



FIG Working Week 2024

19-24 May

Accra, Ghana

Your World, Our World:
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Sustainable and resilient priority human settlement development areas: A case of Musligwa local municipality, South Africa

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Presentation Navigator

Background of the Study

Project Objectives

Situational Analysis

Spatial Vision

Spatial Vision and Development Strategies

Study Results

Study Recommendations & Conclusions

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Background to the Study

In South Africa, *Priority Human Settlements & Housing Development Areas (PDAs)* : The *Ermelo-Wesselton area* is one of many PDAs strewn across South Africa & these stem from & are in line with the Breaking New Ground policy & the Human Settlements Framework for Spatial Transformation & Consolidation which advances housing delivery to promote spatial restructuring & consolidation & facilitates inclusive residential property markets & asset creation

PDAs should address housing and human settlements challenges in a comprehensive and integrated manner taking into account (*Spatial Justice; Spatial Efficiency; Access to Connectivity & Socio-Economic Infrastructure; Access to Adequate Accommodation & and Provision of Quality Housing Options*)

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Ermelo-Wesselton Priority Development Area Project Objectives & Workplan

Prepare a Development Plan for the EWPDA

Ensure that the Development Plan creates a platform thru which funding can be streamlined & focused on specific outcomes in the EWPDA

Ensure, amongst other things, that the said plan addresses the following:

- Access to Basic Services

- Enable Settlement Restructuring

- Promotes Economic Growth

- Upgrade/ Expand Bulk Services

- Responds to the Needs of Targeted Communities

- Design, Package & Prioritise Projects & Interventions that will support the achievement of the EWPDA Development Vision

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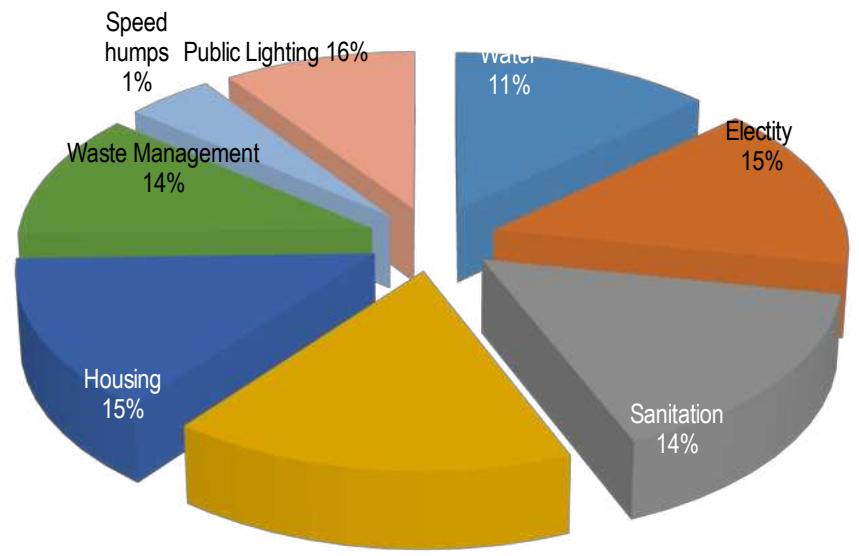
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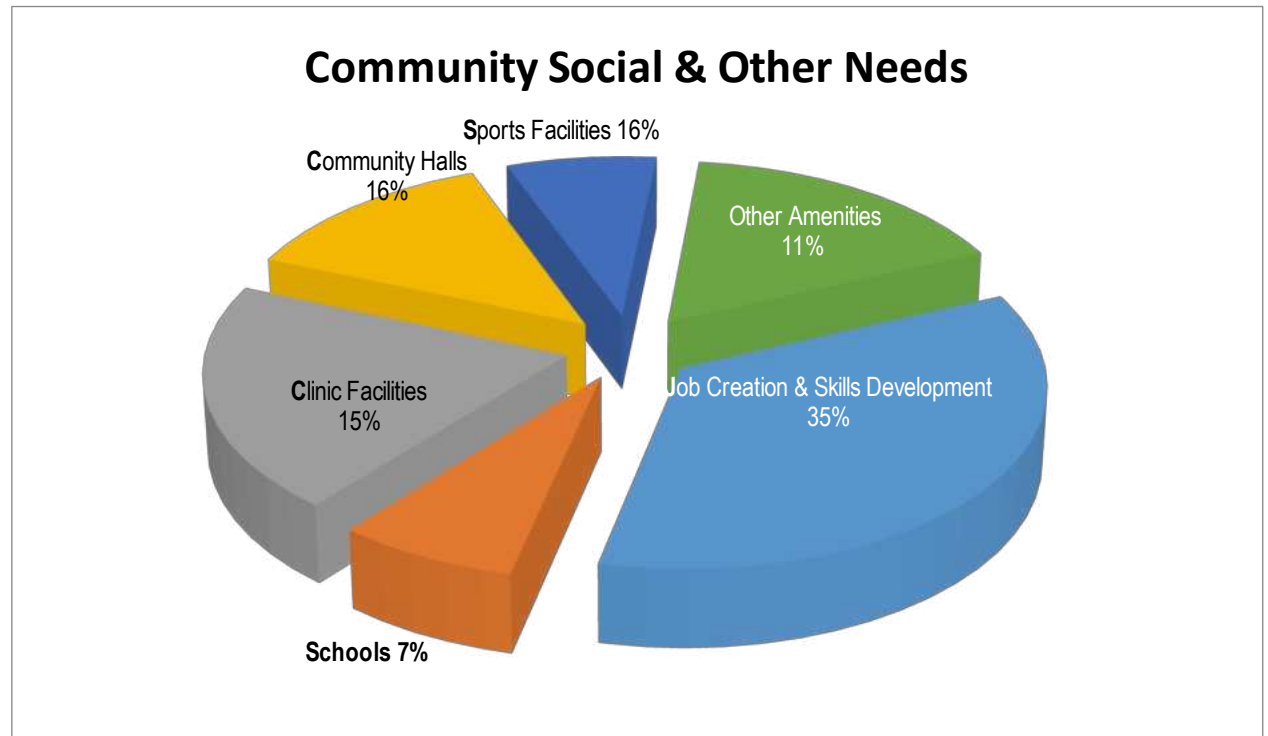
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Situtaional Analysis

Community Priority Needs



Community Social & Other Needs



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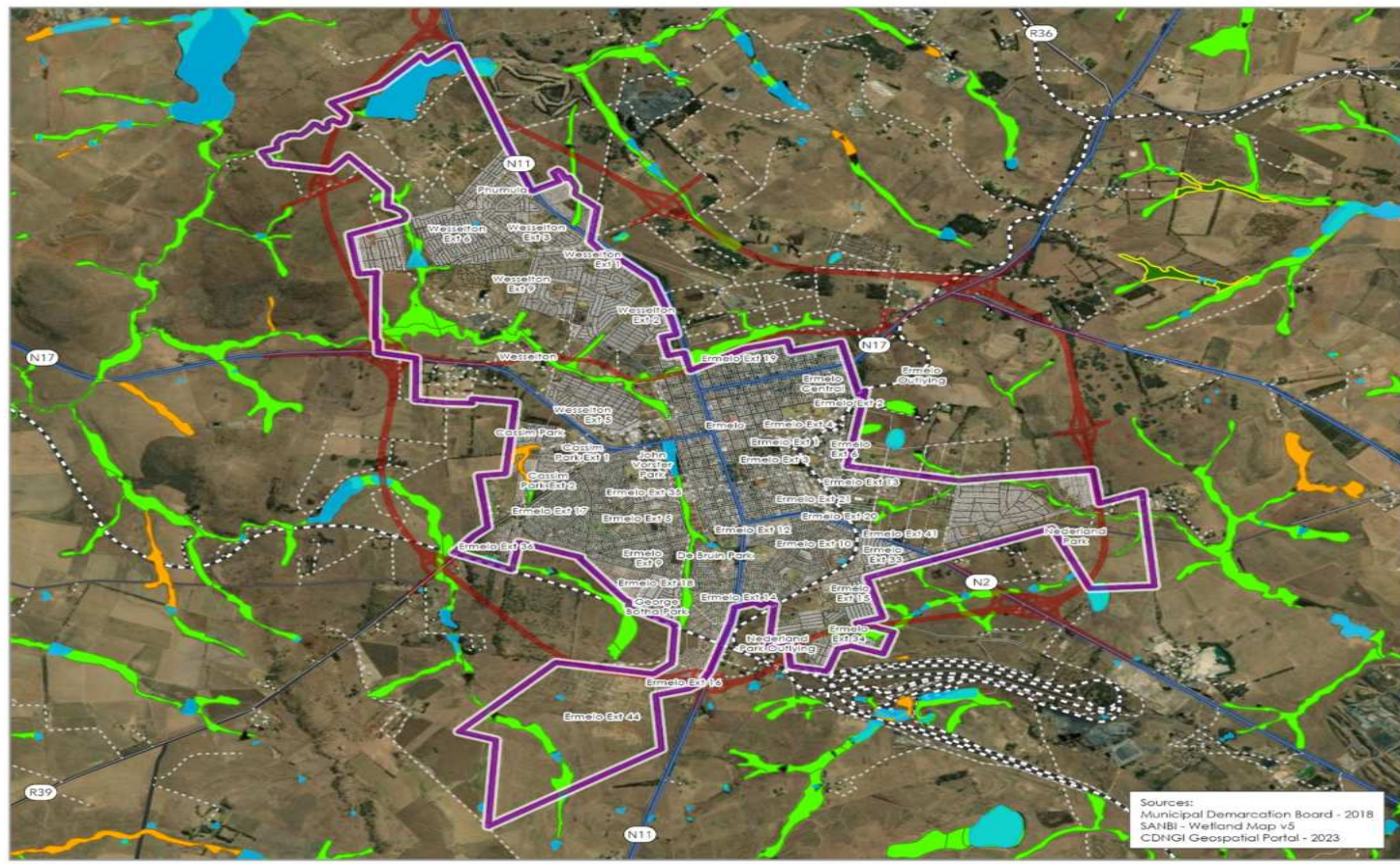
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Ermelo-Wesselton PDA: Wetlands



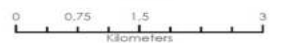
Sources:
Municipal Demarcation Board - 2018
SANBI - Wetland Map v5
CDNGI Geospatial Portal - 2023

Background Esri South Africa, Esri, HERE, Garmin, Foursquare, METI/NASA, USGS, Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community



- Legend
- PHSHDA Oct 2020
 - Wetlands with prioritisation**
 - Critical Biodiversity Area
 - Ecological Support Area
 - Protected Area
 - Waterbodies
 - Transport Network**
 - Ring Road
 - Rail network

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Transportation Research & Development



Coordinate System: Harlebeesthoek94 Lo29 (E-N)
Date created:
Wednesday, 23 August 2023
GIS Specialist: willem@mandalagis.co.za

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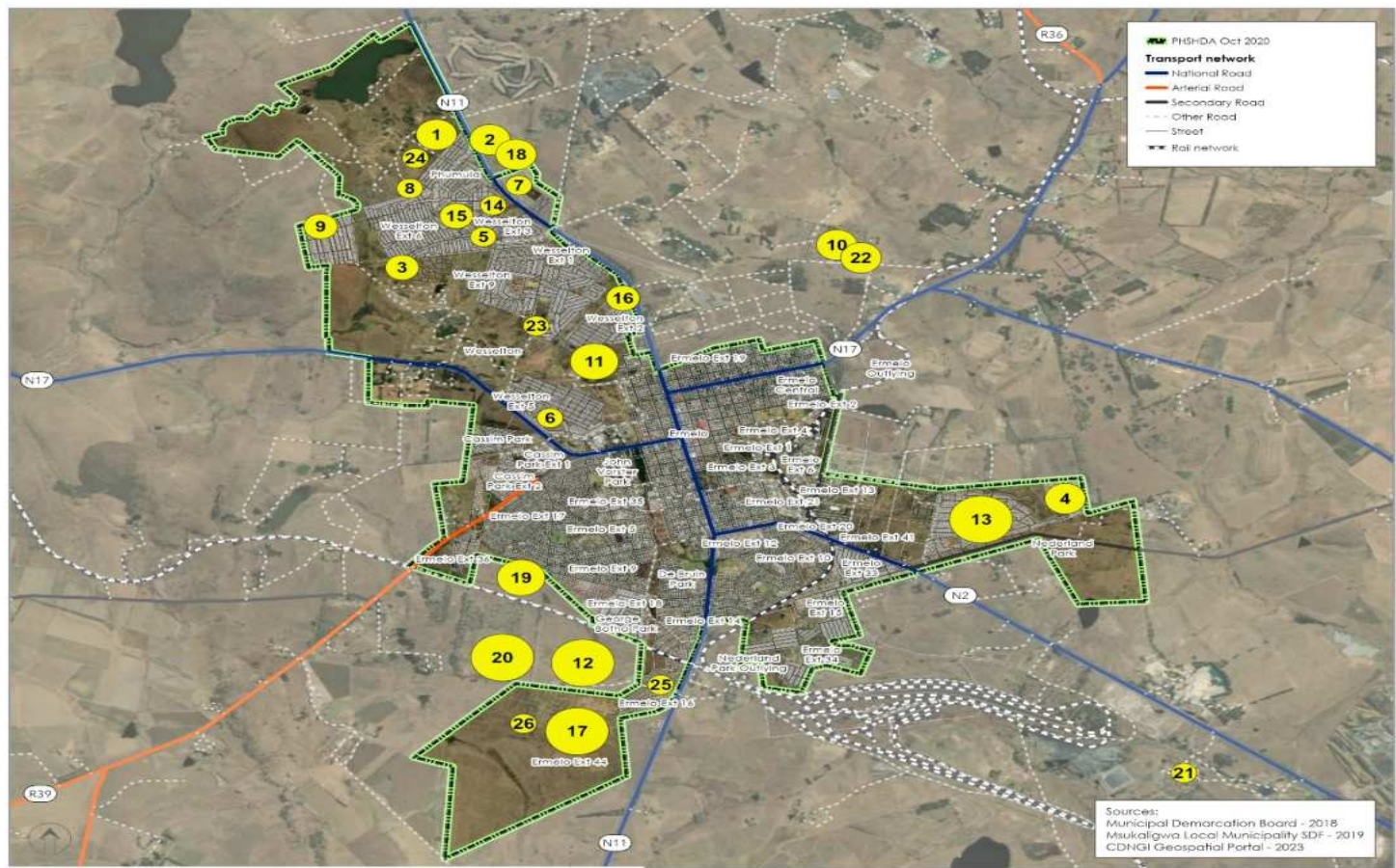
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Ermelo-Wesselton PDA: Informal Settlements





human settlements
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Legend
Number of Units



Housing Projects
Nr. Name. Units

1. Portion 35 Frere 267 ft. 375
2. Remainder of Portion 44 Frere 276ft. 500
3. Nkanini, 304
4. New Ermelo, 484
5. Erf 4105 and 7513 Wesselton, 113
6. Wesselton South, 96
7. Wesselton Ext 7, 0
6. Erf 8982 Wesselton, 0
9. Wesselton Ext 11, 200
10. Kamabusa Farms, 500
11. Wesselton South Ext 1 and Wesselton North, 700
12. Portion 13 of the Farm Naaltgedacht 268, 1000
13. New Ermelo, 900
14. Erf 3596 Wesselton, 14
15. Erf 8981 Wesselton, 201
16. Wesselton Ext 1 North, 176
17. Ermelo Ext 44, 1497
16. Wesselton Ext 7, 481
19. Rem of Portion 37 Naaltgedacht 268 ft. 700
20. Portion 11 Naaltgedacht 268 ft. 2000
21. Skapuze Farm, 100
22. Kamabusa Farm, 500
23. Phumula, 100
24. Portion 35 Frere 267 ft. 96
25. Ermelo Ext 14, 100
26. Ermelo Ext 44, 0

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0 0.75 1.5 3
Kilometers

Coordinate System: Hartbeesthoek94 La29 (E-N)
Date created:
Tuesday, 13 June 2023
GIS Specialist: willemandalagis.co.za

Background Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community





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Spatial Vision

- Vision of Msukaligwa Local Municipality
- “...A Beacon of Service Excellence...”
- Vision for the Ermelo-Wesselton Priority Development Area
- “...A smart, vibrant, integrated, inclusive, & environmentally friendly & sustainable human settlement ...”

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Spatial Vision and Development Strategies

- Mix land uses
- Take advantage of compact building design
- Provide a variety of housing choices
- Create walkable neighbourhoods
- Foster a strong sense of place
- Direct development towards existing communities
- Provide a range of transportation (circulation) options
- Encourage densification & compactness
- Strengthen nodes & linkages
- Encourage community & stakeholder collaboration in development decisions

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EWPDA Image Gallery



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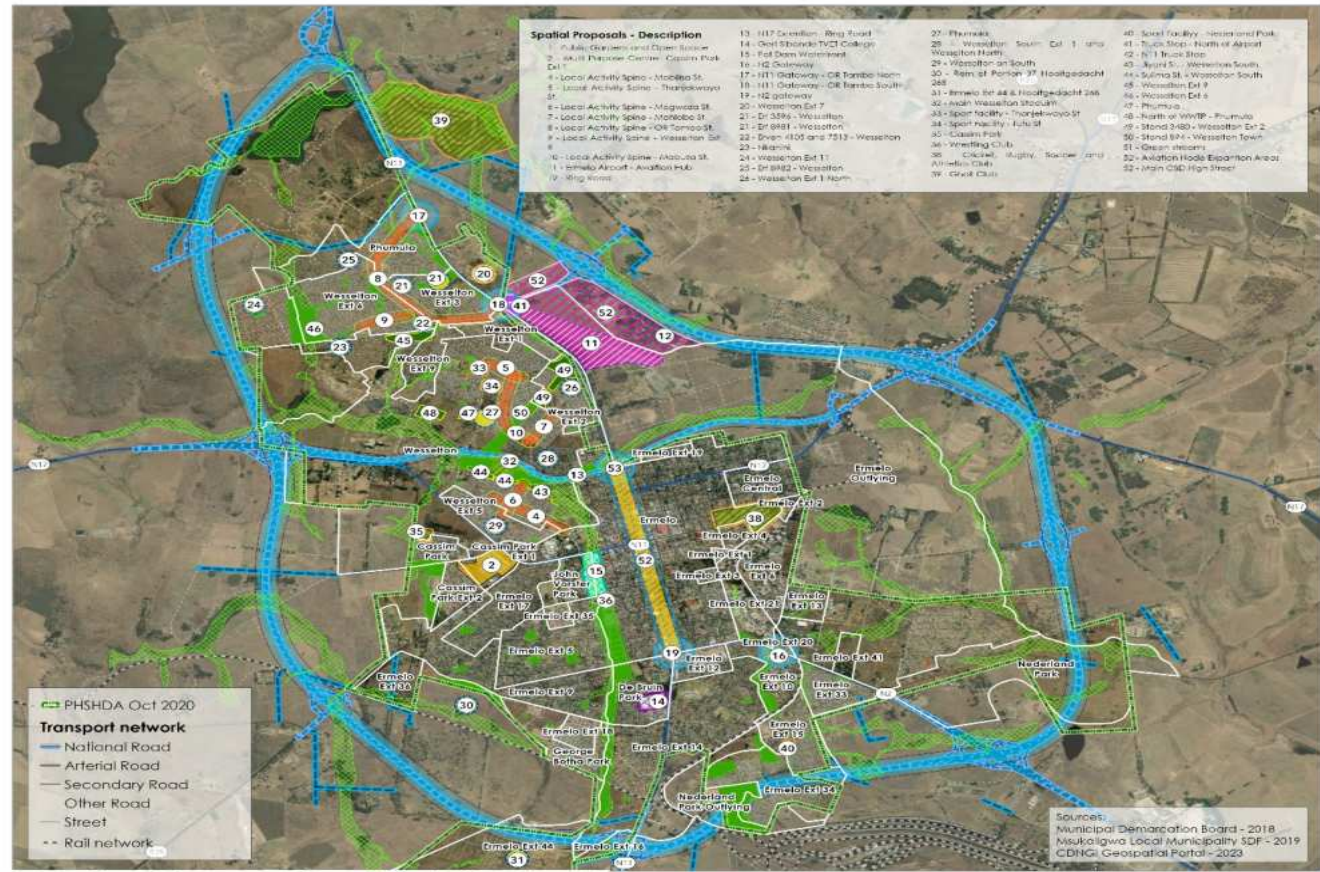
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Ermelo-Wesselton PDA: EWPDA Spatial Portrait



human settlements
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Spatial Proposals

- Nodal development
- Activity Node - Multipurpose Centre
- High Street
- Activity street
- Road interchanges
- Transport Hub
- Aviation
- Aviation Node Expansion Areas
- Higher Education
- Site and Service Scheme
- Social Housing
- Integrated Open Space
- Urban Agriculture
- Green streams
- Food Security (Urban Agriculture)
- Inclusive Sport Centre
- Waterfront Relaxation Centre
- Connectivity

Proposed Transport Network

- Ring Road
- Access Roads from Ring Road

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0 0.5 1 2
Kilometres

Coordinate System: Hartbeesthoek94 Lo29 (E-N)

Date created:
Pitsoy, 08 September 2023
GIS Specialist: willem@mondalagui.co.za

Background Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community





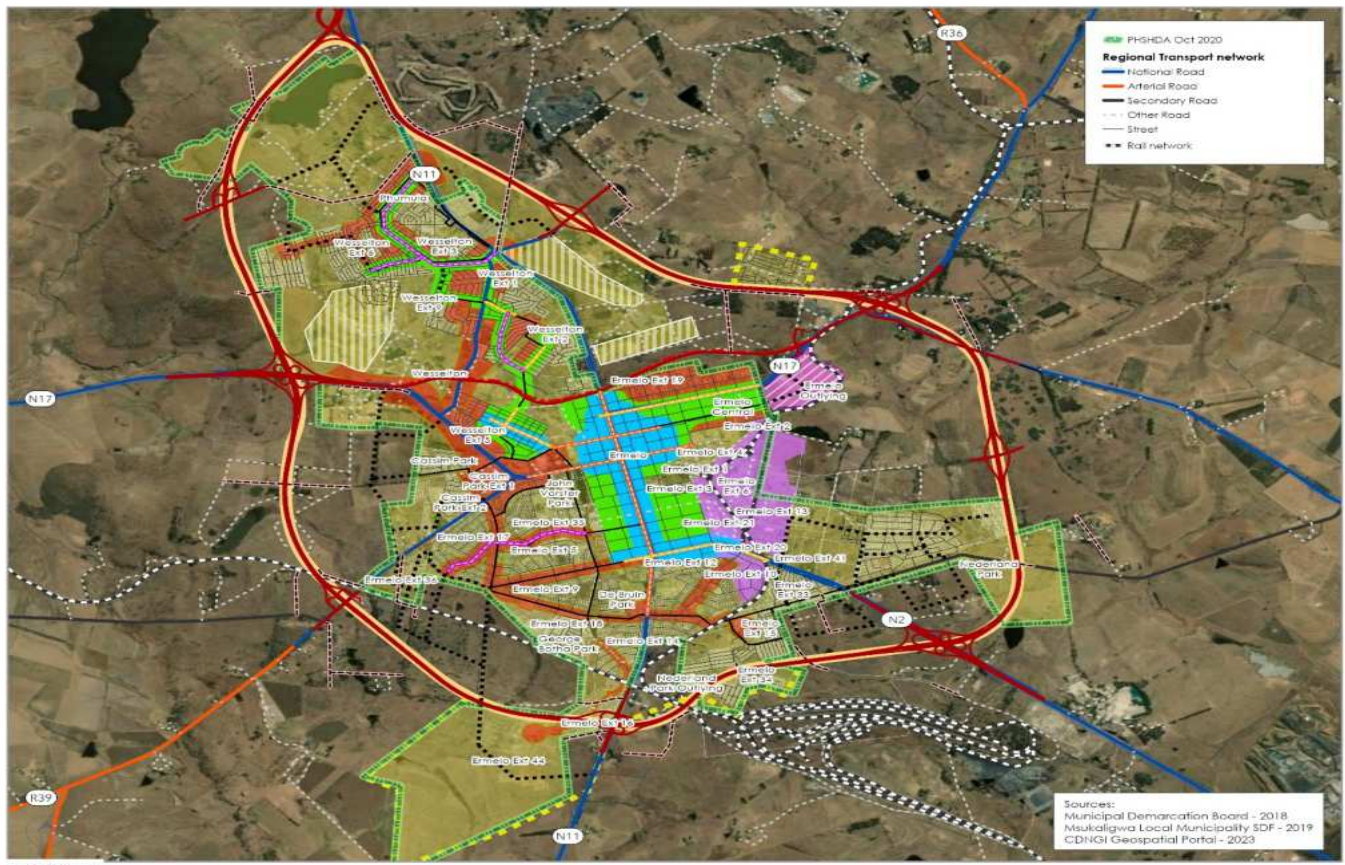
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Ermelo-Wesselton PDA: Density Policy



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Legend

Density Policy

Density

- Mixed Use - High density
- Mixed Use - Medium/High density
- Mixed Use - Medium density
- Residential Low density
- Single Use - Very Low density
- Industrial/Commercial
- Light Industrial

Activity Corridors

- Mature
- Developing
- Potential

Proposed Transport Network

- Ring Road
- Access Roads from Ring Road
- Proposed Main Urban Edge and Ring Road
- Extended Urban Edge
- Existing Major Roads
- N17 Extension
- Existing Local Connections
- Proposed Local Connections
- Rail network

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0 0.75 1.5 3
Kilometers

Coordinate System: Harlebeesthoek94 Lo29 (E-N)
Date created: Friday, 08 September 2023
GIS Specialist: willem@mandalagis.co.za

Sources:
Municipal Demarcation Board - 2018
Mookgongwa Local Municipality SDF - 2019
CDNGI Geospatial Portal - 2023





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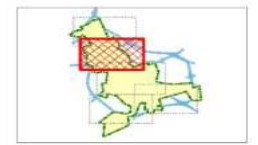
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Ermelo-Wesselton PDA: EWPDA Spatial Portrait - Northern Area



- Spatial Proposals**
- High Street
 - Activity street
 - Road interchanges
 - Transport Hub
 - Aviation
 - Aviation Node Expansion Areas
 - Site and Service Scheme
 - Social Housing
 - Integrated Open Space
 - Green streams
 - Food Security (Urban Agriculture)
 - Inclusive Sport Centre
 - Connectivity
- Proposed Transport Network**
- Ring Road
 - Access Roads from Ring Road



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0 0.25 0.5 1
kilometers

Coordinate System: Harfebeesthoek94 Lo29 (E-N)

Date created:
Friday, 08 September 2023
GIS Specialist: witem@mandalagis.co.za

Spatial Proposals - Description			
1 - Public Gardens and Open Space	19 - N11 Gateway - Off Tambo South	32 - Avian Wesselton Stadium	50 - Stand 894 - Wesselton Town
2 - Local Activity Spine - Inyangwaya St.	20 - Wesselton Ext 7	33 - Sport Facility - Inyangwaya St	51 - Green streams
3 - Local Activity Spine - Mqogwa St.	21 - Ext 35/6 - Wesselton	34 - Sport Facility - Tutu St	52 - Aviation Node Expansion Areas
4 - Local Activity Spine - Oll Tambo St.	21 - Ext 6981 - Wesselton	41 - Truck Stop - North of Airport	52 - Main CBD High Street
5 - Local Activity Spine - Wesselton Ext 0	22 - Even 4103 and 7513 - Wesselton	42 - Juani St - Wesselton South	
6 - Local Activity Spine - Wesselton Ext 1	23 - Inyangwaya St	44 - Sulma St - Wesselton South	
7 - Local Activity Spine - Wesselton Ext 2	24 - Wesselton Ext 11	45 - Wesselton Ext 9	
8 - Local Activity Spine - Wesselton Ext 3	25 - Ext 6982 - Wesselton	46 - Wesselton Ext 6	
9 - Local Activity Spine - Wesselton Ext 4	26 - Wesselton Ext 1 North	47 - Phumula	
10 - Local Activity Spine - Mqogwa St.	27 - Phumula	48 - North of WWTP - Phumula	
11 - Ring Road	28 - Wesselton South Ext 1 and Wesselton North	49 - Stand 3480 - Wesselton Ext 2	
12 - Ring Road			
13 - N17 Extension - Ring Road			

Sources:
Municipal Demarcation Board - 2018
Mkhungwana Local Municipality SDF - 2019
CDNGI Geospatial Portal - 2023



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Spatial Tools, Guidelines and Recommendations



Developing a Vibrant High Street
Creating Livable Communities



High Street: Creating Livable Communities
Protect Pedestrians & Cyclists

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Spatial Tools, Guidelines and Recommendations



High Street: Creating Livable Communities
Redesign & Build a Complete Street



Redesigning the Node around People – not Cars

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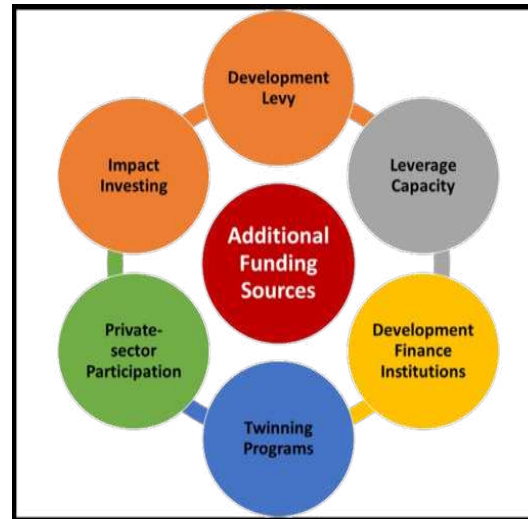
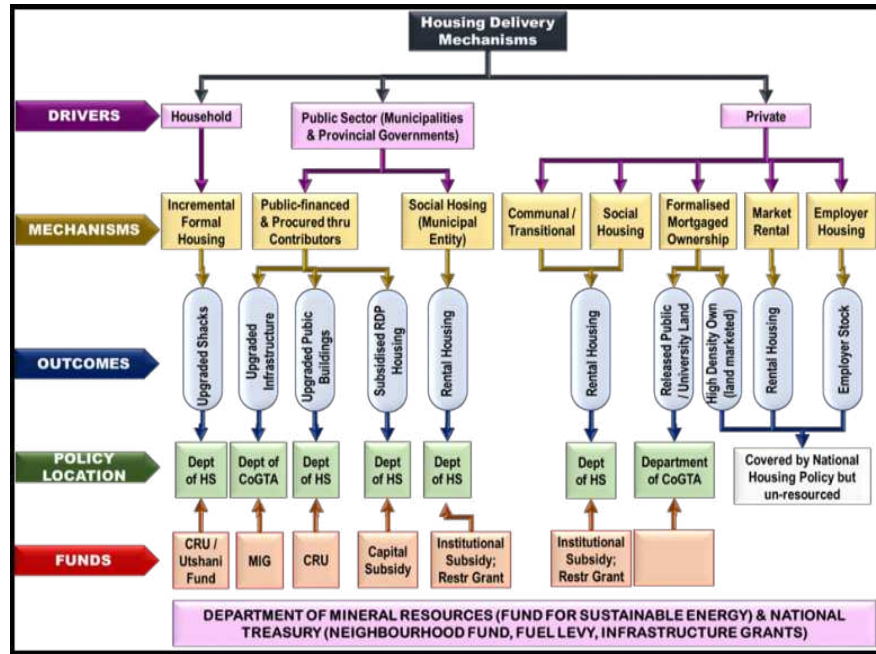
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Spatial and Sustainable Funding Streams Beyond Traditional Sources



Widening funding dragnet

Strategy/instrument	Description	Requirements
Public private partnership (PPP)	Long-term contract between a public and private sector institution where the private sector provides a service that is generally provided by the public sector	Bankable Projects
Development Charges	Development Charges are once off capital infrastructure fees imposed on a property owner by the municipality as a condition of approving a land development.	All municipalities can levy a development charge
Project financing	Where municipal borrowing is done against a specific project. Possibly through a SPV or on the municipality's balance sheet	Bankable Projects
Pledging	Providing security through a portion of their conditional grants, revenue or any asset to leverage financing	Creditworthy municipalities
Land value capture	Concept that seeks to capture all or part of the increments in land value resulting from public services	Creditworthy municipalities with bankable projects
General Borrowing (Loans & Bonds)	Not as complex as other forms of borrowing	Creditworthy municipalities
Climate Finance	Municipalities need to maintain or adapt existing infrastructure, as well as build new infrastructure that is both resilient to climate change uncertainties, & reduces current & future greenhouse gas emission	Large Municipalities- Conditional grants & green bonds
Pooled financing	Municipalities can collectively raise finance to reduce risk & increase the quantum of funding for infrastructure investments	Small municipalities- Conditional grants & donor funding
Blended financing	The use of relatively small accounts of concessional donor funds or transfers to mitigate specific investment risks	Municipalities with strong revenue bases & governance

Funding strategies to ensure Implementation of EWPDA

Housing typologies and implementation modalities



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SUSTAINABLE DEVELOPMENT GOALS

International Federation of Surveyors supports the Sustainable Development Goals

Commission

Commission's name

3, 6, 8, 9, 10, 11, 12, 13, 15 & 17





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Acknowledgements

- Department of Human Settlements – Mpumalanga Province
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