "Red Book".

14. Public access to the open space;

Response:

The applicant agreed to provide monitored public access to the surrounding residents. Pedestrian entrance gates will be provided from every street and the residents will most probably be furnished with a remote control/ key that will allow easy and safe access to the open space in the central portion of the study area.

Even though the surrounding residents will be allowed to use the study area for passive recreation purposes, it will not be necessary for the surrounding land-owners to contribute to the rehabilitation and on-going management and rehabilitation of the central wetland area.

15. Developer's only intention is to make the maximum profit;

Response:

It is true that the developer purchased the study area for development purposes. The study area was not zoned open space when he purchased the property. It was zoned for x8 "residential 1" developments across the entire study area. Surely the applicant cannot be penalized for bad planning that took place in the past. The local authority and DWA already acknowledged the problems associated with the development of the study area and agreed that it would be possible to consider a compromise situation that will be beneficial to all parties involved. The applicant did not ignore the comments and concerns raised by the authorities or the public. The applicant instead entered into lengthy negotiations with the authorities (which involved the compilation and submission of various preliminary concepts and alternatives prior to the compilation of the BA report) and with the public in order to try and accommodate all the issues and aspects raised by the various parties.

It is also important to note that development will serve as residential establishment for individuals working in the surrounding areas, as well as holiday homes. This development will, contribute to economic development in terms of job creation (both during the construction and operational phases). Economic active people will reside in the units, which will in turn again stimulate the local economy in terms of rates and taxes payable to the Local Municipality.

16. Implications of Durban Municipality Open Space System on the proposed site.

Response:

If well planned and managed, the central wetland system will play an important role in the larger D'MOSS. The role will not only have a linkage function, but it will also have important ecological and hydrological functions.

Special measures will be implemented to control the spreading of *Lantana camara* as well as *Solanum mauritianum*. Areas affected by construction will be rehabilitated as soon as the construction is completed.

Response from the practitioner to the issues raised by the interested and affected parties (A full response must be given in the Comments and Response Report that must be attached to this report)

Refer to response supplied above and Refer to Appendix E1 – Issues and Response Report

SECTION E: IMPACT ASSESSMENT

The assessment of impacts must adhere to the minimum requirements in the EIA Regulations, 2006, and should take applicable official guidelines into account. The issues raised by interested and affected parties should also be addressed in the assessment of impacts.

1. IMPACTS THAT MAY RESULT FROM THE PLANNING AND DESIGN PHASE

List the potential site alternative related impacts (as appropriate) that are likely to occur as a result of the planning and design phase, including impacts relating to the choice of site alternatives.

Alternative S1 (preferred alternative) – SITE ALTERNATIVE

The application site is currently vacant and has been disturbed by human activity. S1 deals with locality alternatives and there is only one locality alternative, namely the study area as described in this application, for the proposed development.

The applicant originally purchased the study area for development purposes, because it was zoned for the development of "residential 1" units and the applicant regarded the site as ideally situated for a residential development.

Note: no mitigation measures will be supplied for the positive impacts, because it is not necessary to mitigate positive impacts. Where possible mitigation measures to prevent or restrict negative impacts will be supplied when the negative impacts are listed. These mitigation measures will be incorporated as part of the EIMP. Refer to Appendix H.

Direct impacts: Impact directly caused by the development.

Indirect impacts: Impacts caused by development impacts – not directly noticeable or identifiable.

Direct impacts (Planning and Design Phase):

Positive:

- Due to topography visual impact will not be significant – located in lower lying area.
- In close proximity of the beach.
- Attractive setting.
- The site has some "Sense of Place".
- Availability of some municipal services.
- Site urgently requires some rehabilitation and the implementation of effective storm water management measures – will eventually be disturbed, even if no development takes place.
- The study area is situated within the "urban edge".
- Tranquil setting.
- Proposed land-use in line with the surrounding land-uses;

Negative:

- Wetland, wetland buffer and 1:100 year flood line affects study area – layout must take these aspects into consideration and original layouts to be amended to where possible avoid permanent wetlands and flood line areas;
- Water pollution risks;
- Storm water management very important and can be a costly exercise.
- Perched water conditions.
- External services must be installed and upgraded in order to link-up with municipal services;
- No Municipal sewer connection.

Indirect impacts

Positive:

- Limited visual impacts.
- Improvement of ecological integrity of larger regional open space system,
- Improvement of storm water management in larger catchment,
- Improved water quality,
- Attenuation of storm water generated in catchment,
- Removal of weeds and exotic invaders,
- Habitat creation,
- Increase bio-diversity

Negative

- Reckless development activities next to the wetland and drainage line can cause siltation and water pollution and can have a negative impact on the ecological integrity of the larger regional open space system.
- Possible social impacts of additional traffic, loss of communal open space, impact on visual qualities of the area including "Sense of Place", loss of tranquility
- If not sympathetically planned, the architectural style, finishes (especially exterior finishes, color themes, lighting and signage, could have a detrimental impact on the visual qualities and "sense of place" of the surrounding environment

Mitigation

- Amend the development layout where possible to avoid the wetland areas and areas below the 1:100 year flood line.
- Delineate a conservation line on the plans from the beginning and where possible avoid any work within the permanent wetland areas.
- Plan to erect a conservation fence on the conservation line and incorporate the costs for such a fence into the tender documents of the contractors from the start.
- Storm water management plans must be designed to address the construction (temporary measures) and operation phases (mostly permanent measures).
- The proposed development will be situated on a prominent site and if well planned and managed, the proposed development could be developed to enhance the "Sense of Place" of the study area and its surroundings.

Alternative S2 and S3 – Not applicable – no site alternatives

No-go alternative (compulsory)

The "No-Go" option is not regarded as a viable option, because there are no funds available for the maintenance, rehabilitation and management of the study area. The owner purchased the study area for development purposes, but due to the fact that the local authority utilises the study area for storm water management purposes, the owner is prevented from developing the study area.

The option of the local authority purchasing the study area from the owner at a market related price was mentioned to the local authority during the first discussion meeting, but the local authority indicated that they have no funds available for the purchasing of the site for conservation and storm water management purposes.

The local authority, the KZN Department of Agriculture and Environment and DWA indicated that they were willing to consider a development application on the study area. The development application must incorporate the wetland and storm water management systems on the study area and must strive to improve the ecological and hydrological conditions of the site.

The no-go alternative entails that the site stays in its current state without development. This alternative cannot be implemented and is not regarded as a viable. If the study area is left in its current (disturbed) state, the site will be subject to erosion, siltation and water pollution. Once these destructive processes "kick-in", the direct impacts on the site will eventually trigger indirect impacts on the adjacent wetlands and other ecological systems to which the study area is connected.

From a social point of view, the undeveloped and derelict site can become a security risk. Sites that have been earmarked for development and that already have development rights in place, can easily become neglected if it takes long to get the development off the ground. The fact that a dead person was found on the study area during one of the specialist's site visits proves the current security risks.

In the case of the specific study area, the "no-go" area is not regarded as a viable alternative.

Alternative S1

(S2 and S3 Not Applicable)

- Amend the development layout to avoid the wetland areas and areas below the 1 100 year flood line.
- Delineate a conservation line on the plans for the beginning and where possible avoid any work within 1m from the wetland buffer.
- Plan to erect a conservation fence on the conservation line and incorporate the costs for such a fence into the tender documents of the contractors from the start.
- Storm water management plans must be designed to address the construction (temporary measures) and operation phases (mostly permanent measures):
- The proposed development will be situated on a very prominent site and if well planned and managed, the proposed development could be developed to enhance the "Sense of Place" of the study area and its surroundings.
- The architectural styles and finishes must blend in tastefully with the surrounding environment, especially if one takes into consideration that the proposed development will be situated at the along the R102.

- Due to the location and topography of the study area and surroundings the proposed development will be visible from the surrounding properties and roads. However, it could also have a positive impact if the development is well-planned and integrated with the surrounding area.

List the potential activity/technology alternative related impacts (as appropriate) that are likely to occur as a result of the planning and design phase:

Alternative A1 (preferred alternative) - (32 units residential development consisting of x8 separate blocks - Direct/ Indirect/ Cumulative Impacts)

The activity applied for is to consolidate the x8 erven and to rezone it for a 32 unit residential development that will have a smaller or equal ecological footprint than the 8 erven.

Alternative A1 Note: No mitigation required for positive impacts, some guidelines were however supplied (where regarded as necessary) in order to ensure optimal development of environmental opportunities/ potential associated with positive impacts

Design and Planning Phase:

| Environmental Aspects | Geology, Soil and Stability | Water Quality | Flora | Fauna | Land Character Use | Visual Quality & Sense of Place | Air Quality | Archaeology | Socio-Economic | Direct Impact | Indirect Impact | Cumulative Impact |
|---|--|---------------|-------|-------|--------------------|---------------------------------|-------------|-------------|----------------|---------------|-----------------|-------------------|
| DESIGN AND PLANNING PHASE | | | | | | | | | | | | |
| 1) If the layout encroaches far into the wetland and wetland area | ■ | ■ | ■ | ■ | | | | | | | √ | √ |
| Mitigation: | Amend the original layout in order to avoid the central section of the wetland and design units to be above the 1:100 year flood line. | | | | | | | | | | | |
| 2) Even though the local authority agreed that the services can be connected to the municipal systems, some upgrading works to the services will be required | | | | | | | | | ◆ ■ | | √ | √ |
| Mitigation: | -Identify all the external services upgrading required to connect to the municipal system – apply and plan for the upgrading of such services; | | | | | | | | | | | |
| 3) The study area is very visible. The proposed development with its central open space creates the ideal opportunity to design a development that will enhance | | | | | | | | | ◆ | | √ | |

Make provision for security costs in the project budgeting and tender process;
 -Only allow security personnel to sleep on the site during the construction phase and also plan for the implementation of a security system that will reflect a database of all workers and personnel on site during the construction phase;
 -If possible fence the construction site and allow for one/ two allocated and monitored contractor's entrance/s

Alternative A2 (64 Residential Units – x9 blocks and x6 units per 3 storey blocks)

Design and Planning Phase:

| Environmental Aspects | Geology, Soil and Slope | Water Quality | Flora | Fauna | Land Use Character | Visual Quality & sense of place | Air Quality | Archaeology | Socio-Economic | Proposed Impact | Indirect Impact | Cumulative Impact |
|---|--|---------------|-------|-------|--------------------|---------------------------------|-------------|-------------|----------------|-----------------|-----------------|-------------------|
| DESIGN AND PLANNING PHASE | | | | | | | | | | | | |
| 1) If the layout encroaches far into the wetland and wetland area | ■ | ■ | ■ | ■ | | | | | | ■ | ✓ | ✓ |
| Mitigation: | Amend the original layout in order to avoid the central section of the wetland and design units to be above the 1:100 year flood line. | | | | | | | | | | | |
| 2) Even though the local authority agreed that the services can be connected to the municipal systems, some upgrading works to the services will be required | | | | | | | | | ◆ ■ | ■ | ✓ | ✓ |
| Mitigation: | -Identify all the external services upgrading required to connect to the municipal system – apply and plan for the upgrading of such services; | | | | | | | | | | | |
| 3) The study area is very visible. The proposed development with its central open space creates the ideal opportunity to design a development that will enhance the "Sense of Place" of the study area and the surrounding area | | | | | | | | | ◆ | ■ | ✓ | |
| Guidelines: | -The architectural styles and finishes must blend in tastefully with the surrounding environment. | | | | | | | | | | | |
| 4) Obstruction of views of surrounding properties | | | | ■ | ■ | | | | ■ | ■ | | |
| Mitigation: | -Design separate residential blocks that will allow for views onto the wetland area | | | | | | | | | | | |

| | from the surrounding properties | | | | | | | | | | | | |
|---|---|---|---|---|---|--|--|--|--|---|--|---|---|
| 5) The topography of the study area is regarded as ideal for the proposed development (from a design, engineering and social point of view) | ◆ | ◆ | ◆ | ◆ | ◆ | | | | | ◆ | | √ | √ |
| Guidelines: | <ul style="list-style-type: none"> -Plan for the implementation of temporary storm water management measures during the construction phase; -Storm water management during the operational phase is also very important, because the study area currently functions as a storm water attenuation facility within the catchment area. This function must remain even if the study area is developed; - the storm water management must be planned to prevent erosion, siltation and water pollution; -The storm water management must be designed to ensure the long terms sustainability of the wetland system and to protect the ecological integrity of the larger open space system to which it is connected | | | | | | | | | | | | |
| 6) Vehicle maintenance, site camps, storage of building materials and products on site and storage of waste on site could cause pollution | ■ | ■ | | | | | | | | ■ | | √ | √ |
| Mitigation: | -Locate and design areas allocated for the storage of waste and equipment and to act as site camp in such a way that it will prevent pollution (air, water, soil, noise and visual) during the construction and operational phases of the project. | | | | | | | | | | | | |
| 7) Heavy vehicle traffic and noise increase on the local roads. | | | | | | | | | | ■ | | √ | √ |
| Mitigation: | -Determine heavy vehicle movement patterns and circulation routes during the planning phase. If necessary allow for a separate heavy vehicle access route. Allow for delivery areas that are in close proximity of the site accesses. Do not allow any heavy vehicle access (construction vehicles) through the wetland or flood line areas. Incorporate vehicle movement rules as part of the tender documentation. | | | | | | | | | | | | |
| 8) Veld fires may cause damage to infrastructure, vegetation and fauna | | | ■ | ■ | | | | | | ■ | | √ | √ |
| Mitigation: | <ul style="list-style-type: none"> -Provide a designated area for fires (for heating and cooking by construction workers only) during the construction phase; - No fires will be allowed during the operational phase | | | | | | | | | | | | |
| 9) Construction during the rainy season can cause unnecessary delays and damage to the environment | ■ | ■ | ■ | ■ | | | | | | | | √ | √ |
| Mitigation: | - If possible, compile a construction program that will allow for the main construction works (especially the construction works in close proximity of the flood line and the wetland areas) during the winter months | | | | | | | | | | | | |
| 10) Accidental introduction of exotic invaders | | | ■ | | | | | | | | | √ | √ |

| | | | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|--|--|
| Mitigation: | <p>-Appoint a suitably qualified Landscape Architect or Horticulturist to assist with the compilation of landscaping and planting plans that specify the usage of plant species that are indigenous, preferably endemic. In cases where exotic species are to be used, such species must be non-invasive.</p> <p>-The Landscape Architect must be appointed to supervise the landscaping implementation during the construction phase and must certify (once the landscaping has been implemented) that the plant species that were used comply with the required standards.</p> | | | | | | | | | | |
| 11) Lighting pollution | | | | | | | | | | | |
| Mitigation: | <p>- Security lighting during the construction and operation phase must be carefully planned. These lights must not spill into the eyes of oncoming traffic and must not shine into adjacent properties;</p> <p>-Interior lighting must be subtle and in order to prevent it from lighting up the sky and from using energy, the implementation of movement switches (especially for large glassed interior areas that are highly visible) should be considered during design stages;</p> <p>- Exterior lighting, especially the lighting in the open space areas must be designed to shine downwards and the bulbs to be used should rather be "dim" that bright;</p> <p>-Prevent the implementation of exterior name boards that will flicker into the eyes of surrounding neighbours and into the eyes of oncoming traffic;</p> | | | | | | | | | | |
| 12) If areas where vegetation was removed for construction are not rehabilitated. | | | | | | | | | | | |
| Mitigation: | <p>- Compile a rehabilitation plan for the construction phase. Areas that will remain as natural vegetation after the development took place (i.e. the wetland and wetland buffer area) must be indicated on all the planning drawings and measures must be put in place (already during the construction phase) to protect and rehabilitate these areas on an on-going basis</p> | | | | | | | | | | |
| 13) Topsoil may be lost if not removed, stockpiled correctly and used during rehabilitation works. | | | | | | | | | | | |
| Mitigation: | <p>-Identify areas that are suitable for the storage of topsoil on all planning drawings. These areas must be located outside drainage lines, wetland buffers and wetland areas. Furthermore, it should not be stored in areas with perched water conditions</p> | | | | | | | | | | |
| 14) Possible pollution of the proposed on-site sewer treatment facility | | | | | | | | | | | |
| | Design a sewage system that complies with DWA design and water purification standards | | | | | | | | | | |
| 15) Security could become a problem during the construction phase | | | | | | | | | | | |
| Mitigation: | <p>-Allow for 24 hour security on the construction site during the construction phase. Make provision for security costs in the project budgeting and tender process;</p> <p>-Only allow security personnel to sleep on the site during the construction phase and also plan for the implementation of a security system that will reflect a database of all workers and personnel on site during the construction phase;</p> <p>-If possible fence the construction site and allow for one/ two allocated and monitored contractor's entrance/s</p> | | | | | | | | | | |

Alternative A3

Not applicable

No-go alternative (compulsory)

The no-go alternative entails that the site stays in its current state without development

As already mentioned the study area is currently disturbed through human intervention and exotic invaders and weeds already took over the ground coverage. The following measures must urgently be put in place to end, prevent and restrict environmental degradation:

- Rehabilitation plan,
- Temporary and permanent erosion, siltation and water pollution prevention measures,
- A security plan to prevent any further security/ crime related incidences on the study area,
- An on-going alien and weeds control programme

Note: This alternative is not regarded as a viable alternative, because the study area has been earmarked for development (inside the urban edge and it is not regarded as sustainable to spend large sums of money on the rehabilitation on land which is already disturbed and it will not (from a financial point of view) be possible for the owner to maintain the site and implement that rehabilitation, and weed control programmes without enjoying any economical benefits from the activities on the study area

Indicate mitigation measures that may eliminate or reduce the potential impacts listed above:

| Alternative A1: | Alternative A2: | Alternative A3: |
|---|-------------------------|-----------------|
| Already addressed above – also refer to EMP | Already addressed above | N/A |

2. IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE

List the potential site alternative related impacts (as appropriate) that are likely to occur as a result of the construction phase:

Alternative B1 (preferred alternative) – Site Alternative

| | |
|--|---|
| Direct impacts: Impact directly caused by the development | |
| Indirect impacts: Impacts caused by development impacts – not directly noticeable or identifiable | |
| Direct impacts (Construction Phase): | |
| Positive: | • Temporary jobs to local community that reside in close proximity of study area |
| Negative: | • Temporary impacts on the hydrology (wetland, wetland buffer and 1:100 year flood line areas); |

| | |
|--------------------------|--|
| | <p>Water pollution risks,</p> <ul style="list-style-type: none"> Services not readily available for usage during the construction phase. Will have to use generators and must arrange for temporary toilet facilities and water trucks. Dangerous when construction vehicles enter onto local roads from the study area. Temporary disruption of services and access to surrounding properties. |
| Indirect impacts: | |
| Positives: | <ul style="list-style-type: none"> Temporary economic injection to surrounding businesses (i.e. fitting stations, hardware stores, take away outlets etc.) |
| Negative: | <ul style="list-style-type: none"> Reckless construction activities next to the wetland and drainage line can cause siltation and water pollution and can have a negative impact on the ecological integrity of the larger regional open space system. |
| Mitigation: | <ul style="list-style-type: none"> Delimitate a conservation line on the plans for the beginning and where possible avoid any work within 1m from the wetland buffer. Plan to erect a conservation fence on the conservation line and incorporate the costs for such a fence into the tender documents of the contractors from the start. Storm water management plans must be designed to address the construction phase (temporary measures). |

| |
|-----------------------|
| Alternative S2 |
| N/A |
| Alternative S3 |
| N/A |

No-go alternative (compulsory)

| | | |
|---|--|----------------------|
| <p>The no-go alternative entails that the site stays in its current state without development.</p> <p>The following measures must be urgently be put in place to end, prevent and restrict environmental degradation:</p> <ul style="list-style-type: none"> Rehabilitation plan; Temporary and permanent erosion, siltation and water pollution prevention measures. | | |
| <p>Department of Agriculture & Environmental Affairs, KwaZulu-Natal</p> | <p>Basic Assessment Report Version 3, January 2007</p> | <p>Page 70 of 94</p> |

- A security plan to prevent any further security/ crime related incidences one the study area,
- An on-going alien and weeds control programme

Note: This alternative is not regarded as a viable alternative, because the study area has been earmarked for development (inside the urban edge and it is not regarded as sustainable to spend large sums of money on the rehabilitation on land which is already disturbed and it will not (from a financial point of view) be possible for the owner to maintain the site and implement that rehabilitation and weed control programmes without enjoying any economical benefits from the activities on the study area

Indicate mitigation measures that may eliminate or reduce the potential impacts listed above:

| Alternative S1 | Alternative S2 | Alternative S3 |
|---|-------------------------|----------------|
| Already addressed above – also refer to EMP | Already addressed above | N/A |

List the potential activity/technology alternative related impacts (as appropriate) that are likely to occur as a result of the construction phase:

Alternative A1 (preferred alternative – 32 Residential Units – 8 blocks and 2 storeys)

Note: No mitigation required for positive impacts, some guidelines were however supplied (where regarded as necessary) in order to ensure optimal development of environmental opportunities/ potential associated with positive impacts

Construction Phase:

| Environmental Aspects | Stability | Geology, Soil and Soil | Water Quality | Flora | Fauna | Land Use Character | Visual Quality & sense of place | Air Quality | Archaeology | Socio-Economic | Direct Impacts | Indirect Impact | Cumulative Impacts |
|---------------------------|--|------------------------|---------------|-------|-------|--------------------|---------------------------------|-------------|-------------|----------------|----------------|-----------------|--------------------|
| CONSTRUCTION PHASE | | | | | | | | | | | | | |
| 1) Erosion | ■ | ■ | ■ | | | | ■ | | | | | √ | √ |
| Mitigation: | <p>– A storm water management plan must be compiled for the construction and operational phases of the proposed development;</p> <p>– Large exposed areas during the construction phases should be limited. Where possible areas earmarked for construction during later phases should remain covered with vegetation coverage until the actual construction phase. This will prevent unnecessary erosion and siltation in these areas;</p> <p>Rehabilitate exposed areas immediately after construction in these areas is completed (not at the end of the project);</p> <p>– Unnecessary clearing of flora resulting in exposed soil prone to erosive conditions should be avoided;</p> <p>– Specifications for topsoil storage and replacement to ensure sufficient soil coverage as soon as possible after construction must be implemented;</p> <p>– All embankments must be adequately compacted and planted with grass to stop any excessive soils erosion and scouring of the landscape;</p> <p>– Storm water diversion measures are recommended to control peak flows during thunder storms;</p> <p>– The eradication of alien vegetation should be followed up as soon as possible by replacement with indigenous vegetation to ensure quick and sufficient coverage of exposed areas.</p> | | | | | | | | | | | | |
| 2) Siltation, erosion and | ■ | ■ | ■ | ■ | | | | | | | | √ | √ |

| | | | | | | | | | | | |
|--|---|---|---|---|--|--|--|--|---|---|---|
| <p>water pollution could occur in the systems lower down in the catchment area if a stormwater management plan is not implemented</p> | | | | | | | | | | | |
| <p>Mitigation:</p> | <p>The storm water design for the proposed development must be designed to:</p> <ul style="list-style-type: none"> - Reduce and/ or prevent siltation, erosion and water pollution. If erosion, siltation and water pollution is not addressed, the sustainability of the drainage and the open space systems lower down in the catchment area can be negatively impacted by the development. - Storm water runoff should not be concentrated as far as possible and where possible sheet flow should be implemented. - The vegetation must be retained as far as possible, and rehabilitated if disturbed by construction activities to ensure that erosion and siltation do not take place. | | | | | | | | | | |
| <p>3) Construction works within or the wetland area or flood line in close proximity of the wetland area or the 1:100 year flood line area could have a negative impact on the hydrology, the integrity of the wetland area and on the ecological systems associated with the drainage line/ wetland</p> | ■ | ■ | ■ | ■ | | | | | ✓ | ✓ | ✓ |
| <p>Mitigation:</p> | <ul style="list-style-type: none"> - Delineate a conservation line on the plans for the beginning and where possible avoid any work within 1m from the wetland buffer; - Prior to the commencement of construction, the appointed ECO and contractor must confirm (on site) the delineation of the conservation fence; - Erect the conservation fence prior to the commencement of construction activities; - No construction vehicles will be allowed within the conservation area (the area fenced-off for conservation purposes); - Only workers that do rehabilitation works and workers allocated to implement services within the wetland buffer areas will be allowed to enter the protected areas; - Any works in such areas will be done under strict supervision. The installation of services and the erection of structures within wetland areas must be managed by the EAP and ECO; - Storm water management plans must be designed to address the construction phase (temporary measures); - A comprehensive storm water management plan indicating the management of all surface runoff generated as a result of the development (during both the construction and operational phases) prior to entering any natural drainage system or wetland, must be submitted and approved by the local authority and DWA and submitted to KZN Agriculture and Environmental Affairs prior to construction activities commencing; - Attenuation ponds and energy dissipaters must be installed on the study area to break the speed of the water and to act as siltation ponds; - Surface storm water generated as a result of construction phase must not be channelled directly into any natural drainage system or wetland; - The storm water management plan must indicate how surface runoff will be retained outside of the demarcated buffer/flood zone and how the natural release of retained surface runoff will be simulated; - The storm water management plan should be designed in a way that aims to ensure that post development runoff does not exceed predevelopment values in: <ul style="list-style-type: none"> • Peak discharge for any given storm; • Total volume of runoff for any given storm; | | | | | | | | | | |

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|---|---|---|---|---|---|--|--|--|--|---------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| | <p>• Frequency of runoff; and • Pollutant and debris concentrations reaching water course; - Bio-swale and bio-filters could be installed to minimize the risk of pollutants entering the natural drainage system of the area.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4) Should the construction phase be scheduled for the summer months, frequent rain could cause very wet conditions, which makes it extremely difficult to build in and to do rehabilitation works of disturbed areas. | ■ | ■ | ■ | ■ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mitigation: | -Construction workers and construction vehicles and machinery must stay out of the soggy areas during the wet periods. Barrier tape should be used to demarcate the areas that are drenched with water (especially the ecologically sensitive areas and the areas covered with valuable topsoil) and it should only be removed when the appointed Environmental Control Officer (ECO)/ site supervisor/ project manager/ main contractor regard the conditions in the affected areas as favourable. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5) If dry and windy conditions occur during the construction phase, dust pollution could become a problem. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mitigation: | -Sweeping of the construction site, clearing of builders' rubble and debris as well as the regular watering of the construction site (storage areas, roads etc.) must take place. During the windy periods the site should be damped down at least two times per day. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6) The eradication of weeds and exotic invaders | ◆ | ◆ | ◆ | ◆ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Guidelines: | - All Category 1 Declared weeds, Category 2 Declared invader and Category 3 Declared invaders occurred on the study area and must be eradicated prior to construction and throughout the operational phase of the development; - No plants not indigenous to the area, or exotic plant species, especially lawn grasses and other ground-covering plants, should be introduced in the communal landscaping of the proposed site, as they will drastically interfere with the nature of the area; - Forage and host plants required by pollinator species in the area should also be used in landscaped areas. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7) Noise of construction machinery could have a negative impact on the fauna species during the construction phase. | | | | ■ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mitigation: | - Noise should be kept to a minimum and the development should be done in phases to allow faunal species to temporarily migrate into the conservation areas in the vicinity. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8) During the construction phase (if not managed correctly) fauna species could be disturbed, trapped, hunted | | | | ■ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Department of Agriculture & Environmental Affairs, KwaZulu-Natal | | | | | Basic Assessment Report Version 3, January 2007 | | | | | Page 73 of 94 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| or killed. | | | | | | | | | | | | | | | | | | | |
| Mitigation: | <ul style="list-style-type: none"> - The integrity of remaining wildlife should be upheld, and no trapping or hunting by construction personnel should be allowed. Caught animals should be relocated to the conservation areas in the vicinity. Council shall prosecute offenders; - Conservation-orientated clauses should be built into contracts for construction personnel as well as buyers of property within the new development complete with penalty clauses for non-compliance; - Domestic pets must be excluded from areas of good quality bird habitat; - Information boards must be erected within the development information residents of the presence of Red Data bird species, their identification, conservation status and importance, biology, habitat requirements and the requirements of the plan in terms of management. | | | | | | | | | | | | | | | | | | |
| 9) Loss of habitat can lead to the decrease of fauna numbers and species. | | | | | | | | | | | | | | | | | | | |
| Mitigation: | <ul style="list-style-type: none"> - All mitigation measures for impacts on the indigenous flora of the area should be implemented in order to limit habitat loss as far as possible and maintain and improve available habitat, in order to maintain and possibly increase numbers and species of indigenous fauna. | | | | | | | | | | | | | | | | | | |
| 10) Perched water conditions during construction | | | | | | | | | | | | | | | | | | | |
| Mitigation: | <ul style="list-style-type: none"> - Some perched water conditions could occur on the study area during wet conditions it could become necessary to de-water areas for construction purposes. In many cases water is pumped from construction areas/ cut-off trenches are implemented to create dry conditions for construction. Discuss the temporary and permanent dewatering alternatives with the architect, civil engineer, geo-hydrologist, wetland specialist, geotechnical engineer and ECO in order to determine the most suitable method. The most economical alternative is not necessarily the preferred alternative from a geo-hydrological and ecological point of view. The solution must be sustainable. | | | | | | | | | | | | | | | | | | |
| 11) Structures of cultural and historical significance may be destroyed. | | | | | | | | | | | | | | | | | | | |
| Mitigation: | <ul style="list-style-type: none"> - It should be noted that in terms of the South African Resources Act (Act 25 of 1999) Section 35(4) no person may, without a permit issued by the responsible heritage resources authority destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or paleontological site or material; - Also important is that Section 34(1) of this act states that no person may alter or demolish any structure or part of a structure, which is older than 60 years without a permit, issued by the relevant provincial heritage resources authority. | | | | | | | | | | | | | | | | | | |
| 12) Possibility of illegal settlements and increased security problems | | | | | | | | | | | | | | | | | | | |
| Mitigation: | <ul style="list-style-type: none"> - With the exception of the appointed security personnel, no other workers, friend or relatives will be allowed to sleep on the construction site (weekends included); - Presence of law enforcement officials at strategic places must be ensured. | | | | | | | | | | | | | | | | | | |
| 13) Damage to roads | | | | | | | | | | | | | | | | | | | |
| Mitigation: | <ul style="list-style-type: none"> -Construction vehicles must avoid using sub-standard roads (i.e. roads in agricultural holdings that are not constructed to provincial/ local authority standards); -Record the condition of the surrounding roads (with photographs) prior to construction and require that contractors repair all damages caused during the construction phase; -Cover newly paved areas and kerbs with a sand layer during the construction phase to prevent direct damage; -Construction vehicles should only be permitted to use a designated construction entrance; Construction vehicles and activities as well as other heavy vehicles to avoid peak hour traffic times. | | | | | | | | | | | | | | | | | | |
| 14) Damage to the existing | | | | | | | | | | | | | | | | | | | |

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|--|--|--|--|--|--|--|--|--|--|--|
| | <p>compilation of landscaping and planting plans that specify the usage of plant species that are indigenous, preferably endemic. In cases where exotic species are to be used, such species must be non-invasive.</p> <p>-The Landscape Architect must be appointed to supervise the landscaping implementation during the construction phase and must certify (once the landscaping has been implemented) that the plant species that were used comply with the required standards.</p> | | | | | | | | | |
| 23) Lighting pollution | | | | | | | | | | |
| Mitigation: | <p>- Security lighting during the construction and operation phase must be carefully planned. These lights must not shine into the eyes of oncoming traffic and must not shine into adjacent properties</p> | | | | | | | | | |
| 24) If areas where vegetation was removed for construction are not rehabilitated. | | | | | | | | | | |
| Mitigation: | <p>- Compile a rehabilitation plan for the construction phase. Areas that will remain as natural vegetation after the development took place must be indicated on all the planning drawings and measures must be put in place (already during the construction phase) to protect and rehabilitate these areas on an on-going basis</p> | | | | | | | | | |
| 25) Topsoil may be lost if not removed, stockpiled correctly and used during rehabilitation works. | | | | | | | | | | |
| <p>Stockpiling in the wrong areas might be detrimental to fauna and flora and will deplete the soil quality. Topsoil should be stockpiled as specified in the EMP to ensure that the soil quality doesn't deplete and that the grass seed remain in the soil for later rehabilitation of the disturbed areas.</p> <p>In addition to the impact discussed in the paragraph above, rainwater falling onto stockpiles may become polluted with dust originating from aggregate and other construction material, such as bitumen from pre-mix stockpiles. Therefore stockpiles of topsoil should be correctly covered to prevent this as well as loss of topsoil by wind erosion.</p> <p>The footprint of stockpile areas will be contaminated with the stored material and will require cleaning before rehabilitation.</p> | | | | | | | | | | |
| Mitigation: | <p>-Identify areas that are suitable for the storage of topsoil on all planning drawings. These areas must be located outside drainage lines, wetland buffers and wetland areas. Furthermore, it should not be stored in areas with perched water conditions;</p> <p>-Designated areas for stockpiling of construction materials must be specified by the Environmental Control Officer in an area that is already disturbed;</p> <p>- Remove vegetation only in designated areas for construction;</p> <p>-Rehabilitation works must be done immediately after the involved works are completed;</p> <p>-All compacted areas should be ripped prior to them being rehabilitated/landscaped;</p> <p>- The top layer of all areas to be excavated must be stripped and stockpiled in areas where this material will not be damaged, removed or compacted. This stockpiled material should be used for the rehabilitation of the site and for landscaping purposes;</p> <p>- Strip topsoil at beginning of works and store in stockpiles no more than 1,5 m high in designated materials storage area;</p> <p>- Stockpiles should be covered correctly</p> | | | | | | | | | |
| 26) Security could become a problem during the construction phase | | | | | | | | | | |
| Mitigation: | <p>-Allow for 24 hour security on the construction site during the construction phase. Make provision for security costs in the project budgeting and tender process;</p> <p>-Only allow security personnel to sleep on the site during the construction phase and also plan for the implementation of a security system that will reflect a database of all workers and personnel on site during the construction phase;</p> <p>-If possible fence the construction site and allow for one/ two allocated and</p> | | | | | | | | | |

monitored contractor's entrance/s

Alternative A2 (54 residential units – 9 blocks and 3 storeys)

Note: The construction phase impacts of this alternative is similar to the construction phase impacts of Alternative 1 and therefore the above mentioned impacts table will not be repeated.

From an environmental management point of view it will be more advantageous to implement Alternative A1 and A2 than the "no-go" alternative, because these alternatives supply detailed construction guidelines, especially with regards to the protection of the wetland and drainage line areas.

3. IMPACTS THAT MAY RESULT FROM THE OPERATIONAL PHASE

List the potential site alternative related impacts (as appropriate) that are likely to occur as a result of the operational phase:

Note: The operational phase impacts of this alternative is similar to the operational phase impacts of Alternative 1 and therefore the above mentioned impacts table will not be repeated.

Alternative S1 (Preferred Alternative)

Alternative A1 and A2

Note: No mitigation required for positive impacts, some guidelines were however supplied (where regarded as necessary) in order to ensure optimal development of environmental opportunities/potential associated with positive impacts.

Operational Phase impacts for S1 and A1 & A2 are combined in the table below

| Environmental Aspects | Geology, Soil and | Water Quality | Flora | Fauna | Land Use Character | Visual Quality & sense of | Air Quality | Archaeolo | Socio-Economic | Liveli | Indirect | Curricu |
|---|---|---------------|-------|-------|--------------------|---------------------------|-------------|-----------|----------------|--------|----------|---------|
| OPERATIONAL PHASE | | | | | | | | | | | | |
| 1) The eradication of weeds and exotic invaders | ◆ | ◆ | ◆ | ◆ | | | | | | | √ | √ |
| Guidelines: | – All Category 1 Declared weeds, Category 2 Declared invader and Category 3 Declared invaders occurred on the study area and must be eradicated prior to construction and throughout the operational phase of the development; – No plants not indigenous to the area, or exotic plant species, especially lawn grasses and other ground-covering plants, should be introduced in the communal landscaping of the proposed site, as they will drastically interfere with the nature of the area; – Forage and host plants required by pollinator species in the area should also be used in landscaped areas. | | | | | | | | | | | |
| 2) Upgrading of municipal services | | | | | | | | | ◆ | | √ | √ |
| 3) Upgrading of provincial and local roads | | | | | | | | | ◆ | | √ | √ |
| 4) Rates and taxes payable to the local authority | | | | | | | | | ◆ | | √ | √ |

- Large exposed areas with infertile soils
 - Decommissioning activities could cause danger to children and animals of the surrounding areas,
 - Illegal disposal of demolition waste,
 - Demolition works during the dry and windy season will be more detrimental from an air pollution point of view,
 - Demolition works during the rainy season can cause unnecessary delays and damage to the environment;
 - Uncontrolled activities and access to sensitive areas in the vicinity,
 - Uncontrolled fires may cause damage or loss to vegetation and fauna in the area,
 - Heavy vehicle traffic increase could disrupt the surrounding landowners' daily routines, and
- Indirect impacts.**
- Loss of permanent jobs.
 - Loss of rates and taxes payable to the local authority,
 - Decrease in land values (site and adjacent properties)

Alternative S2
Not applicable

Alternative S3
Not applicable

No-go alternative (compulsory)

During the decommissioning phase the derelict buildings if left unattended will bring in factors such as crime into the area. Vandalism of buildings and rodents can also become issues

Indicate mitigation measures that may eliminate or reduce the potential impacts listed above:

| Alternative S1 and A1 | Alternative A2 | Alternative S2, S3 and A3 |
|---|----------------|---------------------------|
| An environmental rehabilitation plan must be in place for the possibility that the activity will be abandoned | Not applicable | Not applicable |

5. PROPOSED MANAGEMENT OF IMPACTS AND MITIGATION

Indicate how identified impacts and mitigation will be monitored and/or audited.

| Alternative S1 and A1 | Alternative S2 | Alternative S3 |
|--|----------------|----------------|
| These impacts will be mitigated and monitored through the implementation of an EMP for the Planning & Design, Construction and Operational Phases. The EMP (Refer to Appendix H) recommends that the developer appoint someone to complete a | Not applicable | Not applicable |

| | | |
|--|--|--|
| <p>decommissioning plan for a possible decommissioning / upgrading phase within the first operational year of the Regional Mall. This Decommissioning Plan must be submitted to the involved local authority and KZN Agriculture and Environmental Affairs for record keeping and monitoring purposes.</p> | | |
|--|--|--|

6. ENVIRONMENTAL IMPACT STATEMENT

Taking the assessment of potential impacts into account, please provide an environmental impact statement that sums up the impact that the proposed activity and its alternatives may have on the environment after the management and mitigation of impacts have been taken into account with specific reference to types of impact, duration of impacts, likelihood of potential impacts actually occurring and the significance of impacts.

Alternative S1 (Site Alternative) and A1 (Activity Alternative) (The Preferred Alternative)

| | | |
|---|--|----------------------|
| <p>Alternative S1</p> <p>Property description</p> <p>COCT Family Trust is applying for the establishment of a proposed Township to be known as Widenham, on Portions 35 (of 2), 36 (of 2), 338 (of 2), 339 (of 2), 340 (of 2), 342 (of 2) and 343 (of 2) of Lot 2, No. 1468, Widenham, situated within the Area of Jurisdiction of the eThekweni Local Municipality.</p> <p>The proposed application site is wedged in between 4 roads. Widenham Road forms the western boundary of the study area, Combarne Road forms the northern boundary and St. Catherine Road forms the southern boundary. The Umkomas Golf Course is situated further to the south. Road R102, which used to act as a link road between coastal towns such as Scottburgh and Umkomas runs along the eastern boundary of the application site.</p> <p>The study area is approximately 2,014 Hectares in extent. Currently the application site is sub-divided into eight separate erven, which is zoned "residential 1".</p> | | |
| <p>Alternative A1 (The Preferred Alternative)</p> <p>32 Residential Units consisting of x8 2 storey residential blocks (4 units per block)</p> <p>The activity applied for is to consolidate the x8 erven and to rezone it for a 32 unit residential development that will have a smaller or equal ecological footprint than the 8 erven. At present the 8 individual "residential 1" erven allows for development across the wetland areas, but the proposed consolidation of the erven will allow for a "cluster and space" development along the periphery that will be positioned and elevated to avoid the wetland areas. The central green spine through the development will remain and will be rehabilitated and modified to accommodate a wetland area with improved ecological, hydrological and storm water management functions. As already described above, the existing canal will</p> | | |
| <p>Department of Agriculture & Environmental Affairs, KwaZulu-Natal</p> | <p>Basic Assessment Report Version 3, January 2007</p> | <p>Page 81 of 94</p> |

be removed and the storm water will be evenly spread across the central wetland area. This improved storm water management and attenuation system will assist with the creation of habitats, the breaking of the speed of the storm water, the improvement of the storm water quality when exiting the site and it will ensure that the pre-construction flow equals the post-construction flow of the storm water that exits the study area.

Impacts:

The most significant impacts identified for the construction and operational phases are:

Construction Phase

Significance Rating

High Significance: (High) Medium Significance: (Medium) Low Significance: (Low)

Duration

Long Term: (High) Medium Term: (Medium) Short Term: (Low)

Negative Impacts:

Bio-Physical Environment

- Perched water conditions (High)
- Impacts on the wetlands and geo-hydrology (Low)
- Erosion and siltation (Low)
- Construction during the rainy season (Low)
- Damage of the wetland areas during construction (Low)
- Impacts on the fauna and flora on the study area (Low)
- Impacts on the larger regional open space system (Low)

Socio-Economical Environment:

- Waste management (Low)
- Temporary disruption of services and accesses to surrounding properties (Low)
- Noise pollution (Low)
- Visual pollution (Low)
- Safety and security problems (High)
- Dangerous conditions on roads (High)
- Dust pollution (High)
- Dangerous conditions on and around site (i.e. dangerous excavations) (High)
- Damage to surrounding local roads (High)

Institutional Environment:

- If development is approved, the developer, contractor and sub-contractors must comply with conditions of the authorisation and with the EMP (High)
- Must allow for compliance with the conditions of the authorisation and the EMP in the project budget and in the tender documentation (High)
- More costly to implement a development that complies with the EMP, conditions of the authorisation and all other relevant legislation, policies and frameworks (High)

Positive impacts:

Bio-Physical Environment:

- Protection of the wetlands and drainage areas
- Rehabilitation of disturbed areas and coverage of exposed areas
- Removal of weeds and exotic invaders
- Implementation of an EMP that supplies guidelines for sustainable and environmentally sound development

Socio-Economical Environment:

- Creation of temporary jobs
- Economical advantages to surrounding businesses (i.e. filling station, hardware stores, food outlets etc.)

Institutional Environment:

- Project planning already made financial provision for emergency situations, rehabilitation and other mitigation measures

Operational Phase:

Significance Rating

High Significance Medium Significance Low Significance

Duration:

Long term Medium Term Short Term

Negative impacts:

Bio-Physical Environment:

- Damage of the wetland areas if public access is provided to the open space area

Socio-Economical Environment:

- Visual pollution (if not well planned and managed)
- Increased traffic
- Increased burden on services

Institutional Environment:

- Implementation of guidelines and mitigation measures as supplied in approvals and EMP
- Must allow for compliance with the conditions of the authorisation and the EMP in the project budget for the centre management
- More costly to implement a development that complies with the conditions of the authorisation and all other relevant legislation, policies and frameworks

Positive impacts:

Bio-Physical Environment:

- Protection of the wetlands and drainage areas
- Rehabilitation of disturbed areas and coverage of exposed areas
- Implementation of an EMP that supplies guidelines for sustainable and environmentally sound development
- Replacement of sub-standard storm water system with a more environmental friendly storm water management system
- Habitat creation
- Water purification
- More effective attenuation of storm water

Socio-Economical Environment:

- Creation of permanent and temporary jobs
- Safe, attractive and well functioning wetland, hydrological and ecological systems
- Increase of surrounding property values (if well planned and managed)
- Upgrading of local roads
- Rates and taxes payable to the local authority
- If well planned and managed the development will set a trend and standards for other future developments in the area

Institutional Environment:

- The establishment of a development that will comply with the most recent legislation, frameworks and policies

Summary of the preferred Alternative (Alternative S1 and A1):

Biophysical Environment:

Furthermore the environmental impacts of the proposed Residential development of Widenham Strand on a biophysical, social and economical environment level were also identified

Biophysical Environment:

At present the study area is already severely disturbed by means of alien and invasive plant species on site. The natural vegetation cover on the site consists mainly of alien and invasive plant species with an excellent tree layer. The proposed development will therefore have a diminutive impact on the Fauna and Flora species within the surrounding area if the dwelling blocks and its associated parking bays are situated to the perimeter of the site.

Scientific Aquatic Services cc were furthermore appointed to conduct a brief vegetation and ecological overview of the property with consideration of the wetland areas on the property. The conclusion of Scientific Aquatic Services cc was that the application site's ecological condition and function is mixed with some aspects functioning well, however other aspects show signs of impact. The area provides good habitat and cover for faunal and floral species, however alien vegetation encroachment serves as an indication of past disturbances and the influence of the surrounding area. With the area forming a natural drainage line, the development site has a wetland habitat and associated community present. Due to

effects of the surrounding area, the wetland has seen some impact from alien vegetation encroachment and some impacts on the water quality of the system are evident

Scientific Aquatic Services cc also identified two types floral communities on the application site, namely the wetland community and the terrestrial community

The wetland areas had a distinctive vegetation type associated with the wetter areas. These areas were characterised by the dominance of *Phragmites australis* reeds, with tree cover reduced in relation to the surrounding terrestrial areas. Other vegetation encountered in the wetter areas was dominated by *Strelitzia Nicotia*. Other vegetation in the wetter areas included *Setaria megaphylla*, *Sorghum halapense*, *Kylinia alba* and *Cyperus esculentus*. In the drier seasonal and temporary wetland zones, there was a significant invasion by alien vegetation including species such as *Lantana camara*, *Verbena bonariensis*, *Achyranthes asperu*, *Pennisetum purpurea*, *Rumex crispus* and *Rucinus communis*

The terrestrial areas were dominated by a tree layer with a ground layer consisting of various grasses, and alien shrubs species. Trees such as *Phoenix reclinata*, *Gynnosporia buxifolia*, *Mangifera indica*, *Endeia mierantha*, *Syzigium spp* (possibly *Syzigium cordatum*), *Strelitzia Nicotia*, *Besomia tycniana*, *Sychnos spinosa* and *Rhoicissus tomentosa*. Few alien trees were observed with the most common being *Melia azedarach* and *Careus jamacora*. The removal of the natural vegetation in the past, combined with the disturbed soil conditions has led to the dominance of alien vegetation species throughout the area beneath the tree canopy. Basal cover is dominated by *Lantana camara*, *Achyranthes asperu*, *Solanum mauritianum*, *Rucinus communis*, *Ciclospermum leptophyllum*, *Gainsoga parviflorawera* also evident. Grass species observed in the area included *Pennisetum clandestinum*, *Eragrostis chloromelas* and *Cynodon dactylon*.

Based on the site observations by Scientific Aquatic Services cc it was evident the floral community has been disturbed by past activities and is under pressure from the surrounding environment. It is evident that the tree layer is in fair condition with several indigenous trees present while the ground cover is highly impacted upon by the invasion of alien vegetation

A fairly diverse faunal community was observed on site. Mammal species observed included *Cercopithecus aethiops* and *Cryptomys hottentotus*. An abundant population of alien fish (*Poecilia reticulata*) was observed in the drainage feature of the site. These fish are common throughout the area.

The wetland area can be considered to have some importance in terms of service provision, under natural conditions, by maintaining biodiversity, stream flow regulation and sediment control. The system also plays a role in maintaining the biodiversity of the area by providing wetland habitats to suitably adapted faunal and floral species.

The proposed development site forms a natural drainage line, being the lowest point in the valley of the surrounding area. In addition to the natural drainage of the site it is evident that the drainage system receives additional runoff from several (at least four) stormwater canals in the area. These systems increase the flow in the system significantly and increase the duration during which surface water will persist in the area.

A second factor which has affected the drainage features and wetland areas is the construction of the R102 to the east of the site. The construction of the road has led to the localised changes to the

topography of the land thereby leading to altered drainage and runoff patterns. These changes have led to the formation of a permanent wet area on the eastern boundary of the property. The formation of this wet area has led to an expansion of the wetland area which is deemed to be increased in size in relation to the natural condition.

Due to the introduction of the stormwater runoff to the area the upper reaches of the drainage feature shows signs of incision. This is typical of features affected by urban runoff and reduces the functionality and integrity of the wetland areas.

The proposed development plan of the subject property has targeted the northern, western and southern border areas which form the higher lying areas of the subject property. Immediately adjacent to the subject property boundaries there will be some earthworks required to level the areas required for parking as well as the stairwells of the residential units. The impact that the alteration of the floodplain areas will have on the wetland system is regarded as being moderate to low in the construction phase of the development and low in the operational phase of the development, provided that strict controls and implementation of mitigatory measures are undertaken.

The remainder of the development (the units themselves) are to be constructed on raised platforms supported by concrete piles. This has been done in order to minimise earthworks and minimise the footprint of the proposed development within the 1:100 year flood-line and to ensure that the units are safe from flooding. With this design the proposed development will encroach into the temporary zone of the wetland and in some areas it is deemed likely to encroach on the seasonal zone of the wetland areas too.

As part of the proposed layout plan, the upper reaches of the stream are to be canalised. This stream in this area has already been physically impacted through incision and sedimentation. The system currently provides very limited habitat for aquatic macro-invertebrates, as well as wetland vegetation requiring permanently inundated soils. As development within the areas upstream in the catchment continues, there will be an increased risk of erosion of these banks which already show signs of instability. As such, the canalisation of this section of the stream is deemed unlikely to significantly alter the ecological functioning and integrity of the system or the social functions of the system.

As stated above, the increased development upstream in the catchment will lead to increased demands on the wetland in terms of stream flow regulation, sediment trapping, erosion control, nutrient recycling and toxicant removal. The proposed development plan caters for the creation of three stormwater attenuation dams. These dams will be linked by the stream on the subject property which will be diverted in such a way as to allow the dams to be linked. Through the creation of the dams the ability of the wetland feature to fulfil its functions (as outlined above) will be significantly enhanced. The biodiversity of the system will also increase significantly through the creation of the dams providing habitat for wetland avifauna, and habitat and refuge areas for herpetofauna and aquatic macro-invertebrates.

Social Environment

From a visual point of view the proposed development will be in line with the surrounding land-uses consisting mainly of Residential developments. If the proposed mitigation measures and architectural design measures are adhered to, the proposed development will be easily absorbed by the surrounding environment.

The Public Participation were done by means of a newspaper notice, site notices placed on prominent

points on the application site, hand delivered notices to surrounding tenants and landowners and the distributing of notices to stakeholders such as the Local Authorities, Councilors and any other parties by means of faxes and e-mails. Additionally, the Basic Assessment Report will be placed at the Umkomaas Library and posted on www.bekamasa.net for all interested and Affected Parties to review from 8 December 2010 until 30 January 2011.

During the Public Participation Process two public meetings were held on the 15 March 2010 and the 13 April 2010 to serve as information sessions and also to provide the Interested and Affected Parties with a fair opportunity to raise their issues and concerns on the proposed development. The issues which were raised were the following:

- 1) Legal implications of building structures in a wetland.
- 2) Desirability of any building in the wetland area and impact of the proposed development on the wetland area.
- 3) Concerned about the constant degradation of the site.
- 4) Increase in traffic – roads currently sub-standard and cannot even handle existing traffic.
- 5) Access of construction vehicles to site.
- 6) Weight limit of construction vehicles.
- 7) Crime during construction phase.
- 8) Impact of the development on the fauna species and the larger continuous open space system.
- 9) Number of people/ human density.
- 10) Visual impacts (open space not visible from surrounding properties).
- 11) Current flooding problems to the north of the site and to the north-east of the site (east of the R102).
- 12) Up-stream and down-stream impact on the hydrology/ flood line.
- 13) Lack of sewage.
- 14) Public access to the open space.
- 15) Developer's only intention is to make the maximum profit.
- 16) Implications of Durban Municipality Open Space System on the proposed site.

All the issues that were raised by the interested and Affected Parties have been discussed and addressed in the issues and response report (Please refer to Appendix E1) The Interested and Affected Parties will be given fair opportunity to comment on the draft Basic Assessment Report.

The proposed development will furthermore improve the social functioning of the wetland by incorporating raised walkways into the design to allow human traffic through the area.

The development of the raised walkways will significantly increase the social functions of the wetland feature through increased tourism and recreation facilities, education and research opportunities, and increased cultural significance of the feature through the improved access.

Economical Environment

Surrounding Properties

Currently the study area is surrounded by residential properties. The proposed residential development will be in line with the surrounding land-uses.

This development will, once approved, contribute to economic development by means of job creation (both during construction and operational phase), economic active people will reside in the units which will in turn again stimulate the local economy in terms of spending and increased rates & taxes for the Municipality

The application site is well situated for a Residential Development as community services and other associated services are in close proximity of the site. The site is also situated in close proximity of major route systems, a railway station and other community services such as shopping centres, police station, filling station, library and several recreational associated institutions

If the development is constructed and managed according to a high architectural and landscaping standard, the proposed development will only improve the character as well as the "Sense of Place" in the area. In order to regulate high building and design standards, the buildings will be designed to comply with pre-determined architectural standards and guidelines (architectural styles, sizes of the buildings, finishes of the buildings etc.)

Residential properties downstream of the proposed application site are subjected to frequent flooding during the rainy season. This is due to the increase of developments upstream and their necessity on the wetland system for the regulation of the stream flow, sediment trapping, erosion control, nutrient recycling and toxicant removal. Poor maintenance of stormwater canals and outlets has resulted in these important stormwater structures of being blocked. The proposed development plans to cater for the creation of three stormwater attenuation dams. These dams will be linked by the stream on the subject property, which will be diverted in such a way as to allow the dams to be linked. Through the creation of the dams the ability of the wetland feature to fulfil its functions will be significantly enhanced. By improving the functionality of the wetland, the risk of flooding of properties downstream will be reduced.

Job Creation

The proposed development will create career opportunities for skilled, semi-skilled and unskilled individuals in the direct vicinity and in the surrounding Umkomaas area. The proposed development will create several job opportunities during the Operational (house cleaning, maintenance, garden, security services etc.) and during the Construction phase.

Alternative S2

N/A

Alternative S3

N/A

Alternative A1 (preferred alternative)

Negative Impacts:

Bio-Physical Environment:

- Damage of the wetland areas if public access is provided to the open space area ☉

Socio-Economical Environment:

- Visual pollution (if not well planned and managed) ☉
- Increased traffic ☉
- Increased burden on services ☉

Institutional Environment:

- Implementation of guidelines and mitigation measures as supplied in approvals and EMP
- Must allow for compliance with the conditions of the authorisation and the EMP in the project budget for the centre management
- More costly to implement a development that complies with the EMP, conditions of the authorisation and all other relevant legislation, policies and frameworks

Positive Impacts:

Bio-Physical Environment:

- Protection of the wetlands and drainage areas
- Rehabilitation of disturbed areas and coverage of exposed areas
- Implementation of an EMP that supplies guidelines for sustainable and environmentally sound development
- Replacement of sub-standard storm water system with a more environmental friendly storm water management system
- Habitat creation
- Water purification
- More effective attenuation of storm water

Socio-Economic Environment:

- Creation of permanent and temporary jobs
- Safe, attractive and well functioning wetland, hydrological and ecological systems
- Increase of surrounding property values (if well planned and managed)
- Upgrading of local roads
- Rates and taxes payable to the local authority
- If well planned and managed the development will set a trend and standards for other future developments in the area

Institutional Environment:

- The establishment of a development that will comply with the most recent legislation, frameworks and policies

Alternative A2

Alternative A2 is similar than Alternative A1

Negative Impacts:

Bio-Physical Environment:

- Damage of the wetland areas if public access is provided to the open space area

Socio-Economic Environment:

- Visual pollution (if not well planned and managed)
- Increased traffic
- Increased burden on services

Institutional Environment:

- Implementation of guidelines and mitigation measures as supplied in approvals and EMP
- Must allow for compliance with the conditions of the authorisation and the EMP in the project budget for the centre management
- More costly to implement a development that complies with the EMP, conditions of the authorisation and all other relevant legislation, policies and frameworks

Positive impacts

Bio-Physical Environment:

- Protection of the wetlands and drainage areas
- Rehabilitation of disturbed areas and coverage of exposed areas
- Implementation of an EMP that supplies guidelines for sustainable and environmentally sound development
- Replacement of sub-standard storm water system with a more environmental friendly storm water management system
- Habitat creation
- Water purification
- More effective mitigation of storm water

Socio-Economical Environment:

- Creation of permanent and temporary jobs
- Safe, attractive and well functioning wetland, hydrological and ecological systems
- Increase of surrounding property values (if well planned and managed)
- Upgrading of local roads
- Rates and taxes payable to the local authority
- If well planned and managed the development will set a trend and standards for other future developments in the area

Institutional Environment:

- The establishment of a development that will comply with the most recent legislation, frameworks and policies

Most significant differences between the two alternatives

| Construction phase | Alternative A1 | Alternative A2 |
|--------------------------|--|--|
| Bio-Physical Environment | Smaller area disturbed by construction works | Larger area disturbed by construction works |
| Economical Environment | Lower impacts in the short term Less temporary jobs created | Higher impact in the short term More temporary jobs created |
| Operational Phase | | |
| Bio-Physical Environment | Less encroachment onto the wetland areas | More encroachment onto the wetland areas |
| Economical Environment: | Larger open space area | Smaller open space area Higher burden on existing services |

| | | |
|---------------|--|---|
| | Lower traffic volumes | Higher traffic volumes |
| | Lower visual impact | Higher visual impact |
| | Less rates and taxes payable | More rates and taxes payable |
| | Less permanent jobs | More permanent jobs |
| | Less funds available for rehabilitation and maintenance | More funds available for the maintenance and rehabilitation of the wetland area (longer term advantage) |
| | Units less affordable | Units more affordable |
| | Higher levies | Lower levies |
| Institutional | In line with local authority planning (in terms of town planning guidelines) | Not in line with local authority planning (in terms of town planning guidelines) |

Conclusion:

In the short term the bio-physical and social impacts of A2 will be the highest but in the longer term A2 holds more economical (more jobs created, higher rates and taxes, more buying power in area) and bio-physical advantages (more funds available for maintenance, rehabilitation and open space management) than A1. It will however not be possible to implement A2, because the proposed 54 units are not in line with the local authority planning, the surrounding land-owners regard the high density as unacceptable.

Alternative A3

Not applicable

No-go alternative (compulsory)

The "No-Go" alternative

If the "No-Go" alternative is followed, the status quo of the study area will deteriorate even more, because there are no funds available for the management, rehabilitation and management of the open space.

From a social point of view, the undeveloped and neglected site can become a security risk. Sites that have been earmarked for development and that already have development rights in place, can easily become neglected if it takes long to get the development off the ground.

In the case of the specific study area, the "no-go" area is not regarded as a viable alternative.

No-go alternative (compulsory)

Diagrammatical comparison between the "No-Go" Alternative (Diagram 1) and the Residential Development Alternative 1 (Diagram 2).

Diagram 1: Environmental Issues - "No-Go" Alternative

| Issue | Short term | Medium term | Long Term | |
|-------------------|------------|-------------|-----------|----------|
| Geology and soils | | | | Positive |
| | | | | Neutral |
| | | | | Negative |

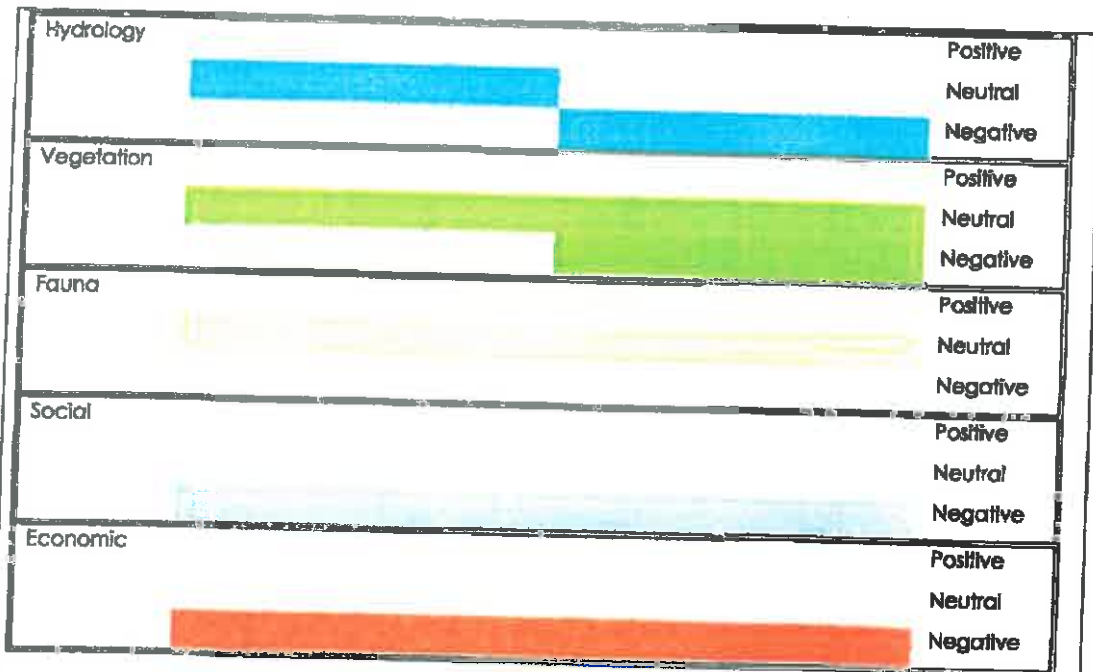


Diagram 2: Environmental issues- proposed development A1 and S1

| Issue | Short term | Medium term | Long Term | Positive | Neutral | Negative |
|-------------------|-------------|-------------|-----------|-------------|---------|----------|
| Geology and soils | | Low to High | High | Low to High | High | High |
| Hydrology | Low to High | Low to High | High | Low to High | High | High |
| Vegetation | Low to High | Low to High | High | Low to High | High | High |
| Fauna | Low to High | Low to High | High | Low to High | High | High |
| Social | Low to High | Low to High | High | Low to High | High | High |
| Economic | Low to High | Low to High | High | Low to High | High | High |

Note: From the assessments and investigations that were done, it is anticipated that the proposed development option of A1 & S1 is predominantly neutral in the short term and turns mostly positive in the long term, if managed correctly.

7. RECOMMENDATION OF PRACTITIONER

Is the information contained in this report and the documentation attached hereto sufficient to

| | |
|-----|----|
| YES | NO |
| X | |

make a decision in respect of the activity applied for (in the view of the environmental assessment practitioner). If "NO", indicate the aspects that should be assessed further as part of a Scoping and EIA process before a decision can be made (list the aspects that require further assessment):

As EAP, I (Lizelle Gregory) feel comfortable that I assessed and considered all the issues and aspects associated with the proposed development. All the issues and impacts can be addressed, reduced or prevented through the implementation of the guidelines and mitigation measures contained in this BA report and in the EMP incorporated as Appendix H. It is therefore recommended that the Department authorize the proposed development subject to the following conditions:

If "YES", please list any recommended conditions, including mitigation measures that should be considered for inclusion in any authorization that may be granted by the competent authority in respect of the application:

- Mitigation measures, in the form of the EMP (Appendix H), must be implemented during the construction and operational phases.
- The EMP and ROD must be implemented by the contractor and/or any sub-contractors.
- An onsite ECO (Environmental Control Officer) must be appointed to monitor the implementation of the EMP.
- Environmental monitoring must be conducted as specified in the EMP.
- External environmental monitoring must be conducted to ensure overall compliance with legislative requirements and the EMP.
- A Stormwater Management Plan (that will improve the current situation and that will comply with the requirements as set out in the BA report and the EMP) must be compiled by the appointed engineer and wetland specialist and implemented during construction and operational phases.
- A rehabilitation plan must be compiled and submitted to the Department for authorisation prior to commencement with any construction works.
- The Site Development Plan (SDP) and Landscape development Plan (LDP) must be compiled and approved by the Local Authority.
- No snaring or hunting of animals during the construction phase.
- If during construction any evidence of archaeological sites or artifacts, palaeontological fossils, graves or other heritage resources are found, the operations must be stopped and a qualified archaeologist or SAHRA must be contacted immediately for an assessment of the find.
- After clearing of the vegetation the site should be protected against erosion.
- Proper compaction must be executed to prevent settlements from taking place.
- Foundation recommendations made by the engineer must be adhered to.
- The safety and security of the people in the surrounding area are important and must be taken in to consideration during the construction phase.
- Specific roads must be allocated for the use by construction vehicles and photos must be taken prior to construction in order to determine if any damage has been done. Upgrading of the roads is a prerequisite (if so required according to the traffic engineer).
- The developer/engineers must make sure that sufficient services are available.
- Local people must be employed.
- All waste must be disposed of at a registered waste disposal site.
- The applicant must apply for the necessary section 21 Water Use Licenses and supply proof of such application to NWDACE and
- Rehabilitation must be done correctly and to the satisfaction of the ECO

SECTION F: APPENDIXES

The following appendixes must be attached as appropriate:

Appendix A: Site plan(s)

Appendix B: Photographs

Appendix C: Facility illustration(s)

Appendix D: Specialist reports

Appendix E: Comments and responses report

Appendix F: Information in support of applications for exemption

Appendix G: Other information

Appendix H: Environmental Management Plan



Appendix A

Legend

 Study Area

Scale 1:23980

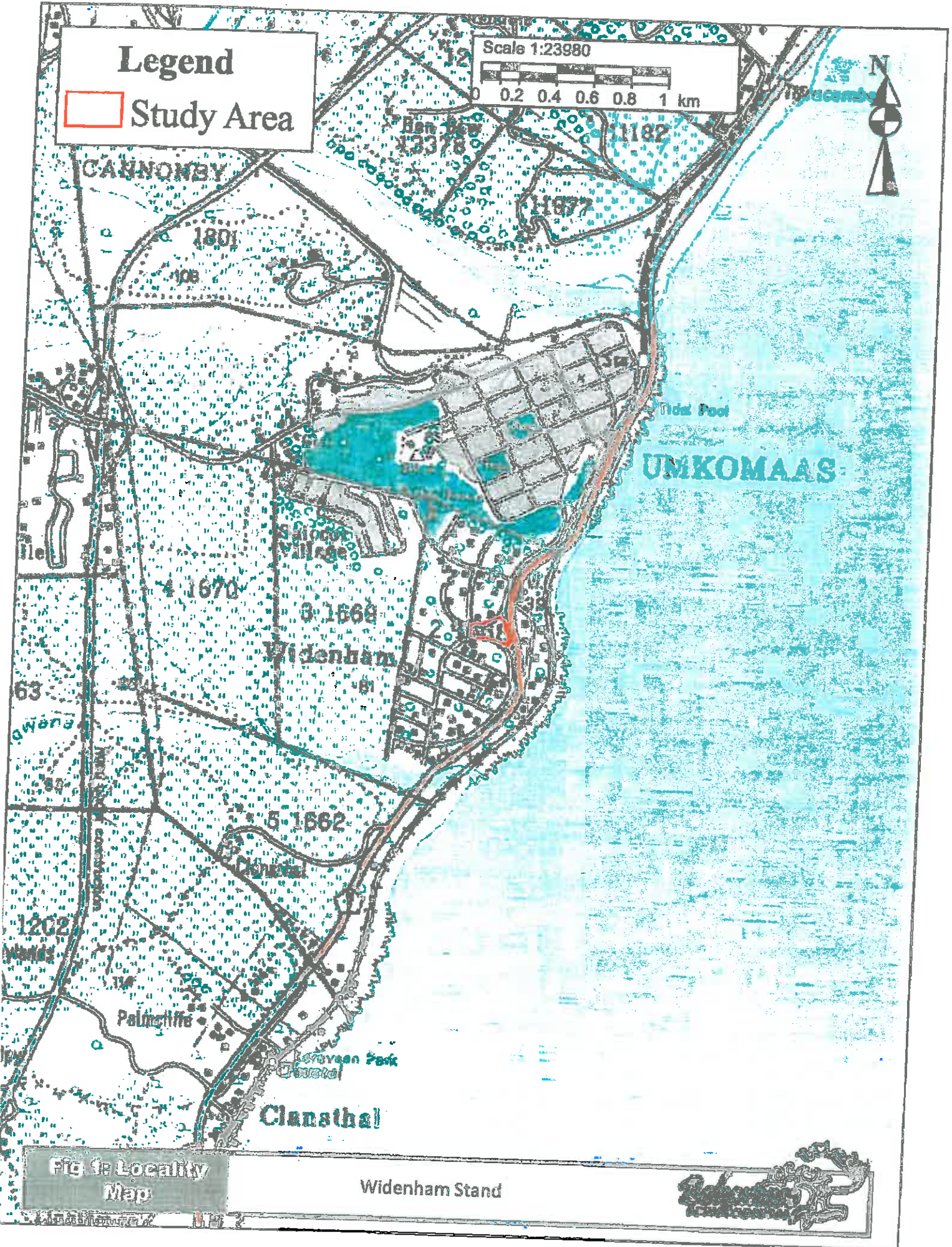
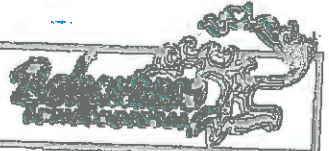


Fig 1: Locality Map

Widenham Stand



Legend

 Study Area

Scale 1:1290



FIG 2: Aerial Map

Widenham Stand





Fig 3: Layout of Stands
Map

Widenham Stand



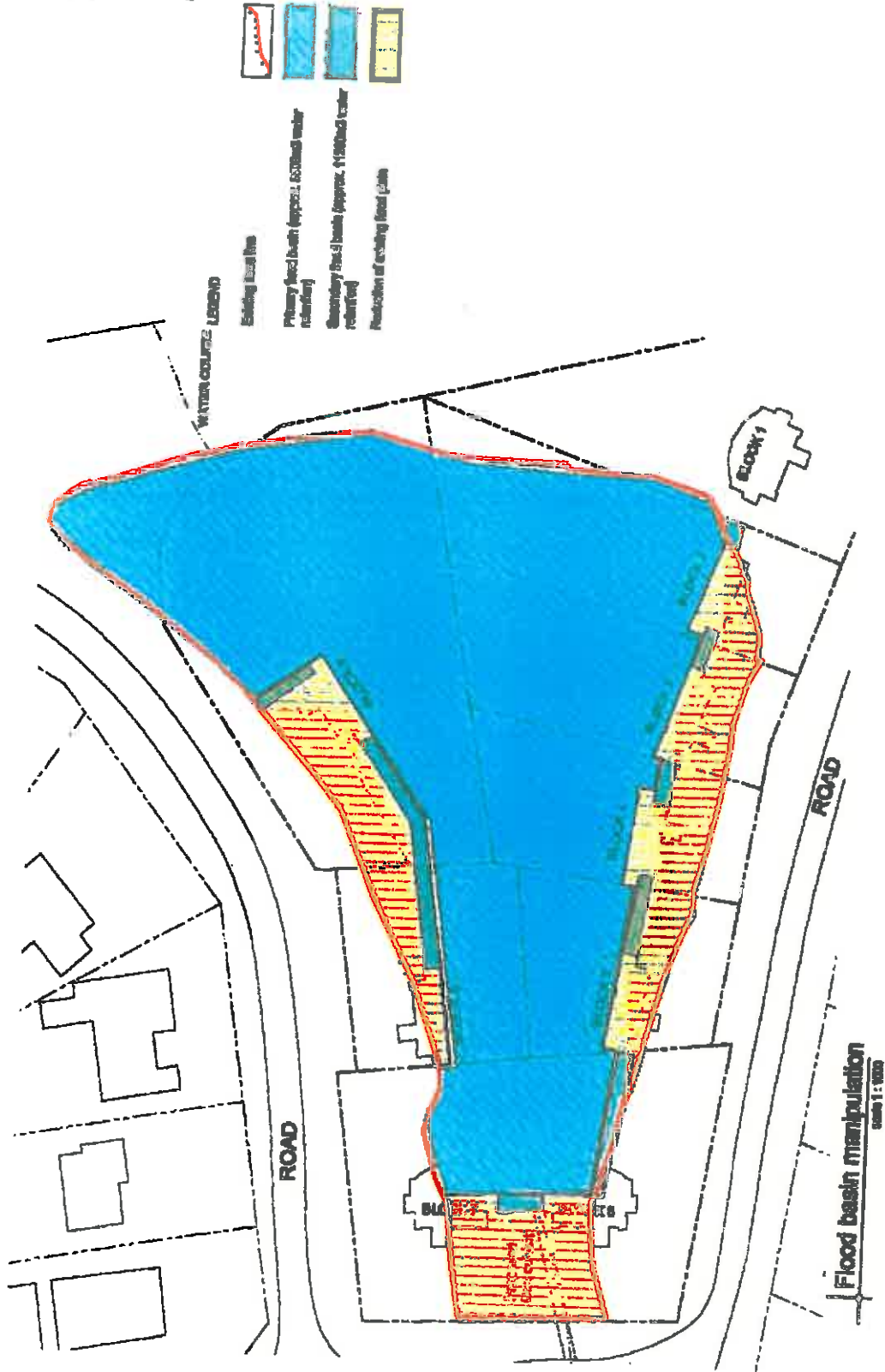
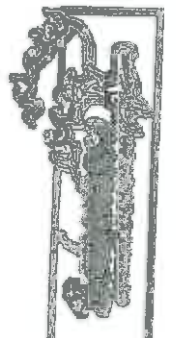


Fig 4: Proposed Units along the Periphery of the Study Area Map

Widenham Stand



Legend

 Study Area

 Roads

 Proposed Access

Scale 1:129L



R102

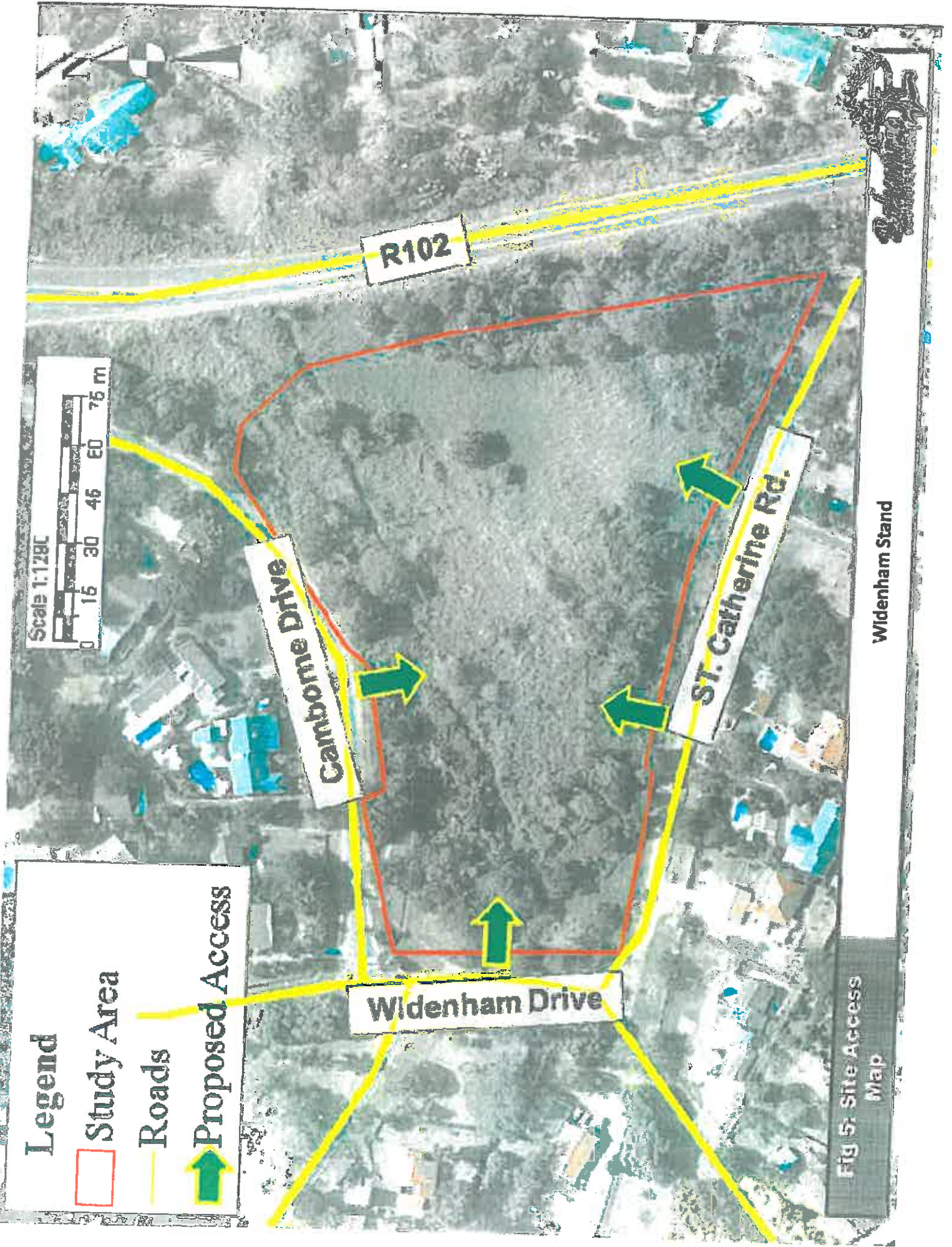
Camborne Drive

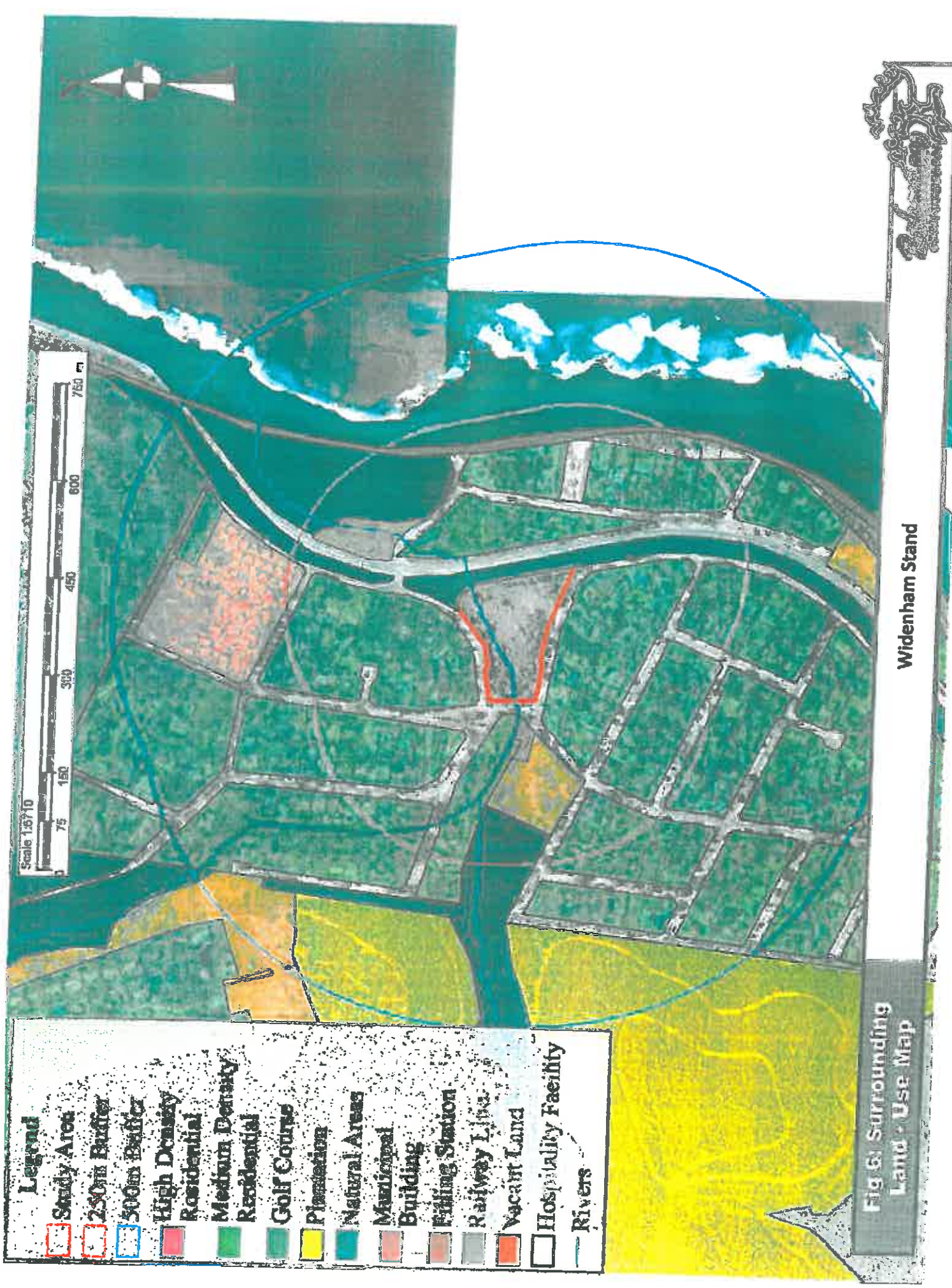
St. Catherine Rd.

Widenham Drive

Widenham Stand

Fig 5: Site Access Map





Legend

- Study Area
- 2.50m Buffer
- 500m Buffer
- High Density Residential
- Medium Density Residential
- Golf Course
- Plantation
- Natural Areas
- Maritimal
- Building
- Filling Station
- Railway Line
- Vacant Land
- Hospitality Facility
- Rivers

Fig 6: Surrounding Land - Use Map

Widenham Stand

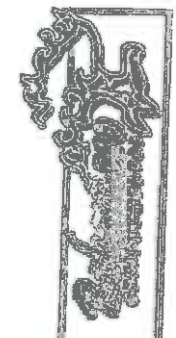
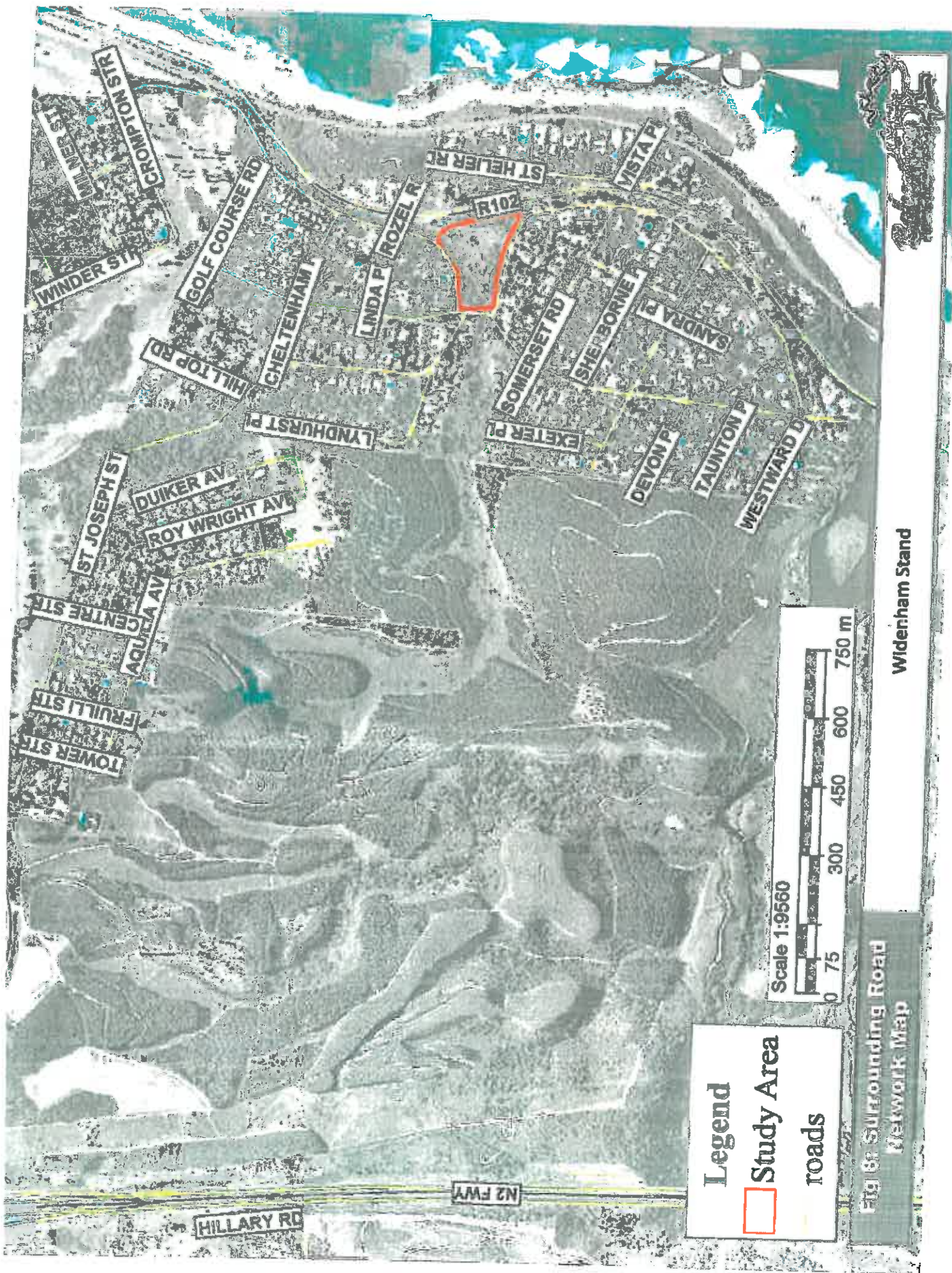




Fig 74 Geology Map

Widenham Stand



Legend

- Study Area
- roads

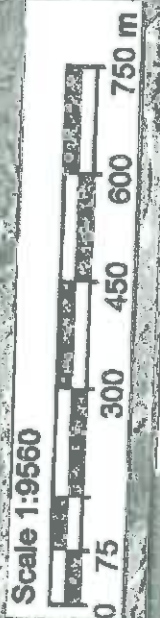


Fig 1.8 Surrounding Road Network Map

Widenham Stand

Scale 1:1940

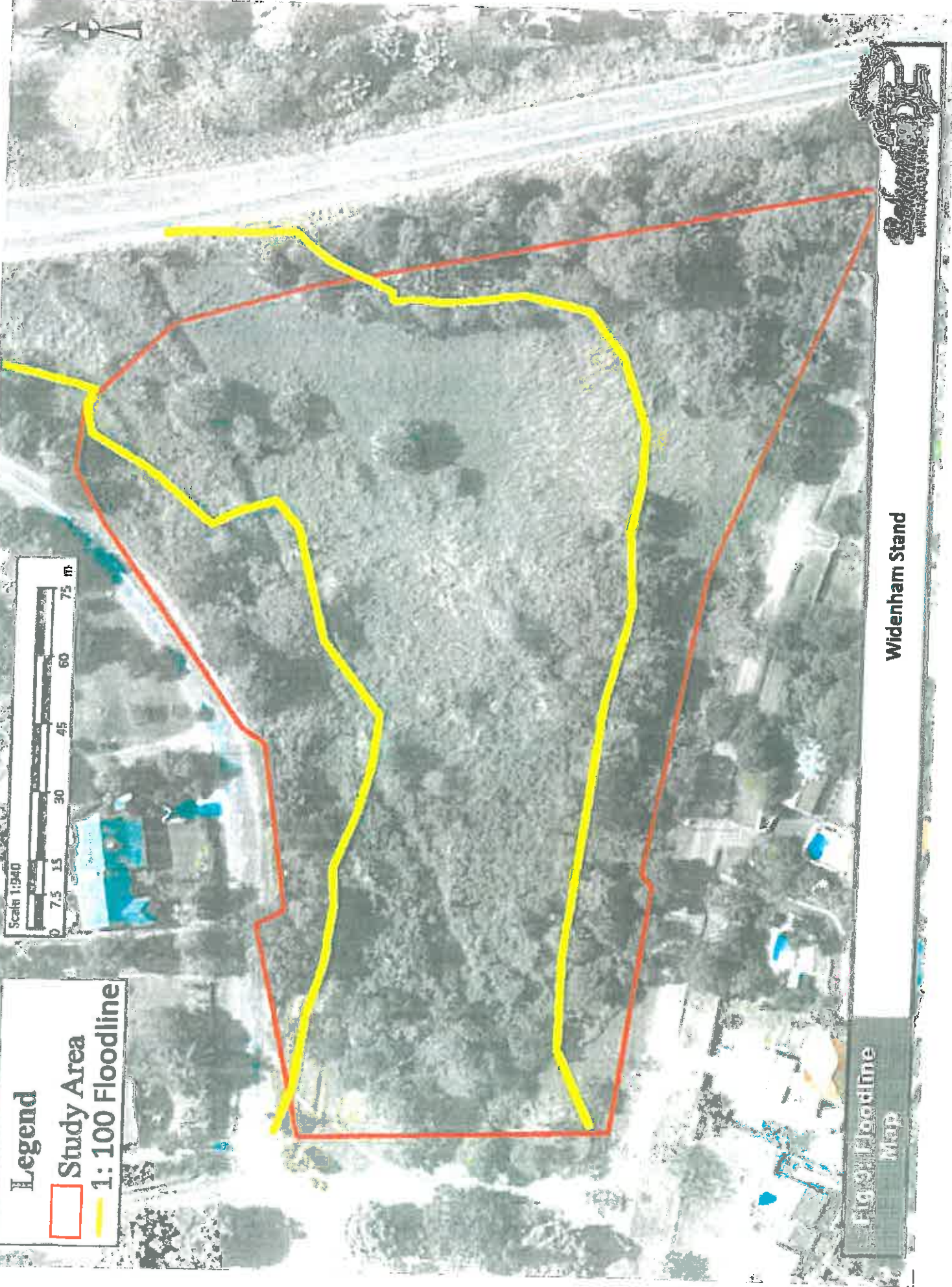


Legend

-  Study Area
-  1: 100 Floodline

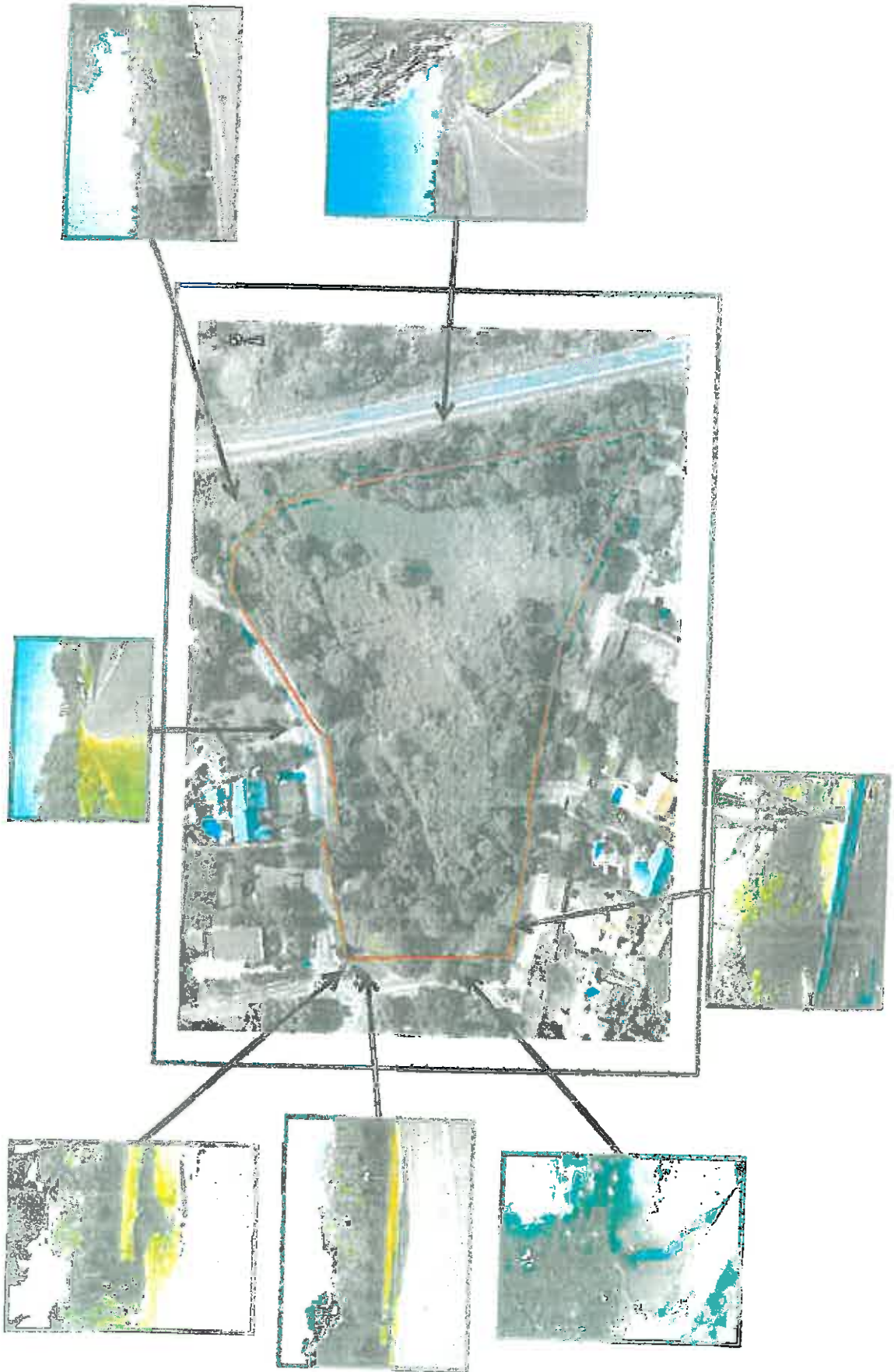
Floodline
MSP

Widenham Stand





Appendix B





Appendix C

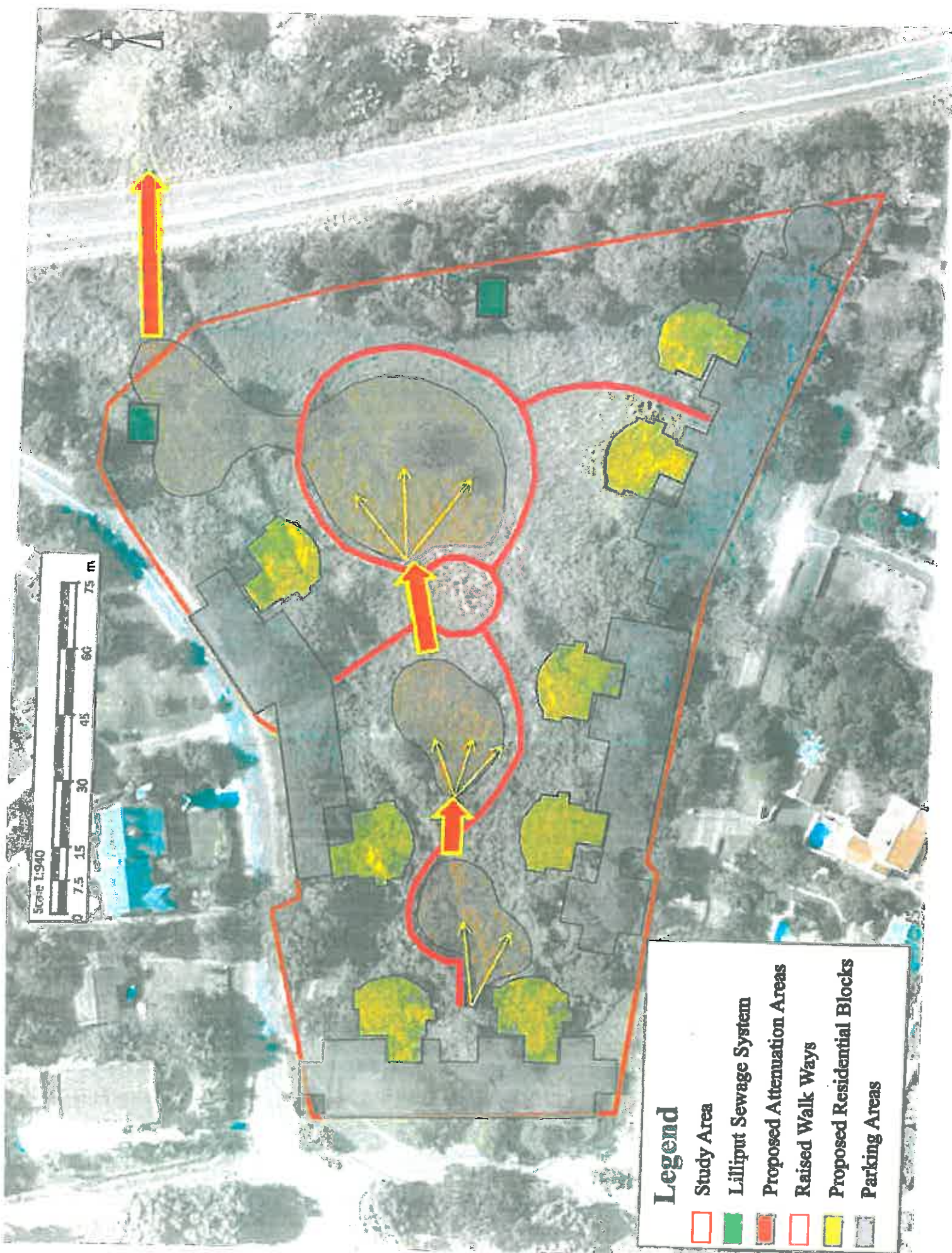


Appendix C1



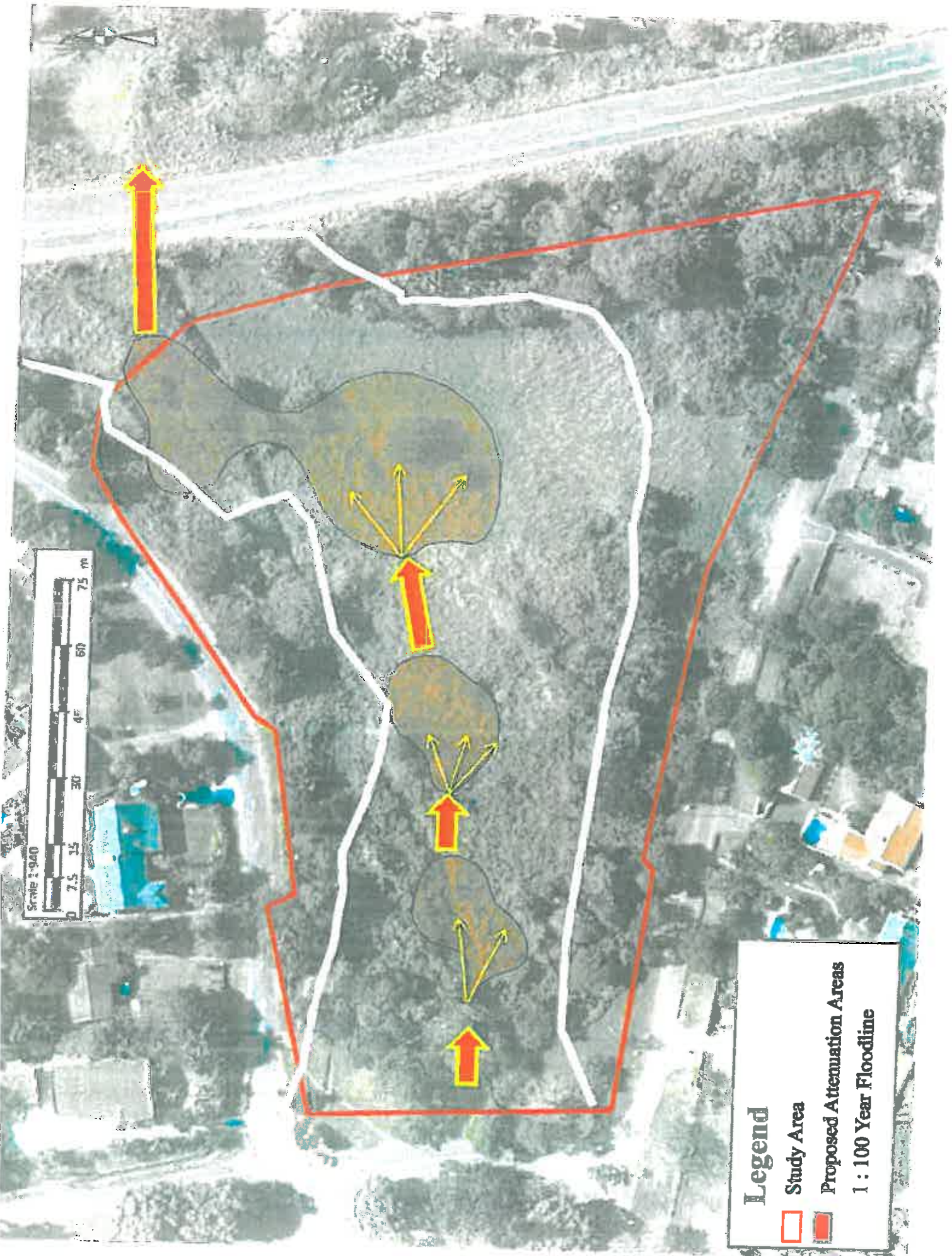
Legend

- Study Area
- Lilliput Sewage System
- Proposed Attenuation Areas
- Raised Walk Ways
- Proposed Residential Blocks
- Parking Areas








Appendix C2



Legend

-  Study Area
-  Proposed Attenuation Areas
-  1 : 100 Year Floodline



Appendix D



Appendix D1

**New Townhouse Development on Ptns 35, 36, 338 to 343
of Lot 2 No. 1668 Widenham**

**HYDROLOGICAL ASSESSMENT
DRAFT**



MAY 2010

WSM LESHKA
CONSULTING (PTY) LTD



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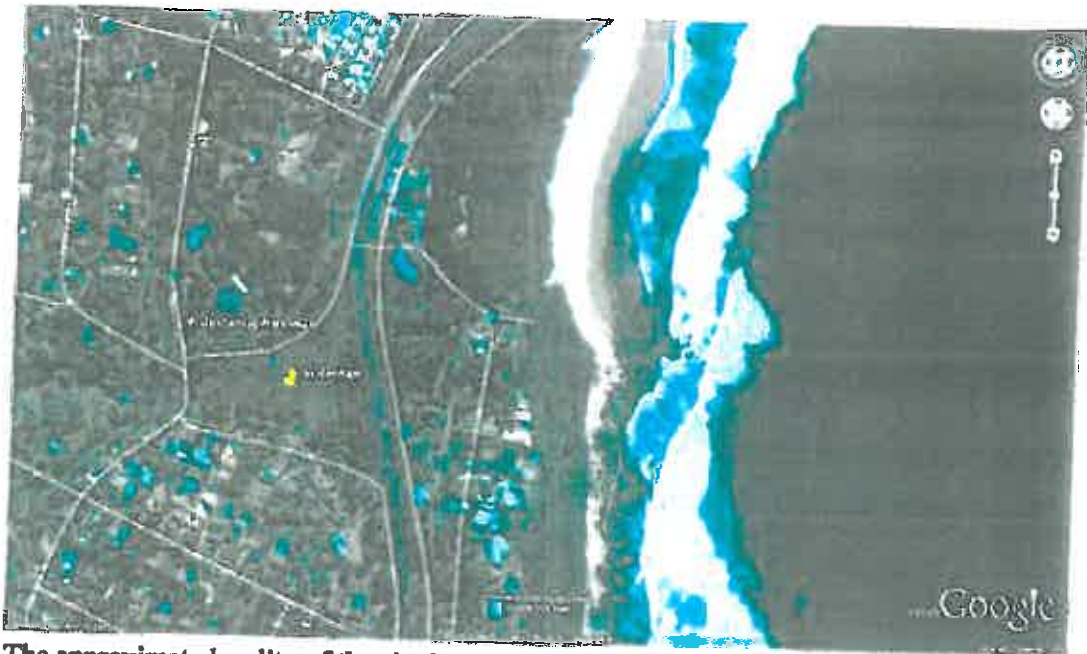
**New Townhouse Development on Ptns 35, 36, 338 to 343
of Lot 2 No. 1668 Widenham**

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1. INTRODUCTION

WSM Leshika Consulting (Pty) Ltd was appointed to perform a basic hydrological assessment and floodline of the study area. The study area is situated just south of the Umkomaas Golf Course, on the south eastern corner of Camborne Road and Widenham Road.



The approximate locality of the site is $30^{\circ}13'03''$ S and $30^{\circ}47'40''$ E.

The run-off peaks for the status quo scenarios of the study area were determined by using information on the 1:50 000 topographical map 3030 BB.

This report describes the methodology used, gives the resultant flood peaks and floodlines for the status quo scenario of these on the site.

2. HYDROLOGY

2.1 Introduction

Flood peaks can be estimated by using empirical, statistical and deterministic methods. In this study the deterministic method was used. Statistical methods are based on analyses of river flow data, which is not available for this site, while in deterministic methods the flood hydrograph (the effect) is derived from precipitation and catchment characteristics (the causes).

The method that has been used is described below.

2.2 Rational Method with alternative (Alexander) method of calculating rainfall intensity.

This method as described in the SANRAL Drainage Manual (2006) was used to determine the flood peaks. The software 'Utility Programs for Drainage' which has been developed by Sinotech, using the methods in the Manual, was used in this study. The parameters for the calculations are as follows:

- the rainfall intensity is derived from the modified Hershfield equation for low time of concentrations and from interpolated values up to the 24-hour rainfall event
- the time of concentration is calculated for stream and overland flow as applicable
- the runoff factor is calculated for each area respectively as it may differ, for instance in the slope, vegetation cover and land use
- the percentage reduction factor for estimating the average precipitation over the catchments is applied

For the purpose of this analysis, data from one rainfall-gauging station reasonably close to the site given in Adamson's study was used to obtain representative, site specific, rainfall information for the study area. The data are shown in Table 2.1.

TABLE 2.1: RAINFALL DATA

| Station Number | Description | MAP (mm) | 24-Hour Rainfall (mm) | | | | | |
|----------------|--------------------------|----------|-----------------------|-----|------|------|------|-------|
| | | | 1:2 | 1:5 | 1:10 | 1:20 | 1:50 | 1:100 |
| 211437 | Scottburg (Municipality) | 864 | 89 | 135 | 174 | 218 | 286 | 348 |

The catchment area of the site was determined and is shown on Figure 1 at the back of the report.

Table 2.2 shows the general characteristics of the catchment area.

TABLE 2.2: CATCHMENT CHARACTERISTICS

| DESCRIPTION | CATCHMENT | |
|--|-----------|--------|
| Catchment area (km ²) | A | 1.11 |
| Length of watercourse to boundary (km) | L | 1.34 |
| Average stream slope (m/m) | S | 0.0447 |
| Runoff factor | C | 0.385 |

TABLE 2.3: RESULTS OF FLOOD PEAK CALCULATIONS (m³/s) FOR THE RATIONAL METHOD:

| CATCHMENT | Flood peak per recurrence period (m ³ /s) | | | | | |
|------------|--|-----|------|------|------|-------|
| | 1:2 | 1:5 | 1:10 | 1:20 | 1:50 | 1:100 |
| Study area | 4 | 7 | 9 | 12 | 15 | 18 |

3. FLOODLINE

Hydraulic modeling of the river reaches, were performed by means of the HEC-RAS program. A Manning roughness coefficient of 0,045 was used for the main river channel. The associated 1:100-year flood levels, for the various cross-sections that were used to define the river course, are shown on Figure 2.

Note that due to a lack of information during this calculation, no culverts were modeled. It was thus assumed that the run-off of the total catchment area will reach the study area.

4. CONCLUSIONS

The maximum discharges associated with the various return periods were calculated by means of the Rational Method, using the Alexander Method for the rainfall intensity estimation as described in SANRAL's Drainage Manual.

The hydraulic modeling was performed by means of HEC RAS program. The floodline indicated on Figure 2 is subject to change, should more information becomes available.



R COETZEE
ASSOCIATE



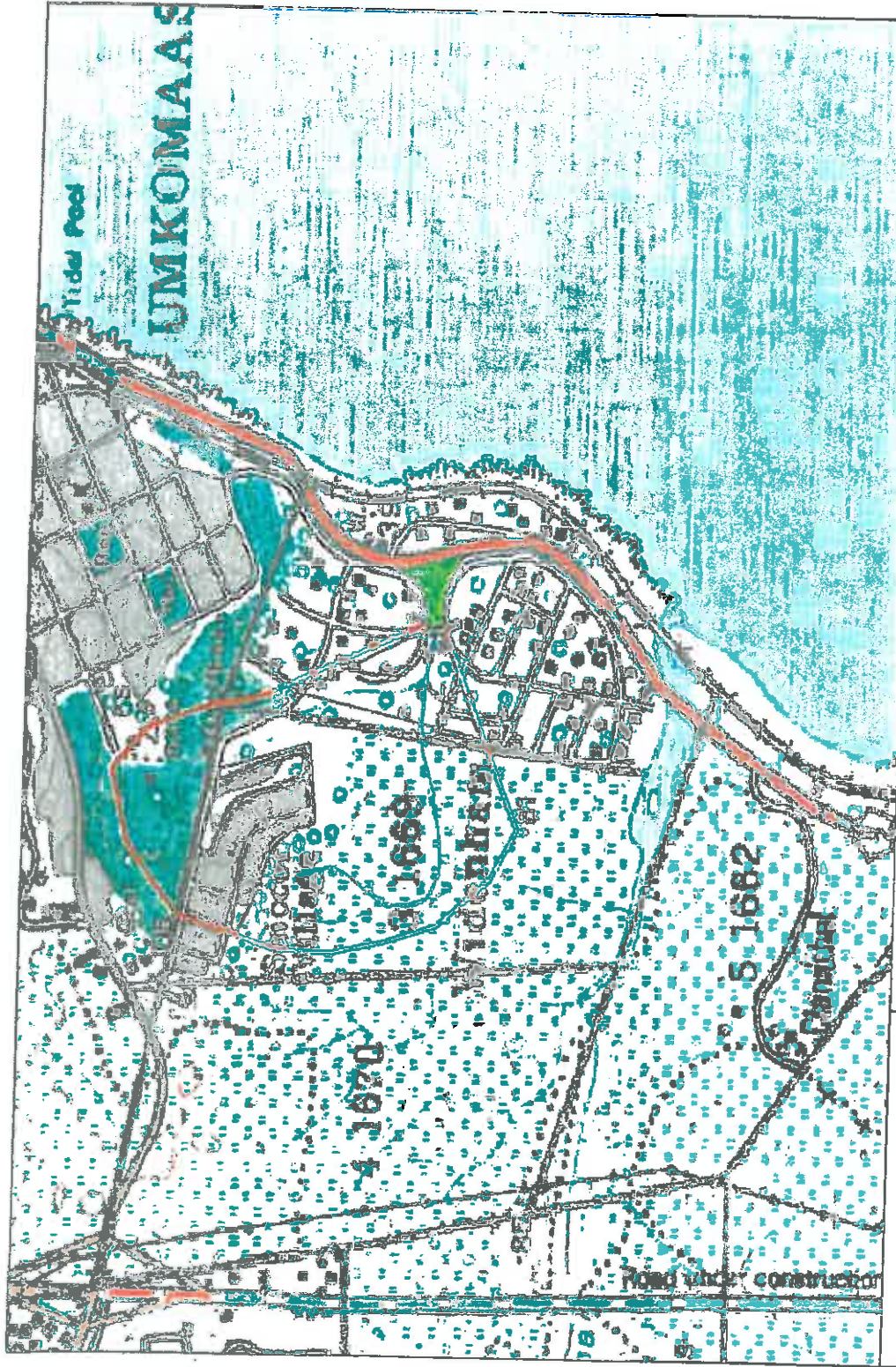
J FANOY Pr Eng
DIRECTOR

REFERENCES

Kruger, E (ed). *Drainage Manual*. SANRAL, 2006, Pretoria

Adamson, PT. *Southern African Storm Rainfall*, Rep No TR102, DWAF. 1981, Pretoria

FIGURE



WSM LESHKA
CONSULTING PTY. LTD.

CATCHMENT AREA

FIGURE 1

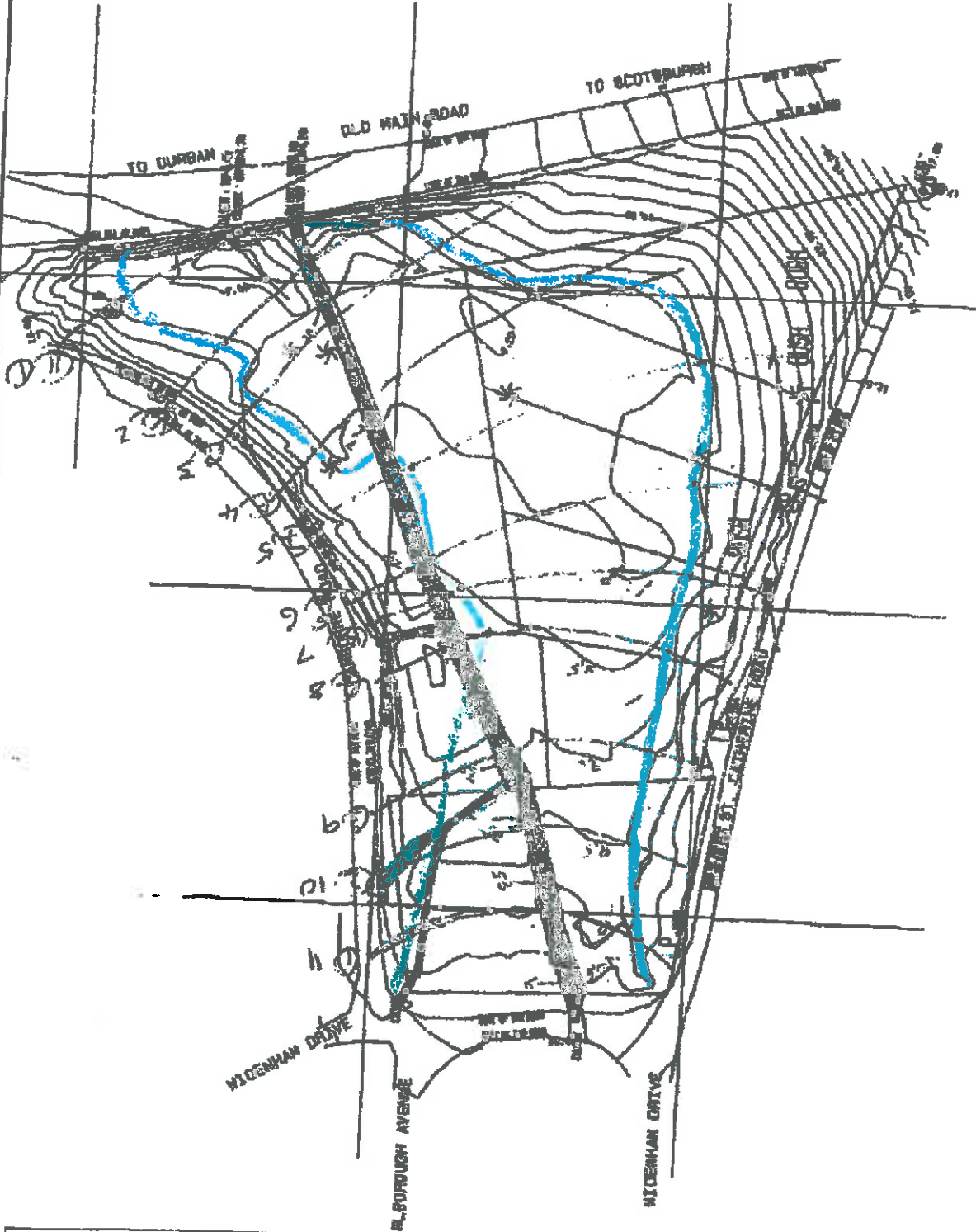


Figure 2: 1:100 year Floodline



**VEGETATION AND WETLAND ASSESSMENT PRIOR
TO A PROPOSED UPGRADING OF PORTIONS 35, 36,
338-343 OF LOT 1668 WYDENHAM**

NOVEMBER 2007

**Prepared For
Bokamoso Landscape Architects and Environmental Consultants**

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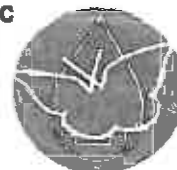


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1. INTRODUCTION

1.1 Background

The proponent has proposed that portions 35, 36, 338-343 of lot 1668 Wydenham be upgraded. The proposed development involves the development of residential units on stands located across the property. At present the site is vacant but has a non-perennial stream flowing through it. The flow in this system is augmented by an ingress of storm water by several storm water canals entering the site

The property is located immediately to the south of the small town of Umkomaas in the village of Wydenham. The site is bound to the east by the R102, to the north by Camborne Road, to the west by Wydenham Drive and to the south by Catherine Drive. See figure 1. The surrounding area comprises of residential housing, with the area to the east being less densely developed and in close proximity to the Indian Ocean.

As part of the environmental impact assessment process, Scientific Aquatic Services was appointed to compile a brief vegetation and ecological overview of the property which included consideration of the wetland areas on the property. However, one site visit was undertaken and therefore for a more comprehensive species list, additional site visits would be necessary.

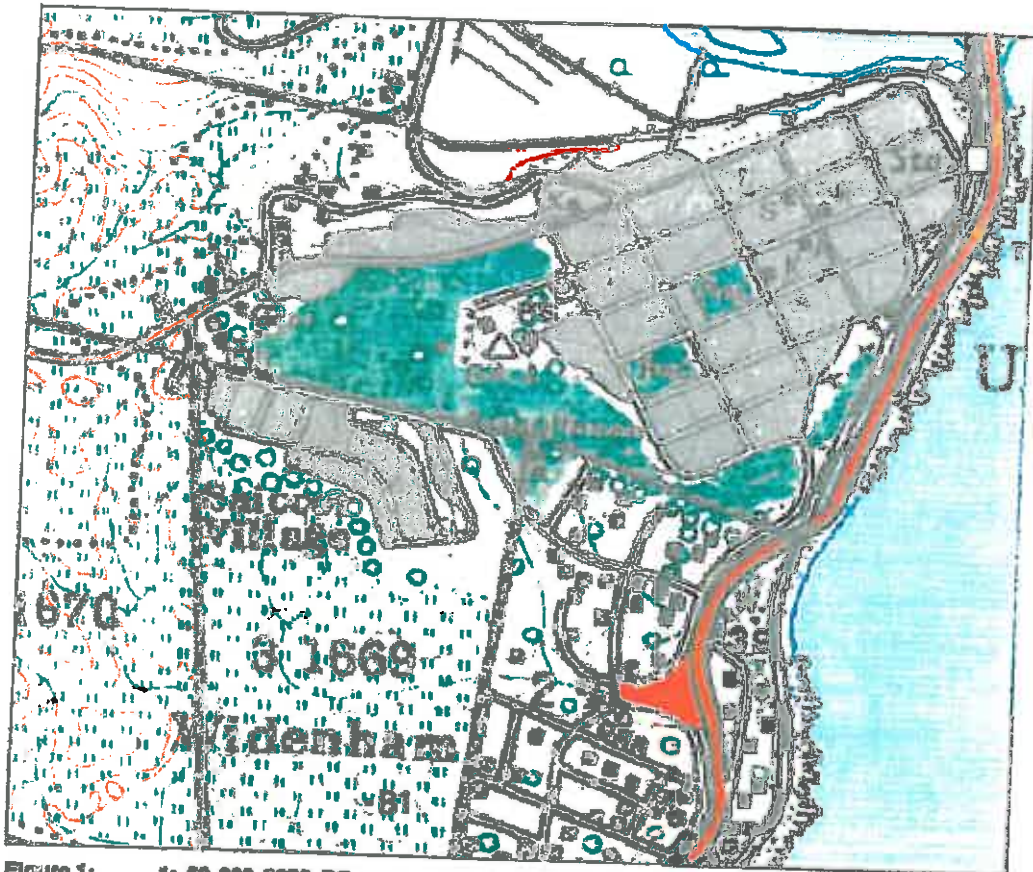


Figure 1: 1: 50 000 3035 BG topographic map depicting the locality of the study area (red) and surrounding larger area

This report, after consideration and description of the ecological integrity of the property, must guide the property owner, authorities and potential developers, by means of recommendations, as to viability of the proposed development and the potential impacts of the activity.

1.2 Scope

The ecological assessment is confined to the portion of the property that will be developed as depicted in Figure 1 above and does not include an ecological assessment of surrounding properties. Specific outcomes in terms of this report are as follows:

- To provide an assessment of the ecological status of the property;

- Determine and describe habitats, communities (if necessary) and ecological state of the property;
- Describe the spatial significance of the property with regards to surrounding natural areas;
- To discuss the functioning and sensitivity of the wetland area;
- To verify the position of the wetland boundary as determined as part of an earlier study

1.3 Assumptions and Limitations

The following assumptions and limitations are applicable to this report:

- The identification of complete faunal and floral species assemblages by means of short assessments is unlikely. Species observed were recorded but this portion of the assessment is complimented by a literature review process in order to provide meaningful observations with respect to faunal species that can be expected on the proposed development site.
- Several species of trees were not in bloom or carrying fruit which made accurate identification of the species difficult. Some species may therefore have been incorrectly identified.

2. METHOD OF ASSESSMENT

In order to achieve the main objectives of the report, as described above, the following methodology was used to assess the property and collect data:

- Digital satellite images and topographical maps were considered in order to determine broad habitat types and areas for site assessment. In addition a visual on-site assessment of property was conducted to confirm the findings and assumptions made from the maps and satellite image;
- A literature review with respect to habitats, vegetation types and species distribution was conducted in order to obtain background information on the property.



2.1 Flora

Literature was consulted in order to determine what species could potentially occur within the study area. Broad habitat types were identified and the proposed development plan was considered. Surveys were conducted within representative habitat types in the areas as allocated for proposed development. These sites were assessed by means of modified line transects and Braun-Blanquet survey plots (Mueller-Dombois & Ellenberger 1974; Westhoff & Van der Maarel 1978).

The habitat descriptions of the property are presented in the following manner:

- Photographic representation;
- Description of the vegetation type and community (dominant species encountered, general observations and ecological state);
- Ecological functioning of the site and habitat:
 - Sensitivity and importance of the ecosystem or community;
 - Species richness, diversity and presence of threatened or red data species;
- Recommendations with respect to the specific community.

2.2. Fauna

Faunal species were recorded simultaneously during the field identification of the floral species. In addition to visual identification species were recorded if spoor, call or dung were positively identified. Invertebrate observations were made during the completion of transects and survey plots. It is important to note that due to the nature and habits of fauna it is unlikely that all species will have been recorded by means of a single site assessment.

2.3. Wetlands

For the purposes of this investigation a wetland was defined according to the definition in the National Water Act as: "land which is transitional between terrestrial and aquatic systems where the water table is usually at or near the surface, or the land is periodically covered with shallow water, and which in normal circumstances supports or would support vegetation typically adapted to life in saturated soil."

Wetlands can be divided into three zones (DWAf 2003). The permanent zone of wetness is nearly always saturated. The seasonal zone is saturated for a significant part of the rainy season and the temporary zone surrounds the seasonal zone and is only saturated for a short



period of the year but is saturated for a sufficient period of time, under normal circumstances, to allow for the formation of hydromorphic soils and the growth of wetland vegetation.

During this assessment the existing wetland delineation was verified for accuracy. Consideration was also given to the drivers of the wetland system in order to aid in determining the sensitivity and functioning of the system. An assessment of water quality in the system was undertaken in order to determine the physico-chemical characteristics of the system. Consideration was then given to the management and mitigation measures deemed necessary in order to ensure the protection of the aquatic resources on the property.

3. ECOLOGICAL BACKGROUND DESCRIPTION

3.1 Climate

The area is known as a summer rainfall region, but with some rainfall also occurs in winter. The area has a high air humidity. No incidence of frost occur in the area. Mean maximum and minimum monthly temperatures for Durban (airport) are 32.6 °C and 5.8 °C and for Port Shepstone 20.6 °C and 8.8 °C (both for January and July respectively). Winds in the area are fairly strong due to the variation in temperature caused by the ocean and landmass.

3.2 Geology and Soils

The geology of the area is made up of the Ordovician Natal Group sandstone, Dwyka tillite, Ecca shale and Mapumulo gneiss (Mokollan) which dominate the landscapes of the KwaZulu-Natal Coastal Belt. Weathering of old dunes has produced the red sand, called the Berea Red Sand, in places. The soils supported by the above-mentioned rocks are shallow over hard sandstones and deeper over younger, softer rocks. Fa land type dominates the area, while Ab land type is only of minor importance.

3.3 Surrounding properties/land uses

The areas surrounding the development area are developed on all sides, with the area being typical of a suburban/ coastal village environment. Residential dwellings are present on fairly small residential stands. Immediately to the east of the site is the R102 which sees a large amount of traffic due to the use of the route as a main route along the coastline.



3.4 Ecological condition and functioning

Ecological condition and function on the proposed development sites is mixed with some aspects functioning well, however other aspects show signs of impact. The area provides good habitat and cover for faunal and floral species, however alien vegetation encroachment serves as an indication of past disturbances and the influence of the surrounding area. With the area forming a natural drainage line, the development site has a wetland habitat and associated community present. Due to the effects of the surrounding areas, the wetland has seen some impact from alien vegetation encroachment and some impacts on the water quality of the system are evident.

3.5 Biome, bioregion and vegetation type

Biomes were defined by Rutherford & Westfall (1994) on combinations of dominant life forms and climatic features.

The landscape in the area is characterised by highly dissected undulating coastal plains which presumably used to be covered to a great extent with various types of subtropical coastal forest. Some primary grassland dominated by *Themeda triandra* still occurs in hilly, high-rainfall areas where pressure from natural fire and grazing regimes prevailed. At present the KwaZulu-Natal Coastal Belt is affected by a mosaic of very extensive sugarcane fields, timber plantations and coastal holiday resorts, with interspersed secondary *Aristida* grasslands, thickets and patches of coastal thornveld.

The proposed development site falls within the Indian Ocean Coastal Belt vegetation type. The vegetation of the area forms part of the Kwa-Zulu Natal Coastal Belt vegetation type as described by (Mucina & Rutherford; 2006). This vegetation type is limited to the KwaZulu-Natal Province. The vegetation type is presented in a long broad strip along the KwaZulu-Natal coast, extending from Mtunzini in the north, via Durban to Margate and ends just below Port Edward to the south. Altitude ranges from about 20-450m.

Kwa-Zulu Natal Coastal Belt vegetation is endangered. The target for conservation is 25%. Only a very small part is statutorily conserved in the Ngoye, Mbumbazi and Vernon Crookes Nature Reserves. Approximately 50% has been transformed for cultivation, by



urban sprawl and for road-building. Aliens include *Chromolaena odorata*, *Lantana camara*, *Melia azedarach* and *Solanum mauritianum*. However erosion is low and moderate.

Important taxa occurring within this vegetation type include:

- Low Shrubs: *Citria pulchella*, *Gnidia kraussiana*, *Phyllanthus glaucophyllus*, *Tephrosia polystachya*.
- Small Trees and Tall Shrubs: *Bridelia micrantha* (d), *Phoenix reclinata* (d), *Syzygium cordatum* (d), *Acacia natalitia*, *Albizia adianthifolia*, *Antidesma venosum*.

Biographically important taxa include:

- Graminoids: *Cyperus natalensis* – C, *Eragrostis lappula* – S.
- Herbs: *Helichrysum longifolium* – C, *Selago tarachodes* – C, *Senecio dregeanus* – C, *Sphenostylis angustifolia* – S.
- Geophytic Herbs: *Kniphofia gracilis* – C, *K. littoralis* – C, *K. rooperi* – C, *Pachystigma venosum* – S, *Zeuxine africana* – S.
- Low Shrubs: *Helichrysum kraussi* – S (d), *Agathisanthemum bojeri* – S, *Desmodium dregeanum* – C.
- Megaherb: *Strelitzia nicotai* – C (d).
- Geoxylic Suffrutices: *Ancylobotrys petersiana* – S, *Eugenia albanensis* – C, *Salacia kraussi* – S.
- Small Trees and Tall Shrubs: *Anastrebe integerrima* – C (d), *Acacia nilotica* subsp. *kraussiana* – S.

(C – Coastal belt element; S – Southern distribution limit)

Endemic taxa include:

- Herb: *Vernonia africana* (extinct).
- Geophytic Herb: *Kniphofia pauciflora*.
- Low Shrub: *Barleria natalensis* (extinct).

3.6 Surface water and wetlands

A non-perennial drainage feature runs through the property and continues its course through the properties to the east of the proposed development site, where it eventually meets with the Indian ocean. The natural non-perennial stream is augmented by an ingress of storm water by several storm water canals entering the site. These storm water canals increase the period of time in which surface water persists in the system, in addition to this

they have played a role in increasing the wetland size that has formed along the eastern part of the property. In addition to these wet areas, wetland conditions extend up the drainage lines running through the property.



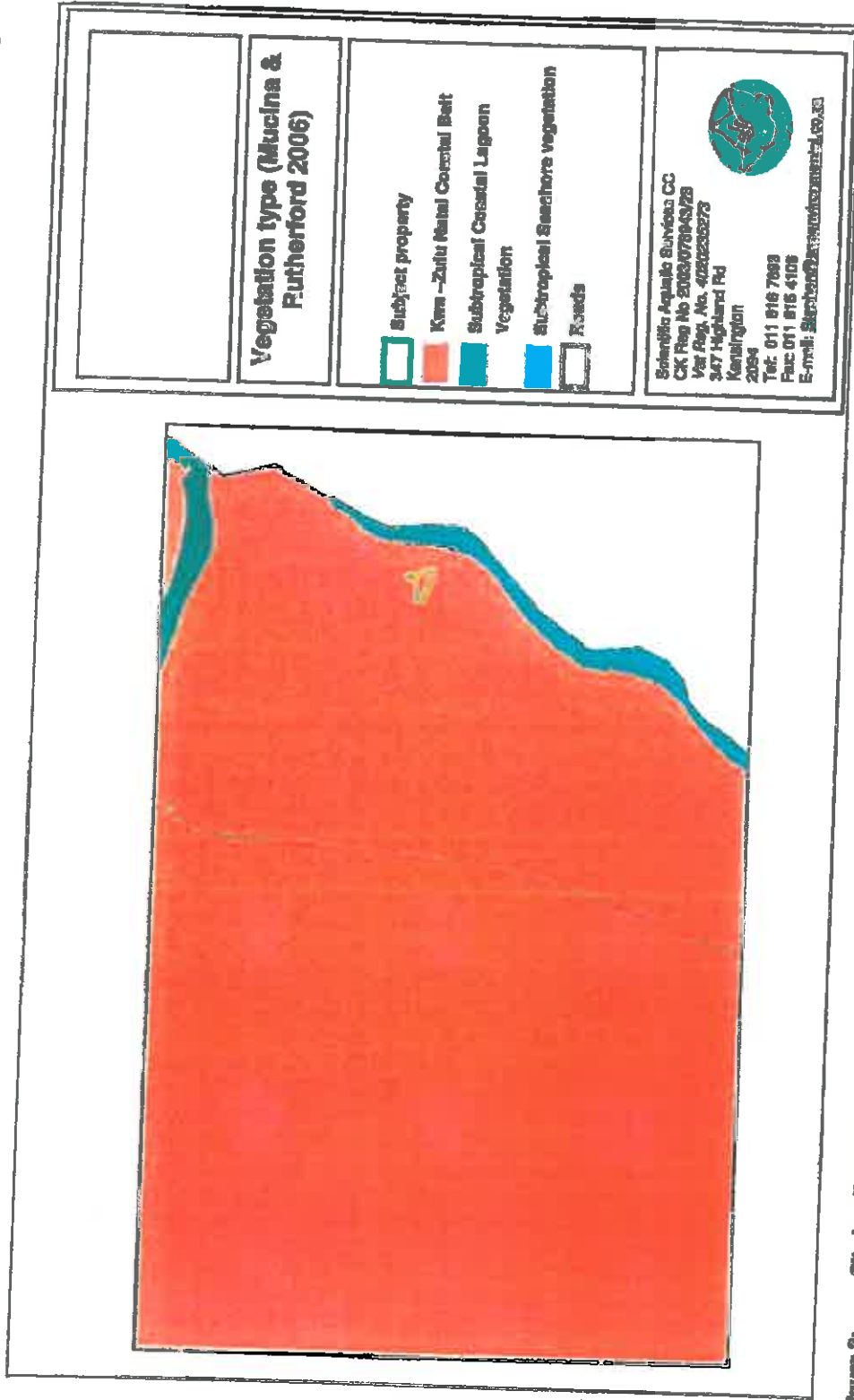


Figure 2: Site locality presented on a vegetation map of the area (Mucina & Rutherford, 2006)

4. SITE ASSESSMENT

4.1 Floral communities

Two types of communities were present on the site, namely the wetland community and the terrestrial community. These two communities will be discussed below:

4.1.1 Wetland areas

Wetland areas had a distinctive vegetation type associated with the wetter areas. These areas were characterised by the dominance of *Phragmites australis* reeds; with tree cover being reduced in relation to the surrounding terrestrial areas. Trees in the wetland areas were dominated by *Strelitzia nicotai*. Other vegetation encountered in the wetter areas included *Setaria megaphylla*; *Sorghum halapense*; *Lythrum alba* and *Cyperus esculentus*. In the drier seasonal and temporary wetland zones, there was a significant invasion by alien vegetation including species such as *Lantana camara*; *Verbena bonariensis*; *Achyranthes aspera*; *Pomoea purpurea*; *Rumex crispus* and *Rucinus communis*.

4.1.2 Terrestrial areas

The terrestrial areas were dominated by a tree layer with a ground layer consisting of various grasses, and alien shrubs species. Trees such as *Phoenix reclinata*; *Gymnosporia buxifolia*; *Mangifera indica*; *Bridelia micrantha*; *Syzygium* sp. (possibly *Syzygium cordatum*); *Strelitzia nicotai*; *Barringtonia speciosa*; *Stychnos spinosa* and *Rhoicissus tomentosa*. Few alien trees were observed with the most common being *Melia azedarach* and *Careus jamaicensis*.

The removal of the natural vegetation in the past; combined with the disturbed soil conditions has led to the dominance of alien vegetation species throughout the area beneath the tree canopy. Basal cover is dominated by *Lantana camara* and *Achyranthes aspera*. Isolated occurrences of *Solanum mauritianum*, *Rucinus communis*; *Cycloperum leptophyllum*; *Galinsoga parviflora* were also evident.



Grass species observed in the area included *Pennisetum clandestinum*; *Eragrostis chloromelas* and *Cynodon dactylon*.

4.2 Faunal communities

A fairly diverse faunal community was observed on site considering the time spent on site. Mammal species observed included *Cercopithecus aethiops* and *Cryptomys hottentotus*. No tracks, scats or burrows of any other mammal species were observed.

Avifanal species observed included *Euphagus erythrorhynchus*, *Ploceus bicolor*, *Lybius torquatus*; *Bostrychia hadedash* and *Milvus migrans migrans*. All the above species can be considered common.

No reptile or herpetofaunal species were observed during the field visit. The site is deemed likely to support populations of both reptiles and herpetofauna since conditions are well suited to supporting these species.

An abundant population of alien fish (*Poecilia reticulata*) was observed in the drainage feature of the site. These fish are common throughout the area.

The invertebrate community was less diverse than expected. Ponerine ants were observed along with bees (Apidae) feeding on the alien flowers. Members of the order *Juliformia* were also observed on site. Aquatic invertebrates observed included members of the *Gerridae*; and *Potamonautidae* families.



4.3 Ecological discussion

Based on the site observations it is evident that the floral community has been disturbed by past activities and is under pressure from the surrounding environment. What is evident is that the tree layer is in fair condition with several indigenous trees present while the ground cover layer is highly impacted upon by the invasion of alien vegetation.

Based on this observation it is deemed suitable that limited development of the area can take place with limited impact upon the floral community provided that the following mitigatory measures are adhered to:

- The footprint of the proposed development is to be limited to the footprint of the housing units and the drive ways leading to the units.
- Site clearing should be limited to a maximum of 15% of the terrestrial zone areas
- Site clearing is to be limited to the footprint of the housing units.
- The development should not lead to a change in runoff patterns, which will lead to altered vegetation characteristics of the site.
- The development layout must be designed in such a way so as to minimise the number of trees, and in particular the larger trees, which need to be removed.
- Trees which are removed should be relocated to sites within the proposed development area which will not be affected by the development.
- Upon completion of the construction phase of the development rehabilitation of all compacted areas must be undertaken to allow vegetation to re-establish.
- Adequate measures must be documented and put in place in order to ensure that alien vegetation is controlled during the period when occupation of the residential units takes place.



4.4 Wetland areas and drainage features

Based on the field observations made the existing wetland delineation as developed by Groundwork Geotechnical Solutions in January 2007 is deemed to be accurate. Both the soil form and vegetation indicators support the wetland delineation proposed in this study.

Water quality within the aquatic resources shows that general water quality is good. The water has a pH and EC value that can be regarded as having limited change from the natural conditions of the area. Suspended solids are fairly low and decrease significantly over the property, due to the filtering effect of the wetland resource

Dissolved oxygen values are high and will therefore not limit the aquatic community of the system. It was however observed that the COD value at the upstream value is high and is therefore likely to lead to significant reduction of dissolved oxygen levels in the water. This observation combined with the observed high *F. coli* counts; serves as an indication that runoff from the surrounding residential areas including possible french drains and other sewage disposal facilities is likely. Reduced safety in terms of water quality is therefore likely to occur with the *F. coli* value exceeding the DWAF TWQO for recreational use.

Nitrate, ammonia and ortho-phosphate levels are fairly low indicating that limited eutrophication of the system is likely.



Table 1: Water quality data from an upstream and downstream sample of the drainage feature on the property.

| Analyses in mg/l | Sample Identification Widenham | |
|--|-----------------------------------|-------|
| | DS | US |
| Sample Number | 7931 | 7932 |
| pH Value at 25°C | 7.7 | 7.7 |
| Electrical Conductivity in mS/m at 25°C | 54.6 | 60.6 |
| Total Dissolved Solids at 180°C | 332 | 350 |
| Suspended Solids at 105°C | 4.8 | 21 |
| Dissolved Oxygen as O ₂ | 8.4 | 7.8 |
| Temperature (°C) | 17.4 | 17.0 |
| Chemical Oxygen Demand as O ₂ | <10 | 19 |
| Nitrate as N | 1.3 | 1.2 |
| Ammonia as N | 0.2 | 0.2 |
| Ortho- Phosphate as P | 0.3 | <0.2 |
| Faecal Coliform Bacteria / 100ml | 1 200 | 3 500 |

The wetland area can be considered to have some importance in terms service provision, under natural conditions, by maintaining biodiversity, stream flow regulation and sediment control. The system also plays a role in maintaining the biodiversity of the area by providing wetland habitats to suitably adapted faunal and floral species.

The proposed development site forms a natural drainage line, being the lowest point in the valley of the surrounding area. In addition to the natural drainage of the site it is evident that the drainage system receives additional runoff from several (at least four) storm water canals in the area. These systems increase the flow in the system significantly and increase the duration during which surface water will persist in the area.

A second factor which has affected the drainage features and wetland areas is the construction of the R102 to the east of the site. The construction of the road has led to localised changes to the topography of the land thereby leading to altered drainage and



runoff patterns. These changes have led to the formation of a permanent wet area on the eastern boundary of the property. The formation of this wet area has led to an expansion of the wetland area which is deemed to be increased in size in relation to the natural condition.

Due to the introduction of the storm water runoff to the area the upper reaches of the drainage feature show signs of incision. This is typical of features affected by urban runoff and reduces the functionality and integrity of the wetland areas.

Buffer zones are advocated in order to ensure that wetland features are protected. Due to the severely impaired status of the vegetation cover within the wetland buffer zones on the property, it is deemed feasible that limited development of the property can take place provided that the proposed development incorporates sufficient design features and management and mitigation measures into the proposed development to ensure that adverse impacts on the wetland areas are not caused. The points below should be used to guide the design of the proposed development:

- The wetland area should be managed as private or public open space.
- No paths or road crossings across the wetland areas should be permitted.
- The residential units must be included in the layout in such a way so as to ensure that the units are placed as far back from the wetland boundaries as possible.
- It is recommended that the residential units be developed on raised platforms; wherever they encroach on the wetland buffer zone in order to minimise the impacts on the wetland caused by altered runoff patterns, and altered topography.
- Adequate stormwater management must be incorporated into the design of the proposed development in order to prevent incision, erosion and the associated sedimentation of the wetland areas.
 - The areas to be cleared for development should be kept to an absolute minimum both in the terrestrial areas and more especially in the wetland buffer zone.
 - The areas which are paved or which are covered by impermeable material needs to be kept to an absolute minimum. No paving beyond that what is required for driveways should be permitted.
 - Sheet runoff from paved surfaces and access roads need to be curtailed and further needs to be managed in such a way, so as to ensure that no downstream erosion or incision occurs.



- The wetland buffer zones should be left undisturbed to allow the climax vegetation community to establish in these areas.
- As much vegetation growth as possible should be promoted within the proposed areas disturbed during construction in order to protect soils and to reduce the percentage of the surface area which is exposed to wind and rain. In this regard special mention is made of the need to use Indigenous vegetation species as the first choice during landscaping and rehabilitation.
- During construction erosion berms should be installed to prevent gully formation on any access routes, to the residential units. The following points should serve to guide the placement of erosion berms:
 - Where the track has a slope of less than 2%, berms should be installed every 50m.
 - Where the track slopes between 2% and 10%, berms should be installed every 25m.
 - Where the track slopes between 10%-15%, berms should be installed every 20m.
 - Where the track has a slope greater than 15%, berms should be installed every 10m.
- All areas affected by construction should be rehabilitated upon completion of the construction phase of the development. Areas should be reseeded with indigenous vegetation as required.
- During the construction phase no vehicles should be allowed to indiscriminately drive through the wetland and riparian areas. Only one designated access route to each residential unit should be permitted.
- Throughout the operational phase of the development, alien vegetation control should be practiced. In this regard special mention is made of the need to control the spread of *Lantana camara* as well as *Solanum mauritianum*.

4. REFERENCES

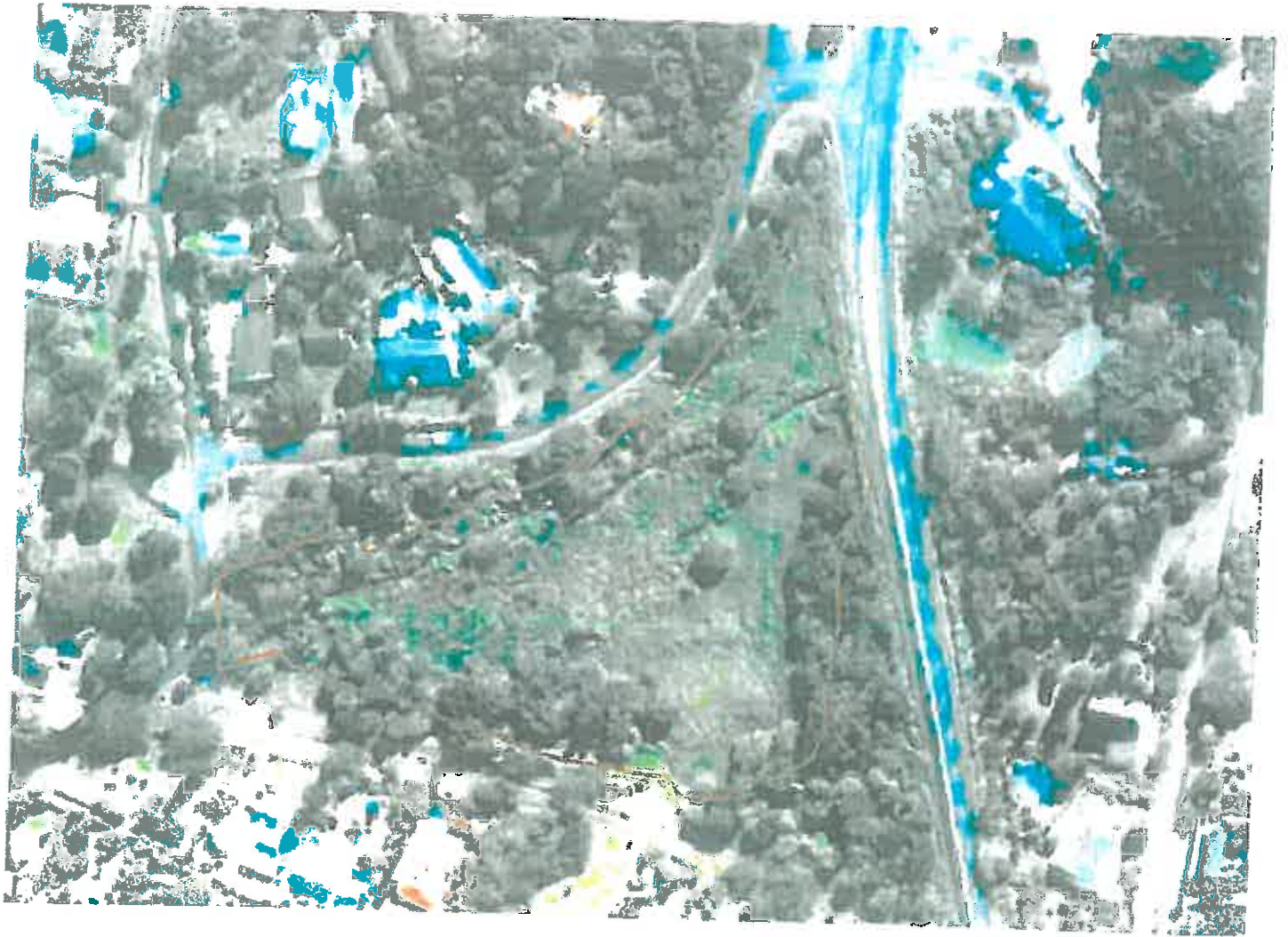
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Appendix D3

RENUTECH BUSINESS TRUST

**PROPOSED NEW TOWNHOUSE DEVELOPMENT ON
PORTION 35, 36, 338 TO 343 OF LOT 2 NO 1668 WIDENHAM**



REPORT

TRAFFIC IMPACT ANALYSIS

WSM LESHKA
CONSULTING (PTY) LTD



PREPARED FOR:

Renutech Business Trust

ENQUIRIES

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1. Introduction

WSM Leshika Consulting (Pty) Ltd has been appointed to investigate and evaluate the traffic impact based on the proposed development of new townhouses on portion 35, 36, 338 to 343 of Lot 2 No 1668 Widenham.

2. Locality

Figure 1: Locality Plan

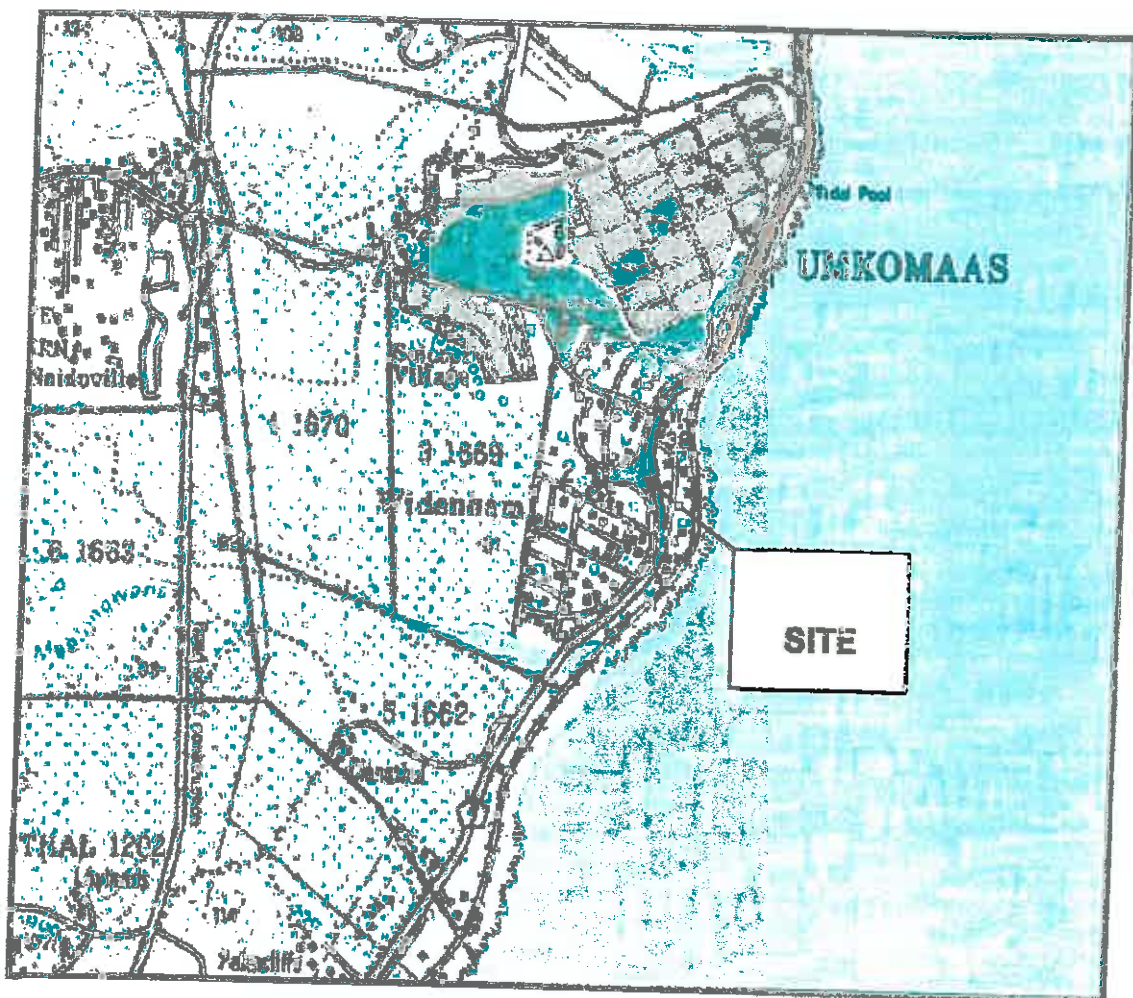
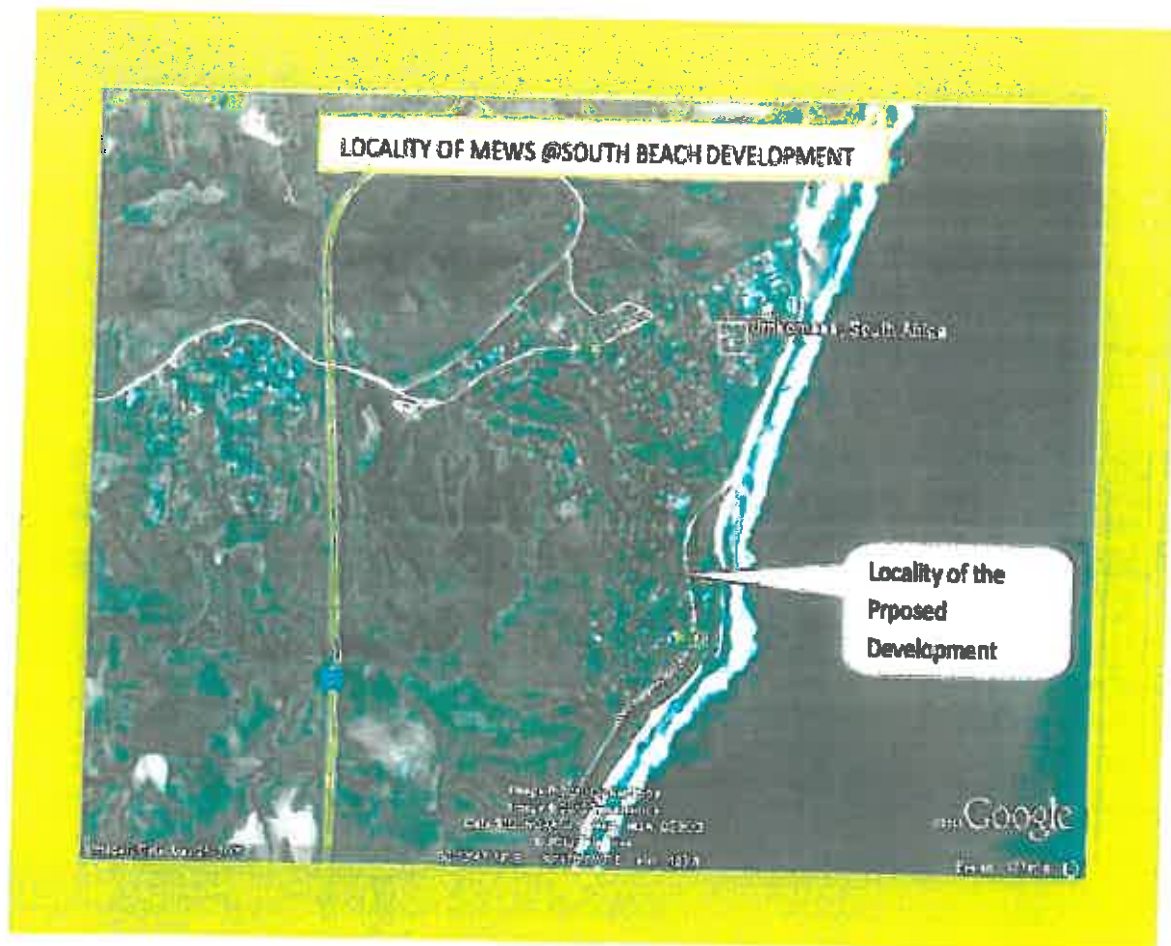


Figure 2: Google Image Locality Plan



The approximate locality of the site is:

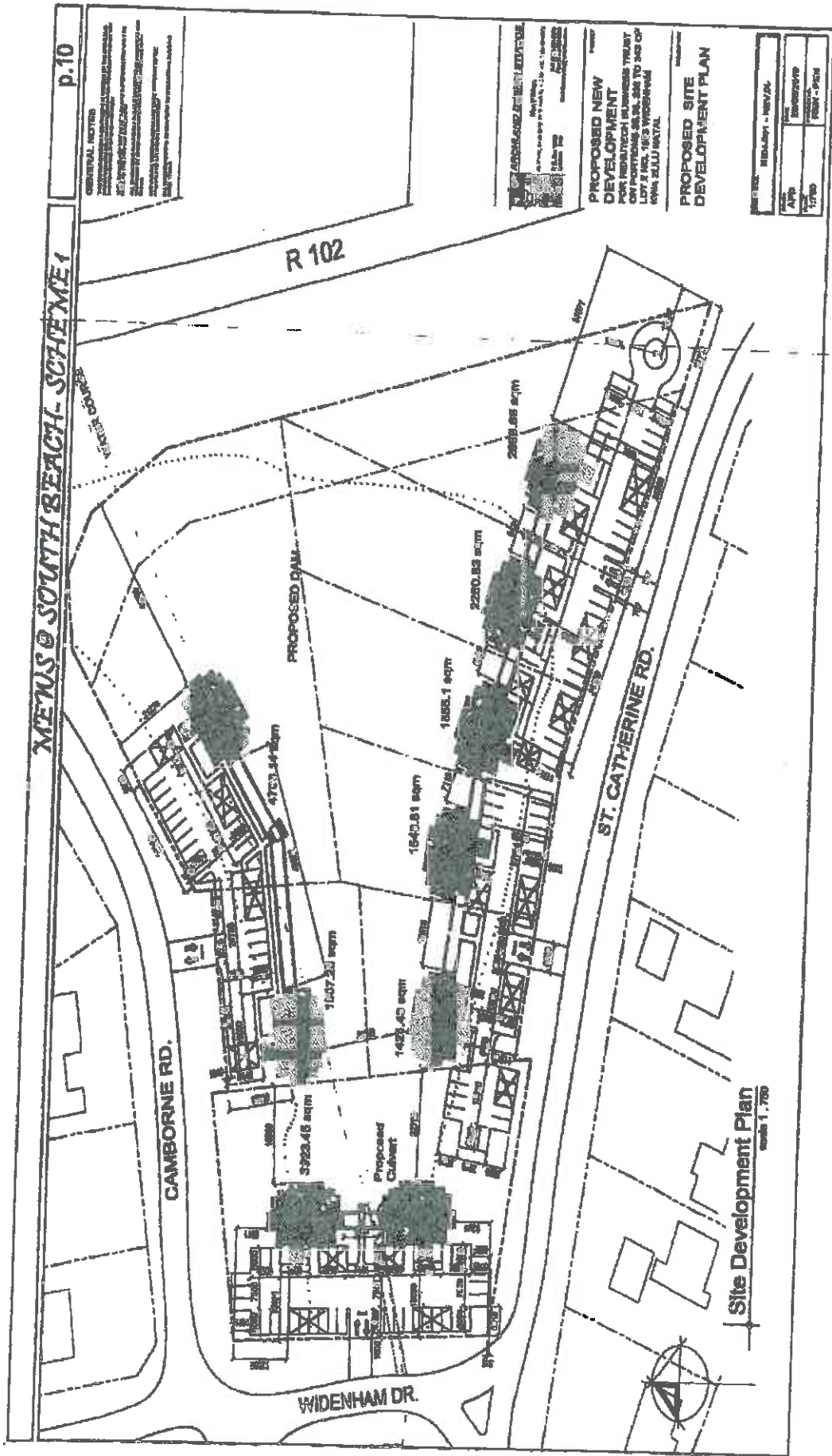
- Longitude: 30°47'40" E
- Longitude: 30°13'03" S

The locality of the proposed development is just South of the Umkomaas Golf Course, on the South Eastern corner of Camborne Road and Widenham Drive as indicated in figure 1 and 2.

3. Development Description

The traffic impact analysis is done based on the scheme proposal consisting of 9 blocks each block includes 7 housing units, as indicated in figure 3.

Figure 3: Proposed Site Development Plan



4. Road infrastructures

The proposed development is located adjacent to the following roads as indicated in figure 4:

- Widenham Drive
- St Catherine Road
- Camborne Road

Figure 4: Road Layout Plan



The proposed new townhouse development forms part of an existing residential area in Umkomaas and access into this residential area is from the existing Main Road R102, which is indicated in figure 5.

Figure 5: Access to Mews @ South Beach



5. Traffic Impact

The traffic impact evaluation due to the proposed Mews @ South Beach development is based on the scheme proposal consisting of the following:

- Nine (9) buildings with 7 housing units each, ie 63 housing units;
- In total 157 parking bays that will be provided on site;
- Four (4) access points as follows:
 - One from Camborne Road;
 - One from Widenham Drive;
 - Two from St Catherine Road.

It is further anticipated that at least 50% of the housing units will be utilized as permanent residence, which will contribute towards peak traffic during the mornings and afternoons.

Taking into consideration the 50% permanent residency, it can be expected that an additional 32 vehicles within an peak hour could be expected. Therefore a traffic impact analysis is not required and it is only required to evaluate the access to the property.

Each access will be geometrically designed to reduce any unnecessary damming of traffic, furthermore the design will ensure safe traffic flow by means of taking into consideration sight distances, distances from existing intersections, accelerations and decelerations lanes and the radius for turning vehicles into and from the property.

6. Recommendations

It is recommended:

- That it be noted that the traffic impact, due to the proposed development is very low, less than 50 vehicles/hour during peak hour traffic;
- That it be noted it will only be required to evaluate and design the access to the new development of Mews @ South Beach.



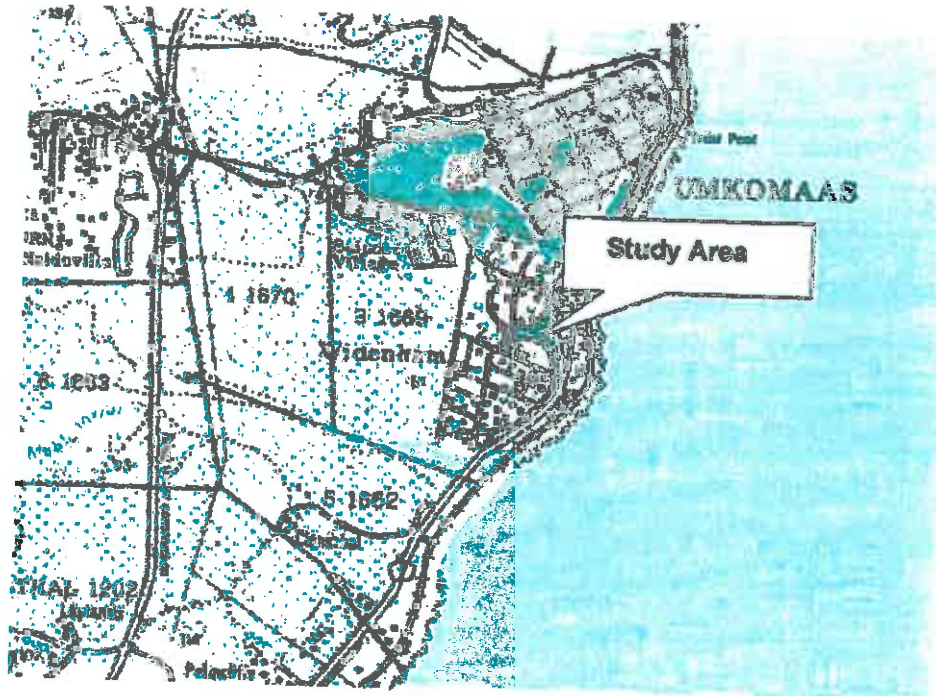
Jan Fafroy Pr Eng
DIRECTOR



Appendix D4

**New Townhouse Development on Ptns 35, 36, 338 to 343
of Lot 2 No. 1668 Widenham**

SEWAGE DISPOSAL MANAGEMENT REPORT



JUNE 2010

WSM LESHKA
CONSULTING (PTY) LTD



PREPARED FOR:

Renutech Business Trust

ENQUIRIES:

**J Fancy
623 Rubenstein Avenue
Morelets Park
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**New Townhouse Development on Ptns 35, 36, 338 to 343
of Lot 2 No. 1668 Widenham**

SEWAGE DISPOSAL MANAGEMENT REPORT

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WIDENHAM PROPOSED DEVELOPMENT ON PTNS 35, 36, 338 TO 343 OF LOT 2 NO 1668: PROPOSED SEWER SYSTEM

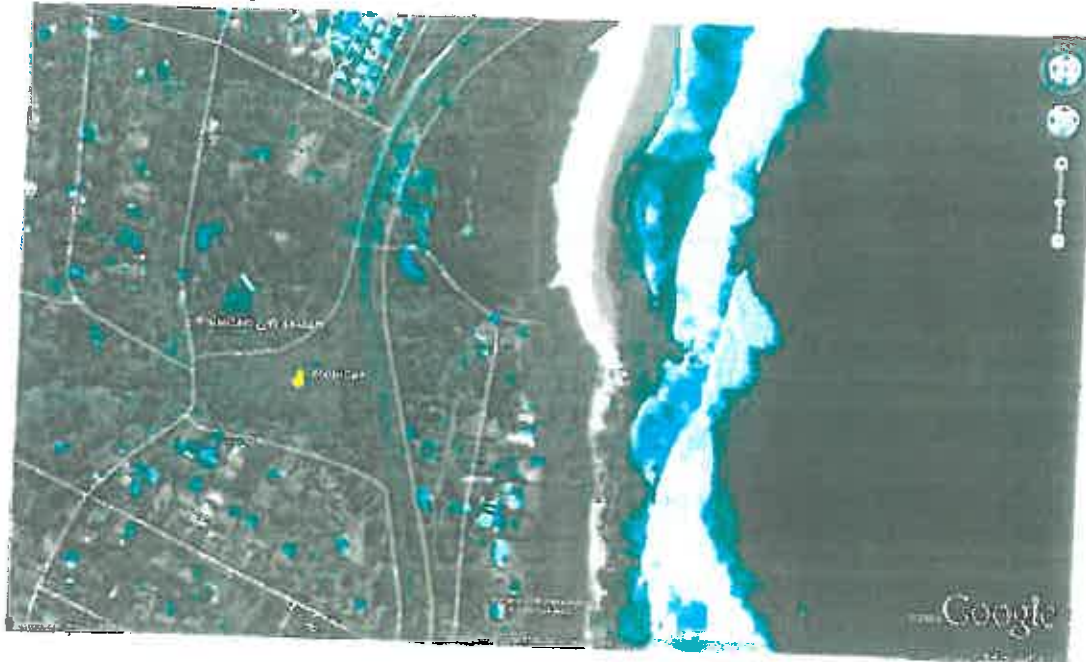
1. INTRODUCTION

We have been requested to submit a report on the proposed sewer treatment system to be implemented within the Widenham proposed township development in Umkomaas , Kwazulu Natal.

2. PROJECT LOCALITY

The proposed development is just South of the Umkomaas Golf Course, on the South Eastern corner of Camborne Road and Widenham Road, as indicated in figure 1.

Figure 1: Locality of Site



The approximate Locality of the site is:

- Latitude: 30°13'03" S
- Longitude: 30° 47'40" E

3. PURPOSE OF REPORT

The purpose of this report is to submit information with regards to the proposed sewer treatment system to be installed as part of the environmental impact analysis report.

This report will identify the different options available with a short description of each option. The report will from the available options identify the most suitable solution to the treatment of the sewer from the proposed development.

This report does not include the final design flows for the proposed development as this will only be done as soon as an appointment to carry out the design of services has been received.

4. EXISTING SYSTEM IN UMKOMAAS

It is known that in that in the Widenham Area each stand has to provide its own system to manage the expected sewage effluent. There is no existing sewer reticulation available to connect into.

5. ALTERNATIVE SEWER SYSTEMS

The alternative sewer systems available are the following:

- Conservancy tank with a suction coupling at each stand for the periodic emptying of the tank by the local authority;
- Septic tank with French drain on each stand;
- Full water borne sewer reticulation with a connection from each stand into a main sewer pipe line discharging the sewer into a purification plant or an oxidation pond;
- The lilyput system which is an improved oxidation pond system ;
- A Calcamite system providing a tank at each stand or providing a treatment system for several stands combined.

6. DESCRIPTION OF SEWER SYSTEMS

The conservancy tank is not recommended due to the fact that this service is not rendered within this area and it will require the procuring of the suction tanker as well as a oxidation pond system where the sewer will have to be dumped. A sketch of the conservancy tank system is included in annexure B.

The septic tank with french drain is in use within the established town and it has already been identified as a system not preferred at all. This system can have an affect on the groundwater acquifer depending on the soil type and geotechnical conditions within the area.

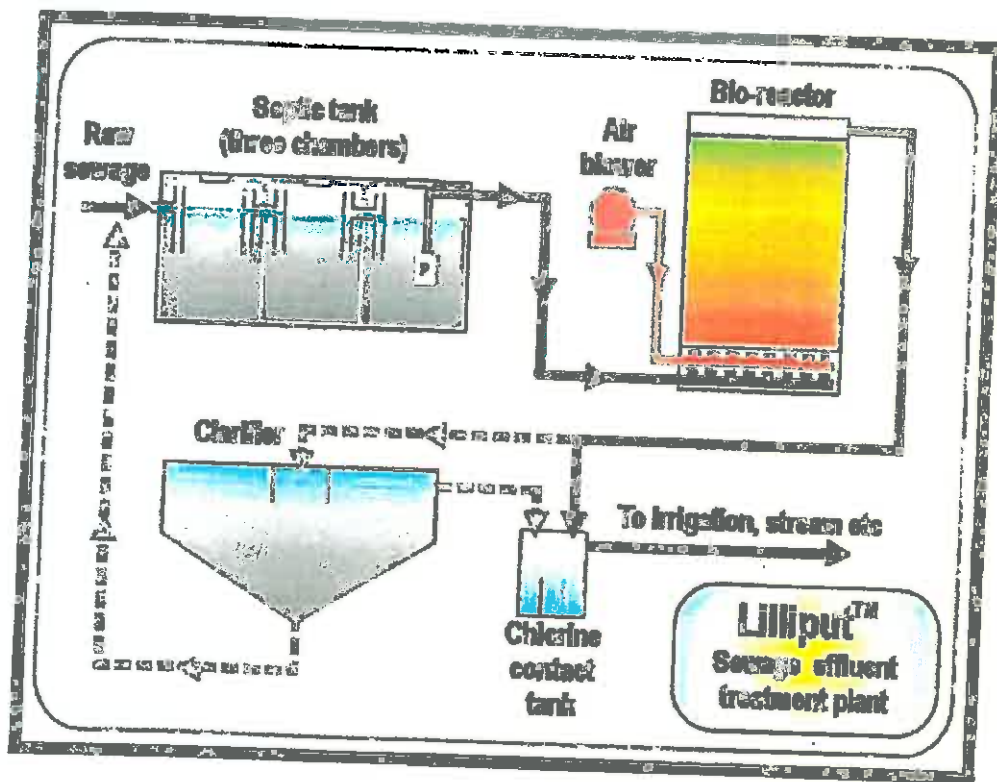
The full borne sewer system consists of a network of sewer pipes through which the sewer gravitates to the lowest point of a development, from where it should either be connected into

another main sewer outfall pipe line, a tank from where the sewer shall be pumped to a purification plant or an oxidation pond system to be designed to ensure that the sewer eventually discharged into natural streams is clean and to the acceptable standard as stipulated by the Department of Water Affairs and Forestry.

The Lilliput system allows for the pre-treatment of all waste water in an anaerobic , predigestion environment and is similar to the Calcamite system.

The Calcamite system can be compared with the septic tank system , but it offers the tried and tested primary effective toilet as an improved VIP that is demonstrably sustainable, odourfree and safe. With this system a tank can be provided on each stand or a Blomite Treatment Plant catering for a cluster of stands , can be installed for which a specific site will have to be identified within the township layout.

Figure 1: Lilliput System Process.



7. LILLIPUT TREATMENT TECHNOLOGY

7.1 Background

Africa Water and Waste , now Lilliput Treatment Technologies International, took up a challenge issued by the South African Department of Water Affairs & Forestry. The problem that they were experiencing nationally , was that Domestic Sewage Effluent Treatment Package Plants were not consistently meeting the discharge standards as laid down in the South African Water Act. Following extensive academic research and laboratory testing , a range of Water Act compliant systems was born in 1996. They covered the conventional load spectrum, typically from small communities to villages and towns. The breakthrough technology allows the single homeowner the opportunity to re-use 100% of the water coming into the house, normally for the use of irrigation.

7.2 The Process

Raw sewage is pre-digested in a septic tank , or with the full kit plant , in Lilliput tanks, by anaerobic bacteria converting most of the complex organic matter into simple but toxic chemicals. The solution produced is pumped into the Bio-reactor, which contains randomly packed media. Air is introduced and aerobic bacteria oxidize the harmful , malodorous chemicals converting them to safe , clean salts. At times of surge flow excess effluent is returned to the septic tank to ensure complete treatment. If discharge is other than to irrigation, a clarifier is used to extract excess solids and return to the septic tank. The final stage of treatment is disinfection , which ensures that any pathogens are removed.

7.3 Small Plant Details

7.3.1 Process Scope

The LILLIPUT SEWAGE TREATMENT PLANT MODELS SBC2000 and SBC6000 treat domestic sewage from the septic tank of a single house unit. The treated effluent is discharged to garden for irrigation.

7.3.2 Process Description

The sewage from the septic tank of a single house unit is pumped at a constant rate to the LILLIPUT BIOREACTOR. The effluent enters the bio-reactor below the AWW MARK TWO fixed-growth media where it mixes with an air diffuser. The effluent then rises through the media where the microbial population attached to the media removes and aerobically degrades the organic material contained in the aerated effluent. A degree of nitrification takes place in the upper layers of the media. Once it has passed through the media, the treated effluent is pumped through a disinfecting contactor and discharged to the garden for irrigation.

The disposal of the treated effluent by irrigation is totally safe and helps to conserve water 100% recovery for re-use.

7.3.3 Influent Characteristics

| PARAMETER | UNIT | TYPICAL VALUE |
|-------------|------|---------------|
| POPULATION | Pe | 10 |
| FLOW (ADWF) | l/d | 2000 |
| OA | mg/l | 50 |
| COD | mg/l | 500 |
| NH3 | mg/l | 30 |

7.3.4 Physical Components - Technical details

7.3.4.1. Up-flow Submerged Reactor:

This aerobic biological treatment unit is based on the Submerged Fixed Film principle. The plant utilises random-packed AWW MARK TWO biofilter media which has a high surface to volume ratio to permit a high biomass-density.

The LILLIPUT MODELS SBC2000 and SBC6000 can be located discreetly above ground to reduce costs of installation, and can take on the form of an aesthetically pleasing rock water feature or wishing well.

Up-flow Submerged Reactor

| | |
|--------------------------|------------------------------------|
| NUMBER | 1 |
| MATERIAL OF CONSTRUCTION | LLDPE |
| DIAMETER | 1,1 m |
| TOTAL REACTOR VOLUME | 1 kl |
| FILTER MEDIA | AWW MARK TWO® |
| SPECIFIC SURFACE AREA | 200 m ² /m ³ |
| COD LOAD | 1 kg/d |
| BLOWER TYPE | Diaphragm |
| SLUDGE PRODUCTION | 0.3 kgDS/kgCOD |

7.3.4.2 Disinfection

Disinfection will be achieved by in-line chlorination or Ozonation of the treated effluent.

| | |
|-----------------|---------|
| NUMBER | 1 |
| CHLORINE SOURCE | CaHOCl |
| FLOW RATE | 300 l/h |
| HRT (ADWF) | 0,5 h |

7.3.5 Site Requirements

The only requirement for the installation of the model SBC1000 is a 220 volt power supply. The treatment plant is easily installed with simple plumbing requirements.

7.3.6 Operation and Maintenance

The plant does not require continuous supervision and no maintenance. All pumps are sealed units rated for continuous use. The chlorine disinfection unit should be topped up intermittently to ensure optimum efficiency.

All mechanical / electrical components are readily available off the shelf from local shops.

All plant and equipment is supplied in non-corrosive or corrosive protected material. As the entire plant can be constructed above ground the necessity for extensive earth works and civil requirements is curtailed.

Figure 2: Small Plant



7.4 Large Plant Details

7.4.1 Process Scope

The LILLIPUT SEWAGE TREATMENT PLANT MODELS SBC12000 upwards are designed to treat domestic sewage from a cluster of housing units through the development spectrum to include townships and cities. The treated effluent is discharged to garden for irrigation or rivers and streams or dams and storm water systems.

7.4.2 Process Description

The sewage from the septic tanks (pre-digestion) is pumped at a constant rate to the LILLIPUT BIO-REACTOR. The effluent enters the bio-reactor below the AWW MARK TWO fixed-growth media where it mixes with an air diffuser. The effluent then rises through the media where the microbial population attached to the media removes and aerobically degrades the organic material contained in the aerated effluent. A degree of nitrification takes place in the upper layers of the media. Once it has passed through the media, the treated effluent is pumped through a disinfecting chlorine contactor and discharged to the garden for irrigation or rivers and streams or dams and storm water systems. The range can incorporate all their components into a single unit such as containerised applications or in modular form to suit topographical and/or aesthetic requirements. In rural areas, to do away with the need for electrical power, modular components can be arranged to promote the use of gravity. Trickling introduction of effluent, with natural up-drafts and a residency of only five (5) minutes is achieved. The disposal of the treated effluent by irrigation is totally safe and helps to conserve water. Domestically, such savings are in the order of 40%.

7.4.3 Influent Characteristics

| PARAMETER | UNIT | TYPICALVALUE |
|----------------|------|--------------|
| POPULATION | Pe | 10 |
| FLOW (ADWF) | l/d | 2000 |
| OA | mg/l | 80 |
| COD | mg/l | 800 |
| NH3 | mg/l | 40 |

7.4.4 Physical Components - Technical details

7.4.4.1 Up-flow Submerged Reactor:

This aerobic biological treatment unit is based on the Submerged Fixed Film principle. The plant utilises random-packed AWW MARK TWO biofilter media which has a high surface to volume ratio to permit a high biomass-density.

The LILLIPUT range can be located discreetly above ground to reduce costs of installation.

| | |
|--------------------------|------------------------------------|
| NUMBER | One or in series modules |
| MATERIAL OF CONSTRUCTION | LLDPE |
| DIAMETER | 1,1 To 2,6 m |
| TOTAL REACTOR VOLUME | 1 To 15 kl |
| FILTER MEDIA | AWW MARK TWO |
| SPECIFIC SURFACE AREA | 200 m ² /m ³ |
| COD LOAD | 1 kg/d |
| BLOWER TYPE | Diaphragm/Rotary vain |
| SLUDGE PRODUCTION | 0.3 kgDS/kgCOD |

7.4.4.2 Disinfection

Dis Infection is achieved by In-line chlorination or Ozonation of the treated effluent.

| | |
|-----------------|---------|
| NUMBER | 1 |
| CHLORINE SOURCE | CaHOCl |
| FLOW RATE | 300 l/h |
| HRT (ADWF) | 0,5 h |

7.4.4.3 Bio-enhancement option

The introduction of the Alpha Biotech bio-enhancing catalyst material.

The incorporation of the biocatalyst enhances the rates and degree of biodegradation of solids in the septic tank thereby extending the intervals between desludging. It also reduces the negative impact of kitchen wastes of which, cooking oil is the worst culprit.

The Alpha Biotech catalyst has been successfully applied to sewage treatment. Sludge production is reduced, COD removal in the septic tank is enhanced and plant performance is generally enhanced, particularly in periods of abnormal load peaking.

7.4.5 Site Requirements

The only requirement for the installation of all models is a 220 volt power supply and in some cases a surface bed.

The treatment plant is easily installed with simple plumbing requirements.

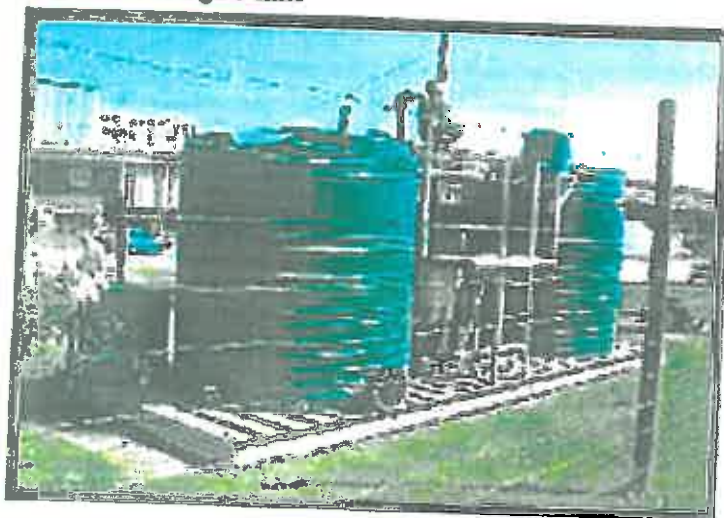
7.4.6 Operation and Maintenance

The plant does not require continuous supervision and minimal maintenance. All pumps are sealed units rated for continuous use. The chlorine disinfection unit should be topped up intermittently to ensure optimum efficiency.

All mechanical / electrical components are readily available off the shelf from local shops.

All plant and equipment is supplied in non-corrosive or corrosive protected material. As the entire plant can be constructed above ground, the necessity for extensive earth works and civil requirements is curtailed.

Figure 3: Large Plant



For the purpose development, two large plants will be required depending on the final design. The placement will be at the two lowest sites within the property and this will have the effect of taking up space from the planned stands as indicated.

7.5 Summary

With the Lilliput System it is possible to provide a small plant on each individual stand and for the group/cluster housing stands the larger plants can be provided on the property.

Two large plants can be provided for the total proposed development. The only problem with these systems, they are installed above ground as shown in figures 2 and 3.

8. CALCAMITE AS DOMESTIC SEWER TREATMENT

8.1 Background

In South Africa, the name Calcamite has become synonymous with sanitation since 1984, and has assumed generic status.

Adequate basic provision of sanitation in South Africa is defined as one well-constructed VIP (Ventilated Improved Pit) toilet (in various forms, to agreed standards) per household. Among other innovative products, Calcamite offers the tried and tested PET (Primary Effective Toilet) as an improved VIP (Ventilated Improved Pit) that is demonstrably sustainable, odour-free, fly-free and safe.

In what constitutes an Africa and world first, Calcamite had two of its upgradable on-site sanitation systems tested for fitness-for-purpose, and after evaluation was awarded Agreement South Africa certification in 1994.

After 23 years of manufacturing quality septic tanks, Calcamite was awarded the SABS Mark for pre-fabricated polyethylene septic tanks in 2006. In order to produce the relevant SABS standard, SANS (South African National Standards) adopted the relevant BS (British Standard) and EN (European Standard). Calcamite therefore have SABS, British and European Standard certification of their septic tanks – a history-making first in Africa.

Calcamite continues to innovate. The Biomite system is a package treatment plant that produces treated effluent that can be discharged to a natural watercourse or through surface irrigation because it complies with strict environmental water quality requirements stipulated by the Department of Water Affairs and Forestry (DWAF).

Calcamite has earned its well-deserved reputation for reliability, quality products that do the job, a high level of integrity and excellent service.

The Calcamite system can be implemented at each stand or at a combination of stands.

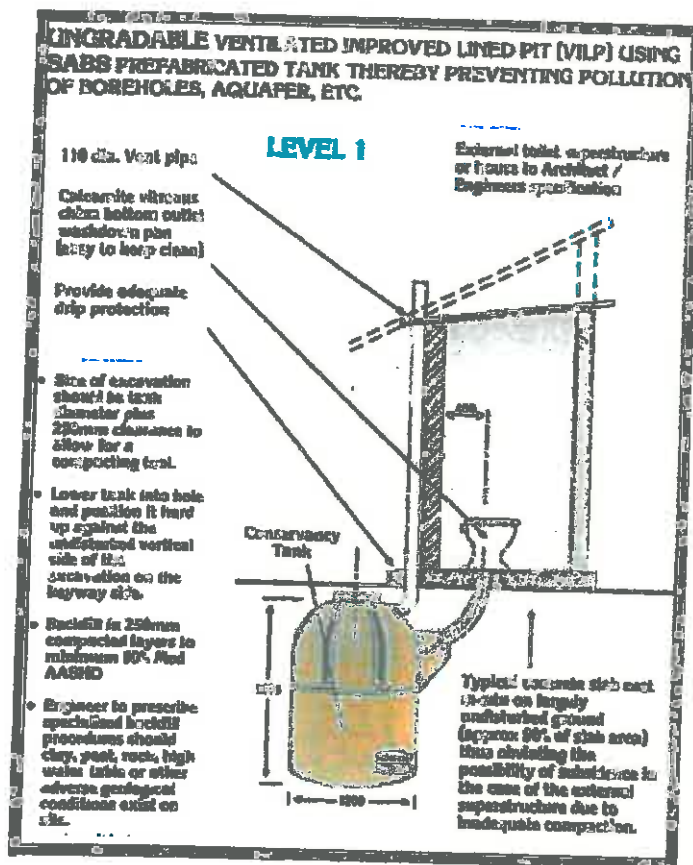
8.2 On-Site Sanitation

There are four levels of on-site sanitation as indicated, with descriptions in figures 4 to 7. Different calcamite tank sizes are available and the size to be installed will depend on the final design flow volumes.

The sizes available are:

- 1 500 l
- 3 000 l
- 5 400 l

Figure 4 : Calcamite System at Single Housing Unit.



8.3 Domestic Waste Water Treatment

8.3.1 Introduction

This biomite system is a package treatment plant that produces treated effluent that can be discharged to a natural watercourse or through surface irrigation because it complies with strict environmental water quality requirements stipulated by the Department of Water Affairs and Forestry (DWAF).

For each individual stand a separate tank could be installed, see figures 4 to 7 and for the proposed group housing sites a Biomite Treatment Plant could be provided, see figure 8.

Figure 5: Calcamite System at Single Housing Unit (Level 2)

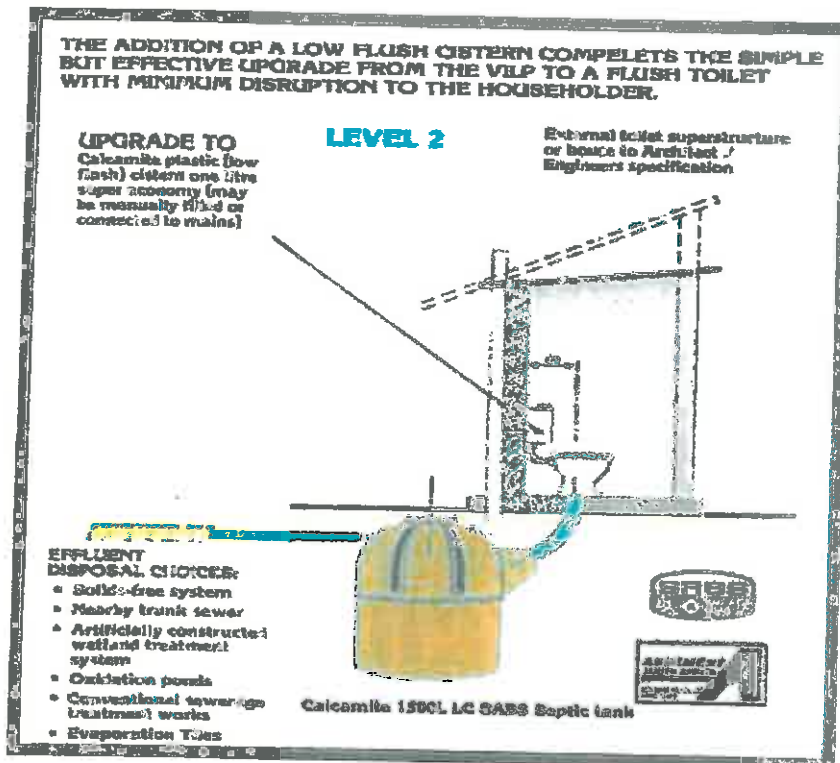


Figure 6: Calcamite System at Single Housing Unit (Level 3)

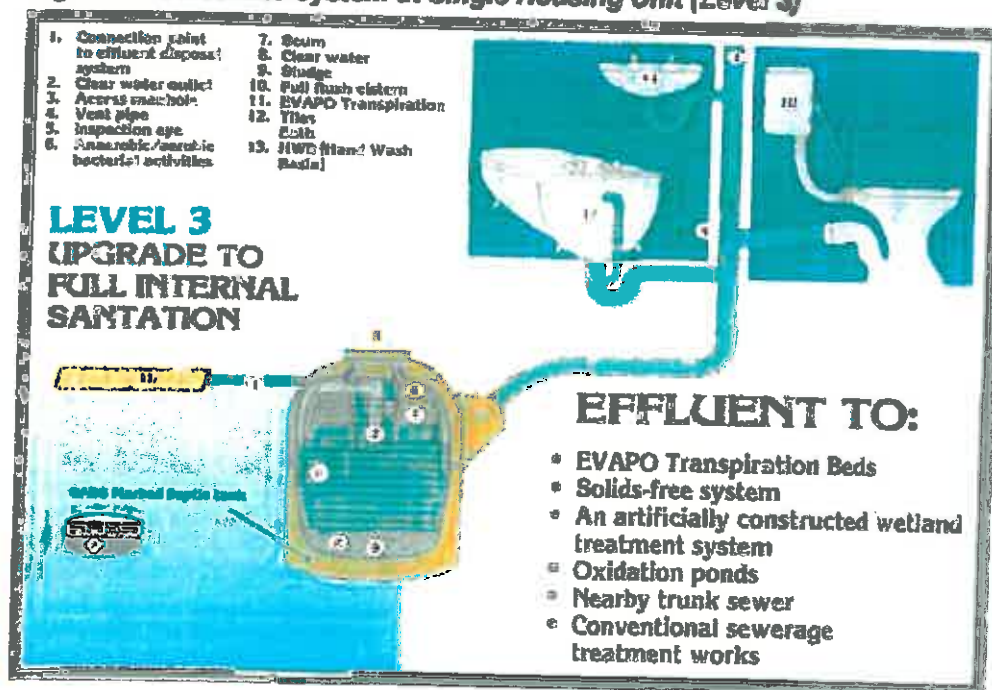
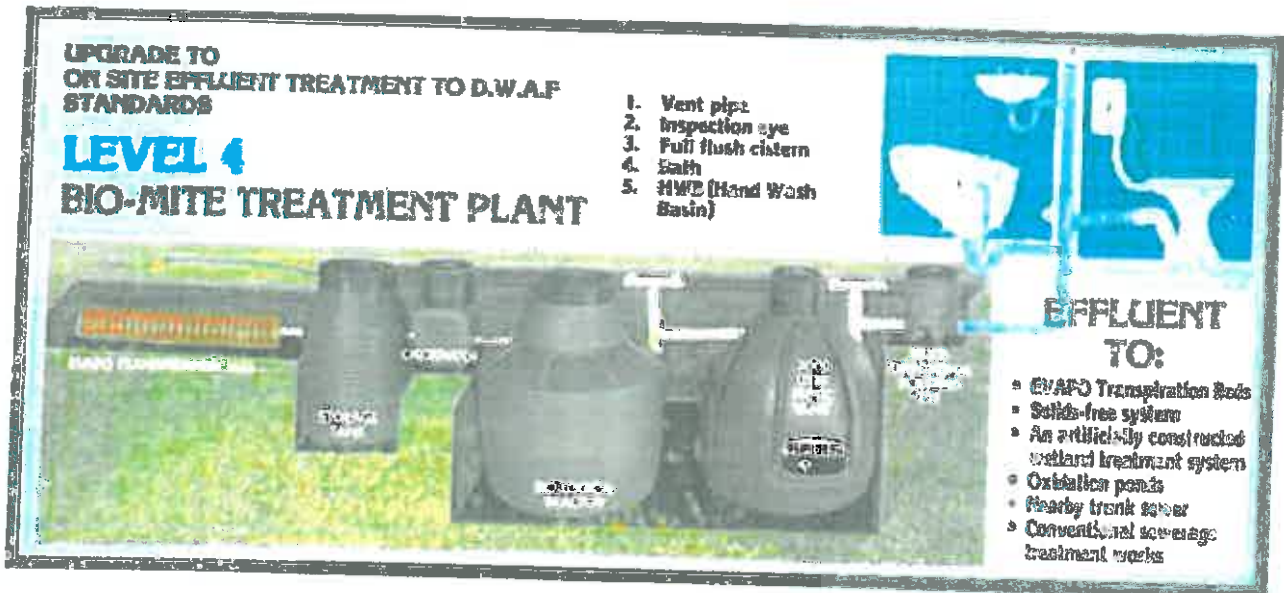


Figure 7: Calcamite System at Single Housing Units (Level 4)



8.3.2 Biomite Treatment Plant

The Bio-Mite incorporates a biological process to clean waste water that flows from the septic tank. In this process a biomass of bacteria breakdown biodegradable waste and convert it into carbon dioxide and water. Any non biodegradable matter collects at the bottom of the tank and is periodically removed in the same way as the septic tank is pumped out.

The biomass is a colony of self regenerating bacteria that will survive as long as they have a suitable food source (the waste) and a comfortable environment (sufficient oxygen and no harsh chemicals).

The septic tank provides the food source and the Bio-Mite the comfortable environment. Inside the Bio-Mite is a matrix of plastic media upon which the slimy bacteria cling. As the waste water circulates through the media food is delivered to the bacteria.

A powerful air blower aerates the waste water introducing oxygen into the system and ensuring that the waste stream is continuously circulated through the media.

If you wish to use your effluent for irrigation it will be necessary to chlorinate the waste stream which will kill any pathogenic organisms that may be present.

This is done in the specially constructed chlorination capsule provided for this purpose.

This system eventually produces treated effluent that can be discharged to a natural water course or through surface irrigation , because it complies with the strict environmental water quality requirements stipulated by the Department of Water affairs & Forestry (Now Department of Water & Environmental Affairs).

Figure 8 : Calcamite Domestic Waste Water Treatment.



8.3.3 Summary

The preferred system to be utilized within the proposed development is the Calcamite Treatment System, since it can be installed per stand , combination of stands or for the total development and will not be visible above ground. It is not the preferred system due to the more effective purification of the waste water and solids than the Liliyput System, since both the systems

The full installation is also underground and will therefore not be visible such as the Liliyput treatment system. The system is a closed system and ensures no contamination of the natural groundwater source. Calcamite was awarded the SABS mark for pre-fabricated polyethylene septic tanks in 2006. In order to produce the relevant SABS standard , SANS adopted the relevant BS (British Standards) and EN (European Standards). Calcamite therefore have SABS, British and European certification of their septic tanks.

The system will be designed as a sealed unit prohibiting the contamination of the groundwater on the site. Therefore all couplings will be properly sealed and the septic tanks will be installed in accordance with the supplier's instructions ensuring no damage to the tanks, therefore ensuring no leakages from the tanks.

9. RECOMMENDATION

It is recommended that for the sewer treatment within the proposed Widenham development, the Calcamite Treatment System be planned and designed as per the normal engineering requirements stipulated in the "Red Book". When it is known how many housing units will be accommodated within the total development or within the group housing sites the volumes of water demand will be determined which in turn determines the volume of effluent.

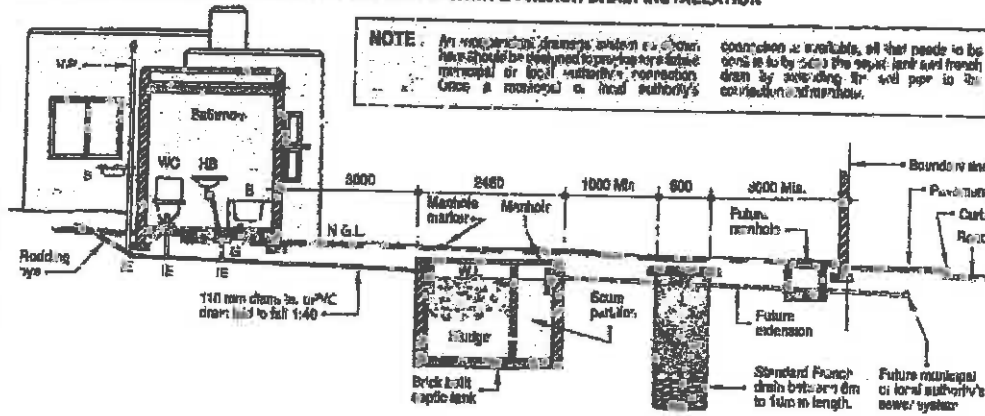
It is further recommended that each single stand be provided with a level 4 Calcamite system.



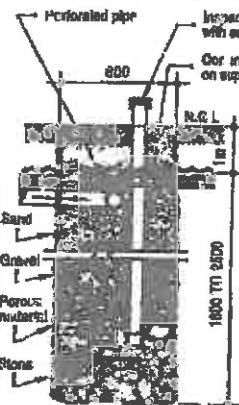
Jan Fanoy Pr Eng
DIRECTOR

DRAINAGE SYSTEM

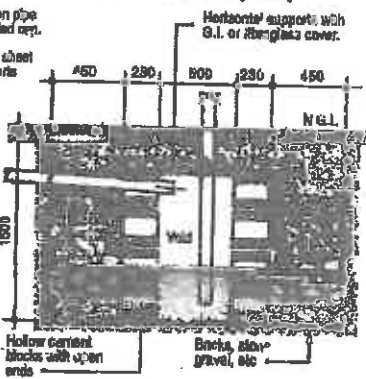
SECTIONAL ELEVATION SHOWING A TYPICAL SEPTIC TANK & FRENCH DRAIN INSTALLATION



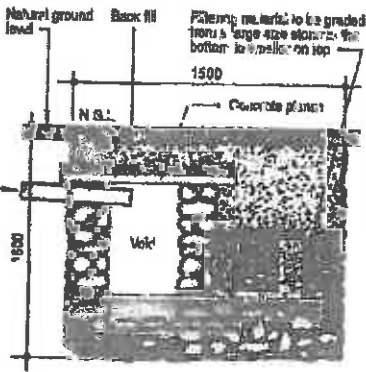
SECTION STANDARD FRENCH DRAIN



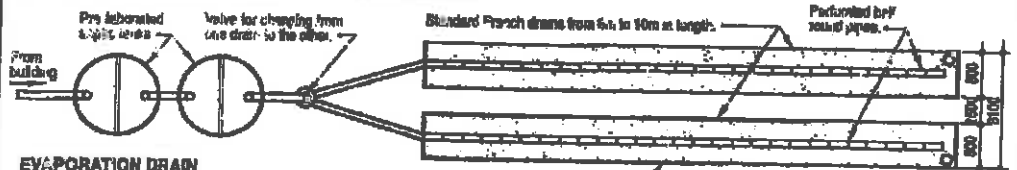
SECTION SOAK-AWAY PIT (For very sandy soil)



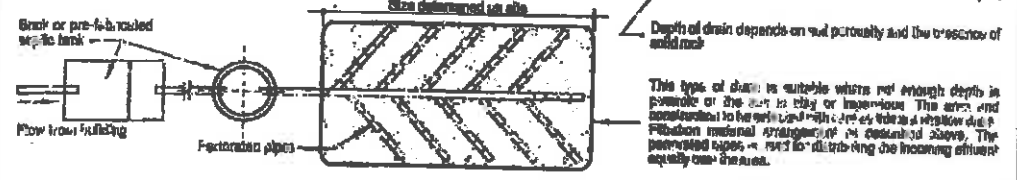
SECTION FAN STYLE DRAIN:



PLAN ON INDEPENDENT SEWERAGE DISPOSAL LAYOUT

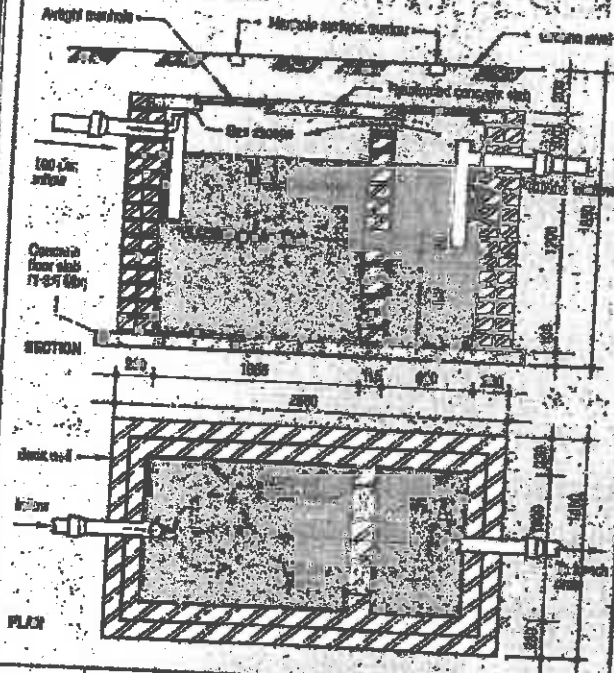


EVAPORATION DRAIN

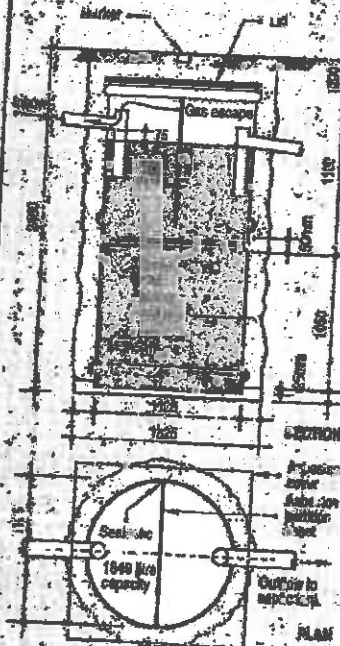


CONSERVANCY TANK AND SEPTIC TANKS

BRICK BUILT SEPTIC TANK



ASBESTOS / CEMENT TANK

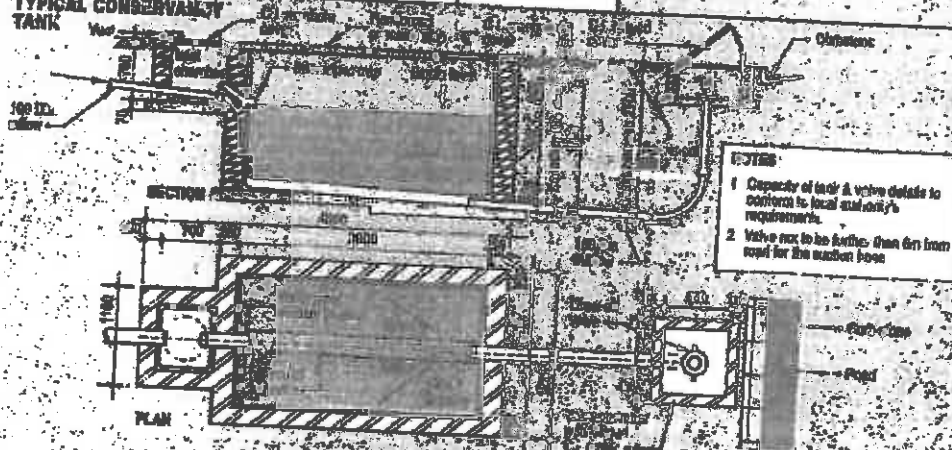


| NUMBER OF PERSONS | LITRES PER PERSON | INTERNAL SIZE | | | LITRE CAPACITY |
|-------------------|-------------------|---------------|-------|-------|----------------|
| | | LENGTH | WIDTH | DEPTH | |
| Max 6 | 420 | 2 100 | 1 000 | 1 200 | 2220 L |
| 8 | 535 | 2 200 | 1 100 | 1 300 | 3148 L |
| 10 | 565 | 2 300 | 1 100 | 1 300 | 3375 L |
| 12 | 555 | 2 400 | 1 200 | 1 400 | 4032 L |
| 16 to 20 | 273 | 2 800 | 1 300 | 1 400 | 4938 L |

Increase the size of the tank according to the number of persons.
Increase a further 30% if a milk garbage disposer is used.

- NOTES:
- 1 A pre-fabricated tank designed for 6 persons is easily installed by the owner.
 - 2 Where rocks are encountered, the two segments may be placed alongside of each other filling only a few extra capacities.

TYPICAL CONSERVANCY TANK



- NOTES:
- 1 Capacity of tank & valve details to conform to local authority's requirements.
 - 2 Valve not to be further than 6m from road for the water hose.

MENUS @ SOUTH BEACH - SCHEME 1

P.10

Calcamite System

Sewer Pipelining



GENERAL NOTES
1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
2. THE DEVELOPER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE RELEVANT AUTHORITIES.
3. THE DEVELOPER SHALL MAINTAIN ACCESS TO ALL ADJACENT PROPERTIES AT ALL TIMES.
4. THE DEVELOPER SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES AND SERVICES UNDERGROUND AND ABOVE GROUND.
5. THE DEVELOPER SHALL MAINTAIN THE EXISTING ROADWAY AND SIDEWALKS.
6. THE DEVELOPER SHALL BE RESPONSIBLE FOR THE PROVISION OF ALL NECESSARY SERVICES AND UTILITIES TO THE DEVELOPMENT.
7. THE DEVELOPER SHALL MAINTAIN ALL EXISTING TREES AND LANDSCAPING.
8. THE DEVELOPER SHALL BE RESPONSIBLE FOR THE PROVISION OF ALL NECESSARY INFRASTRUCTURE AND SERVICES TO THE DEVELOPMENT.
9. THE DEVELOPER SHALL MAINTAIN ALL EXISTING UTILITIES AND SERVICES UNDERGROUND AND ABOVE GROUND.
10. THE DEVELOPER SHALL BE RESPONSIBLE FOR THE PROVISION OF ALL NECESSARY SERVICES AND UTILITIES TO THE DEVELOPMENT.

R 102

RENOVATION

PROPOSED DAM

4766.54 sqm

1807.26 sqm

3828.65 sqm

1403.43 sqm

2462.81 sqm

1068.1 sqm

2250.33 sqm

2009.83 sqm

CAMBORNE RD.

WIDENHAM DR.

ST. CATHERINE RD.

PROPOSED NEW DEVELOPMENT
FOR INDUSTRIAL BUSINESS TRUST
ON PORTIONS 26, 27, 28, 29, 30 AND 31 OF
LOT 8 P.C., TOWN OF SOUTH BEACH,
SINGAPORE.

PROPOSED SITE DEVELOPMENT PLAN

| | |
|-------------|--------------------|
| PROJECT NO. | 1203-001 - 001/010 |
| DATE | 11/10/2013 |
| SCALE | 1:750 |
| DRAWN BY | 11/10/2013 |
| CHECKED BY | 11/10/2013 |
| DESIGNED BY | 11/10/2013 |
| APPROVED BY | 11/10/2013 |

Site Development Plan
scale 1:750





Appendix D5

**REPORT IN CONSIDERATION OF THE LAYOUT OF
ERFS ON PORTIONS 35, 36, 338-343 OF LOT 1668
WYDENHAM IN TERMS OF POTENTIAL IMPACTS ON
WETLAND AREAS**

October 2009

**Prepared For
Bokamoso Landscape Architects and Environmental Consultants**

**Prepared by: Scientific Aquatic Services
Report author: S. van Staden Pr. Sci. Nat
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1. INTRODUCTION

The proponent has proposed that portions 35, 36, 338-343 of lot 1668 Wydenham be upgraded. The proposed development involves the development of residential units on stands located across the property.

At present the site is vacant and has a non-perennial stream flowing through it. The flow in this system is augmented by ingress of storm water by several storm water canals entering the site. These canals have played a role in increasing the wetland size that has formed along the eastern part of the property. In addition to these wet areas, wetland conditions extend up the drainage lines running through the property. With the subject property located near to the coast line and due to the natural topography of the area, there is an extensive floodplain area surrounding the drainage feature. This floodplain currently covers the majority of the subject property.

The property is located immediately to the south of the small town of Umkomaas in the village of Wydenham. The site is bound to the east by the R102, to the north by Camborne Road, to the west by Wydenham Drive and to the south by Catherine Drive. See figure 1. The surrounding area comprises of residential housing, with the area to the east being less densely developed and in close proximity to the Indian Ocean.

As part of the environmental impact assessment process, Scientific Aquatic Services was appointed to compile a brief vegetation and ecological overview of the property which included consideration of the wetland areas on the property. After the initial studies undertaken and after consideration of the natural constraints posed by the site in terms of development potential, a site development/layout plan was developed. With prior knowledge of the conditions on the subject property, Scientific Aquatic Services was requested to make comments on the proposed layout plan and its suitability in terms of ensuring protection of the wetland resources on the subject property.



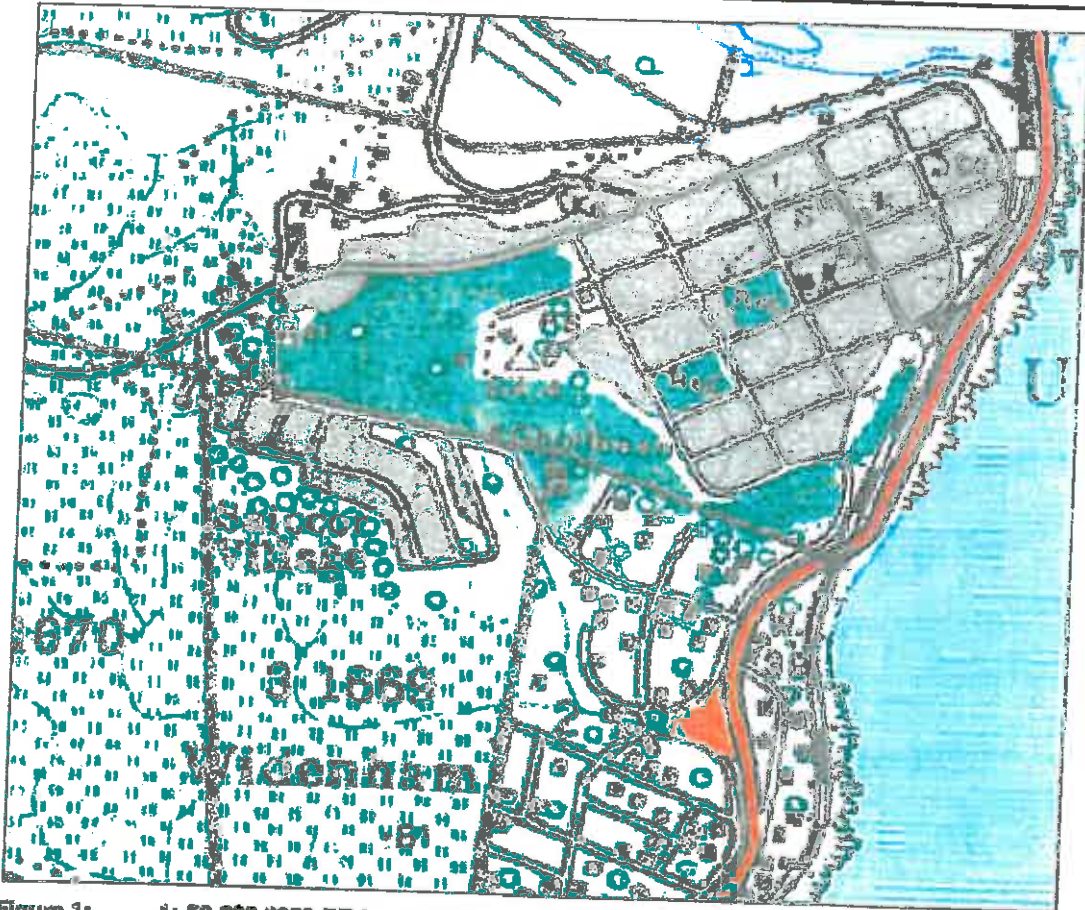


Figure 1: 1: 50 000 3030 BB topographic map depicting the locality of the study area (red) and surrounding larger area

This report, after consideration and description of the ecological integrity and functioning of the subject property as well as the proposed layout plan, must guide the property owner, authorities and potential developers, by means of observations and recommendations, as to viability of the proposed development and the potential impacts of the activity.

2. NATURE, FUNCTION AND IMPORTANCE OF THE WETLAND FEATURES

Wetland areas had a distinctive vegetation type associated with the wetter areas. These areas on the subject property were characterised by the dominance of *Phragmites australis* reeds, with tree cover being reduced in relation to the surrounding terrestrial areas. Trees in the wetland areas were dominated by *Strelitzia nicolai*. Other vegetation encountered in the wetter areas included



Setaria megaphylla; *Sorghum halapense*; *Kyllinga alba* and *Cyperus esculentus*. In the drier seasonal and temporary wetland zones, there was a significant invasion by alien vegetation, including species such as *Lantana camara*; *Verbena bonariensis*; *Achyranthes aspera*; *Ipomoea sp.*; *Rumex crispus* and *Rudinus communis*.

The wetland area can be considered to have some importance in terms service provision, under natural conditions, by maintaining biodiversity, stream flow regulation and sediment control. The system also plays a role in maintaining the biodiversity of the area by providing wetland habitats to suitably adapted faunal and floral species.

The proposed development site forms a natural drainage line, being the lowest point in the valley of the surrounding area. In addition to the natural drainage of the site it is evident that the drainage system receives additional runoff from several (at least four) storm water canals in the area. These systems increase the flow in the system significantly and increase the duration during which surface water will persist in the area.

A second factor which has affected the drainage features and wetland areas is the construction of the R102 to the east of the site. The construction of the road has led to localised changes to the topography of the land thereby leading to altered drainage and runoff patterns. These changes have led to the formation of a permanent wet area on the eastern boundary of the property. The formation of this wet area has led to an expansion of the wetland area which is deemed to be increased in size in relation to the natural condition.

Due to the introduction of the storm water runoff to the area, the upper reaches of the drainage feature show signs of incision. This is typical of features affected by urban runoff and reduces the functionality and integrity of the wetland areas which could increase in severity if the proposed development takes place and if adequate control measures are not implemented.



3. CONSIDERATION OF THE POSITIVE AND NEGATIVE ATTRIBUTES OF THE PROPOSED LAYOUT PLAN

The proposed development plan of the subject property has targeted the northern, western and southern border areas which form the higher lying areas of the subject property. Immediately adjacent to the subject property boundaries there will be some earthworks required to level the areas required for parking, as well as the stairwells of the residential units. The total area of all structures encroaching into the floodline is 3166 m² of which 1685 m² will be developed on raised platforms supported by pillars. Earthworks will reduce the size of the area under the flood-line by 1481 m². The impact that the alteration of the floodplain areas will have on the wetland system is regarded as being moderate to low in the construction phase of the development and low in the operational phase of the development, provided that strict controls and implementation of mitigatory measures are undertaken (as indicated below).

The remainder of the development (the units themselves) are to be constructed on raised platforms supported by concrete piles. This has been done in order to minimise earthworks and minimise the footprint of the proposed development within the 1:100 year flood-line and to ensure that the units are safe from flooding. With this design the proposed development will encroach into the temporary zone of the wetland and in some areas it is deemed likely to encroach on the seasonal zone of the wetland areas too.

As part of the proposed layout plan, the upper reaches of the stream are to be canalised. The stream in this area has already been physically impacted through incision and sedimentation. The system currently provides very limited habitat for aquatic macro-invertebrates, as well as wetland vegetation requiring permanently inundated soils. As development within the areas upstream in the catchment continues, there will be an increased risk of erosion of these banks which already show signs of instability. As such, the canalisation of this section of the stream is deemed unlikely to significantly alter the ecological functioning and integrity of the system or the social functions of the system.

As stated above, the increased development upstream in the catchment will lead to increased demands on the wetland in terms of stream flow regulation, sediment trapping, erosion control, nutrient recycling and toxicant removal. The proposed development plan caters for the creation of three stormwater attenuation dams. These dams will be linked by the stream on the subject property which will be diverted in such a way as to allow the dams to be linked. Through the creation of the dams the ability of the wetland feature to fulfil its functions (as outlined above) will



be significantly enhanced. Please refer to the figure below for a visual representation of the changes in wetland function that are envisaged. The biodiversity of the system will also increase significantly through the creation of the dams providing habitat for wetland avifauna, and habitat and refuge areas for herpetofauna and aquatic macro-invertebrates.

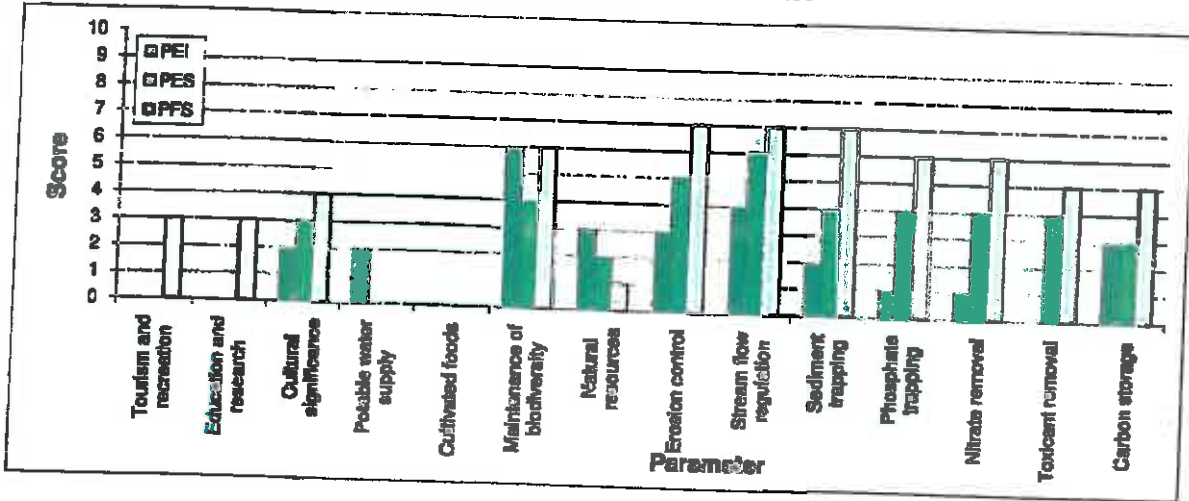


Figure 2: Social and ecological functions of the wetland indicated as Past Ecological Importance, Present Ecological State and Predicted Future State.

As part of the proposed development, it is proposed that raised walkways be created through the wetland area which will allow human traffic through the area. The development of the raised walkways will significantly increase the social functions of the wetland feature through increased tourism and recreation facilities, education and research opportunities, and increased cultural significance of the feature through the improved access.

4. SUMMARISING STATEMENTS

For each criterion in the figure above a score out of 10 was awarded based on the perceived past importance of this system and the current state of the wetland, as well as the perceived future state based on the consideration of the proposed layout plan. The PEI, PES and DFS values were then defined as a percentage of the maximum possible value (140) for a wetland which is highly functional and has an important role in ecological and cultural processes. The findings also allow the importance of the wetland to be determined in terms of the ongoing functioning of the aquatic ecosystem in the area.



Based on this assessment method, the system can be said to have provided 19% of the services of a fully functional, ecologically important wetland in the past and as such the system can be considered to be of relatively limited importance. The PES of the system indicates a 28% service provision. The wetland can therefore be considered to be of limited importance and an insignificant deterioration in the service provision of the wetland from the past conditions has occurred.

In terms of the PFS of the system, there is some increase in the importance of the system mostly related to the increased value of the system when more people inhabit the area and the increased importance in managing the effects that an increased population in the area will have on the natural resources. In this regard mention is made of increased importance in terms of sediment trapping and erosion control, stream flow regulation and the removal of inorganic nutrients and toxicants. The importance of the system will also increase due to the increased opportunities for use of the system created by increased accessibility of the feature. The future importance of the system can therefore be described as providing 43% of the functions of a fully functional, ecologically and culturally important wetland indicating that the system can become relatively valuable on a localised scale. It must, however, be noted that in order to fulfill this role, the wetland feature will need to be carefully protected and managed throughout the life of the proposed development. The mitigatory measures in the sections below should be strictly adhered to and carried over to the EMP for the proposed development.

5. DESIGN AND IMPACT MINIMISATION

The points below should be used to guide the design of the proposed development:

- The wetland area should be managed as private or public open space.
- Access to the wetland areas must be controlled and all persons accessing the site must be informed of the following:
 - No fires or smoking within the wetland areas should be permitted.
 - Visitors should be made aware of the need to prevent the spread of alien vegetation species.
 - Visitors should be discouraged from disturbing wetland species.
 - Visitors are to adhere to designated pathways and no indiscriminate roaming through the wetland should take place.
- The attenuation dams to be constructed should be stocked with *Oreochromis mossambicus* to control mosquito populations and to increase the biodiversity of the system.



- No paths or road crossings across the wetland areas should be permitted unless they are created as raised platforms.
- Altered runoff patterns caused by earthworks need to be strictly managed and controlled with special mention of the following:
 - Runoff channels must be fitted with adequate energy breaking facilities to prevent erosion.
 - Mechanisms to prevent siltation of the wetland must be implemented, especially in the construction phase of the development. In this regard special mention is made of the following:
 - The earthworks for the proposed development should take place in the dry season (May to August).
 - The duration in which areas of exposed soil are present should be as short as possible.
 - A berm around the entire area to be affected by earthworks must be constructed. This berm must be a minimum of 300mm high and consist of compacted soil.
 - Any areas where steep slopes are created must be covered with woody debris to prevent rain erosion.
- Adequate stormwater management must be incorporated into the design of the proposed development in order to prevent incision, erosion and the associated sedimentation of the wetland areas.
- The areas to be cleared for development should be kept to an absolute minimum, both in the terrestrial areas and more especially in the wetland buffer zone.
 - The areas which are paved or which are covered by impermeable material needs to be kept to an absolute minimum. No paving beyond that what is required for driveways and parking should be permitted.
 - As much vegetation growth as possible should be promoted within the proposed areas disturbed during construction in order to protect soils and to reduce the percentage of the surface area which is exposed to wind and rain. In this regard special mention is made of the need to use indigenous vegetation species as the first choice during landscaping and rehabilitation.
- As many of the large indigenous trees as possible should not be removed and the development should aim to work around such trees.
- No landscaped gardens should be permitted in front (facing inward toward the wetland) should be permitted.



-
- All areas affected by construction should be rehabilitated upon completion of the construction phase of the development. Areas should be reseeded with indigenous vegetation as required.
 - During the construction phase, no vehicles should be allowed to indiscriminately drive through the wetland and riparian areas.
 - Throughout the construction and operational phase of the development, alien vegetation control should be practiced. In this regard, special mention is made of the need to control the spread of *Lantana camara* as well as *Solanum mauritianum*. This will be especially necessary in the vicinity of the areas where the residential units will be developed along with the associated parking and roadway areas. The areas disturbed as part of the walkway construction will also need to be managed to prevent the establishment of alien vegetation.





**WETLAND AND OPEN SPACE REHABILITATION
AND MANAGEMENT PLAN FOR THE
ECOLOGICAL RESOURCES LOCATED ON
PORTIONS 35, 36, 228 TO 434 OF LOT 2 NO 1668
WIDENHAM.**

Prepared for

**BOKAMOSO LANDSCAPE ARCHITECTS AND
ENVIRONMENTAL CONSULTANTS**

July 2011

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1 INTRODUCTION

Scientific Aquatic Services (SAS) was appointed to prepare a wetland and open space rehabilitation and management plan for the resources on Portions 35, 36, 228 to 434 of Lot 2 no 1668 Widenham development on the Kwa-Zulu Natal South Coast. The subject property consists almost entirely of wetland habitats and is surrounded by developments on all sides and with roads forming the boundary of the subject property on all sides.

This report, after consideration of the structure, function, integrity and service provision of the wetland on the subject property, must guide the relevant authorities, management and bodies associated to the proposed development as to the management of the ecological attributes of wetland and open space areas associated with the proposed development in order to ensure ongoing ecological function and socio-economic service provision of the wetland system and associated open space features.

2 REFERENCE DOCUMENTATION

During the development of the open space plan the following documentation and reference material was considered:

- The wetland delineation undertaken by SAS as part of the initial EIA application
- Storm Water and services reports by WSM Leshika Consulting (Pty) Ltd.
- Ecological Assessment by SAS as part of the initial EIA application
- Environment Conservation Act (1989) and related EIA regulations;
- National Environmental Management Act (1998); (NEMA)
- National Water Act (Act 36 of 1998)
- National Environmental Management: Biodiversity Act (2004)
- Conservation of Agricultural Resources Act (CARA), 1983 (Act No. 43 of 1983)
- National Heritage Resources Act (1999);
- Convention on Biological Diversity (1995)

3 DESCRIPTION OF RESOURCES ON THE SUBJECT PROPERTY

In the development of this open space and rehabilitation plan specific consideration was given to the following aspects of the ecology of the subject property:

- The good condition of the tree community on the subject property;



- The poor condition of the under storey vegetation on the subject property;
- The ecological isolation of the subject property due to surrounding residential settlements and roadways;
- The ingress of poor water quality from the surrounding storm water system which shows signs of contamination by sewage effluent;
- Canalisation of the wetland resources in some areas due to the introduction of stormwater to the system.

4 OPEN SPACE MANAGEMENT CRITERIA

Due to the size of the study area and the historic and present transformative activities that have taken place, the study area is not deemed to be of high importance in terms of regional conservation, although it is recognised that conservation of all natural resources is important. Thus the measures as set out in this report are deemed sufficient to manage and improve the ecological resources of the system to a point where the resource can be sustainably utilised, and funds must be set aside to cover costs of these actions.

During the design of the management plan several criteria were considered when defining the open space areas within the proposed development area. The following sections briefly define the principles and aspects considered during the development of the management plan.

4.1 RDL species

The presence of RDL species is extremely important to consider in the design, planning and management of open spaces. The current state of the study area, with special mention of the under storey vegetation, is not conducive to the survival of floral RDL species, and due to moderate to high levels of transformation it is unlikely that RDL faunal species will make use of the site for foraging or habitat. Furthermore, no RDL floral and faunal species were encountered during the ecological surveys. Due to the surrounding developments, the subject property cannot be considered to be important in terms of migratory connectivity. RDL species conservation was therefore considered to be of limited importance during the development of the open space and wetland rehabilitation and management plan.



4.2 Sensitive habitats and landscapes

When effective wetland zone rehabilitation takes place, its ecological service provision capability and sensitivity will increase. The most pertinent threats which are currently posed to the system, over which the proponent for this development has control, are alien invasion, soil erosion and erosion/incision of the wetland. The proponent has limited ability to address impacts from impaired water quality in the system caused by upstream activities and poor maintenance of the storm and sewer systems in the surrounding residential areas. Should these factors be mitigated and effective rehabilitation measures be implemented, the wetland zone will regain some of its ecological service provision capability. The management plan can also mitigate future impacts on water quality in the area. Please refer to the figure below indicating the zonation of the wetland areas on the subject property.

The plan also considers the importance of conserving the large trees within the subject property which provide habitat for avifauna and mammals such as *Chlorocebus pygerythrus*.

4.3 Open space linkage beyond the subject property and surrounding land use

Due to the subject property being isolated and currently largely forming an ecological island with only limited linkage in an east - direction. The importance of migratory movement was therefore considered to be limited and was not the core focus of the open space management plan.

4.4 Consideration of edge effects

During the design of the management plan, consideration was given to the effects of the proximity of the proposed development to the wetland, roadways, other structures such as pipelines and developments close to the open space area. The proposed development will generate edge effects during its construction and operational phases through soil disturbance, vegetation removal and generation of waste. The management plan aims to address these issues in terms of waste management, clean-up operations, access control and erosion control. These effects are deemed to be suitably mitigated if the measures in the management plan are adhered to.



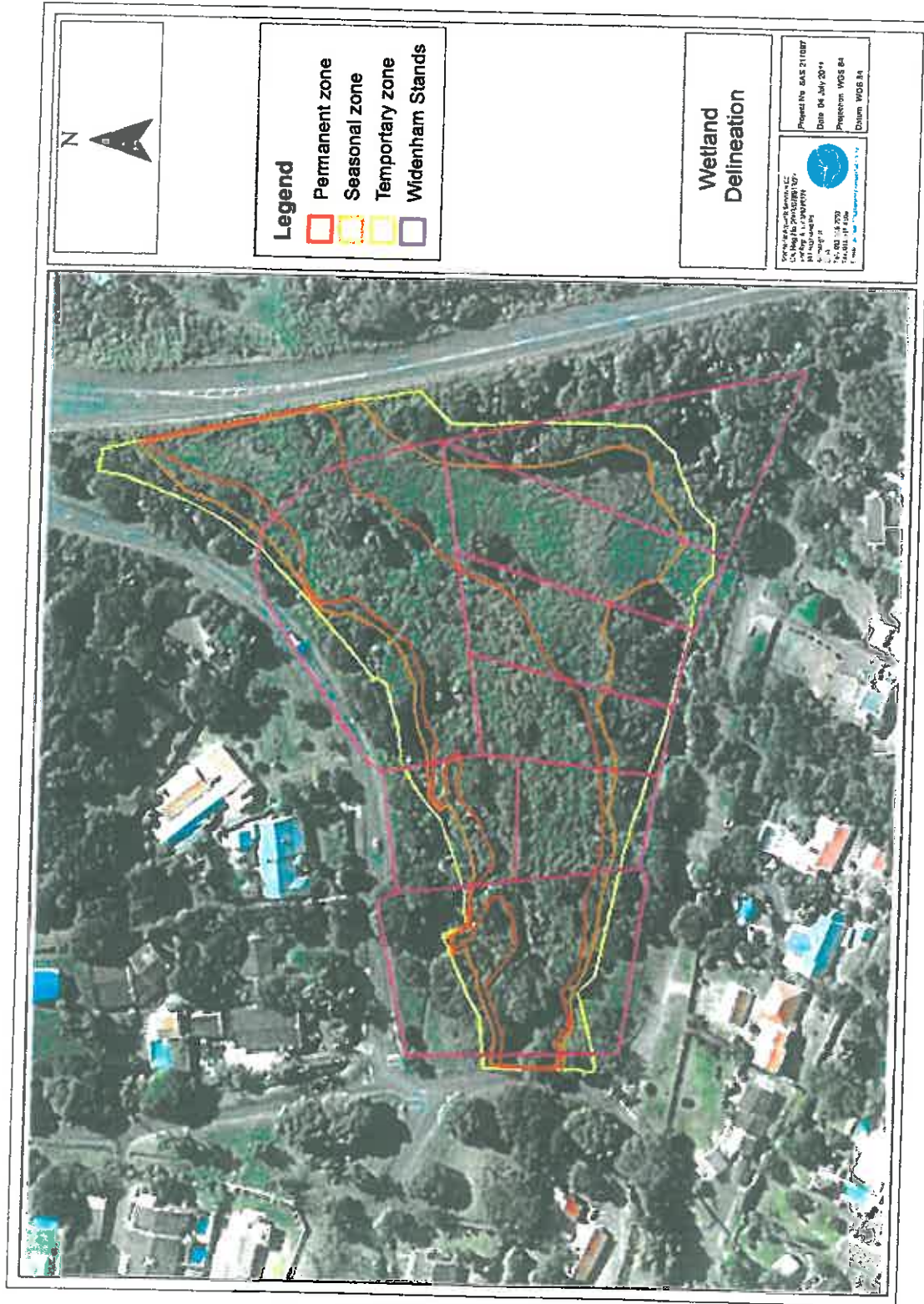


Figure 1: Priority areas for alien invasive plant species removal.

4.5 Creating value for open space

Open spaces in urban settings which have not had any financial value attributed to them are prone to degradation through various illegal activities such as refuse dumping and squatting. With the above in mind the design of the proposed development and the design of the open space, consideration was given to the concept that conservation and open space areas need to provide economic value to an area in order to ensure that they will be able to managed in a sustainable manner in the future as open space areas within an urban setting. In order to harness the value of the open space areas within the subject property two main concepts were employed in the open space design and rehabilitation plan.

Firstly it is proposed that all open space areas within the proposed development be managed as private open space with controlled access thereby creating a valuable area of open space for tenants of the proposed development. By having private open space in a secure environment, residential owners will be afforded the privilege of utilising the open space. The availability of open space to tenants will enhance the value of the property which will allow increased levies to be charged. Some of the money from levies can then be made available by the relevant governing body in order to manage and maintain the open space area for on-going use by the development tenants.

The second mechanism of harnessing the value of the open space areas is to ensure that the open space area is utilised sustainably. Recreational use is one of the services which can be provided by wetlands, and this option was investigated. It is proposed that the option of an open space relaxation area be considered, where owners of the proposed development can utilise this area for leisure purposes and to a lesser degree education purposes. Care must be taken not to impact the sensitive wetland areas through the creation of these socio-economic benefits.

4.6 Alien and invasive species

Disturbed areas are particularly prone to bush encroachment and alien vegetation invasion. These areas suffer a high degree of degrading factors that include alien encroachment and refuse dumping. These factors lead to an imbalance in the species



composition often leading to severe infestation of the vegetation under storey by alien and invasive species. The natural under storey vegetation is not able to compete with the faster growing alien and invasive species and are therefore quickly displaced. A loss of floral and faunal species diversity then occurs that was once dependent on the shaded, moist under storey habitat. Alien vegetation control is therefore a particularly important aspect of the management of the open space on the subject property as part of the proposed development.

4.7 Incision and Erosion

The wetland zone has suffered from incision and subsequent erosion and canalisation, largely as a result of ingress of stormwater runoff into the system and the alteration of flow patterns due to the construction of bridges on the roadways in the area. This has led to the loss of habitat for wetland floral species, decreasing the flood attenuation and filtration capability of the system. Furthermore, habitat provision for faunal species associated with the riparian habitat has also been decreased to some degree.

Should the measures as set out in this report be adhered to and implemented efficiently, the ecological service provision levels associated with flood attenuation, filtration and habitat provision will improve significantly.

4.8 Ecological processes

The measures as set out in the Rehabilitation Plan are deemed sufficient for the conservation of ecological processes and provide a tool for managing and improving the Present Ecological State of the open space areas. If these measures are adhered to, ecological processes will not only continue, but also allowed to improve in functionality.



5 THE REHABILITATION MANAGEMENT PLAN

This Rehabilitation management Plan is designed to manage, maintain and improve the Present Ecological State of the wetland area. It also contains rehabilitation guidelines for areas which are disturbed by construction or other activities, with specific mention of the wetland zones.

5.1 Rehabilitation objectives

The objectives of this plan are to:

- Ensure as far as is practicable that the measures contained in the report are implemented;
- Manage activities on the study area in order to maintain and improve ecological integrity of the study area;
- Minimise adverse impacts on the environment;
- Minimise impacts on the receiving environment;
- Maximise the service provision of open space areas and especially the wetland areas;
- Maximise the ecological functioning of the open space areas, wetland system and green belts;
- Maximise socio-economic and socio-cultural benefits that the open space areas can provide while still ensuring ecologically sustainable function and;
- Monitor the impact of the project on the receiving environment.

5.2 Rehabilitation context

This Rehabilitation fits into the overall planning process of the proposed development activities and should be implemented by the proponent as soon as the authorities have granted development rights. It serves as a management plan to manage the ecological characteristics of the study area during construction and during the operational phase of the proposed development.



5.3 Monitoring of the Rehabilitation

During construction, the monitoring of the Rehabilitation will be part of the activities of the Environmental Control Officer (ECO). The ECO should be suitably qualified and should have a good understanding of ecology with special mention of wetland ecological function and service provision.

5.4 Roles and responsibilities

The developer will be responsible for the appointment of the ECO and relevant specialists and contractors to perform alien removal and control, rehabilitation and monitoring activities.

Construction Phase

- The ECO will ensure that the contractor and all subcontractors are aware of all the specifications pertaining to the project.
- The ECO will be empowered to issue fines and penalties to the contractors during construction if contractors do not adhere to the requirements of this plan. In addition the ECO will be empowered to issue stop work orders if the plan is not being adhered to.
- Any damage to the environment will be repaired as soon as possible after consultation between the ECO, Consulting Engineer and Contractor
- The ECO will ensure that the project staff and/or contractor are adhering to all stipulations of the Rehabilitation Management Plan.
- The ECO will be responsible for monitoring the Rehabilitation throughout the project by means of site visits and meetings. All site visits and meetings will be documented as part of the site meeting minutes which will be made available for inspection at any time.
- The environmental officer will ensure that all clean up and rehabilitation or any remedial actions required are completed swiftly as and when required.

Operational Phase

- During the operational phase, the body corporate or Home Owners Association or similar body which presides over the administration of the proposed development will be responsible for the implementation and maintenance of the rehabilitation plan and management thereof.



The tables below serves to describe and explain the management measures deemed necessary to effectively manage maintain and improve the ecological characteristics of the study area and functioning of the open space and wetland areas.



Table 1: Rehabilitation and Ecological Management Plan

| OBJECTIVE | ACTION | ACTIVITIES | RESPONSIBLE PERSON |
|--|---|--|--|
| Create value in open space | Develop strategic infrastructure to allow the open space on the subject property to be used for recreation and some education | <ul style="list-style-type: none"> ➤ Construct a raised wooden walkway through the subject property which people can use to explore the open space, while still minimising impacts on the open space area ➤ Place tree identification tags on the various trees species encountered along the wooden walkway ➤ Construct a viewing deck and/or bird hide to view birds and other fauna within the open space areas | <p>Developer in construction phase</p> <p>Body corporate HOA in operational phase</p> |
| Preserve larger trees and overall ecological value of the subject property | Planning of footprint and control of construction activities | <p>The following criteria apply during the eradication process:</p> <ul style="list-style-type: none"> ➤ The development footprint is to remain as small as possible ➤ Construction areas must be clearly marked and no construction activities, including movement of vehicles and people are to occur outside of these areas. ➤ Landscaped gardens must be kept to an absolute minimum and gardens may only be planted with indigenous vegetation. ➤ As far as possible all large trees should not be removed during the construction process. ➤ Any trees taller than 5m are to be replaced as part of the landscaping and rehabilitation activities of the proposed development. <p>The following criteria apply during the eradication process:</p> <ul style="list-style-type: none"> ➤ Removal of alien and invasive species must continue throughout the construction, landscaping and operational phases of the development. ➤ Topsoil stockpiles must be cleared of any alien and invasive species before being used on re-profiled areas; ➤ Before any re-seeding of re-profiled areas takes place, alien and invasive species must be removed; ➤ The seed mixtures used during rehabilitation and landscaping must be certified weed-free; ➤ Any mulches or compost mixtures must be certified weed-free; ➤ After construction, a bi-monthly eradication exercise must be performed to remove alien and invasive species. This must form part of the responsibilities of the maintenance staff for a period of two years. ➤ After the first two years, an annual eradication exercise is deemed suitable for management of alien species for the life of the proposed development. | <p>Developer in construction phase along with ECO</p> <p>Body corporate HOA in operational phase</p> |
| Rehabilitation of the wetland on the subject property | Removal of alien and invasive species | <p>The following criteria apply during the eradication process:</p> <ul style="list-style-type: none"> ➤ Removal of alien and invasive species must continue throughout the construction, landscaping and operational phases of the development. ➤ Topsoil stockpiles must be cleared of any alien and invasive species before being used on re-profiled areas; ➤ Before any re-seeding of re-profiled areas takes place, alien and invasive species must be removed; ➤ The seed mixtures used during rehabilitation and landscaping must be certified weed-free; ➤ Any mulches or compost mixtures must be certified weed-free; ➤ After construction, a bi-monthly eradication exercise must be performed to remove alien and invasive species. This must form part of the responsibilities of the maintenance staff for a period of two years. ➤ After the first two years, an annual eradication exercise is deemed suitable for management of alien species for the life of the proposed development. | <p>Developer in construction phase</p> <p>Body corporate HOA in operational phase</p> |



| OBJECTIVE | ACTION | ACTIVITIES | RESPONSIBLE PERSON |
|--|---|---|--|
| <p>Rehabilitation of the wetland on the subject property</p> | <p>Erosion control and re-profiling</p> | <p> ▲ Areas which are at risk of erosion (canalised areas in areas of stormwater outlets) are to be considered as priority areas for rehabilitation earthworks. ▲ Re-profiling and stabilisation needs to take place after alien and invasive species have been cleared. ▲ Obtain relevant legislative approval under NEMA and the NWA for any activities to be undertaken within the wetland/riparian zone to rectify excessive erosion and incision of the system. ▲ Re-profiling of the banks of disturbed drainage areas to a maximum gradient of 1:3 to ensure bank stability. ▲ The re-profiled banks must be covered with hessian sheets to ensure that newly established topsoil does not erode due to rain or water flow associated with the wetland, especially in areas where trees have been removed and where soils have been disturbed. ▲ Reinforce banks and drainage features where necessary with gabions, reno mattresses and geotextiles. ▲ Construct small earth berms at intervals on all slopes to slow stormwater runoff and during the construction phase of the development. ▲ Ongoing inspection and maintenance of all infrastructure must take place during the operational phase of the proposed development </p> | <p>Developer in construction phase</p> <p>Body corporate/ HOA in operational phase</p> |
| <p>Ensure the removal of rubble material as part of rehabilitation process</p> | <p>Demolition and Rehabilitation</p> | <p> ▲ The removal of rubble material must be done prior to and in conjunction with the alien removal and prior to resloping activities. ▲ All rubble is to have been removed from site prior to the construction contractor leaving site. </p> | <p>Developer</p> |
| <p>Stormwater management</p> | <p>Prevent impact on wetland system due to changes in hydrology</p> | <p> ▲ All stormwater generated from paved surfaces needs to be released into the wetland area with use of energy dissipation structures and reno mattresses to protect the system from erosion and sedimentation. ▲ Where stormwater is released into the system litter and other debris is to be removed from the wetland after every rainfall event </p> | <p>Developer in construction phase</p> <p>Body corporate/ HOA in operational phase</p> |
| <p>Management of water quality</p> | <p>Manage and monitor water quality</p> | <p> ▲ The sewage treatment package plant is to be regularly maintained and inspected to ensure it is full working order. ▲ Water quality is to be monitored on a quarterly interval at both the upstream inlet to the wetland and at the outlet under the R102. Should any deterioration in water quality be observed, measures to mitigate the observed impacts should be sought. </p> | <p>Developer in construction phase</p> <p>Body corporate/ HOA in operational phase</p> |



| OBJECTIVE | ACTION | ACTIVITIES | RESPONSIBLE PERSON |
|---|---|---|--|
| Prevent damage to property and impacts on biodiversity from fires | Veld fire management | <ul style="list-style-type: none"> ▶ Control access to the open space areas ▶ No informal fires must be allowed on the site during and after construction. | Developer in construction phase Body corporate/ HOA in operational phase |
| To prevent illegal dumping, area | Access control and security measures | <ul style="list-style-type: none"> ▶ Ensure access control to the property, especially the open spaces/wetland areas ▶ Palisade fencing will be suitable for ensuring migratory connectivity to the remainder of the wetland system ▶ Ensure that security personnel are on the lookout for illegal dumping and littering. | Developer in construction phase Body corporate/ HOA in operational phase |
| To keep the open space and wetland area clean and free of litter | Implement a bi-monthly cleanup program to control waste | <ul style="list-style-type: none"> ▶ Implement a cleanup program where staff performs a cleanup of the open space areas on a bi-monthly basis. ▶ Specific attention must be paid to the wetland area, especially during the rainy season and especially where stormwater enters the system. | Developer in construction phase Body corporate/ HOA in operational phase |
| To prevent siltation, limit edge effects from storm water runoff and preserve and improve ecological integrity of the wetland | Implement adequate Storm Water Management Plan | <ul style="list-style-type: none"> ▶ Adequate stormwater management must be incorporated into the design of the proposed development in order to prevent erosion and the associated sedimentation of the wetland and instream areas. ▶ Ensure that service systems implemented within the development are maintained to prevent leakages within the wetland and water system. ▶ Sheet runoff from cleared areas, paved surfaces and access roads need to be curtailed. ▶ Runoff from paved surfaces should be slowed down by the strategic placement of berms. ▶ During the construction and operational phases of the proposed development erosion berms should be installed to prevent gully formation and siltation of the wetland resources on any steep banks created or disturbed. The following points should serve to guide the placement of erosion berms: <ul style="list-style-type: none"> • Where track has a slope less than 2%, berms every 50m to be installed. • Where track slopes between 2% and 10%, berms every 25m to be installed. • Where track slopes between 10%-15%, berms every 20m to be installed. • Where track has slope greater than 15%, berms every 10m to be installed. | Engineers in planning phase Developer in construction phase Body corporate/ HOA in operational phase |



6 CONCLUSION

Scientific Aquatic Services (SAS) was appointed to prepare a wetland rehabilitation and greening plan for the proposed development of 35, 36, 228 to 434 of Lot 2 no 1668 Widenham development on the Kwa-Zulu Natal South Coast.

In the development of this open space and rehabilitation plan specific consideration was given to the following aspects of the ecology of the subject property:

- The good condition of the tree community on the subject property;
- The poor condition of the under storey vegetation on the subject property;
- The ecological isolation of the subject property due to surrounding residential settlements and roadways;
- The ingress of poor water quality from the surrounding storm water system which shows signs of contamination by sewage effluent;
- Canalisation of the wetland resources in some areas due to the introduction of stormwater to the system

A Rehabilitation plan / management measures were developed to effectively manage, maintain and improve the ecological characteristics of the study area. Key management factors identified in the rehabilitation plan were the:

- Creation of value of open space areas
- conservation of biodiversity with special mention of larger trees;
- minimisation of impacts from construction activities;
- re-vegetation of disturbed areas within the wetland;
- alien control within the wetland areas;
- removal of all rubble material within the wetland;
- re-profiling and sloping of identifies areas within the wetland to restore the functionality of the water system and;
- stormwater management

The measures as set out in the Rehabilitation Plan are deemed sufficient for the conservation of ecological processes and provide a tool for managing and improving the current ecological state of the open space area. If these measures are adhered to, ecological processes within the wetland areas will not only re-establish, but also allow the improvement of the functionality of the system. if these measures are implemented along with measures to minimise footprint areas, especially within the wetland areas, impacts on the system can be adequately minimised.





**WETLAND AND OPEN SPACE REHABILITATION
AND MANAGEMENT PLAN FOR THE
ECOLOGICAL RESOURCES LOCATED ON
PORTIONS 35, 36, 228 TO 434 OF LOT 2 NO 1668
WIDENHAM.**

Prepared for

**BOKAMOSO LANDSCAPE ARCHITECTS AND
ENVIRONMENTAL CONSULTANTS**

July 2011

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Report Reference: SAS211097
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1 INTRODUCTION

Scientific Aquatic Services (SAS) was appointed to prepare a wetland and open space rehabilitation and management plan for the resources on Portions 35, 36, 228 to 434 of Lot 2 no 1668 Widenham development on the Kwa-Zulu Natal South Coast. The subject property consists almost entirely of wetland habitats and is surrounded by developments on all sides and with roads forming the boundary of the subject property on all sides.

This report, after consideration of the structure, function, integrity and service provision of the wetland on the subject property, must guide the relevant authorities, management and bodies associated to the proposed development as to the management of the ecological attributes of wetland and open space areas associated with the proposed development in order to ensure ongoing ecological function and socio-economic service provision of the wetland system and associated open space features.

2 REFERENCE DOCUMENTATION

During the development of the open space plan the following documentation and reference material was considered:

- The wetland delineation undertaken by SAS as part of the initial EIA application
- Storm Water and services reports by WSM Leshika Consulting (Pty) Ltd.
- Ecological Assessment by SAS as part of the initial EIA application
- Environment Conservation Act (1989) and related EIA regulations;
- National Environmental Management Act (1998); (NEMA)
- National Water Act (Act 36 of 1998)
- National Environmental Management: Biodiversity Act (2004)
- Conservation of Agricultural Resources Act (CARA), 1983 (Act No. 43 of 1983)
- National Heritage Resources Act (1999);
- Convention on Biological Diversity (1995)

3 DESCRIPTION OF RESOURCES ON THE SUBJECT PROPERTY

In the development of this open space and rehabilitation plan specific consideration was given to the following aspects of the ecology of the subject property:

- The good condition of the tree community on the subject property;



- The poor condition of the under storey vegetation on the subject property;
- The ecological isolation of the subject property due to surrounding residential settlements and roadways;
- The ingress of poor water quality from the surrounding storm water system which shows signs of contamination by sewage effluent;
- Canalisation of the wetland resources in some areas due to the introduction of stormwater to the system.

4 OPEN SPACE MANAGEMENT CRITERIA

Due to the size of the study area and the historic and present transformative activities that have taken place, the study area is not deemed to be of high importance in terms of regional conservation, although it is recognised that conservation of all natural resources is important. Thus the measures as set out in this report are deemed sufficient to manage and improve the ecological resources of the system to a point where the resource can be sustainably utilised, and funds must be set aside to cover costs of these actions.

During the design of the management plan several criteria were considered when defining the open space areas within the proposed development area. The following sections briefly define the principles and aspects considered during the development of the management plan.

4.1 RDL species

The presence of RDL species is extremely important to consider in the design, planning and management of open spaces. The current state of the study area, with special mention of the under storey vegetation, is not conducive to the survival of floral RDL species, and due to moderate to high levels of transformation it is unlikely that RDL faunal species will make use of the site for foraging or habitat. Furthermore, no RDL floral and faunal species were encountered during the ecological surveys. Due to the surrounding developments, the subject property cannot be considered to be important in terms of migratory connectivity. RDL species conservation was therefore considered to be of limited importance during the development of the open space and wetland rehabilitation and management plan.



4.2 Sensitive habitats and landscapes

When effective wetland zone rehabilitation takes place, its ecological service provision capability and sensitivity will increase. The most pertinent threats which are currently posed to the system, over which the proponent for this development has control, are alien invasion, soil erosion and erosion/incision of the wetland. The proponent has limited ability to address impacts from impaired water quality in the system caused by upstream activities and poor maintenance of the storm and sewer systems in the surrounding residential areas. Should these factors be mitigated and effective rehabilitation measures be implemented, the wetland zone will regain some of its ecological service provision capability. The management plan can also mitigate future impacts on water quality in the area. Please refer to the figure below indicating the zonation of the wetland areas on the subject property.

The plan also considers the importance of conserving the large trees within the subject property which provide habitat for avifauna and mammals such as *Chlorocebus pygerythrus*.

4.3 Open space linkage beyond the subject property and surrounding land use

Due to the subject property being isolated and currently largely forming an ecological island with only limited linkage in an east - direction. The importance of migratory movement was therefore considered to be limited and was not the core focus of the open space management plan.

4.4 Consideration of edge effects

During the design of the management plan, consideration was given to the effects of the proximity of the proposed development to the wetland, roadways, other structures such as pipelines and developments close to the open space area. The proposed development will generate edge effects during its construction and operational phases through soil disturbance, vegetation removal and generation of waste. The management plan aims to address these issues in terms of waste management, clean-up operations, access control and erosion control. These effects are deemed to be suitably mitigated if the measures in the management plan are adhered to.



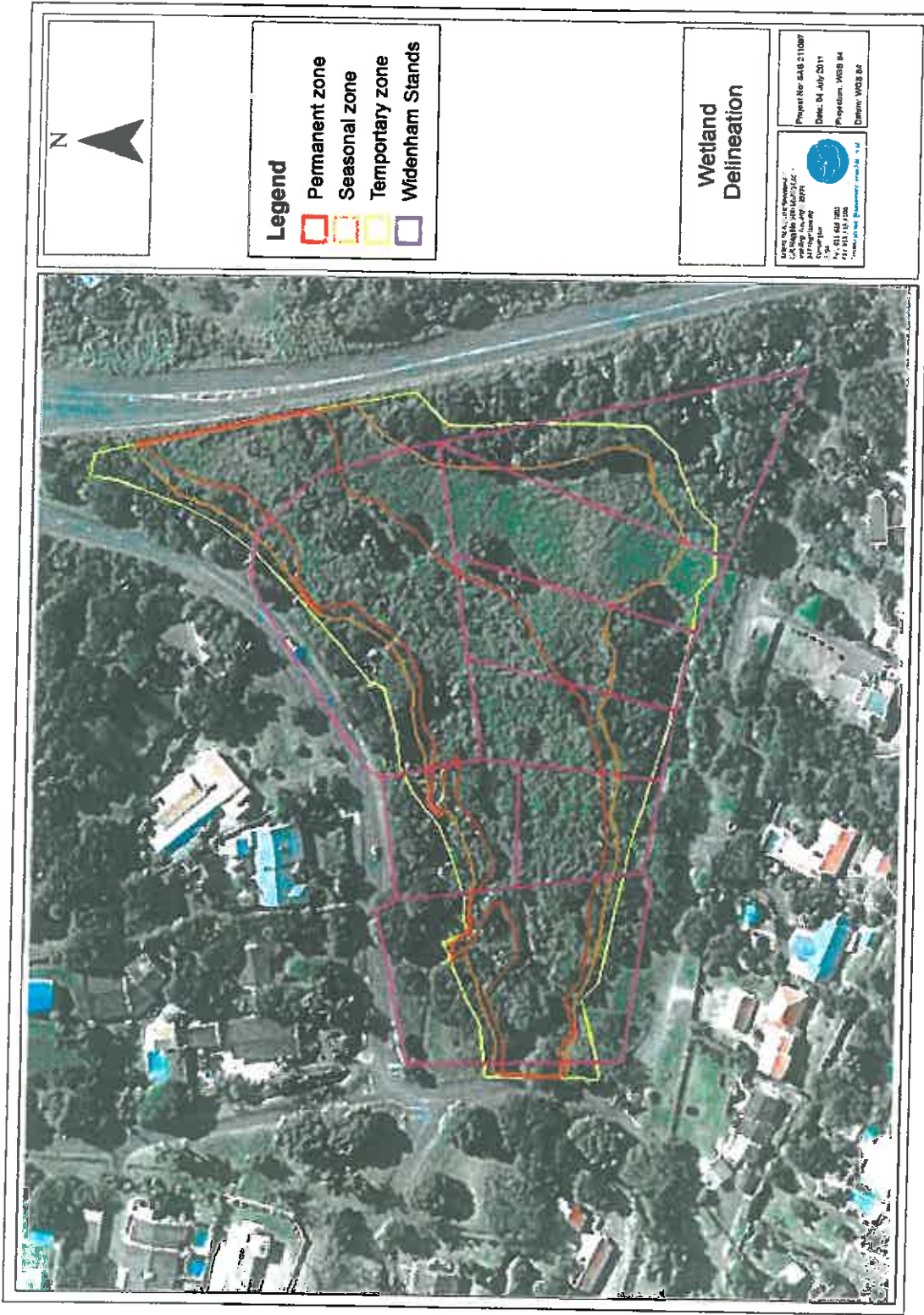


Figure 1: Priority areas for alien invasive plant species removal.

4.5 Creating value for open space

Open spaces in urban settings which have not had any financial value attributed to them are prone to degradation through various illegal activities such as refuse dumping and squatting. With the above in mind the design of the proposed development and the design of the open space, consideration was given to the concept that conservation and open space areas need to provide economic value to an area in order to ensure that they will be able to managed in a sustainable manner in the future as open space areas within an urban setting. In order to harness the value of the open space areas within the subject property two main concepts were employed in the open space design and rehabilitation plan.

Firstly it is proposed that all open space areas within the proposed development be managed as private open space with controlled access thereby creating a valuable area of open space for tenants of the proposed development. By having private open space in a secure environment, residential owners will be afforded the privilege of utilising the open space. The availability of open space to tenants will enhance the value of the property which will allow increased levies to be charged. Some of the money from levies can then be made available by the relevant governing body in order to manage and maintain the open space area for on-going use by the development tenants.

The second mechanism of harnessing the value of the open space areas is to ensure that the open space area is utilised sustainably. Recreational use is one of the services which can be provided by wetlands, and this option was investigated. It is proposed that the option of an open space relaxation area be considered, where owners of the proposed development can utilise this area for leisure purposes and to a lesser degree education purposes. Care must be taken not to impact the sensitive wetland areas through the creation of these socio-economic benefits.

4.6 Alien and invasive species

Disturbed areas are particularly prone to bush encroachment and alien vegetation invasion. These areas suffer a high degree of degrading factors that include alien encroachment and refuse dumping. These factors lead to an imbalance in the species



composition often leading to severe infestation of the vegetation under storey by alien and invasive species. The natural under storey vegetation is not able to compete with the faster growing alien and invasive species and are therefore quickly displaced. A loss of floral and faunal species diversity then occurs that was once dependent on the shaded, moist under storey habitat. Alien vegetation control is therefore a particularly important aspect of the management of the open space on the subject property as part of the proposed development.

4.7 Incision and Erosion

The wetland zone has suffered from incision and subsequent erosion and canalisation, largely as a result of ingress of stormwater runoff into the system and the alteration of flow patterns due to the construction of bridges on the roadways in the area. This has led to the loss of habitat for wetland floral species, decreasing the flood attenuation and filtration capability of the system. Furthermore, habitat provision for faunal species associated with the riparian habitat has also been decreased to some degree.

Should the measures as set out in this report be adhered to and implemented efficiently, the ecological service provision levels associated with flood attenuation, filtration and habitat provision will improve significantly.

4.8 Ecological processes

The measures as set out in the Rehabilitation Plan are deemed sufficient for the conservation of ecological processes and provide a tool for managing and improving the Present Ecological State of the open space areas. If these measures are adhered to, ecological processes will not only continue, but also allowed to improve in functionality.



5 THE REHABILITATION MANAGEMENT PLAN

This Rehabilitation management Plan is designed to manage, maintain and improve the Present Ecological State of the wetland area. It also contains rehabilitation guidelines for areas which are disturbed by construction or other activities, with specific mention of the wetland zones.

5.1 Rehabilitation objectives

The objectives of this plan are to:

- Ensure as far as is practicable that the measures contained in the report are implemented;
- Manage activities on the study area in order to maintain and improve ecological integrity of the study area;
- Minimise adverse impacts on the environment;
- Minimise impacts on the receiving environment;
- Maximise the service provision of open space areas and especially the wetland areas;
- Maximise the ecological functioning of the open space areas, wetland system and green belts;
- Maximise socio-economic and socio-cultural benefits that the open space areas can provide while still ensuring ecologically sustainable function and;
- Monitor the impact of the project on the receiving environment.

5.2 Rehabilitation context

This Rehabilitation fits into the overall planning process of the proposed development activities and should be implemented by the proponent as soon as the authorities have granted development rights. It serves as a management plan to manage the ecological characteristics of the study area during construction and during the operational phase of the proposed development.



5.3 Monitoring of the Rehabilitation

During construction, the monitoring of the Rehabilitation will be part of the activities of the Environmental Control Officer (ECO). The ECO should be suitably qualified and should have a good understanding of ecology with special mention of wetland ecological function and service provision.

5.4 Roles and responsibilities

The developer will be responsible for the appointment of the ECO and relevant specialists and contractors to perform alien removal and control, rehabilitation and monitoring activities.

Construction Phase

- The ECO will ensure that the contractor and all subcontractors are aware of all the specifications pertaining to the project.
- The ECO will be empowered to issue fines and penalties to the contractors during construction if contractors do not adhere to the requirements of this plan. In addition the ECO will be empowered to issue stop work orders if the plan is not being adhered to.
- Any damage to the environment will be repaired as soon as possible after consultation between the ECO, Consulting Engineer and Contractor
- The ECO will ensure that the project staff and/or contractor are adhering to all stipulations of the Rehabilitation Management Plan.
- The ECO will be responsible for monitoring the Rehabilitation throughout the project by means of site visits and meetings. All site visits and meetings will be documented as part of the site meeting minutes which will be made available for inspection at any time.
- The environmental officer will ensure that all clean up and rehabilitation or any remedial actions required are completed swiftly as and when required.

Operational Phase

- During the operational phase, the body corporate or Home Owners Association or similar body which presides over the administration of the proposed development will be responsible for the implementation and maintenance of the rehabilitation plan and management thereof.



The tables below serves to describe and explain the management measures deemed necessary to effectively manage maintain and improve the ecological characteristics of the study area and functioning of the open space and wetland areas.



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| Rehabilitation of the wetland on the subject property | Removal of alien and invasive species | <p>The following criteria apply during the eradication process:</p> <ul style="list-style-type: none"> ➤ Removal of alien and invasive species must continue throughout the construction, landscaping and operational phases of the development. ➤ Topsoil stockpiles must be cleared of any alien and invasive species before being used on re-profiled areas; ➤ Before any re-seeding of re-profiled areas takes place, alien and invasive species must be removed; ➤ The seed mixtures used during rehabilitation and landscaping must be certified weed-free; ➤ Any mulches or compost mixtures must be certified weed-free; ➤ After construction, a bi-monthly eradication exercise must be performed to remove alien and invasive species. This must form part of the responsibilities of the maintenance staff for a period of two years. ➤ After the first two years, an annual eradication exercise is deemed suitable for management of alien species for the life of the proposed development. | <p>Developer in construction phase</p> <p>Body corporate HOA in operational phase</p> |



| OBJECTIVE | ACTION | ACTIVITIES | RESPONSIBLE PERSON |
|---|--|--|---|
| Rehabilitation of the wetland on the subject property | Erosion control and re-profiling | <ul style="list-style-type: none"> ➤ Areas which are at risk of erosion (canalised areas in areas of stormwater outlets) are to be considered as priority areas for rehabilitation earthworks. ➤ Re-profiling and stabilisation needs to take place after alien and invasive species have been cleared. ➤ Obtain relevant legislative approval under NEMA and the NWA for any activities to be undertaken within the wetland/riparian zone to rectify excessive erosion and incision of the system. ➤ Re-profiling of the banks of disturbed drainage areas to a maximum gradient of 1:3 to ensure bank stability. ➤ The re-profiled banks must be covered with hessian sheets to ensure that newly established topsoil does not erode due to rain or water flow associated with the wetland, especially in areas where trees have been removed and where soils have been disturbed. ➤ Reinforce banks and drainage features where necessary with gabions, reno mattresses and geotextiles. ➤ Construct small earth berms at intervals on all slopes to slow stormwater runoff and during the construction phase of the development. ➤ Ongoing inspection and maintenance of all infrastructure must take place during the operational phase of the proposed development | Developer in construction phase Body corporate/ HOA in operational phase |
| Ensure the removal of rubble material as part of rehabilitation process | Demolition and Rehabilitation | <ul style="list-style-type: none"> ➤ The removal of rubble material must be done prior to and in conjunction with the alien removal and prior to resloping activities. ➤ All rubble is to have been removed from site prior to the construction contractor leaving site. | Developer |
| Stormwater management | Prevent impact on wetland system due to changes in hydrology | <ul style="list-style-type: none"> ➤ All stormwater generated from paved surfaces needs to be released into the wetland area with use of energy dissipation structures and reno mattresses to protect the system from erosion and sedimentation. ➤ Where stormwater is released into the system litter and other debris is to be removed from the wetland after every rainfall event | Developer in construction phase Body corporate/ HOA in operational phase |
| Management of water quality | Manage and monitor water quality | <ul style="list-style-type: none"> ➤ The sewage treatment package plant is to be regularly maintained and inspected to ensure it is full working order. ➤ Water quality is to be monitored on a quarterly interval at both the upstream inlet to the wetland and at the outlet under the R102. Should any deterioration in water quality be observed, measures to mitigate the observed impacts should be sought. | Developer in construction phase Body corporate/ HOA in operational phase |



| OBJECTIVE | ACTION | ACTIVITIES | RESPONSIBLE PERSON |
|---|---|---|--|
| Prevent damage to property and impacts on biodiversity from fires | Veld fire management | <ul style="list-style-type: none"> ➤ Control access to the open space areas ➤ No informal fires must be allowed on the site during and after construction. | Developer in construction phase Body corporate/ HOA in operational phase |
| To prevent illegal dumping, area | Access control and security measures | <ul style="list-style-type: none"> ➤ Ensure access control to the property, especially the open space/ wetland areas ➤ Palisade fencing will be suitable for ensuring migratory connectivity to the remainder of the wetland system ➤ Ensure that security personnel are on the lookout for illegal dumping and littering. | Developer in construction phase Body corporate/ HOA in operational phase |
| To keep the open space and wetland area clean and free of litter | Implement a bi-monthly cleanup program to control waste | <ul style="list-style-type: none"> ➤ Implement a cleanup program where staff performs a cleanup of the open space areas on a bi-monthly basis. ➤ Specific attention must be paid to the wetland area, especially during the rainy season and especially where stormwater enters the system. | Developer in construction phase Body corporate/ HOA in operational phase |
| To prevent siltation, limit edge effects from storm water runoff and preserve and improve ecological integrity of the wetland | Implement adequate Storm Water Management Plan | <ul style="list-style-type: none"> ➤ Adequate stormwater management must be incorporated into the design of the proposed development in order to prevent erosion and the associated sedimentation of the wetland and instream areas. ➤ Ensure that service systems implemented within the development are maintained to prevent leakages within the wetland wand water system. ➤ Sheet runoff from cleared areas, paved surfaces and access roads need to be curtailed. ➤ Runoff from paved surfaces should be slowed down by the strategic placement of berms. ➤ During the construction and operational phases of the proposed development erosion berms should be installed to prevent gully formation and siltation of the wetland resources on any steep banks created or disturbed. The following points should serve to guide the placement of erosion berms: <ul style="list-style-type: none"> • Where track has a slope less than 2%, berms every 50m to be installed. • Where track slopes between 2% and 10%, berms every 25m to be installed. • Where track slopes between 10%-15% berms every 20m to be installed. • Where track has slope greater than 15%, berms every 10m to be installed. | Engineers in planning phase Developer in construction phase Body corporate/ HOA in operational phase |



6 CONCLUSION

Scientific Aquatic Services (SAS) was appointed to prepare a wetland rehabilitation and greening plan for the proposed development of 35, 36, 228 to 434 of Lot 2 no 1668 Widenham development on the Kwa-Zulu Natal South Coast.

In the development of this open space and rehabilitation plan specific consideration was given to the following aspects of the ecology of the subject property:

- The good condition of the tree community on the subject property;
- The poor condition of the under storey vegetation on the subject property;
- The ecological isolation of the subject property due to surrounding residential settlements and roadways;
- The ingress of poor water quality from the surrounding storm water system which shows signs of contamination by sewage effluent;
- Canalisation of the wetland resources in some areas due to the introduction of stormwater to the system

A Rehabilitation plan / management measures were developed to effectively manage, maintain and improve the ecological characteristics of the study area. Key management factors identified in the rehabilitation plan were the:

- Creation of value of open space areas
- conservation of biodiversity with special mention of larger trees;
- minimisation of impacts from construction activities;
- re-vegetation of disturbed areas within the wetland;
- alien control within the wetland areas;
- removal of all rubble material within the wetland;
- re-profiling and sloping of identifies areas within the wetland to restore the functionality of the water system and;
- stormwater management

The measures as set out in the Rehabilitation Plan are deemed sufficient for the conservation of ecological processes and provide a tool for managing and improving the current ecological state of the open space area. If these measures are adhered to, ecological processes within the wetland areas will not only re-establish, but also allow the improvement of the functionality of the system. If these measures are implemented along with measures to minimise footprint areas, especially within the wetland areas, impacts on the system can be adequately minimised.





Appendix E



Issues & Response Report

Project Title:

Proposed Township development on Widenham Stand Portions 35, 36, 338, 339, 340, 341, 342 & 343 of 1668 Widenham,

List of Registered Interested and/or Affected Parties:

1. Ria Visser
2. Lynette Palmer
3. Derek & Susan Weightman - Mkhomazi Conservancy Chairman
4. Josephine M de Havilland
5. W. Khan - Senior Env Health Practitioner Ethekwini Municipal Health Department
6. Ronny Thorold
7. Shelly Lawrie
8. Mid South Coast Rising Sun
9. Thomas & Marinette Bolton
10. Graham Liversage
11. Carolyn Schegman - WESSA
12. Coble Steenkamp
13. Steve Sheard
14. K Jones
15. Mr. & Mrs. P. Walter
16. Mrs ME Huson
17. E Pilkington
18. J.C.H. Hunt
19. Anne Hunt
20. Mr. & Mrs. Bray
21. Stone Family
22. Govender Family
23. E.Y. Stone
24. Mr. F & Mrs. M Potgieter
25. Neil Lamble - Halfway Group
26. Mike & Elizabeth Howlett
27. Duncan & Gloria Hutchinson
28. V Macleod
29. BH Few

30. Yvonne Stone
31. Heather & Tony Butler
32. Jody Macbeth
33. Sheena Amesnen
34. Mike McCarthy
35. Val Skinner
36. Nell MacLeod
37. Mr Alan Hutchinson
38. Mr Mes Erikson
39. Mrs V Govender
40. Mr M Govender
41. Dr. V Govender
42. Uppercoast Feaver
43. Mid Southcoast Nall
44. Cheryl-ann Vermeulen
45. Wanita Westerdale
46. Ethikweni Municipality

The following issues and concerns were received from the abovementioned registered interested and/or Affected Parties throughout the public and stakeholder engagement process which commenced in January 2010 :

1. Legal Implications of building structures in a wetland;

Response:

There is no legislation that prohibits development within wetland areas. There are however legislation and policies that regard development within flood line areas, wetland and wetland buffers as activities that could be detrimental to the environment and therefore requires that authorization be obtained for such developments from the authorities (i.e. Activity 4 and 11 of the 2006 NEMA Regulations, Section 21 of the Water Act in the case of a natural wetland etc.). The applicant will not commence with any development activities until all authorizations and licenses in terms of all the applicable policies and legislation are obtained. If not possible to obtain authorization the development will not take place.

2. Desirability of any building in the wetland area and impact of the proposed development on the wetland area;

Response:

The impacts have been assessed and it is the EAP's opinion that the anticipated impacts can be mitigated to acceptable levels. In fact, if well planned and managed the impacts on the wetland and larger regional open space system (D'MOSS) could even be positive.

3. Concerned about the constant degradation of the site;

Response:

At present the study area appears neglected and it is invaded by exotic invaders. The applicant originally purchased the study area for development purposes, because the study area is zoned "Residential 1" and not open space/conservation open space. At present the wetland that formed on the study area prevents the applicant from developing the site and the applicant does not have the funds to maintain and manage the site as an open space. It is also not reasonable for the surrounding community or the relevant authorities to expect an individual to manage and maintain a property for which the existing land-use rights cannot be exercised. The possibility of the local authority purchasing the property for storm water management purposes was also discussed with the local authority and due to a lack of sufficient funds this option was not regarded as a viable option.

After various alternatives were considered, the development option (in a sustainable manner) was regarded as the best option to follow for the study area. The proposed development must take the existing ecological potential and issues, the existing hydrological problems, the existing storm water management functions and problems, the concerns of the surrounding residents (especially with regards to the qualitative environment), the future management and maintenance requirements of the site and the existing; the future role of the study area in the larger regional open space system (D'MOSS) into consideration and the development proposal must equalize or improve the existing ecological, hydrological, aesthetical, security, maintenance, management, infrastructure conditions on and around the study area.

All the alternatives were thoroughly investigated and the opinion is that the proposed development (A1, S1) is the preferred alternative for the study area.

4. Increase in traffic - roads currently sub-standard and cannot even handle existing traffic;

A civil engineer has been appointed to investigate the current conditions of the surrounding roads and the access points to the study area. The proposed development will require some road upgradings and the civil engineer will supply more detail regarding the road upgrading as soon as the negotiations with the local authority has been completed.

According to the appointed civil engineers, the additional traffic generated can be accommodated if the necessary upgrading is done and he is of the opinion that the road upgrading will improve the existing road and circulation conditions. No upgrading will be done to the local roads without development, because the upgrading of the local roads around the study area is not regarded as a local authority priority project.

According to the appointed engineers it is anticipated that at least 50% of the housing units will be utilized as permanent residence, which will contribute towards peak traffic during the mornings and afternoons. Taking into consideration the 50% permanent residency, it can be expected that an additional 16-20 vehicles within a peak hour could be expected. Therefore a traffic impact analysis is not required and it is only required to evaluate the access to the property. Each access will be geometrically designed to reduce any unnecessary damming of traffic, furthermore the design will ensure safe traffic flow by means of taking into consideration sight distances, distances from existing intersections, accelerations and decelerations lanes and the radius for turning vehicles into and from the property. (Refer to Annexure D (III) Traffic Impact Analysis)

5. Access of construction vehicles to site;

Response:

Addressed in the EMP (Refer to Appendix H)

6. Weight limit of construction vehicles;

Response:

Will be imposed and photographs will be taken of the existing local roads prior to construction and the contractors will be responsible for the protection of the local roads and for the fixing of roads damaged by the construction phase immediately after damaging the roads.

In order to protect the ecological sensitive areas, these areas will be demarcated and construction vehicles will be prohibited to enter into these areas.

7. Crime during construction phase;

Response:

According to the local frameworks and policies, the area is known for its high crime rates. It is true that the crime could even increase during the construction phase if no control measures are implemented. In order to prevent an increase in crime during the construction phase the applicant will appoint a security company to guard the site during the entire construction phase. Furthermore, no workers, except for the security personnel will be allowed to sleep on the site and no workers will be allowed to enter adjacent private properties without written consent of the legal owners to the contractor.

The development phase will include the fencing of the study area, the provision of monitored access points that will supply public access to the wetland area and 24 hour security to be paid by the HOA.

8. Impact of the development on the fauna species and the larger continuous open space system;

Response:

The intention of the development is to improve the integrity of the ecological and wetland systems of the study area and the open spaces to which it is linked. There will be short term impacts on the ecological environment and some fauna species will move away during the construction period, but if well planned, implemented and managed the fauna species that moved away and new fauna and flora species will return/ establish in the newly created habitats, wetlands and eco-systems.

The proposed development plan for the subject property has targeted the northern, western and southern border areas which form the higher lying areas of the site. Immediately adjacent to the study area boundaries there will be some earthworks required to level the areas required for parking, as well as the stairwells of the residential units. The total area of all structures encroaching into the wetland/ flood area is 3166 m² of which 1685 m² will be developed on raised platforms supported by pillars.

Earthworks will reduce the size of the area under the flood-line by 1481 m². The impact of the alteration of the floodplain areas will have on the wetland system is regarded as being moderate to low in the construction phase of the development and low to positive in the operational phase of the development, provided that strict controls and implementation of mitigatory measures are undertaken (as indicated below).

The remainder of the development (the units themselves) are to be constructed on raised platforms supported by concrete pylons. This will be done in order to minimise earthworks and minimise the footprint of the proposed development within the 1:100 year flood-line and to ensure that the units are safe from flooding. With this design the proposed development will encroach into the temporary zone of the wetland and in some areas it is deemed likely to encroach on the seasonal zone of the wetland areas too.

As part of the proposed layout plan, the upper reaches of the stream are to be canalised. The stream in this area has already been physically impacted through incision and sedimentation. The system currently provides very limited habitat for aquatic macro-invertebrates, as well as wetland vegetation requiring permanently inundated soils. As development within the areas upstream in the catchment continues, there will be an increased risk of erosion of these banks which already show signs of instability. As such, the canalisation of this section of the stream is deemed unlikely to significantly alter the ecological functioning and integrity of the system or the social functions of the system.

As stated above, the increased development upstream in the catchment will lead to increased demands on the wetland in terms of stream flow regulation, sediment trapping, erosion control, nutrient recycling and toxicant removal. The proposed development plan caters for the creation of three stormwater attenuation dams. These dams will be linked by the stream on the subject property which will be diverted in such a way as to allow the dams to be linked. Through the creation of the dams the ability of the wetland feature to fulfil its functions (as outlined above) will be significantly enhanced. The biodiversity of the system will also increase significantly through the creation of the dams providing habitat for wetland avifauna, and habitat and refuge areas for herpeto-fauna and aquatic macro-invertebrates.

As part of the proposed development, it is proposed that raised walkways be created through the wetland area which will allow human traffic through the area. The development of the raised walkways will significantly increase the social functions of the wetland feature through increased tourism and recreation facilities, education and research opportunities, and increased cultural significance of the feature through the improved access.

For each criterion a score out of 10 was awarded based on the perceived past importance of this system and the current state of the wetland, as well as the perceived future state based on the consideration of the proposed layout plan. The PEI, PES and DFS values were then defined as a percentage of the maximum possible value (140) for a wetland which is highly functional and has an important role in ecological and cultural processes. The findings also allow the importance of the wetland to be determined in terms of the ongoing functioning of the aquatic ecosystem in the area.

Based on this assessment method, the system can be said to have provided 19% of the services of a fully functional, ecologically important wetland in the past and as such the system can be considered to be of relatively limited importance. The PES of the system indicates a 28% service provision. The wetland can therefore be considered to be of limited importance and an insignificant deterioration in the service provision of the wetland from the past conditions has occurred.

In terms of the PFS of the system, there is some increase in the importance of the system mostly related to the increased value of the system when more people inhabit the area and the increased importance in managing the effects that an increased population in the area will have on the natural resources. In this regard mention is made of increased importance in terms of sediment trapping and erosion control, stream flow regulation and the removal of inorganic nutrients and toxicants. The importance of the system will also increase due to the increased opportunities for use of the system created by increased accessibility of the feature. The future importance of the system can therefore be described as providing 43% of the functions of a fully functional, ecologically and culturally important wetland indicating that the system can become relatively valuable on a localised scale. It must, however, be noted that in order to fulfil this role, the wetland feature will need to be carefully protected and managed throughout the life of the proposed development. The mitigatory measures in the EMP should be strictly adhered for the proposed development.

9. Number of people/ human density;

There is a need in the market for quality Residential developments and the proposed development will optimally provide in that need. The size of the development is not of extensive magnitude and therefore will not have such a large effect on the human density of the Widenham area. It is also predicted that most of the residential units will be owned by individuals using the units as holiday homes, which will only be occupied during the festive seasons.

The proposed coverage/ ecological footprint is in line with the requirements of the local authority. Due to the fact that the study area incorporates a large wetland area (almost two-thirds of the study area) that requires regular ad on-going maintenance and rehabilitation works, sufficient funds must be generated on a monthly basis to achieve the maintenance and rehabilitation goals. The applicant and his project team went through extensive exercises to determine the number of residential units required in order to generate sufficient funds from the levies for the management and maintenance of the wetland area. According to the calculations, the ideal number of units will be 54, because this will make the units and the monthly levies more affordable. In order to achieve the maintenance and rehabilitation goals at least one third of the monthly levies must be allocated for open space maintenance and rehabilitation purposes. The town planning guidelines for the area however does not allow for 3 storey developments and therefore the applicant decided to apply for the maximum number of units that will comply with the town planning guidelines, namely a coverage of 30% and height of 2 storeys.

The construction costs for the units will also be extremely high, because the existing site characteristics require that the following special measures be implemented:

- That the residential units be developed along the periphery of the site with multiple accesses;
- The existing channel must be replaced with a storm water management system that distributes the storm water across the entire central wetland area and it will also require the implementation of energy dissipaters, attenuation structures, silt traps etc.;
- The proposed residential structures must be elevated above the 1:100 year flood line by means of concrete platforms and pylons and the existing gradient of the study area must remain unchanged;
- An onsite sewer treatment facility must be implemented in the north-eastern corner of the study area and the system must make provision for the recycling of the purified water on the site. This will not only require significant piping works, but expensive pumps, back-up pumps and emergency measures to accommodate power failures must also be implemented;
- The piping of the units must also make provision for municipal water supply in circumstances of insufficient grey water supply;

- The sewer man hole must be elevated to daylight above the 1:100 year flood line and
- Initial rehabilitation works in the wetland area.

All the above mentioned costs will make the development very expensive from the outset, but if well planned, implemented and managed, all environmental (economical, ecological and social) will eventually benefit from a sustainable development.

10. Visual impacts (open space not visible from surrounding properties);

Response:

Due to the topography of the study area and its surroundings (the surrounding properties are located significantly higher than the proposed units) the anticipated visual impacts of the proposed 2 storey units from the surrounding properties are not regarded as significant. The concerns raised were nevertheless taken into consideration and the layout therefore provides for 8 separate blocks with visual axis in between the blocks that allow for attractive views onto the central wetland area and associated landscaping.

11. Current flooding problems to the north of the site and to the north-east of the site (east of the R102);

Response:

The applicant appointed a civil engineer to investigate the current problem and to determine whether the proposed development will increase the existing flooding problems. According to the civil engineers, the flooding problems are caused by storm water system failures (i.e. blocked storm water rains and pipes) and the proposed development will not worsen the situation. If well planned and managed, the storm water management measures to be implemented as part of the development will improve the storm water management on and around the study area. The proposed units will not be affected by flooding, because the units will be elevated and constructed above the 1:100 year flood line. It is however recommended that the existing storm water and flooding problems be reported to the local authority and that the local authorities investigate and resolve the flooding problems. It is also recommended that DWA investigate the flooding and possible pollution problems in the vicinity of the filling station which has apparently been developed within the 1:100 year flood line area.

During a recent meeting with DWA, Ms. Lizelle Gregory of Bokamoso informed DWA of the flooding and pollution risks associated with the filling station and requested that DWA investigate the matter on an urgent basis. DWA undertook to investigate the situation.

12. Up-stream and down-stream impact on the hydrology/ flood line;

Response:

From a storm water management point of view, the impacts will not be significant, because the storm water design concept will aim to keep the post-development flows similar to the pre-construction flows.

From an ecological and hydrological point of view, the storm water management concept and the rehabilitation works will aim to create a better functioning system that will create habitats, purify the storm water, break the speed of the storm water, increase bio-diversity, act as valuable ecological link within the larger regional open space system etc.

If well planned, implemented and managed the proposed development will have positive impacts.

The status quo and proposed management measures are as follows:

Currently it is evident that appalling flooding takes place to residential homes further down of the proposed site. This is mainly because of the following reasons:

- The proposed development site forms a natural drainage line, being the lowest point in the valley of the surrounding area. In addition to the natural drainage of the site is evident that the drainage system receives additional runoff from (at least four) storm water canals in the area. These systems increase the flow in the system significantly and increases the duration of which surface water will persist in the area.
- The construction of the R102 to the east of the site has led to localized changes to the topography of the land thereby leading to altered drainage and runoff patterns. These changes have led to the formation of a permanent wet area on the eastern boundary of the property.
- The lack of maintenance to current stormwater canals. Vegetation, rubbish and sediment that is being washed away from upstream developments gets trap in the canals and stormwater in- and outlet structures. Resulting in these important stormwater structures to clog up and prohibiting water not to be effectively distributed downstream.

The above mentioned reasons result in the ineffective attenuating of stormwater flowing down from upstream developments. It is therefore proposed to construct for three stormwater attenuation dams. (Refer to Appendix C (ii) Position of the Attenuation Dams) These dams will be linked by the stream on the subject property which will be diverted in such a way as to allow the dams to be linked. Through the creation of the dams the ability of the wetland feature to fulfill its functions will be significantly enhanced. The developer also proposes to maintain the stormwater canals and the in-and outlet structures, to prevent these structures of clogging up. The internal roads and parking areas to be utilized as storm water channels to channel stormwater away from the proposed development. (Refer to Appendix H: Environmental Management Plan).

13. Lack of sewage;

Response:

This is a problem in the area and will not be solved in the short term. The proposed sewer system in the north-eastern corner of the study area was discussed with DWA during a recent meeting and the department indicated that they would support a system that is designed and managed to comply with DWA standards. The effluent must also be treated to comply with DWA Special Standards. The only requirement of DWA is that the sewer manhole must daylight above the 1:100 year flood line, because that measure will prevent possible pollution incidents during flooding.

The proposed system will most probably qualify for a General Authorization of DWA and the details of the proposed system will be supplied to the Department as soon as available.

At this stage the proposal is to implement a Calcamite Treatment System (a DWA acceptable system) and the system will be planned and designed as per the normal engineering requirements stipulated in the "Red Book".

14. Public access to the open space;

Response:

The applicant agreed to provide monitored public access to the surrounding residents. Pedestrian entrance gates will be provided from every street and the residents will most probably be furnished with a remote control/ key that will allow easy and safe access to the open space in the central portion of the study area.

Even though the surrounding residents will be allowed to use the study area for passive recreation purposes, it will not be necessary for the surrounding land-owners to contribute to the rehabilitation and on-going management and rehabilitation of the central wetland area.

15. Developer's only intention is to make the maximum profit;

Response:

It is true that the developer purchased the study area for development purposes. The study area was not zoned open space when he purchased the property. It was zoned for x8 "residential 1" developments across the entire study area. Surely the applicant cannot be penalized for bad planning that took place in the past. The local authority and DWA already acknowledged the problems associated with the development of the study area and agreed that it would be possible to consider a compromise situation that will be beneficial to all parties involved. The applicant did not ignore the comments and concerns raised by the authorities or the public. The applicant instead entered into lengthy negotiations with the authorities (which involved the compilation and submission of various preliminary concepts and alternatives prior to the compilation of the BA report) and with the public in order to try and accommodate all the issues and aspects raised by the various parties.

It is also important to note that development will serve as residential establishment for individuals working in the surrounding areas, as well as holiday homes. This development will, contribute to economic development in terms of job creation (both during the construction and operational phases). Economic active people will reside in the units, which will in turn again stimulate the local economy in terms of rates and taxes payable to the Local Municipality.

16. Implications of Durban Municipality Open Space System on the proposed site.

Response:

If well planned and managed, the central wetland system will play an important role in the larger D'MOSS. The role will not only have a linkage function, but it will also have important ecological and hydrological functions.

Special measures will be implemented to control the spreading of *Lantana camara* as well as *Solanum mauritianum*. Areas affected by construction will be rehabilitated as soon as the construction is completed.

Addendum 1

Comments received from
Mkhomazi Conservancy

MKHOMAZI CONSERVANCY: COMMENTS AND CONCERNS OVER PROPOSED WETLAND DEVELOPMENT AT WIDENHAM

Mkhomazi Conservancy is concerned with the impacts on the wider environment as well as on the wetland and its immediate surrounds. In particular the outflow from this wetland flows into the sea at the junction of Widenham and Umkomaas south beach, immediately north of the high Widenham Dune. This beach system fronts the Aliwal Shoal Marine Protected Area (MPA). **Any development in this wetland should only proceed if it can be positively shown that it will result in significantly lower impacts on the MPA.**

WE consider that any development in a wetland is inappropriate at any time. South Africa as a whole has lost a large part of its vital natural wetlands. We are aware that historically due to the position of the R102 and existing low-lying parts of Widenham the wetland is already compromised and does not supply the full range of environmental goods and services of a pristine wetland. Widenham already grapples with the problems caused by previous poor environmental knowledge such as periodic road flooding. Amongst other things, in regard to environmental goods and services supplied by the wetland, we note (i) flood attenuation is still viable except in extreme weather events (ii) biodiversity is compromised due to infestation with invader alien plant species. (iii) Water is impounded for significantly longer than naturally due to the presence of the R102, (iv) storm-water run-off enters at several points and inflow from the stream is more rapid due to existing canalisation, and is probably more silt and pollutant laden. We note that Municipal workers also periodically dig out the stream bed to increase throughput of water which impacts on the ability of the wetland to filter and detoxify the water. (v) We assume that nutrient recycling and carbon sequestration are also compromised due to man-made disturbances.

From the above, we believe that in the medium to longer term, with no intervention there will be continued slow loss of environmental goods and services from this wetland. WE therefore believe that any development in this wetland should only proceed if it can be positively shown that there will be a significant increase in environmental goods and services supplied by this wetland.

Our concerns therefore are:-

1. This is effectively a greenfields project in a somewhat compromised wetland which does however provide some goods and services. Whatever is proposed must result in enhancement of the ability of the wetland to provide these.
2. There must be **No adverse impacts on the MPA either during construction or throughout the life of the development.**
3. Flood attenuation and reduction of scour on the beach should be enhanced to cope with severe but not uncommon weather events such as July 2008.
4. A minimum requirement should be removal of IAPs and prevention of further infestation which will enhance biodiversity whether or not final authorisation for this proposal is given.
5. All existing indigenous trees should be retained.
6. There is a relatively large hardened area still within the 10yr flood line. We urge the proponent to set back any units as far as possible to limit encroachment on wet areas.
7. Hardened areas compound run-off and pollution problems are already experienced. We ask that such areas be kept to a minimum and that research be conducted to locate suitable "semi-permeable" materials for their construction. Will the new water impoundments be sufficient to attenuate flooding under severe weather events and prevent inundation and pollution of its own hardened areas?

8. There must be an Environmental management plan to prevent soil washaways/ siltation and to manage fuel and materials on-site.
9. Canals whether permanent or temporary should not allow the trapping of small animals.
10. **Sewerage Management:** We are concerned that there is no water-borne sewerage in Widenham. How does the proponent intend to manage sewerage from such a large number of units in such a low lying wet area?
11. **Grey Water Management:** will the proponent build in grey-water recycling?
12. **Visual Impact:** such a large number of units in the entrance to Widenham detracts from the quiet village atmosphere and significantly alters the sense of place. The architecture is unsympathetic to the existing mainly single storey dwellings and may be said to dominate. Such a large number of blocks of dwellings close in the present green and open views enjoyed by neighbouring properties and may be said to materially affect the values thereof. WE also believe that 3-4 storeys are against the current town planning scheme for Widenham.
13. How will the proponent manage the additional traffic caused by such a large number of units in a small area that is already experiences a bottleneck?
14. Whilst appreciating the need for security, we ask the proponent to consider a form of boundary that will detract less from the visual amenity than solid walling and will allow passage of small animal species and back to the water resource.
15. In a severe weather event, if the culvert under the R102 was damaged could this have repercussions for the fuel storage tanks of the filling station and lead to a fuel leak into the development?
16. If authorisation is granted, since this is to be characterised as an eco-estate we ask that only endemic plant species be allowed and the present 'wild ' character be retained by excluding pets which may disturb bird populations and by forbidding manicured landscaping around the wetland. WE ask the proponent to consider the educative value of the wetland and allow limited public access via boardwalks.

Overall, Mkhomazi Conservancy would strongly believes that no built development should take place in this wetland but that it should be rehabilitated to enhance its ability to provide the goods and services of a wetland and retain its sense of place.

In this proposed wetland development environmental, social and aesthetic/sense of place impacts are inextricably linked. However accepting the compromised nature of the existing wetland, we urge that authorisation only be given for a severely reduced number of dwelling units which are (i) only 2 storeys high (ii) in a style more sympathetic to those surroundings (iii) set back as far as is practicable above the flood lines (iv) having minimal hardening and perimeter walling . (v) There should be an Environmental management plan in place for construction phase and the life of the development which will protect the outflow to the MPA and apply sufficient deterrent sanctions if it is transgressed.



NOTICE OF ENVIRONMENTAL BASIC ASSESSMENT PROCESS

Notice is given of an application for Environmental authorization that was submitted to the KwaZulu-Natal Department of Agriculture and Environmental Affairs, in terms of regulation no. R385 published in the Government Notice no. 28753 of 21 April 2006 of the National Environment Management Act, 1998 (Act No. 107 of 1998) governing Basic Assessment procedures (Notice 1 and 2 – Governing Notice R386) for the following activity:

Name of project: Proposed Township development on Widenham Stand Portions 35, 36, 338, 339, 340, 341, 342 & 343 of 1668 Widenham

Ref No: DM/0147/08

Project description: Residential development on Widenham Stand Portions 35, 36, 338, 339, 340, 341, 342 & 343 of 1668 Widenham

The application was submitted for the following activities in terms of the Government Notice R. 386, 21 April 2006:

| | | |
|---------------------|-------------|--|
| R386, 21 April 2007 | Activity 1m | The construction of facilities or infrastructure, including associated structures or infrastructure, for - Any purpose in the one in ten year flood line of a river or stream, or within 32 meters from the bank of a river or stream where the flood line is unknown, excluding purposes associated with existing residential use, but including- (i) canals; (ii) channels; (iii) bridges; (iv) dams; and (v) weirs. |
| R386, 21 April 2007 | Activity 4 | The dredging, excavation, infilling, removal or moving of soil, sand or rock exceeding 5 cubic metres from a river, tidal lagoon, tidal river, lake, in-stream dam, floodplain or wetland. |

Extent: The study area covers approximately 2.03 ha in extent.

Name of the proponent: CCCT Family Trust

Location: The site for the proposed development is situated directly West of the N2 Highway, South of Umkomaas, South-East of Saucor village and North of Clansthal on Widenham Stand Portions 35, 36, 338, 339, 340, 341, 342 & 343 of 1668 Widenham.

Date of notice: 15 January 2010

Queries regarding this matter should be referred to:

Bokamoso Landscape Architects and Environmental Consultants

George Gericke

P.O. Box 11375

Maroelana 0161

Tel: (012) 346 3810

Fax: 086 570 5659

email: lizelieg@mweb.co.za

In order to ensure that you are identified as an interested and/or affected party, please submit your name, contact information and interest in the matter to the contact person given above on or before the 15 February 2010

ST. CATHRINE ST.

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NOTICE OF ENVIRONMENTAL BASIC ASSESSMENT PROCESS

Notice is given of the application for Environmental Basic Assessment (EBA) under the Environmental Assessment Act, 1996 (Act No. 69 of 1996) for the proposed development on the land parcels 338, 339, 340, 341, 342 & 343 of 1468 Widdowson Road, Widdowson, George, South-East of Springbok. The proposed development is for the construction of a dam and a weir on the river to supply water to the area.

Name of project: Proposed development on the land parcels 338, 339, 340, 341, 342 & 343 of 1468 Widdowson Road, Widdowson.

Project description: Dam and weir development on Widdowson Road parcels 338, 339, 340, 341, 342 & 343 of 1468 Widdowson Road.

The application was submitted for the following activities in terms of the Government Notice R 584 of 21 April 2006:

| | | |
|-----------------|------------|---|
| EMA 21 Act 2006 | Article 10 | The construction of facilities or infrastructure, in any form, for any purpose in the open air, for the purpose of storing, or for any purpose associated with such storage, of any liquid or gaseous substance in a tank, vessel or container, or for the purpose of collecting, or for any purpose associated with such collection, of any liquid or gaseous substance. |
| EMA 21 Act 2006 | Article 4 | The dredging, excavation, filling, reclamation or embankment of any river, stream or canal, or the construction of any dam, weir or structure across a river, stream or canal. |

Grade of the river above approximately 2,000 feet in height.

Name of the proponent: ECCC Farm Trust

Location: The site is the proposed development on the land parcels 338, 339, 340, 341, 342 & 343 of 1468 Widdowson Road, Widdowson, South-East of Springbok.

Date of notice: 16 January 2010

Persons regarding this notice should be referred to:
George Landroop Architects and Environmental Consultants
George Office
P.O. Box 11224
Mosselbaai 6111

For more information:
Tel: 011 837 2840
Fax: 011 837 2840
Email: info@george.co.za

In order to ensure that you are informed of any amendments to the notice above or of any other information, you are invited to register your interest in the project on or before 15 February 2010.



STOP

Illegible text on a white rectangular sign below the stop sign.



PROPOSED ENVIRONMENTAL BASIC ASSESSMENT
PROCESS

The purpose of this document is to provide a clear and concise overview of the Environmental Basic Assessment (EBA) process. This process is designed to ensure that all potential impacts of a proposed project are identified, evaluated, and mitigated before any construction or development begins.

The EBA process is a multi-step procedure that involves the following key stages:

- 1. Project Description:** A detailed description of the proposed project, including its location, scope, and potential impacts on the environment.
- 2. Screening:** An initial assessment to determine if the project requires a full EBA or if it falls under a categorical exclusion.
- 3. Scoping:** Identifying the key issues and impacts that will be studied in detail during the assessment.
- 4. Data Collection:** Gathering baseline data on the environment, including air quality, water resources, and biological resources.
- 5. Impact Assessment:** Analyzing the potential impacts of the project on the environment and comparing them to established standards.
- 6. Mitigation Measures:** Developing and implementing measures to avoid, minimize, or compensate for the identified impacts.
- 7. Reporting and Review:** Preparing an EBA report and submitting it to the relevant regulatory agencies for review and approval.

It is important to note that the EBA process is an iterative one, and it may be necessary to revise the assessment as more information becomes available or as the project design evolves.

For more information on the EBA process, please contact the Environmental Department at [Phone Number] or visit our website at [Website URL].

NOTICE OF ENVIRONMENTAL BASIC ASSESSMENT PROCESS

The Department for Environment and Heritage, in accordance with the Environmental Assessment Act 1998, is required to publish a notice of the Environmental Assessment process for the proposed development.

The proposed development is a residential development of 100 units, located at the corner of Main Street and Victoria Street, in the town of [Name].

The proposed development is a residential development of 100 units, located at the corner of Main Street and Victoria Street, in the town of [Name].

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The proposed development is a residential development of 100 units, located at the corner of Main Street and Victoria Street, in the town of [Name].

The proposed development is a residential development of 100 units, located at the corner of Main Street and Victoria Street, in the town of [Name].

NOTICE OF ENVIRONMENTAL BASIC ASSESSMENT PROCESS

The Department of Agriculture and Forestry (DAF) is currently reviewing the proposed development of a new agricultural project in the area of [redacted]. The project is located on [redacted] and is proposed to be developed in accordance with the provisions of the Environmental Protection Act, 1986 (EPA) and the Environmental Impact Assessment Regulations, 1989 (EIA Regulations).

The proposed development is a [redacted] and is expected to have a significant impact on the environment. It is therefore necessary to carry out an Environmental Basic Assessment (EBA) to assess the potential impacts of the proposed development on the environment.

The EBA will be carried out in accordance with the provisions of the EIA Regulations and will include a study of the proposed development, an assessment of the potential impacts of the proposed development on the environment, and the preparation of an EBA Report.

The EBA Report will be submitted to the Department of Agriculture and Forestry for review and approval. The Department will also consult with the public on the proposed development and the EBA Report.

The public is invited to comment on the proposed development and the EBA Report. Comments should be submitted to the Department of Agriculture and Forestry, [redacted], by [redacted].

For further information, please contact the Department of Agriculture and Forestry, [redacted], on [redacted].

The Department of Agriculture and Forestry is committed to ensuring that the proposed development is carried out in a manner that is consistent with the principles of sustainable development.

Yours faithfully,
[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]



2010.
Address of Applicant: LEAND
TOWN PLANNING SOLUTIONS

of the Executive Director: De-
velopment Planning and Urban
Management, Metro Centre,
A Risk,

Section 66(1)(b) of the Town-
Planning and Township Ord-
nances, 1988, that we have
applied to the City of Johannesburg

Widenerham Stand Portions 36,
38, 39, 40, 41, 42 &
43 of 1888
**NOTICE OF BASIC
ASSESSMENT PROCEDURE**
Notice is given of an application
for Environmental authorisation
that was submitted to the
Department of Agriculture, En-
vironmental Affairs & Rural
Development, in terms of regu-
lation no. R585 published in the
Government Notice no. 26768
in the 30th page of the National
Environmental Management Act,
1989 (Act No. 107 of 1989)
governing Basic Assessment
procedures (Notices 1 and 2 -
Governing Notice R538) for the
following activity: Name of
project: Proposed Township
development on Widenerham
Stand Portions 36, 38, 39,
40, 41, 42 & 43 of
1888 Widenerham Ref No: GM
A147/08. Project description:
Residential development on
Widenerham Stand Portions 36,
38, 39, 40, 41, 42 &
43 of 1888 Widenerham.
The application was submitted
for the following activities in
terms of the Government Notice
R585, 21 April 2007: Activity
1k: The construction of facilities
or infrastructure, including as-
sociated structures or infra-
structure, for: The bulk trans-
portation of sewage and water,
including storm water, in pipelines
with: (i) an internal
diameter of 0,93 metres or
more; or (ii) a peak throughput
of 120 litres per second or
more;
R585, 21 April 2007: Activity
1m: The construction of facili-
ties or infrastructure, including
associated structures or infra-
structure, for: Any purpose in
the one in ten year flood line of
a river or stream, or within 52
metres from the bank of a river
or stream where the flood line
is unknown, excluding pur-
poses associated with existing
residential use, but including:
(i) Canals; (ii) channels; (iii)
bridges; (iv) dams; and (v)
weirs.
R585, 21 April 2007: Activity 4:
The dredging, excavation, fill-
ing, removal or moving of soil,
sand or rock exceeding 5 cubic
metres from a river, tidal
lagoon, tidal river, lake, in-
stream dam, floodplain or wet-
land.
R585, 21 April 2007: Activity
15: The construction of a road
that is wider than 4 metres or
that has a reserve wider than 6
metres, excluding roads that fall
within the ambit of another
listed activity or, which are
access roads of less than 30
metres long.
R585, 21 April 2007: Activity 18
b: The transformation of unde-
veloped, vacant or derelict land
to - (b) Residential, retail,
retail, commercial, industrial or
institutional use where such
development does not consti-
tute a risk and where the total
area to be transformed is
bigger than 1 hectare.
R585, 21 April 2007: Activity
25: The expansion of, or
changes to existing facilities for
any process or activity, which
requires an amendment of an
existing permit or license or a
new permit or license in terms
of legislation governing the
release of emissions, pollution,
effluent
Extent: The study area covers
approximately 2,08 ha in ex-
tent.

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Department
Visagie Str
Postal Addr
Department
Pretoria, 001

17 Name of the proponent: COGT
m Family Trust
n Location: The site for the
o proposed development is situ-
p ated directly West of the N2
q Highway, South of Brimrose,
r South-East of Sasolcar village
s and North of Claretal - on
t Widenerham Stand Portions 36,
u 38, 39, 40, 41, 42 &
v 43 of 1888 Widenerham.
w Date of notice: 18 January
x 2010.
y Queries regarding this matter
z should be referred to: Sola-
moor Landscape Architects
and Environmental Consult-
ants, George Gerike, PO Box
11275, Menostrand, 0161, Tel:
(012) 866 9810, Fax: 012 670
6859, email: lizelleg
@mweb.co.za.
in order to ensure that you are
identified as an interested and
or affected party, please sub-
mit your name, contact informa-
tion and interest in the matter to
the contact person given above
on or before the 16 February
2010.

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NOTICE OF BASIC ASSESSMENT PROCESS

Notice is given of an application for Environmental authorization that was submitted to the Department of Agriculture, Environmental Affairs & Rural Development, in terms of regulation no. R385 published in the Government Notice no. 28753 of 21 April 2006 of the National Environment Management Act, 1998 (Act No. 107 of 1998) governing Basic Assessment procedures (Notice 1 and 2 – Governing Notice R386) for the following activity:

Name of project: Proposed Township development on Widenham Stand Portions 35, 36, 338, 339, 340, 341, 342 & 343 of 1668 Widenham

Ref No: DM/0147/08

Project description: Residential development on Widenham Stand Portions 35, 36, 338, 339, 340, 341, 342 & 343 of 1668 Widenham

The application was submitted for the following activities in terms of the Government Notice R. 386, 21 April 2006:

| | | |
|---------------------|---------------|---|
| R386, 21 April 2007 | Activity 1k | The construction of facilities or infrastructure, including associated structures or infrastructure, for - The bulk transportation of sewage and water, including storm water, in pipelines with - (i) an internal diameter of 0,36 metres or more; or (ii) a peak throughput of 120 litres per second or more; |
| R386, 21 April 2007 | Activity 1m | The construction of facilities or infrastructure, including associated structures or infrastructure, for - Any purpose in the one in ten year flood line of a river or stream, or within 32 metres from the bank of a river or stream where the flood line is unknown, excluding purposes associated with existing residential use, but including - (i) Canals; (ii) channels; (iii) bridges; (iv) dams; and (v) weirs. |
| R386, 21 April 2007 | Activity 4 | The dredging, excavation, infilling, removal or moving of soil, sand or rock exceeding 5 cubic meters from a river, tidal lagoon, tidal river, lake, in-stream dam, floodplain or wetland. |
| R386, 21 April 2007 | Activity 15 | The construction of a road that is wider than 4 metres or that has a reserve wider than 6 metres, excluding roads that fall within the ambit of another listed activity or which are access roads of less than 30 metres long. |
| R386, 21 April 2007 | Activity 16 b | The transformation of undeveloped, vacant or derelict land to - (b) Residential, mixed, retail, commercial, industrial or institutional use where such development does not constitute infill and where the total area to be transformed is bigger than 1 hectare. |
| R386, 21 April 2007 | Activity 25 | The expansion of or changes to existing facilities for any process or activity, which requires an amendment of an existing permit or license or a new permit or license in terms of legislation governing the release of emissions, pollution, effluent. |

Extent: The study area covers approximately 2.03 ha in extent.

Name of the proponent: CCCT Family Trust

Location: The site for the proposed development is situated directly West of the N2 Highway, South of Umkomaas, South-East of Saucor village and North of Clansthal on Widenham Stand Portions 35, 36, 338, 339, 340, 341, 342 & 343 of 1668 Widenham.

Date of notice: 28 January 2010

Queries regarding this matter should be referred to:

Bokamoso Landscape Architects and Environmental Consultants
George Gericke
P.O. Box 11375
Maroelana 0161
Tel: (012) 346.3810
Fax: 086 570 5659
email: lizelleg@mweb.co.za

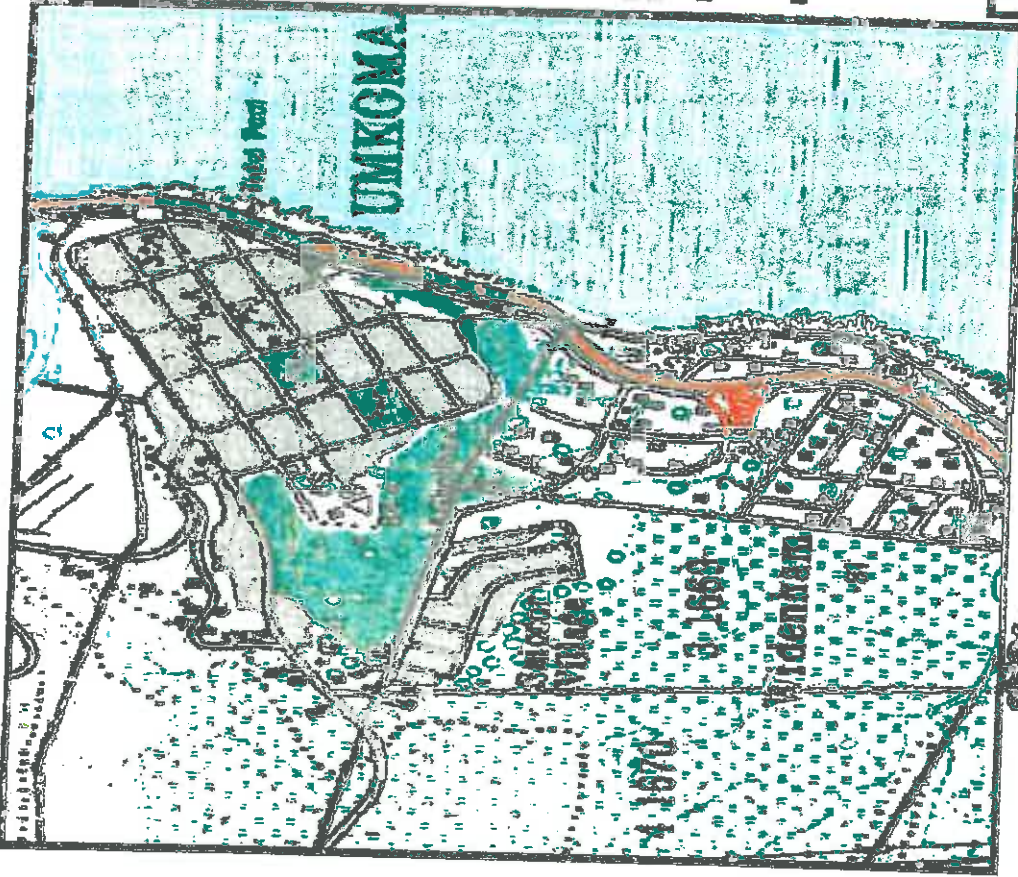
In order to ensure that you are identified as an interested and/or affected party, please submit your name, contact information and interest in the matter to the contact person given above on or before the 28 February 2010



Proposed Township development on Widenham Stand Portions 35, 36, 338, 339, 340, 341, 342 & 343 of 1668 Widenham

Public Notice

To all Interested and Affected Parties
Bokamoso Environmental Consultants hereby notifies the surrounding residents, land-owners and tenants of the Proposed Development of a Township Establishment.



Locality Map

Notice is given of an application for Environmental authorization that was submitted to the KwaZulu-Natal Department of Agriculture and Environmental Affairs, in terms of regulation no. R3885 published in the Government Notice no. 28753 of 21 April 2006 of the National Environment Management Act, 1998 (Act No. 107 of 1998) governing Basic Assessment procedures (Notices 1 and 2 – Governing Notice R3886) for the following activity:

Name of project: Proposed Township development on Widenham Stand Portions 35, 36, 338, 339, 340, 341, 342 & 343 of the Farm Lot2 No. 1668 Widenham

Ref No: DM/0147/08

Project description: Residential development on Widenham Stand Portions 35, 36, 338, 339, 340, 341, 342 & 343 of 1668 Widenham

The application was submitted for the following activities in terms of the Government Notice R. 388, 21 April 2003:

R338, 21 April 2007/activity 1m The construction of facilities or infrastructure, including associated structures or infrastructure, for -Any purpose in the one in ten year flood line of a river or stream, or within 32 meters from the bank of a river or stream where the flood line is unknown, excluding purposes associated with existing residential use, but including-(i) canals; (ii) channels; (iii) bridges; (iv) dams; and (v) weirs.

R306, 21 April 2007/activity 4 The dredging, excavation, infilling, removal or moving of soil, sand or rock exceeding 5 cubic metres from a river, tidal lagoon, tidal river, lake, in-stream diem, floodplain or wetland.

Extent: The study area covers approximately 2.03 ha in extent.
Name of the proponent: CCCT Family Trust

Location: The site for the proposed development is situated directly West of the N2 Highway, South of Umkomaas, South-East of Salooor village and North of Clanshal on Widenham Stand Portions 35, 36, 338, 339, 340, 341, 342 & 343 of the Farm Lot2 No. 1668 Widenham.

Date of notice: 16 January 2010

Please do not hesitate to contact us if there are any questions in connection with the above-mentioned development.

Contact Person: George Gerfcke
E-mail: lizaleg@rweb.co.za

Tel (012) 346 3810

Fax 086 570 5659

Acknowledgement of receipt






Widderham Stand

| | Name | Address | Contact Details | Signature |
|----|---------------------|------------------------------------|-----------------------------------|-----------|
| 1 | Shawn | 1 Rose Row | Email: Fax: Tel: 0825194004 | |
| 2 | Lorraine | 1 Regal Rd | Email: Fax: Tel: 039973522 | |
| 3 | | 1 Regal Rd | Email: Fax: Tel: | At Gate. |
| 4 | T. Davis | 2 McKean | Email: Fax: Tel: | |
| 5 | C. Smith | 3a St Helier COAD. | Email: Fax: Tel: 0877468825 | |
| 6 | | 5 Helier Road. | Email: Fax: Tel: | At Gate. |
| 7 | Regal ← | St. Helier Road no. 9 Gloria | Email: Fax: Tel: 0827724887 | |
| 8 | | St. Helier Road nr. 10 | Email: Fax: Tel: | At Gate. |
| 9 | | Cambarne rd 26 | Email: Fax: Tel: | At gate |
| 10 | | Corner of Cambarne & Widderham | Email: Fax: Tel: | At gate |
| 11 | | 28 Cambarne road | Email: Fax: Tel: | Post box |
| 12 | | Malborough road nr 30 | Email: Fax: Tel: | At gate |
| 13 | Don Griffith | 30 Widderham Dr | Email: Fax: Tel: | |
| 14 | | Malborough road 28 | Email: Fax: Tel: | At gate. |
| 15 | | | Email: Fax: Tel: | |

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Acknowledgement of receipt

Widenham Stand

| | Name | Address | Contact Details | Signature |
|----|-----------------------|-----------------------------|---|---|
| 1 | | Camborne Road no. | Email: Fax: Tel: | At Gate. |
| 2 | CM Kloof | 23 WIDENHAM RD | Email: Fax: Tel: |  |
| 3 | Palm Grove Complex | 26 Widenham Drive. | Email: Fax: Tel: | At Gate |
| 4 | | 21 Widenham Drive | Email: Fax: Tel: | At Gate. |
| 5 | WAZIR KHAN | 32 Mackborough | Email: Khan@admburg.org.za Fax: Tel: 0399720850 |  |
| 6 | JAL SKINNER | PO BOX 1467 in Komats | Email: doadicea@... Fax: scottburgh.co.za |  |
| 7 | Gyeonging | 12 Somerset | Email: Fax: Tel: 053605553 |  |
| 8 | Craven | 185 Somerset | Email: Fax: Tel: 0399732300 |  |
| 9 | | Somerset Road no. 20. | Email: Fax: Tel: | At Gate |
| 10 | | Somerset Road no. 22 | Email: Fax: Tel: | At Gate. |
| 11 | | Somerset Road no 24 | Email: Fax: Tel: | At Gate. |
| 12 | | | Email: Fax: Tel: | |
| 13 | | | Email: Fax: Tel: | |
| 14 | | | Email: Fax: Tel: | |
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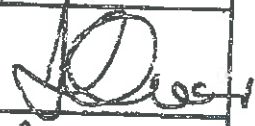




Acknowledgement of receipt

Widmarsh Stand

| | Name | Address | Contact Details | Signatures |
|----|---------------------|-----------------------------|--|-----------------------|
| 1 | Old Year | 1st St | Email: 106 E... Fax: 039 915 2305 Tel: 033 915 2414 | ... |
| 2 | | Holier Road no 9. | Email: Fax: Tel: | At Gate. |
| 3 | | St Catherine Road. no 4 | Email: Fax: Tel: | At Gate |
| 4 | | St Catherine Road no 6. | Email: Fax: Tel: | At Gate. |
| 5 | | St Cathrine Road no. 10. | Email: Fax: Tel: | At Gate |
| 6 | | St Cathrine Road no. 12 | Email: Fax: Tel: | At Gate. |
| 7 | | St Cathrine Road no. 14 | Email: Fax: Tel: | At Gate. |
| 8 | | St. Cathrine Road no. 16 | Email: Fax: Tel: | At Gate. |
| 9 | | St Cathrine Road no. 18 | Email: Fax: Tel: | At Gate. |
| 10 | | St. Cathrine Road no 20 | Email: Fax: Tel: | At Gate |
| 11 | Somerset no 2 | St Cathrine Road no. 22 | Email: Fax: Tel: | At Gate. |
| 12 | | Somerset Road no. 4 | Email: Fax: Tel: | At Gate |
| 13 | | Somerset Road no 6 | Email: Fax: Tel: | At Gate. |
| 14 | | Somerset Road no 14 | Email: Fax: Tel: | At Gate to Wimmer. |
| 15 | | Somerset Road no. 16 | Email: Fax: Tel: | At Gate. |

Acknowledgement of receipt

Widenham Stand

| | Name | Address | Contact Details | Signature |
|----|--------------------------------|------------------------------|---|---|
| 1 | LORNAE & Jim OLIVER | 5 ST HELENS RD WIDENHAM. | Email: Fax: 0125004711 Tel: 0828549949 |  |
| 2 | WAYNE & ANGELA | 6 ST HELENS RD WIDENHAM | Email: Fax: 039-9730487 Tel: |  |
| 3 | ALLAN PAIN | 11 St Helens | Email: Fax: 0828571014 Tel: |  |
| 4 | | Camboine Road to D | Email: Fax: Tel: | At Gate. |
| 5 | MIKE + ELIZABETH HOWLETT | 24 CAMBORNE RD | Email: howlet@xnet.co.za Fax: Tel: 0399730120 |  |
| 6 | | 29 Widenham road | Email: Fax: Tel: | At Gate |
| 7 | | 28 Widenham road Somerset | Email: Fax: Tel: | At Gate |
| 8 | NICHOLAS | 5 SOMERSET WIDENHAM | Email: Fax: Tel: 039973 1568 | AT GATE |
| 9 | R.L. KENNEDY | 26 SOMERSET RD | Email: rerry@xnet.co.za Fax: Tel: |  |
| 10 | | | Email: Fax: Tel: | |
| 11 | | | Email: Fax: Tel: | |
| 12 | | | Email: Fax: Tel: | |
| 13 | | | Email: Fax: Tel: | |
| 14 | | | Email: Fax: Tel: | |
| 15 | | | Email: Fax: Tel: | |



| Nr | Registered Parties | Contact details | Address |
|----|---|--|---|
| 1 | Ria Visser | armare@woldonline.co.za 039 973 0418 083 227 2928 | |
| 2 | Lynette Palmer | Lynette.palmer@sappi.com 039 973 0481 084 518 2626 | 1 Rozel Road Widenham |
| 3 | Derek & Susan Weightman Mkhomazi Conservancy Chairman | lmjadris@telkomsa.net 039 973 1280 | 15 Harvey Street Umkomacs 4170 |
| 4 | Josephine M de Havilland | haviland@telkomsa.net 039 973 0287 | KZN 4170 Widenham |
| 5 | W. Khan Senior Env Health Practitioner Ethekwini Municipal Health Department | khanw@durban.gov.za 039 973 0850 083 281 7898 | PO Box 709 Umzinto 4200 |
| 6 | Ronny Thorold | athorold@mweb.co.za 082 443 9624 | |
| 7 | Sholly Lawrie Mid South Coast Rising Sun | 1shellvbean@gmail.com 072 454 4477 039 978 2806 | |
| 8 | Thomas & Marinette Bolton | tokkiebolton@yahoo.com | 22 Widenham Terrace Widenham Umkomacs 4170 |
| 9 | Graham Liversage | mthene@iburst.co.za | |
| 10 | Carolyn Schegman WESSA | afromatz@telkomsa.net 083 981 4814 039 975 2147 | PO BOX 343 Pennington 4184 |
| 11 | Cobie Steenkamp | coblesteenkamp@yahoo.com 082 444 3452 | 11 Taunton Place Widenham |

| | | | |
|----|--------------------------|--|---|
| | | | 4170 |
| 12 | Steve Sheard | sselectric@telkomsa.net | |
| 13 | K Jones | ljonesle@vebo.co.za 082 457 9881 | |
| 14 | Mr. & Mrs. P. Waiter | sinclairstone@worldonline.co.za | 5 Marlborough Ave. Widenham Umkomaas 4170 |
| 15 | Mrs ME Huson | husonm@sbadbn.co.za 031 250 0502 031 250 0502 (fax) | |
| 16 | E Piddington | sinclairstone@worldonline.co.za 039 973 1231 | 11 Cheltenham Road Widenham |
| 17 | J.C.H. Hunt | amesch@telkomsa.net | 1 Somerset Road Widenham 4170 |
| 18 | Anne Hunt | annesupport@telkomsa.net | 1 Somerset Road Widenham Umkomaas |
| 19 | Mr. & Mrs. Bray | petroz@scottnet.co.za 039 978 1032 (fax) | |
| 20 | Stone Family | 039 973 0305 (fax) | |
| 21 | Govender Family | vivengovender@gmail.com 039 973 1680 083 569 8766 | 14 St. Catherine Road Widenham |
| 22 | E.Y. Stone | sinclairstone@worldonline.co.za | |
| 23 | Mr. F & Mrs. M Potgieter | sinclairstone@worldonline.co.za | 1 Marlborough Avenue Widenham Umkomaas 4170 |
| 24 | Neil Lambie | lambie@halfway.ws | |

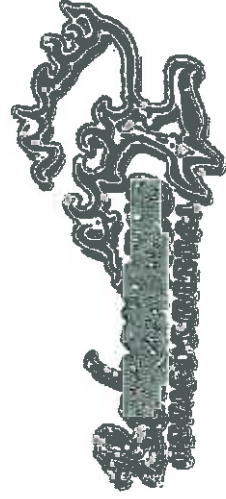
| | | | |
|----|----------------------------|--|----------------------------------|
| | Halfway Group | 039 978 7516 084 563 6621 | |
| 26 | Mike & Elizabeth Howlett | howlett@xnet.co.za 083 793 0120 039 973 0120 | 24 Cantorner Widenham |
| 28 | Duncan & Gloria Hutchinson | gloria@lantic.net 039 973 0084 082 772 4887 | 2 & D St Hallar Road Widenham |
| 27 | V Macleod | 039 973 1714 083 781 3198 | 2 Devon Place Widenham |
| 28 | BH Few | 039 973 0605 082 581 1788 039 973 0506 (f) | 1 Devon Place Widenham |
| 29 | Yvonne Stone | yvonestone@worldonline.co.za 039 973 0305 | |
| 30 | Heather & Tony Butler | heathton@gmail.com 076 541 2510 039 973 0803 | 4 Marlborough Ave Widenham |
| 31 | Jody Macbeth | kirstvmacbeth@telkomsa.net 039 973 0864 | 6 Sharboine Place Widenham |
| 32 | Sheena Amesen | 072 153 2082 | 36 Moodie Street Widenham |
| 33 | Mike McCarthy | KZNfunerals@telkomsa.net 082 882 5422 | 7A Hilltop Road Widenham |
| 34 | Val Skinner | 039 973 0727 074 892 4433 039 973 0727 (f) | |
| 35 | Neil MacLeod | neilmacleod@lantic.net 083 781 3198 039 973 1714 | 2 Devon Place Widenham |



Attendance Register

Proposed Township development on Widenham
Stand Portions 35, 36, 338, 339, 340, 341, 342 &
343 of 1668 Widenham

13 April 2010



Contact: Lizelle Gregory

Tel: (012) 346 3810

Fax: (086) 570 5659

| Name & Address | Contact Details | Comments / Issues |
|--|--|---|
| Name: ✓ T. W. CRAWFORD Address: 10 SALISBURY RD WILDEN HAY | Tel: 039 973 2769 Cell: 083 795 2321 Fax: Email: tw.crawford@bt.com | Don't mind it. Why not find someone to have a look at the site? |
| Name: ✓ PATRICIA TWEEDE Address: 34 BARROWS ST WILKINSON W170 | Tel: 039 973 2769 Cell: 082 367 0130 Fax: Email: ptw@bt.com Scottburgh.co.za | Interested in the outcome of what is happening / will happen to the wetland |
| Name: ✓ HEATHER BUTLER Address: 4 MARLBOROUGH AVENUE WILDEN HAY | Tel: 039 973 0603 Cell: 076 561 8612 Fax: Email: heather@gnail.com | Offered to develop a land identification within the town's D.G.E.S.S. |

| Name & Address | Contact Details | Comments / Issues |
|--|---|---------------------------------------|
| Name: A. P. BUTLER ✓ Address: 4 MARLBOROUGH WIMBORNE HAVEN WIMBORNE HAVEN 4170 | Tel: 039 9730603 Cell: 078011506 Fax: Email: KERTHON@GMAIL - COM | OPPOSED TO DEVELOPMENT ON WETLANDS |
| Name: L. BUTTNER ✓ Address: 1 ROZEL RD WIDEHAM | Tel: 039 9730481 Cell: 0845182626 Fax: 034 9738701 Email: Lynette.palmer @sappi.com | |
| Name: G. HUTCHINGS ✓ Address: 5 HELLES RD | Tel: 039 9730084 Cell: 082 7724887 Fax: Email: gl@lank.com | Opposed to development in wetlands |

| Name & Address | Contact Details | Comments / Issues |
|---|---|---|
| Name: A. Hutcheson ✓ Address: 4. St. Helier Rd. | Tel: 034-9730084 Cell: 088-7724667 Fax: Email: | Object to development on wetlands |
| Name: C. M. Klose ✓ Address: 23. WIDENHAM | Tel: 034 9790259 Cell: 083 7648697 Fax: Email: | AMOUNT OF WATER + SUBSIDIES |
| Name: J.A. RAMOS Address: 22. WIDENHAM, DK WIDENHAM UNKENHAY 4/70 | Tel: 039-1730579 Cell: Fax: 039-9730579 Email: delyseramos@telkomsel.net | OBJECT TO DEVELOPMENT IN WETLANDS ALSO WIDENHAM SHOULD NOT BE CHANGED FROM RESIDENTIAL TO GENERAL ZONING |

| Name & Address | Contact Details | Comments / Issues |
|---|--|-----------------------------------|
| Name: J.F. RAMOS ✓ Address: 22 WISENHAM DRIVE N.D. ENHAM UMKEMAS 2170 | Tel: 039-9730579 Cell: Fax: 039-9730579 Email: delysenamos@telkomsa.net | Obyektive kerjasama W.K.A.M.S. |
| Name: R. LIEBEN KELLY ✓ Address: R. W. BRONOFF P.O. BOX 511 KINGS | Tel: 0399730315 Cell: Fax: / Email: | WHY?? |
| Name: M. MAZZARI ✓ Address: 127 MACLEAN ST UMKEMAS | Tel: 037 9731319 Cell: Fax: Email: mazz@telkom.sa.net | |

| Name & Address | Contact Details | Comments / Issues |
|--|--|-------------------|
| Name: Bruce Johnson ✓ Address: 6 Sandra Place Widenham | Tel: 0391-9732756 Cell: 0836550985 Fax: Email: bruce@second storey.co.za | |
| Name: Shelly hansen ✓ Address: 37 Widenham Drive Widenham | Tel: 0391-9752606 Cell: 0754546477 Fax: Email: lshelly@secondstorey.co.za | |
| Name: Address: | Tel: Cell: Fax: Email: | |

| Name & Address | Contact Details | Comments & Issues |
|--|--|-------------------|
| Name: S.S. RICHARDS ✓ Address: 15 SANGRE CARRO RD WOODBENT HTS WY H1 7Q | Tel: 039 9731518 Cell: / Fax: / Email: / | |
| Name: BARBARA FEW ✓ Address: 1 DEVON PLACE WOODBENT HTS WY H1 7Q | Tel: 039 9730506 Cell: 082 8611 788 Fax: 039 9730506 Email: <i>bus.barb@optusnet.com.au</i> | |
| Name: Mrs V. Alice Ford ✓ Address: 2 Devon Place Woodbent HTS H1 7Q | Tel: 039 9731214 Cell: 083 7813198 Fax: / Email: / | |

| Name & Address | Contact Details | Comments / Issues |
|--|--|-------------------|
| Name: <i>Mrs N. Speed</i> ✓ Address: <i>2 Devon Place</i> <i>Widewaterham</i> <i>W.7.0.</i> | Tel: <i>0399731714</i> Cell: <i>0837813198</i> Fax: Email: | |
| Name: <i>J. Naidoo</i> ✓ <i>M. Naidoo</i> Address: <i>SHERBOURNE ROAD</i> <i>WIDENHAM</i> | Tel: <i>0399732310</i> Cell: <i>0829681935</i> Fax: Email: <i>mayde.lenen@telkomSA.net</i> | |
| Name: <i>N. Culler</i> ✓ Address: <i>24 MARLBOROUGH</i> <i>AUE</i> | Tel: <i>0399732571</i> Cell: Fax: <i>0399732571</i> Email: <i>P.2.M.N@</i> <i>telkomsa.net</i> | |

| Name & Address | Contact Details | Comments / Issues |
|--|---|--|
| Name: I. Haerwick ✓ Address: Di Avenida Mr Smpaan Vokren Cikarang | Tel: 0899732527 Cell: 083 2566901 Fax: Email: LAMARAD@TKLONPA.NET | |
| Name: T.T. Bolton ✓ Address: 22 Widenham Leppas Widenham | Tel: Cell: 079 396 0198 Fax: Email: jokke@bolton.co.uk yohan.sama | |
| Name: S. Suman ✓ Address: 19 St. CATHERINE Rd. | Tel: Cell: 083 305 6122 Fax: Email: S.S@CATHERINE.CO.UK s.suman@net | |

| Name & Address | Contact Details | Comments / Issues |
|--|---|----------------------------------|
| Name: PETER + ADELWIDE BAAY ✓ Address: P.O. Box 137 ✓ VILKOMMATS ADS Wiskward Drive Willembrakm | Tel: 039 973 0344 Cell: 083 4020331 Fax: Email: KTAOZ@SCOTNET.CO.ZA | |
| Name: Christ Inane ✓ Nam Ramabaz Address: 55 Wiskward Drive VILKOMMATS | Tel: 039-913 5469 Cell: Fax: Email: | NO TO DANGEROUS |
| Name: PETER + PUYU ✓ W.R.C.T. ✓ Address: 5 MARLBOROUGH AVENUE GILBERT GILBERT | Tel: 039 973 1715 Cell: 083-453 7171 Fax: 086 55 665 47 Email: PETER@AAK.B MAF.B.C.O.-Z.A | Wiskward Drive ADS Gilbert |

| Name & Address | Contact Details | Comments / Issues |
|---|--|------------------------------------|
| Name: TOM C TROLLEY Address: 28 MARLBOROUGH AVE WIDENHAM | Tel: Cell: 083 301 7147 Fax: 0866 282844 Email: tom@intermech.net | Flood line storm water problems |
| Name: Address: | Tel: Cell: Fax: Email: | |
| Name: Address: | Tel: Cell: Fax: Email: | |

| Name & Address | Contact Details | Comments & Issues |
|--|--|---|
| Name: Cobie Steenkamp ✓ Address: 11 Taunton Place Widjajanti | Tel: Cell: 082 2444 3452 Fax: Email: cobiesteenkamp@ yahoo.com | |
| Name: Team Taylor ✓ Address: G.A. Hilltop Road Widjehani | Tel: 039 973 2101 Cell: 083 764 3057 Fax: 039 973 2101 Email: astral@seethrough .co.za | Isnt it government policy not to build on wetlands to preserve our water and environment..... We are teaching our school children about this..... Isnt it illegal? |
| Name: Susan Weightman Address: 15 HARVEY ST ✓ UMKOMATS P.O. Box 1479 UMKOMATS 4170 | Tel: 039 973 1260 Cell: 079 3435 236 Fax: 039 973 1260 Email: imladris@telkomso .net | 2. Destroyability of any building in wetland progressive degradation leading to loss of environmental goods/services → threat to MPA Social Issues/ sense of place demarcation in excess of AMP guidelines |

| Name & Address | Contact Details | Comments & Issues |
|---|---|---|
| Name: Anne Hunt ✓ Address: 1 Somerset Rd Widenham 4700 | Tel: 01799 9730170 Cell: 0722272943 Fax: Email: anne.hunt@talktalk.net | opposed - swamp for wildlife. |
| Name: JAMES HUNT ✓ Address: 1 SOMERSET RD WIDENHAM | Tel: 039 97 30170 Cell: 082 789 5707 Fax: Email: james.h@talktalk.net | WILL DESTROY BIRDS, WILDLIFE & FLORA. WILL CREATE UNACCEPTABLE HUMAN DENSITY |
| Name: Jay Incebeth ✓ Address: 6 The Yacht Pice WIDENHAM UNKAMOSO | Tel: 01799 226614 Cell: Fax: Email: jay.incebeth@talktalk.net | Widenham Area Golf Course will be a Golf Course development |

| Name & Address | Contact Details | Comments / Issues |
|--|--|--|
| <p>✓ Name: T. EVERA / M. EVAT Address: 3 PRUY STN SOICOR VILLAGE UMKOMAS 4170</p> | <p>Tel: 039 9730809 Cell: 082 4664165 Fax: - Email: -</p> | <p>..... </p> |
| <p>✓ Name: MAULIE & CREOLE THOMPSON Address: 4 SANDER PLACE WISSEMAN</p> | <p>Tel: 039 9731288 Cell: 081 951 2230 Fax: Email: MAULIE.THOMPSON@SHEP.COM</p> | <p>..... </p> |
| <p>✓ Name: BARCLAY J. THOMAS STANTON Address: 5 CHESTERMAN ROAD MIDEMMAN</p> | <p>Tel: 039 97 30305 Cell: - Fax: A3 167 PIONEER Email: jstanton@wsl.com</p> | <p>DEVELOPMENT will undoubtedly change EXISTING MANUFACTURE AND LIFE WE ARE ASKING FOR SUPPORTER</p> |

| Name & Address | Contact Details | Comments / Issues |
|---|--|--|
| Name: K. T. JONES ✓ Address: P.O. Box 116 WINKHAMPS 4170 | Tel: 039 9732656 Cell: 082 457986 Fax: Email: <u>lonesre@yabo</u> <u>-co.za</u> | |
| Name: T E JONES ✓ Address: P.O. Box 116 WINKHAMPS 4170 | Tel: 039-9732656 Cell: 082-4579788 Fax: Email: <u>lonesre@</u> <u>yabo.co.za</u> | |
| Name: R. HILL (Mrs) ✓ Address: 9 SUMERSET PL WINKHAMPS | Tel: 0399730312 Cell: 0836904105 Fax: Email: | |

| Name & Address | Contact Details | Comments / Issues |
|---|---|---|
| Name: H. WAGNER ✓ Address: WIDENHAY RESID ✓ | Tel: 039 973 2163 ✓ Cell: Fax: Email: | |
| Name: P. TALBOT ✓ Address: I.S. MARIBOKOU ✓ LUNDENHAY ✓ | Tel: 039-9732102 ✓ Cell: 0828080309 ✓ Fax: 031-9732102 ✓ Email: | |
| Name: A. MURRY ✓ Address: 7 WESTWARD DR ✓ WIDENHAY ✓ LUNDENHAY ✓ G.T.C. ✓ | Tel: 039-9731797 ✓ Cell: 083-6851757 ✓ Fax: Email: dave@bbs.ppe ✓ G.O.Z.A. ✓ | |

| Name & Address | Contact Details | Comments / Issues |
|---|---|---|
| Name: Paul and Louise 111/115 Address: No 4 St. Catherine's Road Wokingham Wokingham RG40 | Tel: 031-9431385 Cell: 082 336 1709 Fax: 086 528 457 Email: MARGARET@GMAIL.COM | |
| Name: Steven + Dobby Sprint Address: 4 Exeter Place Wokingham | Tel: 027 973 1226 Cell: 082 533 4245 Fax: Email: dobby.sprint@telkom.sg.net | Bad live sewerage problems v. Pughen's wife v. Pughen's wife traffic v problems, over crowding |
| Name: M.S. V. S. K. N. V. Address: P.O. Box 1447 Wokingham 4170 | Tel: Cell: 07 4822 4233 Fax: Email: siddi.csb@i.com s.cott@wokingham.co.uk | |



Appendix E7

George Gericke

From: Lizelle Gregory [lizelleg@mweb.co.za]

Sent: 31 March 2010 04:01 PM

To: 'armare@worldonline.co.za'; 'Lynette.palmer@sapli.com'; 'imladr@s Telkomsa.net'; 'hevlard@telkomsa.net'; 'khanw@durban.gov.za'; 'athorold@mweb.co.za'; 'ishellybean@gmail.com'; 'cokkiebolton@yahoo.com'; 'mthene@burst.co.za'; 'afromatz@telkomsa.net'; 'coblesteenkamp@yahoo.com'; 'sselectric@telkomsa.net'; 'jonesis@yabc.co.za'; 'sinclairstone@worldonline.co.za'; 'husonm@sbadbn.co.za'

Subject: Widenham - Public Meeting

To all Interested and/or Affected Parties.

Please refer to the attached invitation for the public meeting for the proposed **Widenham Stand Portions 35, 36, 338, 339, 340, 341, 342 & 343 of 1668 Widenham project** that will be held at the Italian Club at 18h00 on 13 April 2010. We also want to ask you to help us by informing all other people you think should also attend this meeting. You are also welcome to forward their contact details to us and we will forward an invitation to them. Please don't hesitate to contact our offices for any additional information.

Kind Regards
George Gericke

Bokamoso Landscape Architects and Environmental Consultants
Tel: (012) 346 3810
Fax: 086 570 5659

Information from ESET NOD32 Antivirus, version of virus signature database 4940
(20100312)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

George Gericke

From: Lizelle Gregory [lizelleg@mweb.co.za]

Sent: 31 March 2010 04:02 PM

To: 'sinclairstone@worldonline.co.za'; 'amesch@telkomsa.net'; 'annesupport@telkomsa.net'; 'petroz@scottnet.co.za'; 'vivengovender@gmail.com'; 'sinclairstone@worldonline.co.za'; 'sinclairstone@worldonline.co.za'; 'lambie@halfway.ws'; 'howlett@xnet.co.za'; 'gloria@lantic.net'; 'yvonnestone@worldonline.co.za'; 'heathton@gmail.com'; 'kirstymacbeth@telkomsa.net'; 'KZNfunerals@telkomsa.net'; 'neilmacleod@lantic.net'; 'vincgov@gmail.com'

Subject: Widenham - Public Meeting

To all Interested and/or Affected Parties.

Please refer to the attached invitation for the public meeting for the proposed **Widenham Stand Portions 35, 36, 338, 339, 340, 341, 342 & 343 of 1668 Widenham project** that will be held at the Italian Club at 18h00 on 13 April 2010.

We also want to ask you to help us by informing all other people you think should also attend this meeting. You are also welcome to forward their contact details to us and we will forward an invitation to them.

Please don't hesitate to contact our offices for any additional information.

Kind Regards
George Gericke

Bokamoso Landscape Architects and Environmental Consultants
Tel: (012) 346 3810
Fax: 086 570 5659

Information from ESET NOD32 Antivirus, version of virus signature database 4940
(20100312)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

George Gericke

From: Lizelle Gregory [lizalleg@mweb.co.za]
Sent: 12 April 2010 02:32 PM
To: 'sinclairstone@worldonline.co.za'; 'amesch@talkomsa.net'; 'annesupport@talkomsa.net'; 'petroz@scottnet.co.za'; 'vivesgovender@gmail.com'; 'sinclairsons@worldonline.co.za'; 'sinclairstone@worldonline.co.za'; 'lambie@halfway.ws'; 'howlett@xnet.co.za'; 'gloria@lantic.net'; 'yvonnestone@worldonline.co.za'; 'heathton@gmail.com'; 'kirstymacbeth@talkomsa.net'; 'KZNfunerals@talkomsa.net'; 'neilmacleod@lantic.net'; 'vinogov@gmail.com'; 'ajeiec@talkomsa.net'; 'cherryiv@taprojects.co.za'; 'news3@feveronline.co.za'
Subject: FW: Widenham - Public Meeting

Dear Interested and/or Affected Parties

This serves as a reminder for the public meeting for on 13 April 2010, 18h00, at the Italian Club.

If there is anybody else you think should attend this meeting please don't hesitate to send us their contact details and we will forward an invitation to them.

Kind Regards

George Gericke

Bokamoso Landscape Architects and Environmental Consultants

Tel: (012) 346 3810

Fax: 086 570 5659

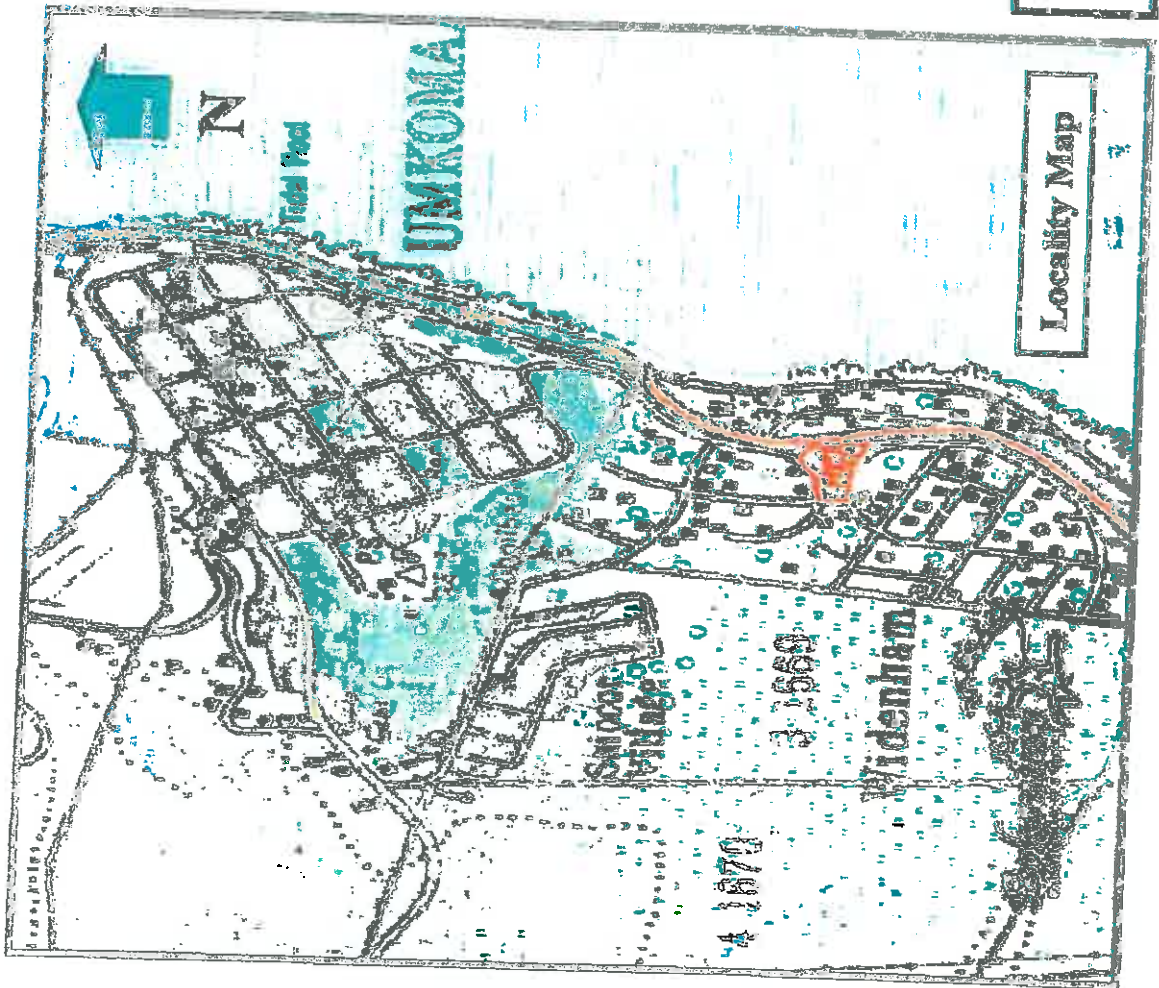
Information from ESET NOD32 Antivirus, version of virus signature database 4940
(20100312)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

**Proposed Township development
on Widenham Stand Portions 35,
36, 338, 339, 340, 341, 342 & 343 of
1668 Widenham**

Public Meeting



All interested and affected parties are invited to the Public Meeting to review the development information and to register any issues and concerns to be included and addressed in the Basic Environmental Impact Assessment Report:

Venue: The Italian Club
Tel: 083 456 5228
Date: 13 April 2010
Time: 18h00

Please do not hesitate to contact us if there are any questions in connection with the above-mentioned development.
Contact Person: George Gercke
Tel (012) 346 3810
Fax (086) 570 5659
E-mail lizelle@mweb.co.za

George Gericke

From: Lizelle Gregory [lizelleg@mweb.co.za]

Sent: 26 February 2010 10:49 AM

To: 'sizakala@durban.gov.za'; 'bayenime@durban.gov.za'; 'imladris@tsikomsa.net'; 'havilland@telkomsa.net'; 'dswcal@dmws.durban.gov.za'; 'central@eskom.co.za'; 'pala@eskom.co.za'; 'envhelp@eskom.co.za'; 'svandamme@sahra.org.za'; 'dsibayi@sahra.org.za'; 'gabothe@geoscience.org.za'; 'schmidk@nra.co.za'; 'croucamp@durban.gov.za'; 'philipr@dwaf.gov.za'; 'armare@worldonline.co.za'; 'lambie@halfway.ws'

Subject: FW: Widenham projet - Public Meeting

To all Interested and/or Affected Parties.

Thank you for participating in the Public Participation Process for the **proposed Township development on Widenham Stand Portions 35, 36, 338, 339, 340, 341, 342 & 343 of 1668 Widenham** project. Please refer to the attached invitation for the public meeting that will be held at the Cutty Sark Hotel on 15 March 2010.

We also want to ask you to help us by informing any other people you think should also attend this meeting. I also want to remind you that you are welcome to let us know of anybody else that you feel should be informed. We will gladly invite them to the public meeting.

Please confirm your attendance before Monday 8 March 2010.

Please don't hesitate to contact our offices for any additional information.

Thank you and regards

George Gericke

Bokamoso Landscape Architects and Environmental Consultants

Tel: (012) 346 3810

Fax: 086 570 5659

Information from ESET NOD32 Antivirus, version of virus signature database 4896
(20100225) _____

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

Information from ESET NOD32 Antivirus, version of virus signature database 4907
(20100302) _____

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

Information from ESET NOD32 Antivirus, version of virus signature database 4908
(20100302) _____

2010/12/08

Proposed Township development
on Widenham Stand Portions 35,
36, 338, 339, 340, 341, 342 & 343 of
1668 Widenham

Public Meeting

All interested and affected parties are invited to the **Public Meeting** to review the development information and to register any issues and concerns to be included and addressed in the Environmental Impact Assessment Report:

Venue: Cutty Sark Hotel, Scottburgh

Date: 15 March 2010

Time: 18h00



Locality Map



Please do not hesitate to contact us if there are any questions in connection with the above-mentioned development.
Contact Person: George Gericke
Tel (012) 460 7079

Contact Person: George Gericke
Tel (012) 346 3810
E-mail izelle@mweb.co.za

GEORGE -

Ontvangs

From: Wazir Khan [khanw@durban.gov.za]
Sent: 26 January 2010 10:04 AM
To: Lizelle Gregory
Subject: Re: FW: Widenham Stand - I&AP

Good day,
Thanks for the reply.
I would appreciate a clear location plan so that I can locate the site.
regards,
wazir Khan

Please read this confidentiality disclaimer:

http://www.durban.gov.za/durban/e_colophon/edisclaimer

>>> "Lizelle Gregory" <lizelleg@web.co.za> 1/26/2010 8:52 AM >>>

ATTENTION: W Khan

Thank you for your response to our public notice regarding the proposed Widenham Stand project.

Should you (Ethekwini Municipal Health Department) have any queries please don't hesitate to contact our offices for additional information. Also note that you were placed on our Interested and/or Affected Party list. We will inform you once more information is available.

Kind Regards

George Gericke

Bokamoso Landscape Architects and Environmental Consultants

Rel: (012) 346 3810

Fax: 086 570 5659

Information from ESET NOD32 Antivirus, version of virus signature database
4792 (20100121)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

Information from ESET NOD32 Antivirus, version of virus signature database
4792 (20100121)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

George Gericke

From: Ontvangs
Sent: 11 March 2010 08:29 AM
To: George Gericke
Subject: FW: 15th March Meeting.

From: Sinclair Stone [mailto:sinclairstone@worldonline.co.za]
Sent: 10 March 2010 06:58 PM
To: Lizelle Gregory
Subject: 15th March Meeting.

This is an approximation -

The following to my knowledge will be attending above meeting -

Stone Family
Mrs. Pilkington
Mr. & Mrs. Potgieter
Mr. & Mrs. Walters
Mr. & Mrs. Devine.

As this a public meeting I am under the impression that it is open to the public so why request individual names - just curious

Yvonne Stone.

Information from ESET NOD32 Antivirus, version of virus signature database 4933
(20100310)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

Information from ESET NOD32 Antivirus, version of virus signature database 4933
(20100310)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

Information from ESET NOD32 Antivirus, version of virus signature database 4933
(20100310)

The message was checked by ESET NOD32 Antivirus.

2010/03/11

GEORGE - WIDENHAM.

George Gericke

From: Ontvangs
Sent: 15 February 2010 06:53 AM
To: George Gericke
Subject: FW: New Development

From: Marieta Stander [mailto:marieta@scottnet.co.za]
Sent: 12 February 2010 03:34 PM
To: Lizelle Gregory
Subject: RE: New Development

Hi,

Jammer man, ek het die adres in die Rising Sun gekry, aangaande die ontwikkeling in Widenham, die artikel gaan eintlik indien iemand 'n beswaar wil aanteken.

Lekker naweek

-----Original Message-----

From: Lizelle Gregory [mailto:lizelleg@mweb.co.za]
Sent: Friday, February 12, 2010 3:11 PM
To: 'Marieta Stander'
Subject: RE: New Development

Marieta,

Kan jy asb. vir my meer inligting gee. Lizelle Gregory weet nie waarvan jy praat nie.

Groete,

Elsa Viviers

namens / on behalf of Lizelle Gregory
**BOKAMOSO LANDSCAPE ARCHITECTS &
ENVIRONMENTAL CONSULTANTS**
Tel: 012 346 3810
Fax: 086 570 5659
Cell 1: 071 547 9817
Cell 2: 082 898 8601

From: Marieta Stander [mailto:marieta@scottnet.co.za]
Sent: 11 February 2010 12:53 PM
To: lizelleg@mweb.co.za
Subject: New Development

Beste Lizelle,

Na aanleiding van die berig in die Rising Sun, wil ek net graag iets heeltemal anders uitvind.

Indien jul beplanning voortgaan, sal dit daik moontlik wees dat ons jul kan help met die bemerking van die eenhede?

Dankie en ek verneem graag van jou.

Marieta Stander

2010/02/16

Sales Associate

Tel: 039 9761211

Cell: 083 7855292

Fax: 086 5040715

Email: marieta@scottnet.co.za



_____ Information from ESET NOD32 Antivirus, version of virus signature database 4857 (20100211) _____

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

_____ Information from ESET NOD32 Antivirus, version of virus signature database 4860 (20100212) _____

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

_____ Information from ESET NOD32 Antivirus, version of virus signature database 4866 (20100214) _____

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

_____ Information from ESET NOD32 Antivirus, version of virus signature database 4869 (20100215) _____

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

2010/02/16

George Gericke

From: Ontvangs
Sent: 18 February 2010 08:40 AM
To: George Gericke
Subject: FW: PROPOSED WIDENHAM DEVELOPMENT

From: Neil Lambie [mailto:lambie@halfway.ws]
Sent: 17 February 2010 05:04 PM
To: lizelleg@mweb.co.za
Subject: PROPOSED WIDENHAM DEVELOPMENT

Hi Lizelle

Please can you register us as an interested and Affected Party in respect of the proposed new eco development at Widenham that your company is consulting on. We own the Toyota dealership and BP service station diagonally across the R102 from the proposed development.

Thank you for your assistance.

Regards

Neil Lambie
Halfway Group Service Station Manager
030-9787516
0845636621

--
This message has been scanned for viruses and dangerous content by [MailScanner](#), and is believed to be clean.

Information from ESET NOD32 Antivirus, version of virus signature database 4875 (20100217)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

Information from ESET NOD32 Antivirus, version of virus signature database 4875 (20100217)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

Information from ESET NOD32 Antivirus, version of virus signature database 4876 (20100218)

The message was checked by ESET NOD32 Antivirus.

2010/02/24

George Gericke

From: Ontvangs
Sent: 02 March 2010 09:36 AM
To: George Gericke
Subject: FW: Widenham projet - Public Meeting

From: Palmer, Lynette [mailto:Lynette.Palmer@sappi.com]
Sent: 02 March 2010 08:10 AM
To: Lizelle Gregory
Subject: RE: Widenham projet - Public Meeting

Hi Lizelle

I will be attending thank you

Lyn Palmer

From: Lizelle Gregory [mailto:lizelleg@mweb.co.za]
Sent: 26 February 2010 10:44 AM
To: amare@worldonline.co.za; Palmer, Lynette; imladris@telkomsa.net; haviland@telkomsa.net; khanw@durban.gov.za; athoroid@mweb.co.za; 1shellybean@gmail.com; tokkiebaton@yahoo.com; mthene@iburst.co.za; mthene@iburst.co.za; afromatz@telkomsa.net; coblesteenkamp@yahoo.com; sselectric@telkomsa.net; jonesle@yebo.co.za; sinclairstone@worldonline.co.za; husonm@sbadbn.co.za; viver.govender@gmail.com; jamesch@telkomsa.net; annesupport@telkomsa.net; petroz@scottnet.co.za; marieta@scottnet.co.za; sinclairstone@worldonline.co.za; sinclairstone@worldonline.co.za;
Subject: Widenham projet - Public Meeting

To all Interested and/or Affected Parties.

Thank you for participating in the Public Participation Process for the **proposed Township development on Widenham Stand Portions 35, 36, 338, 339, 340, 341, 342 & 343 of 1668 Widenham project**. Please refer to the attached invitation for the public meeting that will be held at the Cutty Sark Hotel on 15 March 2010.

We also want to ask you to help us by informing any other people you think should also attend this meeting. I also want to remind you that you are welcome to let us know of anybody else that you feel should be informed. We will gladly invite them to the public meeting.

Please confirm your attendance before Monday 8 March 2010.

Please don't hesitate to contact our offices for any additional information.

Thank you and regards

George Gericke

Bokamoso Landscape Architects and Environmental Consultants
Tel: (012) 346 3810
Fax: 086 570 5659

2010/03/02

George Gericke

From: Ontvangs
Sent: 01 March 2010 08:03 AM
To: George Gericke
Subject: FW: Widenham projet - Public Meeting

From: Cobie Steenkamp [mailto:coblesteenkaamp@yahoo.com]
Sent: 28 February 2010 07:21 PM
To: Lizelle Gregory
Subject: Re: Widenham projet - Public Meeting

Hi Lizelle

Baie dankie vir die uitnodiging na die publieke vergadering op 15 Maart by die Cutty Sark. Ongelukkig kan ek dit nie bywoon nie aangesien ek daardie tyd in die Kaap is. My skoonpa word daardie dag 90 en my kinders was so dierbaar om vir my 'n vliegkaartjie te koop om vir hom te gaan kuier.

Alles van die beste vir die vergadering en ek sal graag weer van jou hoor.

Groete

Cobie Steenkamp

From: Lizelle Gregory <lizelleg@mweb.co.za>
To: armare@worldonline.co.za; Lynette.palmer@sappi.com; lmladris@telkomsa.net; haviland@telkomsa.net; kharw@durban.gov.za; athorold@mweb.co.za; 1shellybean@gmail.com; tokkiebolton@yahoo.com; mthene@iburst.co.za; mthene@iburst.co.za; afromaiz@telkomsa.net; coblesteenkaamp@yahoo.com; sselectric@telkomsa.net; jonesie@yabo.co.za; sinclairstone@worldonline.co.za; husonm@sbadbn.co.za; sinclairstone@worldonline.co.za; jamesch@telkomsa.net; annesupport@telkomsa.net; petroz@scottnet.co.za; vivengovender@gmail.com; sinclairstone@worldonline.co.za; sinclairstone@worldonline.co.za; marieta@scottnet.co.za
Sent: Fri, February 26, 2010 12:44:11 AM
Subject: Widenham projet - Public Meeting

To all Interested and/or Affected Parties.

Thank you for participating in the Public Participation Process for the **proposed Township development on Widenham Stand Portions 35, 36, 338, 339, 340, 341, 342 & 343 of 1668 Widenham** project. Please refer to the attached invitation for the public meeting that will be held at the Cutty Sark Hotel on 15 March 2010. We also want to ask you to help us by informing any other people you think should also attend this meeting. I also want to remind you that you are welcome to let us know of anybody else that you feel should be informed. We will gladly invite them to the public meeting. Please confirm your attendance before Monday 8 March 2010.

2010/03/01

Please don't hesitate to contact our offices for any additional information.
Thank you and regards
George Gericke

Bokamoso Landscape Architects and Environmental Consultants
Tel: (012) 346 3810
Fax: 086 570 5659

Information from ESET NOD32 Antivirus, version of virus signature database 4896
(20100225)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

Information from ESET NOD32 Antivirus, version of virus signature database 4903
(20100228)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

2010/03/01

George Gericke

From: Ontvangs
Sent: 01 March 2010 10:22 AM
To: George Gericke
Subject: FW: Public meeting Widenham project

From: Derek & Sue Weightman [mailto:imladris@telkomsa.net]
Sent: 01 March 2010 10:17 AM
To: 'George Gericke'
Subject: Public meeting Widenham project

Dear Lizelle,

Thank you for the invitation to the public meeting. I shall certainly attend. I am puzzled as to why the meeting is in Scottburgh, a different municipality altogether and which is some distance away, when there are several reasonable venues within Umkomaas. Is there a reason for this?

Kind regards,

Sue Weightman

Derek & Sue Weightman
imladris
15 Harvey St
Umkomaas 4170
+ 27 39 973 1260
Skype:- dereksueweightman

Information from ESET NOD32 Antivirus, version of virus signature database 4903
(20100228)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

Information from ESET NOD32 Antivirus, version of virus signature database 4903
(20100228)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

Information from ESET NOD32 Antivirus, version of virus signature database 4903
(20100228)

2010/03/01

George Gericke

From: Ontvangs
Sent: 08 March 2010 08:00 AM
To: George Gericke
Subject: FW: Widenham projet - Public Meeting

From: vivengovender@gmail.com [mailto:vivengovender@gmail.com]
Sent: 07 March 2010 09:37 PM
To: Lizelle Gregory
Subject: Re: Widenham projet - Public Meeting

We would like to attend the meeting at cutty sark on the 15 of march. Number of people attending meeting 3

Sent from my BlackBerry® wireless device

From: "Lizelle Gregory" <lizelleg@mweb.co.za>
Date: Fri, 26 Feb 2010 10:44:11 +0200
To: <armare@worldonline.co.za>; <Lynette.palmer@sappi.com>; <imladris@telkomsa.net>; <haviland@telkomsa.net>; <khanv7@dartan.gov.za>; <athorold@mweb.co.za>; <lshellybean@gmail.com>; <tokkiebolton@yehoo.com>; <mthene@iburst.co.za>; <mthene@iburst.co.za>; <afromatz@telkomsa.net>; <cobiesteenkamp@yahoo.com>; <sselectric@telkomsa.net>; <jonesic@yebo.co.za>; <sinclairstone@worldonline.co.za>; <husonm@sbadbn.co.za>; <sinclairstone@worldonline.co.za>; <jamesch@telkomsa.net>; <annesupport@telkomsa.net>; <petroz@scottnet.co.za>; <vivengovender@gmail.com>; <sinclairstone@worldonline.co.za>; <sinclairstone@worldonline.co.za>; <marieta@scottnet.co.za>
Subject: Widenham projet - Public Meeting

To all Interested and/or Affected Parties.

Thank you for participating in the Public Participation Process for the **proposed Township development on Widenham Stand Portions 35, 36, 338, 339, 340, 341, 342 & 343 of 1668 Widenham** project. Please refer to the attached invitation for the public meeting that will be held at the Cutty Sark Hotel on 15 March 2010.

We also want to ask you to help us by informing any other people you think should also attend this meeting. I also want to remind you that you are welcome to let us know of anybody else that you feel should be informed. We will gladly invite them to the public meeting.

Please confirm your attendance before Monday 8 March 2010.

Please don't hesitate to contact our offices for any additional information.

Thank you and regards

George Gericke

Bokamoso Landscape Architects and Environmental Consultants
Tel: (012) 346 3810

2010/03/08

George Gericke

From: Ontvangs
Sent: 08 March 2010 08:08 AM
To: George Gericke
Subject: FW: Meeting at Cutty Sark Hotel

From: Gloria [mailto:gloria@lantic.net]
Sent: 05 March 2010 04:59 PM
To: izelleg@mweb.co.za
Subject: Meeting at Cutty Sark Hotel

Attention Mr. George Gericke.

Your notice of a meeting to take place at the Cutty Sark Hotel on 15.03.2010, sent to Lyn Palmer, does not say what time this meeting will take place. Lyn forwarded the notice to me as we own 2 properties that with her property, will be effected the most by this development. I will be attending the meeting, but would like to know what time it will take place.

Yours Faithfully,
Mrs G. Hutchison

Information from ESET NOD32 Antivirus, version of virus signature database 4923
(20100307)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

Information from ESET NOD32 Antivirus, version of virus signature database 4923
(20100307)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

Information from ESET NOD32 Antivirus, version of virus signature database 4923
(20100307)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

2010/03/08

George Gericke

From: Ontvangs
Sent: 08 March 2010 08:00 AM
To: George Gericke
Subject: FW: Widenham Stand - I&AP

From: vivengovender@gmail.com [mailto:vivengovender@gmail.com]
Sent: 07 March 2010 09:33 PM
To: Lizelle Gregory
Subject: Re: Widenham Stand - I&AP

We will be attending the meeting at cutty sark hotel on march 15.

Sent from my BlackBerry® wireless device

From: "Lizelle Gregory" <lizelleg@mweb.co.za>
Date: Tue, 16 Feb 2010 11:04:50 +0200
To: <vivengovender@gmail.com>
Subject: FW: Widenham Stand - I&AP

To whom it may concern

Please note that you were registered as an Interested and/or Affected Party for the proposed Widenham project. We will inform you of any available draft documents or public meetings regarding the proposed project. Please don't hesitate to contact us for any additional information. Your comments and concerns will be addressed in our report.

Kind Regards
George Gericke

Bokamoso Landscape Architects and Environmental Consultants
Tel: (012) 346 3810
Fax: 086 570 5659

Information from ESET NOD32 Antivirus, version of virus signature database 4869
(20100215)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

2010/03/08

George Gericke

From: Ontvangs
Sent: 05 March 2010 04:05 PM
To: George Gericke
Subject: FW: Widenham projet - Public Meeting

From: Jo Havilland [mailto:havilland@telkomsa.net]
Sent: 05 March 2010 03:38 PM
To: Lizelle Gregory
Cc: Sue Weightman; Valerie Skinner; Jana Naidoo
Subject: Re: Widenham projet - Public Meeting

Hi Lizelle

I'm still somewhat baffled by this notice. I see from your reply to Sue Weightman that various interested parties had requested the meeting be held in Scottburgh. That's a bit surprising as Scottburgh doesn't even have a Conservancy and Cianshal have their hands full with their own problems. Be that as it may, I have never before had to give a week's notice of intent to attend a public meeting. Isn't this rather unusual? If people haven't confirmed their intention to be present before the 8th March, does this mean they won't be admitted to the meeting? You had better take this as my acceptance I suppose.

Jo de Havilland

----- Original Message -----

From: [Lizelle Gregory](#) Does
To: [sizakala@durban.gov.za](#) ; [bayenime@durban.gov.za](#) ; [imladris@telkomsa.net](#) ;
[havilland@telkomsa.net](#) ; [dswcsl@dmws.durban.gov.za](#) ; [central@eskom.co.za](#) ; [pala@eskom.co.za](#) ;
[envhelp@eskom.co.za](#) ; [svandamme@sahra.org.za](#) ; [dsibayi@sahra.org.za](#) ; [gabotha@geoscience.org.za](#) ;
[schmidk@nra.co.za](#) ; [croucamp@durban.gov.za](#) ; [phillip@dwarf.gov.za](#) ; [armare@worldonline.co.za](#) ;
[lamble@halfway.ws](#)
Sent: Friday, February 26, 2010 10:48 AM
Subject: FW: Widenham projet - Public Meeting

To all Interested and/or Affected Parties.

Thank you for participating in the Public Participation Process for the **proposed Township development on Widenham Stand Portions 35, 36, 338, 339, 340, 341, 342 & 343 of 1668 Widenham project**. Please refer to the attached invitation for the public meeting that will be held at the Cuffy Sark Hotel on 15 March 2010. We also want to ask you to help us by informing any other people you think should also attend this meeting. I also want to remind you that you are welcome to let us know of anybody else that you feel should be informed. We will gladly invite them to the public meeting.

Please confirm your attendance before Monday 8 March 2010.

Please don't hesitate to contact our offices for any additional information.

Thank you and regards

George Gericke

Bokamoso Landscape Architects and Environmental Consultants
Tel: (012) 346 3810
Fax: 086 570 5659

2010/03/08

George Gericke

From: Ontvangs
Sent: 03 March 2010 01:34 PM
To: George Gericke
Subject: FW: Widenham projet - Public Meeting

From: Carolyn [mailto:afromatz@telkomsa.net]
Sent: 03 March 2010 12:56 PM
To: Lizelle Gregory
Subject: Re: Widenham projet - Public Meeting

Dear Lizelle

Thanks for the invitation to the public meeting. While I appreciate it that you would like to know numbers attending I, at this stage, will only say that I would like to attend. My concern is travelling after dark and I will have to see what can be arranged. Please tender my apologies should I not attend.

Regards
Carolyn Schwegman
EIA Co-ordinator, WESSA KZN Region

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----- Original Message -----

From: Lizelle Gregory
To: armara@worldonline.co.za ; Lynette.palmer@sappi.com ; imladris@telkomsa.net ; haviland@telkomsa.net ; khanw@durban.gov.za ; athorold@mweb.co.za ; 1shellybean@gmail.com ; tokkiebolton@yahoo.com ; mthene@iburst.co.za ; mthene@iburst.co.za ; afromatz@telkomsa.net ; cobiesteenkamp@yahoo.com ; sselectric@telkomsa.net ; ionesie@yebo.co.za ; sinclairstone@worldonline.co.za ; husonm@sbadbn.co.za ; sinclairstone@worldonline.co.za ; jamesch@telkomsa.net ; annesupport@telkomsa.net ; petroz@scottnet.co.za ; vivengovender@gmail.com ; sinclairstone@worldonline.co.za ; sinclairstone@worldonline.co.za ; marieta@scottnet.co.za
Sent: Friday, February 26, 2010 10:44 AM
Subject: Widenham projet - Public Meeting

To all Interested and/or Affected Parties.

Thank you for participating in the Public Participation Process for the **proposed Township development on Widenham Stand Portions 35, 36, 338, 339, 340, 341, 342 & 343 of 1668 Widenham** project. Please refer to the attached invitation for the public meeting that will be held at the Cutty Sark Hotel on 15 March 2010. We also want to ask you to help us by informing any other people you think should also attend this meeting. I also want to remind you that you are welcome to let us know of anybody else that you feel should be informed. We will gladly invite them to the public meeting.

2010/03/03

Please confirm your attendance before Monday 8 March 2010.
Please don't hesitate to contact our offices for any additional information.
Thank you and regards
George Gericke

Bokamoso Landscape Architects and Environmental Consultants
Tel: (012) 346 3810
Fax: 086 570 5659

Information from ESET NOD32 Antivirus, version of virus signature database 4896
(20100225)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

No virus found in this incoming message.

Checked by AVG - www.avg.com

Version: 8.5.435 / Virus Database: 271.1.1/2705 - Release Date: 02/23/10 07:34:00

Information from ESET NOD32 Antivirus, version of virus signature database 4911
(20100303)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

2010/03/03

George Gericke

From: Ontvangs
Sent: 05 February 2010 10:17 AM
To: George Gericke
Subject: FW: Widenham Stand - I&AP

From: Carolyn [mailto:afromatz@telkomsa.net]
Sent: 05 February 2010 09:47 AM
To: Lizelle Gregory
Subject: Re: Widenham Stand - I&AP

Thanks very much - I look forward to receiving information.
Do you have the Umkomaas Conservancy as an I&AP - if not it would be good to have them on board and if needed I could find their contact details.

Regards
Carolyn Schwegman
EIA Co-ordinator, WESSA KZN Region

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— Original Message —
From: [Lizelle Gregory](mailto:Lizelle.Gregory)
To: afromatz@telkomsa.net
Sent: Friday, February 05, 2010 8:41 AM
Subject: FW: Widenham Stand - I&AP

For Attention: Carolyn Schwegman (WESSA)
Please note that you were registered as an Interested and/or Affected Party for the proposed Widenham project.
Please don't hesitate to contact us for any additional information.

Kind Regards
George Gericke

Bokamoso Landscape Architects and Environmental Consultants
Tel: (012) 346 3810
Fax: 086 570 5659

Information from ESET NOD32 Antivirus, version of virus signature database 4836
(20100204)

2010/02/05

George Gericke

From: Ontvangs
Sent: 08 April 2010 08:10 AM
To: George Gericke
Subject: FW: Widenham - Public Meeting

From: Carolyn [mailto:afromatz@telkomsa.net]
Sent: 07 April 2010 06:51 PM
To: Lizelle Gregory
Subject: Re: Widenham - Public Meeting

Dear Lizelle

I have responded to the invitation to the meeting and in case I am unable to attend I would like to exercise my right to comment on the proposal before a document is compiled. Do you have a Background information Document, please?

Regards
Carolyn Schwegman
EIA Co-ordinator, WESSA KZN Region

PLEASE consider the environment before printing this email!

This e-mail message, and any attached files, are confidential and may contain privileged information. Any views expressed in this message are those of the sender, except where the sender specifically states them to be the view of WESSA. In the interests of effective and appropriate communication, anyone who is not an addressee of this e-mail, may not copy, disclose, distribute or otherwise use it, or any part of it, in any form whatsoever. Furthermore, no-one may further distribute this e-mail, or any part of it, without permission of the author. If you are not the intended recipient, please notify the sender immediately by return e-mail, and then delete this e-mail.

— Original Message —

From: Lizelle Gregory
To: armare@worldonline.co.za ; Lynette.palmer@sappi.com ; imladris@telkomsa.net ; haviland@telkomsa.net ; khanw@durban.gov.za ; athorold@mweb.co.za ; ishellybean@gmail.com ; tokkiebolton@yahoo.com ; mthene@iburst.co.za ; afromatz@telkomsa.net ; cobiesteenkamp@yahoo.com ; sselectric@telkomsa.net ; jonesie@yebo.co.za ; sinclairstone@worldonline.co.za ; husonm@sbadbn.co.za
Sent: Wednesday, March 31, 2010 4:01 PM
Subject: Widenham - Public Meeting

To all Interested and/or Affected Parties.

Please refer to the attached invitation for the public meeting for the proposed **Widenham Stand Portions 35, 36, 338, 339, 340, 341, 342 & 343 of 1668 Widenham project** that will be held at the Italian Club at 18h00 on 13 April 2010. We also want to ask you to help us by informing all other people you think should also attend this meeting. You are also welcome to forward their contact details to us and we will forward an invitation to them. Please don't hesitate to contact our offices for any additional information.

Kind Regards
George Gericke

2010/04/08

George Gericke

From: Ontvangs
Sent: 08 April 2010 11:25 AM
To: George Gericke
Subject: FW: Widenham - Public Meeting

From: Cobie Steenkamp [mailto:cobiesteenkamp@yahoo.com]
Sent: 08 April 2010 11:22 AM
To: Lizelle Gregory
Subject: Re: Widenham - Public Meeting

Hi George en Lizelle,

Baie dankie vir die kennisgewing van die volgende vergadering.

Ongeukkig was ek met vakansie tydens die vorige vergadering maar dit klink my dit was 'n totale fasko! Dis 'n groot verleentheid vir my dat sake so verloop het en ek wil julle net verseker dat ons alles in ons vermoë sal doen om te verhoed dat dit weer gebeur.

Dis vir my ondenkbaar dat daar so 'n bohaai gemaak is oor die ligging van die vergaderplek, maar nog erger, die manier waarop dit gedoen is. Ongeukkig is dit so dat die wat die meeste geraas maak al die aandag kry en die talie ander wat sake op 'n ander manier benader in die proses verlore gaan.

Baie sterkte vir die vergadering. Ek hoop ons kry die belangrike werk wat op die vergadering gedoen moet word op 'n positiewe en produktiewe manier afghandel.

Sien uit daarna om julle weer te sien.

Cobie

From: Ille Gregory <lizelleg@mweb.co.za>
To: amare@worldonline.co.za; Lynette.palmer@sappi.com; lmladrs@telkomsa.net; haviland@telkomsa.net; khanw@durban.gov.za; athorold@mweb.co.za; lshellybaan@gmail.com; tokkiebolton@yahoo.com; mthene@lburst.co.za; afromatz@telkomsa.net; cobiesteenkamp@yahoo.com; sselectric@telkomsa.net; jonesie@yeba.co.za; sinclairstone@worldonline.co.za; husonm@sbadbn.co.za
Sent: Wed, March 31, 2010 4:01:14 PM
Subject: Widenham - Public Meeting

To all Interested and/or Affected Parties.

Please refer to the attached invitation for the public meeting for the proposed **Widenham Stand Portions 35, 36, 338, 339, 340, 341, 342 & 343 of 1668 Widenham project** that will be held at the Italian Club at 18h00 on 13 April 2010. We also want to ask you to help us by informing all other people you think should also attend this meeting. You are also welcome to forward their contact details to us and we will forward an invitation to them.

2010/04/08

George Gericke

From: Ontvangs
Sent: 07 April 2010 01:41 PM
To: George Gericke
Subject: FW: Proposed development query - Widenham

From: A & J ELECTRICAL [mailto:ajelec@telkomsa.net]
Sent: 07 April 2010 12:39 PM
To: lizelle@mweb.co.za
Subject: Proposed development query - Widenham

Hi Good day Lizelle.

I was in the process of signing an Offer to Purchase on a house in Widenham, but I find that I have delayed in time in submitting my signature and commitment to this sale, due to the proposed development that is being ensued.

Please could you help me make my decision, by clarifying exactly what the development is for?
What kind of development is it? Is it for Low cost housing or is for a resort?
How has the Environmental application to process this proposal being assessed?
Can you viably build something on a marshland?
If the development was accepted, what is your time line in years for the development to be completed?
Will this development de-value the property in Widenham or will it increase the value of the properties in the long run?
If you feel it will increase the value, please explain how so.
Why have you specifically chosen this piece of land when there are more stable municipal lands available?
Do you feel that the impact of this development on the residents of Widenham will be fair and to the benefit of the Widenham residents? If so, please explain.
How will the Widenham residents be compensated for the inconvenience of the construction site that will inevitably be erected should the development go ahead?

Legal Jargon aside, please clarify above, in a nutshell.

My husband and I are a young married couple expecting our first child, and putting our life savings into our first house purchase. We cannot afford to buy property that will de-value and thus your honesty in answering these questions will be so greatly appreciated.

Kind Regards
Wanita Westerdale

Information from ESET NOD32 Antivirus, version of virus signature database 4940
(20100312)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

2010/04/07

Ontvangs

From: Lizelle Gregory [lizelleg@mwweb.co.za]

Sent: 23 March 2010 03:13 PM

To: 'Derek & Sue Weightman'

Subject: RE: WINDENHAM PUBLIC MEETING -CUTTY SARK HOTEL, SCOTTBURGH

Sue,

Thank you for the e-mail. I can also get very upset and I sometimes say things I was not supposed to.

Don't worry, I will try again and I will try everything possible to take all your concerns into consideration.

I agree with all your view points and I will try my best to make recommendations that will also be beneficial to the community and the wetland. I will however need the support of the community. You are a very kind person and you are welcome to contact me whenever you need any information.

Enjoy your Easter break.

Regards,

Lizelle Gregory

**BOKAMOSO LANDSCAPE ARCHITECTS &
ENVIRONMENTAL CONSULTANTS**

Tel: 012 348 3810

Fax: 086 570 5659

Cell 1: 071 547 9817

Cell 2: 082 698 8601

From: Derek & Sue Weightman [mailto:Imladris@telkomsa.net]

Sent: 16 March 2010 05:34 PM

To: 'Lizelle Gregory'

Subject: RE: WINDENHAM PUBLIC MEETING -CUTTY SARK HOTEL, SCOTTBURGH

Dear Lizelle,

I can only apologise on behalf of the Conservancy for Ms. Skinner's remarks. In confidence I am afraid I had feared as much prior to the meeting but having travelled at the speed of light from Durban North just to be there I could not head her off! Both Ms. Skinner and Mr. McCarthy are known for favouring grandstanding and point-scoring over actually solving problems or reaching consensus. I should have been quicker on to my feet. You will appreciate how difficult life can be sometimes dealing with Val! In two years I have found no way to deal with her inability to appreciate the other point of view or acknowledge or even listen to superior knowledge. As a scientist I'm afraid I just end up shouting! I despair because it drives away people who would otherwise be with us. (It may comfort you to know that you are not alone. Another EAP was "savaged" on Thursday by the local Zulu community over a Waste disposal plant EIA.)

Kind regards for your understanding,

Sue

Derek & Sue Weightman

Imladris

15 Harvey St

Umkomaas 4170

+ 27 39 973 1260

Skype:- dereksueweightman

2010/03/23

Ontvangs

From: Derek & Sue Weightman [mailto:irnladris@telkomsa.net]
Sent: 16 March 2010 05:34 PM
To: 'Lizelle Gregory'
Subject: RE: WINDENHAM PUBLIC MEETING -CUTTY SARK HOTEL, SCOTTBURGH

Dear Lizelle,

I can only apologise on behalf of the Conservancy for Ms. Skinner's remarks. In confidence I am afraid I had feared as much prior to the meeting but having travelled at the speed of light from Durban North just to be there I could not head her off! Both Ms. Skinner and Mr. McCarthy are known for favouring grandstanding and point-scoring over actually solving problems or reaching consensus. I should have been quicker on to my feet. You will appreciate how difficult life can be sometimes dealing with Val! In two years I have found no way to deal with her inability to appreciate the other point of view or acknowledge or even listen to superior knowledge. As a scientist I'm afraid I just end up shouting! I despair because it drives away people who would otherwise be with us. (It may comfort you to know that you are not alone. Another EAP was "savaged" on Thursday by the local Zulu community over a Waste disposal plant EIA.)

Kind regards for your understanding,

Sue

Derek & Sue Weightman
irnladris
15 Harvey St
Umkomaas 4170
+ 27 39 973 1260
Skype:- dereksueweightman

From: Lizelle Gregory [mailto:lizelleg@mweb.co.za]
Sent: 16 March 2010 04:39 PM
To: 'Derek & Sue Weightman'
Subject: RE: WINDENHAM PUBLIC MEETING -CUTTY SARK HOTEL, SCOTTBURGH

Sue,

Thank you for your feedback. We will arrange the next meeting at the Italian Club (if possible to book the venue). I apologise for arranging the meeting at the hotel. I agree with your viewpoint and hope the second attempt will be more successful.

I am however very disappointed in the behaviour and remarks of Me. Val Skinner, Mr. McCarthy and some of the other people that attended.

I will not tolerate such behaviour or language again. We are all grown-up people and I am the first person to apologise if I am wrong or unreasonable. The purpose of the meeting is to obtain issues and comments for purpose of compiling a comprehensive BA report.

What the people don't understand is that I can actually assist them by addressing their issues in an independent way.

The purpose of the meeting is not to use foul language or to be rude.

If this happens again, I will simply dismiss the meeting and consult with Environmental Affairs to advise us regarding the way forward.

2010/03/17

George Gericke

From: Ontvangs
Sent: 09 March 2010 07:56 AM
To: George Gericke
Subject: FW: Widenham projet - Public Meeting

From: James Hunt [mailto:jamesch@telkomsa.net]
Sent: 08 March 2010 10:35 PM
To: Lizelle Gregory
Subject: Re: Widenham projet - Public Meeting

The following Widenham property owners will attend the meeting: J.C. Hunt
A.L. Hunt

Thank You

— Original Message —

From: [Lizelle Gregory](mailto:Lizelle.Gregory)
To: armare@worldonline.co.za ; Lynette.palmer@sappl.com ; imladris@telkomsa.net ;
haviland@telkomsa.net ; khanw@durban.gov.za ; athorold@mweb.co.za ; 1shellybean@gmail.com ;
tokkiebolton@yahoo.com ; mthene@iburst.co.za ; mthene@iburst.co.za ; afromatz@telkomsa.net ;
coblesteenkamp@yahoo.com ; sselectric@telkomsa.net ; ionesie@vebo.co.za ;
sinclairstone@worldonline.co.za ; husonm@sbadbn.co.za ; sinclairstone@worldonline.co.za ;
jamesch@telkomsa.net ; annesupport@telkomsa.net ; petroz@scottnet.co.za ; vivengovender@gmail.com ;
sinclairstone@worldonline.co.za ; sinclairstone@worldonline.co.za ; marieta@scottnet.co.za
Sent: Friday, February 26, 2010 10:44 AM
Subject: Widenham projet - Public Meeting

To all interested and/or Affected Parties.

Thank you for participating in the Public Participation Process for the **proposed Township development on Widenham Stand Portions 35, 36, 338, 339, 340, 341, 342 & 343 of 1668 Widenham** project. Please refer to the attached invitation for the public meeting that will be held at the Cutty Sark Hotel on 15 March 2010. We also want to ask you to help us by informing any other people you think should also attend this meeting. I also want to remind you that you are welcome to let us know of anybody else that you feel should be informed. We will gladly invite them to the public meeting.

Please confirm your attendance before Monday 8 March 2010.

Please don't hesitate to contact our offices for any additional information.

Thank you and regards

George Gericke

Bokamoso Landscape Architects and Environmental Consultants
Tel: (012) 346 3810
Fax: 086 570 5659

2010/03/09

Ontvangs

From: Lizelle Gregory [lzelleg@mweb.co.za]
Sent: 16 March 2010 04:39 PM
To: 'Derek & Sue Weightman'
Subject: RE: WINDENHAM PUBLIC MEETING -CUTTY SARK HOTEL, SCOTTBURGH

Sue,

Thank you for your feedback. We will arrange the next meeting at the Italian Club (if possible to book the venue). I apologise for arranging the meeting at the hotel. I agree with your viewpoint and hope the second attempt will be more successful.

I am however very disappointed in the behaviour and remarks of Me. Val Skinner, Mr. McCarthy and some of the other people that attended.

I will not tolerate such behaviour or language again. We are all grown-up people and I am the first person to apologise if I am wrong or unreasonable. The purpose of the meeting is to obtain issues and comments for purpose of compiling a comprehensive BA report.

What the people don't understand is that I can actually assist them by addressing their issues in an independent way.

The purpose of the meeting is not to use foul language or to be rude.

If this happens again, I will simply dismiss the meeting and consult with Environmental Affair to advise us regarding the way forward.

Regards,

Elsa Viviers
namens / on behalf of Lizelle Gregory
**BOKAMOSO LANDSCAPE ARCHITECTS &
ENVIRONMENTAL CONSULTANTS**
Tel: 012 346 3810
Fax: 086 570 5659
Cell 1: 071 547 9817
Cell 2: 082 698 8601

From: Derek & Sue Weightman [mailto:imladris@telkomsa.net]
Sent: 16 March 2010 12:44 PM
To: 'Lizelle Gregory'
Cc: Judy Macbeth
Subject: Aborted Public meeting

Dear Lizelle and George,

We are writing to you in our private capacity as we are stunned and disappointed by the outcome of the attempted public meeting last evening. We consider that notwithstanding the fact that most IAPs present did not favour the venue, the meeting should still have proceeded in a spirit of pragmatism. We believe that the resolution adopted should have been that any subsequent meetings should be in the Umkomaas/Widenham area. However there was too much emotion in the air and matters were rushed. Accepting that there were errors all round and in view of the strong hints in mails from both Sue Weightman and Jo De Havilland about the venue, it is now obvious that it was the wrong place.

Looking back it seems that in spite of your clear written agenda and preparations most IAPs are not aware of their roles and obligations as laid down in the guidelines to the PPP. It is obvious that there is a belief in

2010/03/16

Ontvangs

From: Derek & Sue Weightman (imladris@telkomsa.net)
Sent: 16 March 2010 12:44 PM
To: 'Lizelle Gregory'
Cc: Judy Macbeth
Subject: Aborted Public meeting

I WILL NOT TOLERATE SUCH BEHAVIOUR ~~AGAIN~~ ~~AND~~ OR LANGUAGE AGAIN. WE ARE ALL CROWN-UP PEOPLE AND I AM THE FIRST PERSON TO APOLOGISE IF I AM

Dear Lizelle and George,

We are writing to you in our private capacity as we are stunned and disappointed by the outcome of the ^{WRONG OR UNREASONABLE} attempted public meeting last evening. We consider that notwithstanding the fact that most IAPs present did not favour the venue, the meeting should still have proceeded in a spirit of pragmatism. We believe that the resolution adopted should have been that any subsequent meetings should be in the ^{UNREASONABLE} Umkomaas/Widenham area. However there was too much emotion in the air and matters were rushed. Accepting that there were errors all round and in view of the strong hints in mails from both Sue Weightman and Jo De Havilland about the venue, it is now obvious that it was the wrong place. ^{THE PURPOSE OF}

~~IT WILL NOT HELP TO TELL THE~~ ^{THE MEETING IS} Looking back it seems that in spite of your clear written agenda and preparations most IAPs are not aware of their roles and obligations as laid down in the guidelines to the PPP. It is obvious that there is a belief in "objecting" as opposed to engaging with the Process to enable better, more democratic decision making. ^{TO OBTAIN ISSUES & COMMENTS FOR PURPOSE OF}

We consider that the aborted meeting was a waste of time, money and effort (not least your own) and only ^{(COMPLAIN} resulted in a mutual loss of trust. It has not advanced the EIA process, which we regret. However, please ^{A COMPRE-} accept our assurances that we remain personally committed to the PPP and will do what we can to engage ^{HENSIVE} constructively with it.

SUE BA REPORT. *

Yours sincerely,

Sue Weightman and Judy Macbeth

THANK YOU FOR YOUR FEEDBACK. WE WILL ARRANGE THE NEXT MEETING AT THE ITALIAN CLUB (IF POSSIBLE TO BOOK THE VENUE). I APOLOGISE FOR ARRANGING THE MEETING AT THE HOTEL.

Derek & Sue Weightman
Imladris
15 Harvey St
Umkomaas 4170
+ 27 39 973 1260
Skype:- dereksueweightman

~~I AM~~ HOWEVER I AGREE WITH

Information from ESET NOD32 Antivirus, version of virus signature database 4940 (20100312)

YOUR VIEWPOINT AND

The message was checked by ESET NOD32 Antivirus. ~~WE~~ HOPE THE SECOND

ATTEMPT WILL BE MORE

<http://www.eset.com>

SUCCESSFUL

I AM HOWEVER VERY DISAPPOINTED IN THE BEHAVIOUR ~~OF~~ AND REMARKS OF

MR. VAL SKINNER, ~~AND~~ MR. MCCARTHY AND SOME OF THE OTHER PEOPLE THAT ATTENDED.

2010/03/16

Ontvangs

DIE OBJECTIONS - SIT IN
TABLE +
TRANS

From: Derek & Sue Weightman [imladris@telkomsa.net]
Sent: 10 March 2010 10:42 AM
To: 'Lizelle Gregory'
Subject: Widenham Plot development

GEORGE
CARE ASB UPDATE
OCC. VILG +
FILE DIE
E-POSSE.

Dear Lizelle,

Please find attached the comments and concerns of Mkhomazi Development.

Kind regards,

Sue Weightman,
(Chairman, Mkhomazi conservancy)

Derek & Sue Weightman
Imladris
15 Harvey St
Umkomaas 4170
+ 27 39 573 1260
Skype:- dereksueweightman

Information from ESET NOD32 Antivirus, version of virus signature database 4930
(20100309)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

2010/03/10

George Gericke

From: Ontvangs
Sent: 19 January 2010 03:50 PM
To: George Gericke
Subject: FW: Proposed Township development on Widenham
Importance: High

From: Amare [mailto:amare@worldonline.co.za]
Sent: 19 January 2010 03:45 PM
To: lizelleg@mweb.co.za
Subject: Proposed Township development on Widenham
Importance: High

Please could George Gericke phone me as I have left 2 messages for him already regarding the above. It is urgent.

Ria Visser
Tel: 039 973 0418
Fax: 039 973 0419
Cell: 083 227 2928

Information from ESET NOD32 Antivirus, version of virus signature database 4785
(20100119)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

Information from ESET NOD32 Antivirus, version of virus signature database 4785
(20100119)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

Information from ESET NOD32 Antivirus, version of virus signature database 4785
(20100119)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

2010/01/19

From: Ontvangs
Sent: 19 January 2010 08:52 AM
To: George Gericke
Subject: FW: Scan from a Xerox WorkCentre Pro



Scan031.PDF (221
KB)

-----Original Message-----

From: Palmer, Lynette [mailto:Lynette.Palmer@sappi.com]
Sent: 19 January 2010 08:50 AM
To: lizelle@web.co.za
Subject: FW: Scan from a Xerox WorkCentre Pro

Hi George

Please scanned notification that we have received from the municipality. We reside opposite the land intended for development. The stream that crosses your land crosses ours as well. Since 1994 when the provisional council and then the Ethekweni council took over the area all your land as well as ours has been flooded on a regular basis, due to them leading all stormwater, from Umkomaas golf club, Saiccor village and Widenham down this stream. They have constructed enormous culverts and water drainpipes all over the village which lead down to the stream. We have lived here for 23 years and even during Demoina we were not flooded like we are now. In 2008 we were so badly flooded that water came into our house which has been built up on higher landfilled ground. The water came up approx 5 metres high. Over the years our damages have been in the region of almost a million Rand so far. The municipality said that they were going to canalise the stream and then came up and said they could not do it as the stream runs across private land. As per our title deeds the stream and 10 feet either side is their responsibility.

There is also another problem. Above Saiccor village there are forest which have sold off for development as well. When those go up there will be even more flooding as that land also slopes down towards our properties.

I drove past your land the other day and they had diggers in there digging large culverts across that piece of land obviously to lead the water out. That piece of ground is being used at the moment as flood mitigation and as far as they seem to be concerned they can use it for their own purposes. We are in the process of seeing a lawyer as we would also like to sell a large part of our property. We have already filled in down the side of the own to make access to the back part of the land. Our ground is approx an acre in size and we are only utilising a third of that. But if we allow this D'moss we will not be able to do so.

With this notice it seems that they are cutting back on their costs and trying to bulldoze us into letting them use the property for their own devices. The neighbours next door are in the same predicament, as they are also wanting to develop their land which is larger than ours, as they have 2 plots.

Perhaps it would be worth your while to get them to stop using your land and refill all culverts that they have put across it. These people seem to be a law unto their own. We have already been to local government in Pietermaritzburg and they insist that this all illegal.

Regards

Lyn Palmer
Phone 039 9738035 (w)
039 9730481 (h)
0845182626 Cell

-----Original Message-----

From: Workcentre45@sappi.com [mailto:Workcentre45@sappi.com]

Subject: Scan from a Xerox WorkCentre Pro

Please open the attached document. It was scanned and sent to you using a Xerox WorkCentre Pro.

Sent by: Guest [Workcentre45@sappi.com]
Number of Images: 3
Attachment File Type: PDF

WorkCentre Pro Location: Finance Department
Device Name: SAITRDACCI

For more information on Xerox products and solutions, please visit <http://www.xerox.com>

Scanned by MailMarshal - Marshal's comprehensive email content security solution.
Download a free evaluation of MailMarshal at www.marshall.com
#####

Information from ESET NOD32 Antivirus, version of virus signature database 4784 (20100118)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

Information from ESET NOD32 Antivirus, version of virus signature database 4784 (20100118)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

Information from ESET NOD32 Antivirus, version of virus signature database 4784 (20100118)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

George Gericke

From: Ontvangs
Sent: 19 January 2010 08:43 AM
To: George Gericke
Subject: FW: Proposed Township Development, Widenham KZN

From: Derek & Sue Weightman [mailto:imladris@telkomsa.net]
Sent: 19 January 2010 07:37 AM
To: 'George Gericke'
Cc: Jo Havilland; 'Jana and Magdelene Naidoo'; Tokkie Bolton; Val Skinner; Coble Steenkamp
Subject: Proposed Township Development, Widenham KZN

Dear George Gericke,

Re: Proposed Township Development on Widenham Stand Portions 35,36, 338,339,340,341,342 & 343 of Farm Lot 2 no. 1668.

Thank you for your public notification of the above. Mkhomazi Conservancy would like to formally register with you as an Interested and Affected Party in this matter.

The site is described as situated directly West of the N2 highway. We believe that this cannot be the case. It is situated west of the R102 provincial road.

Yours sincerely,

Susan Weightman
(Chairman, Mkhomazi Conservancy)

Derek & Sue Weightman
Imladris
15 Harvey St
Umkomaas 4170
+ 27 39 973 1260
Skype:- dereksueweightman

Information from ESET NOD32 Antivirus, version of virus signature database 4784
(20100118)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

Information from ESET NOD32 Antivirus, version of virus signature database 4784
(20100118)

The message was checked by ESET NOD32 Antivirus.

2010/01/19

Ontvangs

From: Armare [armare@worldonline.co.za]
Sent: 22 January 2010 01:10 PM
To: Lizelle Gregory
Subject: Fw: Widenham - I&AP

Beste George

Ek staan die behuising beplanning tee vir die redes:

Soos voorheen bespreek wil ek weereens jul aandag daarop vestig dat die area waarop die behuising beplan word moerasagtig is.

1. Die rede hiervoor is dat die reënwater van die boonste huise afloop en eindig in die gebied. Ons stap gereeld verby die area en veral in die reenseisoen is dit baie modderig en daar sal vir dae lank water opgaar wat die area uiters ongaskik maak vir behuising.
2. Volgens my, as versekerings makelaar met 26 jaar se ondervinding in die bedryf, sal ek nie enige konstruksie van geboue of selfs die inhoud van die geboue in die area verseker nie want die risiko is te hoog vir verspoeling en storm skade. Met jare se ondervinding het ek al gesien dat huise wat in areas soos vleilande gebou word konstruksie krake opdoen en kan duisende rande se skade beloop.
3. Die belangrikste faktor wat my ontstel is die natuurlewe. In die stukkie grond wei daar nog 'n baie skaars soort klein duikertjie. Baie vroeg in die oggende sal jy miskien as jy gelukkig is een sien maar hulle is ongelooflik skrikkerig so die digte woud sluk hulle vinnig in.
4. Hierdie is nie die enigste probleem nie daar is voelsoorte wat daar nes maak en broel. Die Ikkewane broel ook daar aangesien die moeras tipe grond hulle tuiste is. Sou hulle die woud uitkap sal die skade onherstelbaar wees vir die ekosisteem. Die plante groei is ook tuiste vir die blou ape en verskaf voedsel aan hulle wat al reeds so min is in ons areas by die kus.

Jy is baie welkom om by my tuis te gaan as jy self ondersoek sou wou instel. Ek is definitief nie die enigste diereliefhebber hier nie, glo ek. Dit grief my dat ons mensdom die natuur so skade doen.

Groete

Ria Visser
Tel: 039 973 0418
Fax: 039 973 0419
Cell: 083 227 2920

Armare Ins. Brokers cc is an authorized Service Provider (FSP no: 15468) licensed with the Financial Service Board. The information contained in this communication, including attachments, is not to be construed as advice in terms of the Financial Advisory and Intermediary Services Act 37 of 2002 unless specifically referred to as Advice.

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— Original Message —

From: Lizelle Gregory
To: armare@worldonline.co.za
Sent: Wednesday, January 20, 2010 3:01 PM
Subject: Widenham - I&AP

Good day Ria

Please note that you are now registered as an Interested and/or Affected Party

2010/01/22

Ontvangs

From: Jo Havilland [havilland@telkomsa.net]
Sent: 19 January 2010 04:04 PM
To: lizelleg@mweb.co.za
Cc: Sue Weightman; Valerie Skinner; Cobie Steenkamp; Jana Naidoo
Subject: Proposed Township Development Widenham KZN

Dear Mr Gericke

Proposed development on Widenham Stand Portions 35, 36, 338, 339, 340, 342 and 343 of Farm Lot No. 1668

As a long time resident of Widenham and someone who has respect for our environment, please register me as an Interested and Affected Party.

Yours sincerely,

Josephine M de Havilland
7 Sherborne Place,
Widenham, KZN 4170
039 973 0287

Information from ESET NOD32 Antivirus, version of virus signature database 4792
(20100121)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

2010/01/21

George Gericke

From: Ontvangs
Sent: 22 January 2010 01:14 PM
To: George Gericke
Subject: FW: Widenham - I&AP

From: Amare [mailto:amare@worldonline.co.za]
Sent: 22 January 2010 01:10 PM
To: Lizelle Gregory
Subject: Fw: Widenham - I&AP

Beste George

Ek staan die behuising beplanning toe vir die redes:

Soos voorheen bespreek wil ek weereens jul aandag daarop vestig dat die area waarop die behuising beplan word moerasagtig is.

1. Die rede hiervoor is dat die reënwater van die boonste huise afloop en eindig in die gebied. Ons stap gereeld vcrby die area en veral in die reënseisoen is dit baie modderig en daar sal vir dae lank water opgaan wat die area uiters ongeskik maak vir behuising.
2. Volgens my, as versekerings makelaar met 26 jaar se ondervinding in die bedryf, sal ek nie enige konstruksie van geboue of selfs die inhoud van die geboue in die area verseker nie want die risiko is te hoog vir verspoeling en storm skade. Met jare se ondervinding het ek al gesien dat huise wat in areas soos veelvande gebou word konstruksie krake opdoen en kan duisende rande se skade beloop.
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Jy is baie welkom om by my tuis te gaan as jy self ondersoek sou wou instel. Ek is definitief nie die enigste diere:afhebber hier nie, glo ek. Dit greef my dat ons mensdom die natuur so skade doen.

Groete

Ria Visser
Tel: 039 973 0418
Fax: 039 973 0419
Cell: 083 227 2928

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----- Original Message -----

From: [Lizelle Gregory](mailto:Lizelle.Gregory)
To: amare@worldonline.co.za
Sent: Wednesday, January 20, 2010 3:01 PM

2010/01/22

Good day Ria

Please note that you are now registered as an Interested and/or Affected Party for the proposed **Widenham Stand** project. We will inform you once the draft Basic Assessment report is available for public review.

Please don't hesitate to contact our offices should you require any additional information.

Kind Regards
George Gericke

Bokamoso Landscape Architects and Environmental Consultants
Tel: (012) 346 3810
Fax: 086 570 5659

_____ Information from ESET NOD32 Antivirus, version of virus signature database 4789
(20100120) _____

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

_____ Information from ESET NOD32 Antivirus, version of virus signature database 4791
(20100120) _____

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

Ontvangs

From: Derek & Sue Weightman [imladris@telkomsa.net]
Sent: 19 January 2010 07:37 AM
To: 'George Gericke'
Cc: Jo Havilland; 'Jana and Magdelene Naidoo'; Tokkie Bolton; Val Skinner; Coble Steenkamp
Subject: Proposed Township Development, Widenham KZN

Dear George Gericke,

Re: Proposed Township Development on Widenham Stand Portions 35,36, 338,339,340,341,342 & 343 of Farm Lot 2 no. 1668.

Thank you for your public notification of the above. Mkhomazi Conservancy would like to formally register with you as an Interested and Affected Party in this matter.

The site is described as situated directly West of the N2 highway. We believe that this cannot be the case. It is situated west of the R102 provincial road.

Yours sincerely,

Susan Weightman
(Chairman, Mkhomazi Conservancy)

Derek & Sue Weightman
Imladris
15 Harvey St
Umkomaas 4170
+ 27 39 973 1260
Skype:- dereksueweightman

Information from ESET NOD32 Antivirus, version of virus signature database 4784
(20100118)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

2010/01/19

From: Wazir Khan [khanw@durban.gov.za]
Sent: 21 January 2010 12:16 PM
To: lizelleg@mweb.co.za
Cc: Tholakele Msiya; Lennon Pillay
Subject: PROPOSED TOWNSHIP DEVELOPMENT (portions of farm lot2 No 1668Widenham)

Good day,

In view of the public notice received on the 20th January 2010, The Ethekeeni municipal health department (Sub- office situated at 32 Marlborough Avenue, Widenham) hereby registers as an interested and affected party on behalf of the Health department.

Kindly keep this office informed of progress in this regards.

W. Khan

Senior Environmental Health Practitioner

Please read this confidentiality disclaimer:

http://www.durban.gov.za/durban/e_colophon/edisclaimer

Information from ESET NOD32 Antivirus, version of virus signature database 4791 (20100120)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

Ontvangs

From: Annette Thorold [athorold@mweb.co.za]
Sent: 20 January 2010 10:58 AM
To: lizelleg@mweb.co.za
Subject: Widenham

Hi,

Please could you let us know what the notice, that is on the poles in Widenham, is actually about. Where are they building a township, etc.

Thanks

Ronny Thorold
0824439624

Information from ESET NOD32 Antivirus, version of virus signature database 4788
(20100120) _____

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

2010/01/20

Ontvangs

From: Shelly Lawrie [1shellybean@gmail.com]
Sent: 20 January 2010 12:35 PM
To: lizelle@mweb.co.za
Subject: Widenham (1668) residential development

Hi Lizelle

As per my conversation with George Gericke this morning. He said he would send me some more info on the residential development on 1668.

I am a journalist for the local newspaper, the Mid South Coast Rising Sun and a resident of Widenham.

Besides the Environment Basic Assessment Process notice on a stop sign, what local newspaper have you advertised in?

If you could add me to your interested parties list, it would also be much appreciated.

Thanks

Shelly Lawrie
072 454 4477
039-9782605
1shellybean@gmail.com

2010/01/20

Ontvangs

GET DOWN?

From: Derek & Sue Weightman [imladris@telkomsa.net]

Sent: 02 February 2010 05:57 PM

To: 'George Gericke'

Dear George Gericke,

Further to our telephone conversation of last week, please could you e-mail me the aerial photos of the site as discussed.

I should also like to register myself and my husband as individual IAPs in this matter.

Regards,

Sue Weightman

Derek & Sue Weightman
Imladris
15 Harvey St
Umkomaas 4170
+ 27 39 973 1260
Skype:- dereksueweightman

Information from ESET NOD32 Antivirus, version of virus signature database 4827
(20100202)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

2010/02/03

Ontvangs

From: Carolyn [afromatz@telkomsa.net]
Sent: 21 January 2010 07:07 PM
To: lizelleg@mweb.co.za
Subject: DM/0147/08

Dear Lizelle

I have recently been told of an advert for an EIA (18 January) in Widenham/Umkomaas on the KZN south coast - DM/0147/08. Please can you register WESSA KZN (Wildlife & Environment Society of S A) as an I&AP and note my contact details for further information.
P O Box 343, Pennington, 4184
email: afromatz@telkomsa.net
Tel: 039 975 2147 / 0839814814

WESSA KZN is recognised by the Dept of Agriculture, Environmental Affairs & Rural Development as a key I&AP in the province and as such we enjoy the privilege of being notified automatically of environmental assessments and we receive copies of all documents. Please can you include WESSA KZN on your database for all assessments which you undertake in the province.

I look forward to receiving detail on the project EIA Ref No DM/0147/08.

With regards
Carolyn Scitwegman
EIA Co-ordinator, WESSA KZN Region

PLEASE consider the environment before printing this email!
This e-mail message, and any attached files, are confidential and may contain privileged information. Any views expressed in this message are those of the sender, except where the sender specifically states them to be the view of WESSA. In the interests of effective and appropriate communication, anyone who is not an addressee of this e-mail, may not copy, disclose, distribute or otherwise use it, or any part of it, in any form whatsoever. Furthermore, no-one may further distribute this e-mail, or any part of it, without permission of the author. If you are not the intended recipient, please notify the sender immediately by return e-mail, and then delete this e-mail.

Information from ESET NOD32 Antivirus, version of virus signature database 4802
(20100124)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

2010/01/25

LEOPOLDO GARDEN...
POLYMER...
POLYMER...
POLYMER...
POLYMER...
POLYMER...
POLYMER...
POLYMER...
POLYMER...
POLYMER...
POLYMER...
POLYMER...



Fax Sheet. Fax Sheet. Fax Sheet. Fax Sheet. Fax Sheet

FOR ATTENTION: PM. Bray & RKE Bray
Fax nr: 0399 781682

From: George Gericke
Date: 12 February 2010
Pages: 1 of 1

RE: REGISTRATION AS AN INTERESTED AND/OR AFFECTED PARTY FOR THE PROPOSED WIDENHAM PROJECT:

To whom it may concern

Please note that you were registered as an Interested and/or Affected Party for the proposed Widenham project. We will inform you of any available draft documents or public meetings regarding the proposed project.

Please don't hesitate to contact us for any additional information. Your comments and concerns will be addressed in our report.

Kind Regards

George Gericke

Bokamoso Landscape Architects and Environmental Consultants

tel: (012) 346 3810

REGISTRATION...
WIDENHAM PROJECT...
MEMBER: George Gericke

125 COMBOD GARDEN RUMINT
8312 BOMBOROM
ASHI BAGARDENT
073
PO BOX 1174
VARDHANA
073
Tel: (012) 346 3810
Fax: (012) 346 3810
Email: bokamoso@bokamoso.com
Website: www.bokamoso.com



Fax Sheet. Fax Sheet. Fax Sheet. Fax Sheet. Fax Sheet

FOR ATTENTION: Stone Family

Fax nr: 0399 730305

From: George Gericke
Date: 12 February 2010
Pages: 1 of 1

RE: REGISTRATION AS AN INTERESTED AND/OR AFFECTED PARTY FOR THE PROPOSED WIDENHAM PROJECT:

To whom it may concern

Please note that you were registered as an Interested and/or Affected Party for the proposed Widenham project. We will inform you of any available draft documents or public meetings regarding the proposed project.

Please don't hesitate to contact us for any additional information. Your comments and concerns will be addressed in our report.

Kind Regards

George Gericke

Bokamoso Landscape Architects and Environmental Consultants

Tel: (012) 346 3810



Ontvangs

From: WSM Reception [tshwane@wsmlshika.co.za]
Sent: 17 May 2010 09:47 AM
To: lizelleg@mweb.co.za
Subject: Ilse Email address

Hi Lizelle,

Hierdie is my epos adres rakende die Mews@The Beach projek_New Townhouse development.

Vriendelike groete,

Ilse Weideman
WSM Leshika Consulting (Pty) Ltd
Tel 012-997 6760
Fax 012-997 6768

DISCLAIMER:

Please note that the contents of this email and any attachments are confidential and intended for the named addressee only.
If you have received this message in error, please notify the sender immediately or delete it on receipt. Any disclosure, distribution and unauthorised use of this email or its attachments is prohibited.
WSM Leshika Consulting (Pty) Ltd accepts no liability of whatever nature for any loss, whether it be direct, indirect or consequential, arising from this email or its attachments.

Information from ESET Smart Security, version of virus signature database 5119
(20100516)

The message was checked by ESET Smart Security.

<http://www.eset.com>

Information from ESET NOD32 Antivirus, version of virus signature database 4940
(20100312)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

2010/05/17

Ontvangs

ASS: BEANTWOORD

From: A & J ELECTRICAL [ajelec@telkomsa.net]
Sent: 07 April 2010 12:38 PM
To: lizelle@mweb.co.za
Subject: Proposed development query - Widenham

Hi Good day Lizelle.

I was in the process of signing an Offer to Purchase on a house in Widenham, but I find that I have delayed in time in submitting my signature and commitment to this sale, due to the proposed development that is being ensued.

Please could you help me make my decision, by clarifying exactly what the development is for?
What kind of development is it? Is it for Low cost housing or is for a resort?
How has the Environmental application to process this proposal being assessed?
Can you viably build something on a marshland?
If the development was accepted, what is your time line in years for the development to be completed?
Will this development de-value the property in Widenham or will it increase the value of the properties in the long run?
If you feel it will increase the value, please explain how so.
Why have you specifically chosen this piece of land when there are more stable municipal lands available?
Do you feel that the impact of this development on the residents of Widenham will be fair and to the benefit of the Widenham residents? If so, please explain.
How will the Widenham residents be compensated for the inconvenience of the construction site that will inevitably be erected should the development go ahead?

Legal Jargon aside, please clarify above, in a nutshell.

My husband and I are a young married couple expecting our first child, and putting our life savings into our first house purchase. We cannot afford to buy property that will de-value and thus your honesty in answering these questions will be so greatly appreciated.

Kind Regards
Wanita Westerdale

Information from ESET NOD32 Antivirus, version of virus signature database 4940
(20100312)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

2010/04/07

ATTENTION GEORGE GERICKE

BOKAMOSA LANDSCAPE ARCHITECTS & ENVIRONMENTAL CONSULTANTS

FAX NO. 0865705759



FAX NO; 0865705659

Stand Portions 35, 36, 33E, 339, 340, 341, 342, & 343 of 1668 Widenham

Please record us as a INTERESTED AND AFFECTED PARTY.

MR.P.M.BRAY

MRS R.K.E. BRAY



P.O. BOX 1137,
UMKOMAAS,
4170

E-MAIL: petroz@scothnet.co.za

DATED 10.7.2010.

Ontvangs

From: Marieta Stander [mailto:marieta@scottnet.co.za]
Sent: 12 February 2010 03:34 PM
To: Lizelle Gregory
Subject: RE: New Development

Hi,
Jammer man, ek het die adres in die Rising Sun gekry, aangaande die ontwikkeling in Widenham, die artikel gaan eintlik indien iemand 'n beswaar wil aanteken.

Lekker naweek

-----Original Message-----

From: Lizelle Gregory [mailto:lizelleg@mweb.co.za]
Sent: Friday, February 12, 2010 3:11 PM
To: 'Marieta Stander'
Subject: RE: New Development

Marieta,

Kan jy asb. vir my meer inligting gee. Lizelle Gregory weet nie waarvan jy praat nie.

Groete,

Elsa Viviers
namens / on behalf of Lizelle Gregory
**BOKAMOSO LANDSCAPE ARCHITECTS &
ENVIRONMENTAL CONSULTANTS**
Tel: 012 346 3810
Fax: 086 570 5659
Cell 1: 071 547 9817
Cell 2: 082 698 8601

From: Marieta Stander [mailto:marieta@scottnet.co.za]
Sent: 11 February 2010 12:53 PM
To: lizelleg@mweb.co.za
Subject: New Development

Beste Lizelle,

Na aanleiding van die berg in die Rising Sun, wil ek net graag iets heeltemal anders uitvind.

Indien jul beplanning voortgaan, sal dit dalk moontlik wees dat ons jul kan help met die bemerking van die eenhede?

Dankie en ek verneem graag van jou.

Marieta Stander
Sales Associate

Tel: 039 9761211
Cell: 083 7855292
Fax: 086 5040715
Email: marieta@scottnet.co.za

2010/02/12

Ontvangs

From: Marieta Stander [marieta@scottnet.co.za]
Sent: 11 February 2010 12:53 PM
To: lizelleg@mweb.co.za
Subject: New Development

ZUSA - WAAR WAN
PRAAT...SY

Het wie het e-mail
gestuur.
12/2/2010

Beste Lizelle,

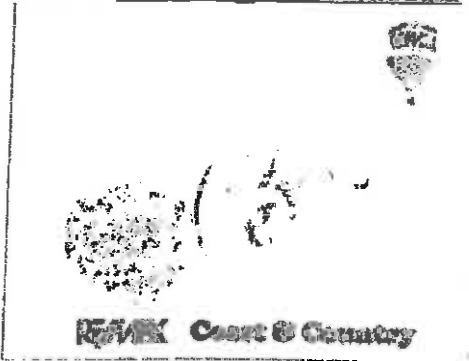
Na aanleiding van die berig in die Rising Sun, wil ek net graag iets heeltemal anders uitvind.

Indien jul beplanning voortgaan, sal dit dalk moontlik wees dat ons jul kan help met die bemerking van die eenhede?

Dankle en ek verneem graag van jou.

Marieta Stander
Sales Associate

Tel: 039 9761211
Cell: 083 7855202
Fax: 086 5040716
Email: marieta@scottnet.co.za



Information from ESET NOD32 Antivirus, version of virus signature database 4857
(20100211)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

George Gericke

From: Ontvangs
Sent: 15 February 2010 08:08 AM
To: George Gericke
Subject: FW: Lots 35/6, and 338 to 343 incl. of 1668 Widenham 4170

From: Sinclair Stone [mailto:sinclairstone@worldonline.co.za]
Sent: 14 February 2010 06:39 PM
To: lizeleg@mweb.co.za
Subject: Lots 35/6, and 338 to 343 incl. of 1668 Widenham 4170

George Gericke
Bokamoso Landscape Architects & Environmental Consultants.
P.O. Box 11375
Maroelana 0161

Dear Mr. Gericke,

In connection with the above, my wife and I hereby register as interested parties. Please keep us fully informed of all developments in this matter as we are retired and well established residents of Widenham.

Yours faithfully,
Mr. F. and Mrs. M Potgieter
1, Marlborough Avenue
Widenham
Umkomaas 4170.

14th February 2010

_____ Information from ESET NOD32 Antivirus, version of virus signature database 4856 (20100214)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

_____ Information from ESET NOD32 Antivirus, version of virus signature database 4866 (20100214)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

_____ Information from ESET NOD32 Antivirus, version of virus signature database 4869 (20100215)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

2010/02/16

George Gericke

From: Ontvangs

Sent: 15 February 2010 08:08 AM

To: George Gericke

Subject: FW: Lots 35,36,338,339,340,341,342,343 of 1688 Widenham

From: Sinclair Stone [mailto:sinclairstone@worldonline.co.za]

Sent: 14 February 2010 06:58 PM

To: lizelleg@mweb.co.za

Subject: Lots 35,36,338,339,340,341,342,343 of 1688 Widenham

Mr. George Gericke,
P.O. Box 11375,
Maroelana
0161

Dear Mr. Gericke,

I am a retired resident of Widenham who has the facilities of Fax and Computer hence most other retirees here in Wdenham ask me to do their correspondence for them. I inform you of this lest you should think there is some conspiracy as many letters and emails will emanate from my computer and fax machine.

For your information.....Widenham comprises mainly retirees. It is an unofficial retiree village and we are happy and very protective of the rules applying to Widenham, that is why we chose to live here. There are no schools, no shops, no industry, buildings are restricted to two storeys, it is a very wooded area, we treasure our wetlands with its splendid wild creatures, our village roads are narrow and there are hardly any pavements, we appreciated that the roads have been confined to 3tons and it is specified that construction vehicles may not use them. We have chosen this village to retire in and do not welcome any proposed changes and hope you will see our point of view.

Yours faithfully,

Y.E. Stone.

Information from ESET NOD32 Antivirus, version of virus signature database 4866
(20100214)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

2010/02/16

George Gericke

From: Ontvangs

Sent: 15 February 2010 08:06 AM

To: George Gericke

Subject: FW: Objection of proposed development in widenham

From: viven govender [mailto:vivengovender@gmail.com]

Sent: 14 February 2010 08:58 PM

To: lizeileg@mweb.co.za

Subject: RE: Objection of proposed development in widenham

We are residents of 14St Catherine Road Widenham

We object to the development on the following grounds

1. The proposed building plans show the properties to be four stories high which will infringe on our view and on our privacy.
2. The health hazard of water and sewage problems especially during the rainy season.
3. The obvious impact on the environment
4. The lack of proper communication with regards to the proposed development. We were not properly informed of the development and the environmental impact

Thank you... The Govender family

Contact details: home 039 9731680 / 0835698756 / 0833827754

Information from ESET NOD32 Antivirus, version of virus signature database 4866
(20100214)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

Information from ESET NOD32 Antivirus, version of virus signature database 4869
(20100215)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

2010/02/16

George Gericke

From: Ontvangs
Sent: 15 February 2010 08:53 AM
To: George Gericke
Subject: FW: New Development

From: Marieta Stander [mailto:marieta@scottnet.co.za]
Sent: 12 February 2010 03:34 PM
To: Lizelle Gregory
Subject: RE: New Development

Hi,
Jammer man, ek het die adres in die Rising Sun gekry, aangaande die ontwikkeling in Widenham, die artikel gaan eintlik indien iemand 'n beswaar wil aanteken.

Lekker naweek

-----Original Message-----
From: Lizelle Gregory [mailto:lizelleg@mweb.co.za]
Sent: Friday, February 12, 2010 3:11 PM
To: 'Marieta Stander'
Subject: RE: New Development

Marieta,

Kan jy asb. vir my meer inligting gee. Lizelle Gregory weet nie waarvan jy praat nie.

Groete,

Elsa Viviers
namens / on behalf of Lizelle Gregory
**BOKAMOSO LANDSCAPE ARCHITECTS &
ENVIRONMENTAL CONSULTANTS**
Tel: 012 348 3810
Fax: 086 570 5850
Cell 1: 071 547 9817
Cell 2: 082 698 8601

From: Marieta Stander [mailto:marieta@scottnet.co.za]
Sent: 11 February 2010 12:53 PM
To: lizelleg@mweb.co.za
Subject: New Development

Beste Lizelle,

Na aanleiding van die berig in die Rising Sun, wil ek net graag iets heeltemal anders uitvind.

Indien jul beplanning voortgaan, sal dit dalk moontlik wees dat ons jul kan help met die bemerking van die eenhede?

Dankie en ek verneem graag van jou.

Marieta Stander

2010/02/16

Sales Associate

Tel: 039 9761211

Cell: 083 7855292

Fax: 086 5040715

Email: marieta@scottnet.co.za



Information from ESET NOD32 Antivirus, version of virus signature database 4857 (20100211)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

Information from ESET NOD32 Antivirus, version of virus signature database 4860 (20100212)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

Information from ESET NOD32 Antivirus, version of virus signature database 4866 (20100214)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

Information from ESET NOD32 Antivirus, version of virus signature database 4869 (20100215)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

2010/02/16

FAX TO: 086 570 5659
George Gericke

FROM 039 97 30305
Stone Family

10TH February 2010

TO Bokamoso Landscape Architects & Environmental Consultants.

Re Lots 35, 36, 338, 339, 340, 341, 342 343.

Notice of Environmental Basic Assessment Process

We hereby register as interested parties and therefore will you please inform us at all times of all/any developments in this matter.

Please advise how your company can be called "Landscape Architects and ENVIRONMENTAL Consultants" and at the same time you plan to set about destroying Wetlands which are greatly revered by the residents of Widenham.

Where do you originate? Not Widenham.

Sinclair Stone
Yvonne Stone
Jason Stone

ATTENTION GEORGE GERICKE

BOKAMOSA LANDSCAPE ARCHITECTS & ENVIRONMENTAL CONSULTANTS

FAX NO. 0865705759


FAX NO; 0865705659

Stand Portions 35, 36, 338, 339, 340, 341, 342, & 343 of 1668 Widenham

Please record us as a INTERESTED AND AFFECTED PARTY.

MR.P.M.BRAY

MRS R.K.E. BRAY



P.O. BOX 1137,
UMKOMAAS,
4170

E-MAIL: petroz@scottnet.co.za

DATED 10.2.2010.

George Gericke

From: Ontvangs
Sent: 09 February 2010 08:09 AM
To: George Gericke
Subject: FW: OBJECTION : NINE BLOCK RESIDENTIAL DEVELOPMENT WIDENHAM
Importance: High

From: Arne Hunt [mailto:annesupport@telkomsa.net]
Sent: 08 February 2010 09:10 PM
To: lizelleg@mweb.co.za
Subject: OBJECTION : NINE BLOCK RESIDENTIAL DEVELOPMENT: WIDENHAM
Importance: High

To whom it may concern

I am a resident and property owner in Widenham, Umkomaas and wish to object about the proposed development in Widenham in the swamp area

please can you urgently advise first of all why we are writing to you and not Ethekwini Municipality

please advise urgently

thank you

Arne Hunt
1 Somerset Road
Widenham
Umkomaas

owner of 22 St Catherine's Road, Widenham

Information from ESET NOD32 Antivirus, version of virus signature database 4849
(20100208)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

Information from ESET NOD32 Antivirus, version of virus signature database 4849
(20100208)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

Information from ESET NOD32 Antivirus, version of virus signature database 4849
(20100208)

2010/02/10

George Gericke

From: Ontvangs
Sent: 09 February 2010 08:09 AM
To: George Gericke
Subject: FW: EIA Process Widenham

From: James Hunt [mailto:jamesch@telkomsa.net]
Sent: 08 February 2010 09:45 PM
To: George Gericke
Subject: EIA Process Widenham

Please be advised that as a resident/property owner & ratepayer of Widenham, I am an "An Affected & Interested Party" & request that I be kept informed timeously in writing of all matters relating to the proposed development.

My Postal Address:

1 Somerset Road,
Widenham
4170

Ethe!kwini Rates Account No. 831 4589 7811

J.G.H. HUNT

Kindly confirm receipt of this email before 12th February 2010

Information from ESET NOD32 Antivirus, version of virus signature database 4849
(20100208)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

Information from ESET NOD32 Antivirus, version of virus signature database 4849
(20100208)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

Information from ESET NOD32 Antivirus, version of virus signature database 4849
(20100208)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

2010/02/10

George Gericke

From: Ontvangs
Sent: 11 February 2010 08:28 AM
To: George Gericke
Subject: FW: Registering - Wetlands In Widenham 4170

From: Sinclair Stone [mailto:sinclairstone@worldonline.co.za]
Sent: 10 February 2010 04:21 PM
To: itzelleg@mweb.co.za
Subject: Registering - Wetlands In Widenham 4170

To: Mr. George Gericke
Bokamoso Landscape Architects &
Environmental Consultants
P.O. Box 11375
Maroelana 0161

Lots 35, 36, 330, 339, 340, 341, 342, 343
of 1668 Widenham.

Dear Mr. Gericke,

I wish to register as an interested party re the above matter and wish to be informed of all matters pertaining thereto at all times.

Thank you.

Yours faithfully

E. Pilkington (Resident of very long standing)

Information from ESET NOD32 Antivirus, version of virus signature database 4853
(20100210)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

Information from ESET NOD32 Antivirus, version of virus signature database 4856
(20100210)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

2010/02/11

George Gericke

From: Ontvangs
Sent: 08 February 2010 11:47 AM
To: George Gericke
Subject: FW: Proposed Widenham Development

From: Huson, Marguerite [mailto:husonm@sbadbn.co.za]
Sent: 08 February 2010 09:46 AM
To: lizelleg@mweb.co.za
Subject: Proposed Widenham Development

Dear Madam,

I wish to register my objection to the proposed "eco" development in Widenham.

I was under the impression that there was legislation prohibiting development within a wetland area, so I am amazed that this type of development is even under consideration.

Existing residents, who should never have been allowed to build in environmentally sensitive areas in the first place, already complain of periodic flooding and health issues pertaining to poor management of the water in the area, so any new development would merely exacerbate the existing problems.

Yours sincerely,
Mrs ME Huson
No 8 The Palms
Williamson Street
Scottburgh
4180.

TEL NO 031 2500500
FAX 031 2500502
E-MAIL: HUSONM@SBADBN.CO.ZA

Information from ESET NOD32 Antivirus, version of virus signature database 4346
(20100208)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

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The information contained in this E-mail is confidential and may be legally privileged. It is intended solely for the addressee only. If you are not the intended recipient, please delete immediately and advise the sender. You are hereby notified that any use of this E-mail is strictly prohibited and may be unlawful.

2010/02/08

George Gericke

From: Ontvangs
Sent: 11 February 2010 01:12 PM
To: George Gericke
Subject: FW: Wetlands in Widenham

From: Sinclair Stone [mailto:sinclairstone@worldonline.co.za]
Sent: 11 February 2010 01:03 PM
To: lizelleg@mweb.co.za
Subject: Wetlands in Widenham

George Gericke
Bokamoso Landscape Architects &
Environmental Consultants
P.O. Box 11375
Maroelana 0161

re: Lots 35, 36, 339, 339, 340, 341, 342, 343 of 1668 Widenham South Coast 4170

Dear Sirs,

re above Lots, we hereby register as interested parties and wish to be kept fully informed of all developments relating thereto.

We retired to Widenham with full knowledge that the law does not allow for any buildings exceeding the height of two storeys. The four storey buildings being proposed are not lawful.

In addition, as far as we know, it is not lawful to build on registered Wetlands.

yours faithfully

Mr. and Mrs. P. Walter.

5, Marlborough Avenue,
Widenham
Umkomaas 4170

Information from ESET NOD32 Antivirus, version of virus signature database 4857
(20100211)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

2010/02/12

Ontvangs

Pratit is DIT

From: Jonesie [jonesie@yebo.co.za]

Sent: 09 February 2010 08:38 PM

To: lizelleg@mweb.co.za

Subject: LOTS 35, 36, 338, 339, 340, 341, 342, 343 of 1668 WIDENHAM

Dear Sir/ Madam,

I refer to the notice re the Environmental Basic Assessment Process in respect of the above lots, and request that I be registered as an interested and affected party.

Thanking you,
Yours faithfully

K. Jones

Information from ESET NOD32 Antivirus, version of virus signature database 4852
(20100209)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

2010/02/10

Ontvangs

From: Carolyn [afromatz@telkomsa.net]
Sent: 05 February 2010 09:47 AM
To: Lizelle Gregory
Subject: Re: Widenham Stand - I&AP

Thanks very much - I look forward to receiving information.
Do you have the Umkomaas Conservancy as an I&AP - if not it would be good to have them on board and if needed I could find their contact details.

Regards
Carolyn Schwegman
EIA Co-ordinator, WESSA KZN Region

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— Original Message —

From: Lizelle Gregory
To: afromatz@telkomsa.net
Sent: Friday, February 05, 2010 8:41 AM
Subject: FW: Widenham Stand - I&AP

For Attention: Carolyn Schwegman (WESSA)
Please note that you were registered as an Interested and/or Affected Party for the proposed Widenham project.
Please don't hesitate to contact us for any additional information.

Kind Regards
George Gericke

Bokamoso Landscape Architects and Environmental Consultants
Tel: (012) 346 3810
Fax: 086 570 5659

Information from ESET NOD32 Antivirus, version of virus signature database 4836
(20100204)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

2010/02/05

Ontvangs

From: s&s electrical [sselectric@telkomsa.net]

Sent: 04 February 2010 01:42 PM

To: lizelleg@mweb.co.za

Subject: Proposed Widenham Development

Maureen and Stephen Sheard hereby wish to register as I and AP.

thank you
Steve Sheard

Information from ESET NOD32 Antivirus, version of virus signature database 4834
(20100204)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

2010/02/04

Ontvangs

From: Cobie Steenkamp [coblesteenkamp@yahoo.com]

Sent: 04 February 2010 11:25 AM

To: lizelle@mweb.co.za

Hi Lizelle,

I would like to register as an IAP concerning the Widenham Wetland Development project.

Yours sincerely

Cobie Steenkamp

cobiesteenkamp@yahoo.com

11 Taunton Place
Widenham
4170

Cell: 082 444 3452

Information from ESET NOD32 Antivirus, version of virus signature database 4833
(20100203)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

2010/02/04

ASHEX...
PO BOX 1111
WINDHAM
VT 05791
Tel: (802) 340-1111
Fax: (802) 340-1111
www.bokamoso.com



Fax Sheet. Fax Sheet. Fax Sheet. Fax Sheet. Fax Sheet

FOR ATTENTION: Stone Family.

Fax nr: 0399 73 0305

From: George Gericke
Date: 26 February 2010
Pages: 1 of 2

RE: PROPOSED TOWNSHIP DEVELOPMENT ON WIDENHAM STAND PORTIONS 35, 36, 338, 339, 340, 341, 342 & 343 OF 1668 WIDENHAM

To all Interested and/or Affected Parties.

Thank you for participating in the Public Participation Process for the **proposed Township development on Widenham Stand Portions 35, 36, 338, 339, 340, 341, 342 & 343 of 1668 Widenham** project. Please refer to the attached invitation for the public meeting that will be held at the Cutty Sark Hotel on 15 March 2010.

We also want to ask you to help us by informing any other people you think should also attend this meeting. I also want to remind you that you are welcome to let us know of anybody else that you feel should be informed. We will gladly invite them to the public meeting.

Please confirm your attendance before Monday 8 March 2010.

Please don't hesitate to contact our offices for any additional information.

Thank you and regards

George Gericke

Bokamoso Landscape Architects and Environmental Consultants

Tel: (012) 346 3810

Fax: 086 570 5659



ref 5
2010

Heavy rain wash it into the canal which results in clogging where the canal narrows, hence overflow and flooding.

The Butchers have incurred damage to about R1-m over the years, while the Hutchinsons latest flood-damage repair amounted to around R35,000.

"There is the run off water and the sewage going? They will have to have septic tanks, as we do, but will have to have the former bigger to empty them regularly and hope they don't pop up or flood when we have heavy rains, which then cause the contents to run into the stream and onto our properties. Also they cannot have soak pits, so where is their bath/shower water going to land up?"

"Our properties are already being flooded from the stream with waste water and sewage, so this would only make matters worse," said Duron Hutchinson, Cicie's husband. Neighbours see the development of the marshland as exacerbating their problems, as well as being unfair that they are restricted by the municipality's BYC057 edict, yet a development of this nature seems

on the cards.

Another long-standing Widenham resident said, "Whichever way you look at it, three storeys and a loft" makes four storeys. That aside, development there will kill the ecology at the cost of the ecology. If anything is developed here it should be suitable for the ecology of the area," said the Cheltenham Road resident.

Past Widenham Health Committee Secretary, Rosemary Hill, said: "Sewage would be a main concern. Conservancy tanks would have to be used." She said when Widenham township was developed, the marshland should never have been divided into sections and is opposed to development there. If the project proceeds, the foundations to support the structures will have to incorporate deep pile-driving to bedrock, which will make the housing quite expensive, said a retired engineer.

Affected and interested parties must contact George Gericke, of the consultants, on 012-346-3810 or fax: 036-570-5755, or email: kzaalag@mvweb.co.za before Monday, February 15, 2010.

Comment

OVER the years there have been other proposals to develop the marsh in the low-lying areas of Widenham but, so far, none have come to fruition.

The area has flooded on several occasions, and at times, the stream, which runs through Saiccor Village, the golf course and Widenham, has burst its banks at its lowest point in Widenham Drive - right where the new development of four-storeyed houses are to be built.

The water has gushed through to such an extent that it has been knee-high on the roadway.

What will happen to houses built in this vlei? Already the few houses that are low-lying have incurred extensive flood damage, worsened, it would seem, by additional housing and inadequate or inappropriate canalisation.

It will be surprising if an environmental impact assessment finds it okay to build there.

Of course, nothing is impossible, and deep piling for foundations would ensure the new structures are secure, but this will surely make the homes expensive. But then if one is prepared to buy into a lock-up-and-go unit there, it'll probably be necessary to 'lock-up-and-go' because of the mosquitoes, and if there are any left, the frogs.

This newspaper is not against development, it is against development in what would appear to be the wrong place.

There is an area near the squash courts at Widenham that was demarcated for a school. If that's not to materialize, why not convince developers to head for more solid ground? Just a question.

Would love to know the estate agent was who managed to sell the swamp. Good sales person - foolhardy purchase.

Dear Editor - I submit a poem, prompted by the poem titled The Development in current issue. Please allow this to be by ANONYMOUS, seeing it is in general terms and mentions no names.

I'M ALRIGHT, JACK

Where I now live,
on my Widenham stand
was at one time a forest
an untouched wonderland.

My house might bestraddle
an old elephant track

but those times have past
and will never come back.

The whole town of Durban,
from Twinl Hill north
was nothing but hippo-land
when our forebears set forth.

And then they came southwards
for so it must be
as mankind is growing
and cannot live in the sea.

Thus creatures not born
or long since dead
are now of less worth
than the roof o'er my head.

And I have my house,
so I'm alright, Jack.
But the next guy who builds....
He'll have me on his back!

ANONYMOUS

From Norman Maurice - 2 The Gables, 33 Cordiner St, Scottburgh
039-9761560

Poetry in motion

The Development

(At Wickham - with apologies to Lewis Carroll)

The agent and developer they gazed upon the land.
 They sighed at all the beauty, and said with wave of hand;
 If only this were cleared away, they said, it would be grand.
 If seven graders with seven men, graded throughout the year,
 Do you suppose, the agent said, that they would get it clear?
 Of course, said the developer, and offered up a cheer.
 An Environmental Impact Report will soon be done.
 We'll photograph the mongooses, buck, and monkeys in the sun,
 Then bring in the machinery, and get them on the run.
 We'll take away the trees and bush, and then before too late,
 We'll put some Tuscan condos up, with an enormous gate,
 We'll plant three aces and then call it an "Eco-estate."

Fran Reynolds

George Gericke

From: Lizelle Gregory [lzelleg@mweb.co.za]
Sent: 24 May 2010 09:02 AM
To: 'lyse.comins@inl.co.za'
Subject: RE: URGENT MEDIA QUERY

Good day Lyse

I apologise for the late response. I was out of the office for public participation purposes. I take it that you were trying to meet deadlines for the publication. Your queries were forwarded to the relevant person and we will respond to your questions and queries as soon as possible. Unfortunately it will take some time to address all your questions. I will have a look to see what information is available such as minutes of the previous public meeting which I believe will be very helpful in the meantime.

Kind Regards
George Gericke

Bokamoso Landscape Architects and Environmental Consultants
Tel: (012) 346 3810
Fax: 086 570 5659



Please consider the environment before printing this e-mail

From: Lyse Comins [mailto:lyse.comins@inl.co.za]
Sent: 18 May 2010 01:48 PM
To: 'lzelleg@mweb.co.za'
Subject: URGENT MEDIA QUERY

Dear Lizelle

I have been given your e-mail address as the contact person for the EIA for the family trust development on the wetland in Widenham on the KZN South Coast. Please could you respond to the following questions as soon as possible before 4pm tomorrow Tuesday May 19.

1. Please could you send me details of the proposed development i.e. how many units and what type/ how many levels? As the residents have advised there will be about 38 units roughly four storeys high (two plus a loft and basement).
2. Please describe the development i.e. is it an eco-friendly development/ value of the investment, what stage is the development at, will the units be middle, up or down market and where do you anticipate the buyers to come from. eg. people buying as holiday homes, retirees or others just buying to live in as primary residence.
3. What is your response to residents comments/concerns that the development (along with three others planned in the area) will densify their village, create traffic congestion, disturb the DMoss area which includes rich fauna and flora, flooding (due to the disturbance of the wetland site) and that there are not enough facilities such as schools, hospitals and clinics to cope with all the new residents?
4. Do you have any artists impression pictures that you could e-mail me?
5. What is the name of the development?

2010/05/24

6. Is there anything else that you would like to add?

I look forward to receiving your response. If you have any queries please do not hesitate to contact me.

Kind regards

Lyse Comins

Senior Journalist
Daily News

082 094 0597

031 308 2177

031 308 2185 (fax)

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2010/05/24

Ontvangs

MEER

From: Lyse Comins [lyse.comins@ini.co.za]
Sent: 18 May 2010 01:55 PM
To: 'lizalleg@mweb.co.za'
Subject: A question to add: URGENT MEDIA QUERY

Hi Lizelle

Sorry, please could you also advise who the developer is?

Kind regards

Lyse

From: Lyse Comins
Sent: 18 May 2010 13:48
To: 'lizalleg@mweb.co.za'
Subject: URGENT MEDIA QUERY

Dear Lizelle

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Kind regards

Lyse Comins

Senior Journalist
Daily News

082 094 0597
031 308 2177

2010/05/18

Ontvangs

From: Lyse Comins [lyse.comins@inl.co.za]
Sent: 18 May 2010 01:48 PM
To: 'lizzelleg@mweb.co.za'
Subject: URGENT MEDIA QUERY

Dear Lizelle

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2010/05/18

From: Lyse Comins [lyse.comins@inl.co.za]
Sent: 24 May 2010 09:44 AM
To: Lizelle Gregory
Subject: RE: URGENT MEDIA QUERY

Thanks Lizelle
Lyse Comins
Journalist
Independent Newspapers KZN
Daily News
Tel 031 308 2911
fax 031 308 2185
Cell 082 094 0597

From: Lizelle Gregory [lizelleg@mweb.co.za]
Sent: 24 May 2010 09:01
To: Lyse Comins
Subject: RE: URGENT MEDIA QUERY

Good day Lyse

I apologise for the late response. I was out of the office for public participation purposes. I take it that you were trying to meet deadlines for the publication. Your queries were forwarded to the relevant person and we will respond to your questions and queries as soon as possible. Unfortunately it will take some time to address all your questions. I will have a look to see what information is available such as minutes of the previous public meeting which I believe will be very helpful in the meantime.

Kind Regards
George Gericke

Bokamoso Landscape Architects and Environmental Consultants
Tel: (012) 346 3810
Fax: 086 570 5659
P Please consider the environment before printing this e-mail

From: Lyse Comins [mailto:lyse.comins@inl.co.za]
Sent: 18 May 2010 01:48 PM
To: 'lizelleg@mweb.co.za'
Subject: URGENT MEDIA QUERY

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I look forward to receiving your response. If you have any queries please do not hesitate to contact me.

Kind regards

Lyse Comins

Senior Journalist
Daily News

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Appendix E8

Comments received on Draft Basic Assessment Report

General Ecological Concerns and Comments:

- **Gloria Hutchison** - There are many reasons why this development should not take place, the impact on wild life, ornithological life in that area, the natural water filter catchment area. It will also erode the natural buffer zone between the sea and various existing developments in the area. Apart from these reasons, the intended structures are against the Widenham by-laws and will cause a serious increase of traffic on the already bad roads in that area.

This development should not take place on the site intended for this development. May I also ask, What is the opinion of the Municipality having introduced the D'Moss overlay? Surely this area is earmarked for non-development?

- **Anne Hunt** - Wessa has apparently also not approved of this development. We also NEED the wildlife in the area to be left alone.
- **K. T. Jones** - Appendix E1 - The owner, it is claimed does not have funds to maintain and manage the site as an open space. The site is elsewhere and variously described at present as being in mess i.e. Page 10 - Activities applied " it is important to note that the groundcover of the wetland area is currently disturbed and invaded..."page 14 - " .. The ground cover is very disturbed and almost taken over by invaders". Page 52 - "at present the study area appears neglected and is invaded by exotic invaders". Figure 14 - Lack of maintenance leads to flooding of downstream properties.

Whilst the owner has money to pay for consultants, engineers, ecologist/wetland specialists, storm water engineers etc he can't afford to keep the properties free of alien vegetation! As a legal requirement which has been transgressed for years, how come developing the site [and making it what is being portrayed as an eco haven] is the only option being proposed? Surely, similar to the recommendation you have made re the garage drainage, it should be recommended to the owner that he immediately correct the situation on his erven - not only after development as your report proposes?

- **Mkhomazi Conservancy Committee** - The chief function of the land as it stands is to provide storm-water attenuation and filtration. These functions will apparently be enhanced and hence so will protection of the wider environment (Principally outflow into the "Aliwal Shoal MPA). Refuges for animals, birds and reptiles will be improved and we applaud the provision of monitored public access and future incorporation into D'MOSS. We cannot however support the use of fertilizer in a sensitive environment and can only support the installation of indigenous/endemic plant materials compatible with restoration of the wetland.
- **Mkhomazi Conservancy Committee** - Costs of the No-Go alternative are also postulated to be prohibitive and confer no benefit to the environment or developed areas. It is beyond the scope of this organization to attempt clearing and maintenance in perpetuity; nor in principle should private land be maintained by the municipality as has been suggested by some.

Response on General Ecological Concerns and Comments:

Refer to Section D8 points 3 & 8 of the Basic Assessment Report. Also refer to Appendix D2: Vegetation & Wetland Assessment & Appendix D6: Wetland & Open Space Rehabilitation Plan.

Wetland:

- **Mkhomazi Conservancy Committee** - Since no member is a wetland, soil, hydrology or other expert, we felt constrained to be guided largely by the opinions of those experts engaged for the BAR. We do not in principle support any development on any wetland area, however we accept that this wetland is heavily compromised in its continued ability to offer meaningful environmental goods and services in

the long term. From the BAR we understand that the functionality of this wetland compared with a pristine one is about 19% but that through the planned rehabilitation and environmental management this could be raised to about 43%. (Were Widenham to be planned under present legislation we believe that many areas would be undevelopable due to the prevailing wetland conditions which have been overcome through 'hard' engineering.) We believe it remains the duty of the proponent to clear all IAPs from the site whatever the outcome of this process.

We accept the proponent's right to attempt development of land purchased in good faith. However we do not accept that the wetland condition necessarily conflicts with this right. Property is still sold "Voet stoots" and the proponent must have been aware of the wetland on purchase. It is a pity that there is not suitable land, nor apparently a mechanism to investigate the possibility of a land swap.

- **Sinclair L. Stone** - I object to the construction of the seven or eight residences on the treasured Wetlands displacing the natural habitat of the many and varied animals.

Response on concerns regarding the Wetland Areas:

Refer to Section D8 point 2 of the Basic Assessment Report. Also refer to Appendix D2: Vegetation & Wetland Assessment & Appendix D6: Wetland & Open Space Rehabilitation Plan.

Flooding & Storm Water:

- **Lynette Palmer** - The stream that crosses your land crosses ours as well. Since 1994 when the provisional council and then the Ethekweni council took over the area all your land as well as ours has been flooded on a regular basis, due to them leading all stormwater, from Umkomaas golf club, Saiccor village and Widenham down this stream. They have constructed enormous culverts and water drainpipes all over the village which lead down to the stream. We have lived here for 23 years and even during Demoina we were not flooded like we are now. In 2008 we were so badly flooded that water came into our house which has been built up on higher landfilled ground. The water came up approx 5 metres high. Over the years our damages have been in the region of almost a million Rand so far. The municipality said that they were going to canalise the stream and then came up and said they could not do it as the stream runs across private land. As per our title deeds the stream and 10 feet either side is their responsibility.

There is also another problem. Above Saiccor village there are forest which have sold off for development as well. When those go up there will be even more flooding as that land also slopes down towards our properties.

I drove past your land the other day and they had diggers in there digging large culverts across that piece of land obviously to lead the water out. That piece of ground is being used at the moment as flood mitigation and as far as they seem to be concerned they can use it for their own purposes. We are in the process of seeing a lawyer as we would also like to sell a large part of our property. We have already filled in down the side of the own to make access to the back part of the land. Our ground is approx an acre in size and we are only utilising a third of that. But if we allow this D'moss we will not be able to do so.

With this notice it seems that they are cutting back on their costs and trying to bulldoze us into letting them use the property for their own devices. The neighbours next door are in the same predicament, as they also want to develop their land which is larger than ours, as they have 2 plots.

- **Heather Butler** - Perhaps it would be worth your while to get them to stop using your land and refill all culverts that they have put across it. These people seem to be a law unto their own. We have already been to local government in Pietermaritzburg and they insist that this all illegal.

I write in connection with the proposed development on the wetland bounded by Camborne, Widenham and St Catherines Roads, Widenham, at Umkomaas. I would like to register my complete opposition to any development on this wetland. The marsh was made worse by the building of the R102 years ago, and will be even worse should any development take place there.

I have personally seen that area completely flooded at least three times since I have lived in Marlborough Avenue (since the 1980s). It seems to be the catchment for run off from nearby higher ground. Apart from this, and this might be quite out of date, but isn't there a law that restricts development within 1,000m of the high water mark. Surely this falls into this category, if not the By-Laws which has height restrictions as well as density restrictions.
I trust this objection will be recorded.

- **Mkhomazi Conservancy Committee** - Storm water attenuation is a public good provided by private landowners and thus reduces costs to the Municipality of future flood mitigation in the Camborne Rd./Widenham Dr. area. WE suspect that provision of this service may have a bearing on the opinion of the municipality in this matter.
- **Maureen Sheard** - We have recently seen excessive and unusual rains in various parts of our country and others. The report states that provided the steps set out in your report are followed (Assessment of Impacts) the Mitigation possibilities are 'good'. The Hydrology report uses limited statistical historical data to make a conclusion. There appears to be no account taken of greater rains and possibly greater flooding than that experienced in the past in the investigations and recommendations. I would think that any plans to improve the status quo should take this into account. I would appreciate your views.

Response on concerns regarding the Flooding & Storm Water Issues & Concerns:

Refer to Section D8 points 11 & 12 of the Basic Assessment Report. Also refer to Appendix C2: Storm Water Management Concept

Comments on Basic Assessment Report:

- **K. T. Jones** - Page 53 - Quote "at least 50% of the units will be utilised as permanent residence". This is contradicted by point 9 of Appendix E1 which states that "most of the units will be used as holiday homes which will only be occupied during the festive season"

Which is it? – seems like whatever suits the argument to make report/ development look more attractive is used?

- **K. T. Jones** - Page 56 Quote "... the visual impact of the two storey units" is stated. However the proposed development is for 3 storey units. An intentional red herring to make report look more attractive and the development of less impact?
- **K. T. Jones** - Page 59. Please include after "... surely the owner cannot be penalized for bad planning that took place in the past" the following:

'Surely bad planning by the owner should not now impact upon the ratepayers of Widenham. Purchasing the erven with full knowledge of both the wetland nature, town planning zoning and restrictions, high construction costs of such property etc should not now entitle development which fundamentally changes the controls in place and the nature of Widenham, which others have had to comply with and more importantly why they bought in the area [e.g. a limit of two storey buildings] which he now wants to change to suit his desire for maximum gain!' If his financial calculations had indicated a 6 storey building was financially viable, would we now be facing that as a proposal.

- **K. T. Jones** - The entire report is drafted so as to sound that the development is one that Widenham cannot do without, and only with what the developer proposes will roads etc improve. Truth is that Widenham residents choose to live in the area because of the way it is and don't need a development of this nature, particularly 3 storey units.

Comments on Public Participation Process

- **Cherryl-Ann Vermeulen** - This serves to advise that a Concerned Citizens Group has lodged a request to the Kwazulu Natal Conservation Government Department to stop this development and has applied for the re-zoning of this area.

Please note that no meetings must take place without advising this group. The group will seek an interdict against Bokamoso & CCCT Trust to halt this development until such time as proper consultation has taken place between all the "interested and/or Affected" parties, and copies of all letters and documents submitted to you from the public viewing have been reviewed by all the parties involved.

The fact that Bokamoso did not act in good faith, by removing the documentation from public view before the specified date, will also be raised at the next round of discussions.

- **Sue Weightman** - I am writing this in my personal capacity but as you know I am member of Mkhomazi Conservancy. I have tried to access the draft report for the Widenham Stand Proposal at Umkomaas Library this morning, which is the closing date, but was told by the librarian that it was removed last Thursday (03 February). In addition I have received calls saying that it is also not available for download at your web-site any longer; only the link page remains.

Has there been a mistake? Please mail me urgently on this as it is a hindrance to the PPP which has already been a little fraught.

- **Sue Weightman** - At least two of us from Mkhomazi Conservancy have tried to access this report without success as it was removed from the Umkomaas library together with all the comments on Thursday 3rd Feb before the closing date. This is contrary to the spirit of the EIA public participation process. I will mail Lizelle Gregory at Bokamoso and let her know. Maybe you would like to do the same. This process has been fraught from the beginning.

- **Coble Steenkamp** - Ons in Umkomaas het 'n krisis aangesien die verslag wat jy opgestel het aangaande die Widenham Ontwikkeling reeds, volgens die bibliotekaresse van Widenham biblioteek, verlede Donderdag (3 Februarie 2011) uit die biblioteek verwyder is. Ek wou die verslag meer in diepte bestudeer en dan oor die naweek my finale kommentaar stuur in my private hoedanigheid.

Is dit dalk moontlik dat die finale datum dat kommentaar ingestuur kan word verleng kan word en die verslag weer beskikbaar gestel kan word voor dit?

Nodeloos om te se dat ek uiters ontsteld was toe ek nie die verslag kon kry nie en moes hoor dat dit reeds weg is. Ek sal bly wees as jy die probleem kan nagaan en aan my kan verduidelik wat gebeur het.

Response to Comments on Public Participation Process

The Draft Basic Assessment Report that was made available to the registered interested and/or Affected Parties was accidentally collected before the given review period lapsed. Bokamoso Environmental Consultants then granted an additional 15 day period to the affected parties for them to review the draft report.

Refer to Appendix E 4: Notification of additional time granted to review Draft Basic Assessment Report.

Town Planning Concerns:

- **Anne Hunt** - Proposed development is far too big for the area – the original house stands should never have been approved in the first place. The area does not need rezoning – rezoning will be needed if the proposed units are built.

• **K. T. Jones** - Page 13:"... it would be better to implement a 'cluster and space' development with

development along the periphery than the 8 residential units that will be distributed across the entire study area"

- **K. T. Jones** - On page 52, it is stated that the owner bought the study area for development purposes because the study area is zoned 'Residential 1' and not 'open space/conservation open space.' On what basis is the claim made that the 'existing land rights cannot be exercised' Why can the eight erven not be consolidated [as Residential 1] and 8 double story dwellings be built on the same periphery/footprint as proposed for the units. This would be enabling him to exercise the same rights as those which he accepted when he purchased the erven. i.e. 8 dwellings on the lots of two storey maximum height. This is not mentioned as one of the options considered.

No consideration/mention is made of [consolidating the lots if necessary] building 8 residential units along the same periphery as the proposed cluster units as two story buildings [complying with current zoning] each having the same footprint as the proposed cluster units. Why would the 8 residential units have to be built across the entire study area?

- **Mkhomazi Conservancy Committee** - The proponent purchased what amounts to 8 stands for 8 homes but intends to apply for rezoning for at least 4 times this number. This is not the original intention of the planners of Widenham which has limited opportunities for cluster homes.
- **Maureen Sheard** - The number of storeys requested still confuses me. Do 2 storeys mean that the height of the buildings which will be occupied will be a maximum of 2 stories up from street level? Or is it 2 storeys plus under unit garaging i.e. 3 storeys. What does 'storeys' mean? At the last meeting we ended up with 5 storeys. Under unit garaging, 3 storeys, plus a loft. I see that 2 storeys is the now the A1 choice. Your clarification will be much appreciated.
- **Mkhomazi Conservancy Committee** - We cannot support the developers preferred option of 54 units as this is contrary to the Town Planning scheme which allows only 2 storeys. This will severely detract from the sense of place of a country village with 3 storey blocks. We also feel that given the likely constraints of the sewage system by the hydrology, that we cannot also support even 32 units. However, common sense tells us that with fewer dwellings, purchasers will demand larger homes so the aesthetic gains may be few.

It is therefore our reluctant conclusion that in order to have any gains at all for the environment and to secure environmental goods and services for the future we must accept some development but with the bare minimum number of units, approaching the original 8 stands as nearly as possible, situated around the periphery as near to the road as is possible.

Response to Comments on Town Planning Matters and Alternatives:

Refer to Section B2 point 2 of the Basic Assessment Report. Also refer to Appendix G: Feedback from Town Planners & Alternatives.

Traffic, Roads & Infrastructure:

- **Anne Hunt** - The area could not withstand all the extra traffic – if you average two cars per unit then you will end up with a lot of extra cars on the roads around Widenham which will affect all the residents on St Catherine and other roads. Widenham does not need new roads – we are happy with what we have – we also do not need our rates to go up
- **K. T. Jones** - The description portrays the R102 as a quiet link road between coastal villages. Not so. The R102 is a main road and the so called flood damage interruptions are no longer [the Umzinto bridge interruption at Kelso is some 30km away from the proposed development site and was meant to be completed by the end of this month and will now be completed by end June 2011]. The description needs to be reviewed in line with the real situation now - not that of years ago! The R102 is a busy Main Road and one which would become busier if the N2 is tolled as proposed.

- **K. T. Jones** - Page 46 -. Land use features should also include sports facilities. There is a children's playground less than 30m from the Widenham Drive boundary of the proposed development site opposite two of the proposed site access points [another concern re traffic not addressed in the report]. There is also a squash court [sports facility] approx 100m from the development site.
- **K. T. Jones** - The Local Area Plan for Umkomaas includes two important aspects impacting directly upon the proposed development site namely:

a] The proposed [major] link road between the N2 and the R102 is indicated as forming the St Catherine Road boundary of the development sites. It is along this new link road that the two access points to the proposed development would sit! St Catherine road seems to be the answer for most issues in the report. Vehicle access, pedestrian access, sewage treatment plant area etc. However the proposed Link from the N2 to the R012 will make this a main thoroughfare. This has been completely ignored in the report yet will have a major impact on traffic etc!

b] The Canonbrae development less than 500m from the proposed development site on the border of Widenham and which will include approx 700 up market units.

How come these do not feature in the report and what impact will they have on the proposed development?

- **Nkhomazi Conservancy Committee** - Since the stand is to be developed as an "Eco-Resort" we hope that all possible resource use minimization will be encouraged including grey water recycling through toilets, solar water heating and all possible waste minimization measures during the life of the development. We would like to see these incorporated formally by the POA.

We remain very concerned about the sewage package plant in view of the high water table and note that stringent engineering conditions apply for the Calcamite system under these conditions. We would like to see a mandatory maintenance plan for the package plant to be drawn up and to be adhered to by the POA since this is where many problems have been reported in other installations. Package plants are certainly not free of problems. We are concerned that the plant will have to cope with severe highs and lows of occupancy. Has this been accounted for in its design?

We remain puzzled by the need to irrigate the "garden" area as this is to be returned to its wetland state.

Response to Comments on matters regarding Traffic, Roads & Infrastructure:

Refer to Section B & also Section D8 points 4 & 13 of the Basic Assessment Report. Also refer to Appendix D3: Traffic Impact Assessment, Appendix D4: Sewerage Disposal Management Report.

Site Access:

- **K. T. Jones** - Page 18 -. It is claimed that 4 access points will assist in distribution of traffic thus alleviating the increase in traffic. How can this be when four these access points, i.e. two in Widenham Drive, and two in St Catherine Road all have to be accessed via one entrance road? The IAP's concern remains valid.

The 8 residential stands enjoying 8x access points is a smokescreen. The traffic volume from 8 residential stands cannot be compared with that from the proposed development. See also point 12

Response to Comments on matters regarding Site Access:

Refer to Section B & also Section D8 points 4 & 13 of the Basic Assessment Report. Also refer to Appendix D3: Traffic Impact Assessment, Appendix D4: Sewerage Disposal Management Report.

Crime & Security:

- **Sinclair L. Stone** - Another very serious factor is that with additional residents and entourage, crime will inevitably increase. It is the very last thing we want in Widenham.

Response to Comments on matters regarding Crime & Security:

Refer to Section D8 point 7 of the Basic Assessment Report. Also refer to Appendix H: Environmental Management Plan (EMP)

Need and Desirability:

- **Anne Hunt** - If the developer does not have money to clear (clean) the plots at present then how does he have the money to pay your bills and others - will this be another development that goes into liquidation? There is NO need for this development - the only need is the developers need to make money. If he really wants to then build free standing homes as the plots were originally designed.
- **K. T. Jones** - Page 30 - Again the usual - "... there is a need in the market for a higher and more affordable up market residential units in the area". This need is questionable given the Shoals Development at Clansthal [approx 200 stands] and the huge Canonbrae development bordering Widenham not 500m from the proposed development site and with 700 odd stands. Both being upmarket developments
- **Sinclair L. Stone** - experience has shown that in this area there is no call for additional dwelling places, the existing ones are by and large standing empty. This fact can be borne out by consulting bona fide property agents. Thus, why destroy the beautiful wetlands and resident creatures we all in Widenham love to have in our midst?
- **Yvonne Stone** - i am a retired Widenham resident. Resident in Widenham since 1978. Widenham was chosen by myself and family because of its suitability as a quiet retired suburb without business rights etc. That is how we wished to live and the reason why we chose Widenham. We try to keep traffic to a minimum. Most residents have the same point of view and are almost all retired people. In fact, it is an unofficial retirement village without high walls.

Hence I object in the strongest terms to the building of these eight or more buildings on the grounds that there will be a marked increase in human traffic, increase in cars, additional servants, additional blaring taxis rushing through our narrow country roads. All this changing the very nature of Widenham as we chose it. I object most strongly.

Other

- **Cobie Steenkamp** - Baie geluk met 'n puik en professionele omgewingsimpakstudie! Dankie ook dat die tydperk vir opmerkings en kommentaar verleng is.

Soos dit is wag ek weereens tot op nommer 99 voor ek reageer, maar dit beteken nie dat ek intussen niks gedoen het nie. Jy het reeds die kommentaar wat deur Sue Weightman ingestuur is ontvang en ek bevestig net dat ek heeltmaal daarmee saamstem

Niemand wat gekant is teen die ontwikkeling met wie ek gesels het kon my oortuig met FEITE dat die ontwikkeling nie moet plaasvind nie en hoewel ek glo dat daar nie ontwikkeling op vleilande moet wees nie, kan dit in die geval van Widenham Stand net voordelig wees. Dit is egter belangrik dat daar gehou word by die voorskrifte en regulasies en voorstelle.

Ek woon nog net vier jaar in Umkomaas en is ietwat verbaas oor die reaksie van sommige inwoners. Die veiland het skynbaar oor 'n lang tydperk agteruit gegaan sonder dat iemand iets daarvoor gese het of iets daaraan gedoen het. Al was dit in private hande kon daar tog sekerlik voorkomende maatreels getref gewees het om die agteruitgang te verhoed. Dit lyk vir my dis net wanneer iemand die grond

wil benut vir behuising dat dit 'n hele konsternasie is.

Laastens hoop ek van harte dat die ontwikkelaar gaan kans sien om die ontwikkeling te doen, want dat dit duur gaan wees om te hou by al die voorstelle is nie altemit nie!

Sterkte vorentoe

Please refer to Appendix 1 of this document for:

Appendix 1 A: Comments form Ethikwini Municipality & Bokamoso Response Letter

Appendix 1 B: Comments from Department of Water Affairs

Appendix 1 C: Comments from Wildlife and Environment Society of South Africa (WESSA)

Appendix 1 D Email Received from Interested and or Affected Parties on Draft Basic Assessment Report.

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19 July 2011

Att: Ms. Nkuli Hadebe and Mrs. Diane van Rensburg

eThekwini Municipality
Development Planning, Environmental & Management Unit
Development Planning Dept, Land Use Management Branch
City Engineers Building
166 K E Masinga Road,
Durban
4001
Tel: 031 311 7847
Fax: 031 311 7859

RE: RESPONDING DOCUMENT IN RELATION TO THE COMMENTS RECEIVED FROM THE ETHEKWINI MUNICIPALITY ON THE DRAFT BASIC ASSESSMENT REPORT FOR THE PROPOSED DEVELOPMENT ON PORTIONS 35, 36, 338, 339, 340, 341, 342 AND 343 OF LOT 2 NO. 1668, WIDENHAM.

Dear Ms. Nkuli Hadebe & Mrs. Diane van Rensburg,

Bokamoso Environmental Consultants received comments on the above mentioned development from the eThekwini Municipality on the 27th of January 2011 (**Refer to Annexure A**). A meeting was requested with the eThekwini Municipality to discuss the aforementioned comments and consequently it was held on the 25th of March 2011.

The overall outcome and results of the meeting was that Bokamoso has to supply and provide additional information to address all the queries and questions of the Municipality. Therefore the following information and documents attached are the responds to the questions and queries.

Please note: The responds will be structured in accordance to the numeric structure used within the eThekwini Municipalities comment letter. Only the significant issues will be addressed in the responds.

The Environmental Planning and Climate Protection Department gave the following comments:

It is of great concern to this Department that there are still development proposals for sites such as this one, covered entirely by a reasonably pristine wetland, considering the recent rise in the awareness of wetland value and the impact of Climate Change. Wetlands of this size and condition are rare in urban areas and must be protected. Therefore, the proposed development is not supported by this office due to the following reasons.

1. The proposed development of 32 units is unacceptable on this given its location within a wetland.
2. A site inspection conducted by this Department discovered that the entire site is covered by a wetland and consist of tree species that are indicative of a swamp forest such as *Phoenix reclinata*, *Syzygium cordatum*, and *Bridelia micracantha*. Some of these tree species were noted along the periphery of the site thus indicating wetness through-out the site.
3. The vegetation and Wetland Assessment Report dated November 2007 prepared by S. Van Staden makes mentioned of the permanent and temporary wetland zones, however a layout plan showing the different zones is not included in the report. Therefore, we require a layout plan showing the extent of the wetland for ease of reference.
4. Some parts of the development, along the eastern boundary, are intended to be locaed within the permanent zone of the wetland and within 1:100 year floodline. One of the recommendations of the Environmental Assessment Practitioners is that the units that will be within the 1:100 year floodline be elevated out of the floodline by means of pillars to minimize the impact to the wetland. We are of the opinion that the raising the units out of the 1:100 year floodline is a not suitable measure to compensate for the loss of the wetland. We note that there is some disturbance on this wetland, by means of alien invasive, however this office finds it unacceptable to use the current state of the wetland to motivate for the development of 32 units on this site as there is great potential for the wetland to be rehabilitated to a pristine state.
5. We are concerned that the proposed development will result in a net loss of the wetland and its functionality. We are of the opinion that S. van Staden has underestimated the value of this wetland in terms of the Eco-services and benefits that it provides to the society. One of the functions performed by this wetland, as identified by S. van Staden in the Vegetation and Wetland Assessment Report dated November 2007, is stormwater attenuation. The proposed stormwater management system, by means of ponds and an attenuation dam is not adequate to mitigate

against the impact of the loss of this wetland while bearing in mind the increased variability of storm events that are projected as a consequence of climate change. Moreover, this wetland provides other functions other than stormwater attenuation. These functions include habitat provision, water quality improvement and carbon storage that cannot be mitigated by means of the proposed stormwater management system, thus resulting in a net-loss for the environment.

6. The proposed 'Calcamite System' may require a Waste License to be obtained from the KZN Department of Agriculture, Environment and Rural Development (DAEA&RD). The applicant is advised to contact the Department to confirm the Waste License requirements. In addition, the proposed locations of the sewer systems are not ideal from a biodiversity perspective as they are located on the most pristine portion of the wetland.
7. The Department thus requires the development proposal to be revised to take into account the sensitivity of the site and to come up with appropriate mitigation measures that are reflective of the importance of the site.

Bokamoso Environmental Consultants and Scientific Aquatic Services (SAS) CC responds to the above mentioned comments.

1. Bokamoso and SAS, duly note that the proposed development is situated within a wetland. For that reason, the draft Basic Assessment Report motivated a development on the perimeter of the site, consequently limiting the footprint of the structures within the wetland and flood area.
2. It was indicated in the draft Basic Assessment Report by Bokamoso and within the Vegetation and Wetland Assessment Report by Scientific Aquatic Services that the tree species on the site will be retained in their current position and where not it will be relocated to another position on the site, retaining habitat and the endemic tree species on site. Additional to the abovementioned, it is also recommended that additional tree species (endemic to the region and site) be included within the proposed development and form part of the rehabilitation and landscape development plan.
3. Please refer to Annexure B for an enlarged figure of the different zones of the wetland. Also refer to Annexure C for Scientific Aquatic Services the Wetland and Open Space Rehabilitation and Management Plan.
4. According to Mr. Stephen van Staden from SAS (**Refer to Annexure D For the responds from Mr. Stephen van Staden to the eThekweni Municipalities comments**) there are several impacts on the subject wetland system, namely:
 - The wetland was shown to receive significant volumes of sewage effluent from extraneous diffuse sources, which enter from stormwater systems to the west of the

site. A Vegetation and Wetland assessment was conducted for the subject property during 2007 (**Refer to D2 of the Basic Assessment Report**), which included the testing of water samples taken upstream and downstream of the subject property. The samples indicated that the upstream samples had high levels of *Faecal coliform* counts, which serves as an indication that runoff from the surrounding residential area including possible French drains and other sewage disposal facilities are likely. The *F. coli* values exceeded the Department of Water Affairs (DWA) *Total Water Quality Range* for recreational use.;

- The understory vegetation on the site showed severe levels of disturbance and impact from alien invasive vegetation;
- Natural runoff patterns have been altered due to incision and canalization of the system in the past;
- Natural migration routes in the system have been compromised by roadway development across the system; and
- Altered streamflow is deemed highly likely, due to impacts from:
 - Urban runoff and stormwater discharge; and
 - Impacts from roadway development.

According to Mr. Stephan van Staden the rehabilitation of the subject wetland is possible in theory, but in practice, the wetland is unlikely to be rehabilitated to a pristine state unless some economic value is attached to the subject property or that some other incentive to rehabilitate the system is created. If no free willing incentive or economic inputs are allocated to the subject wetland system, it can be established that the wetland system will degrade even more. Additional impacts which may further degrade the wetland system include; increased invasive vegetation encroachment, illegal dumping and further deterioration in water quality will outweigh the possibility that the system will be rehabilitated.

During the Vegetation and Wetland assessment conducted in 2007 by SAS Consultants it was established by water samples taken upstream and downstream. That the water entering the applicable site has high levels of *Faecal coliforms*, which exceeds the Department of Water Affairs requirements for recreational use. Thus indicating that the runoff from the surrounding and upstream residential areas contain traces of sewage. It should however be noted that the water sample tests was conducted in 2007 and it is uncertain as to what the current *F. coli* counts are.

Therefore it is proposed to consolidate the eight subject stands into one large stand and develop 8 dwelling blocks (4 units per block) with a total of 32 units on the perimeter of the site. It is also proposed to construct the dwelling blocks on pillars, thus limiting the footprint and impact of the structures within the wetland system. Secondly a part of the monthly levies generated by the units will be utilized for managing and the rehabilitation of the wetland system.

It should however be noted that it is proposed to develop 32 Units, as the total levies required per unit for the maintenance will not accumulate to a substantial amount.

5. Please refer to Annexure D for Mr. Stephen van Staden's responds to the comments. Mr. Stephen van Staden is of the opinion that although the subject property supports a high level of biodiversity and provides habitat for indigenous vegetation and fauna, in relation to the surrounding areas, the subject property is bordered on all sides by significant developments which also forms significant migrational barriers. The subject property therefore forms an ecological island, which drastically reduces the value of the site in terms of conservation. It must also be noted, that due to the close proximity of the Indian Ocean to the east and with the system not forming an import estuary or river mouth into the ocean, there are no areas of highly significant ecology or river mouth into the ocean.

It should also be noted that, due to the fact that the drainage features on the subject property have been canalised in some areas a significant degree of the water purification function of the wetland has been lost. As mentioned above, the close proximity of the Indian Ocean to the east and with the system not forming an important estuary or river mouth into the ocean, there are no areas of highly significant ecology downstream from the proposed development site.

It must further be noted that the system in its present state provides very little socio-economic or socio-cultural value. If some development of the subject property took place along with rehabilitation and management of the system, these aspects of wetland service provision would be greatly enhanced.

Mr. Stephen van Staden further states that "it would be in the interest of all stakeholders to permit some limited development activities on the subject property, while still ensuring that the development activities on the subject property are undertaken in an ecologically sensitive and sustainable manner. It is deemed essential that the development footprint, however be kept to the absolute minimum to make the proposed development viable, both in the construction and operational phases of the development."

Bokamoso and Mr. Stephen van Staden is thus of the opinion that due to the degree of disturbance of the understory vegetation, the development of residential structures on raised platforms on piles is deemed a suitable development technique for the subject property. The construction and operational phases of the development will have to comply with the open space and wetland management plan (**Refer to Appendix D6 of the Basic Assessment Report**) developed for the site. All construction activities must however be overseen by a suitably qualified wetland ecologist to ensure that the requirements of the plan are being adhered to.

Geotechnical Engineering Branch:

A detailed Geotechnical Report will be conducted and form part of the recommendations of the final Basic Assessment report that will be submitted to the KZN Department of Environmental Affairs.

Conclusion:

It is therefore Bokamoso's opinion that the municipality allow the proposed development alternative of 32 units on the subject property. Not developing the subject properties leaves the possibility for further degradation of the wetland and ecosystem. The possible threat of squatters and illegal settlers also pose a serious risk to the security and beauty of the area, if no development or economic value is contributed to the subject properties. Bokamoso consequently request that the municipality revise the additional information supplied and take into consideration the benefits of such a development to the community and the degraded wetland system.

Kind regards,

Bokamoso Environmental Consultants and Landscape Architects

ENVIRONMENTAL PLANNING AND CLIMATE PROTECTION DEPARTMENT

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ATT: Mr. Stephan Barkhuizen

EMAIL: lizelleg@mweb.co.za
OUR REF: EIA/583

By Email

Dear Sir

RE: DRAFT BASIC ASSESSMENT REPORT – WIDENHAM STAND DEVELOPMENT

With reference your response to our comments on the draft Basic Assessment Report dated the 08-09-2011; please be advised that this office has reviewed the response and supporting documentation (Wetland and Open Space Management Plan for the Ecological Resources) and submits the following comments for your attention.

We maintain our stand-point that the proposed development of 32 units on this site is not acceptable from a biodiversity perspective. We raised a few concerns about this development proposal and they were not adequately addressed as outlined below:-

1. The layout of the development was not revised to accommodate our concerns regarding the density of this development on this site.
2. We question the credibility of the wetland zones as they were delineated using desktop methods.
3. The impacts of the proposed location of the 'Calcamite System' were not assessed.

In closing, we are merely voicing our opinion on the proposed development and we are happy to allow the competent authority, the Department of Agriculture, Environmental and Rural Affairs, make the final call regarding the feasibility of this development.

Kind Regards,

C. Thengwa
Manager: Biodiversity Impact Assessment
Date: 05-10-2011



Our Ref.: DPM/EIA 450(S) (15/1/2/1)
Enquiries: Mrs D. van Rensburg
Telephone: 031 - 3117136

27 January 2011

Bokamoso Environmental
P.O. Box 11375
Maroelana
0181

Attention: Stephan Barkhuizen

Dear Sir/Madam,

RE: DRAFT BASIC ASSESSMENT REPORT FOR THE PROPOSED WIDENHAM STAND DEVELOPMENT.

With reference to the abovementioned Draft Basic Assessment Report, please be advised that various Municipal Departments have had sight of the proposal and the following comments are submitted for your attention:-

1. eThekweni Electricity Department.

The Electricity Department has no objection, however please note:

- (1) The applicant must consult eThekweni Electricity's mains records (held in the drawing office at eThekweni Electricity Headquarters, 1 Jelf Taylor Crescent, for the presence of underground electrical services. In addition should any overhead line and/or servitude be affected, the specific permission of the Head: Electricity must be sought regarding the development.
- (2) The relocation of MV/LV electrical services, if required in order to accommodate the development, will be carried out at the expense of the applicant.

2. Framework Planning Branch.

This Branch has reviewed the Draft Basic Assessment report and submits the following comments.

1. The South Spatial Development Plan (SSDP, November 2010) has indicated that the proposed residential component is located within an area set aside for future residential development at a recommended density of 6-15 dwelling units per hectare.
2. The layout plan must be aligned with the objectives of the South Spatial Development Plan and the Umkhomazi Local Area Plan which indicates that sea-facing units must remain a low height.
3. It has been noted that the proposed site is located on DMOSS. It is therefore recommended that the Environmental Planning and Climate Protection Department be contacted on 031-3117471.

3. Land Use Management.

The current zoning is Special Residential. The applicant is to discuss with Town Planning as the proposal appears to include a residential development which will require a rezoning application to be applied for.

4. Environmental Planning and Climate Protection Department.

Reference is made to the above-mentioned report dated December 2010. Please note that this office has reviewed the said report and submits the following comments for your attention.

It is of great concern to this Department that there are still development proposals for sites such as this one, covered entirely by a reasonably pristine wetland, considering the recent rise in the awareness of wetland value and the impacts of Climate Change. Wetlands of this size and condition are rare in urban areas and must be protected. Therefore, the proposed development is not supported by this office due to the following reasons:-

1. The proposed development of 32 units is unacceptable on this site given its location within a wetland.
 → edms
2. A site inspection conducted by this Department discovered that the entire site is covered by a wetland and consists of tree species that are indicative of a swamp forest such as *Phoenix reclinata*, *Syzygium cordatum* and *Bridelia micracantha*. Some of these tree species were noted along the periphery of the site thus indicating wetness through-out the site.
3. The Vegetation and Wetland Assessment Report dated November 2007 prepared by S. Van Staden makes mention of the permanent and temporary wetland zones, however a layout plan showing the different zones is not included in the report. Therefore, we require a layout plan showing the extent of the wetland for ease of reference.

OVERLAP

4. Some parts of the development, along the eastern boundary, are intended to be located within the permanent zone of the wetland and within 1:100 year floodline. One of the recommendations of the Environmental Assessment Practitioner is that the units that will be within the 1:100 year floodline be elevated out of the floodline by means of pillars to minimise to impact to the wetland. We are of the opinion that raising the units out of the 1:100 year floodline is a not suitable measure to compensate for the loss of the wetland. We note that there is some disturbance on this wetland, by means of alien invasives, however this office finds it unacceptable to use the current state of the wetland to motivate for the development of 32 units on this site as there is great potential for the wetland to be rehabilitated to a pristine state.

AREA OF WETLAND LOST. EXPLAINED IN REPORT.

5. We are concerned that the proposed development will result in a net loss of the wetland and its functionality. We are of the opinion that S. van Staden has underestimated the value of this wetland in terms of the Eco-services and benefits that it provides to society. One of the functions performed by this wetland, as identified by the S. van Staden in the Vegetation and Wetland Assessment Report dated November 2007, is stormwater attenuation. The proposed stormwater management system, by means of ponds and an attenuation dam is not adequate to mitigate against the impact of the loss of this wetland while bearing in mind the increased variability of storm events that are projected as a consequence of climate change. Moreover, this wetland provides other functions other than stormwater attenuation. These functions include habitat provision, water quality improvement and carbon storage that cannot be mitigated against by means of the proposed stormwater management system, thus resulting in a net-loss for the environment.

6. The proposed 'Calcamite System' may require a Waste License to be obtained from the KZN Department of Agriculture, Environment and Rural Development (DAEA&RD). The applicant is advised to contact DAEA&RD to confirm the Waste License requirement. In addition, the proposed locations of the sewer systems are not ideal from a biodiversity perspective as they are located on the most pristine portion of the wetland.

Wetland Specialist

Access Boundary - Eco Services License

Wetland Specialist

This Department thus requires the development proposal to be revised to take into account the sensitivity of the site and to come up with appropriate mitigation measures that are reflective of the importance of the site.

12 WEEKS. 5 COPIES
+ 1 MONTH FROM THE DOK
OF ADDITIONAL

5. Geotechnical Engineering Branch.

Having read the Basic Assessment Report Branch submits the following comments:

The Basic Assessment Report has the geology as Arenite (Appendix A Figure 7), generally a sandstone rock, whereas the GIS and experience suggest unconsolidated, dune derived Berea Formation sands below the site. There may be sandstone bedrock at depth although the beach outcrop nearby is tillite. Saturated, fine grained, potentially organic sands (as one would expect in a wetland situation) are very challenging to work with, drain and compact. This could affect the feasibility (or at least the budget and time frame) of the development as heavy construction plant / piling rigs may get bogged down. Draining of wet fine sands to make the area workable is time consuming and could affect construction progress.

Founding structures on piers below the flood line introduces the risk of the surrounding materials being eroded by flood waters, exposing or undermining the supporting pillars. Foundation depth and design must be based on a comprehensive geotechnical investigation. A significant percentage of the catchment to the west appears to be under plantation, presumably wattle or similar, thirsty alien. When these are harvested, the water run-off will increase considerably until the next crop has established. This will impact both surface run-off and levels of ground water which will rise and fall with the cycle. This should be taken into account, particularly if development and harvesting coincide or development follows shortly thereafter, since they are pushing into flood lines and wetland buffers. Any future development or hardening of surfaces in the western agricultural sector will also affect the water regime and could negatively impact a development that has already infringed into known seepage zones.

Connecting up to 54 units to an on-site sewage treatment works will produce in the order of 37,800 to 48,600 litres of effluent per day (depending on the combinations of 2 or 3 bedrooms) under worst case / peak conditions. Only a limited percentage of the treated water can reasonably be irrigated across the site in any time period and the balance will have to be discharged daily into the natural water course. In the wet summer period, virtually the entire volume could be discharged daily. These volumes do not include any storm water or natural flow that may be present. This increased flow could have consequences for the sites downstream and must be considered.

The Berea sands are potentially highly erodible and all due caution to prevent erosion must be taken during and after construction.

Structures could be subjected to ongoing rising damp and should be constructed accordingly.

Geotechnically, it is not recommended to develop seepage zones, wetlands or below the flood line, especially for residential stands. Construction in these areas will always be more challenging and costly. Any development and construction must be based on a detailed geotechnical investigation and report by a competent engineering geologist.

6. eThekweni Transport Authority.

The Traffic Impact Assessment submitted as part of the Draft Basic Assessment Report is not supported in its current form. The applicant needs to revise the same to include the impacts of the full development proposal. Furthermore, the access points to the development must meet the minimum geometric standards. In this regard it is suggested that the applicant liaise with the ETA's Traffic Engineering Branch.

7. Durban Solid Waste.

Whilst Solid Waste Management is addressed in the document the information provided is not detailed enough.

During construction the contractor needs to make use of a suitable skip for Solid Waste Management.

The waste storage area mentioned needs to be close to the entrance to the complex and site such that it has easy access for collection staff and the refuse compactor does not obstruct the free flow of traffic on a public road.

Please note that this application is not supported due to the reasons set out in Point 4 which have been provided by the Environmental Planning and Climate Protection Department.

Should you seek clarification on any of the above issues, please contact the writer on telephone: 031 - 3117136 or via e-mail: vanrensburd@durban.gov.za In addition, the Department requests that a copy of the Record of Decision be faxed to 031 - 3117279.

Yours faithfully



DEPUTY HEAD: DEVELOPMENT PLANNING

Copy To:
Department of Agriculture, Environmental Affairs and Rural Development
(Dbn)
Private Bag X 006
Bishopsgate
4008

ENVIRONMENTAL PLANNING AND CLIMATE PROTECTION DEPARTMENT

Deputy Head: Dr. D. Roberts
Enq: Ms. N. Hadebe
Tel: 031-311-7474
E-mail: hadebenkuli@durban.gov.za

166 K.E. Masinga (Old Fort) Road
P.O. Box 680
Durban
4000
Tel: +27 31 311 1111
Fax: +27 31 311 7134



Diane van Rensburg
By Email

Nkuli Hadebe
hadebenkuli@
Durban.gov.za
031 311 7474

RE: DRAFT BASIC ASSESSMENT REPORT FOR THE PROPOSED WIDENHAM STAND DEVELOPMENT

Reference is made to the above-mentioned report dated December 2010. Please note that this office has reviewed the said report and submits the following comments for your attention.

It is of great concern to this department that there are still development proposals for sites such as this one, covered entirely by a reasonably pristine wetland, considering the recent rise in the awareness of wetland value and the impacts of Climate Change. Wetlands of this size and condition are rare in urban areas and must be protected. Therefore, the proposed development is not supported by this office due to the following reasons:-

1. The proposed development of 32 units is unacceptable on this site given its location within a wetland.
2. A site inspection conducted by this department discovered that the entire site is covered by a wetland and consists of tree species that are indicative of a swamp forest such as *Phoenix reclinata*, *Syzygium cordatum* and *Bridelia micracantha*. Some of these tree species were noted along the periphery of the site thus indicating wetness through-out the site.
3. The Vegetation and Wetland Assessment Report dated November 2007 prepared by S. Van Staden makes mention of the permanent and temporary wetland zones, however a layout plan showing the different zones is not included in the report. Therefore, we require a layout plan showing the extent of the wetland for ease of reference.
4. Some parts of the development, along the eastern boundary, are intended to be located within the permanent zone of the wetland and within 1:100 year floodline. One of the recommendations of the Environmental Assessment Practitioner is that the units that will be within the 1:100 year floodline be elevated out of the floodline by means of pillars to minimise to impact to the wetland. We are of the opinion that raising the units out of the 1:100 year floodline is a not suitable measure to compensate for the loss of the wetland. We note that there is some disturbance on this wetland, by means of alien invasives, however this office finds it unacceptable to use the current state of the wetland to motivate for the development of 32 units on this site as there is great potential for the wetland to be rehabilitated to a pristine state.

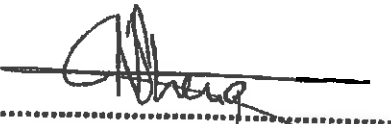
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031 336 2883

5. We are concerned that the proposed development will result in a net loss of the wetland and its functionality. We are of the opinion that S. van Staden has underestimated the value of this wetland in terms of the Eco-services and benefits that it provides to society. One of the functions performed by this wetland, as identified by the S. van Staden in the Vegetation and Wetland Assessment Report dated November 2007, is stormwater attenuation. The proposed stormwater management system, by means of ponds and an attenuation dam is not adequate to mitigate against the impact of the loss of this wetland while bearing in mind the increased variability of storm events that are projected as a consequence of climate change. Moreover, this wetland provides other functions other than stormwater attenuation. These functions include habitat provision, water quality improvement and carbon storage that cannot be mitigated against by means of the proposed stormwater management system, thus resulting in a net-loss for the environment.

6. The proposed 'Calcamite System' may require a Waste License to be obtained from the KZN Department of Agriculture, Environment and Rural Development (DAEA&RD). The applicant is advised to contact DAEA&RD to confirm the Waste License requirement. In addition, the proposed locations of the sewer systems are not ideal from a biodiversity perspective as they are located on the most pristine portion of the wetland.

This department thus requires the development proposal to be revised to take into the account the sensitivity of the site and to come up with appropriate mitigation measures that are reflective of the importance of the site.

Kind Regards,



.....
C. Thengwa
Manager: Biodiversity Impact Assessment
Environmental Planning & Climate Protection Department
Date: 31-01-2011





water affairs

Department:
Water Affairs
REPUBLIC OF SOUTH AFRICA

Enquiries: Ms. Z. S. Mabuza
Date: 18 April 2011
Ref.: 16/2/7/U100/D1/X1
Tel: 031-336 2823
Fax: 031-305 9915
E-mail: mabuzaz@dwa.gov.za

The Director
Bokamoso Environmental
P. O. Box 11375
MOROELANA
0181

ATTENTION: LIZELLE GREGORY

Dear Madam.

RE: DRAFT BASIC ASSESSMENT REPORT FOR THE PROPOSED WIDENHAM STAND DEVELOPMENT.

Reference is made to the above-mentioned document received by this Office on 10 December 2010, the meeting held on site on 03 July 2009 with Mr. Raj Philip and representatives from Bokamoso Environmental Consulting, as well as the meeting held on 18 April 2011 with Ms. Z. Mabuza of this Department.

This Department's letter dated 04 March 2011 regarding the above is therefore amended as follows:

(1) SEWAGE TREATMENT AND DISPOSAL

- (1.1) It is understood from the above report that there is no existing sewer reticulation system in the area to connect to, hence the need for an on-site sewage treatment system
- (1.2) With regards to the on-site sewerage treatment system, please note that this Department does not approve any specific technology i.e. *lilliput system*, *Calcamite system* etc. However the use of such a system must comply with the following requirements:
- (1.2.1) The proposed Package Sewage Treatment Plant must be easily capable of processing the sewage generated at the proposed development.
 - (1.2.2) The impact of this sewage treatment package plant and of the proposed development on the surroundings, both before and after, must be ascertained through baseline studies. This should include monitoring of the water resource both upstream and downstream of any discharge point.
 - (1.2.3) The Wastewater Treatment Plant must be located as far-away as possible from any water-logged soils and the drainage line on site.
 - (1.2.4) The quality of the final effluent must be regularly tested to ensure that the plant is operating correctly.

- (1.2.5) The discharge of final effluent from the treatment plant either into a water course or onto the gardens for irrigation purposes will need to comply with section 21(f) and (h) (page 18-25), and section 21(e) (page 11-17) respectively, of the General Authorisations (Government Notice No. 26187, 26 March 2004) in terms of section 39 of NWA, 1998 (Act 36 of 1998). Please find attached a copy of the General Authorisation. If the quantity and quality is expected to exceed the values as per the General Authorisations, a licence will need to be applied for.
- (1.2.6) The sewage treatment and disposal systems must not pose a risk to human health and the surrounding environment and this includes surface and groundwater.
- (1.2.7) A spill contingency plan must be drawn up to handle possible sewer spillages should there be accidental damage to the sewer line.
- (1.2.8) It is understood that the system will be designed to treat the wastewater to the Special Limit Values of the General Authorisations, and that this treated effluent will be used for irrigation purposes.
- (1.2.9) The activity of discharge into a water resource or irrigation will need to be registered with this Department. Please find the relevant forms attached.
- (1.2.10) Adequate measures must be in place to prevent stormwater from entering the sewer.
- (1.2.11) Measures to prevent pollution to the watercourse which passes through the property must be in place.
- (1.2.12) Spare parts must be kept on hand to accommodate any failure to the treatment system.
- (1.2.13) The plant operator must be well trained to ensure effective operation and maintenance of the plant.
- (1.2.14) The plant must be fenced and unauthorised access prohibited.

(1.3) It is noted that the preferred and recommended sewage disposal system is a level 4 Calcamite System. This system must not pose a risk to human health and the surrounding environment and this includes surface and groundwater.

(1.4) Should the preferred system result in the creation of any unacceptable health hazards or pose a problem to the environment (includes surface and groundwater), an alternative treatment and disposal system would need to be installed.

(2) SOLID WASTE

(2.1) The ongoing removal and disposal of solid waste from dwellings to a permitted waste disposal site is required and this is the responsibility of the eThekweni Municipality.

(2.2) All solid waste prior to being collected for safe disposal, must be stored under cover and within a designated solid waste collection/storage area.

(2.2) Contaminated materials are to be disposed off at a permitted hazardous landfill site that is authorised to accept such waste material.

(2.3) All waste generated at the proposed development should be disposed off in a suitable manner so as not to cause any surface water pollution or health hazard.

(2.4) Should private contractors be used, all solid waste must be disposed off at a permitted landfill site, and proof of this must be made available to this Department

(3) STORMWATER MANAGEMENT

- (3.1) It is imperative that a Stormwater Management Plan/System be drawn up and implemented to ensure proper management of stormwater on the site during and after construction. This Department requires a detailed storm water layout and design plans to be drawn and approved by the Municipality.
- (3.2) The eThekweni Municipality must be contacted with regard to any discharges either to the stormwater drainage system or to the municipal sewer system, if supplied in the area.
- (3.3) Drainage must be controlled to ensure that runoff from the Development will not culminate in off-site pollution or cause water damage to properties downstream from the site.
- (3.4) The storm water drainage system must not be contaminated by other waste sources and must therefore be separate from other waste water drainage systems.
- (3.5) After construction, the site should be contoured to ensure free flow of run off and to prevent ponding of water.

(4) EROSION CONTROL

- (4.1) Soil erosion on site must be prevented at all times, i.e. pre, during and post construction activities.
- (4.2) Erosion control measures should be implemented in areas sensitive to erosion such as near water supply points, edges of slopes, etc. to ensure that there is reduced sediment load to any water courses. Measures must also be implemented prior to construction to minimise problems during the construction phase of the project.
- (4.3) These measures could include the use of sand bags, hessian sheets, retention or replacement of vegetation.

(5) WETLANDS.

- (5.1) According to the National Water Act 1998, (Act 36 of 1998) a wetland is defined as a water resource. It is the mandate of the Department of Water Affairs and Forestry to protect, use, develop, conserve, manage and control the water resources of South Africa.
- (5.2) All wetlands on site must be delineated according to this Department's guideline entitled "*A practical field procedure for identification and delineation of wetlands and riparian areas.*" (DWAF, 2005). The contents of the Wetland Report (Appendix D2) are acknowledged and recommendations supported.
- (5.3) Although this Department would prefer to have a 20 meter buffer from the edge of the temporary wet zone of the wetland to the edge of any structural development, the Water Quality Management section of this Department is aware that this requirement will make the

project unviable. In addition, due to the nature of the project, it is anticipated that there will be some disturbances to wetland/riparian areas.

(5.4) Based on the above and the requirements of the Water Resources Management section, the Water Quality Management section has the following comments with regard to wetlands/riparian areas:

(5.4.1) The extent of damage must be minimised.

(5.4.2) The wetland areas must be rehabilitated immediately after disturbance and this rehabilitation plan must be included in the Environmental Management Plan (EMP).

(5.4.3) The banks adjacent to the construction site must be stabilised to prevent collapse and erosion.

(5.4.4) Areas to be utilised by heavy machinery, etc must be clearly demarcated and a responsible person must be appointed to ensure that there is full compliance with the EMP.

(5.4.5) This Department reserves the right to request that additional measures be taken should the activity be deemed to cause a significant impact to the environment.

(5.5) The wetland must be included as part of the detailed Stormwater Management Plan as mentioned in condition (3.1) of this letter, should a certain percentage of stormwater from the site be allowed to drain towards the wetland. It is vitally important the stormwater discharging to the wetland is dissipated prior to entering the permanent, seasonal or temporary zone of the wetland so that it does not cause gully erosion or negatively impact on the hydrological functioning of the wetland.

(5.6) A copy of the Wetland Rehabilitation and Maintenance Plan must be forwarded to this Office for comment and Authorisation (*i.e. General Authorisation or licence*).

(5.7) This Department may dispense with a licence if the Rehabilitation Plan as well as this Department's comments are adequately addressed in the ROD.

(6) GENERAL.

(6.1) No forms of secondary pollution should arise from the disposal of sewage and refuse. Any pollution problems arising from the above development are to be addressed immediately by the Developer.

(6.2) Storage of any material, chemicals, fuels, etc must not pose a risk to the surrounding environment and this includes groundwater. Such storage areas must be located as far-away as possible from the channeled wetland system and any water-logged soils and must be fenced to prevent unauthorised access into the area. Temporary bunds must also be constructed around chemical or fuel storage areas to contain possible spillages.

(6.3) There must be no unacceptable impact on the quality of both surface and groundwater in the area.

(6.4) Proper measures must be in place to protect the stream running through the property from any form of pollution.

- (6.5) A spill contingency or emergency response plan must be drawn up for the construction phase of the project, if it is not adequately addressed in the EMP and should include the following actions that need to be taken into account in the event of a spill:
- (6.5.1) Stop the source of the spill.
 - (6.5.2) Contain the spill
 - (6.5.3) All significant spills must be reported to this Department and other relevant authorities
 - (6.5.4) Remove the spilled product for treatment or authorised disposal
 - (6.5.5) Determine if there is any soil, groundwater or other environmental impact
 - (6.5.6) If necessary, remedial action must be taken in consultation with this Department & other relevant authorities.
 - (6.5.7) Incident must be documented.
- (6.6) The proposed development is not in conflict with local municipal plans or by-laws.
- (6.7) The construction of new access roads must have no unacceptable impact on the environment, surface water and groundwater. Measures must be in place to minimize/control dust.
- (6.8) The conditions and responsibilities in the Environmental Management Plan (EMP) (Appendix H) are acknowledged. Compliance for the Final Approved EMP must be undertaken by the designated environmental control officer.
- (6.9) Notwithstanding the above, the responsibility rests with the applicant to identify any sources or potential sources of pollution from his undertaking and to take appropriate measures to prevent any pollution of the environment. Failure to comply with the requirements of the National Water Act, 1998 (Act 36 of 1998) could lead to legal action being instituted against the applicant.

Please do not hesitate to contact this Office should you have any concerns, comments or queries.

Yours faithfully



for PROVINCIAL DIRECTOR: KWAZULU-NATAL
ZM/zm/14966

George Gericke

From: Ontvangs
Sent: 25 February 2011 09:00 AM
To: George Gericke; Stephan Barkhuizen
Subject: FW: Widenham Stand

From: Carolyn [mailto:afromatz@telkomsa.net]
Sent: 25 February 2011 08:16 AM
To: 'Lizelle Gregory'; Stephan.bokamoso@gmail.com
Cc: 'Bianca'
Subject: Widenham Stand

Dear George, Stephan
Please find WESSA KZN's comments on the Widenham stand application attached. Thanks for the information.

Regards

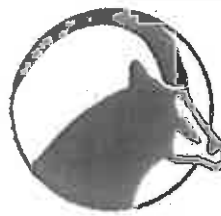
Carolyn Schwegman
EIA Co-ordinator, WESSA KZN

Tel: 039 9752147 / 083 9814814
Fax: 039 975 2147 (on request)
email: afromatz@telkomsa.net
Post: P O Box 343, Pennington, 4184

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(Please use contact details below. Fax line available on request only)

23 February 2011

Bokamoso Consultants
P O Box 11375
0161 MAROELANA
Lizelleg@mweb.co.za

Dear Ms Gregory

DM/0147/08: Development of Widenham Stand
Ptns 35, 36; 338, 339, 340, 341, 342, 343 (of 2) Lot 2 No. 16683
Widenham, eThekwin

Draft Basic Assessment Report (BAR):

WESSA KZN (Wildlife and Environment Society of South Africa, KwaZulu-Natal) and Coastwatch (a project of WESSA), hereafter referred to collectively as WESSA, is extremely reticent to accept development below the 1:100 floodline and within a wetland. In principle WESSA would not support such development but it is said that the proposed development will facilitate improved function of the wetland/floodplain (which eThekwin regards as an important stormwater control feature in the area) which is positive and the reinstatement of the natural vegetation will improve the ecological status of the wetland and ensure the retention of the sense of place enjoyed by residents. However, we are unable to support the proposal as is and note several serious concerns below.

1. Planning

It is of extreme concern that the project site has retained its zoning for residential development in light current knowledge of the value of wetlands and the risk to development within the floodplain (WESSA does not consider artificially raised structures to be out of the floodplain). However, as the property has residential rights it seems that the clustering of buildings along the periphery would be the best option should the development rights be realised. We would not support development across the entire site and clustered development is said to find favour with the Department of Water Affairs (DWA) and eThekwin Municipality, however -

- Density. WESSA's acceptance of developing the site would require the number of units to be reduced. The permitted densities in terms of the town planning scheme and other planning controls associated with 'Residential 1' are not given and WESSA assumes that, in keeping with the surrounding properties, the development rights conferred on each individual property within the project site would allow the construction of a single residence giving a total of eight units. It is misleading to suggest that the applicant has rights to develop across each entire property as it is unlikely that such inappropriate development would be authorised. The BAR notes that in terms of alternatives no other site was assessed as the applicant purchased the site (8 individual properties) with the intention of constructing eight units. That this is now being escalated to 32 units is quite unacceptable. Development of the 8 units on a single consolidated site does not deny the applicant the development rights.
- Appendix C3 – site layout plan – shows nine (9) blocks whereas eight are assessed.
- Viability Calculations used to determine density. WESSA believes that the figures unrealistically favour the applicants preferred option and we question the amount required for

- fertilisers b) purchase of plants for rehabilitation c) maintenance of formal gardens. With respect to a) and b) we find that use of fertilisers in the wetlands would be wholly inappropriate, and being familiar with the area we suggest that wetland rehabilitation/management would require the removal of alien species without the need for excessive replanting. With respect to c) – formal gardens – development of the site is severely constrained by it being a wetland and the introduction of formal gardens would not be possible without unnecessary infilling of wetland and should not be authorised. The development footprint must be restricted to the buildings (on piles) and outbuildings/garage, driveway, courtyard with limited garden at the access point. It is also WESSA's understanding that maintenance and management costs will reduce considerably as rehabilitation progresses.
- We support consolidation into a single erf, however with restricted development.

2. Stormwater

- It seems that eThekweni municipality supports the development based on the perceived benefits of improved flood attenuation, however, calculations in the stormwater management plan must factor in the large residential area which is to be established in the catchment of the Widenham stream, Canonbrae. Downstream flooding – R102 and beyond, as well as the impacts at the beach outlet – must be considered. The cumulative impacts are not assessed.
- Climate Change. Damage from the heavy rainfall on the south coast in July 2008 is still evident in parts and recognition must be given to the predicted more frequent and more intense climatic events in the future.
- Management Plan. WESSA will not comment on the technical and engineering requirements for municipal stormwater control but from an ecological aspect the proposed creation of three (3) dams within the wetland is not supported as it will further transform considerable areas of wetland habitat. The establishment of the dams and retention of the existing canal seems at cross purposes with regards to the intention to rehabilitate the wetland which will improve *natural* stormwater attenuation.
- Stormwater from a reduced density will not require artificial attenuation features within the wetland.
- The wetland seems to adequately function for the needs of eThekweni Municipality and present volumes (no comment is provided to the contrary). Should eThekweni intend to improve stormwater management in the area off-stream attenuation in the municipal property upstream of the wetland should be considered.
- The Stormwater Management Plan would need to be approved by eThekweni Department of Coastal Stormwater and Catchment Management, together with any other authorisation in terms of the National Water Act or Environmental Management Act which may be required.

3. Sanitation

With the development site being a wetland this is an extremely challenging aspect and WESSA views the treatment of sewage of primary importance in assessing the desirability and sustainability of a development. There is, however, absolutely no detail given on this critical issue, apart from the mention that DWA is in agreement with a privately owned package plant and that effluent will be treated to Special Limits. Without adequate information we fail to understand how the Department of Agriculture, Environmental Affairs & Rural Development will be able to make an informed decision when considering a Waste Management Licence and should application for a waste licence be submitted separately from the application under discussion WESSA requests that it receives copies of the documentation. For consideration -

- Alternatives: Conservancy Tank. A reduced number of units (8) would allow the use of conservancy tanks which could be shared between single units and which could be situated adjacent to the road.
- Alternatives, such as dry toilets must be considered.
- eThekweni guidelines for the operation of low volume privately owned package plants.
- Volume of effluent which will be produced and the impacts of discharge, both on- and off-site.

Marine Protected Area.

- Options for polishing.
- Emergency plans in case of spills/leaks/poor quality effluent. It is noted that the position of the treatment plant is at a point closest to the beach and which leaves no options for further polishing unless effluent is pumped to the inland area of the property.
- Balancing. It seems that full occupancy is not expected throughout the year. How will peak flows be dealt with?
- Sludge treatment.
- Grey Water Recycling. The re-use of water is supported in principle but it needs to be looked at in detail. What volumes are predicted? What will be irrigated considering that the site does not allow for extensive gardens?

It is WESSA's opinion that should a package plant be considered further investigations into positioning the treatment plant west of the property on the municipal owned land which seems not to be in use must be pursued. This would enable some sort of buffering facility to be constructed prior to discharging the effluent into the wetland where further polishing can take place. The use of eThekweni property could be a trade-off for the canalisation and use of the wetland for municipal functions.

4. **Sense of Place**

The applicant is considerate in enabling surrounding properties to enjoy views of the wetland and allowing access to neighbours is generous. However, this will require the construction of raised walkways which are costly and will need to be designed and constructed using approved materials and methods. Ezemvelo KwaZulu-Natal Wildlife (KZNW) should be consulted in this regard and their construction must be included in a conservation management plan.

5. **Solid Waste.**

The BAR states that during the operational phase waste disposal is the responsibility of the local authority. While this is correct it must be considered the responsibility of the homeowners to minimise waste entering the municipal waste stream. The homeowners association must implement a waste management plan which promotes waste hierarchy principles.

6. **Energy Efficiency** – the proposed measures are supported.

7. **Potable Water** – in addition to recycling grey water low flush toilets, low flow showers etc must be installed.

8. **Lighting.** Lighting must be directed away from the natural habitat.

9. **Rehabilitation and Conservation Plan** must be submitted and approved by the eThekweni Environmental Management Department.

Conclusion

Provided that development in a wetland is agreed to by KZNW and that an appropriate solution for the management of sewage is found, WESSA accepts development of the site in line with the current zoning, that is, on a consolidated site with a total of eight (8) single units, positioned on the periphery of the property. The footprint must be restricted to the dwelling, on piles, with driveway, garage etc situated at the access point. Encroachment into the wetland and the portion of the site which should be considered as a buffer should be reduced as far as possible with no infilling permitted for the establishment of gardens. Relaxation of the building line along the road should be considered.

The substantiation for an increased number of units is not acceptable to WESSA. The cost of operating a private sewage treatment plant, wetland rehabilitation and maintenance etc do not, in our

eThekwini is able to purchase the site for management as a conservation area the applicant is able to consider rights for development. The rights, however, should not be extended to rezoning the property in order to allow an increased number of units. The applicant would have been aware of zoning controls and liabilities associated with developing the site at the time of purchase. We recognise the importance of the property for municipal storm water control and should there be any shortfalls in funding required to improve the functionality of the wetland/floodplain system for this purpose application could be made to the local authority for assistance.

WESSA is interested in understanding the requirements of eThekwini in terms of planning controls, site management and storm water control and request that a copy of the final BAR is forwarded to undersigned.

Thank you for the opportunity to comment.

Yours sincerely



C Schwegman (Mrs)
EIA Co-ordinator, WESSA KZN Region

P O Box 343
4184 Pennington
email: afromatz@telkomsa.net
Tel: 039 9752147 / 083 9814814



George Gericke

From: Ontvangs
Sent: 07 February 2011 08:15 AM
To: George Gericke; Stephan Barkhuizen; Ruth Bielfeld
Subject: FW: Draft Basic Assessment Report for proposed Widenham Stand (Ref No: DM/0147/08) project - Available for public review

From: Anne [mailto:annesupport@telkomsa.net]
Sent: 06 February 2011 09:22 PM
To: 'Lizelle Gregory'
Subject: RE: Draft Basic Assessment Report for proposed Widenham Stand (Ref No: DM/0147/08) project - Available for public review

Dear Mr Gericke

My concerns are as follows:-

- a) Proposed development is far too big for the area – the original house stands should never have been approved in the first place
- b) The area does not need rezoning – rezoning will be needed if the proposed units are built
- c) The area could not withstand all the extra traffic – if you average two cars per unit then you will end up with a lot of extra cars on the roads around Widenham which will affect all the residents on St Catherine and other roads
- d) If the developer does not have money to clear (clean) the plots at present then how does he have the money to pay your bills and others – will this be another development that goes into liquidation?
- e) Widenham does not need new roads – we are happy with what we have – we also do not need our rates to go up;
- f) There is NO need for this development – the only need is the developers need to make money. If he really wants to then build free standing homes as the plots were originally designed
- g) Wessa has apparently also not approved of this development
- h) We also NEED the wildlife in the area to be left alone

Please confirm that this email has been received

Regards

Anne Hunt

1 Somerset Road, Widenham, 4170

From: Lizelle Gregory [mailto:lizelleg@mweb.co.za]
Sent: 15 December 2010 03:20 PM
To: armare@worldonline.co.za; Lynette.palmer@sappi.com; imladris@telkomsa.net; haviland@telkomsa.net; kxanw@durban.gov.za; athorold@mweb.co.za; 1shellybean@gmail.com; tokkiebolton@yahoo.com; mthene@iburst.co.za; afromatz@telkomsa.net; cobiesteenkamp@yahoo.com; sselectric@telkomsa.net; jonesie@yebo.co.za; sinclairstone@worldonline.co.za; husonm@sbadbn.co.za; sinclairstone@worldonline.co.za; amesch@telkomsa.net; annesupport@telkomsa.net; petroz@scottnet.co.za; vivengovender@gmail.com; sinclairstone@worldonline.co.za; sinclairstone@worldonline.co.za; lamble@halfway.ws; howlett@xnet.co.za; gloria@lantic.net; yvonnestone@worldonline.co.za; heathton@gmail.com; kirstymacbeth@telkomsa.net; KZNfunerals@telkomsa.net; neilmacleod@lantic.net; vinogov@gmail.com; ajelec@telkomsa.net; cherrylv@taprojects.co.za; news3@feveronline.co.za
Subject: Draft Basic Assessment Report for proposed Widenham Stand (Ref No: DM/0147/08) project -

2011/02/11

George Gericke

From: Ontvangs
Sent: 07 February 2011 09:06 AM
To: George Gericke; Stephan Barkhuizen; Ruth Bielfeld
Subject: FW: Draft Basic Assessment Report for proposed Widenham Stand (Ref No: DM/0147/08) project - Available for public review

From: Cheryl Ann Vermeulen [mailto:cherrylv@taprojects.co.za]
Sent: 07 February 2011 08:38 AM
To: lizelleg@mweb.co.za.
Subject: FW: Draft Basic Assessment Report for proposed Widenham Stand (Ref No: DM/0147/08) project - Available for public review

Dear George,

As discussed some time ago.

I wish to officially once again lodge my objections to the proposed development of the Widenham Stand project.

The development will lead to major impact on the wildlife and the natural fauna and flora in the area and I do believe could lead to major problems with the water drainage of the homes above and below the development.

Cherryl-ann Vermeulen
16 St Catherine Road
Widenham

From: Lizelle Gregory [mailto:lizelleg@mweb.co.za]
Sent: Wednesday, December 15, 2010 3:20 PM
To: armare@worldonline.co.za; Lynette.palmer@sappi.com; imladris@telkomsa.net; haviland@telkomsa.net; khanw@durban.gov.za; athorold@mweb.co.za; 1shellybean@gmail.com; tokkiebolton@yahoo.com; mthene@iburst.co.za; afronatz@telkomsa.net; cobiesteenkamp@yahoo.com; sselectric@telkomsa.net; jonesie@yebo.co.za; sinclairstone@worldonline.co.za; husonm@sbadbn.co.za; sinclairstone@worldonline.co.za; amesch@telkomsa.net; annesupport@telkomsa.net; petroz@scottnet.co.za; vivengovender@gmail.com; sinclairstone@worldonline.co.za; sinclairstone@worldonline.co.za; lamble@halfway.ws; howlett@xnet.co.za; gloria@lantic.net; yvonnestone@worldonline.co.za; heathton@gmail.com; kirstymacbeth@telkomsa.net; KZNfunerals@telkomsa.net; neilmacleod@lantic.net; vinogov@gmail.com; ajelec@telkomsa.net; Cheryl Ann Vermeulen; news3@feveronline.co.za
Subject: Draft Basic Assessment Report for proposed Widenham Stand (Ref No: DM/0147/08) project - Available for public review

To all registered Interested and/or Affected Parties.

Please note that the draft Basic Assessment Report for the Proposed *Widenham Stand* project is now available for public review at the Umkomaas Public Library. Please do not remove the document from the library. Alternatively it is also available on www.bokamoso.net for

George Gericke

From: Ontvangs
Sent: 07 February 2011 03:32 PM
To: Stephan Barkhuizen; George Gericke; Ruth Bielfeld
Subject: FW: Proposed development Camborne Road, Widenham

Elsa Viviers
namens / on behalf of Lizelle Gregory
**BOKAMOSO LANDSCAPE ARCHITECTS &
ENVIRONMENTAL CONSULTANTS**
Lebombo Gardens Building
36 Lebombo Road
Ashlea Gardens
Tel: 012 346 3810
Fax: 086 570 5659
Cell: 083 255 8384

From: Heather Butler [mailto:heathton@gmail.com]
Sent: 07 February 2011 03:10 PM
To: lizelle@mweb.co.za
Cc: Rick Crouch; Gloria; Elizabeth Howlett; Andy Holland
Subject: Proposed development Camborne Road, Widenham

Dear Lizelle,

I write in connection with the proposed development on the wetland bounded by Camborne, Widenham and St Catherines Roads, Widenham, at Umkomaas.

I would like to register my complete opposition to any development on this wetland. The marsh was made worse by the building of the R102 years ago, and will be even worse should any development take place there.

I have personally seen that area completely flooded at least three times since I have lived in Marlborough Avenue (since the 1980s).

It seems to be the catchment for run off from nearby higher ground.

Apart from this, and this might be quite out of date, but isn't there a law that restricts development within 1,000m of the high water mark. Surely this falls into this category, if not the By-Laws which has height restrictions as well as density restrictions.

I trust this objection will be recorded,

Yours truly,

Heather Butler
4 Marlborough Avenue
Widenham

Tel. 039-973-0603
cell: 076-541-8610

Stephan Barkhuizen

From: Lizelle Gregory [lizelleg@mweb.co.za]
Sent: 24 January 2011 08:43 AM
To: 'sselectric@mweb.co.za'
Cc: 'renutech@lantic.net'
Subject: FW: Widenham Stand - Ref No: DM/0147/8

Dear Maureen,

We apologize for only responding back to you this late. First of all we would like to thank you for commenting on our report, we value your comments.

In regards to the storeys, the proposed development will only consist of two(2) storeys from ground level up and the parking areas will be limited to the perimeter of the site. Thus no under unit parking, but open and covered parking to the perimeter of the site.

Your comments and your query in regards to the hydrology and flooding has been directed to the Engineer and he will respond to the matter in due time.

We hope that you find the above mentioned information helpful and understanding. Please do not hesitate to contact us should there be any queries or questions.

Regards

Stephan Barkhuizen

Please forward all mails to:

lizelleg@mweb.co.za & stephan.bokamoso@gmail.com

**Bokamoso Environmental Consultants
& Landscape Architects**

Tel: 012 346 3810
Fax: 086 570 5659

From: sselectric [mailto:sselectric@mweb.co.za]
Sent: 20 January 2011 05:54 PM
To: lizelleg@mweb.co.za
Subject: Fw: Widenham Stand - Ref No: DM/0147/8

Hello Lizelle. I would appreciate receiving your response.

thank you
Maureen Sheard

----- Original Message -----

From: sselectric
To:
Sent: Friday, January 14, 2011 4:07 PM
Subject: Widenham Stand - Ref No: DM/0147/8

Goodday. The above refers and in particular the provisions iro storm water drainage and its effects. We live on St Catherine Road.

1. The number of storeys requested still confuses me. Does 2 storeys mean that the height of the buildings which will be occupied will be a maximum of 2 stories up from street level. Or is it 2 storeys plus under unit garaging ie 3 storeys. What does 'storeys' mean. At the last meeting we ended up with 5 storeys. Under unit garaging, 3 storeys, plus a loft. I see that 2 storeys is the now the A1 choice. Your clarification will be much appreciated.

2. We have recently seen excessive and unusual rains in various parts of our country and others. The report states that provided the steps set out in your report are followed (Assessment of Impacts) the Mitigation possibilities are 'good'. The Hydrology report uses limited statistical historical data to make a conclusion. There appears to be no account taken of greater rains and possibly greater flooding than that experienced in the past in the investigations and recommendations. I would think that any plans to improve the status quo should take this into account. I would appreciate your views.

thankyou
Maureen Sheard
Interested Party

If I've got it right the developers application is for units no greater than 3 storeys high although only 2 are allowed for at present. Is this from ground level? At your meeting I remember being told about under unit garaging, hence 4 stories. And even about a loft, hence 5 storeys. I am still quite confused and would appreciate your clarification.

Lizelle Gregory

From: Cheryl Ann Vermeulen <cherylv@taprojects.co.za>
Sent: 07 February 2011 02:55 PM
To: lizelleg@mweb.co.za
Subject: FW: Draft Basic Assessment Report for proposed Widenham Stand (Ref No: DM/0147/08) project - Available for public review

Importance: High

Dear Sirs,

Please note the comments as stated below. I would appreciate if this matter is investigated immediately and I look forward to your comments in this regard at your earliest convenience.

I think it is important to note that if the Developer is not acting in good faith this matter needs to be raised with the local Government and all the parties involved should be notified..

Cheryll-ann Vermeulen

From: DEREK WEIGHTMAN [mailto:imladris@telkomsa.net]
Sent: 07 February 2011 10:22 AM
To: Cheryl Ann Vermeulen
Cc: Jo Havilland
Subject: Re: Draft Basic Assessment Report for proposed Widenham Stand (Ref No: DM/0147/08) project - Available for public review

Good Morning Cheryll,

At least two of us from Mkhomazi Conservancy have tried to access this report without success as it was removed from the Umkomaas library together with all the comments on Thursday 3rd Feb before the closing date. This is contrary to the spirit of the EIA public participation process. I will mail Lizelle Gregory at Bokamoso and let her know. Maybe you would like to do the same. This process has been fraught from the beginning.

Regards,

Sue Weightman

Mkhomazi Conservancy

On 07 Feb 2011, at 8:31 AM, Cheryl Ann Vermeulen wrote:

From: DEREK WEIGHTMAN <imladris@telkomsa.net>
Sent: 16 May 2011 10:39 AM
To: lizelleg@mweb.co.za
Subject: Progress on Widenham stand

Good Morning, Lizelle,

Just a friendly enquiry on the above. Has there been any progress on the final report?

kind regards,

Sue Weightman

DEREK & SUE WEIGHTMAN
mladris@telkomsa.net
skype:- dereksueweightman
(H) +27 39 973 1260

Stephan Barkhuizen

From: Ontvangs
Sent: 24 February 2011 08:25 AM
To: Stephan Barkhuizen
Subject: FW: Draft Basic Assessment Report for proposed Widenham Stand (Ref No: DM/0147/08) project - Available for public review till the 18th of February

Elsa Viviers

namens / on behalf of Lizelle Gregory

BOKAMOSO LANDSCAPE ARCHITECTS & ENVIRONMENTAL CONSULTANTS

Lebombo Gardens Building

36 Lebombo Road

Ashlea Gardens

Tel: 012 346 3810

Fax: 086 570 5659

Cell: 083 255 8384

From: Cheryl Ann Vermeulen [mailto:cherryiv@taprojects.co.za]
Sent: 24 February 2011 06:56 AM
To: lizelleg@mweb.co.za
Subject: FW: Draft Basic Assessment Report for proposed Widenham Stand (Ref No: DM/0147/08) project - Available for public review till the 18th of February

Lizelle Gregory/Stephan Barkhuizen

This serves to advise that a Concerned Citizens Group has lodged a request to the Kwazulu Natal Conservation Government Department to stop this development and has applied for the re-zoning of this area.

Please note that no meetings must take place without advising this group. The group will seek an interdict against Bokamoso & CCCT Trust to halt this development until such time as proper consultation has taken place between all the "Interested and/or Affected" parties, and copies of all letters and documents submitted to yourselves from the public viewing have been reviewed by all the parties involved.

The fact that Bokamoso did not act in good faith, by removing the documentation from public view before the specified date, will also be raised at the next round of discussions.

Cheryl-ann Vermeulen
Cell: 072 609 3956

From: Cheryl Ann Vermeulen
Sent: 14 February 2011 12:48 PM
To: 'robertsd@dbn.gov.za'
Subject: FW: Draft Basic Assessment Report for proposed Widenham Stand (Ref No: DM/0147/08) project - Available for public review till the 18th of February
Importance: High

Dear Dr Roberts,

Notes from "developer"

From: Cobie Steenkamp <cobiesteenkamp@yahoo.com>
Sent: 25 February 2011 03:45 PM
To: Lizelle Gregory
Subject: Re: Report on Widenham Stand

Hi Lizelle

Baie geluk met 'n puik en proffesionele omgewingsimpakstudie! Dankie ook dat die tydperk vir opmerkings en kommentaar verleng is.

Soos dit is wag ek weereens tot op nommer 99 voor ek reageer, maar dit beteken nie dat ek intussen niks gedoen het nie. Jy het reeds die kommentaar wat deur Sue Weightman ingestuur is ontvang en ek bevestig net dat ek heeltemal daarmee saamstem

Niemand wat gekant is teen die ontwikkeling met wie ek gesels het kon my oortuig met FEITE dat die ontwikkeling nie moet plaasvind nie en hoewel ek glo dat daar nie ontwikkeling op vleilande moet wees nie, kan dit in die geval van Widenham Stand net voordelig wees. Dit is egter belangrik dat daar gehou word by die voorskrifte en regulasies en voorstelle.

Ek woon nog net vier jaar in Umkomaas en is ietwat verbaas oor die reaksie van sommige inwoners. Die vleiland het skynbaar oor 'n lang tydperk agteruit gegaan sonder dat iemand iets daarvoor gese het of iets daaraan gedoen het. Al was dit in private hande kon daar tog sekerlik voorkomende maatreels getref gewees het om die agteruitgang te verhoed. Dit lyk vir my dis net wanneer iemand die grond wil benut vir behuising dat dit 'n hele konsternasie is.

Laastens hoop ek van harte dat die ontwikkelaar gaan kans sien om die ontwikkeling te doen, want dat dit duur gaan wees om te hou by al die voorstelle is nie altemit nie!

Sterkte vorentoe

Cobie Steenkamp

From: Lizelle Gregory <lizelle@mweb.co.za>
To: cobiesteenkamp@yahoo.com
Sent: Monday, February 7, 2011 15:05:16
Subject: RE: Report on Widenham Stand

Hi Cobie,
Askies dat ons nou eers terug kom na jou toe. Daar was perongeluk 'n mis verstand gewees tussen my en George ten opsigte van die afhaal van die verslag by die Biblioteek.
Die verslag sal weer teen môre by die biblioteek beskikbaar wees tot die 25ste Februarie vir julle om kommentaar daarop te gee.
Askies hier voor. Laat weet asseblief so gou moontlik as daar nog enige verdere problem is.
Groete

Stephan Barkhuizen

Please forward all mails to:

lizelle@mweb.co.za & stephan.bokamoso@gmail.com

Bokamoso Environmental Consultants

Stephan Barkhuizen

From: Ontvangs
Sent: 07 February 2011 03:32 PM
To: Stephan Barkhuizen; George Gericke; Ruth Biefeld
Subject: FW: Proposed development Camborne Road, Widenham

Elsa Viviers

namens / on behalf of Lizelle Gregory

BOKAMOSO LANDSCAPE ARCHITECTS & ENVIRONMENTAL CONSULTANTS

Lebombo Gardens Building

36 Lebombo Road

Ashlea Gardens

Tel: 012 346 3810

Fax: 086 570 5659

Cell: 083 255 8384

From: Heather Butler [mailto:heathton@gmail.com]
Sent: 07 February 2011 03:10 PM
To: lizelleg@mweb.co.za
Cc: Rick Crouch; Gloria; Elizabeth Howlett; Andy Holland
Subject: Proposed development Camborne Road, Widenham

Dear Lizelle,

I write in connection with the proposed development on the wetland bounded by Camborne, Widenham and St Catherines Roads, Widenham, at Umkomaas.

I would like to register my complete opposition to any development on this wetland. The marsh was made worse by the building of the R102 years ago, and will be even worse should any development take place there.

I have personally seen that area completely flooded at least three times since I have lived in Marlborough Avenue (since the 1980s).

It seems to be the catchment for run off from nearby higher ground.

Apart from this, and this might be quite out of date, but isn't there a law that restricts development within 1,000m of the high water mark. Surely this falls into this category, if not the By-Laws which has height restrictions as well as density restrictions.

I trust this objection will be recorded,

Yours truly,

Heather Butler

4 Marlborough Avenue

Widenham

Tel. 039-973-0603

cell: 076-541-8610

Stephan Barkhuizen

From: Ontvangs
Sent: 07 February 2011 11:35 AM
To: George Gericke; Stephan Barkhuizen; Ruth Bielfeld
Subject: FW: Bokamoso Environmental: Widenham stand Public Participation

Elsa Viviers
namens / on behalf of Lizelle Gregory
BOKAMOSO LANDSCAPE ARCHITECTS &
ENVIRONMENTAL CONSULTANTS
Lebombo Gardens Building
36 Lebombo Road
Ashlea Gardens
Tel: 012 346 3810
Fax: 086 570 5659
Cell: 083 255 8384

-----Original Message-----

From: Susan Weightman, [mailto:imladris@telkomsa.net]
Sent: 07 February 2011 11:04 AM
To: lizellieg@mweb.co.za
Subject: Bokamoso Environmental: Widenham stand Public Participation

This is an enquiry e-mail via <http://www.bokamoso.net/> from:
Susan Weightman, <imladris@telkomsa.net>

Good Morning George,

I am writing this in my personal capacity but as you know I
am member of Mkhomazi Conservancy

I have tried to access the daft report for the Widenham Stand Proposal at Umkomaas
Library this morning, which is the closing date, but was told by the librarian that it was
removed last Thursday (03 February). In addition I have received calls saying that it is
also not available for download at your web-site any longer; only the link page remains.

Has there been a mistake? Please mail me urgently on this as it is a hindrance to the PPP
which has already been a little fraught.

Kind regards,

Sue Weightman

Stephan Barkhuizen

From: Ontvangs
Sent: 07 February 2011 10:12 AM
To: George Gericke; Stephan Barkhuizen; Ruth Bielfeld
Subject: FW: Objection to the development in Widenham

Elsa Viviers
namens / on behalf of Lizelle Gregory
BOKAMOSO LANDSCAPE ARCHITECTS &
ENVIRONMENTAL CONSULTANTS
Lebombo Gardens Building
36 Lebombo Road
Ashlea Gardens
Tel: 012 346 3810
Fax: 086 570 5659
Cell: 083 255 8384

-----Original Message-----

From: Gloria [mailto:gloria@lantic.net]
Sent: 07 February 2011 09:28 AM
To: lizelleg@web.co.za
Subject: Objection to the development in Widenham

Dear Lizelle,

I have previously objected to the proposed development and would like to know if that objection is still valid?

There are many reasons why this development should not take place, the impact on wild life, ornithological life in that area, the natural water filter catchment area. It will also erode the natural buffer zone between the sea and various existing developments in the area. Apart from these reasons, the intended structures are against the Widenham by-laws and will cause a serious increase of traffic on the already bad roads in that area.

This development should not take place on the site intended for this development.

May I also ask, What is the opinion of the Municipality having introduced the D'Moss overlay? Surely this area is earmarked for non-development?

Yours Faithfully
Mrs. Gloria Hutchison.

Stephan Barkhuizen

From: Ontvangs
Sent: 07 February 2011 11:12 AM
To: Stephan Barkhuizen; Ruth Bielfeld
Subject: FW: Report on Widenham Stand

Elsa Viviers

namens / on behalf of Lizelle Gregory

BOKAMOSO LANDSCAPE ARCHITECTS & ENVIRONMENTAL CONSULTANTS

Lebombo Gardens Building

36 Lebombo Road

Ashlea Gardens

Tel: 012 346 3010

Fax: 086 570 5659

Cell: 083 255 8384

From: Cobie Steenkamp [mailto:cobiesteenkamp@yahoo.com]
Sent: 07 February 2011 10:33 AM
To: lizelleg@mweb.co.za
Subject: Report on Widenham Stand

Hi Lizelle,

Ons in Umkomaas het 'n krisis aangesien die verslag wat jy opgestel het aangaande die Widenham Ontwikkeling reeds, volgens die bibliotekaresse van Widenham biblioteek, verlede Donderdag (3 Februarie 2011) uit die biblioteek verwyder is. Ek wou die verslag meer in diepte bestudeer en dan oor die naweek my finale kommentaar stuur in my private hoedanigheid.

Is dit dalk moontlik dat die finale datum dat kommentaar ingestuur kan word verleng kan word en die verslag weer beskikbaar gestel kan word voor dit?

Nodeloos om te se dat ek uiters ontsteld was toe ek nie die verslag kon kry nie en moes hoor dat dit reeds weg is. Ek sal bly wees as jy die probleem kan nagaan en aan my kan verduidelik wat gebeur het.

Vriendelike groete

Cobie Steenkamp

Stephan Barkhuizen

From: Ontvangs
Sent: 07 February 2011 08:15 AM
To: George Gericke; Stephan Barkhuizen; Ruth Bielfeld
Subject: FW: Draft Basic Assessment Report for proposed Widenham Stand (Ref No: DM/0147/08) project - Available for public review

From: Anne [mailto:annesupport@telkomsa.net]
Sent: 06 February 2011 09:22 PM
To: 'Lizelle Gregory'
Subject: RE: Draft Basic Assessment Report for proposed Widenham Stand (Ref No: DM/0147/08) project - Available for public review

Dear Mr Gericke

My concerns are as follows:-

- a) Proposed development is far too big for the area – the original house stands should never have been approved in the first place
- b) The area does not need rezoning – rezoning will be needed if the proposed units are built
- c) The area could not withstand all the extra traffic – if you average two cars per unit then you will end up with a lot of extra cars on the roads around Widenham which will affect all the residents on St Catherine and other roads
- d) If the developer does not have money to clear (clean) the plots at present then how does he have the money to pay your bills and others – will this be another development that goes into liquidation?
- e) Widenham does not need new roads – we are happy with what we have – we also do not need our rates to go up;
- f) There is NO need for this development – the only need is the developers need to make money. If he really wants to then build free standing homes as the plots were originally designed
- g) Wessa has apparently also not approved of this development
- h) We also NEED the wildlife in the area to be left alone

Please confirm that this email has been received

Regards

Anne Hunt

1 Somerset Road, Widenham, 4170

From: Lizelle Gregory [mailto:lizelleg@mweb.co.za]

Sent: 15 December 2010 03:20 PM

To: armare@worldonline.co.za; Lynette.palmer@sappi.com; imladris@telkomsa.net; haviland@telkomsa.net; khanw@durban.gov.za; athorold@mweb.co.za; 1shellybean@gmail.com; tokkiebolton@yahoo.com; mthene@iburst.co.za; afromatz@telkomsa.net; cobiesteenkamp@yahoo.com; sselectric@telkomsa.net; jonesie@yebo.co.za; sinclairstone@worldonline.co.za; husonm@sbadbn.co.za; sinclairstone@worldonline.co.za; amesch@telkomsa.net; annesupport@telkomsa.net; petroz@scottnet.co.za; vivengovender@gmail.com; sinclairstone@worldonline.co.za; sinclairstone@worldonline.co.za; lambie@halfway.ws; howlett@xnet.co.za; gloria@lantic.net; yvonnestone@worldonline.co.za; heathton@gmail.com; kirstymacbeth@telkomsa.net; KZNfunerals@telkomsa.net; neilmacleod@lantic.net; vinogov@gmail.com; ajelec@telkomsa.net; cherrylv@taprojects.co.za; news3@feveronline.co.za

Subject: Draft Basic Assessment Report for proposed Widenham Stand (Ref No: DM/0147/08) project - Available for public review

Stephan Barkhuizen

From: Ontvangs
Sent: 04 February 2011 01:45 PM
To: George Gericke; Ruth Bielfeld; Stephan Barkhuizen
Subject: FW: DRAFT BASIC ASSESSMENT REPORT COMMENTS
Attachments: COMMENTS ON BASIC ASSESSMENT REPORT - WIDENHAM STAND.docx

Elsa Viviers

namens / on behalf of Lizelle Gregory

BOKAMOSO LANDSCAPE ARCHITECTS & ENVIRONMENTAL CONSULTANTS

Lebombo Gardens Building

36 Lebombo Road

Ashlea Gardens

Tel: 012 346 3810

Fax: 086 570 5659

Cell: 083 255 8384

From: kalvin jones [mailto:jonesie@yebo.co.za]
Sent: 04 February 2011 12:47 PM
To: lizelleg@mweb.co.za
Subject: DRAFT BASIC ASSESSMENT REPORT COMMENTS

Greetings Lizelle,

Attached please find my comments on the above report for the Widenham stand.

Please confirm receipt of this e mail

Thanks and regards
Kalvin Jones

K. T. Jones
P.O.Box 116
Umkomaas
4170
4th February 2011

COMMENTS ON BASIC ASSESSMENT REPORT – WIDENHAM STAND

- 1 **ACTIVITY DESCRIPTION** *Traffic, Roads & Infrastructure*
The description portrays the R102 as a quiet link road between coastal villages. Not so. The R102 is a main road and the so called flood damage interruptions are no longer [the Umzinto bridge interruption at Kelso is some 30km away from the proposed development site and was meant to be completed by the end of this month and will now be completed by end June 2011. The description needs to be reviewed in line with the real situation now - not that of years ago! The R102 is a busy Main Road and one which would become busier if the N2 is tolled as proposed.
- 2 *Town Planning*
Page 13: "... it would be better to implement a 'cluster and space' development with development along the periphery than the 8 residential units that will be distributed across the entire study area"
No consideration/mention is made of [consolidating the lots if necessary] building 8 residential units along the same periphery as the proposed cluster units as two story buildings [complying with current zoning] each having the same footprint as the proposed cluster units. Why would the 8 residential units have to be built across the entire study area?
- 3 Page 18 -Site Access. *Site Access*
It is claimed that 4 access points will assist in distribution of traffic thus alleviating the increase in traffic. How can this be when four these access points, i.e. two in Widenham Drive, and two in St Catherine Road all have to be accessed via one entrance road? The IAP's concern remains valid.
The 8 residential stands enjoying 8x access points is a smokescreen. The traffic volume from 8 residential stands cannot be compared with that from the proposed development. See also point 12
- 4 Page 30 – Need and desirability.
Again the usual – "... there is a need in the market for a higher and more affordable up market residential units in the area".
This need is questionable given the Shoals Development at Clansthal [approx 200 stands] and the huge Canonbrae development bordering Widenham not 500m from the proposed development site and with 700 odd stands. Both being upmarket

developments

- 5 Page 46 *Traffic*
Land use features should also include sports facilities. There is a children's playground less than 30m from the Widenham Drive boundary of the proposed development site opposite two of the proposed site access points [another concern re traffic not addressed in the report]
- 6 There is also a squash court [sports facility] approx 100m from the development site.
- 7 Page 53 *Report*
Quote "at least 50% of the units will be utilised as permanent residence"
This is contradicted by point 9 of Appendix E1 which states that "most of the units will be used as holiday homes which will only be occupied during the festive season"

Which is it? – seems like whatever suits the argument to make report/ development look more attractive is used?
- 7 Page 56 *Report*
Quote "... the visual impact of the two storey units" is stated.
However the proposed development is for 3 storey units.
An intentional red herring to make report look more attractive and the development of less impact?
- 8 Page 59. *Other Report.*
Please include after "... surely the owner cannot be penalized for bad planning that took place in the past" the following:
Surely bad planning by the owner should not now impact upon the ratepayers of Widenham. Purchasing the erven with full knowledge of both the wetland nature, town planning zoning and restrictions, high construction costs of such property etc should not now entitle development which fundamentally changes the controls in place and the nature of Widenham, which others have had to comply with and more importantly why they bought in the area [e.g. a limit of two storey buildings] which he now wants to change to suit his desire for maximum gain!
If his financial calculations had indicated a 6 storey building was financially viable, would we now be facing that as a proposal.
- 9 Appendix E1 *Site cleanup & exotic invaders.*
The owner, it is claimed does not have funds to maintain and manage the site as an open space.
The site is elsewhere and variously described at present as being in mess i.e.
Page10 - Activities applied
" it is important to note that the groundcover of the wetland area is currently disturbed and invaded..."
page 14 – " .. the ground cover is very disturbed and almost taken over by invaders."

Page 52 – “ at present the study area appears neglected and is invaded by exotic invaders”

Figure 14 - Lack of maintenance leads to flooding of downstream properties

Whilst the owner has money to pay for consultants, engineers, ecologist/wetland specialists, storm water engineers etc he can't afford to keep the properties free of alien vegetation!

As a legal requirement which has been transgressed for years, how come developing the site [and making it what is being portrayed as an eco haven] is the only option being proposed?

Surely, similar to the recommendation you have made re the garage drainage, it should be recommended to the owner that he immediately correct the situation on his erven - not only after development as your report proposes?

- Town planning alternatives.*
- 10 On page 52, it is stated that the owner bought the study area for development purposes because the study area is zoned 'Residential 1' and not 'open space/conservation open space.'

On what basis is the claim made that the 'existing land rights cannot be exercised' Why can the eight erven not be consolidated [as Residential 1] and 8 double story dwellings be built on the same periphery/footprint as proposed for the units. This would be enable him to exercise the same rights as those which he accepted when he purchased the erven. i.e. 8 dwellings on the lots of two storey maximum height. This is not mentioned as one of the options considered.

- Traffic B Report.*
- 11 The Local Area Plan for Umkomaas includes two important aspects impacting directly upon the proposed development site namely:
- a] The proposed [major] link road between the N2 and the R102 is indicated as forming the St Catherine Road boundary of the development sites. It is along this new link road that the two access points to the proposed development would sited!
St Catherine road seems to be the answer for most issues in the report. Vehicle access, pedestrian access, sewage treatment plant area etc. However the proposed Link from the N2 to the R012 will make this a main thoroughfare.
This has been completely ignored in the report yet will have a major impact on traffic etc!
 - b] The Canonbrae development less than 500m from the proposed development site on the border of Widenham and which will include approx 700 up market units.
How come these do not feature in the report and what impact will they have on the proposed development?

- Need & desirability.*
- 12 The entire report is drafted so as to sound that the development is one that Widenham cannot do without, and only with what the developer proposes will roads etc improve. Truth is that Widenham residents choose to live in the area because of the way it is and don't need a development of this nature, particularly 3 storey units..

Stephan Barkhuizen

From: George Gericke
Sent: 17 January 2011 08:26 AM
To: Stephan Barkhuizen
Subject: FW: Widenham Stand - Ref No: DM/0147/8

[More Sepi](#)

[Kind Regards](#)

[George Gericke](#)

Bokamoso Landscape Architects and Environmental Consultants

Tel: (012) 346 3810

Fax: 086 570 5659



Please consider the environment before printing this e-mail

From: sselectric [mailto:sselectric@mweb.co.za]
Sent: 14 January 2011 04:08 PM
To: lizelleg@mweb.co.za
Subject: Widenham Stand - Ref No: DM/0147/8

Goodday. The above refers and in particular the provisions iro storm water drainage and its effects. We live on St Catherine Road.

1. The number of storeys requested still confuses me. Does 2 storeys mean that the height of the buildings which will be occupied will be a maximum of 2 stories up from street level. Or is it 2 storeys plus under unit garaging ie 3 storeys. What does 'storeys' mean. At the last meeting we ended up with 5 storeys. Under unit garaging, 3 storeys, plus a loft. I see that 2 storeys is the now the A1 choice. Your clarification will be much appreciated.

2. We have recently seen excessive and unusual rains in various parts of our country and others. The report states that provided the steps set out in your report are followed (Assessment of Impacts) the Mitigation possibilities are 'good'. The Hydrology report uses limited statistical historical data to make a conclusion. There appears to be no account taken of greater rains and possibly greater flooding than that experienced in the past in the investigations and recommendations. I would think that any plans to improve the status quo should take this into account. I would appreciate your views.

thankyou
Maureen Sheard
Interested Party

If I've got it right the developers application is for units no greater than 3 storeys high although only 2 are allowed for at present. Is this from ground level? At your meeting I remember being told about under unit garaging, hence 4 stories. And even about a loft, hence 5 storeys. I am still quite confused and would appreciate your clarification.

From: Cobie Steenkamp <cobiesteenkamp@yahoo.com>
Sent: 07 February 2011 10:33 AM
To: lizelleg@mweb.co.za
Subject: Report on Widenham Stand

Hi Lizelle,

Ons in Umkomaas het 'n krisis aangesien die verslag wat jy opgestel het aangaande die Widenham Ontwikkeling reeds, volgens die bibliotekaresse van Widenham biblioteek, verlede Donderdag (3 Februarie 2011) uit die biblioteek verwyder is. Ek wou die verslag meer in diepte bestudeer en dan oor die naweek my finale kommentaar stuur in my private hoedanigheid.

Is dit dalk moontlik dat die finale datum dat kommentaar ingestuur kan word verleng kan word en die verslag weer beskikbaar gestel kan word voor dit?

Nodeloos om te se dat ek uiters ontsteld was toe ek nie die verslag kon kry nie en moes hoor dat dit reeds weg is. Ek sal bly wees as jy die probleem kan nagaan en aan my kan verduidelik wat gebeur het.

Vriendelike groete

Cobie Steenkamp

Lizelle Gregory

From: Cheryl Ann Vermeulen <cherrylv@taprojects.co.za>
Sent: 24 February 2011 06:56 AM
To: lizelleg@mweb.co.za
Subject: FW: Draft Basic Assessment Report for proposed Widenham Stand (Ref No: DM/0147/08) project - Available for public review till the 18th of February

Lizelle Gregory/Stephan Bankhuizen

This serves to advise that a Concerned Citizens Group has lodged a request to the Kwazulu Natal Conservation Government Department to stop this development and has applied for the re-zoning of this area.

Please note that no meetings must take place without advising this group. The group will seek an interdict against Bokamoso & CCCT Trust to halt this development until such time as proper consultation has taken place between all the "interested and/or Affected" parties, and copies of all letters and documents submitted to yourselves from the public viewing have been reviewed by all the parties involved.

The fact that Bokamoso did not act in good faith, by removing the documentation from public view before the specified date, will also be raised at the next round of discussions.

Cheryl-ann Vermeulen
Cel: 072 609 3956

From: Cheryl Ann Vermeulen
Sent: 14 February 2011 12:48 PM
To: 'robertsd@dbn.gov.za'
Subject: FW: Draft Basic Assessment Report for proposed Widenham Stand (Ref No: DM/0147/08) project - Available for public review till the 18th of February
Importance: High

Dear Dr Roberts,

Notes from "developer".

Thanking you

Cheryl-ann Vermeulen

From: Lizelle Gregory [mailto:lizelleg@mweb.co.za]
Sent: 07 February 2011 12:24 PM
To: armare@worldonline.co.za; Lynette.palmer@sappi.com; imladris@telkomsa.net; haviland@telkomsa.net; khanw@durban.gov.za; athorold@mweb.co.za; 1shellybean@gmail.com; tokkiebolton@yahoo.com; mthene@iburst.co.za; afromatz@telkomsa.net; cobiesteenkamp@yahoo.com; sselectric@telkomsa.net; jonesie@yebo.co.za; sinclairstone@worldonline.co.za; husonm@sbadbn.co.za; sinclairstone@worldonline.co.za; amesch@telkomsa.net; annesupport@telkomsa.net; petroz@scottnet.co.za; vivengovender@gmail.com; sinclairstone@worldonline.co.za; sinclairstone@worldonline.co.za; lamble@halfway.ws; howlett@xnet.co.za; gloria@lantic.net; yvonnestone@worldonline.co.za; heathton@gmail.com; kirstymacbeth@telkomsa.net; KZNfunerals@telkomsa.net; neilmacleod@lantic.net; vinogov@gmail.com; ajelec@telkomsa.net; Cheryl Ann Vermeulen; news3@feveronline.co.za
Cc: bokamosobackup@gmail.com

From: DEREK WEIGHTMAN <imladris@telkomsa.net>
Sent: 24 February 2011 11:02 PM
To: lizelleg@mweb.co.za
Subject: Comments on Draft BAR Widenham Stand
Attachments: Mkhomazi Conservancy Comments on Draft BAR Widenham Stand.doc; Untitled attachment 00022.txt

Dear Lizelle and George,

Please find attached our comments on the above.

Kind regards,

Sue Weightman

Dear Ms. Gregory,

RE: Mkhomazi Conservancy Comments on Draft BAR Widenham Stand

Note: It proved impossible for Mkhomazi Conservancy Committee and members to achieve consensus on this report as opinions remained divided. These comments therefore do not reflect the views of the entire committee and membership, but those of Sue Weightman (chairman), Cobie Steenkamp (Vice-chairman), Jana Naidoo, Magdalene Naidoo, Sheena Arense. Individual members registered as IAPs are free to register their own comments as per the public participation process.

Comments and Concerns

Wetland
Since no member is a wetland, soil, hydrology or other expert, we felt constrained to be guided largely by the opinions of those experts engaged for the BAR.

We do not in principle support any development on any wetland area, however we accept that this wetland is heavily compromised in its continued ability to offer meaningful environmental goods and services in the long term. From the BAR we understand that the functionality of this wetland compared with a pristine one is about 19% but that through the planned rehabilitation and environmental management this could be raised to about 43%. (Were Widenham to be planned under present legislation we believe that many areas would be undevelopable due to the prevailing wetland conditions which have been overcome through 'hard' engineering.)

We believe it remains the duty of the proponent to clear all IAPs from the site whatever the outcome of this process.

Wetland
We accept the proponent's right to attempt development of land purchased in good faith. However we do not accept that the wetland condition necessarily conflicts with this right. Property is still sold "Voet stoets" and the proponent must have been aware of the wetland on purchase.

It is a pity that there is not suitable land, nor apparently a mechanism to investigate the possibility of a land swap.

Town Planning
The proponent purchased what amounts to 8 stands for 8 homes but intends to apply for rezoning for at least 4 times this number. This is not the original intention of the planners of Widenham which has limited opportunities for cluster homes.

storm water & Ecological
The chief function of the land as it stands is to provide storm-water attenuation and filtration. These functions will apparently be enhanced and hence so will protection of the wider environment (Principally outflow into the "Aliwal Shoal MPA). Refuges for animals, birds and reptiles will be improved and we applaud the provision of monitored public access and future incorporation into D'MOSS. We cannot however support the use of fertilizer in a sensitive environment and can only support the installation of indigenous/endemic plant materials compatible with restoration of the wetland.

Clearing & Storm water

Costs of the No-Go alternative are also postulated to be prohibitive and confer no benefit to the environment or developed areas. It is beyond the scope of this organization to attempt clearing and maintenance in perpetuity; nor in principle should private land be maintained by the municipality as has been suggested by some.

Storm water attenuation is a public good provided by private landowners and thus reduces costs to the Municipality of future flood mitigation in the Camborne Rd./Widenham Dr. area. WE suspect that provision of this service may have a bearing on the opinion of the municipality in this matter.

Infrastructure

Since the stand is to be developed as an "Eco-Resort" we hope that all possible resource use minimization will be encouraged including grey water recycling through toilets, solar water heating and all possible waste minimization measures during the life of the development. We would like to see these incorporated formally by the POA.

We remain very concerned about the sewage package plant in view of the high water table and note that stringent engineering conditions apply for the Calcamite system under these conditions. We would like to see a mandatory maintenance plan for the package plant to be drawn up and to be adhered to by the POA since this is where many problems have been reported in other installations. Package plants are certainly not free of problems. We are concerned that the plant will have to cope with severe highs and lows of occupancy. Has this been accounted for in its design?

We remain puzzled by the need to irrigate the "garden" area as this is to be returned to its wetland state.

Town Planning

We cannot support the developers preferred option of 54 units as this is contrary to the Town Planning scheme which allows only 2 storeys. This will severely detract from the sense of place of a country village with 3 storey blocks. We also feel that given the likely constraints of the sewage system by the hydrology, that we cannot also support even 32 units. However, common sense tells us that with fewer dwellings, purchasers will demand larger homes so the aesthetic gains may be few.

Town Planning -

It is therefore our reluctant conclusion that in order to have any gains at all for the environment and to secure environmental goods and services for the future we must accept some development but with the bare minimum number of units, approaching the original 8 stands as nearly as possible, situated around the periphery as near to the road as is possible.

Thank you for the opportunity to comment on this BAR. We request that we be forwarded a copy of the final report when it is available.

Yours sincerely,

Susan Weightman
(Mkhomazi Conservancy)

George Gericke

From: Ontvangs
Sent: 25 February 2011 08:08 AM
To: George Gericke
Subject: FW: Comments on Draft BAR Widenham Stand



Mkhomazi Jntitled attachment
servancy Comment: 00022.bt ...

-----Original Message-----

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Sent: 24 February 2011 11:02 PM
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Thank you for the opportunity to comment on this BAR. We request that we be forwarded a copy of the final report when it is available.

Yours sincerely,

Susan Weightman
(Mkhomazi Conservancy)

George Gericke

From: Lizette Gregory [lizetteg@mweb.co.za]

Sent: 28 January 2010 03:28 PM

To: 'sizakala@durban.gov.za'; 'bayanime@durban.gov.za'; 'imladris@telkomsa.net'; 'havitand@telkomsa.net'; 'dewcsi@dmws.durban.gov.za'; 'central@eskom.co.za'; 'paia@eskom.co.za'; 'envhelp@eskom.co.za'; 'svandamme@sahra.org.za'; 'daboyi@sahra.org.za'; 'gabotha@geosciences.org.za'; 'schmidk@nra.co.za'; 'croucamp@durban.gov.za'; 'phillpr@dwarf.gov.za'

Subject: Widenham Public Notice

To whom it may concern

Please refer to the attached public notice for a proposed residential development in Umkomaas. Please don't hesitate to contact our offices for any additional information and also feel free to send any comments or issues to this email address.

Kind Regards

George Gericke

Bokamoso Landscape Architects and Environmental Consultants

Tel: (012) 346 3810

Fax: 086 570 5659

Information from ESET NOD32 Antivirus, version of virus signature database 4812
(20100128)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

Information from ESET NOD32 Antivirus, version of virus signature database 4827
(20100202)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

Information from ESET NOD32 Antivirus, version of virus signature database 4833
(20100203)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

Information from ESET NOD32 Antivirus, version of virus signature database 4846
(20100208)

2010/12/08

Proposed Township development on Widenham Stand Portions 35, 36, 338, 339, 340, 341, 342 & 343 of 1668 Widenham

Public Notice

To all Interested and Affected Parties
Botanoso Environmental Consultants hereby notifies the surrounding residents, land-owners and
tenants of the Proposed Development.



Locality Map

Notice is given of an application for Environmental authorization that was submitted to the Department of Agriculture, Environmental Affairs & Rural Development, in terms of regulation no. R386 published in the 107 of 1998) governing Basic Agreement procedures (Notice 1 and 2 - Governing Notice R386) for the following activity:

Name of project: Proposed Township development on Widenham Stand Portions 35, 36, 338, 339, 340, 341, 342 & 343 of 1668 Widenham

Ref No: DM/01/17/03

Project description: Residential development on Widenham Stand Portions 35, 36, 338, 339, 340, 341, 342 & 343 of 1668 Widenham

The application was submitted for the following activities in terms of the Government Notice R. 386, 21 April 2008:

R386, 21 April 2007/Activity 1: The construction of facilities or infrastructure, including associated structures or infrastructure, for -The bulk transportation of sewage and water, including storm water, in pipelines with an internal diameter of 0.38 metres or more; or (ii) a peak throughput of 120 litres per second or more; R386, 21 April 2007/Activity 1m: The construction of facilities or infrastructure, including associated structures or infrastructure, for -Any purpose in the one in ten year flood line of a river or stream, or within 32 metres from the bank of a river or stream where the flood line is unknown, excluding purposes associated with existing residential uses, but including - (i) Canals; (ii) channels; (iii) bridges; (iv) dams; and (v) weirs; R386, 21 April 2007/Activity 4: The dredging, excavation, infilling, removal or moving of soil, sand or rock exceeding 5 cubic metres from a river, tidal lagoon, tidal river, lake, in-stream dam, floodplain or wetland; R386, 21 April 2007/Activity 15: The construction of a road that is wider than 4 metres or that has a reserve wider than 6 metres, excluding roads that fall within the ambit of another listed activity or which are access roads of less than 30 metres long; R386, 21 April 2007/Activity 16: The transformation of undeveloped, vacant or derelict land to - (a) Residential, mixed, retail, commercial, industrial or institutional use where such development does not constitute infill and where the total area to be transformed is bigger than 1 hectare; R386, 21 April 2007/Activity 25: The expansion or changes to existing facilities for any process or activity, which requires an amendment of an existing permit or licence or a new permit or licence in terms of legislation governing the release of emissions, pollution, effluent.

Extent: The study area covers approximately 2.03 ha in extent.
Name of the proponent: CCCF Family Trust

Location: The site for the proposed development is situated directly West of the N2 Highway, South of Umkomoas, South-East of Saurco village and North of Clarendon on Widenham Stand Portions 35, 36, 338, 339, 340, 341, 342 & 343 of 1668 Widenham.

Date of notice: 28 January 2010

Queries regarding this matter should be referred to:
Botanoso Landscape Architects and Environmental Consultants
George Gotiche
P.O. Box 11376
Maroelana 0181
Tel: (012) 346 3070
Fax: 086 570 5659
email: lba@botanoso.co.za

In order to ensure that you are identified as an interested and/or affected party, please submit your name, contact information and interest in the matter to the contact person given above on or before the 28 February 2010





Appendix G1

STEPHAN - WIDENHAGEN

Stephan Barkhuizen

From: Ontvangs
Sent: 20 July 2010 08:00 AM
To: Stephan Barkhuizen
Subject: FW: Mews @ South Beach
Importance: High

From: Beverley Wulff [mailto:tph@tph.co.za]
Sent: 20 July 2010 08:52 AM
To: lizelle@mwab.co.za; lawrence@seome.co.za
Cc: 'Bea Fletcher'; 'Marlette Ferreira'
Subject: Mews @ South Beach
Importance: High

Good day Lizelle

Below please find the current rights and the development parameters that the Municipality will support.

The current zoning is "Special Residential"

FAR: 0,3

Coverage: 25%

Height: 2 storeys

Density: 1 dwelling house per property.

We can consolidate the properties and then we can rezone to "General Residential"

FAR: 0,35

Coverage: 35%

Height: 2 storeys

This is the maximum that we will get in the area. The above was discussed with Rowana Bhoola at the Municipality.

Kindly take note that we received the Umkhomazi Local Area Plan from the Municipality, however it is 19MB, please inform me if you wish to collect a copy of the LAP from our office?

Trusting you find this in order.

Regards,

Beverley Wulff

THE TOWN PLANNING HUB CC

98 Pony Street

Tijger Vallei Office Park

Tel: (012) 809 2229

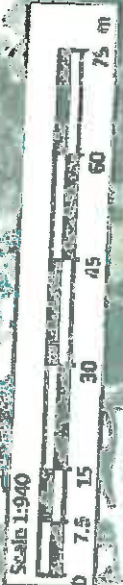
Fax: (012) 809 2090

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Appendix G2

Legend
Study Area
1: 100 Floodline



Inlet points of stormwater

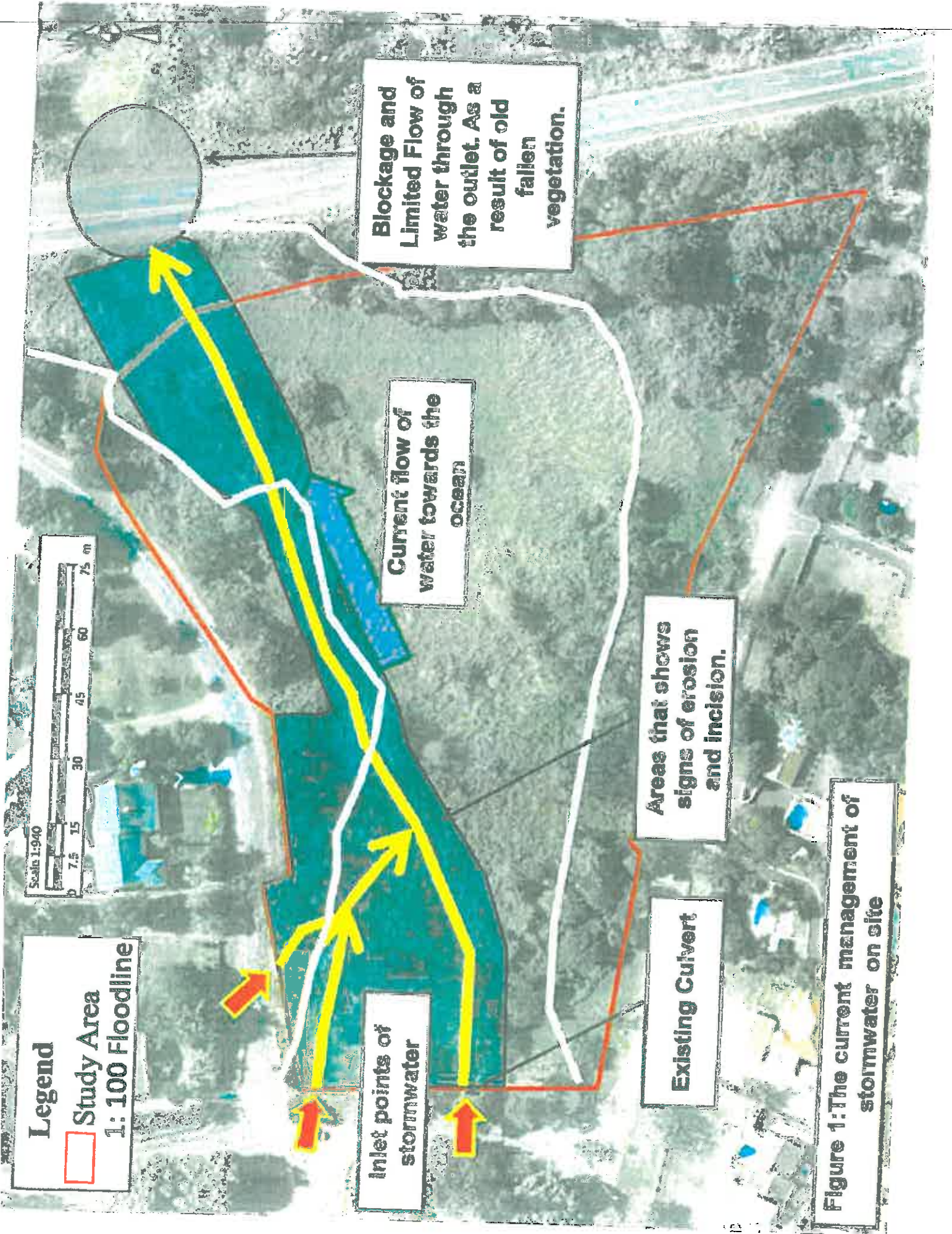
Existing Culvert

Areas that shows signs of erosion and incision.

Current flow of water towards the ocean

Blockage and Limited Flow of water through the outlet. As a result of old fallen vegetation.

Figure 1: The current management of stormwater on site



Legend

 **Study Area**

Silt and oil traps will be installed

Even and wide distribution of stormwater

Attenuation Dams

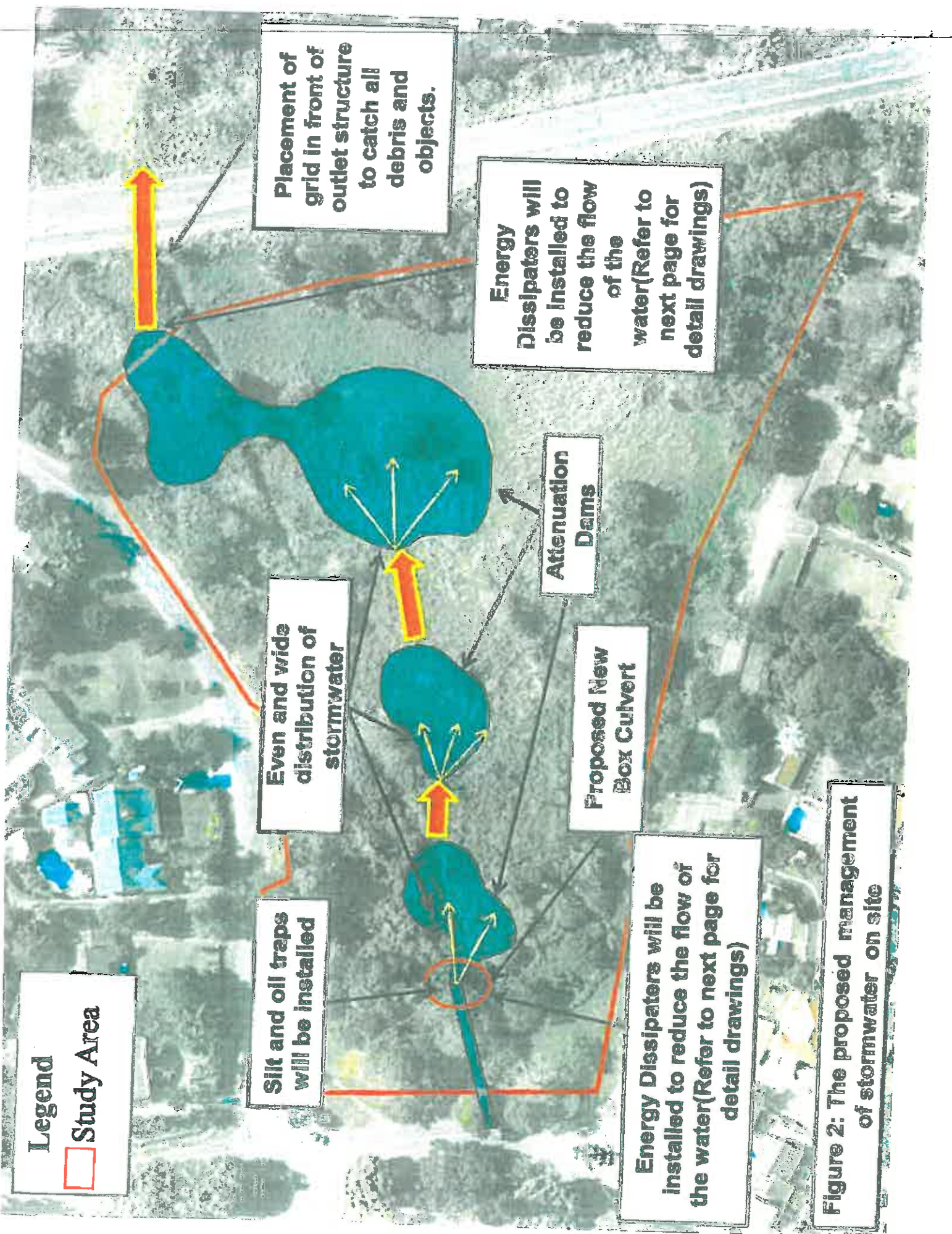
Proposed New Box Culvert

Placement of grid in front of outlet structure to catch all debris and objects.

Energy Dissipaters will be installed to reduce the flow of the water(Refer to next page for detail drawings)

Energy Dissipaters will be installed to reduce the flow of the water(Refer to next page for detail drawings)

Figure 2: The proposed management of stormwater on site



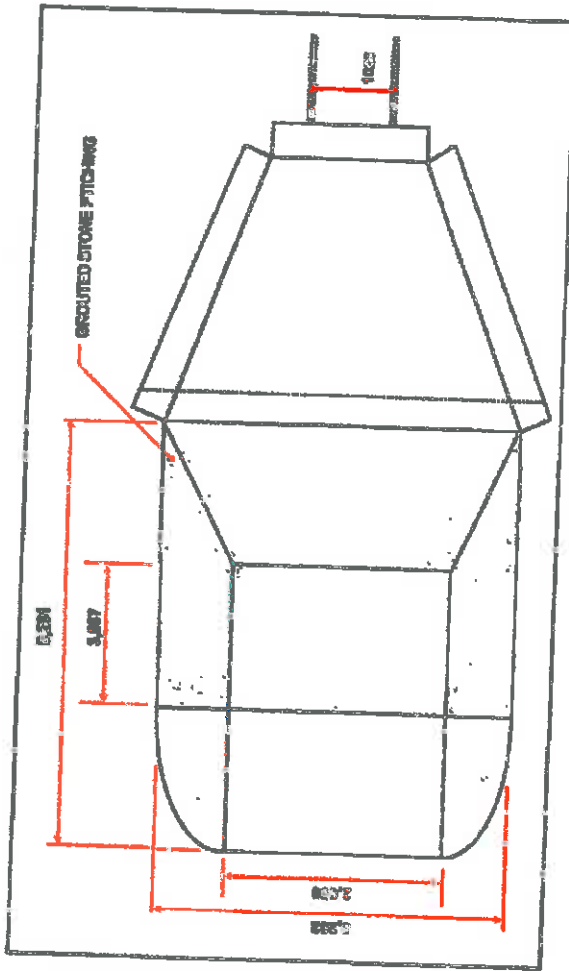
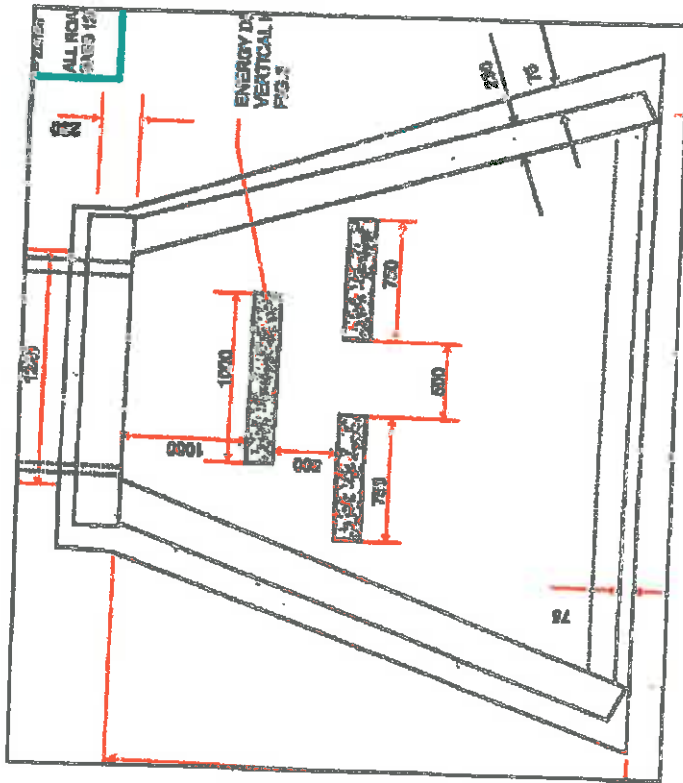
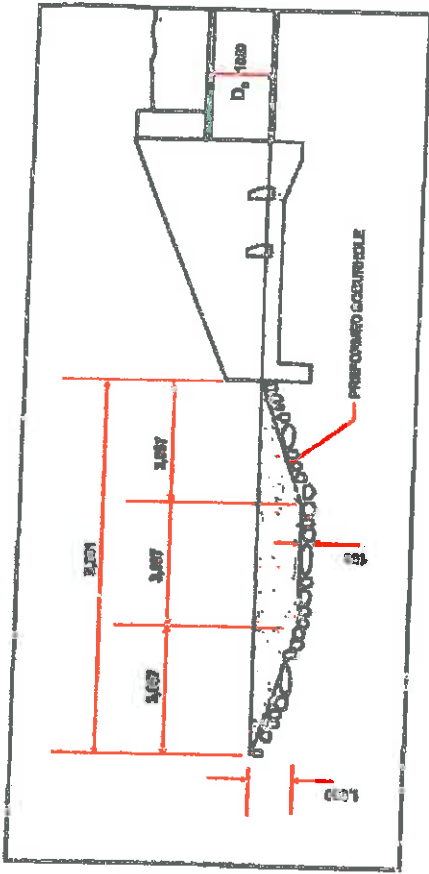
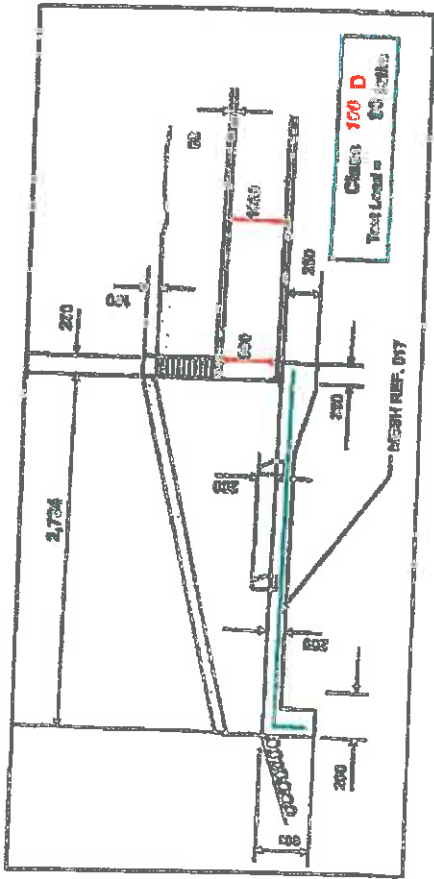


Figure 3: Illustrating diagrams of stormwater outlets and energy dissipaters

Legend

Study Area

Un-obstructed Views

Obstruct Views

Partially Obstruct Views

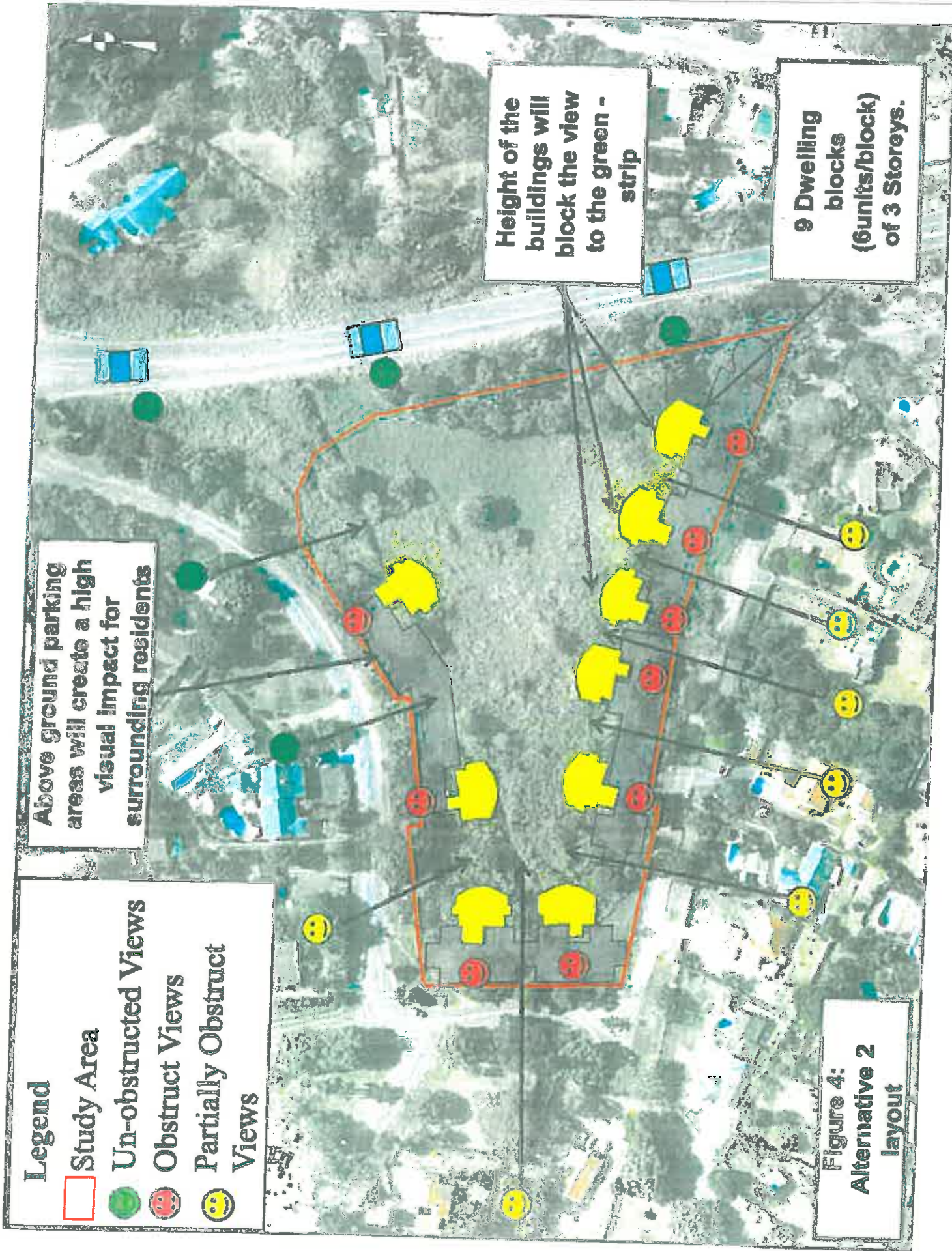


Above ground parking areas will create a high visual impact for surrounding residents





Height of the buildings will block the view to the green - strip

9 Dwelling blocks (6units/block) of 3 Storeys.

Figure 4:
Alternative 2 layout



Legend

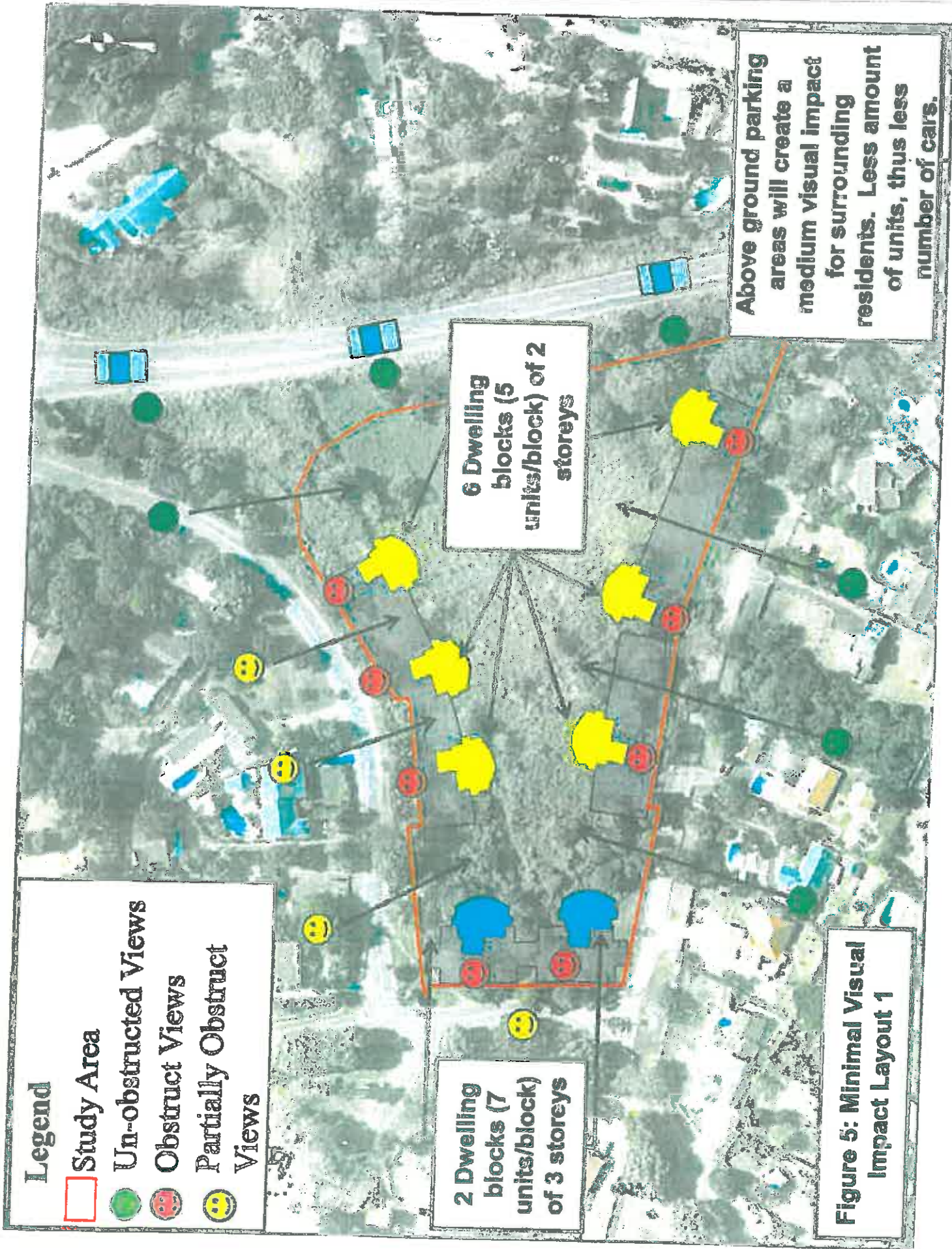
-  Study Area
-  Un-obstructed Views
-  Obstruct Views
-  Partially Obstruct Views

2 Dwelling blocks (7 units/block) of 3 storeys





6 Dwelling blocks (5 units/block) of 2 storeys

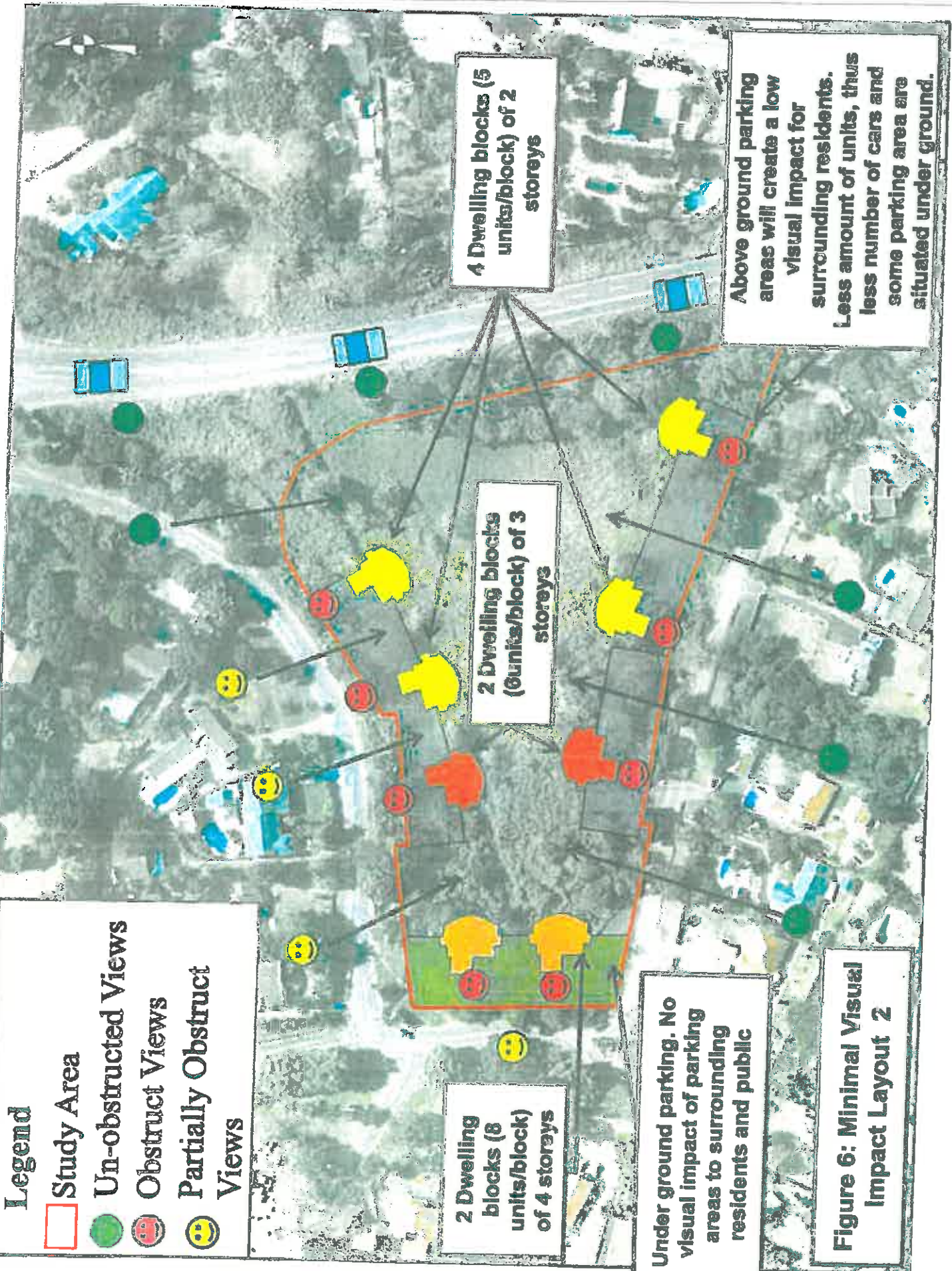
Above ground parking areas will create a medium visual impact for surrounding residents. Less amount of units, thus less number of cars.

Figure 5: Minimal Visual Impact Layout 1



Legend

-  Study Area
-  Un-obstructed Views
-  Obstruct Views
-  Partially Obstruct Views



2 Dwelling blocks (8 units/block) of 4 storeys

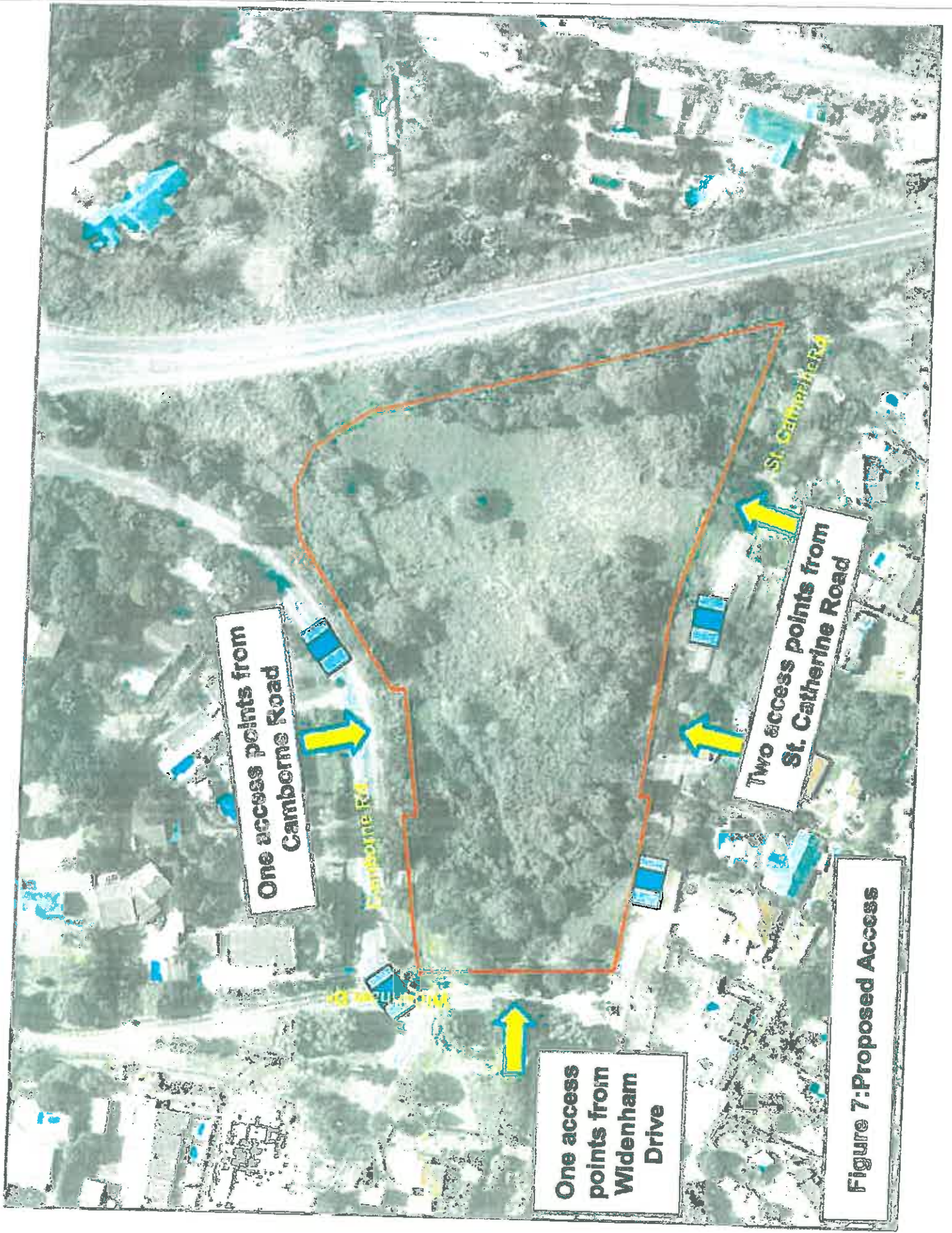
2 Dwelling blocks (6units/block) of 3 storeys

4 Dwelling blocks (5 units/block) of 2 storeys

Under ground parking. No visual impact of parking areas to surrounding residents and public

Above ground parking areas will create a low visual impact for surrounding residents. Less amount of units, thus less number of cars and some parking area are situated under ground.

Figure 6: Minimal Visual Impact Layout 2

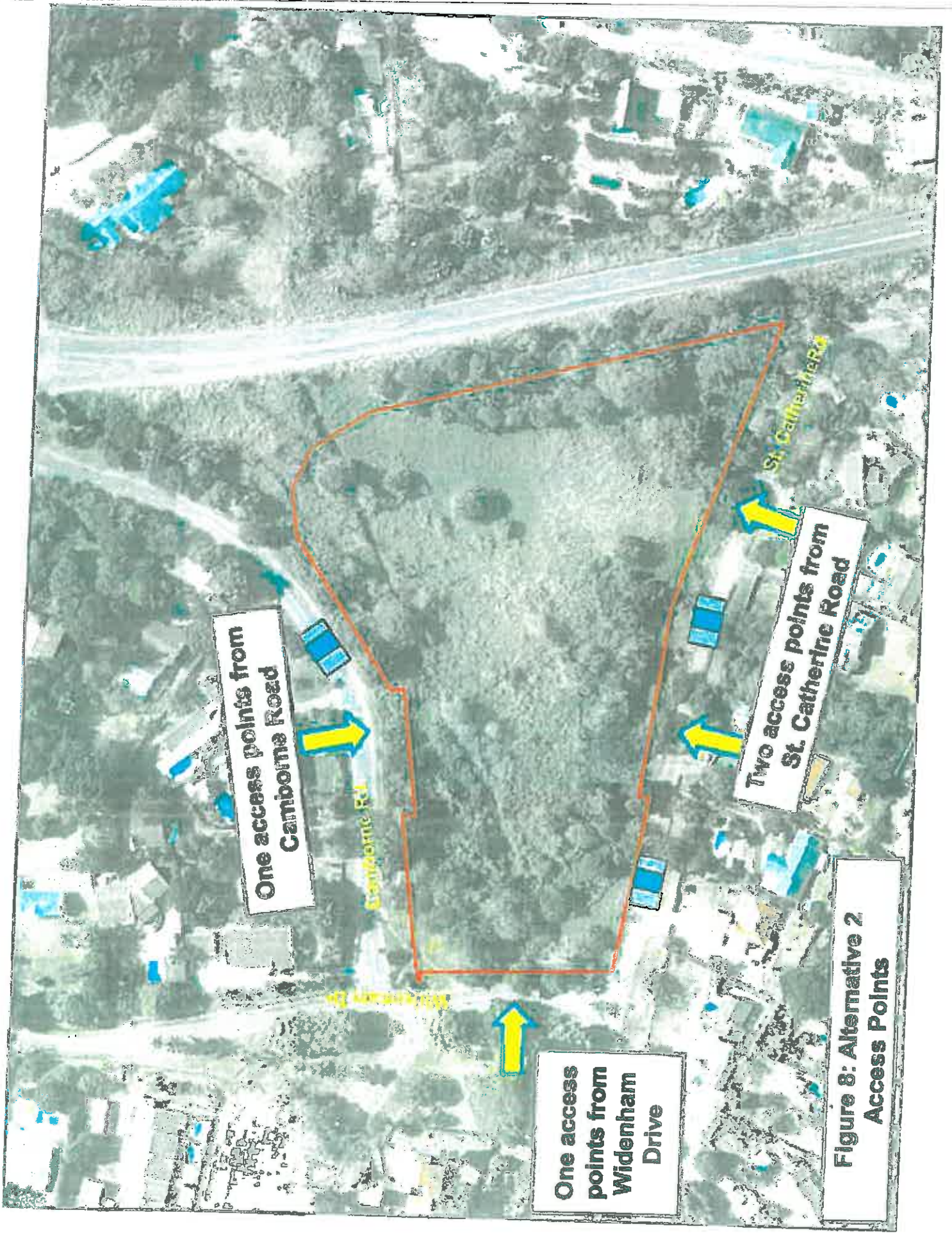


One access points from
Camberne Road

One access
points from
Widenham
Drive

Two access points from
St. Catherine Road

Figure 7: Proposed Access

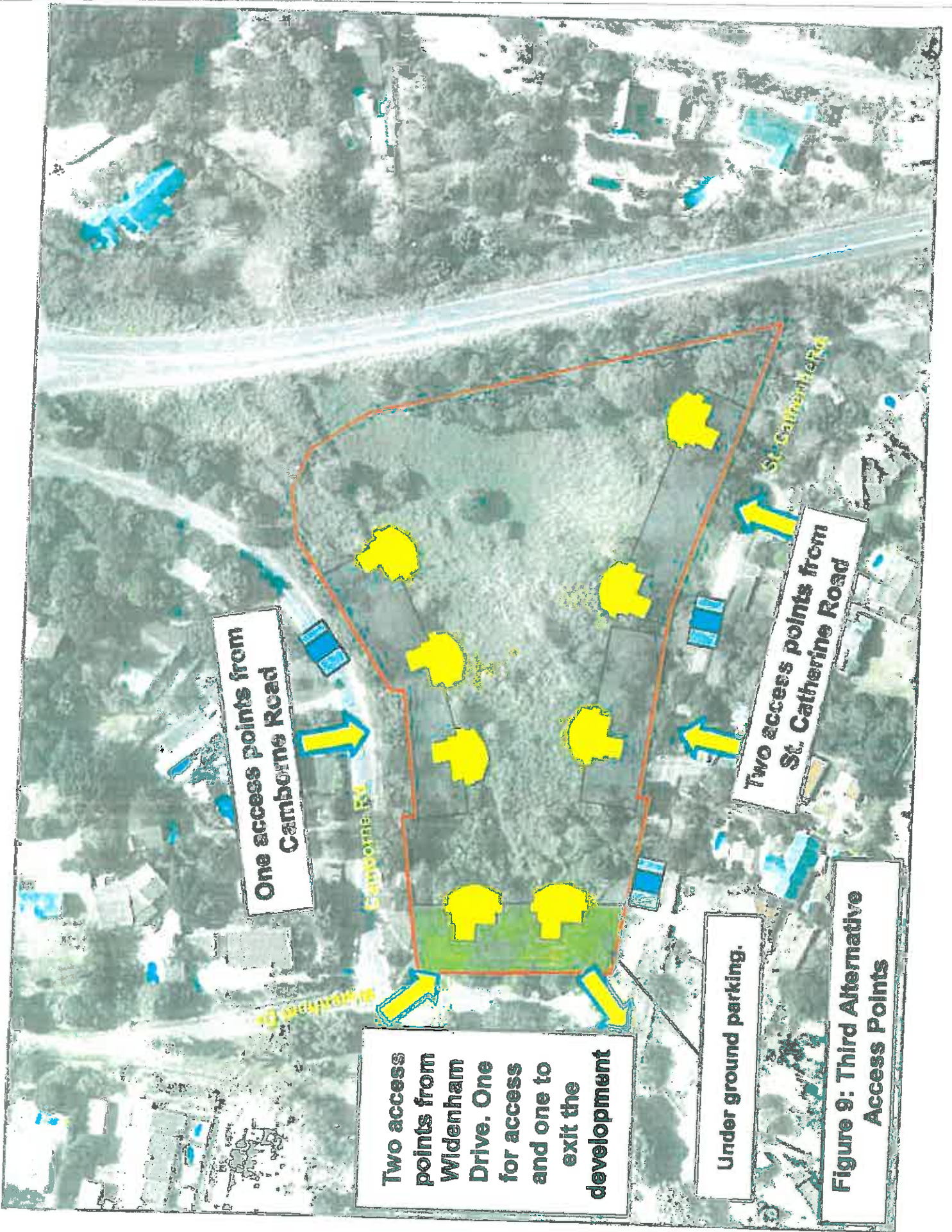


**One access points from
Camborne Road**

**One access points from
Widenham
Drive**

**Two access points from
St. Catherine Road**

**Figure 8: Alternative 2
Access Points**



Legend

Study Area

Wetland Vegetation with significant amount of Invader and Alien Plants

Tree and shrub area. Consist mainly of Exotic and Invader plant species

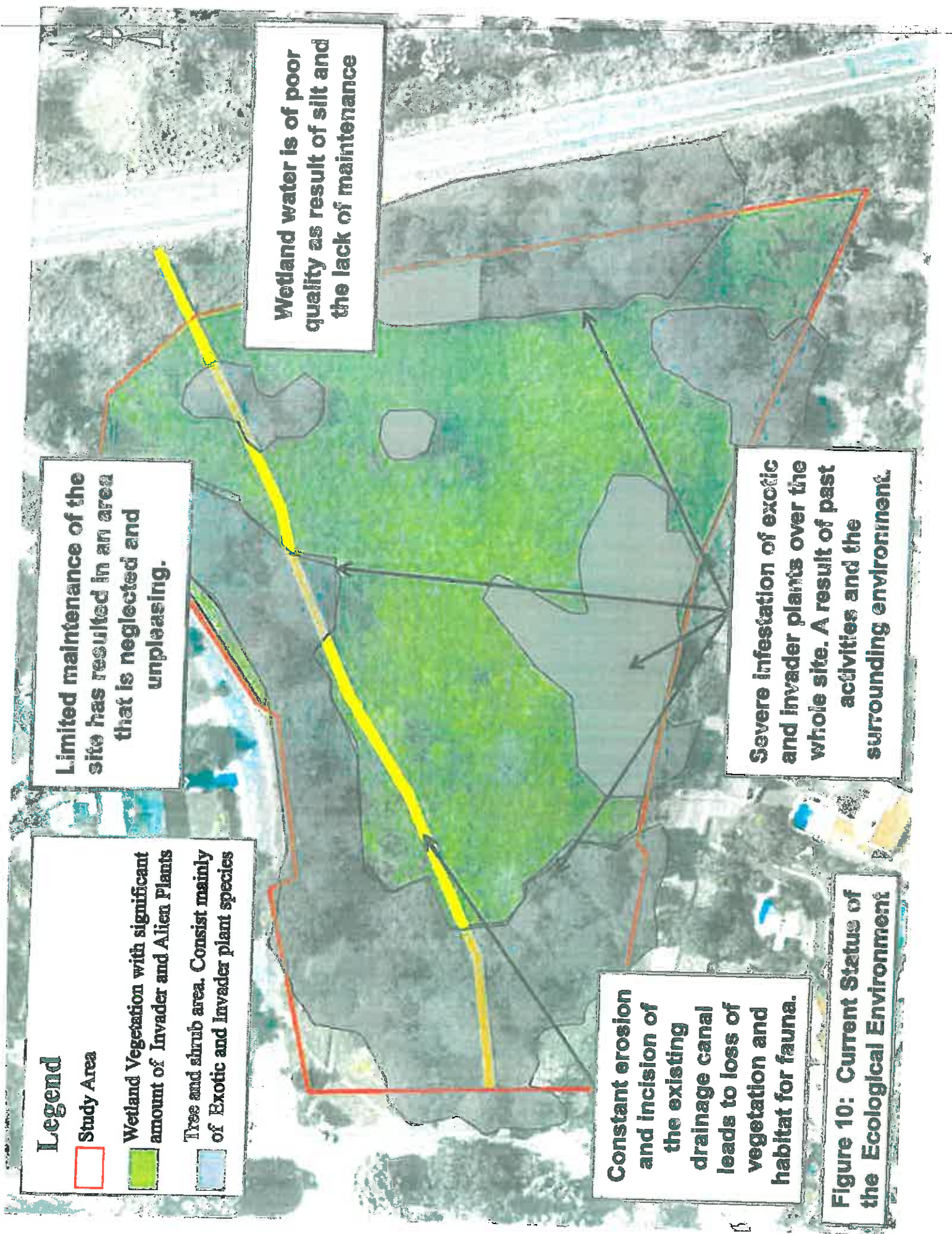
Wetland water is of poor quality as result of silt and the lack of maintenance

Limited maintenance of the site has resulted in an area that is neglected and unpleasing.

Severe infestation of exotic and invader plants over the whole site. A result of past activities and the surrounding environment.

Constant erosion and incision of the existing drainage canal leads to loss of vegetation and habitat for fauna.

Figure 10: Current Status of the Ecological Environment



Legend

Study Area

Removal of invasive plants and the redistribution of water with sensitive plant species

Excavation of a paludine lake with a small back flow for ducks and other big water animals

Excavated wetland paths

Excavated wetland paths

Energy Dissipaters will be installed to reduce the flow of the water

Even and wide distribution of stormwater

Silt and oil traps will be installed

Attenuation Dams

Proposed Bird Hider/ Lookout

Energy Dissipaters will be installed to reduce the flow of the water

Placement of grid in front of outlet structure to catch all debris and objects.

A third of the levees generated by the residents of the units must be allocated to the conservation and protection of the wetland area.

Indigenous trees will be kept as far as possible and if not possible they will be relocated and incorporated within the landscaping. Tree markers will be placed on trees to educate the public of the diversity of the species on the site.

Dwelling blocks and parking areas will be restricted to the perimeter of the site. To limit the footprint of structures within the wetland area, the structures will be constructed on stilts/pylons to further limit the footprint inside the wetland area.

Figure 11: Status of the Ecological Environment after Mitigation

Legend

 Study Area

 Calcamite System

The system is installed underground so it will not be visible.

Proposed location of the Calcamite sewage system

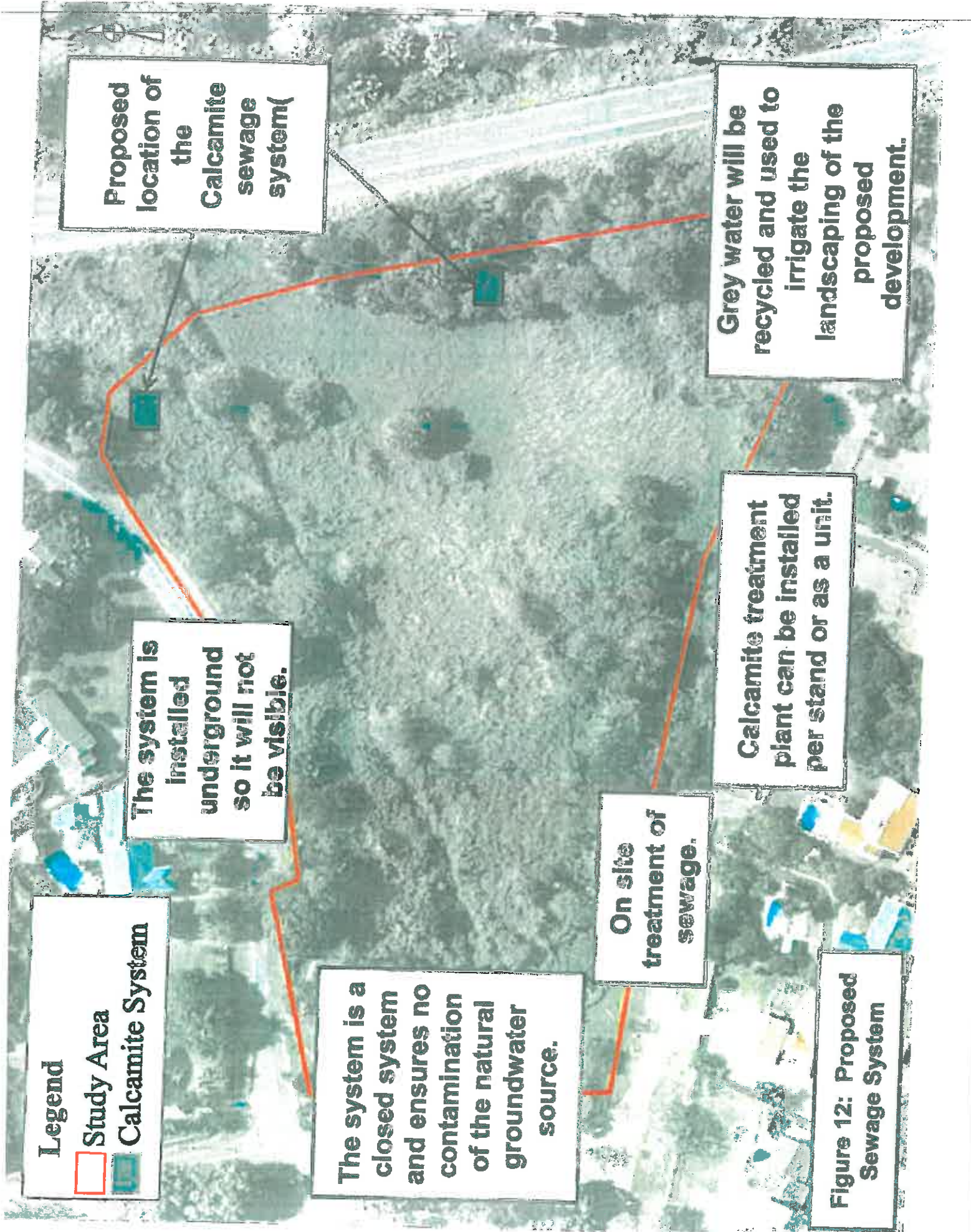
The system is a closed system and ensures no contamination of the natural groundwater source.

On site treatment of sewage.

Grey water will be recycled and used to irrigate the landscaping of the proposed development.

Calcamite treatment plant can be installed per stand or as a unit.

Figure 12: Proposed Sewage System



Legend

 Study Area

 Lilliput Sewage System

The system is installed aboveground so it will be visible.

Proposed location of the Lilliput sewage system

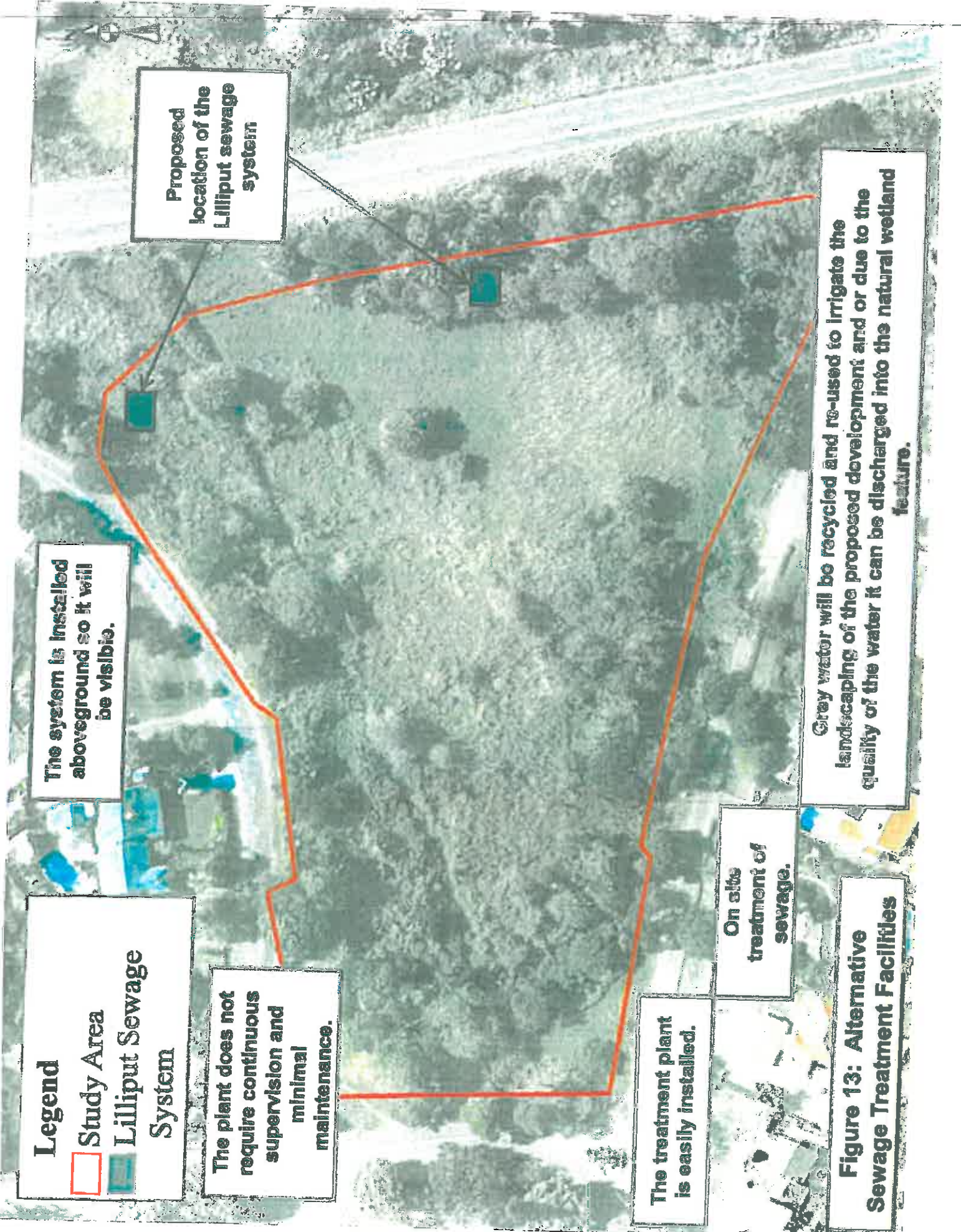
The plant does not require continuous supervision and minimal maintenance.

The treatment plant is easily installed.

On site treatment of sewage.

Grey water will be recycled and re-used to irrigate the landscaping of the proposed development and or due to the quality of the water it can be discharged into the natural wetland feature.

Figure 13: Alternative Sewage Treatment Facilities







Appendix H

Environmental Management Plan

In terms of the National Environmental Management Act, 1998 (Act 107 of 1998)

For

**The proposed Widenham Stand, on Lot 2, No. 1668, Widenham
which is situated within the jurisdiction of the eThekweni Local
Municipality, Kwazulu-Natal**

**Competent Authority: KwaZulu-Natal Department of Agriculture, Environmental
Affairs and Rural Development**

Prepared for: CCCT Family Trust

Prepared by: Bokamoso Landscape Architects &
Environmental Consultants

Date: October 2011

Version: 2-Final

BOKAMOSO

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Maroelana

0161



EMP for the Proposed Widenham Stand, on Portions 35(of 2), 36 (of 2), 338 (of 2), 339 (of 2), 340 (of 2), 342 (of 2) and 343 (of 2) of Lot 2, No. 1668, Widenham, KwaZulu-Natal.

1 Project Outline

1.1 Background

Bokamoso Environmental Consultants was appointed by the **CCCT Family Trust** to compile a Basic Assessment Report for the proposed development, which is wedged in between 4 roads, Widenham Road forms the western boundary of the study area, Camborne Road forms the northern boundary and St. Catherine Road forms the southern boundary. The study area is approximately 2, 0144 Hectares in extent. Currently the application site is sub-divided into eight separate erven, which is zoned "residential 1". The Umkomaas Golf Course is situated further to the south. The R102 road, which is used to act as a link road between coastal towns such as Scottburgh and Umkomaas runs along the eastern boundary of the application site. Large sections of this road have however been severely damaged by flooding and such damage caused major interruptions in the continuity of this internal link road, which was often used as picturesque alternative to the N2 freeway that runs inland (mainly in a south-north direction), west of the study area.

1.2 Project Description

The Proposed Development will be known as **Widenham Stand** and will consist of 8 stands, comprising of 4 units each. It is however proposed (in the preferred development proposal) to consolidate the eight separate erven into one big property and to concentrate the development along the periphery of the proposed application site. The application site is directly accessible from three roads, namely; Widenham Road forms the western boundary of the study area, Camborne Road forms the northern boundary and St. Catherine Road forms the southern boundary. The proposed Widenham Stand development is situated Portions 35(of 2), 36 (of 2), 338 (of 2), 339 (of 2), 340 (of 2), 342 (of 2) and 343 (of 2) of Lot 2, No. 1668, Widenham, situated within the Area of Jurisdiction of the eThekweni Local Municipality.

(Refer to Figure 1 for the Locality Map and Figure 2 for the Aerial Map).

EMP for the Proposed Widenham Stand, on Portions 35(of 2), 36 (of 2), 338 (of 2), 339 (of 2), 340 (of 2), 342 (of 2) and 343 (of 2) of Lot 2, No. 1668, Widenham, KwaZulu-Natal.

Timeframe for construction:

Construction will commence as soon as the project is approved. The **CCCT Family Trust** will be responsible for the on site activities. The EMP will be a binding document for purposes of compliance.

Figure 1: Locality Map

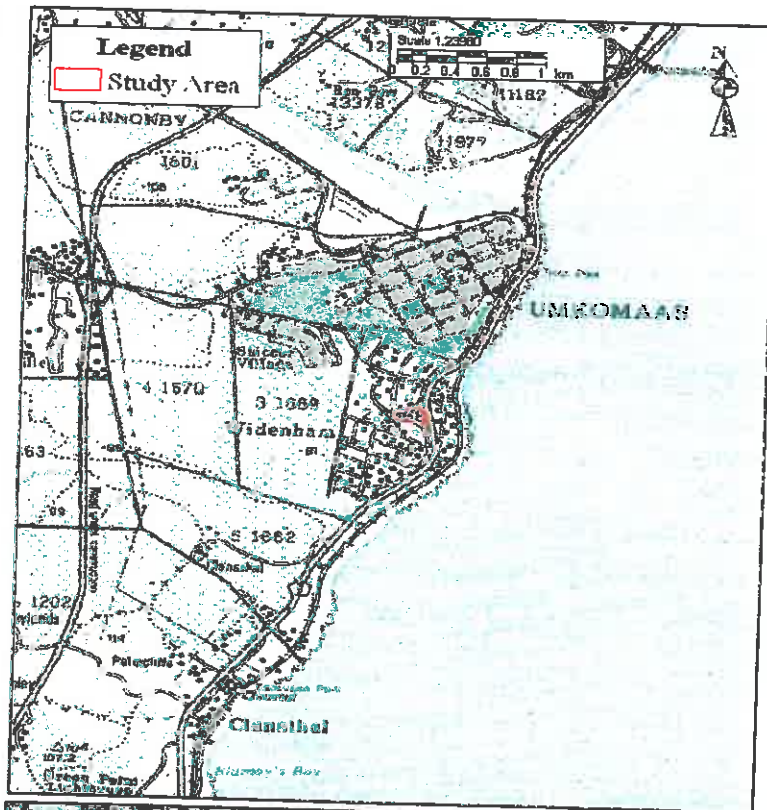


Figure 2: Aerial Map



EMP for the Proposed Widenham Stand, on Portions 35(of 2), 36 (of 2), 338 (of 2), 339 (of 2), 340 (of 2), 342 (of 2) and 343 (of 2) of Lot 2, No. 1668, Widenham, KwaZulu-Natal.

1.3 Receiving Environment

Hydrology:

- The Widenham Stream traverses through the application site and a wetland is also situated on the study area. The study area is affected by the 1:100 year floodline.

Fauna and flora:

- At present the study area is already severely disturbed by means of alien and invasive plant species on site. The natural vegetation cover on the site consists mainly of alien and invasive plant species with an excellent tree layer. The application site's ecological condition and function is mixed with some aspects functioning well, however other aspects show signs of impact. The area provides good habitat and cover for faunal and floral species, however alien vegetation encroachment serves as an indication of past disturbances and the influence of the surrounding area. The floral community has been disturbed by past activities and is under pressure from the surrounding environment. It is evident that the tree layer is in fair condition with several indigenous trees present while the ground cover is highly impacted upon by the invasion of alien vegetation.
- With the area forming a natural drainage line, the development site has a wetland habitat and associated community present. Due to effects of the surrounding area, the wetland has seen some impact from alien vegetation encroachment and some impacts on the water quality of the system are evident.
- No Red Data Listed (RDL) faunal and floral species were observed, directly or indirectly, to inhabit the proposed project area. The desktop study, when cross referenced with the data gathered from the field assessment, revealed that the study area did historically offer suitable habitat for various RDL faunal and floral species.;

EMP for the Proposed Widenham Stand, on Portions 35(of 2), 36 (of 2), 338 (of 2), 339 (of 2), 340 (of 2), 342 (of 2) and 343 (of 2) of Lot 2, No. 1 668, Widenham, KwaZulu-Natal.

- Sensitive areas are confined to the wetland and associated buffer. No other Sensitive areas (ridges or primary grassland) were encountered during the assessment;

Cultural /Historical:

- No obvious features, sites or artefacts of cultural significance were found on the site.

Visual:

- The study area is highly visible from the R102 Road, Widenham Drive, St. Catherine Road and Camborne Road.

Geology:

- The geology of the area is made up of the Ordovician Natal Group sandstone, Dwyka tillite Ecca shale and Mapumulo gneiss (Mokolian) which dominate the landscapes of the KwaZule-Natal Coastal Belt. Weathering of old dunes has produced the red sand, called the Berea Red Sand, in places. The soils supported bythe above mentioned rocks are shallow over hard sandstones and deeper over younger, softer rocks.

EMP context

This EMP fits into the overall planning process of the project by carrying out the conditions of consent set out by the DAEA-KZN, Conservation and Environment. In addition, all mitigation measures recommended in the Basic Assessment report are included in the EMP.

EMP for the Proposed Widenham Stand, on Portions 35(of 2), 36 (of 2), 338 (of 2), 339 (of 2), 340 (of 2), 342 (of 2) and 343 (of 2) of Lot 2, No. 1668, Widenham, KwaZulu-Natal.

This EMP addresses the following three phases of the development:

- Pre-construction Planning Phase;
- Construction phase; and
- Operational phase.

2 Monitoring

In order for the EMP to be successfully implemented all the role players involved must have a clear understanding of their roles and responsibilities in the project.

These role players may include the Authorities (A), other Authorities (OA), Developer/proponent (D), Environmental Control Officer (ECO), Project Manager (PM), Contractors (C), Environmental Assessment Practitioner (EAP) and Environmental Site Officer (ESO). Landowners interested and affected parties and the relevant environmental and project specialist's area also important role players.

3 Roles and responsibilities

3.1 Developer (D)

The developer is ultimately accountable for ensuring compliance with the EMP and conditions contained in the RoD. The developer must appoint an independent Environmental Control Officer (ECO), for the duration of the pre-construction and construction phases, to ensure compliance with the requirements of this EMP. The developer must ensure that the ECO is integrated as part of the project team.

EMP for the Proposed Widenham Stand, on Portions 35 (of 2), 36 (of 2), 338 (of 2), 339 (of 2), 340 (of 2), 342 (of 2) and 343 (of 2) of Lot 2, No. 1668, Widenham, KwaZulu-Natal.

3.2 Project Manager (PM)

The project Manager is responsible for the coordination of various activities and ensures compliance with this EMP through delegation of the EMP to the contractors and monitoring of performance as per the Environmental Control Officer's monthly reports.

3.3 Environmental Control Officer (ECO)

An independent Environmental Control Officer (ECO) shall be appointed, for the duration of the pre-construction and construction phase of the services and bulk infrastructure, by the developer to ensure compliance with the requirements of this EMP. After the construction of the development and the associated rehabilitation works are completed, the ECO must do a final site inspection and if satisfied with the compliance with the EMP the ECO must issue a certificate of compliance with the EMP to the developer and forward a copy of the compliance certificate to DAEA-KZN.

- The Environmental Control Officer shall ensure that the contractor and developer are aware of all the specifications pertaining to the project.
- Any damage to the environment must be repaired immediately after consultation between the Environmental Control Officer, Consulting Engineer main Contractor and Relevant Sub- Contractors.
- The Environmental Control Officer shall ensure that the developer and the appointed project team and contractors adhere to all stipulations of the EMP.
- The Environmental Control Officer shall be responsible for monitoring the EMP throughout the project by means of site visits and meetings. This should be documented as part of the site meeting minutes.
- The Environmental Control Officer shall be responsible for the environmental training program.
- The Environmental Control Officer shall ensure that all clean up and rehabilitation or any remedial action required, are completed prior to transfer of properties.
- A post construction environmental audit is to be conducted to ensure that all conditions in the EMP have been adhered to.

EMP for the Proposed Widenham Stand, on Portions 35(of 2), 36 (of 2), 338 (of 2), 339 (of 2), 340 (of 2), 342 (of 2) and 343 (of 2) of Lot 2, No. 1668, Widenham, KwaZulu-Natal.

3.4 Contractor (C):

The contractors shall be responsible for ensuring that all activities on site are undertaken in accordance with the environmental provisions detailed in this document and that sub-contractor and laborers are duly informed of their roles and responsibilities in this regard.

The contractor will be required, where specified to provide Method Statements setting out in detail how the management actions contained in the EMP will be implemented.

The contractors will be responsible for the cost of rehabilitation of any environmental damage that may result from non-compliance with the environmental regulations.

3.5 Environmental Site Officer (ESO):

The ESO is not an independent appointment but must be a member of the contractor's management team. The ESO must ensure that he/she is involved at all phases of the construction (from site clearance to rehabilitation).

3.6 Authority (A):

The authority is the relevant environmental department that has issued the Environmental Authorisation. The authority is responsible for ensuring that the monitoring of the EMP and other authorization documentation is carried out by means of reviewing audit reports submitted by the ECO and conducting regular site visits.

3.7 Other Authorities (OA):

Other authorities are those that may be involved in the approval process of the EMP.

3.8 Environmental Assessment Practitioner (EAP):

According to Section 1 of NEMA the definition of an environmental assessment practitioner is "the individual responsible for the planning, management and

EMP for the Proposed Widenham Stand, on Portions 35(of 2), 36 (of 2), 338 (of 2), 339 (of 2), 340 (of 2), 342 (of 2) and 343 (of 2) of Lot 2, No. 1668, Widenham, KwaZulu-Natal.

coordination of environmental impact assessments, strategic environmental assessments, environmental management plans or any other appropriate environmental instruments through regulations".

4. Lines of Communication:

The Environmental Control Officer in writing should immediately report any breach of the EMP to the Project Manager. The Project Manager should then be responsible for rectifying the problem on-site after discussion with the contractor. Should this require additional cost, then the developer should be notified immediately before any additional steps are taken.

5. Reporting Procedures to the Developer:

Any pollution incidents must be reported to the Environmental Control Officer immediately (within 12 hours). The Environmental Control Officer shall report to the Developer on a regular basis (site meetings).

6. Site Instruction Entries:

The site instruction book entries will be used for the recording of general site instructions as they relate to the works on site. There should be issuing of stop work order for the purposes of immediately halting any activities of the contractor that may pose environmental risk.

7. ESA/ESO (Environmental Site Officer) Diary Entries:

Each of these books must be available in duplicate, with copies for the Engineer and Environmental Site Officer. These books should be available to the authorities for inspection or on request. All spills are to be recorded in the ESA/Environmental Site Officer's diary.

EMP for the Proposed Widenham Stand, on Portions 35(of 2), 36 (of 2), 338 (of 2), 339 (of 2), 340 (of 2), 342 (of 2) and 343 (of 2) of Lot 2, No. 1668, Widenham, KwaZulu-Natal.

8. Methods Statements:

Methods statements from the contractor will be required for specific sensitive actions on request of the authorities or ESA/ESO (Environmental Site Officer). All method statements will form part of the EMP documentation and are subject to all terms and conditions contained within the EMP document. For each instance wherein it is requested that the contractor submit a method statement to the satisfaction of ESA/ESO, the format should clearly indicate the following:

- What – a brief description of the work to be undertaken
- How- a detailed description of the process of work, methods and materials
- Where- a description / sketch map of the locality of work; and
- When- the sequencing of actions with due commencement dates and completion date estimate.

The contractor must submit the method statement before any particular construction activity is due to start. Work may not commence until the method statement has been approved by the ESA/ESO.

9. Record Keeping:

All records related to the implementation of this management plan (e.g. site instruction book, ESA/ESO dairy, methods statements etc.) must be kept together in an office where it is safe and can be retrieved easily. These records should be kept for two years at any time be available for scrutiny by any relevant authorities.

EMP for the Proposed Widenham Stand, on Portions 35(of 2), 36 (of 2), 338 (of 2), 339 (of 2), 340 (of 2), 342 (of 2) and 343 (of 2) of Lot 2, No. 1668, Widenham, KwaZulu-Natal.

10. Acts:

10.1 The National Water Act, 1998 (Act No: 36 of 1998)

The purpose of this Act is to ensure that the nation's water resources are protected, used, developed, conserved, managed and controlled in ways that take into account, amongst other factors, the following:

- ❑ Meeting the basic human needs of present and future generations;
- ❑ Promoting equitable access to water;
- ❑ Promoting the efficient, sustainable and beneficial use of water in the public interest;
- ❑ Reducing and preventing pollution and degradation of water resources;
- ❑ Facilitating social and economic development; and
- ❑ Providing for the growing demand for water use.

Implications for proposed development:

Significant- During the site visit with DWA it was indicated that DWA will most probably not require Section 21 Water-Use licenses for the alteration of a drainage line/ flow, because the drainage line has already been altered when the storm water channel was implemented by the local authority. The watercourse is not regarded as a natural watercourse anymore. DWA also indicated that the proposed on-site sanitation system will qualify for a General Authorization and not for a Section 21 Water-use license. The Section 21 Water-use license requirements will however be discussed and confirmed with DWA as soon as more detail becomes available. A copy of the Draft BAR was also submitted to DWA for comments. Please refer to **Appendix E10 for the relevant comments received by the Department.**

According Section 144 of the Water Act, the 1:100 year flood line must be indicated on all planning / development drawings/ plans. Although the Water Act does not prohibit development below the flood line, it is recommended that development take place

EMP for the Proposed Widenham Stand, on Portions 35(of 2), 36 (of 2), 338 (of 2), 339 (of 2), 340 (of 2), 342 (of 2) and 343 (of 2) of Lot 2, No. 1668, Widenham, KwaZulu-Natal.

above the flood line. In the case of the proposed development, the units will be elevated by means of elevated platforms to be above the 1:100 year flood line.

10.2 National Environmental Management: Air Quality Act, 2004 (Act 39 of 2004)

The NEMA: AQA serves to repeal the Atmospheric Pollution Prevention Act (45 of 1965) and various other laws dealing with air pollution and it provides a more comprehensive framework within which the critical question of air quality can be addressed.

The purpose of the Act is to set norms and standards that relate to:

- ❑ Institutional frameworks, roles and responsibilities
- ❑ Air quality management planning
- ❑ Air quality monitoring and information management
- ❑ Air quality management measures
- ❑ General compliance and enforcement.

Amongst other things, it is intended that the setting of norms and standards will achieve the following:

- The protection, restoration and enhancement of air quality in South Africa
- Increased public participation in the protection of air quality and improved public access to relevant and meaningful information about air quality
- The reduction of risks to human health and the prevention of the degradation of air quality.

The Act describes various regulatory tools that should be developed to ensure the implementation and enforcement of air quality management plans. These include:

- Priority Areas, which are air pollution 'hot spots'
- ❑ Listed Activities, which are 'problem' processes that require an Atmospheric Emission License
- Controlled Emitters, which includes the setting of emission standards for 'classes' of emitters, such as motor vehicles, incinerators, etc.

EMP for the Proposed Widenham Stand, on Portions 35(of 2), 36 (of 2), 338 (of 2), 339 (of 2), 340 (of 2), 342 (of 2) and 343 (of 2) of Lot 2, No. 1668, Widenham, KwaZulu-Natal.

- Control of Noise
- Control of Odours.

Implications for proposed development:

Significant – The Act have relevance to the proposed development during the construction phase. Dust pollution could be a concern primarily during the construction phase of the proposed project. Dust control would be adequately minimised during this phase by way of water spraying and possible dust-nets, when working close to existing residential dwellings.

The additional vehicles generated by the proposed development is according to the involved traffic engineers minimal and air pollution created by additional vehicles can be regarded as insignificant.

10.3 National Environmental Management Act (Act 107 of 1998)

The NEMA is primarily an enabling Act in that it provides for the development of environmental implementation plans and environmental management plans. The principles listed in the act serve as a general framework within which environmental management and implementation plans must be formulated.

The principles in essence state that environmental management must place people and their needs at the forefront of its concern and that development must be socially, environmentally and economically sustainable.

Implications for proposed development:

Significant – Section 28 (1) of NEMA stated that every person who causes, has caused or may cause significant pollution or degradation of the environment must take reasonable measures to prevent such pollution or degradation from occurring, continuing or recurring, or, in so far as such harm to the environment is authorised by law or cannot reasonably be avoided or stopped, to minimise and rectify such pollution or degradation of the environment.

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The EMP is compiled in terms of Section 28 of NEMA.

10.4 National Environmental Management: Waste Act (Act 59 of 2008)

This Act came into effect on 11 June 2009. It aims to consolidate waste management in South Africa, and contains a number of commendable provisions, including:

- The establishment of a national waste management strategy, and national and provincial norms and standards for, amongst others, the classification of waste, waste service delivery, and tariffs for such waste services;
- Addressing reduction, reuse, recycling and recovery of waste;
- The requirement for industry and local government to prepare integrated waste management plans;
- The establishment of control over contaminated land;
- Identifying waste management activities that requires a licence, which currently include facilities for the storage, transfer, recycling, recovery, treatment and disposal of waste on land;
- Co-operative governance in issuing licenses for waste management facilities, by means of which a licensing authority can issue an integrated or consolidated license jointly with other organs of state that has legislative control over the activity; and
- The establishment of a national waste information system.

On 3 July 2009 the Minister of Environmental Affairs and Tourism promulgated a list of waste management activities that might have a detrimental effect on the environment. These listed activities provide the activities that require a Waste Management License. Two Categories is specified: Category A and Category B. As part of Category a Waste Management License application a Basic Assessment in terms of Section 24(5) of the National Environmental Management Act (Act 107 of 1998) must be submitted to the relevant Authority. As part of a Category B Waste Management License a Scoping and EIA process in terms of Section 24(5) of the National Environmental Management Act (Act 107 of 1998) must be followed and submitted to the relevant Authority.

EMP for the Proposed Widenham Stand, on Portions 35 (of 2), 36 (of 2), 338 (of 2), 339 (of 2), 340 (of 2), 342 (of 2) and 343 (of 2) of Lot 2, No. 1668, Widenham, KwaZulu-Natal.

Implications for proposed development:

Not Significant– No waste license application is required in terms of NEM: WA 2008 for the proposed onsite sanitation system, as the capacity of the system falls below the threshold as specified in Category A [(11) Treatment of waste], of the National Waste List.

10.5 National Veld and Forrest Fire Act, 1998 (Act No. 101, 1998)

The purpose of this Act is to prevent and combat veld, forest and mountain fires throughout the Republic. Furthermore the Act provides for a variety of institutions, methods and practices for achieving the prevention of fires.

Implications for proposed development:

Significant – Fires of construction workers may only be lit in the designated site camp as indicated in assistance with the ECO. It is important that a site development camp be located on a part of the application site that is already disturbed.

10.6 National Heritage Resources Act, 1999 (Act No. 25 of 1999)

The National Heritage Resources Act legislates the necessity and heritage impact assessment in areas earmarked for development, which exceed 0.5ha. The Act makes provision for the potential destruction to existing sites, pending the archaeologist's recommendations through permitting procedures. Permits are administered by the South African Heritage Resources Agency (SAHRA).

EMP for the Proposed Widenham Stand, on Portions 35(of 2), 36 (of 2), 338 (of 2), 339 (of 2), 340 (of 2), 342 (of 2) and 343 (of 2) of Lot 2, No. 1668, Widenham, KwaZulu-Natal.

Implications for proposed development:

Not significant- No cultural/historical significant areas were identified with in the application site and thus no areas of historical or cultural value will be affected;

10.7 Conservation of Agricultural Resources Act (Act No. 43 of 1983)

This Act provides for control over the utilization of the natural agricultural resources of the Republic in order to promote the conservation of the soil, the water sources and the vegetation and the combating of weeds and invader plants; and for matters connected therewith.

Implications for proposed development:

Not Significant – The study area is too small to act as viable economical agricultural unit and the fact that the study area is currently zoned for "Residential 1" and not for agricultural uses must also be taken into consideration.

10.8 Water Services Act, 1997 (Act No. 108 of 1997)

This Act provides for the minimum standards and measures of which the following Water Services should adhere to:

- o Basic sanitation
- o Basic water supply
- o Interruption in provision of water services
- o Quality of potable water
- o Control of objectionable substances
- o Disposal of grey water
- o Use of effluent
- o Quantity and quality of industrial effluent discharged into a sewerage system
- o Water services audit as a component in the Water Services Development Plan

EMP for the Proposed Widenham Stand, on Portions 35(of 2), 36 (of 2), 338 (of 2), 339 (of 2), 340 (of 2), 342 (of 2) and 343 (of 2) of Lot 2, No. 1668, Widenham, KwaZulu-Natal.

- o Water and effluent balance analysis and determination of water losses
- o Repair of leaks
- o Consumer installations other than meters
- o Pressure in reticulation system

Implications for proposed development:

Significant – The application will adhere to the water services act.

10.9 National Environmental Management Act: Biodiversity Act (Act No. 10 of 2004)

The purpose of the Biodiversity Act is to provide for the management of South Africa's biodiversity within the Framework of the NEMA and the protection of species and ecosystems that warrant National protection. As part of the implementation strategy, the National Spatial Biodiversity Assessment was developed.

Implications for proposed development:

Not Significant – No Red Listed Species were identified on site, and the vegetation of the study area is regarded as disturbed. The connectivity with the larger regional open space system will be conserved through the protection of the central wetland.

10.10 National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003)

The purpose of this Act is to provide for the protection, conservation and management of ecologically viable areas representative of South Africa's biological biodiversity and its natural landscapes.

EMP for the Proposed Widenham Stand, on Portions 35(of 2), 36 (of 2), 338 (of 2), 339 (of 2), 340 (of 2), 342 (of 2) and 343 (of 2) of Lot 2, No. 1668, Widenham, KwaZulu-Natal.

Implications for proposed development:

Not Significant – Not Significant. The study area is not situated in a Protected Area identified in terms of the protected areas act.

10.11 National Road Traffic Act, 1996 (Act No. 93 of 1996)

This Act provides for all road traffic matters which shall apply uniformly throughout the Republic and for matters connected therewith.

Implications for proposed development:

Not significant – Not Applicable.

10.12 Environmental Conservation Act: Noise Regulations, 1989 (Act no.73 of 1989)

The purpose of this Act is to provide measures and management relating Noise levels. This Act enables Noise levels to be acceptable to standards within a specific area and community.

Implications for proposed development:

Significant – The proposed development may include some noisy activities during the construction phase.

11. Project activities

11.1 Pre-Construction Phase

| TYPE | Environmental risk or issue | Objective or requirement | Mitigation measure | Performance Indicator | Responsibility | Frequency of Action |
|---------------------|--|---|---|--|---------------------------------|---------------------|
| General | Project contract | To make the EMP enforceable under the general conditions of the contract. | The EMP document must be included as part of the tender documentation. | The EMP is included as part of the tender documentation | Developer | - |
| Design and planning | Stability of structures and restriction of land use due to geology | To ensure stability of the development structure. | The layout and land must correspond to the stability zonation and development types recommended by the geotechnical engineer. | The land uses and layout corresponds to the recommended stability zonation and development type. | Individual Development Engineer | - |
| | Waste storage | To control the temporary storage of waste. | Temporary waste storage points on site shall be determined. These storage points shall be accessible by waste removal trucks and these points should not be located in sensitive areas/areas highly visible from the properties of the surrounding land-owners/tenants/in areas where the wind direction will carry bad odours across the properties of adjacent tenants or landowners. | | Contractor ESO | - |
| | | Ensure waste storage area does not generate pollution. | Build a bund around waste storage area to avoid occurrence of pollution. | | Contractor | - |

| TYPE | Environmental risk or issue | Objective or requirement | Mitigation measure | Performance indicator | Responsibility | Frequency of Action |
|------|--|--|--|--|--|---------------------|
| | <p>Perched water conditions may result into additional settlement/ collapse and differential movement - Flooding of construction works and structures</p> <p>-Environmental damage in the form of soil erosion, siltation and water pollution.</p> | <p>To prevent any structural and environmental damage caused by perched water conditions</p> | <p>-Proper surface and sub-surface drainage measures needs to be recommended, by and engineer to prevent perched water conditions into structural instabilities;</p> <p>-proper site drainage and storm water management measures should be designed , to manage storm water and perched water conditions during constructions;</p> <p>Foundation recommendations should be made by the involved geotechnical/structural engineers to be implemented during the construction of structures situated on areas characterised by perched water conditions, which is situated above the 1:50 and 1:100 year floodline.</p> | <p>-Proper surface and sub-surface drainage measures developed by the geotechnical/structural engineers will be implemented during construction;</p> <p>-Foundation recommendations made by the geotechnical /structural engineers, which will be implemented during construction.</p> | <p>Geotechnical / Structural Engineers</p> | |
| | <p>Hydrology- Environmental damage caused due to erosion, water pollution, gully formation and siltation.</p> | <p>To ensure that a proper storm water management plan are developed to be implemented.</p> | <p>-A proper storm water management plan should be developed, to be implemented during the construction and operational phases of the proposed Residential Development;</p> <p>-Stormwater outlets shall be correctly designed to prevent erosion;</p> <p>-Construction guidelines should be provided for the prevention and restriction of erosion and siltation</p> | | <p>Suitably Qualified Specialist</p> | |

| TYPE | Environmental risk or issue | Objective or requirement | Mitigation measure | Performance indicator | Responsibility | Frequency of Action |
|------|-----------------------------|--|---|-----------------------|---|---------------------|
| | | To ensure the sustainability of the drainage and the open space systems lower down in the catchment area | <p>-The Stormwater design for the proposed development must be designed to:</p> <ul style="list-style-type: none"> ➤ To prevent incision, erosion and the associated sedimentation of the wetland area; ➤ Reduce and/or prevent siltation, erosion and water pollution. Stormwater runoff should not be concentrated as far as possible and sheet flow should be implemented; ➤ Run-off from paved surfaces should be slowed down by the strategic placement of berms and energy dissipaters; ➤ Sheet runoff from paved surfaces and access roads needs to be curtailed; ➤ Runoff from paved surfaces should be slowed down by the strategic placement of berms; ➤ All stormwater generated from paved surfaces needs to be released into the wetland area with the use of energy dissipation structures and reno mattresses to protect the system from erosion and sedimentation. ➤ During the construction and operational phases of the proposed development, erosion berms should be installed to prevent gully formation and siltation of the wetland resources on any steep banks created or disturbed. The following points | | Civil Engineers, Engineers in planning phase. | |

| TYPE | Environmental risk or issue | Objective or requirement | Mitigation measure | Performance Indicator | Responsibility | Frequency of Action |
|------|---|--|--|-----------------------|--------------------------|---------------------|
| | | | <p>should serve to guide the placement of erosion berms:</p> <ul style="list-style-type: none"> - Where track has a slope less than 2%, berms every 50 m to be installed; - Where track slopes between 2% and 10%, berms every 20m to be installed; -Where track slopes between 10%-15%, berms every 20m to be installed; -Where track has a slope greater than 15%, berms of 10m to be installed. <p>➤ As much of the vegetation should be retained as far as possible and rehabilitated if disturbed by construction activities to endure that erosion and siltation does not take place;</p> <p>➤ No Trees should be planted with in three meters form water bearing services</p> | | | |
| | | | <p>If possible, compile a construction program that will allow for the main construction works (especially the construction works in close proximity of the flood line and the wetland areas) during the winter months</p> <p>Work should be planned to be restricted to one area at a time.</p> | | Entire Project Team | |
| | Fauna and Flora biodiversity and ecological health | To give smaller birds, mammals and reptiles a chance to move into other undisturbed areas close to their natural territories | | | Contractor, Site Manager | |

| TYPE | Environmental risk or issue | Objective or requirement | Mitigation measure | Performance Indicator | Responsibility | Frequency of Action |
|------|-----------------------------|---|---|-----------------------|---|---------------------|
| | | To ensure that the species introduced to the area, are compatible with the current and future quality of the ecological processes. | The Landscape Development Plan (LDP) and Mater Plan for the proposed development shall be submitted to the local government for approval. It is important that all the plant positions quantities and coverage per m ² be indicated on the plan. | | Landscape Architect | |
| | | To create value in open space- to develop strategic infrastructure to allow the open space on the subject property to be used for recreational and some education. | <ul style="list-style-type: none"> Provision should be made for the construction of raised wooden walkways through the subject property which people can use to explore the open space, while still minimising impacts on the open space area; Provision should be made for the placement of tree identification tags on the various tree species encountered along the wooden walkway; Provision could be made for a viewing deck and/or bird hide to view birds and other fauna within the open space areas. | | Landscape Architect Developer Architect | |
| | | Rehabilitation of the wetland on the subject property- To ensure the removal of all the Declared weeds and invaders from the site | <ul style="list-style-type: none"> Removal of alien and invasive species must continue throughout the construction, landscaping and operational phases of the development; Topsoil stockpiles must be cleared of any alien and invasive species before being used on re-profiled areas; Before any re-seeding or re-profile areas takes place, alien and | | Flora Specialist /Contractor | |

| TYPE | Environmental risk or issue | Objective or requirement | Mitigation measure | Performance indicator | Responsibility | Frequency of Action |
|------|-----------------------------|---|--|---|----------------------------------|---------------------|
| | | | <ul style="list-style-type: none"> invasive species must be removed; The seed mixtures used during rehabilitation and landscaping must be certified weed-free; Any mulches or compost mixtures must be certified weed free; After construction, a bi-monthly eradication exercise must be performed to remove alien and invasive species for a period of two years; After the first two years, an annual eradication exercise is deemed suitable for management of alien species for the life of the proposed development. | | | |
| | | To preserve larger trees and overall ecological value of the subject property | <ul style="list-style-type: none"> The development footprint is to remain as small as possible; Construction areas must be clearly marked and no construction activities, including movement of vehicles and people are to occur outside of these areas; Landscaped gardens must be kept to an absolute minimum and gardens may only be planted with indigenous vegetation; As far as possible all large trees should not be removed during the construction process; Any trees taller than 5m are to be replaced as part of the landscaping and rehabilitation activities of the proposed development. The indigenous tree species that | Indigenous tree species Clearly marked prior to construction | Flora Specialist/Contractor/ ECO | |

| TYPE | Environmental risk or issue | Objective or requirement | Mitigation measure | Performance Indicator | Responsibility | Frequency of Action |
|------|--|---|--|---|--|---------------------|
| | | | are intended to be retained on site should be clearly marked. | | | |
| | | To prevent erosion and degradation of the site | Compile a rehabilitation plan for the construction phase. Areas that will remain as natural vegetation after the development took place (i.e. the wetland and wetland buffer area) must be indicated on all the planning drawings and measures must be put in place (already during the construction phase) to protect and rehabilitate these areas on an on-going basis | | Flora Specialist/Contractor | |
| | Protection of Wetland Area Delineated | To ensure that the wetland areas delineated, as well as the associated buffer zones are adequately protected prior, and during construction | <ol style="list-style-type: none"> 1) Delineate a conservation line on the plans for the beginning and where possible avoid any work within 1m from the wetland buffer; 2) Plan to erect a conservation fence on the conservation line and incorporate the costs for such a fence into the tender documents of the contractors from the start. | The delineated wetland area with its associated buffer zones are clearly marked and excluded from the developmental activities. | Flora Specialist, Wetland Specialist, Contractor | |
| | Visual Impact | To minimize the visual impact of the proposed development. | Architectural guidelines should be compiled for the proposed development and the styles used must promote unity through the use of certain street furniture, planting and paving patterns, colours and textures that do not only blend in tastefully with the character of the area, but are | | Architect Contractor. | |

| TYPE | Environmental risk or issue | Objective or requirement | Mitigation measure | Performance Indicator | Responsibility | Frequency of Action |
|---------------------------|-----------------------------|--|--|---|--|---------------------|
| Preparing the site access | Environmental Integrity | To avoid erosion and disturbance to indigenous vegetation. | also functional and easy to maintain. Designated routes shall be determined for the construction vehicles and designated areas for storage of equipment. Clearly mark the site access point and routes on the site to be used by construction vehicles and pedestrians. Provide an access map to all contractors whom in turn must provide copies to the construction workers. Instruct all drivers to use access point and determined route. Alien invaders must be eradicated before, during and after construction. | Access to site is erosion free. | Contractor | Continuous |
| | | To prevent the invasion of the area with alien invaders. | | | ECO PROJECT MANAGER | |
| | | | The site camp and storage areas shall be established in a disturbed area as indicated by the ECO prior to construction. All surface run-offs should be managed in such a way so as to ensure erosion of soil does not occur. Provisions should be made for the development of a rehabilitation plan, prior to construction, to ensure that all the areas which are susceptible to erosion shall be covered with a suitable vegetative cover as soon as construction is completed. | | ECO, SITE SUPERVISOR | |
| | Erosion and Siltation | To prevent the unnecessary loss of soil through bad management | | Rehabilitation Plan must be developed prior to construction to be implemented during and after construction | Landscape Architect, Environmental Consultants, Flora Specialist | |
| | Compaction | To prevent the compaction of valuable soils due to traffic and equipment | Designated routes shall be determined prior to construction for movement of construction vehicles and areas for the storage of equipment. All the areas that are compacted by machinery shall be ripped prior to them being rehabilitated. | | ECO, Site Supervisor, Contractor | |

| TYPE | Environmental risk or issue | Objective of requirement | Mitigation measure | Performance Indicator | Responsibility | Frequency of Action |
|----------------------------------|-------------------------------|--|---|---|---|---------------------|
| | Topsoil | To Prevent the loss of valuable topsoil | The site access point should be clearly marked as well as routes designated to be used by construction vehicles and pedestrians. Designated areas should be identified prior to construction for the stockpile of stripped topsoil. The stockpile areas should be should be designated where the material will not be damaged, removed or compacted. The stockpiled topsoil shall be used for the rehabilitation of the site during and after construction and for landscaping purposes. | Designated stockpile areas identified prior to construction for the storage of Top soil | ECO, Site Supervisor Contractor ECO, Site Supervisor, Contractor | |
| Other Design requirements | Extreme Climate Change | To prevent the extreme change in micro climate temperatures To ensure the stability of structures | When the stripping of Topsoil takes place, the grass component shall be included in the stripped topsoil. The soil will contain a natural grass seed mixture that may assist in the re-growth of grass once the soil is used for backfilling and landscaping Where open parking bays are involved, one tree for every two parking bays shall be indicated on the Landscape Development Plan Detailed geotechnical investigations must be conducted for all high-rise structures | | Contractor Landscape Architect Geotechnical Engineer | |
| | | | The Foundation recommendation should be developed by the Geotechnical Engineers prior to construction on site. | | Geotechnical Engineer | |
| | | | Adequate inspections must be conducted before services trenches are backfilled | | Engineer | |

| TYPE | Environmental risk or issue | Objective or requirement | Mitigation measure | Performance indicator | Responsibility | Frequency of Action |
|------|-----------------------------|---|---|---|--|---------------------|
| | Light Pollution | To prevent excessive light pollution through ineffective design | The generation of light through security lighting and other lighting should be effectively designed to not spill unnecessary outward into the oncoming traffic, or into the yards of the neighbouring properties or open spaces | | Architect, Landscape Architect/ Contractor | |
| | Waste Storage | To control the temporary storage of waste | <p>1) No waste materials shall at any stage be disposed off in the open veld of adjacent properties or in sensitive areas. Temporary waste storage points should be determined prior to construction on site. These storage points shall be accessible by waste removal trucks. Such areas should not be located in areas highly visible from the properties of the surrounding land-owners/tenants.</p> <p>2) Interior lighting must be subtle and in order to prevent it from lighting up the sky and from using energy, the implementation of movement switches (especially for large glassed interior areas that are highly visible) should be considered during design stages;</p> <p>3) Exterior lighting, especially the lighting in the open space areas must be designed to shine downwards and the bulbs to be used should rather be "dim" that bright;</p> <p>4) Prevent the implementation of exterior name boards that will flicker into the eyes of surrounding neighbours and into the eyes of oncoming traffic;</p> | Designated areas determined prior to construction for the storage of waste on site. | ECO, Contractor | |
| | | Reuse or recycle materials where possible and ensure the correct disposal | The Waste Management Plan should be prepared prior to construction, that stipulate measures for the reuse and recycling of waste materials | Waste management plan prepared prior to construction | ECO, Contractor, | |

| TYPE | Environmental risk or issue | Objective or requirement | Mitigation measure | Performance Indicator | Responsibility | Frequency of Action |
|------|---|---|--|-----------------------|---|---------------------|
| | | of unusable waste | | | | |
| | | To ensure that the waste storage area does not generate any pollution | <p>-The area designated for the storage of waste on site should be located in non-sensitive areas and areas where it would not be able to contaminate storm water.</p> <p>-In order to prevent any visual pollution, as well as mitigate anticipated visual impacts, the area designated for the storage of waste should be located in an area that is not highly visible.</p> | | Site Supervisor | |
| | Waste Generation, and air, water and noise pollution | Best Practice to minimise environmental impacts and ensure efficient management | Coordinate with other trades working on site regarding, site management, timing of works and waste management (recycling and reuse potential) | | Project Manager | |
| | | | Plan the activities on site prior to construction-for access, deliveries, construction areas, washout area, waste stockpiles, and chemical storage | | Environmenta l Site Officer. Occupational Health and Safety officer etc. | |
| | | Solid Waste Disposal | Solid waste shall be disposed off in a manner approved by the relevant local authorities, and at a registered land-fill site | | Contractor | |

11.2 Construction Phase

| TYPE | Environmental risk or issue | Objective or requirement | Mitigation measure | Performance Indicator | Responsibility | Frequency of Action |
|-----------------------|-----------------------------|---|--|---|-----------------|---------------------|
| The Construction Camp | Vegetation and Topsoil | To minimize damage to and loss of vegetation. To retain the quality of the topsoil. | <ol style="list-style-type: none"> 1) Site to be established under supervision of the ECO; 2) Clearing and relocation of plants to be undertaken accordance with site specific requirements; 3) Clearing of the site should take place within phases to prevent large areas expose, which are prone to erosion; 4) The contractor's camp should not be established in areas that are deemed to be sensitive. Areas with low sensitivity such as degraded area should rather be considered for the establishment of the contractor's camp on site; 5) Valuable topsoil that is cleared should be retained in designated stockpiles and used again during rehabilitation works. | Minimal vegetation removed/damaged during the site activities | Contractor/ ECO | |
| | | To minimize pollution of surfaces and groundwater resources due to spilling of materials. | <ol style="list-style-type: none"> 1) Drip trays and/ or lined earth bunds must be provided under vehicles and equipment, to contain spills of hazardous materials such as fuel, oil and cement; 2) Repair and storage of vehicles only within the demarcated area; 3) Spill kits must be available on site; 4) Oils and chemicals must be confined to specific secured areas within the site camp. These areas must be bounded with adequate containment (at least 1,5 times the volume of the fuel) for potential spills or leaks; 5) All spilled hazardous substances must be contained in impermeable containers for | No pollution of the Environment | Contractor/ ECO | Daily |

| TYPE | Environmental risk or issue | Objective or requirement | Mitigation measure | Performance indicator | Responsibility | Frequency of Action |
|------|-----------------------------|--------------------------|---|-----------------------|--------------------|---------------------|
| | | | <p>removal to a licensed hazardous waste site;</p> <p>6) No leaking vehicle shall be allowed on site. The mechanic/ technician of the appointed contractor must supply the environmental officer with a letter of confirmation that the vehicles and equipment are free of leaks;</p> <p>7) No bins containing organic solvents such as paints and thinners shall be cleaned on site, unless containers for liquid waste disposal are placed for this purpose on site.</p> | | | |
| | Erosion | To minimise Erosion | <p>1) A storm water management plan must be compiled for the construction and operational phases of the proposed development;</p> <p>2) Large exposed areas during the construction phases should be limited. Where possible areas earmarked for construction during later phases should remain covered with vegetation coverage until the actual construction phase. This will prevent unnecessary erosion and siltation in these areas;</p> <p>3) Rehabilitate exposed areas immediately after construction in these areas is completed (not at the end of the project);</p> <p>4) Unnecessary clearing of flora resulting in exposed soil prone to erosive conditions should be avoided;</p> <p>5) Specifications for topsoil storage and replacement to ensure sufficient soil coverage as soon as possible after construction must be implemented;</p> | No to limited Erosion | Contractor/ ECO | |

| TYPE | Environmental risk or issue | Objective or requirement | Mitigation measure | Performance indicator | Responsibility | Frequency of Action |
|------|--|---|--|---|-----------------------------|---------------------|
| | | | <p>6) All embankments must be adequately compacted and planted with grass to stop any excessive soils erosion and scouring of the landscape;</p> <p>7) Storm water diversion measures are recommended to control peak flows during thunder storms;</p> <p>8) The eradication of alien vegetation should be followed up as soon as possible by replacement with indigenous vegetation to ensure quick and sufficient coverage of exposed areas.</p> | | | |
| | <p>Surface and ground water pollution</p> | <p>To minimize pollution of surface and groundwater resources</p> | <p>1) Sufficient and temporary facilities including ablution facilities must be provided for construction workers operating on the site;</p> <p>2) A minimum of one chemical toilet shall be provided for every 10 workers. The contractor shall keep the toilets in a clean, neat and hygienic condition. Toilets provided by the contractor must be easily accessible and a maximum of 50 m from the works area to ensure they are utilized. The contractor (who must use a reputable toilet-servicing company) shall be responsible for the cleaning, maintenance and servicing of the toilets.</p> <p>3) No person is allowed to use any other area than chemical toilets;</p> <p>4) No French drain systems may be installed;</p> <p>5) No chemical or waste water must be allowed to contaminate the run-off on site;</p> <p>6) Avoid the cleaning of the site camp (of specific phase) or paved surfaces with soap. When attempting to clean the site</p> | <p>Effectively.</p> <p>No pollution of water resources from the site.</p> <p>Workforce makes use of toilets provided.</p> | <p>Contractor/ ESO/ ECO</p> | |

| TYPE | Environmental risk or issue | Objective or requirement | Mitigation measure | Performance indicator | Responsibility | Frequency of Action |
|------|---|--|---|---|----------------|---------------------|
| | | To minimize pollution of surface and groundwater resources due to effluent. | a biodegradable soap must be used. No effluent (including effluent from any storage areas) may be discharged into any water surface or ground water resource. | No evidence of contaminated water resources | Contractor ESO | Daily |
| | Siltation, erosion and water pollution could occur in the systems lower down in the catchment area if a stormwater management plan is not implemented | To minimize pollution of surface and groundwater resources due to effluent. | 1) The storm water design for the proposed development must be designed to: - Reduce and/or prevent siltation, erosion, siltation and water pollution if erosion, siltation and water pollution is not addressed, the sustainability of the drainage and the open space systems lower down in the catchment area can be negatively impacted by the development. - Storm water runoff should not be concentrated as far as possible and where possible sheet flow should be implemented. 2) The vegetation must be retained as far as possible, and rehabilitated if disturbed by construction activities to ensure that erosion and siltation do not take place. | No evidence of contaminated water resources | Contractor ESO | |
| | Pollution of the environment | To prevent unhygienic usage on the site and pollution of the natural assets. | 1) Weather proof waste bins must be provided and emptied regularly. 2) The contractor shall provide laborers to clean up the construction site on a daily basis. 3) Temporary waste storage points on the site should be determined. THESE AREAS SHALL BE PREDETERMINED AND LOCATED IN AREAS THAT IS ALREADY DISTURBED. These storage points should be accessible by waste removal trucks and these points should be located in already disturbed areas. | No waste bins overflowing No litter or building waste lying in or around the site. | Contractor ESO | Daily Weekly |

| TYPE | Environmental risk or issue | Objective or requirement | Mitigation measure | Performance indicator | Responsibility | Frequency of Action |
|------|---|--------------------------|---|--------------------------------|-----------------------|---------------------|
| | | | <p>/areas not highly visible from the properties of the surrounding land-owners/ in areas where the wind direction will not carry bad odours across the properties of adjacent landowners. This site should comply with the following:</p> <ul style="list-style-type: none"> • Skips for the containment and disposal of waste that could cause soil and water pollution, i.e. paint, lubricants, etc.; • Small lightweight waste items should be contained in skips with lids to prevent wind littering; • Bunded areas for containment and holding of dry building waste. <p>4) No solid waste may be disposed of on the site. 5) No waste materials shall at any stage be disposed of in the open veld of adjacent properties. 6) The storage of solid waste on the site, until such time as it may be disposed of, must be in a manner acceptable to the local authority and DWA.</p> | | | |
| | Recycle material where possible and correctly dispose of unusable wastes. | | <p>1) Waste shall be separated into recyclable and non-recyclable waste, and shall be separated as follows:</p> <ul style="list-style-type: none"> • General waste: including (but not limited to) construction rubble, • Reusable construction material. <p>2) Recyclable waste shall preferably be deposited in separate bins. 3) All solid waste including excess spoil (soil, rock, rubble etc) must be removed to a permitted waste disposal site on a weekly basis.</p> | No visible signs of pollution. | Contractor ESO/ECO | Daily Weekly |

| TYPE | Environmental risk or issue | Objective or requirement | Mitigation measure | Performance Indicator | Responsibility | Frequency of Action |
|-------------------------------------|--|---|--|---|---------------------------|-------------------------|
| <p>The Construction Camp</p> | <p>Pollution of the environment</p> | <p>To prevent unhygienic usage on the site and pollution of the natural assets.</p> | <p>4) No bins containing organic solvents such as paints and thinners shall be cleaned on site, unless containers for liquid waste disposal are placed for this purpose on site. 5) Keep records of waste reuse, recycling and disposal for future reference. Provide information to ECO. 1) Weather proof waste bins must be provided and emptied regularly. 2) The contractor shall provide laborers to clean up the construction site on a daily basis. 3) Temporary waste storage points on the site should be determined. THESE AREAS SHALL BE PREDETERMINED AND LOCATED IN AREAS THAT IS ALREADY DISTURBED. These storage points should be accessible by waste removal trucks and these points should be located in already disturbed areas /areas not highly visible from the properties of the surrounding land-owners/ in areas where the wind direction will not carry bad odours across the properties of adjacent landowners. This site should comply with the following: <ul style="list-style-type: none"> • Skips for the containment and disposal of waste that could cause soil and water pollution, i.e. paint, lubricants, etc.; • Small lightweight waste items should be contained in skips with lids to prevent wind littering; • Bunded areas for containment and holding of dry building waste. </p> | <p>No waste bins overflowing No litter or building waste lying in or around the site.</p> | <p>Contractor ESO</p> | <p>Daily Weekly</p> |

| TYPE | Environmental risk or issue | Objective or requirement | Mitigation measure | Performance Indicator | Responsibility | Frequency of Action |
|------|---|---|---|--------------------------------|-------------------|---------------------|
| | | | <p>5) No waste materials shall at any stage be disposed of in the open veld of adjacent properties.</p> <p>6) The storage of solid waste on the site, until such time as it may be disposed of, must be in a manner acceptable to the local authority and DWA.</p> | | | |
| | | <p>Recycle material where possible and correctly dispose of unusable wastes.</p> | <p>1) Waste shall be separated into recyclable and non-recyclable waste, and shall be separated as follows:</p> <ul style="list-style-type: none"> • General waste: including (but not limited to) construction rubble, • Reusable construction material. <p>2) Recyclable waste shall preferably be deposited in separate bins.</p> <p>3) All solid waste including excess spoil (soil, rock, rubble etc) must be removed to a permitted waste disposal site on a weekly basis;</p> <p>4) No bins containing organic solvents such as paints and thinners shall be cleaned on site, unless containers for liquid waste disposal are placed for this purpose on site;</p> <p>5) Keep records of waste reuse, recycling and disposal for future reference. Provide information to ECO.</p> | No visible signs of pollution. | Contractor ESO | Daily Weekly |
| | <p>Increased fire risk to site and surrounding areas</p> | <p>To decrease fire risk</p> | <p>1) Fires shall only be permitted in specifically designated areas and under controlled circumstances;</p> <p>2) Food vendors shall be allowed within specific areas.</p> <p>3) Fire extinguishers to be provided in all vehicles and fire beaters must be available on site.</p> <p>4) Emergency numbers/ contact details</p> | | | |

| TYPE | Environmental risk or issue | Objective or requirement | Mitigation measure | Performance Indicator | Responsibility | Frequency of Action |
|-------------------|--|--|--|---|--|---------------------|
| Construction site | Geology and Soils-Stability of structures due to geology | To ensure stability of structures. | <p>must be available on site, where applicable.</p> <p>Preventative foundation designs shall be done. Detailed foundation inspections should be carried out at the time of construction to identify any variances and adjust foundation designs accordingly if need to be. The foundation recommendations and geotechnical engineers must be adhered to.</p> | | Geotechnical Engineers, Structural Engineers | |
| | | To prevent the damaging of the existing soils and geology. | <p>1) The top layer of all areas to be excavated for the purposes of construction shall be stripped and stockpiled in areas where this material will not be damaged, removed or compacted.</p> <p>2) All surfaces that are susceptible to erosion, shall be protected either by cladding with biodegradable material or with the top layer of soil being seeded with grass seed/planted with a suitable groundcover.</p> | No signs of erosion. | Contractor | Monitor daily |
| | | To minimise dust form the site | Dust pollution could occur during construction works, especially during the dry months. Regular and effective damping down of working areas must be carried out to avoid dust pollution that could have a negative impact on the surrounding environment. | The effective damping of access routes and exposed areas to minimize/prevent excessive dust pollution during construction | Site Supervisor, Contractor and site workers | |

| TYPE | Environmental risk or issue | Objective or requirement | Mitigation measure | Performance indicator | Responsibility | Frequency of Action |
|------|--|--|---|----------------------------------|----------------------------------|---------------------|
| | | To prevent the contamination of soils and water by the leaking and discharges of machinery | <p>-No leaking vehicle shall be allowed on site. Before entering the study area, all vehicles and equipment shall be inspected for leaks by a qualified mechanic/ other qualified person and or environmental control officer. The mechanic/ the mechanic of the appointed contractor must supply the environmental officer with a letter of confirmation that the vehicles and equipment are leak proof.</p> <p>-If maintenance on site is absolutely necessary, it should take place on a concrete surface in the site camp. Spilled oil should be cleaned up and disposed off appropriately (not disposed off on site)</p> | | Site Supervisor, Project manager | |
| | Inaccurate stockpiling can interfere with natural drainage and cause water pollution and siltation | | <p>-Stockpiling of topsoil will only be done in designated areas where it will not interfere with the natural drainage paths of the environment;</p> <p>-No stockpiling shall be allowed in drainage lines;</p> <p>-In order to minimize erosion and siltation and disturbance to the existing vegetation, it is recommended that stockpiling be done in already disturbed, exposed areas;</p> <p>-Stockpiles should be covered with a sediment fence to prevent soils material from washing away.</p> <p>-Care should be taken to prevent the runoff of silt from open soil and stockpiles into the drainage area</p> | | ECO, site supervisor | |
| | Loss of Topsoil | | <p>- Remove vegetation only in areas designated during the planning stage;</p> <p>-Rehabilitation is to be done immediately</p> | ECO, Site Supervisor, Contractor | | |

| TYPE | Environmental risk or issue | Objective or requirement | Mitigation measure | Performance Indicator | Responsibility | Frequency of Action |
|------|-----------------------------|------------------------------------|--|-----------------------|--------------------------------|---------------------|
| | | | <p>after the involved works are completed;</p> <ul style="list-style-type: none"> -All compacted areas should be ripped prior to them being rehabilitated/landscaped; -The Top layer of all areas to be excavated must be stripped and stockpiled in areas where this material will not be damaged, removed or compacted. This stockpiled material should be used for the rehabilitation of the site and for landscaping purposes; -Strip topsoil at start of works and store no more than 1,5m high in designated material storage area. | | | |
| | | | <p>Establish an all weather site access and wheel wash or shake down to prevent soil and materials being tracked onto the road</p> | ECO, Site Supervisor | | |
| | Social and Safety | To ensure the safety of the public | <p>Although regarded as a normal practice, it is important to erect proper signs indicating the operations of heavy machinery in the vicinity of dangerous crossings and access roads or even in the development site if necessary.</p> <p>With the exemption of the appointed security personnel, no other workers, friend or relatives will be allowed to sleep on the construction site (weekends included)</p> | Visible signs erected | Contractor | |
| | | | <p>-Heavy construction vehicles should avoid using the local road network during peak traffic times;</p> <p>-These vehicles should use only specific roads, and strictly keep within the speed limits and abide to all traffic laws. No speeding or reckless driving should be allowed;</p> <p>- Access to the site for construction vehicles</p> | | Security Personnel, contractor | |

| TYPE | Environmental risk or issue | Objective or requirement | Mitigation measure | Performance indicator | Responsibility | Frequency of Action |
|------|-----------------------------|---|---|-----------------------|---|---------------------|
| | | | <p>should be planned to minimize the impact on the surrounding road network; -Warning signs should be erected on the roads if needed</p> <p>The following actions would assist in the management of safety along the road: -Adequate road marking; -Adequate roadside recovery areas; -Allowance for pedestrians and cyclists</p> | | | |
| | | To minimise damage to surrounding roads | <ol style="list-style-type: none"> 1) Construction vehicles must avoid using sub-standard roads (i.e. roads in agricultural holdings that are not constructed to provincial/ local authority standards); 2) Record the condition of the surrounding roads (with photographs) prior to construction and require that contractors repair all damages caused during the construction phase; 3) Cover newly paved areas and kerbs with a sand layer during the construction phase to prevent direct damage; 4) Construction vehicles should only be permitted to use a designated construction entrance; 5) Construction vehicles and activities as well as other heavy vehicles to avoid peak hour traffic times. | | Project Manager, Environmental Site officer, Health and Safety officer Project Manager, Contractor | |
| | | To mitigate localized vibration | <p>Activities that cause localised vibration should be limited to normal working hours only, between 06h00 and 18h00 on weekdays and between 08h00 and 15h00 on Saturdays. No construction activities will</p> | | | |

| TYPE | Environmental risk or issue | Objective or requirement | Mitigation measure | Performance Indicator | Responsibility | Frequency of Action |
|------|-----------------------------|---|---|---|--------------------------------|---------------------|
| | | Noise Impact- To maintain noise levels below "disturbing" as defined in the National Noise Regulations. | be allowed on Sundays, and public holidays. - Site workers must comply with the Provincial noise requirements; -Construction will only be permitted during working hours of between 06h00 and 18h00 on weekdays, and between 08h00 and 15h00 on Saturdays. No construction activities will be allowed on Sundays and Public Holidays; -The surrounding residents must be notified of blasting activities in advance. The necessary safety measures must also be implemented; | No complaints from surrounding residents and I & AP | Contractor | Monitored daily |
| | | Dust Impact- Minimise dust from the site. | 1) Dust pollution could occur during the construction works, especially during the dry months. Regular and effective damping down of working areas (especially during the dry and windy periods) must be carried out to avoid dust pollution that will have a negative impact on the surrounding environment. | No visible signs of dust pollution No complaints from surrounding residents and I & AP | Contractor | Monitored daily |
| | | Visual Impact- In order to minimise the visual impact. | The disturbed areas shall be rehabilitated immediately after the involved construction works are completed as the construction vehicle and equipments will be causing visual impact during construction phase. | Visual impacts minimized | Contractor ESO | Monitor daily |
| | | To mitigate the inconvenience of temporary power failures, disconnection of water and sewage, and telecommunication | There should be consulted with affected parties to determine the most convenient times for service disruptions. The interested and affected parties should also be notified in advance of dates that services will be disrupted. | | Project Manager, Contractor | |
| | | Increased fire risk to site and surrounding areas-To decrease | 1) Fires shall only be permitted in specifically designated areas and under controlled circumstances. | No open fires on site that have been left | Contractor | Monitor daily |

| TYPE | Environmental risk or issue | Objective or requirement | Mitigation measure | Performance Indicator | Responsibility | Frequency of Action |
|------|-----------------------------|-----------------------------------|---|-----------------------|-------------------|---------------------|
| | | fire risk. | 2) Food vendors shall be allowed within specified areas. 3) Fire extinguishers to be provided in all vehicles and fire beaters must be available on site. 4) Emergency numbers/contact details must be available on site, where applicable. -During the construction phase, no dumping and no stockpiling of materials within the wetland areas and associated buffers should take place. | unattended. | | |
| | Wetland | To protect the sensitive wetland. | 1) Delineate a conservation line on the plans for the beginning and where possible avoid any work within 1m from the wetland buffer; 2) Prior to the commencement of construction, the appointed ECO and contractor must confirm (on site) the delineation of the conservation fence; 3) Erect the conservation fence prior to the commencement of construction activities; 4) No construction vehicles will be allowed within the conservation area (the area fenced-off for conservation purposes); 5) Only workers that do rehabilitation works and workers allocated to implement services within the wetland buffer areas will be allowed to enter the protected areas; 6) Any works in such areas will be done under strict supervision. The installation of services and the erection of structures within wetland areas must be managed by the EAP and ECO; 7) Storm water management plans must be | | Contractor ESO | Monitor daily |

| TYPE | Environmental risk or issue | Objective or requirement | Mitigation measure | Performance Indicator | Responsibility | Frequency of Action |
|------|-----------------------------|--------------------------|--|-----------------------|----------------|---------------------|
| | | | <p>designed to address the construction phase (temporary measures):</p> <p>8) A comprehensive storm water management plan indicating the management of all surface runoff generated as a result of the development (during both the construction and operational phases) prior to entering any natural drainage system or wetland, must be submitted and approved by the local authority and DWA and submitted to KZN Agriculture and Environmental Affairs prior to construction activities commencing;</p> <p>9) Attenuation ponds and energy dissipaters must be installed on the study area to break the speed of the water and to act as siltation ponds;</p> <p>10) Surface storm water generated as a result of construction phase must not be channelled directly into any natural drainage system or wetland;</p> <p>11) The storm water management plan must indicate how surface runoff will be retained outside of the demarcated buffer/flood zone and how the natural release of retained surface runoff will be simulated;</p> <p>12) The storm water management plan should be designed in a way that aims to ensure that post development runoff does not exceed predevelopment values in:</p> <ul style="list-style-type: none"> • Peak discharge for any given storm; • Total volume of runoff for any given storm; • Frequency of runoff; and | | | |

| TYPE | Environmental risk or issue | Objective or requirement | Mitigation measure | Performance indicator | Responsibility | Frequency of Action |
|------|---|--|--|---|---|---------------------|
| | | | <ul style="list-style-type: none"> • Pollutant and debris concentrations reaching water course; <p>13) Bio-swale and bio-filters could be installed to minimize the risk of pollutants entering the natural drainage system of the area.</p> | | | |
| | <p>Wetland- Rehabilitation of the wetland on the subject property (Erosion Control and re-profiling)</p> | <p>Rehabilitation of the wetland on the subject property</p> | <ul style="list-style-type: none"> • Areas which are at risk of erosion (canalised areas in areas of stormwater outlets) are to be considered as priority areas for rehabilitation works; • Re-profiling and stabilisation needs to take place after alien and invasive species have been cleared; • The relevant legislative approval under NEMA, and the NWA for any activities to be undertaken within the wetland/riparian zone to rectify excessive erosion and incision of the system; • Re-profiling of the banks of disturbed drainage areas to a maximum gradient of 1:3 to ensure bank stability; • The re-profiled banks must be covered with hessian sheets to ensure that newly established topsoil does not erode due to rain or water flow associated with the wetland, especially in areas where trees have been removed and where soils have been disturbed; • Reinforce banks and drainage | <p>The rehabilitation measures as supplied by SAS Environmental be implemented during construction.</p> | <p>Contractor; Engineer(s) Landscape Architect Rehabilitation Specialist/Contractor</p> | |

| TYPE | Environmental risk or issue | Objective or requirement | Mitigation measure | Performance Indicator | Responsibility | Frequency of Action |
|------|-----------------------------|---|--|-----------------------|--|---------------------|
| | | | <p>features where necessary with gabions, reno mattresses and geotextiles;</p> <ul style="list-style-type: none"> Construct small earth berms at intervals on all slopes to slow stormwater runoff and during the construction phase of the development | | | |
| | Fauna and Flora | To protect the existing flora and fauna | <p>The integrity of the remaining wildlife should be upheld, and no trapping or hunting by construction personnel should be allowed; Caught animals should be relocated to the conservation areas in the vicinity</p> <p>Strict measures to prevent the hunting/snaring/killing of fauna species should be implemented.</p> <p>Noise should be kept to a minimum to reduce the impact of the development on the fauna. It is proposed that the development should be done in phases to allow fauna species to temporarily migrate into any open space and conservation areas in the vicinity of the development site.</p> <p>The removal of vegetation should be restricted to designated areas only. The indigenous tree species which were identified and clearly marked prior to construction should be relocated to areas with increased sensitivity such as the wetland areas. Any other indigenous tree species encountered during construction activities should be rescued and relocated areas with increased sensitivity.</p> | | <p>Site Supervisor, Contractor, Fauna Specialist</p> <p>Site Supervisor, Contractor</p> <p>Site Supervisor, Contractor</p> <p>Flora Specialist, Contractor</p> | |

| TYPE | Environmental risk or issue | Objective or requirement | Mitigation measure | Performance indicator | Responsibility | Frequency of Action |
|------|---|--------------------------|---|--|-----------------------------|---------------------|
| | | | Where possible, work should be restricted to one area at a time. This will give the smaller birds, mammals, amphibians and reptiles a chance to weather the disturbance in an undisturbed zone close to their natural territories. | | Contractor | |
| | | | Wood harvesting of trees and shrubs on the study area or adjacent areas shall be prohibited | | Site Supervisor | |
| | | | All category 1 Declared weeds and exotic invaders should be removed from the open space areas on an ongoing basis | | Contractor, ECO | |
| | | | <p>1) Conservation-orientated clauses should be built into contracts for construction personnel as well as buyers of property within the new development complete with penalty clauses for non-compliance;</p> <p>2) Domestic pets must be excluded from areas of good quality bird habitat;</p> <p>3) Information boards must be erected within the development information residents of the presence of Red Data bird species, their identification, conservation status and importance, biology, habitat requirements and the requirements of the plan in terms of management.</p> | | Contractor, ECO | |
| | To mitigate the negative impact on the ecological environment due to the installation of services | | Rehabilitate areas which were disturbed by the installation of services immediately after works have been completed | Disturbed areas successfully rehabilitated | Site Supervisor, Contractor | |

| TYPE | Environmental risk or issue | Objective or requirement | Mitigation measure | Performance indicator | Responsibility | Frequency of Action |
|------|-----------------------------|---|--|-----------------------|---|---------------------|
| | | Landscaping | When Planting trees, care should be taken to avoid the incorrect positioning of trees, and other plants. If trees are planted in close proximity to the line of water bearing services, it could result in leaks, or result into the malfunctioning of services installed. The proposed planting materials for the areas to be landscaped should preferably be endemic and indigenous. | | Landscape Architect Landscape Contractor | |
| | | | -All the new indigenous trees and shrubs to be planted with in the study area shall be inspected for pests and diseases prior to then being planted. The inspection shall be carried out by the maintenance contractor at the property of the supplier Make sure plant materials will be matured enough and hardened off ready for planting. Plants should be watered immediately after planting Plant material should be planted according to the layout and planting techniques specified by the Landscape Architect. Ensure that materials used for mulching and topsoil/fertilizers are certified weed free. Weed growth which appears during construction should be effectively controlled. It can be considered as standard practice to plant one tree for every second parking bay, within parking areas. These trees would in essence provide enough shade which would lower the high temperatures which are generally associated with the micro-climate of parking areas during the summer months. | | Landscape Architect, Landscape Contractor | |
| | | Loss of plants | | | Landscape Contractor, Maintenance Contractor | |
| | | Spreading of Weeds | | | Landscape Contractor | |
| | | Parking areas and other exterior surfaces that are paved could create unfavourable micro-climates | | | Landscape Contractor Site supervisor | |
| | | | | | Landscape Architect, Landscape Contractor | |

| TYPE | Environmental risk or issue | Objective or requirement | Mitigation measure | Performance Indicator | Responsibility | Frequency of Action |
|------|---|---|--|-----------------------|----------------------------|---------------------|
| | Hydrology | To ensure the stability of structures, and to prevent any environmental damage caused by perched water conditions | <p>1) The surface and subsurface drainage measures which were developed during the planning stage of the proposed development should be implemented to prevent any structural and environmental damage as a result of perched ground water conditions;</p> <p>2) The foundation recommendations made for constructed structures in area which are characterised by perched ground water conditions should be implemented.</p> | | Civil Engineer, Contractor | |
| | | | <p>Some perched water conditions could occur on the study area during wet conditions it could become necessary to de-water areas for construction purposes. In many cases water is pumped from construction areas/ cut-off trenches are implemented to create dry conditions for construction. Discuss the temporary and permanent dewatering alternatives with the architect, civil engineer, geo-hydrologist, wetland specialist, geotechnical engineer and ECO in order to determine the most suitable method. The most economical alternative is not necessarily the preferred alternative from a geo-hydrological and ecological point of view. The solution must be sustainable.</p> | | Civil Engineer, Contractor | |
| | To mitigate the impact of altered surface water flows | | <p>-The Storm water management Plan which were designed, prior to construction should be implemented, to prevent the flooding of construction works, especially during heavy precipitation;</p> <p>-The storm water management plan should also be implemented to prevent the erosion</p> | | Civil Engineer, Contractor | |

| TYPE | Environmental risk or issue | Objective or requirement | Mitigation measure | Performance indicator | Responsibility | Frequency of Action |
|------|-----------------------------|---|--|-----------------------|--|---------------------|
| | | | <p>of soil, and the pollution and siltation of water which could have an impact on the sustainability and environmental integrity of the wetland area lower down in the catchment area;</p> <p>-During construction berms should be installed to prevent gully formation;</p> <p>1) Attenuation ponds and energy dissipaters must be installed on the study area to break the speed of the water and to act as siltation ponds;</p> <p>2) Implement temporary storm water management measures that will help to reduce the speed of surface water. These measures will also assist with the prevention of water pollution, erosion and siltation;</p> <p>3) In order to prevent large exposed areas, it is recommended that the construction of the development be done in phases. Each phase should be rehabilitated immediately after the construction for that phase has been completed. The rehabilitated areas should be maintained by the appointed rehabilitation contractor until a vegetative coverage of at least 75% has been achieved;</p> <p>4) No excavated materials should be dumped in or near drainage channels.</p> | | ECO/ site supervisor/ project manager/ main contractor | |
| | | To prevent the delays of construction. Should the construction phase be scheduled for | | | ECO/ site supervisor/ project manager/ main contractor | |

| TYPE | Environmental risk or issue | Objective or requirement | Mitigation measure | Performance Indicator | Responsibility | Frequency of Action |
|------|-----------------------------|---|--|-----------------------|--|---------------------|
| | | the summer months, | sensitive areas and the areas covered with valuable topsoil) and it should only be removed when the appointed Environmental Control Officer (ECO)/ site supervisor/ project manager/ main contractor regard the conditions in the affected areas as favourable. | | | |
| | | Prevent the alteration of Surface water during the construction phase | <p>1) A comprehensive storm water management plan indicating the management of all surface runoff generated as a result of the development (during both the construction and operational phases) prior to entering any natural drainage system or wetland, must be submitted and approved by the local authority and DWA and submitted to KZN Agriculture and Environmental Affairs prior to construction activities commencing;</p> <p>2) Attenuation ponds and energy dissipaters must be installed on the study area to break the speed of the water and to act as siltation ponds;</p> <p>3) Surface storm water generated as a result of construction phase must not be channelled directly into any natural drainage system or wetland;</p> <p>4) The storm water management plan must indicate how surface runoff will be retained outside of the demarcated buffer/flood zone and how the natural release of retained surface runoff will be simulated;</p> <p>5) The storm water management plan should be designed in a way that aims to ensure that post development runoff</p> | | ECO/ site supervisor/ project manager/ main contractor | |

| TYPE | Environmental risk or issue | Objective or requirement | Mitigation measure | Performance Indicator | Responsibility | Frequency of Action |
|------|-----------------------------|--------------------------|---|-----------------------|----------------|---------------------|
| | | | <p>does not exceed predevelopment values in:</p> <ul style="list-style-type: none"> • Peak discharge for any given storm; • Total volume of runoff for any given storm; • Frequency of runoff; and • Pollutant and debris concentrations reaching water course; <p>6) Bio-swale and bio-filters could be installed to minimize the risk of pollutants entering the natural drainage system of the area.</p> | | | |

4.3 Operational Phase

| TYPE | Environmental risk or issue | Objective or requirement | Mitigation measure | Responsibility | Frequency of Action |
|------------------------------------|---------------------------------|---|--|-----------------------------------|---------------------|
| SITE CLEAN UP AND PREPARED FOR USE | Development construction waste. | Minimize waste | Decontaminate and collect waste in storage area ready for off-site recycling or disposal Arrange for final collection and removal of excess and waste materials. | Contractor | |
| | Stormwater pollution | To prevent the contamination and clogging of the stormwater system, which could lead to ineffective stormwater management | <p>1) The erosion and sediment controls should only be removed if all the exposed areas on site are sealed, covered or re-vegetation;</p> <p>2) Sweep roadways clean and remove all debris from Kerb and gutter areas.</p> | Site workers | |
| | | Minimise waste | Decontaminate and collect waste in storage area which is designated for off-site recycling or disposal. | Site workers/ Facility Manager | |
| The eradication | | To prevent the | 1) All Category 1 Declared weeds, Category 2 | Landscape | |

| TYPE | Environmental risk or issue of weeds and exotic invaders | Objective or requirement spreading of weeds and exotic invaders | Mitigation measure | Responsibility | Frequency of Action |
|---------------------|--|---|---|---------------------------------|---------------------|
| ESTABLISHMENT STAGE | Established plant- Slow or no re-vegetation to stabilise soil; loss or degradation of habitat. | | Declared invader and Category 3 Declared invaders occurred on the study area and must be eradicated prior to construction and throughout the operational phase of the development; 2) No plants not indigenous to the area, or exotic plant species, especially lawn grasses and other ground-covering plants, should be introduced in the communal landscaping of the proposed site, as they will drastically interfere with the nature of the area; 3) Forage and host plants required by pollinator species in the area should also be used in landscaped areas. | Contractor/ Developer | Monthly |
| MATERIALS FAILURE | Structural damage. Loss of site materials. | | A schedule should be followed for the regular follow-up watering, weeding, weed control, mulch supplements and amenity pruning (if needed). Replace all plants failures within a monthly period after planting | Landscape Contractor/ Developer | Monthly |
| | Drainage Failure_ On site and downstream drainage pollution or flooding | Stormwater Management Plan | Inspect all structures monthly to detect any cracking or structural problems. Confirm with designer if there are design problems. Rectify with materials to match, or other agreed solution. Inspect all site drainage works and repair any failures | Contractor | Monthly |
| SITE AUDIT | Eventual project failure | Successful project establishment. | Routinely audit the works and adjust maintenance schedule accordingly. | Contractor | Monthly |

| TYPE | Environmental risk or issue | Objective or requirement | Mitigation measure | Responsibility | Frequency of Action |
|-------------------|-----------------------------|----------------------------|---|--|---------------------|
| GENERAL | Mis-management | Maintenance team in place. | A maintenance team as well as a landscaping team is needed to ensure that the development is well maintained. | Developer | |
| GEOLOGY | Erosion of topsoil | Prevent topsoil erosion | Open fires and smoking during maintenance works are strictly prohibited. Due to loose topsoil, the soil must be covered by means of re-seeding and vegetation with suitable ground covering. | Contractor Engineer/ Contractor | Once off |
| OPERATIONAL PHASE | GENERAL | | Open fires and smoking during maintenance works are strictly prohibited. No waste material shall at any stage be disposed off in the adjacent open space. Conservation fences shall be kept up until such notice from the ECO to remove them and to be replaced with suitable fence according to design of Landscape Architect. The disturbed area will be rehabilitated and re-vegetated. All declared weeds and invaders should be removed from the open areas on an ongoing basis. Plants not natural to the area, or exotic plant species, (especially lawn grasses and other ground-covering plants), should not be introduced as garden plants into the landscaping of the proposed development. The open space area shall be effectively managed (eradication of exotics, removal of waste etc) | Project Manager/ Maintenance Contractor Contractor, ECO, Landscape Architect Project Manager/ Maintenance Contractor Project Manager/ Maintenance Contractor, Landscape Architect | |
| | | | | Project Manager | Monthly |

EMP for the Proposed Widenham Stand, on Portions 35(of 2), 36 (of 2), 338 (of 2), 339 (of 2), 340 (of 2), 342 (of 2) and 343 (of 2) of Lot 2, No. 1668, Widenham, KwaZulu-Natal.

4 Procedures for environmental incidents

4.1 Leakages & spills

- Identify source of problem.
- Stop goods leaking, if safe to do so.
- Contain spilt material, using spills kit or sand.
- Notify Environmental Control Officer
- Remove spilt material and place in sealed container for disposal (if possible).
- Environmental Control Officer to follow Incident Management Plan.

4.2 Failure of erosion/sediment control devices

- Prevent further escape of sediment.
- Contain escaped material using silt fence, hay bales, pipes, etc.
- Notify ECO.
- Repair or replace failed device as appropriate.
- Dig/scrape up escaped material; take care not to damage vegetation.
- Remove escaped material from site.
- ECO to follow Incident Management plan.
- Monitor for effectiveness until re-establishment.

4.3 Bank/slope failure

- Stabilize toe of slope to prevent sediment escape using aggregate bags, silt fence, logs, hay bales, pipes, etc.
- Notify ECO.
- ECO to follow Incident Management plan.

- Divert water upslope from failed fence.
- Protect area from further collapse as appropriate.
- Restore as advised by ECO.
- Monitor for effectiveness until stabilized.

4.4 Discovery of rare or endangered species

- Stop work.
- Notify ECO.
- If a plant is found, mark location of plants.
- If an animal, mark location where sighted.
- ECO to identify or arrange for identification of species and or the relocation of the species if possible.
- If confirmed significant, ECO to liaise with Endangered Wildlife Trust.
- Recommence work when cleared by ECO.

4.5 Discovery of archeological or heritage items

- Stop work.
- Do not further disturb the area.
- Notify ECO.
- ECO to arrange appraisal of specimen.
- If confirmed significant, ECO to liaise with National, Cultural and History Museum.
P.O. Box 28088
SUNNYSIDE
0132
Contact Mr. J. van Schalkwyk
or
Mr. Naude
- Recommence work when cleared by ECO.

5 EMP review

1. The Site supervisor is responsible for ensuring the work crew is complying with procedures, and for informing the work crew of any changes. The site supervisor is responsible for ensuring the work crew is aware of changes that may have been implemented by DACERD NW before starting any works.
2. If the contractor cannot comply with any of the activities as described above, they should inform the ECO with reasons within 7 working days.