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DRAFT AMENDMENT REPORT

FOR

PROPOSED TEMBISA X25

(Portions 98, 99, 100, R/101, 102, and 115 of the Farm Olifantsfontein 402 JR including the Remaining Extent of the Farm Olifantsfontein 402 JR)

Ref Number: Gaut 006/17-18/E0173

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ENVIRONMENTAL STUDY: INFORMATION SHEET

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Environmental Management (NWU),
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1.4 Verification Statement

I, Elaine Minnaar declare under oath of –
I, Faith Makena declare under oath of -

1) The correctness of the information provided in the reports;
2) The inclusion of comments and inputs from stakeholders and I&AP's;
3) The inclusion of inputs and recommendations from the specialist reports where relevant;
4) Any information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs by interested and affected parties.

Signature April 2018
Date

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Abbreviations

CoE	:	City of Ekurhuleni Metropolitan Municipality
GDARD	:	Gauteng Department of Agriculture and Rural Development

1. INTRODUCTION

1.1. General overview

The City of Ekurhuleni Metropolitan Municipality (CoE) received an Environmental Authorisation (EA), as of 26 September 2016 (GDARD ref: Gaut 002/14-15/0240) for the establishment of Tembisa x 25 (a Residential 2 development for 1477 row houses, community facilities, public erven, public open space as well as road infrastructure and services). The proposed activities will cover an area of approximately 58.392 hectares in extent.

CoE is proposing an amendment to the authorisation in order to comply with the layout amendments as requested by the Gauteng Department of Agriculture and Rural Development, Gauteng Department of Roads and Transport and to densify the approved proposed development from 1477 dwelling units (in row houses) to 3510 (in 195 blocks).

Given that these changes, do not trigger a listed activity in terms of the National Environmental Management Act (Act No. 107 of 1998) (NEMA) Environmental Impact Assessment (EIA) Regulations as Amended in April 2017, but could alter the impact of the project on the baseline environment, a substantive amendment (Part 2) process is required to support the Amendment of the EA. Lokisa Environmental consulting CC has been appointed by Fij Consulting Engineers on behalf of the City of Ekurhuleni to manage the required amendment process.

This Draft Amendment Report has been produced to address the requirements of the Part 2 amendment process and provides further information about the amendments and the potential impacts these could have on the receiving environment. No additional baseline data collection has been undertaken to support this amendment, but specialist opinions have been sought to understand changes to the project's impact and the significance thereof.

1.2. Project location and history

During 2014 GIBB Engineering and Architecture (Pty) Ltd, on behalf of City of Ekurhuleni Metropolitan Municipality, appointed Lokisa Environmental Consulting CC to obtain Environmental Authorisation from the Gauteng Department of Agriculture and Rural Development (GDARD) for the development of a residential development to be known as Tembisa Extension 25 including the required infrastructure thereto. The proposed development is to be situated on Portions 98, 99, 100, R/101, 102, and 115 of the Farm Olifantsfontein 402 JR including the Remaining Extent of the Farm Olifantsfontein 402 JR ("the site") for 1477 units.

The site for the proposed township, is situated approximately 15km north of Kempton Park City Centre on the eastern boundary of the existing Tembisa township. It is situated south of Clayville Industrial area and east of the existing Tembisa X 23 also known as Winnie Mandela Park. The proposed PWV 5 forms the northern boundary of the proposed development. The Tembisa Hospital forms the southern boundary of the site (Please refer to **Annexure 1** for the **locality map**).

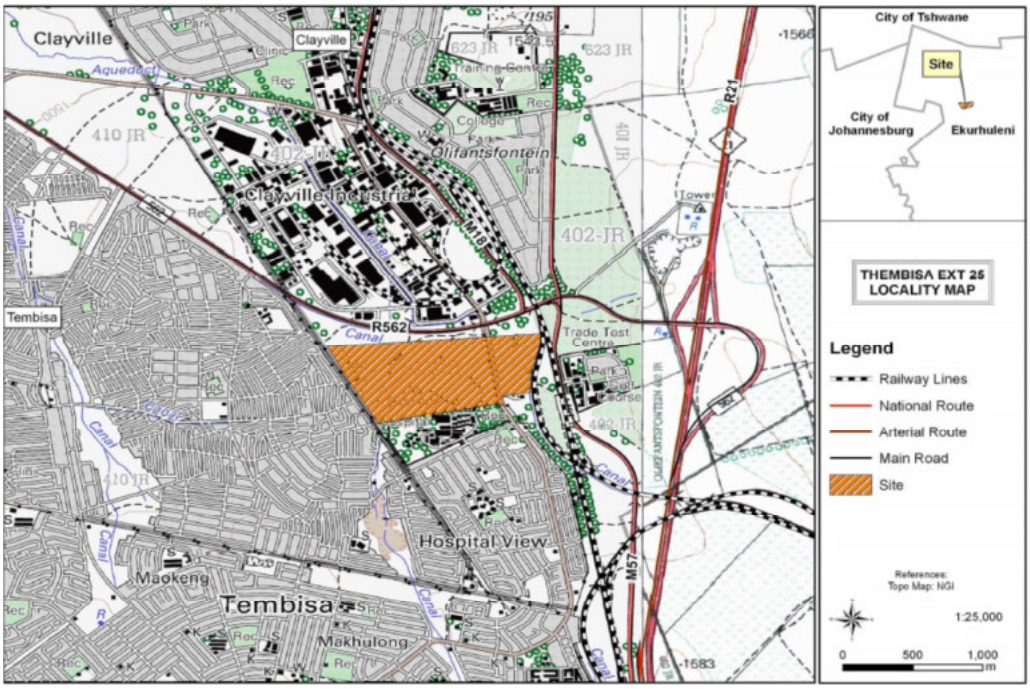

Figure 1: Locality of the site

A conditional Environmental Authorisation was granted by GDARD and was received on 26 September 2016. The Environmental Authorisation was approved subject to the amendment of the layout plan to reflect the following:

- 1: 50 and 1: 100 year flood line;
- 32 meter buffer area on both sides of the riverine system as recommended;
- Removal of external roads network and residential units from the open space area except the main road linking the western and eastern part of the development; and
- The layout plan must be developed such that it is readable.

During 2017 the City of Ekurhuleni Metropolitan Municipality (CoE), the holder of the Environmental Authorisation for Tembisa x 25 Township, decided to commence with the development and appointed Fij Consulting Engineers to provide the following:

- Civils – water, sewer, storm water reticulation and road network;
- Electrical reticulation – bulk supply (including substation) and internal reticulation;
- Landscaping; and
- Certain top structures (a Library, Community hall and Taxi Rank) – but these are to be confirmed with client in the near future.

Fij Consulting Engineers on behalf of CoE then appointed Lokisa Environmental Consulting to ensure that conditions in the Environmental Authorisation, as issued by the Gauteng Department of Agriculture and Rural Development, are adhered to (Please refer to **Annexure 2** for the **Environmental Authorisation**).

In order to comply with Sustainable Development Goals the City of Ekurhuleni has since decided to maximise the use of the site and to densify the approved 1477 residential units to 3510 units. The layout was also amended to comply with the requirements made by Gauteng Department of Roads of and Transport.

A Part 1 Amendment Application was submitted to GDARD on 12 January 2018 and an acknowledgement letter was received (Please refer to **Annexure 3**). In a meeting held on the 5th of February 2018 with GDARD, City of Ekurhuleni Metropolitan Municipality and the project team it was decided that the application in terms of the Part 1 Application process be withdrawn due to the change in the scope of the development. It was advised that a Part 2 Amendment Application process is to be followed in terms of Government Notice R982 of the National Environmental Management Act, 1998 (Act No. 107 of 1998) as published on

04 December 2014 (as amended 2017). Please refer to **Annexure 3** for the withdrawal letter.

An application for Amendment of the Environmental Authorisation is therefore submitted in terms of the Part 2 Amendment Application process in terms of Government Notice R982 of the National Environmental Management Act, 1998 (Act No. 107 of 1998) as published on 04 December 2014 (as amended 2017).

1.3. Project description

The original approval dated 2016 was for the township development consisting "Residential 1", "Business 1", "Community Facility", "Public Services", "Transportation", "Special" for Public Walkways, "Public Open Space" and "Public Roads" infrastructure thereto such as water, sewer and storm water reticulation. The development was to provide 1477 residential units.

2. LEGISLATIVE REQUIREMENTS

2.1. National Environmental Management Act

The Environmental Authorisation process in South Africa is governed by National Environmental Management Act (NEMA) (No. 107 of 1998) and the Environmental Impact Assessment (EIA) Regulations of 2014 as amended in April 2017. The relevant 2017 Environmental Impact Assessment Regulations are:

- Environmental Impact Assessment Regulations (GNR R982);
- Environmental Impact Assessment Regulations Listing Notice 1 (GNR 983);
- Environmental Impact Assessment Regulations Listing Notice 2 (GNR 984); and
- Environmental Impact Assessment Regulations Listing Notice 3 (GNR 985).

Activities that trigger GNR 983 and GNR 985 require a Basic Assessment Report (BAR) process to be undertaken, whereas activities identified in terms of GNR 984 will require a full Scoping and Environmental Impact Report (S&EIR) process. GNR 982 sets out the general procedure to follow for all NEMA Environmental Authorisation processes and as such is relevant to this project.

2.2. Amendment Process requirements

CoE is applying for a Part 2 substantive amendment, in terms of Regulation 31 and 32 of GN 326 to the EA issued. Regulation 31 (Part 2) of the 2014 NEMA EIA Regulations states that:

"An environmental authorisation may be amended by following the process prescribed in this Part if the amendment will result in a change to the scope of a valid environmental authorisation where such change will result in an increased level or nature of impact where such level or nature of impact was not (a) assessed and included in the initial application for environmental authorisation; or (b) taken into consideration in the initial environmental authorisation; and the change does not, on its own, constitute a listed or specified activity."

The activities identified as necessitating this amendment were not assessed as part of the original EIA or any of the subsequent amendments. These are discussed in more detail in Section 5 of this report.

Regulation 32 of the NEMA EIA Regulations details the process to be followed upon lodging an application in terms of Regulation 31 as detailed above. According to Regulation 32 (1):

"The [holder] applicant must [(a)] within 90 days of receipt by the competent authority of the application made in terms of regulation 31, submit to the competent authority (a) a report, reflecting(i) an assessment of all impacts related to the proposed change; (ii) advantages and disadvantages associated with the proposed change; and (iii) measures to ensure avoidance, management and mitigation of impacts associated with such proposed change; and (iv) any changes to the EMPr"

The report to be submitted to the competent authority must have been-

(aa) subjected to a Public Participation Process, which had been agreed to by the competent authority and which was appropriate to bring the proposed change to the attention of potential and registered interested and affected parties, including organs of state, which have jurisdiction in respect of any aspect of the relevant activity and the competent authority; and

(bb) reflects the incorporation of comments received, including any comments of the competent authority; or

(b) A notification in writing will be submitted within 140 days of receipt of the application by competent authority, as significant changes have been made or significant new information has been added to the report, which changes or information was not contained in the report to consulted on during the initial Public Participation Process contemplated in sub-regulation (1)(a) and that the revised report will be subjected to another Public Participation Process of at least 30 days.

(2) In the event where sub-regulation (1)(b) applies, the report, which reflects the incorporation of comments received, including any comments of the competent authority, must be submitted to the competent authority within 140 days of receipt of the application by the competent authority.

The competent authority to which this report is to be submitted is the Gauteng Department of Agriculture and Rural Development (GDARD). The Part 2 amendment application form has been submitted to the GDARD for consideration.

3. PUBLIC PARTICIPATION PROCESS

According to Section 32(1) of the EIA regulations, the applicant must within 90 days of receipt by the competent authority of the application made in terms of regulation 31, submit to the competent authority a report -
(aa) which has been subjected to a Public Participation Process, which was agreed upon by competent authority and which was appropriate to bring the proposed change to the attention of potential and registered interested and affected parties and,
(bb) reflects the incorporation of comments received, including any comments from the competent authority.

3.1. Public Participation Process

The broad objectives of the public involvement programme were to:

- To inform I&APs and key stakeholders of the proposed amendment application

- To initiate meaningful and timeous participation of I&APs;
- To identify issues and concerns of key stakeholders and I&APs with regards to the amendment application for the development (i.e. focus on important issues);
- To promote transparency and an understanding of the project and its potential environmental (social and biophysical) impacts (both positive and negative);
- To provide information used for decision-making;
- To provide a structure for liaison and communication with I&APs and key stakeholders;
- To ensure inclusivity (the needs, interests and values of I&APs must be considered in the decision-making process);
- To focus on issues relevant to the project, and issues considered important by I&APs and key stakeholders; and
- To provide responses to I&AP queries.

Public Participation commenced on 09 February 2018 and expired on 09 March 2018. The Public Participation Process for the proposed development process was undertaken according to the stages described below:

3.2. Identification of Interested and Affected Parties

Lokisa Environmental Consulting CC developed a database of I&AP's based on past projects and experience in the area. Additional I&AP's were identified during the process via various discussions with authorities and key I&AP's during the Amendment application process.

3.3. Procedure whereby I&APs were afforded the opportunity to participate

All identified I&AP's were notified of the proposed project by fax, e-mail and registered letters sent out on 09 February 2018 containing the Background Information Document (BID). The purpose of the BID was the following:

- To provide stakeholders with information about the proposed amendment of the Environmental Authorisation for the Tembisa x 25 development;
- Introduce and explain the Impact Assessment and Public Participation process to be followed for the proposed development, in terms of applicable environmental legislation (National Environmental Management Act (NEMA), (Act No.107 of 1998), as amended;

- Invite all stakeholders to register and comment on any aspect related to the proposed development between the **9th of February and the 9th of March 2018.**

Notices were also hand delivered to properties where registered addresses were not available and the intended activity was furthermore advertised in the "Daily Sun" on 09 February 2018. Notices were furthermore placed on and around the site on the same date 09 February 2018.

3.4. Authority consultation

The competent authority which is the Gauteng Department of Agriculture and Rural Development (GDARD) is required to provide a decision on the amendment application (whether positive or negative) for the project.

Authority consultation includes the following activities:

- A consultation meeting was held on the 5th of February 2018 in order to provide guidance on how the application process should proceed;
- Submission of the amendment application form in terms of section 31 and 32 of the EIA regulations 2014 (as amended 2017)
- Submission of the Amendment report to GDARD in terms of section 32 of the EIA regulations 2014 (as amended 2017)

3.5. Consultation with other relevant stakeholders

Consultation with other relevant key stakeholders will continue to be undertaken through telephone calls and written correspondence in order to actively engage these stakeholders and to provide background information about the project.

3.6. Comments from I&APs on the notification of the amendment application

Comments were received from I&AP's and a register was opened to register any and all interested and affected parties that sent comments or issues in writing.

As stipulated by the EIA regulations the amendment report will be subjected to a 30 day Public Participation Process as agreed to by the competent authority. Comments received on the report have been captured in the Comments and Response Report provided below.

Table 1: Comments and Issues Report

Issue	Commentator	Date	Response
Housing opportunities			
1. He has been renting a room since 1996 therefore he is looking for his own house to stay with his family.	Eric Makola	07 March 2018	1-35. Individuals who are in need of houses or who would like to know about the application process should contact the following official at the City of Ekurhuleni Metropolitan Municipality and they will receive assistance with regards to the application process.
2. She is currently staying in one room with her six children and grandchildren. She is suffering a lot and looking for a better house.	Geneva Lebang	07 March 2018	
3. Gladwell resides in Winnie Mandela and rents a room which is small and expensive. He needs his own house.	Gladwell Mohlala	19 February 2018	
4. She is a single mother of 6 and has been renting a single room since 1999 in Tembisa. She would like to receive assistance in finding her own house.	Motageng Jane Sello	07 March 2018	
5. She appreciates the project as she has been waiting for an RDP for 16 years.	Lydia Mathokoane	13 February 2018	
6. Matipa is a single mother and has been renting a room for more than 10 years and moving from one place to the other. Renting is not good because she earns less and all her money goes to rent, school fees and she is left with nothing.	Matipa Mathaba	09 March 2018	
7. Mmapateng is a single parent of two, unemployed and renting one room from 2010. This project could make her life easier if she can get a house for her children.	Mmapateng Sekoba	07 March 2018	
8. He has been renting for more than 9 years with his family and he really needs a house because at times he struggles to pay rent. 9. The other reason why he needs a house is because the room he is renting is very small and he lives with his family.	Mohumutsi Lehong	08 March 2018	
10. Mokgadi is renting two rooms in Temsbisa with three children and husband.	Mokgadi Francinah Mohale	06 March 2018	
11. He has been renting a room from 2000. He cannot manage a bond house and struggles too much with his children in one room. If he can get an RDP	Mpheth Shagashe Simson	07 March 2018	

house he will be thankful for his children.			
12. He is asking for a house because he doesn't have a place to stay and he is suffering with his family.	Mpho Manoko	07 March 2018	
13. He would like to see the people of his community live in a better place with better houses. 14. He would like to apply for a house if it is possible because he lives in a rental room. 15. He is disabled, doesn't work and depends on social grant.	Ndaba Madoda	02 March 2018	
16. It will help the tenants to be able to have their own accommodation. 17. Lokisa must be aware of the greedy people who are now owning their places. As tenants maybe they will be able to invest on the spaces provided to the poor who don't afford to live an expensive life.	Nhlengani Hlezzy Baloyi	09 February 2018	
18. He is a single parent of three children, unemployed and renting a shack from 2004. The housing opportunities could make his life easier if he could be able to get an RDP house for his children.	Nkgotlo Michack Lebang	07 March 2018	
19. He has been renting a single room since 2006 in Tembisa. He has asked for assistance in finding his own house.	Manyake Solly Sello	07 March 2018	
20. As the community of Tembisa they will be happy to have a township developed and have been living in Tembisa for more than a decade.	Sputie Phillip Manchidi	08 February 2018	
21. He would like to apply for a house where he can stay with his children as he currently stays at a hostel. He would really appreciate it if he can be given the opportunity of getting a house.	Morwamatsatsi Victor Makola	09 March 2018	
22. She is applying for a house as she is currently unemployed. Due to the high unemployment rate it is difficult to pay rent and the increasing rent makes it more difficult for her to cope financially.	Moloko Lloyed Matloa	09 March 2018	
23. It is a very big challenge for him to buy a house on his own as he is unemployed. He will appreciate it if he can be one of	Jabu Thabo Makhura	05 March 2018	

the candidates of Lokisa Environmental Consulting to be given a place to live.			
24. It is a masculine challenge to buy a house in their community as they are experiencing a high level of unemployment. 25. They will appreciate a piece of land where they can be placed with housing such as RDP houses. She is looking for a place to stay as she cannot be able to buy a house, therefore she needs assistance from government to provide her with a house.	Honey Makadi Moyaha	05 March 2018	
26. She is a community member of Winnie Mandela and she has been renting a room with two of her kids ever since Winnie Mandela was established. She will be happy to have her own house.	Rivonia Ramoipone	19 February 2018	
27. She is staying in Tembisa with her family and renting two rooms. Renting is expensive, she needs her own house.	Khomotjo Seanego	19 February 2018	
28. He rents one room with his wife and two kids, therefore he needs his own home.	Aubrey Ramoipone	-	
29. She is renting a room in Winnie Mandela with her two sisters. The room is too small for them.	Charmaine Ramoipone	19 February 2018	
30. Thanks Lokisa Environmental consulting for coming up with the idea of building more houses for them.	Serole Cynthia Mashishi	13 February 2018	
31. The development will be a good thing as it will benefit the community positively. 32. People who are renting will start saving once they have their own houses instead of paying rent. 33. Some people will find employment in the process of building the houses.	Khethani Khumalo	07 March 2018	
34. She needs a house because she is unemployed. She is a tenant living in a single room with her husband and children and struggles to pay rent.	Brigalia Kgotsofalo Morwane	-	
35. He is unemployed and has been staying in Tembisa for more than 15 years. It is hard to look for a job and pay rent whereas he is working part time jobs. His children are growing up and soon they will have to go to	Marcus Mapulane	08 March 2018	

	university. He cannot afford to pay rent and university fees at the same time.			
	Adjacent land uses			
36.	Registration as Interested and Affected Parties. They are the managing agent of Phumulani Mall, a shopping centre adjacent to the proposed development area on the North West side.	Mark Grey Property Manager **(Excellerate Real Estate Services (Pty) Ltd)**	14 February 2018	36. Registered as an Interested and Affected Party.
37.	He is an owner of a property and any development within their borders will have a direct impact on his property and business. He would like to be kept informed of the progress or development.	Gordon Thompson **(Eagle Valley Prop 67 cc)**	08 March 2018	37. Registered as an Interested and Affected Party and will be kept updated regarding the project. No access to neighbouring properties is to be allowed and this will be incorporated into the EMPr.
38.	He represents members of the OBF, which includes 140 companies, mega-medium and small businesses. Any development within their borders will directly impact on their members.	Sol Botha **(Olifantsfontein Business Forum) OBF**	08 March 2018	38. Registered as an Interested and Affected Party and will be kept updated regarding the project. No access to neighbouring properties is to be allowed and this will be incorporated into the EMPr.

3.7. Amendment required

The Environmental Authorisation for the proposed Tembisa Extension 25 dated 26 September 2016 was provided on the basis that conditions 3.1 and 3.2 be amended before the development can commence. In addition to the amendment required by GDARD, the applicant amended the conditionally approved layout in order to adhere to the requirements made by Gauteng Department of Roads and Transport.

The applicant decided to densify the approved proposed development from a Residential 2 (1477 units) row houses to 3510 units (195 blocks). This densification caused the change in scope of the proposed development and the change in scope requires further assessment.

List of the amendments requested

1. Amendment of condition 3.1 of the Environmental Authorisation.
2. Amendment of condition 3.2 of the Environmental Authorisation.
3. Amendment of the layout

Amendment of condition 3.1 of the Environmental Authorisation.

Amendment of Condition 3.1 from:

Subject to the amendment of the layout plan, Environmental Authorisation is granted for the proposed activity for the establishment of Residential 2 development, community facilities, public service erven, public open space as well as road infrastructure and services. The proposed activities will cover an area of approximately 58.392 hectares in extent.

To:

Environmental Authorisation is granted for the proposed activity for the establishment of Residential 4 development, community facilities, public service erven, public open space as well as road infrastructure and services. The proposed activities will cover an area of approximately 58.392 hectares in extent.

Reason why amendment is required

The initial Environmental Authorisation dated 26 September 2016 was granted to the applicant for the proposed establishment of a Residential 2 development, community facilities, public service erven, public open space as well as road infrastructure and services. The proposed activities will cover an area of approximately 58.392 hectares in extent and a number of 1477 row housing units were to be provided.

The applicant has since decided to densify the proposed development from the current proposed 1 477 row housing units to Residential 4 sectional title units that will amount to 3 510 (i.e. 195 blocks). The reason for the densification is to allow the applicant to provide more housing opportunities and make maximum and sustainable use of available infrastructure.

Amendment of condition 3.2 of the Environmental Authorisation.

Amendment of condition 3.2 from:

The activity must not commence prior to the submission and approval thereof by the Gauteng Department of Agriculture and Rural Development, of the amended layout plan marked as Plan No. J33064/1c dated June 2016 to reflect the following :

a) 1:50 and 1: 100 year flood line;
b) 32 metre buffer area on both sides of the riverine system as recommended;
c) Removal of internal roads network and residential units from the open space area except the main road linking the western and eastern parts of the development;
d) The layout plan must be developed such it is readable.

TO:

The activity can commence as the amended layout has been submitted and approved by the Gauteng Department of Agriculture and Rural Development and reflects the following

a) 1:50 and 1: 100 year flood line;
b) 32 metre buffer area on both sides of the riverine system as recommended;
c) Removal of internal roads network and residential units from the open space area except the main road linking the western and eastern parts of the development;
d) The layout plan must be developed such it is readable.

Reason why amendment is required

The Department requested that the layout submitted with the Final Environmental Impact Assessment Report for the proposed development, must be amended according to the specified conditions and the requirement has been adhered to. Please refer to Annexure 4 for the amended layout.

Amendment of the layout

Amendment of layout (Plan no. J33064/1c, dated June 2015) (submitted in the Final EIAr)

From:

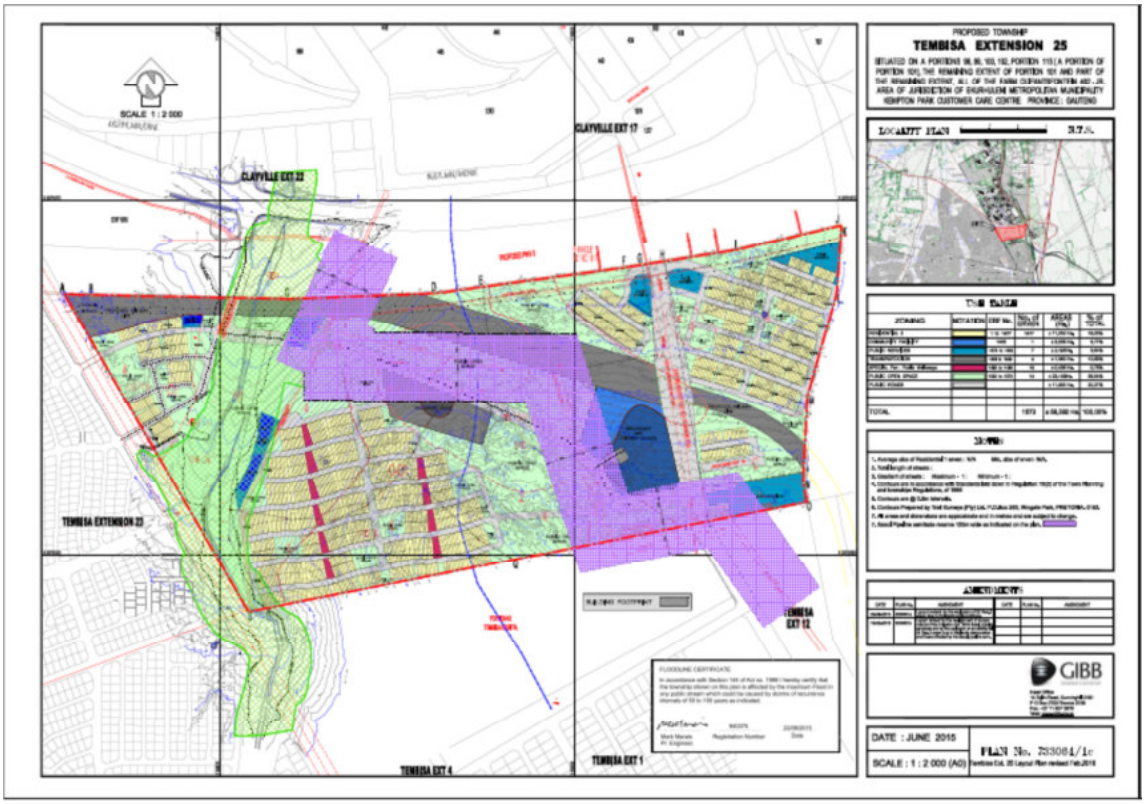

Figure 2: Layout submitted with Final EIAR

To: Layout Plan no. AR-03-02-1000, dated November 2017

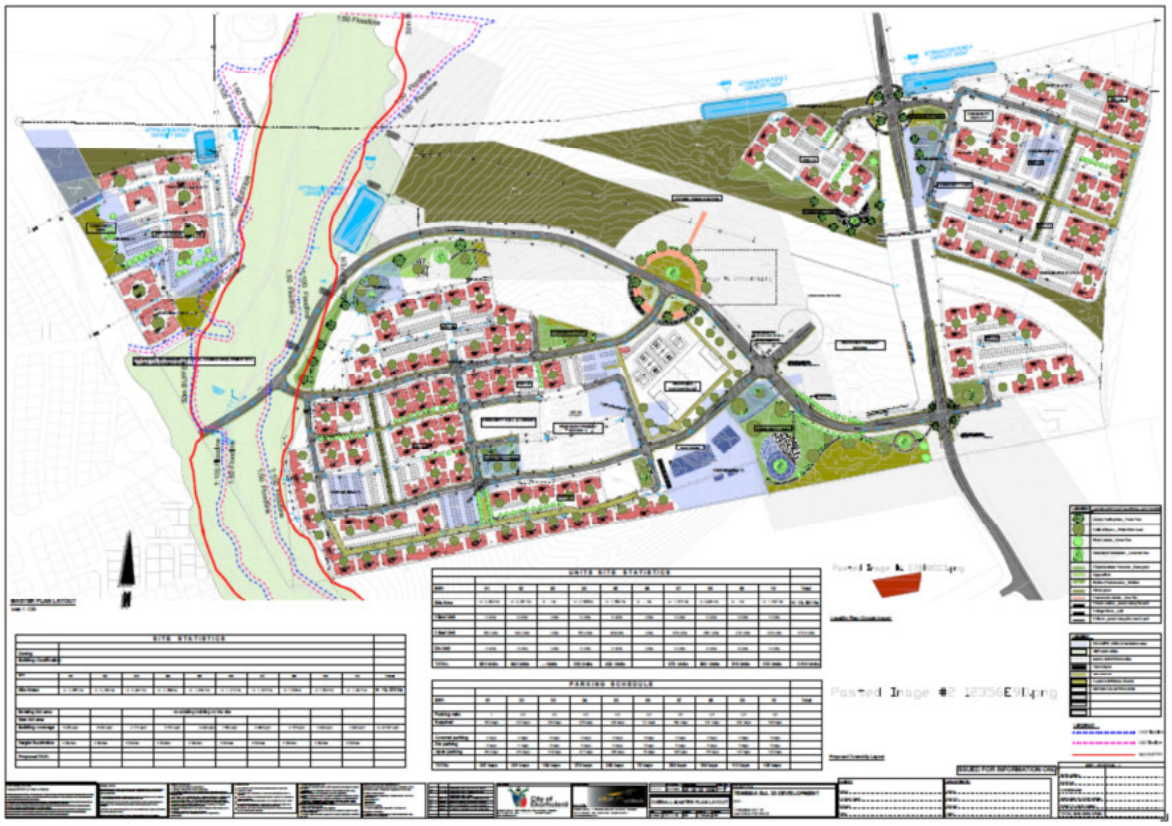

Figure 3: Layout as amended

The amendments to the layout include the following:

1. Re-alignment of road that falls in the wetland/riverine

The acceptance letter of the Scoping report indicated that the initial layout proposed a road that ran along the western side of the proposed site where a wetland or non-perennial river exists. The Department indicated that it does not support the positioning of the proposed road on a wetland and requested that alternative alignment of the proposed road to be investigated and reported in the EIAR. Please refer to figure 4 below for the layout (Layout Plan No. J33064/1a, dated February 2015) submitted with the Final Scoping Report.

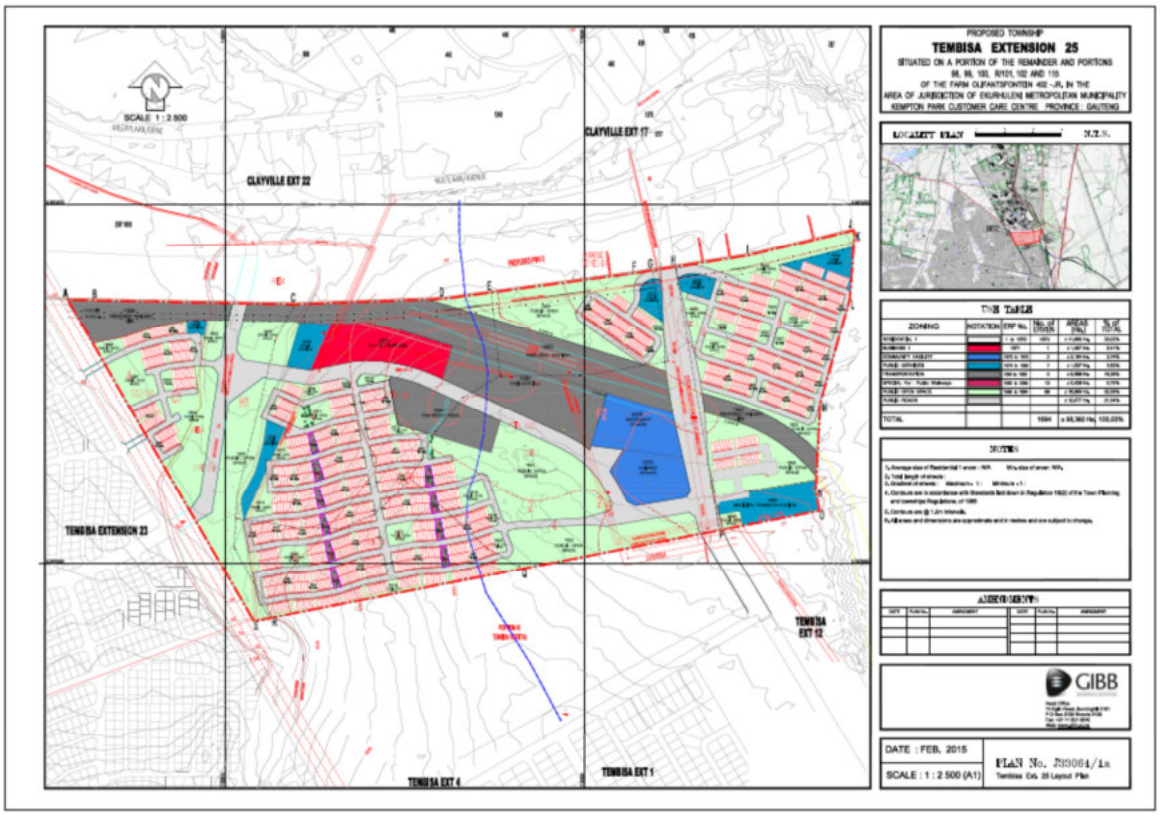

Figure 4: Layout submitted with the Scoping report

In order to adhere to the Departmental requirements an alternative alignment was investigated. Please refer to figure 2 for the Layout submitted to the Department with the Final EIAR.

The Department accepted the layout as per figure 2 and requested it to be amended before it can be approved.

A further amendment of the Layout is required in order to comply with the requirement of Gautrans. The Gauteng Department of Roads and Transport (GAUTRANS) indicated a line of no access on their PWV 5 route situated to the north of the proposed development. This affected the road that was proposed to the north western side of the development that was going past the shopping mall to the R562 (Olifantsfontein Road). The West to East access road (Phasha Drive) had to be re-aligned to address the GAUTRANS requirements to provide access into the development including public transport. Please refer to figure 2 and also refer to the attached the layout.

2. Attenuation ponds removed from Wetland buffer

The attenuation ponds that were situated in the wetland buffer have been removed to fall outside the buffer of the sensitive area.

3. Alignment of southern access road

For ease of connectivity, for the southern portion of the development, to the main access road the southern access road has been re-aligned to connect to the main access road in the centre of the site.

4. BASELINE ENVIRONMENT AND KEY SENSITVITIES

This section provides a brief description of the current environment as investigated for the EIA report and a list of impacts due to the proposed change to the project scope is provided.

4. Description of the property

4.1 Location

The site is situated over Portions 98, 99, 100, R/101, 102 and 115 of the Farm Olifantsfontein 402 JR including the Remaining Extent of the farm Olifantsfontein 402, which is situated to the south of Olifantsfontein Road (R562) and is bordered by a railway line to the east. Industry Road/Rev. R.T.J Namane Road passes through the eastern quarter of the site. The site falls in the north-western area of the Ekurhuleni Metropolitan Municipality and measures 58.392Ha in extent.

The Albertina Sisulu Freeway(R21)is situated approximately 900m to the east of the site.

The co-ordinate position of the site is:

Latitude: 25°58'43.49S Longitude: 28°14'15.37E

Figure 5: Locality of the site
The Site

4.2 Surrounding land uses

The surrounding land uses constitutes of residential uses to the south and west of the site and industrial and/or commercial to the north of the site. The residential area to the west is known as Winnie Mandela Park and forms part of Tembisa Extension 12, 14 and 23. The Clayville Industrial area is situated to the north of Olifantsfontein Road (R562) and the Phumulani Mall is situated directly to the north-west of the site.

A railway line runs along the eastern border of the site which is opposite the Department of Labour. The Tembisa Hospital forms the southern boundary of the site.

The following community facilities exist within a radius of the 1km of the centre of the proposed development area:

- Industrial/Commercial: Clayville Industrial, Phumulani Mall, Total Filling Station,
- Residential: Tembisa Ext 1,4,12,23 and 24, Tswelopele and Clayville East,
- Educational: Reagile Primary School, Winnie Mandela Primary School,
- Social Services: Tembisa Hospital, Winnie Mandela Clinic, Fire station.

The proposed PWV5 provincial road is planned to be positioned directly to the north of the site, and a new railway reserve for a feeder for the Gautrain is positioned on the northern and eastern parts of the site.

4.3 Description of the site

The site falls in an area classified as Carletonville Dolomite Grassland, a species-rich grassland with shallow soil and slightly undulating plains on dolomite dissected by prominent rocky chert ridges. The grassland falls within a warm-temperate summer-rainfall region with high summer temperatures and severe frequent winter frosts.

Several disturbances have taken place on site that include a soccer field, Maize fields as well as illegal dumping. The site furthermore used as a thoroughfare between the Clayville Industrial area to the north and the residential areas to the south and the west and have resulted in the infiltration of the site by weed and alien plants.

The site has elevations varying between 1540m and 1555m amsl. It is relatively flat and slopes evenly in a south-westerly direction.

According to the Dolomite Stability Footprint Investigation conducted by VGIconsult Projects, the site is directly underlain by dolomite and chert with a north to south aligned syenite dyke located on the eastern boundary of the site.

A riparian area is located on the western section of the site and a manmade channel is located to the south-east of the site. The area is impacted by dumping, cultivation, alien vegetation and years of anthropogenic activities (Flora Assessment and Aquatic Ecosystem Delineation on Portions 98, 99, 100, R/101, 102 and 115 of the Farm Olifantsfontein 402 JR including the Remaining Extent of the farm Olifantsfontein 402 JR, April 2015, Galago Environmental Biodiversity & Aquatic Specialists).

4.4 The Biological Environment

4.4.1 Vegetation

Six vegetation units were identified on the study site:

- Eragrostis – Hyparthenia grassland;
- Eucalyptus – Crotalaria woodland;

- Amaranthus – Tagetes wasteland;
- Drainage line vegetation
- Eucalyptus – Zea mays informal fields; and
- Developed and cleared areas

The vegetation study found the Drainage line vegetation study unit to be very disturbed, but it is considered sensitive because it forms a corridor for the development of species. The Eragrostis – Hyparthenia grassland study unit is well-rehabilitated secondary grassland but is not considered sensitive. The Eucalyptus – Crotalaria woodland, the Amaranthus – Tagetes wasteland and the Eucalyptus – Crotalaria woodland, the Amaranthus – Tagetes wasteland and the Eucalyptus – Zea mays informal fields study units are not considered sensitive.

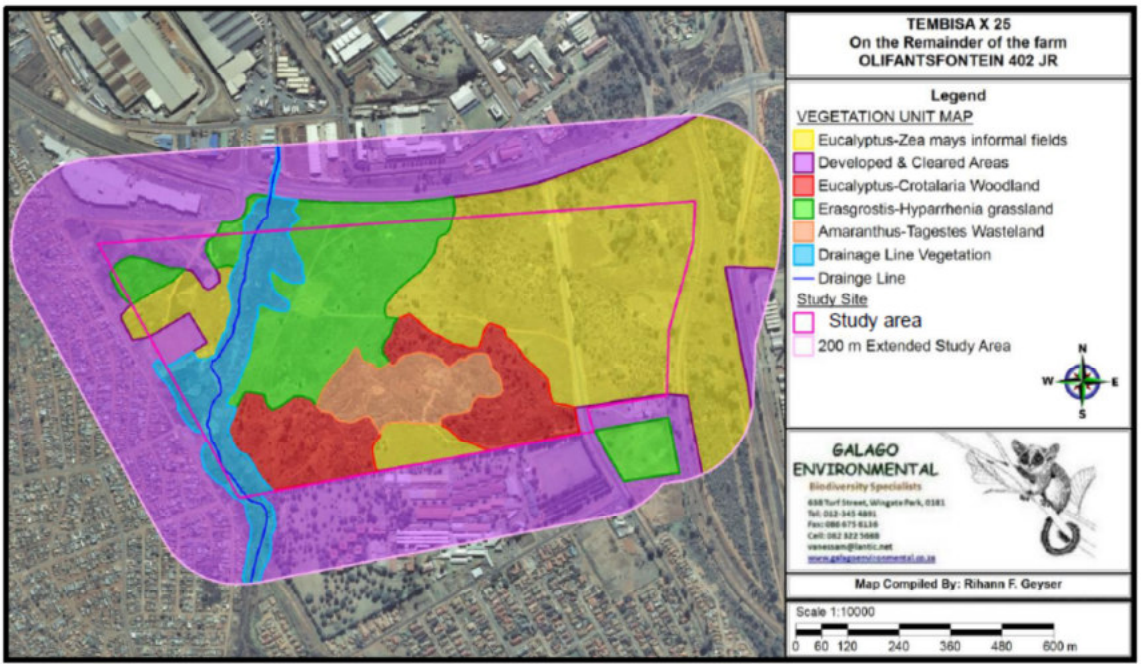

Figure 6: Vegetation sensitivity map

4.4.2 Fauna

The mammal study found that most of the historical mammal species richness has already been displaced over time due to the incremental civilization pressures. The few remaining species are in all likelihood also doomed to local extinction due to a decline in habitat quality and geographic isolation detracting from connectivity.

The terrestrial portion is assessed to have a “Low” conservation sensitivity status as opposed to an ideal status of “Medium-High” for the stream system.

From a mammal perspective, the site has a low mammal conservation priority. The site no longer has any value as conservation area and Red Data species has long since been displaced or are about to be displaced in any case.

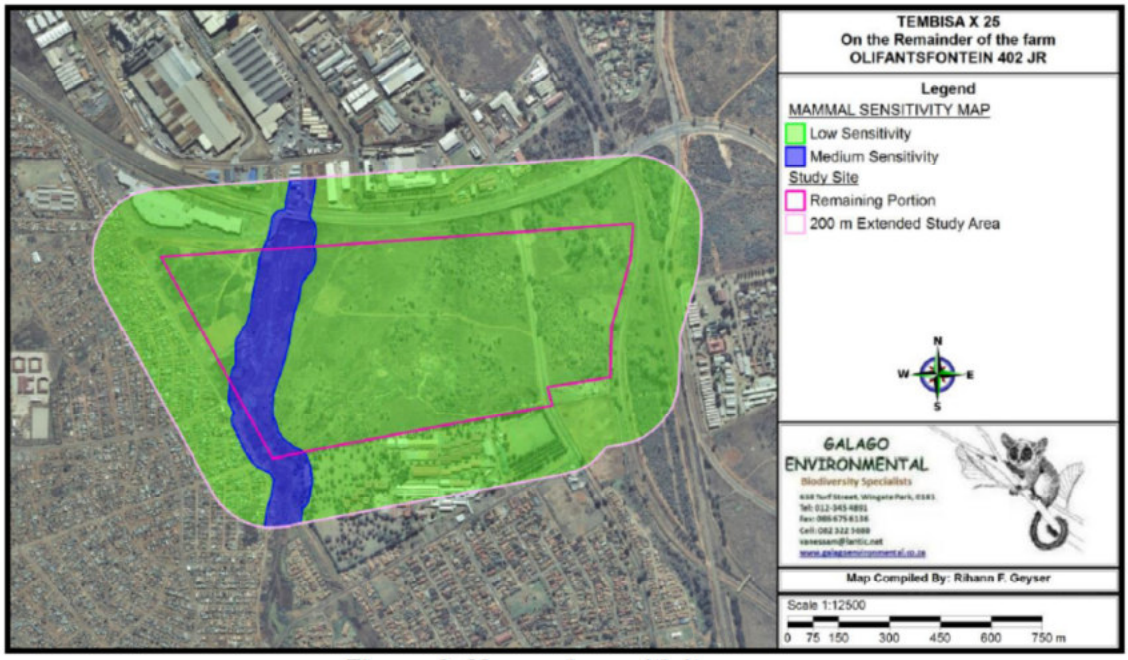

Figure 7: Mammal sensitivity map

4.4.3 Avifauna

The Avifauna study found that the entire study area is highly disturbed and has been transformed by past and present human activities and does not offer suitable habitat for Red Data avifaunal species. The Red Data avifaunal species are habitat specific and unable to adapt to areas changed by man. Only the more common avifaunal species that area able to adapt to areas changed by man will make use of disturbed state of the study area. All habitat types can be regarded as low sensitive.

Figure 8: Avifaunal sensitivity map

4.4.4 Herpetofauna

The herpetofaunal study found that the stream/drainage line with its buffer zone should be considered as ecologically sensitive. The normal 32 metres buffer zone inside the urban edge for riparian zones applies. It is also imperative that there should be a joint conservation plan for the drainage line. No Red Data herpetofauna should occur on the study site.

From a herpetofauna perspective the site is considered of low sensitivity except for the drainage line. The site no longer has any value as a conservation area and Red Data species has long since been displaced.

Figure 9: Herpetofaunal sensitivity map

4.4.5 Aquatic ecosystem delineation

The study found a riparian area on site with a manmade channel releasing storm water onto site. The study site is highly impacted by dumping, cultivation and many years of anthropogenic activities. The area where the storm water is released makes the delineation of natural wetland conditions difficult. Currently this area is impacted on by dumping and cultivation (maize crops) as well as alien vegetation. The presence of wetland conditions is expected but was not observed. The riparian area is highly influenced by the catchment of the system.

The study site does not currently contribute to the degradation of the system and it is suspected that the study area provides some stability to the system before it enters the industrial area. It is thus of paramount importance that the development of the study site does not impact negatively on the aquatic ecosystem.

The main impacts to the system are urbanisation of the catchment, alteration to the water quality (negative), alien vegetation and agriculture. Although the riparian area scored a low PES (Present Ecological State) and EIS (Ecological Importance and Sensitivity), the fact that this system serves as an important corridor in terms of faunal functioning and storm water mitigation is of high importance. The proposed development of the site poses a threat to the riparian system found on site and requires specialised mitigation in terms of

installation and operation. A wetland rehabilitation and management plan is of utmost importance for the site.

A buffer of 32 metres (for inside the urban edge) must be applied to the aquatic ecosystem found on the study site. A water use license application process should be followed in terms of Section 21 of the National Water Act (1998) due to the possible impact of the proposed land use.

Figure 10: Aquatic ecosystem of the study site

4.5 The Physical Environment

4.5.1 Topography

The site is located on the Highveld and has elevations varying between 1540m and 1555m amsl. It is relatively flat and slopes evenly in a south-westerly direction at an average slope of approximately 3%. A small rock outcrop is located on the south eastern section of the site however this is relatively small and flat, and not classified enough to be classified as a ridge.

4.5.2 Climate

The climate is typical of the Carletonville Dolomite Grassland, with a warm-temperate, summer-rainfall region and an overall Mean Annual Precipitation of 593 mm. Summer temperatures are high. Severe frequent frost occurs in winter (Mucina & Rutherford, 2006).

4.5.3 Geology and soils

A Dolomite Stability Footprint Investigation was undertaken by VGIconsult (Pty) Ltd during 2014

According to the 1:250 000 scale published geological map the entire site is directly underlain by dolomite and chert with a north to south aligned syenite dyke located on the eastern boundary of the site. The site is characterised by variable sub-surface conditions. The blanketing layer consists mainly of colluviums, residual syenite, residual chert and dolomite with sub-areas comprising only of colluviums and residual syenite. Low density material was recorded above and below the groundwater level in sub areas. Dolomite bedrock occurs at variable depths of between 7m and more than 60m.

The feasibility stage dolomite hazard assessment conducted by VGIconsult for Tembisa X 25 revealed that large areas are suitable for residential development, with sub areas that is unsuitable for residential land use. The areas of high susceptibility were reserved for non-residential type land uses. Three areas within the greater Tembisa X 25 are proposed for residential development. Area 1 is located in the north-western portion covering a surface area of 4.4hectare, Area 2 is located in the eastern portion covering a surface area of 11.8 hectare and Area 3 is located in the southern central portion covering a surface area of 17 hectare.

The groundwater rest level is recorded at depths of 4m (or 1535m AMSL) to 23m (1509m AMSL) on the western boundary of Area 3 in close proximity to a contributory of the Kaalspruit River. No groundwater was recorded in all other boreholes. The site is located in the Sterkfontein West Dolomite Groundwater Compartment. According to the Department of Water Affairs records of the OWL (Operational Water Level) at the site is at a depth of 1510m AMSL. A groundwater rest level of 1505m AMSL has been used for interpretation purposes. The exception is where a groundwater level has been recorded in boreholes. In such instances the recorded groundwater level is used in that specific sub area.

Based on the previous and current data gathered, the site is characterised in terms of four primary dolomite hazard zones, namely:

Table 2: Primary dolomite zones

Dolomite Hazard Zone	Inherent Hazard Class	Description
1	1//1(4/6)	Area largely reflecting a low susceptibility of all size sinkhole and subsidence formation with respect to ingress of water and a low susceptibility of all size sinkhole and subsidence formation (with sub-areas reflecting a medium susceptibility of large-size or a high susceptibility of medium size sinkhole or subsidence formation) with respect to groundwater level drawdown. In the event that the groundwater level is drawn down or significantly (6m or more), the hazard classification with respect to ingress of water changes as follows: Area largely reflecting a low susceptibility of all size sinkhole and subsidence formation (with sub-areas reflecting a medium susceptibility of large size or a high susceptibility of medium-size sinkhole or subsidence formation) with respect to ingress of water *i.e. Inherent Hazard Class 1(4/6)*
2	3/4(1)//4(1/7)	Area largely reflecting a medium susceptibility of medium to large-size sinkhole and subsidence formation (with sub-areas reflecting a low susceptibility of all size sinkhole and subsidence formation) with respect to ingress of water and a medium susceptibility of large size sinkhole and subsidence formation (with sub-areas reflecting a low or high large-size sinkhole or subsidence formation) with respect to groundwater level drawdown. In the event that the groundwater level is drawn down or significantly (6m or more), the hazard classification with respect to ingress of water changes as follows: Area largely reflecting a medium susceptibility of large size sinkhole and subsidence formation (with sub-areas reflecting a low or high susceptibly of large size sinkhole or subsidence formation) with respect to ingress of water *i.e Inherent Hazard Class 4(1/7)*
3	3/4//1/4(3/6/7)	Area largely reflecting a medium susceptibility of medium to large-size sinkhole and subsidence formation with respect to ingress of water and a low to medium susceptibility of large-size sinkhole and subsidence formation (with sub areas reflecting a medium to high susceptibility of medium to large size sinkhole or subsidence formation) with respect to groundwater level down. In the event that the groundwater level is drawn down or significantly (6m or more), the hazard classification with respect to ingress of water changes as follows: Area largely reflecting a medium susceptibility of large-size sinkhole and subsidence

		formation (with sub-areas reflecting a medium to high susceptibility of medium to large size sinkhole or subsidence formation) with respect to ingress of water i.e. Inherent Hazard Class 4(3/6/7)
4	6-8//6-8(1)	Area largely reflecting a high susceptibility of medium to large-size sinkhole and subsidence formation with respect to ingress of water and a high susceptibility of medium to large-size sinkhole and subsidence formation (with sub areas reflecting a low susceptibility of medium to large-size sinkhole or subsidence formation) with respect to groundwater level down. In the event that the groundwater level is drawn down or significantly (6m or more), the hazard classification with respect to ingress of water changes as follows: Area largely reflecting a high susceptibility of medium to large size sinkhole and subsidence formation with respect to ingress of water *i.e Inherent Hazard Class 6-8.*

The following Inherent Classes are present in each proposed residential area (Areas 1 to 3).

Table 3: Inherent classes

Residential Area	Dolomite Hazard Zone	Inherent Hazard Class
1	2	3/4(1)//4(1/7)
	4	6-8//6-8(1)
2	1	1//1(4/6)
	3	3/4//1/4(3/6/7)
	4	6-8//6-8(1)
3	2	3/4(1)//4-(1/7)
	4	6-8//6-8(1)

In accordance with SANS 1936 (2012) Dolomite Hazard Zone 1 to 3 may be used for residential development provided use is made of rationally designed reinforced concrete raft foundations catering for a 5m loss of support for all structures. In Dolomite Hazard Zone 4, residential land use is not allowed.

Development is subject to a stable groundwater rest level, monitored and controlled by EMM.

According to SANS 1936(2012), various types of development are permitted, including residential development in Dolomite Hazard Zone 1 to 3:

- Precautionary measures are implemented;

- A full wet service audit is undertaken of existing wet services;
- The existing wet services are upgraded in line with current industry standards;
- The new wet services are designed taking the hazard classification into account (use of HDPE pipes);
- Foundations of the proposed structures are designed in compliance with SANS 1936 Part 3;
- Frequent monitoring and maintenance takes place;
- Groundwater level monitoring and control takes place and the groundwater level is maintained within natural seasonal variations in perpetuity;
- Dolomite risk management is maintained in compliance with SANS 1936 Part 4

No residential development is permitted in Dolomite Hazard Zone 4 (Inherent Hazard Class 6-8//6-8(1).

Development may result in a disturbance of the meta-stable conditions in the dolomite environment. Consequently, factors such as the basic design of the service, construction and service installation procedures, and ongoing infrastructure maintenance programmes are key elements in the overall strategy to reduce the probability of generating sinkhole or subsidence. Risk management consists of key elements such as implementation of precautionary measures to prevent the concentrated ingress of water into the ground, monitoring actions to detect problems which could lead to formation of a sinkhole or subsidence and maintenance infrastructure.

5. ANTICIPATED IMPACTS OF THE PROPOSED AMENDMENTS AND PROPOSED MITIGATION MEASURES

5.1. Method to evaluate the perceived impact

According to Section 32(1)(a)(i) of the EIA regulations, the amendment report to be submitted to the competent authority should reflect “an assessment of all impacts related to the proposed change” and the perceived impacts were evaluated in terms of the method described below and the impacts associated with the proposed amendment include the following:

Increase in units

- Spills, leakages, erosion during the construction period resulting in water and soil contamination
- Impact of the geology of the site on the development during the operational phase (i.e. dolomitic conditions and sinkholes)
- Impact on hydrology in terms of stormwater increase during the operational phase
- Pressure on existing services and infrastructure during the operational phase
- Impact on traffic during the operational phase
- Housing opportunities
- Socio-economic impact on adjacent land owners/occupiers.
- Visual impact

Amendment of alignment across stream area

- Vegetation and habitat loss during the construction phase
- Spills, leakages, erosion during the construction period resulting in water and soil contamination
- Impact on Hydrology during the construction and operational phase
- Impact on adjacent residential uses

Moving of stormwater retention facilities

- Vegetation and habitat loss during the construction phase
- Impact on Hydrology during the construction and operational phase

5.2. Methodology

The potential environmental impacts associated with the amendment application was evaluated according to their nature, extent, duration, intensity, probability and significance of the impacts, whereby:

- **Nature**: A brief written statement of the environmental aspect being impacted upon by a particular action or activity.
- **Extent**: The area over which the impact will be expressed. Typically, the severity and significance of an impact have different scales and as such bracketing ranges are often required. This is often useful during the detailed assessment phase of a project in terms of further defining the determined significance or intensity of an impact. For example, high at a local scale, but low at a regional scale;

- **Duration**: Indicates what the lifetime of the impact will be;
- **Intensity**: Describes whether an impact is destructive or benign;
- **Probability**: Describes the likelihood of an impact actually occurring; and
- **Cumulative**: In relation to an activity, means the impact of an activity that in itself may not be significant but may become significant when added to the existing and potential impacts eventuating from similar or diverse activities or undertakings in the area.

Significance is determined through a synthesis of impact characteristics. Significance is also an indication of the importance of the impact in terms of both physical extent and time scale, and therefore indicates the level of mitigation required. The total number of points scored for each impact indicates the level of significance of the impact. The criteria to determine the Consequence of an Impact is described in the Tables 2 to 6 below.

Table 4: Methodology

Rating	Definition of Rating	Score
A. Extent – *the area in which the impact will be expected*		
None		0
Local	Confined to project or study area or part thereof (eg. site)	1
Regional	The region, which may be defined in various ways, eg. Cadastral, catchment, Topographic	2
(Inter) national	Nationally or beyond	3
B. Intensity – *the magnitude or size of the impact*		
None		0
Low	Natural and/or social functions and processes are negligibly altered	1
Medium	Natural and/or social functions and processes continue albeit in a modified way	2
High	Natural and/or social functions or processes are severely altered	3
C. Duration – *the time frame for which the impact will be experienced*		
None		0
Short term	Up to 2 years	1
Medium term	2 – 15 years	2
Long Term	More than 15 years	3

The combined score of these three criteria corresponds to a Consequence Rating, as set out in Table below:

Table 5: Method used to determine the consequence score

Combined score (A+B+C)	0 - 2	3 - 4	5	6	7	8-9
Consequence Rating	Not significant	Very low	Low	Medium	High	Very high

Once the consequence is derived, the probability of the impact occurring is considered, using the probability classifications indicated in table below:

Table 6: Method used to determine the probability

Probability of impact – the likelihood of the impact occurring	
Improbable	< 40% chance of occurring
Possible	40% - 70% chance of occurring
Probable	> 70% - 90% chance of occurring
Definite	> 90% chance of occurring

Table 7: Impact significance rating

Significance Rating	Consequence		Probability
Insignificant	Very low	&	Improbable
	Very low	&	Possible
Very Low	Very low	&	Probable
	Very low	&	Definite
	Low	&	Improbable
	Low	&	Possible
Low	Low	&	Probable
	Low	&	Definite
	Medium	&	Improbable
	Medium	&	Possible
Medium	Medium	&	Probable
	Medium	&	Definite
	High	&	Improbable
	High	&	Possible
High	High	&	Probable
	High	&	Definite
	Very high	&	Improbable

	Very high	&	Possible
Very High	Very high	&	Probable
	Very high	&	Definite

In conclusion the impacts are also considered in terms of their status (positive or negative impact) and the confidence in the ascribed impact significance rating. The prescribed system for considering impacts status and confidence (in assessment) is indicated in table below.

Table 8: Impact status and confidence classification

Status of Impact	
Indication of where the impact is adverse (negative) or beneficial (positive)	+ ve (positive – a 'benefit')
	- ve (negative – a 'cost')
	Neutral
Confidence of assessment	
The degree of confidence in predictions based on available information, EAP's judgement and/or specialist knowledge	Low
	Medium
	High

The impact significance rating was considered in the Impact Assessment process based on the implications of ratings ascribed below:

- Insignificant: the potential impact is negligible and will not have an influence on the decision regarding the proposed activity / development;
- Very low: the potential impact should not have any meaningful influence on the decision regarding the proposed activity / development;
- Low: the potential impact may not have any meaningful influence on the decision regarding the proposed activity / development;
- Medium: the potential impact should influence the decision regarding the proposed activity / development;
- High: the potential impact will affect the decision regarding the proposed activity / development;
- Very high: The proposed activity should only be approved under special circumstances.

The table below provides the potential impacts and significance rating of impacts that are likely to occur as a result of the construction phase and operational phase.

5.3. Proposed mitigation measures

According to Section 32(1)(a)(iii) of the EIA regulations, the amendment report to be submitted to the competent authority should reflect "measures to ensure avoidance, management and mitigation of impacts associated with such proposed change" and the tables below are inclusive of the proposed mitigation measures.

5.4. Increase in units - Impact on Geology

The geotechnical specialist who undertook the initial geotechnical study for the site was consulted in order to provide insight as to whether the proposed increase in units will have an additional impact on the geology of the site and vice a versa. The specialist has confirmed that no additional impacts associated with the increase in units are foreseen. The proposed development is equivalent to RH3 (high rise, SANS 1936-2012), which is permitted in Dolomite Hazard Zones 1-3 (Please see tables below). Therefore, the initial recommendations/mitigation measures provided in the initial geotechnical report and approval from Council for Geoscience remain relevant. Please refer to Annexure 8 for the formal specialist input.

Table 9: Dolomite zones and permissible land use

Dolomite Zone	Inherent Hazard Class	Permissible Land Use
1	1//1(4/6)	C1 - C2 (D3) C3 - C8 (D2)
		RH2 (D2), RH3 (D2)
		RL1 (D2), RL2 (D2)
		RN1 (D2), RN2 (D2), RN3 (D2)
2	3/4(1)//4(1/7)	C1 - C3 (D3), C5 - C7 (D3), C8 (D3)
		RH3 (D3)
		RL2 (D3)
		RN2 (D3), RN3 (D3)
3	3/4//1/4(3/6/7)	C1 - C3 (D3), C5 - C8 (D3)
		RH3 (D3)
		RL2 (D3)
		RN2 (D3), RN3 (D3)
4	6-8//6-8(1)	D4

RH3	> 3 storeys with a residential coverage ratio of ≤ 0,4, no higher than 10 storeys, and a population of ≤ 800 people per hectare

5.5. Impact on Services and infrastructure

5.5.1. Operational phase

Table 10: Impact assessment-Services and Infrastructure

1. ISSUE: INFRASTRUCTURE AND SERVICES								
Potential Impact	**Extent A**	**Intensity B**	**Duration C**	**Consequence A+B+C**	**Probability**	**Impact Significance**	**Status**	**Confidence**
1.1. Pressure on existing services and infrastructure	Regional (2)	High (3)	Long term (3)	Very High (8)	Definite	Very High and Definite= Very High	-	Medium

Impact Statement

The proposed increase in units will have a high intensity, long term impact on services. According to the water and sewer services reports prepared by GLS consulting for the approved development in 2015 the total average demand (AADD) will increase from 1295 kl/d to 2307 kl/d. The updated reports for the proposed amendment confirm that provision has been made for the proposed development in the Olifantsfontein sewer and Kempton Park water master plans.

Water

In terms of the amended water services report there is sufficient bulk pipeline capacity in order to supply water services to the new development. However, the proposed development's water demand is higher that the future water demand anticipated in the original master plan and the master plan will have to be updated accordingly.

Sewer

In terms of the amended sewer services report the Tembisa East outfall sewer is already operating at its full capacity and has no spare capacity available. The sewer will have to be upgraded as per the recommendations provided. The proposed development's sewage flow

is higher that the future sewage flow anticipated in the original master plan and the master plan will have to be updated accordingly.

Baseline Sensitivities

As a result of the increase in units the development's water and sewerage demand is higher that the future water demand anticipated in the original master plans and the master plans will have to be updated and upgrades of the bulk infrastructure will be required.

Assessment of impact relative to EIAR Assessment

The following is a summary of the anticipated impact of the development on services because of the increase in the density of the development. The anticipated change to the impact significance is from high to very high.

Table 11: Summary of anticipated impact on services and infrastructure

Amendment	Advantages and disadvantages	Anticipated impact as per the EIA post mitigation	Anticipated impact including proposed amendment	Additional mitigation and management measures required
• The increase in units will require an upgrade of services and infrastructure.	Advantages • The upgrade of infrastructure to meet the increase in units will ensure that a greater number of people have access to basic services. Disadvantages • The increase in units will place an increase in demand for resources.	High (-ve)	Very High (-ve)	• Services to be upgraded as per the amended services reports and approval letters. **Water** • The Clayville reservoirs have no spare capacity available. Therefore it is recommended that master plan item FM-CV_1.2 (construction of new 15 ML reservoir) be implemented. • No water towers or pump stations are affected. • No upgrading to any existing bulk pipes is required. • The recommended connection points to the existing system are as follows: o Central portion: To the existing 250Ø pipe in Flint Mazibuko Street at a point via the new required 250Ø supply pipe as indicated in the full report. o North eastern corner: To the existing 400Ø pipe at point B via the new required 160Ø supply pipe as indicated in the

Amendment	Advantages and disadvantages	Anticipated impact as per the EIA post mitigation	Anticipated impact including proposed amendment	Additional mitigation and management measures required
				full report. ○ North western corner: To the existing Tembisa X23 water network at points at C and D as indicated in the full report. • No upgrading to any network water pipes is required. **Sewer** • No sewer pump stations are affected • The existing Tembisa East outfall sewer does not have sufficient spare capacity available to accommodate the additional flow. It is recommend that the sewer be upgraded as follows: ○ Section A-B: Replace by new 675Ø or construct new parallel 600Ø ○ Section B-C: Replace by new 825Ø or construct new parallel 750Ø • The recommended connection points to the existing system are as follows: ○ Central portion: Directly into the existing Tembisa East outfall sewer draining through the site as mentioned in the full report ○ North-eastern corner: To the existing 150Ø sewer at point D as indicated in the full report ○ North-western corner: To the existing 315Ø sewer at point E indicated in the full report • No upgrading to any network sewer is required • No provision for any further future developments draining through the development site has to be done. **Electrical** • Work shall be carried out in accordance to the OHS Act (Occupational Health and Safety Act of 1993) Act 85 of

Amendment	Advantages and disadvantages	Anticipated impact as per the EIA post mitigation	Anticipated impact including proposed amendment	Additional mitigation and management measures required
				1993). • All material, mini substations sizes shall comply with SABS standards • The existing medium voltage network is on a ring feed therefore this feed must be maintained at all times. • Proposed new MV electrical network must first be completed before it can be cut into the existing network in order to maintain a continuous ring feed. • All cables to be laid at the depth of 1m and cable marking tape to be laid ± 300mm from the top of the cable after backfilling with a soft bedding soil. • Where cables are installed crossing other services or in close proximity to other services, the cables must be protected by means of concrete slabs. • All exposed metal of electrical apparatus must be earthed at all times. The earth conductors between kiosks and mini subs shall be standard requirements and to be run for the full length of cables. The earth bar in the mini sub must be connected to the neutral of the LV bar. • All new mini subs must be properly earthed in accordance to SANS 10142 and SABS 0199. No transformer shall be energised without the start point being connected to earth, subject to the following values for each category transformer. o 500 Kva=5 ohms max o 630Kva=3 ohms max o 800kva = 2 ohms max o 1000kva = 1 ohms max • The contractor is primarily responsible for the quality of work. On job completion pressure testing must be carried out on all MV cables and apparatus before the work can be energised.

Amendment	Advantages and disadvantages	Anticipated impact as per the EIA post mitigation	Anticipated impact including proposed amendment	Additional mitigation and management measures required
				• Mini substations test certificates/earthing results, as built drawings, certificate of compliance and hand over certificates must be handed to Electricity and Energy Department before any official hand over of the network.

5.6. Impact on Traffic

5.6.1. Operational phase

Table 12: Impact assessment-Traffic

2. ISSUE: TRAFFIC								
Potential Impact	**Extent A**	**Intensity B**	**Duration C**	**Consequence A+B+C**	**Probability**	**Impact Significance**	**Status**	**Confidence**
2.1 Traffic	Regional (2)	High (3)	Long term (3)	Very High (8)	Definite	Very High and Definite= Very High	-ve	Medium

Impact Statement

The proposed increase in units will have a high intensity, long term impact on traffic. A Traffic Impact Assessment was undertaken in order to determine the impact of the proposed development on traffic operations on the surrounding external road network. Based on a consideration of the likely impact of the proposed development, the following intersections were evaluated:

- Intersection 1: Ruth First Close - Old Pretoria Road
- Intersection 2: Reverent R.T.J Namane – Ruth First Close
- Intersection 3: Old Pretoria Road – Olifantsfontein Road
- Intersection 4: Olifantsfontein Road - Hoof Road
- Intersection 5: Olifantsfontein Road - Axle Drive
- Intersection 6: Olifantsfontein Road – Madiba Street
- Intersection 7: Axle Drive – Madiba Street
- Intersection 8: Riverside Street – Madiba Street

- Intersection 9: Road 2 – Access 4 (Riverside Street/Phasha Drive)
- Interscetion10: Road 2 – Access 3 (Temane Street and Mthembu Avenue)
- Intersection 11: Industry Road/ Reverend R.T.J Namane Drive – Access 1 (Tema / Molekwane Street)
- Intersection 12: Industry/ Reverend R.T.J Namane Road – Access 2 (Phasha Drive)

The critical peak hour from a road capacity point of view occurs when the traffic generated by the development is at a maximum or when the highest combination of existing traffic and traffic generated by the development occurs.

Based on a consideration of the relevant land use, it was decided to consider the following peak hours for analyses:

- Weekday AM Peak hour;
- Weekday PM Peak hour.

According to the Traffic Impact Assessment, the following intersections are already operating at an unacceptable level of service with the current traffic and these are listed below:

- Intersection 1 – Old Pretoria and Ruth First in the morning peak,
- Intersection 3 – Olifantsfontein Road and Old Pretoria Road fails in both peak periods
- Intersection 4 – Olifantsfontein Road and Hoof fails in both peak periods,
- Intersection 5 – Olifantsfontein Road and Axle Street fails in the afternoon peak
- Intersection 6 – Olifantsfontein and Madiba has a right turning movement that fails in the PM peak
- Intersection 7 – Madiba and Axle fails in both peak periods and;
- Intersection 8 – Madiba and Riverside fails in the AM peak.

Baseline Sensitivities

Certain intersections will require upgrades as per the Traffic Impact Assessment Report in order accommodate the development as a result of the current level of service.

Assessment of impact relative to EIAR Assessment

The following is a summary of the anticipated impact of the development on traffic as a result of the increase in the density of the development. The anticipated change to the impact significance is from high to very high.

Table 13: Summary of the anticipated impact on traffic

Amendment	Advantages and disadvantages	Anticipated impact as per the EIA post mitigation	Anticipated impact including proposed amendment	Additional mitigation and management measures required
• The Traffic Impact Assessment concluded that the development will result in an increase in traffic.	<u>Advantages</u> • According to the traffic impact and capacity analysis the intersections are already operating at unacceptable level of service, therefore upgrades will be required to accommodate the proposed development. This is seen as advantage because proposed upgrades will alleviate the already existing traffic problem.	High (-ve)	Very High (-ve)	Road upgrades to be effected as per the Traffic Impact Study: **Intersection 2: Reverent R.T.J Namane Drive – Ruth First Close** • No upgrades are required for current traffic volume • To achieve a satisfactory level of service, a 60m exclusive right turning lane should be added to the western approach; a short 100m exclusive right turning lane to the eastern approach and a short 100m exclusive right turning lane to southern approach. • An additional phase should be added to accommodate both the morning and afternoon peaks for the horizon traffic including development and latent right. Intersection 2 is situated along the BRT routes. The Route will alleviate heavy traffic on intersection 2 through public transport use. **Intersection 3: Olifantsfontein Road – Old Pretoria Road** • Intersection 3 is operating at an unacceptable overall level of service. However, the implementation of

Amendment	Advantages and disadvantages	Anticipated impact as per the EIA post mitigation	Anticipated impact including proposed amendment	Additional mitigation and management measures required
				PWV 5, K105 and the class 3 roads will alleviate traffic from the right turning lanes and leave it operating at a satisfactory level. K105 has already been advertised by the GDRT and it will be realised in the next 10 years. **Intersection 4: Olifantsfontein Road – Hoof Road** • Intersection 4 main movements are unaffected regardless of the temporary delays during peak hours. The right turning traffic can be transferred to the future planned routes. **Intersection 5: Olifantsfontein Road – Axle Drive** • An additional short 60m exclusive right turning lane should be added in the north approach. An additional short 80m exclusive through lane should be added to the west approach together with a short 80m exit lane. The east approach requires an additional 80m exclusive through lane and a short 100m exit lane to function at an acceptable level of service. **Intersection 7: Madiba Street – Axle Drive** • Intersection 7

Amendment	Advantages and disadvantages	Anticipated impact as per the EIA post mitigation	Anticipated impact including proposed amendment	Additional mitigation and management measures required
				requires change in the type of control only; in this case from an all-way stop to a signalised control. **Intersection 8: Riverside Street – Madiba Street** • Intersection 8 requires a change in the type of control and additional lanes to accommodate the 2023 horizon background plus development and latent rights traffic volume. • In the northern approach it is necessary to separate the through/left turning movement and the right turning movement and add an exclusive short 80m right turning lane. • The western approach requires that the through/left turning movement be separated from the right turning movement and add an exclusive short 80m right turning lane for the intersection to function at an acceptable level of service. • In the eastern approach, the through/left turning movement and the right turning movements should be separated and an additional exclusive 80m right turning lane should be added to accommodate the right turning traffic volume. The

Amendment	Advantages and disadvantages	Anticipated impact as per the EIA post mitigation	Anticipated impact including proposed amendment	Additional mitigation and management measures required
				intersection above the acceptable level of service.

5.7. Impact on Housing Opportunities

5.7.1. Operational phase

Table 14: Impact assessment - Housing opportunities

3. ISSUE: HOUSING OPPORTUNITIES								
Potential Impact	**Extent A**	**Intensity B**	**Duration C**	**Consequence A+B+C**	**Probability**	**Impact Significance**	**Status**	**Confidence**
3.1 Housing opportunities	Regional (2)	High (3)	Long term (3)	Very High (8)	Definite	Very High and Definite= Very High	+ve	Medium

Impact Statement

The proposed increase in units will have a high intensity, long term impact on housing opportunities. The impact significance is considered very high and relates to the positive impact of the increase of housing opportunities to be provided by the development from 1477 to 3510 units.

Baseline Sensitivities

The need for formalized housing in the area has been proven by the overwhelming response to the Public Participation process that was undertaken to notify the immediate residents of the possible increase in housing opportunities in the area.

Assessment of impact relative to EIAR Assessment

The following is a summary of the anticipated impact of the development on housing opportunities as a result of increase in the density of the development. The impact significance is very high and remains the same.

Table 15: Summary of the anticipated impacts on housing opportunities

Amendment	Advantages and disadvantages	Anticipated impact as per the EIA post mitigation	Anticipated impact including proposed amendment	Additional mitigation and management measures required
• The amendment requested will increase housing units from 1477 to 3510.	Advantage • More housing opportunities will be provided. The same footrprint as per the original EIAr is to be used but the height is to increase from two to four storeys.	Very High (+ve)	Very High (+ve)	Provide clear instruction on registration process.

5.8. Visual Impact

5.8.1. Operational phase

Table 16: Impact assessment - Visual impact

4. ISSUE: VISUAL IMPACT								
Potential Impact	Extent A	Intensity B	Duration C	Consequence A+B+C	Probability	Impact Significance	Status	Confidence
4.1 Increase in height	Reginal (2)	High (3)	Long term (3)	Very High (8)	Definite	Very High and Definite= Very High	-	Medium

Impact Statement

The proposed increase in units will have a high intensity, long term impact on the visual quality of the area.

In order to provide additional units the height of the building will increase from 2 floors to 4 floors thereby causing a visual intrusion to the character of the area due to the fact that the residential character of the area is low density residential.

Baseline Sensitivities

The site is currently vacant and situated next to residential units that are mainly 1 storey high. The development of the site with 4 storey blocks will impact on the view from the

existing dwellings. It has to be kept in mind that as a result of the dolomitic nature of the site the buildings will be concentrated on the center of the site surrounded by a large open area which will reduce the visual impact.

Assessment of impact relative to EIAR Assessment

The following is a summary of the anticipated impact of the development on the visual quality as a result of increase in the density of the development. The anticipated change to the impact significance is from low to very high.

Table 17: Summary of the anticipated impact on visual quality

Amendment	Advantages and disadvantages	Anticipated impact as per the EIA post mitigation	Anticipated impact including proposed amendment	Additional mitigation and management measures required
• The increase in units will impact on the visual quality of the area.	Disadvantage • The height of the residential units will change the visual quality of the area. Advantage • The operational impact will be initially noticeable but over time the development will become integrated within its context.	Low(-ve)	Very High (-ve)	• Use exterior colours that have low reflectivity value and blend well with the surrounding environment. • Lighting should be designed appropriately according to the following guidelines: o Use low level lighting around buildings and along paths and streets. o Shield external lights on buildings to cast light only upon the area required to be illuminated.

5.9. Amendment of Road Alignment - Impact on Habitat

5.9.1. Construction phase

Table 18: Impact assessment - Ecological environment

Potential Impact	Extent A	Intensity B	Duration C	Consequence A+B+C	Probability	Impact Significance	Status	Confidence
5. ISSUE: ECOLOGICAL ENVIRONMENT								
5.1. Habitat impact due to the re-alignment of the road	Local (1)	High (3)	Long term (3)	High (7)	Definite	High & Definite =High	-	High

Impact Statement

The road alignment will have a high intensity, long term impact on the ecological environment of the area. With additional footprint impacts resulting from a longer access road that fall in the stream area, there could be an increase to the disturbance of habitat and to the disturbance and displacement of species from nesting and/or foraging areas and loss of habitat through clearing to establish the road.

Baseline Sensitivities

A road across the stream was approved as part of the development and given that the site does not contain any unique and highly sensitive habitat, direct habitat loss is not regarded as a major impact of the proposed road re-alignment.

Assessment of impact relative to EIAR Assessment

The following is a summary of the anticipated impact of the development on the natural habitat as a result of the re-alignment of the access road. The anticipated change to the impact significance is from medium to high.

Table 19: Summary of anticipated impact on the ecological environment

Amendment	Advantages and disadvantages	Anticipated impact as per the EIA post mitigation	Anticipated impact including proposed amendment	Additional mitigation and management measures required
The re-alignment of the road could result in an increased		Medium	High (-ve)	• A wetland rehabilitation plan

Amendment	Advantages and disadvantages	Anticipated impact as per the EIA post mitigation	Anticipated impact including proposed amendment	Additional mitigation and management measures required
loss of habitat.				was compiled and needs to be implemented. • A Water Use Licence is currently being applied for with the Department of Water and Sanitation.

5.10. Amendment of Road Alignment - Impact on aquatic ecosystem

5.10.1. Construction phase

Table 20: Impact assessment - Road alignment on aquatic ecosystem - Construction phase

Potential Impact	Extent A	Intensity B	Duration C	Consequence A+B+C	Probability	Impact Significance	Status	Confidence
5. ISSUE: IMPACT ON AQUATIC ECOSYSTEM								
5.1. Impact of road alignment on aquatic ecosystem	Local (1)	Medium (2)	Long term (3)	Medium (6)	Definite	Medium & Definite =Medium	-	High

Impact Statement

The road alignment will have a medium intensity, long term impact on the riparian area. The aquatic ecosystem delineation that was initially conducted for the site in 2015, has been revised for the inclusion of the assessment of the foreseen impacts of the road alignment on the riparian area. According to the revised report the proposed activity has on average a moderate ecological risk profile. This is due to the fact that the bridge will alter the ecological drivers associated within the ecosystems. It should also be noted that the channelization of the system downstream did have a mitigating effect on the impact scale.

The impact rating of the development indicates that the project can be authorised but with routine inspections and conditions. This is due to the short term construction phase of the development coupled to the low local scale impact (or actual improvement of the system). Please refer to **Annexure 8** for the revised report.

Baseline Sensitivities

The aquatic ecosystem found on site is highly impacted (**VEGRAI:** D/E and **EIS:** C) mainly by historical agriculture and developments around the system as well as in the catchment of the system. The system remains functioning- and will continue to do so if not further impacted by development of the study site. Alien vegetation was found throughout the site and is of concern.

The revised report further included the installation of a sewer line on site and concluded that this will have an impact during the construction phase but this will cause an improvement in the system if the correct mitigation measures are implemented during the construction phase.

Assessment of impact relative to EIAR Assessment

The following is a summary of the anticipated impact of the re-alignment of the road on the riparian area. This impact was not assessed in the initial EIAR and therefore a change of impact significance is not possible. The anticipated impact significance is considered medium negative.

Table 21: Summary of anticipated impact of road re-alignment on the riparian area – Construction phase

Amendment	Advantages and disadvantages	Anticipated impact as per the EIA post mitigation	Anticipated impact including proposed amendment	Additional mitigation and management measures required
The re-alignment of the road will alter the ecological drivers associated associated with the ecosystems The installation of a sewer line will have an impact on the riparian area during construction	Advantage • Improvement of the system if correct mitigation measures are implemented.		Medium (-ve)	• A wetland rehabilitation plan was compiled and needs to be implemented. • A Water Use Licence is currently being applied for with the Department of Water and Sanitation. • Design of the sewage pipe so that no sewage leaks can occur. This can be done by using double pipes in pressure areas, bends must be designed in such a way as not to put pressure on the system.

5.10.1. Operational phase

Table 22: Impact assessment-Road alignment on aquatic ecosystem - Operational phase

Potential Impact	Extent A	Intensity B	Duration C	Consequence A+B+C	Probability	Impact Significance	Status	Confidence
6 ISSUE: IMPACT ON AQUATIC ECOSYSTEM								
6.1 Impact of road alignment on aquatic ecosystem	Regional (2)	High (3)	Long term (3)	Very High (8)	Definite	Very High and Definite= Very High	-	Medium

Impact Statement

The road alignment will have a high intensity, long term impact on the riparian area during the operational phase. The impacts here are associated with the foreseen pollution of the stream by littering from vehicles crossing the riparian area through the bridge.

Baseline Sensitivities

A road across the stream was approved as part of the development. The aquatic report indicates that informal cultivation as well as extensive dumping, old buidlings and alien vegetation already impact the system. It is therefore understood that the re-alignment of the road will not increase the impact of littering as the issue already exists.

Assessment of impact relative to EIAR Assessment

The following is a summary of the anticipated impact of the re-alignment of the road on the riparian area. This impact was not assessed in the initial EIAR and therefore a change of impact significance is not possible. The anticipated impact significance is considered medium negative.

Table 23: Summary of anticipated impact of road re-alignment on the aquatic ecosystem - Operational phase

Amendment	Advantages and disadvantages	Anticipated impact as per the EIA post mitigation	Anticipated impact including proposed amendment	Additional mitigation and management measures required
The re-alignment of the road could cause pollution of the system in the form of littering			Medium (-ve)	

5.11. Amendment of Road Alignment - Impact on Residential land uses

5.11.1. Operational phase

Table 24: Impact assessment- Amendment of road alignment on residential land use

Potential Impact	Extent A	Intensity B	Duration C	Consequence A+B+C	Probability	Impact Significance	Status	Confidence
7 ISSUE: AMENDEMENT OF ROAD ALIGNMENT- IMPACT ON RESIDENTIAL LAND USE								
7.1 Impact of Re-alignment of road on residential land use	Regional (2)	Medium (2)	Long term (3)	High (7)	Definite	High and Definite= High	+ (ve)	Medium

Impact Statement

The road alignment will have a medium intensity, long term impact on the residential land use in the area. With the re-alignment of the access road, the road no longer affects residential units situated in the north- western portion of the site. This busy road would have had a noise impact on the units and made it less ideal for residential purposes. Please refer to the image below for the road that was positioned at the north -western portion of the site.

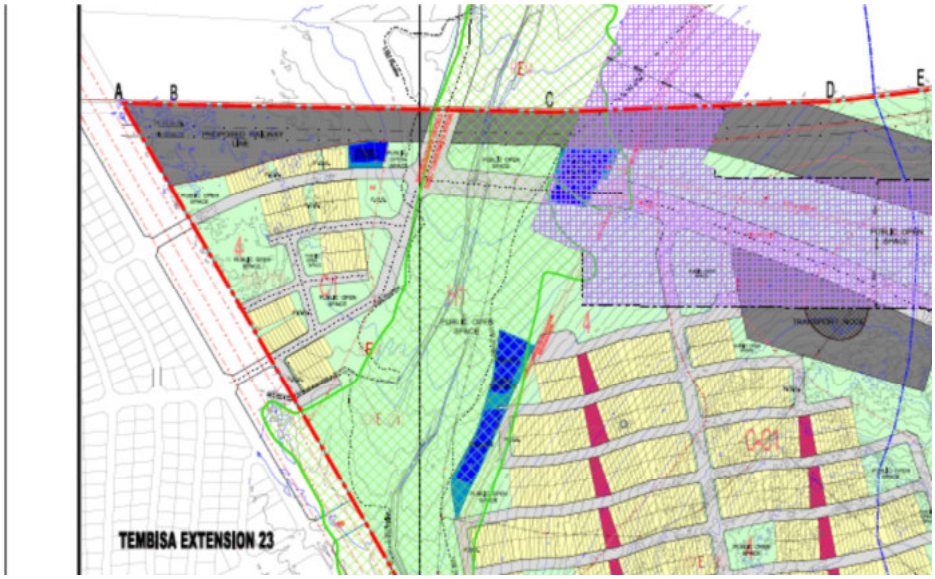

Figure 11: Extract from layout showing road through residential area

With the re-alignment no residential units are in close proximity to the road that could be negatively affected.

Figure 12: Extract from layout showing road crossing southern area of the stream

Baseline Sensitivities

A road across the stream was approved as part of the Environmental Authorisation and given that the site does not contain any unique and highly sensitive habitat, direct habitat loss is not regarded as a major impact of the proposed road re-alignment.

Assessment of impact relative to EIAR Assessment

The following is a summary of the anticipated impact of the development on the residential land use because of the re-alignment of the access road. This impact was not assessed in the initial EIAR and therefore a change of impact significance is not possible. The anticipated impact significance is considered high positive.

Table 25: Summary of the anticipated impact on residential land use as a result of the re-alignment of the road

Amendment	Advantages and disadvantages	Anticipated impact as per the EIA post mitigation	Anticipated impact including proposed amendment	Additional mitigation and management measures required
• The re-alignment of the road that crossed the riparian area in the north western portion of the site could have a positive impact on the surrounding land use.	Advantages • No noise impact will be experienced by the residential land use. Disadvantage • Residents of the north-eastern portion of the development will have to use the existing Tembisa Extension 23 to access the new development through the re-aligned road to the south.		High (+ve)	A Water Use Licence is currently being applied for with the Department of Water and Sanitation.

5.12. Stormwater attenuation dams - hydrology

5.12.1. Construction phase

Table 26: Impact assessment- Stormwater attenuation dams - Hydrology

Potential Impact	Extent A	Intensity B	Duration C	Consequence A+B+C	Probability	Impact Significance	Status	Confidence
8. ISSUE: STORMWATER ATTENUATION DAMS - HYDROLOGY								
8.1 Impact of Stormwater attenuation ponds on hydrology	Regional (2)	Medium (2)	Long term (3)	High (7)	Definite	High and Definite= High	+ (ve)	Medium

Impact Statement

The stormwater attenuation ponds will have a medium intensity, long term impact on hydrology. It is understood that attenuation ponds are a necessary part of the development as they serve as flood protection and flood alleviation mechanisms by slowing down the high flow rate during a flood. Please refer to the image below for the stormwater attenuation ponds in the layout submitted with the Final EIAR.

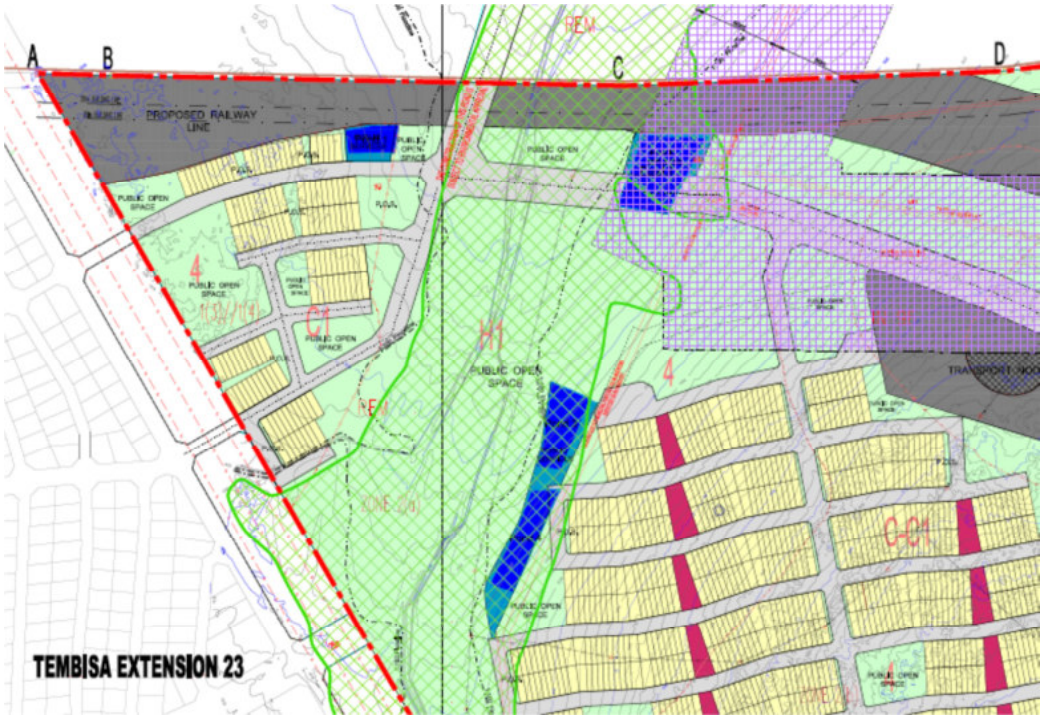

Figure 13 : Extract from the layout showing three attenuation ponds in the buffer

However, the aquatic impact assessment states that buffers are seen as part of the aquatic ecosystem and may not be developed or impacted in any way by the construction activities and they are rated the same way as the system. Buffers are a strip of land surrounding a wetland or riparian area in which activities are controlled or restricted, in order to reduce the impact of adjacent land uses on the wetland or riparian area. A buffer of 32 is applied to the riparian on site, however the previous layout had three attenuation ponds falling within the buffer. With the amended layout the proposal is to move the stromwater attenuation ponds out of the buffer. This will ensure that no activity takes place within the buffer, with the stormwater attenuation ponds achieving their objective outside the buffer. The impact of the amendment is thus positive in this regard.

Figure 14: Extract from the layout showing the removal of stormwater attenuation ponds from the buffer

Baseline Sensitivities

It is a requirement from Council that stormwater is attenuated on site and in order to make provision for this requirement developable area is usually lost. To maximise the use of the developable area attenuation ponds are placed in the floodline area, which in most cases are the most sensitive areas of a site.

Assessment of impact relative to EIAR Assessment

The following is a summary of the anticipated impact of the removal of stormwater attenuation ponds. The anticipated impact significance is from medium to high positive.

Table 27: Summary of the anticipated impact of the removal of stormwater attenuation ponds from the riparian area

Amendment	Advantages and disadvantages	Anticipated impact as per the EIA post mitigation	Anticipated impact including proposed amendment	Additional mitigation and management measures required
• The removal of the stormwater attenuation ponds from the buffer are will have a positive impact on hydrology (riparian area)	Advantage No further impact on the riparian system	Medium	High (+ve)	

5.13. Stormwater attenuation dams - Ecology

5.13.1. Construction phase

Table 28:Impact assessment stormwater attenuation ponds - Ecology

Potential Impact	Extent A	Intensity B	Duration C	Consequence A+B+C	Probability	Impact Significance	Status	Confidence
9 ISSUE: STORMWATER ATTENUATION DAMS - HYDROLOGY								
9.1 Impact of Stormwater attenuation ponds on ecology	Local (1)	Medium (2)	Long term (3)	Medium (6)	Definite	Medium and Definite= medium	- (ve)	Medium

Impact Statement

The stormwater attenuation ponds will have a medium intensity, long term impact on ecology. No additional impacts on ecology are envisaged due to the removal of the stormwater attenuation ponds from the buffer area. The number of stomwater attenuation ponds remains the same except that they occur at different positions within the site.

Baseline Sensitivities

Not many alternatives are available with the placement of stormwater attenuation ponds as they are situated in the lowest points of the site and should furthermore be in close proximity to the stromwater feeder points.

Assessment of impact relative to EIAR Assessment

There is no change regarding the impact of the attenuation ponds on ecology and the impact significance remains medium.

Table 29: Summary of the anticipated impact of stormwater attenuation ponds on Ecology

Amendment	Advantages and disadvantages	Anticipated impact as per the EIA post mitigation	Anticipated impact including proposed amendment	Additional mitigation and management measures required
• The impact of the construction of the stormwater attenuation ponds on ecology will remain the same as the same number of stormwater attenuation ponds will be provided.	Advantage No further impact on the riparian system	Medium (-ve)	Medium (-ve)	

6. CHANGES TO ENVIRONMENTAL MANAGEMENT PROGRAMME

According to Section 32(1)(a)(iv) of the EIA regulations, the amendment report to be submitted to the competent authority should reflect "any changes to the EMPr".

The EAP has reviewed the Environmental Management Programme in relation to the proposed change and it is evident that the only changes to occur will be the addition of the mitigation measures incorporated into this report. The mitigation measures have been incorporated into the EMPr please refer to **Annexure 6** for the **EMPr**.

7. ADVANTAGES AND DISADVANTAGES ASSOCIATED WITH THE REQUIRED AMENDMENT

According to Section 32(1)(a)(ii) of the EIA regulations, the amendment report to be submitted to the competent authority should reflect "advantages and disadvantages associated with the proposed change" and this was provided in the summary of the Anticipated Impacts and a summary is provided below.

Advantages related to the requested amendment of condition 3.1 of the Environmental Authorisation:

The overall advantage associated with the amendment requested relates to the increase of units from 1477 to 3510. The human settlements sector in South Africa remains one of the most challenging areas in the social and economic environment. This mirrors worldwide trends as population explosions continue to create an increasing demand within the property market for well-located land and housing.

Following President Jacob Zuma's proclamation in 2009 to change the Department of Housing to the Department of Human Settlements, the focus shifted from housing being just a roof over people's heads, to providing sustainable and integrated human settlements where people can work, pray, play and have access to amenities required for their day-today living.

The mission of the Department of Human Settlements is therefore to facilitate the creation of sustainable human settlement and improve the quality of household life. Its functions are to determine, finance, promote, communicate and monitor the implementation of housing and sanitation programmes. South Africa Yearbook 2012/13.

The department committed itself to improving the quality of life of 400 000 households through upgrading informal settlements in 45 priority municipalities. A target was also set to stimulate growth in affordable home ownership and the rental market. South Africa Yearbook 2012/13.

The upgrade will provide households with security of tenure and access to essential services in sites that are close to economic and other social amenities. The proposed amendment of the Tembisa Extension 25 Environmental Authorisation will allow government to achieve this goal.

Eradicating hunger requires increasing the access to food of a person or family. The extent to which individuals and families are able to be food-secure depends in large part on the opportunities they have to increase their access to assets such as land, as well as access to markets and other economic opportunities. People who have extensive rights to land are generally more able to enjoy a sustainable livelihood than those who have only limited rights to land; those who have limited rights are, in turn, often better off than those who are landless.

Land tenure is also important in rural development interventions which place an emphasis on building people's endowments of assets so they can enjoy sustainable livelihoods. A livelihood is sustainable when it can cope with, and recover from stresses and shocks, and maintain or enhance its capabilities and assets both now and in the future, while not undermining the

natural resource base. In this context, a livelihood comprises the capabilities, assets (including both material and social resources) and activities required for a means of living. Property rights to land, together with labour, form the most common endowments used to produce food for home consumption as well as cash crops that allow the family or individual to pay for other needs such as health and education. Property rights to land are thus one of the most powerful resources available to people to increase and extend their collection of assets beyond land and labour to the full portfolio necessary for sustainable livelihoods.

Advantages related to the requested amendment of the layout that was conditionally approved:

1. The re-alignment of the road that falls in the wetland area and the removal of attenuation ponds will ensure that no further disturbance occurs to the wetland area.
2. The alignment of the southern access road will ensure ease of connectivity with the main access road in the centre of the site.

Disadvantages related to the requested amendment of the increase in units from 1477 to 3510 units

1. The overall disadvantage of the amendment requested in terms of the above relates to the availability of services to cater for the development. This is nullified by the fact that GLS consulting was already approached to determine the capacity of services and they have confirmed the availability of services for the development. GLS Consulting has furthermore provided the appropriate conditions thereof. Please refer to **Appendix 7** for the **services reports**.

8. CONCLUSION AND EAP RECOMMENDATIONS

The scale of the amendments in terms of footprint size relative to the approval implies that it is unlikely that the proposed amendments will cause any additional significant negative impact to the environment or adversely affect the rights and interests of other parties. Additional mitigation measures as detailed above have been included in the EMPr for the construction and operational phase of the project to ensure the appropriate management of risks associated with the increase in density and the re-alignment of the access road.

It is recommended that the application for amendment be approved for the following reasons:

1. The Council for Geoscience supports the findings of the Geotechnical specialist for the proposed development and therefore the proposed land use as well.
2. GLS Consulting confirmed that services will be available for the proposed development as per the recommendations provided.
3. The necessary approval letters from the respective CoE departments for the various services such as water, sewer, and electrical reticulation have been received with conditions/recommendations thereof.
4. Condition 5.5 of the Environmental Authorisation states that "*the Environmental Authorisation does not negate the holder of the authorisation's responsibility to comply with any other statutory requirements that may be applicable to the undertaking of the activities*". The approval of the requested amendment will therefore ensure that the applicant complies with requirements made by the Gauteng Department of Roads and Transport.
5. The Traffic Impact Study supports the development on condition that there be road upgrades.

It is recommended that the application for amendment be approved subject to the following condition:

1. The applicant is not absolved from complying with any other statutory requirements that are applicable to the undertaking of the activity. This includes the fact that the applicant must comply with the conditions/recommendations from respective parties/departments.
2. An aquatic ecosystem rehabilitation plan was conducted for the site as per the specialist recommendation and must be implemented.