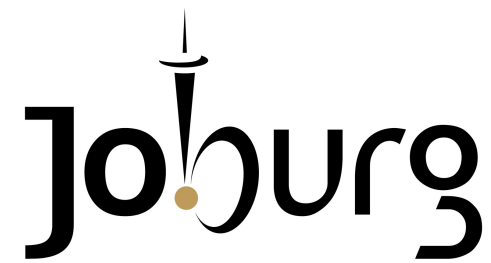




# PRESENTATION ON JOHANNESBURG'S BIODIVERSITY PROGRAMME

*Member of Mayoral Committee:  
Cllr Prema Naidoo*

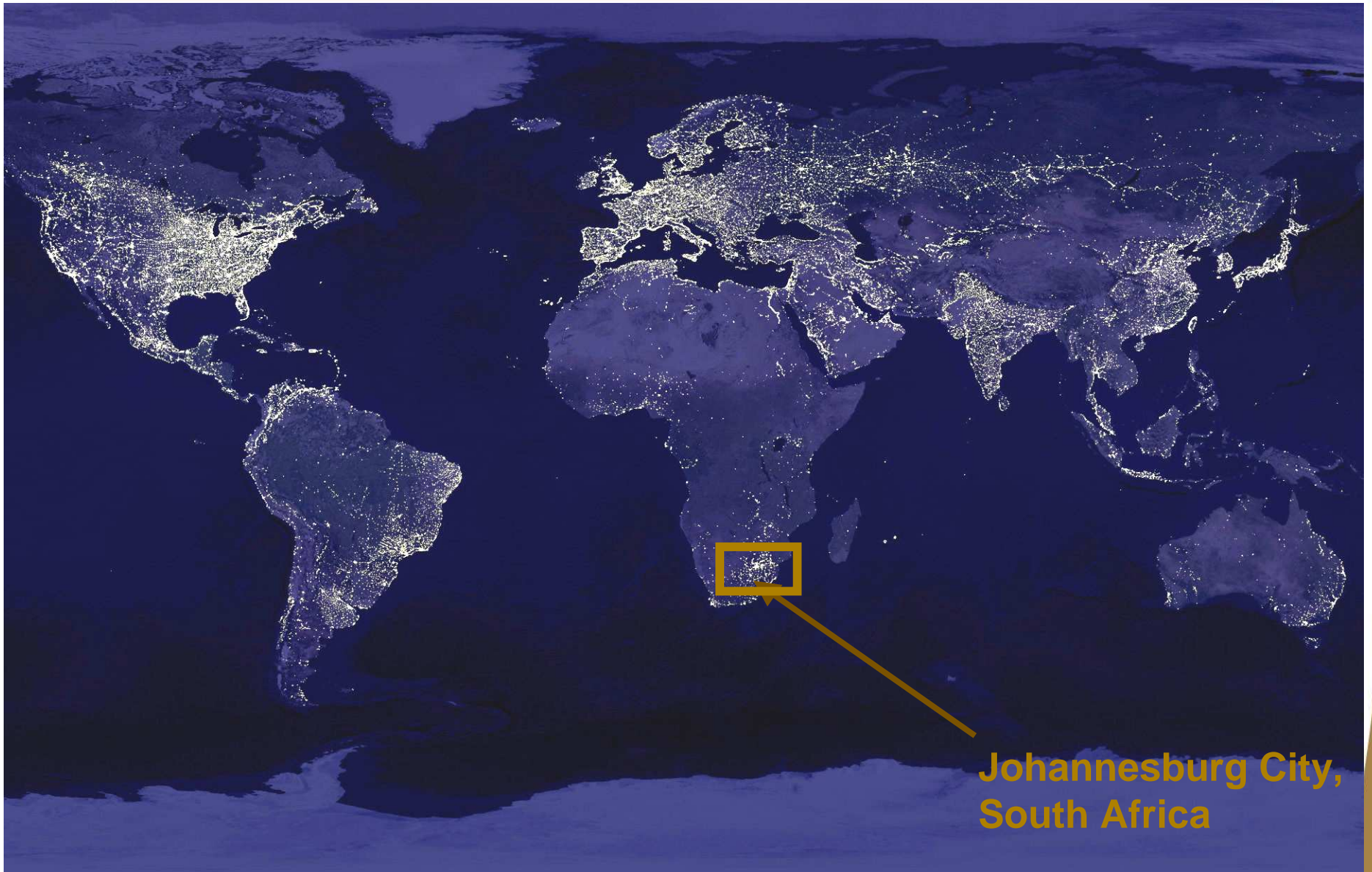


*Environmental Management  
&  
Johannesburg City Parks*

- 
- **Jo'burg Overview & Context**
  - **Legal Framework & Jo'burg Policy Tools**
  - **Threats to Biodiversity/ Challenges**
  - **Institutional Arrangement**
  - **Reponses mechanisms – Programmes**
  - **Case Studies (Cosmo City Human Settlement Programme/ Klip River Greening)**
  - **Conclusion**
-

# NIGHT VIEW OF THE CITY

Joburg



Johannesburg City,  
South Africa



## JO'BURG'S CONTEXT – 2001 Stats

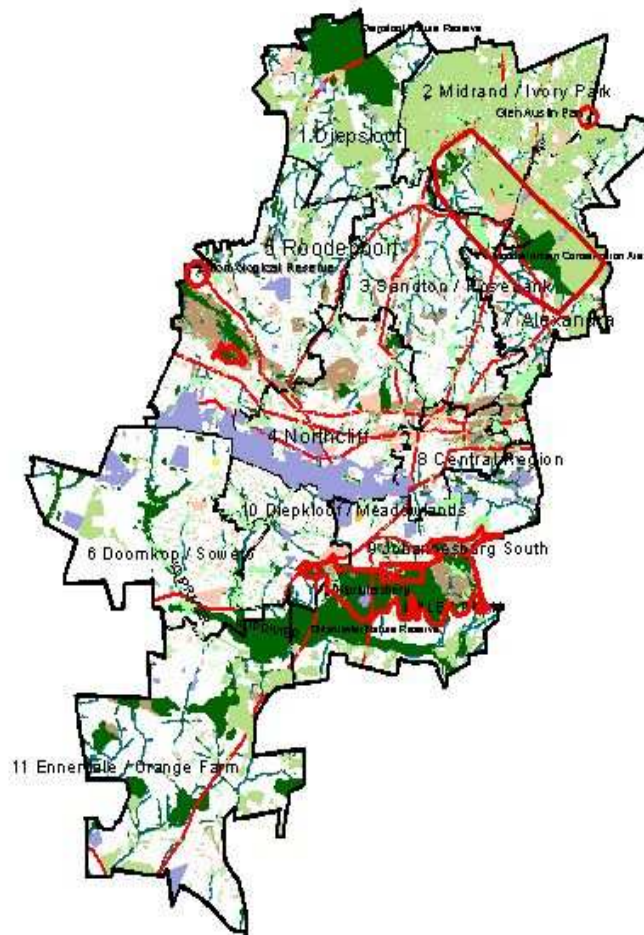


- Covers 1 600 square kilometers of surface area
- Average density of 1 900 people per square kilometers
- Population = 3.6 million people and growing at 3,17% p.a. ( Projected 4,2m by 2010)
- Over 1 million households; household growth estimated at 6,7% per annum
- 22% (21 2000) of households living in informal settlements



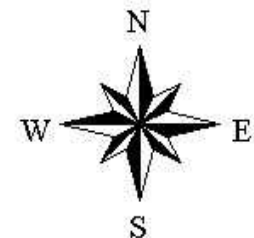


# City of Joburg Open Spaces



*Greener. Conserved. Yours.*

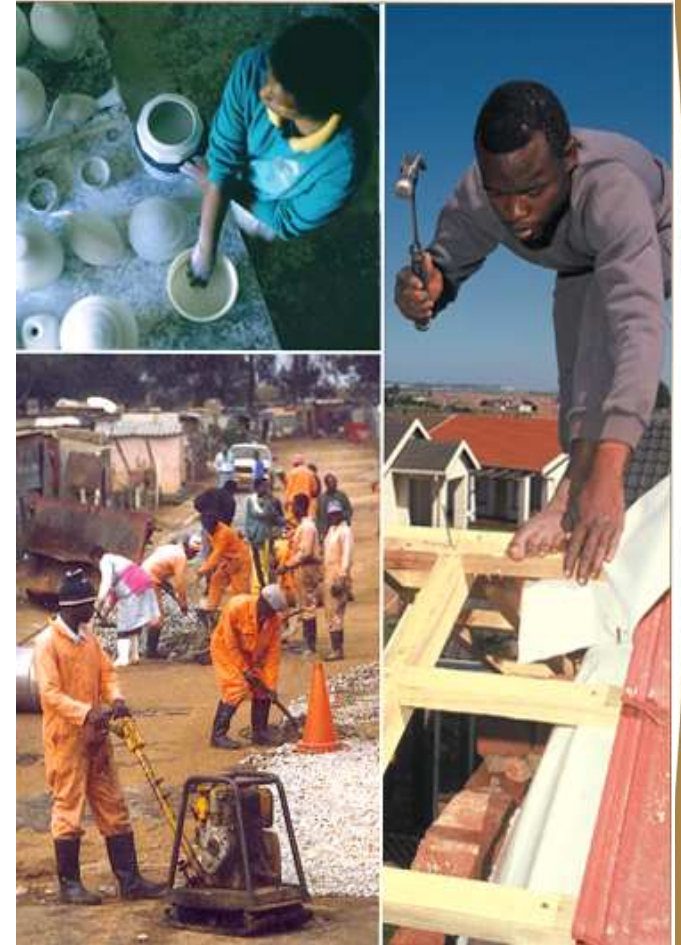
-  Regions of City of Joburg
-  Main roads of City of Joburg
-  Ecological Network
-  Rivers of City of Joburg
-  Water bodies City of Joburg
-  Existing ecological open spaces (e.g. reserves)
-  Ridges of City of Joburg (all)



## JO'BURG'S CONTEXT – 2001 Stats



- Population growth being affected by high rate of migration
- Joburg as the largest economy in SA Producing 17% of its economic value and employing 11% of overall workforce in SA
- Joburg carried 9,5% of the countries' total unemployed
- City's 256 000 previously advantaged income earners made R4,4billion per month compare to R1,8 billion from 712 000 disadvantaged income earners





## JO'BURG'S CONTEXT – 2001 Stats



- Topography range between 1400m-1700m above sea level
- Located mainly in the Grassland Biome with some savanna patches
- Considered as one of the largest man-made forest in the world (est. 10m trees), but with skewed distribution of these environmental assets (mainly concentrated in former white neighborhoods).





## LEGISLATIVE OVERVIEW

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SA Constitution: Section 24 **Everyone has the right:**

- (a) to an environment that is not harmful to their health or well being and
  - (b) to have the **environment protected** - prevent pollution and ecological degradation, promote conservation and secure ecologically sustainable development ...”
-

## Principles of The National Environmental Management Act, 1998

- “Sensitive, vulnerable, highly dynamic or stressed **ecosystems require specific attention in management and planning** procedures, especially where they are subject to significant human resource usage and development pressure”. [2(4r)]
- Community well being and empowerment must be promoted through **environmental education**.
- Disturbance of eco-systems and **loss of biodiversity should be taken into account in development projects**.
- Disturbance of landscapes and sites where the nation’s cultural heritage is found should be prevented.



## Other Legislative Tools

- Environmental Impact Assessment Regulations – Managing impact on environment
- National Water Act - Catchment and Water Resource Management
- Conservation of Agricultural Resources Act - Alien Plant Control
- Biodiversity and & Protected Areas Act- Natural Resources Management
- Development Facilitation Act - Land use Planning and Management
- Municipal Systems/ Structures Act - Local Government has to integrate environmental considerations in service delivery

## **JOBURG'S BIODIVERSITY POLICIES**

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## **City's Integrated Environmental Management Policy (IEMP)**

- Framework in the City to achieve sustainable development
- It is supported by several sector plans, policies and strategies on waste, air, water, land and public open space management

## **Integrated Development Planning**

- Requirement in terms of Municipal Systems Act setting out 5-year strategic plan for City's growth and development
  - Provides for programmes of action in relation to various sectors – e.g. transport, housing, environment, etc.
  - Environment sector plan outlines a number of strategic goals of which biodiversity and conservation protection is one
  - Also set-out the City's spatial plan for guiding development and growth – environmental assets identified
-



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## **Biodiversity and Open Space Management Tools**

- Johannesburg Metropolitan Open Space Policy and Management Strategy
  - Greening & Landscaping Strategy
  - Management Programme on Alien Invader Plants Control
  - Working towards the Biodiversity Gap analysis Report and City's Biodiversity Action Plan
  - Finalizing the Open Space Spatial/ Development Framework
  - Open Space By-Laws – to be reviewed
-

## **BIODIVERSITY CHALLENGES**

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# BIODIVERSITY CHALLENGES

- Population growth, Rapid urbanization and Urban sprawl
- Increasing invasive alien plants
- Aged bulk services infrastructure and its implications (Sanitation)
- Resource constraints for maintenance, management & securing of open spaces
- Inequitable distribution of conservation areas





# BIODIVERSITY CHALLENGES

- Environmental Degradation leading to compromised environmental goods and services
- Rapid loss of open space resources to developments
- Biodiversity is competing against basic social services and infrastructure development



## **INSTITUTIONAL ARRANGEMENT**

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- The City's core Environment Department has a functional relationship and oversight role with the municipal entity – City Parks
- The Environment department maintains policy & implementation direction, while City Parks has relative autonomy in operational duties
- The MMC (Member of Mayoral Committee) and the Environment are responsible for service delivery coordination, policy determination and compliance monitoring

# INSTITUTIONAL ARRANGEMENT



## Environment Dept. – Policy Direction

- Biodiversity strategy & action plan
- Open Space Policy
- Spatial planning
- Development management
- Acquire/ alienate open space

## City Parks – Implementing Agency

- Biodiversity protection/ enhancement
- Open Space Management
- Input into development management
- Maintenance of dedicated natural areas
- Public liaison
- Alien plant control

## RESPONSE MECHANISMS

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# RESPONSE MECHANISMS



## Capacity Building & Empowerment Programme

- Environmental Theme Days (Water Week, Wetlands Day, Arbor Week, Environment Week)
- Strengthen People and Open Space Interaction
- Capacity building and awareness programmes towards local environmental actions
- Open space based environmental awareness through, theme days, exhibitions,





# RESPONSE MECHANISMS

## Protected Areas Management

- Management of Nature Reserves - Veld & Game Management
- Management of sensitive habitats & species
- Ecological management of rivers & streams
- Wetlands management and maintenance
- River clean ups and trail maintenance



# RESPONSE MECHANISMS



## Ecological Management

- Alien Plant Control Programme
- Veld & Game Management
- Ecological Impact Management Programmes
- Increase in Conservation Land (Zoning & Expansions)

## Conservation Development

- Define the City's biodiversity contribution towards a 2010 Soccer World Cup Tourism Package
- Use of natural resources to provide opportunities for social enterprises such as reeds harvesting
- Proclamation and expansion of conservation areas



## **COSMO CITY**

**Integrated Human Settlement  
Programme in the Well-established  
Suburban Areas of the North**

## ***COSMO CITY – Integrated Settlement Development***

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### **Environmental Impact Assessment which required:**

- Development of Ecological Management Plan for the management of conservation areas
  - Development of Environmental Management Plans for construction and Operational Activities (Pre, during and post development)
  - Development of EIA Report, which includes the following specialist studies:
    - ✓ Heritage studies
    - ✓ Geological and soil studies
    - ✓ Hydrological studies, stormwater attenuation
    - ✓ Biodiversity report (red data, fauna & flora, aviary, amphibians)
-



# CASE STUDY – Cosmo City



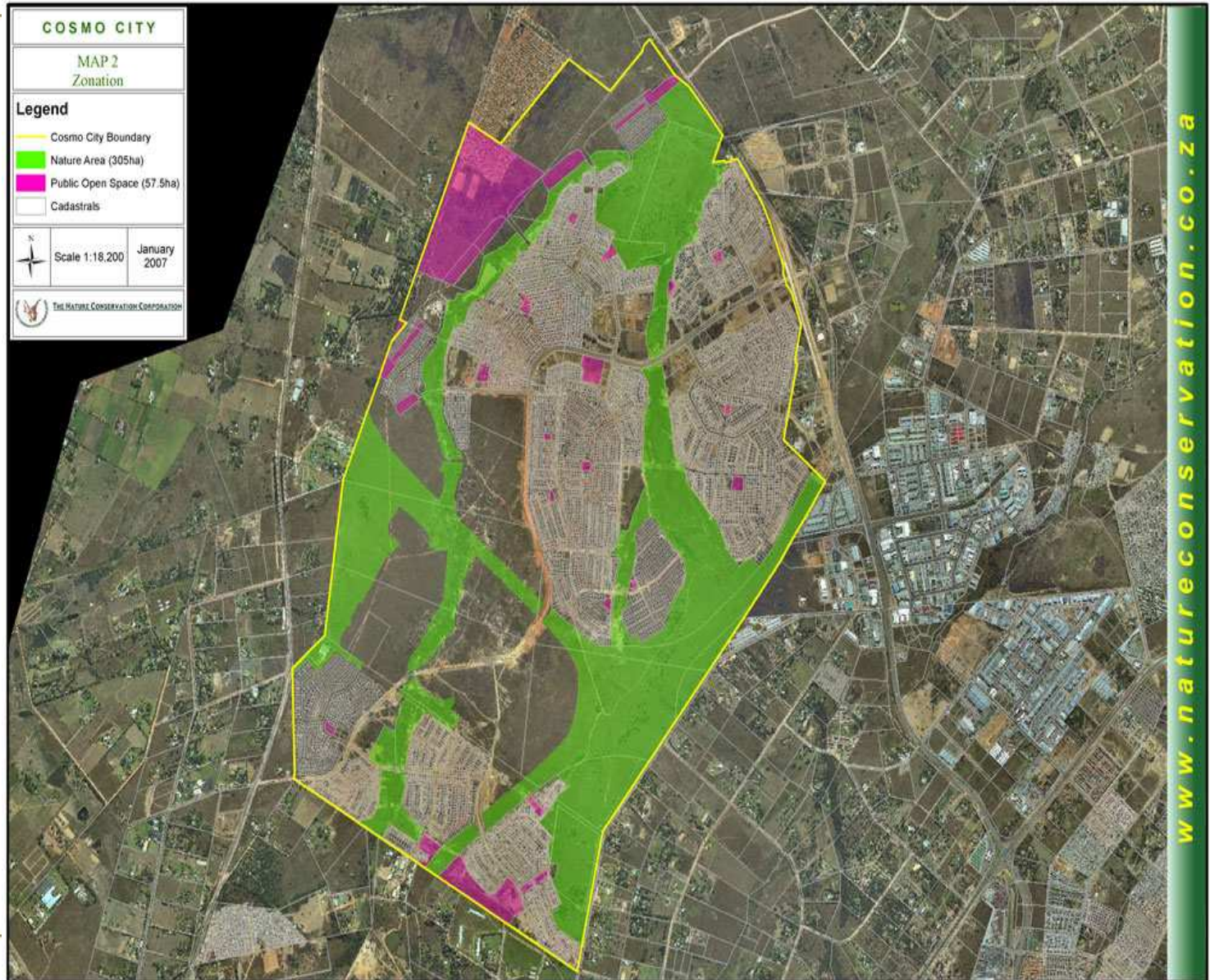


# COSMO CITY – Ecological Management

## Conservation areas at Cosmo City

### Legend:

- **Yellow:** Cosmo City boundary
- **Green:** Nature areas (305ha)
- **Purple:** Public open space (57.5ha)





Ecological Management Plan – legal requirement as part of EIA authorization

- ✓ Operational Management of Nature areas
  - ✓ Fauna and Flora Management
  - ✓ Environmental education and recreation management
  - ✓ Biodiversity Monitoring and Evaluation
  - ✓ Natural Resource utilization
-

## ***COSMO CITY – Integrated Settlement Development***

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- Open Space Networks and Green Corridors
  - Accessible Recreational Parks and Street Trees Programme
  - Local Environmental Compliance Officer and Environmental Education
-

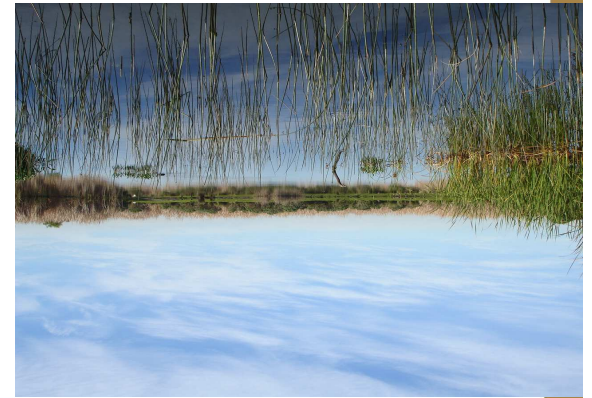
## **KLIP RIVER GREENING**

**Reviving an Ecological Corridor in  
a Highly Denssed Area - Soweto**

# KLIPRIVER GREENING



- **The Mayor's vision for a continuous system of Green Spaces and Parks along the river**
- **Functional System Characterized by:**
  - ✓ A safe, healthy river, free of pollution and odours
  - ✓ Safe and beautiful parks for eco-recreation alongside the river
  - ✓ Well managed conservation areas and facilities within the river corridor, free of alien plants and supporting enhanced biodiversity
  - ✓ Well managed wetland system
  - ✓ Enhanced social and economic programmes associated with the ecological open space





# Features - Eco-recreational Parks



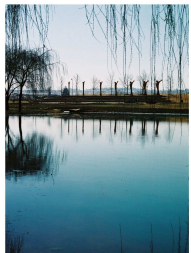
## DOROTHY NYEMBE PARK MOFOLO NORTH 2003/2005



Decorative bridge with concrete finials



Entrance gate concrete statues



Amphitheater with human sculptures as focal points in Landscape



Play area



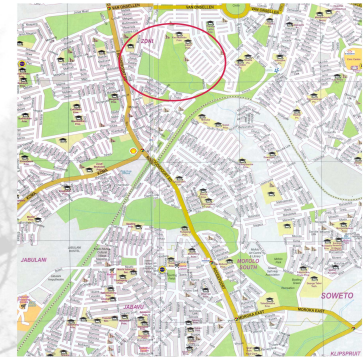
New Park dam with sculptural concrete bench



Ecological Training building



Garden design at Ecological Training facilities



LOCALITY

Region: 10

### Features

- Environmental Education Centre with Indigenous Garden and EE Modules
- Wetland system
- Recreation Park zones



Multipurpose play area



Cricket practice nets

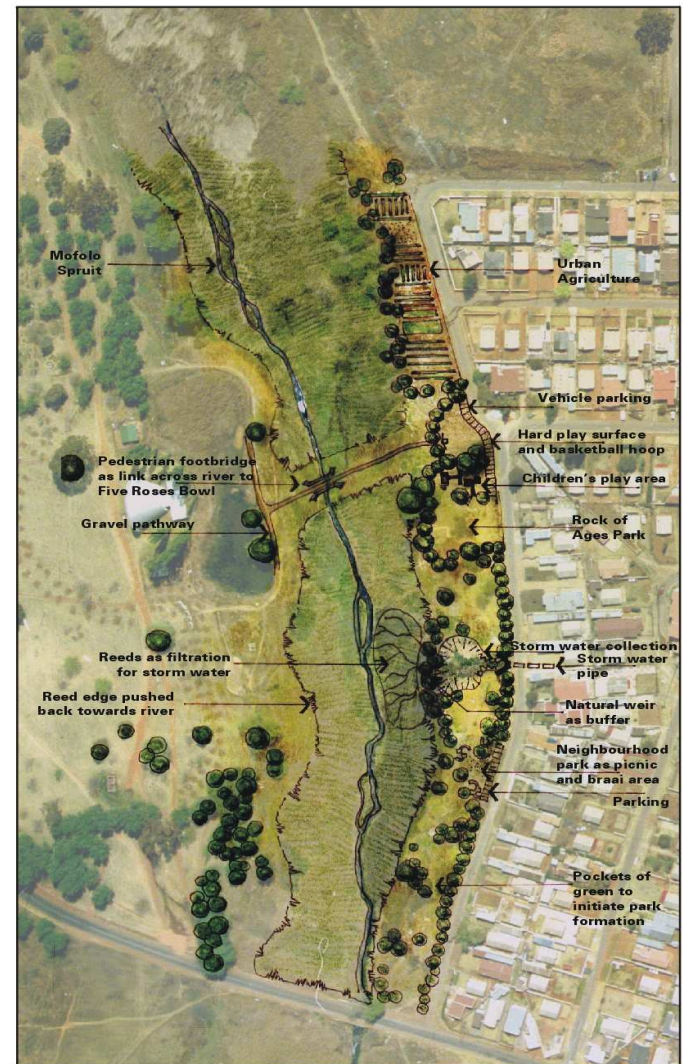


## Features - Eco-recreational Parks

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# Features – Urban Design/ Edge Treatment



**MOFOLO/MOROKA, SOWETO OPEN SPACE FRAMEWORK**



## Features – Enhancing ecosystem's goods & services in high density areas

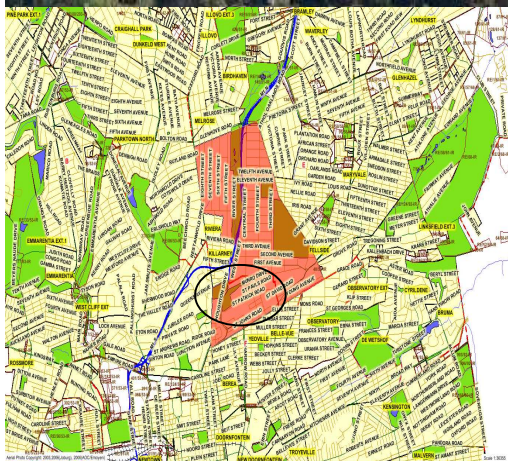


Integration of the Dam and Wetlands ...

## OTHER EXAMPLES



# Enhancing Biodiversity in the Inner City





# Eco- Recreation Design & Implementation

Joburg





# Nature Experiences in the Urban Setting – Klip Nature Reserve

Joburg





# Nature Experiences in the Urban Setting – Klip Nature Reserve

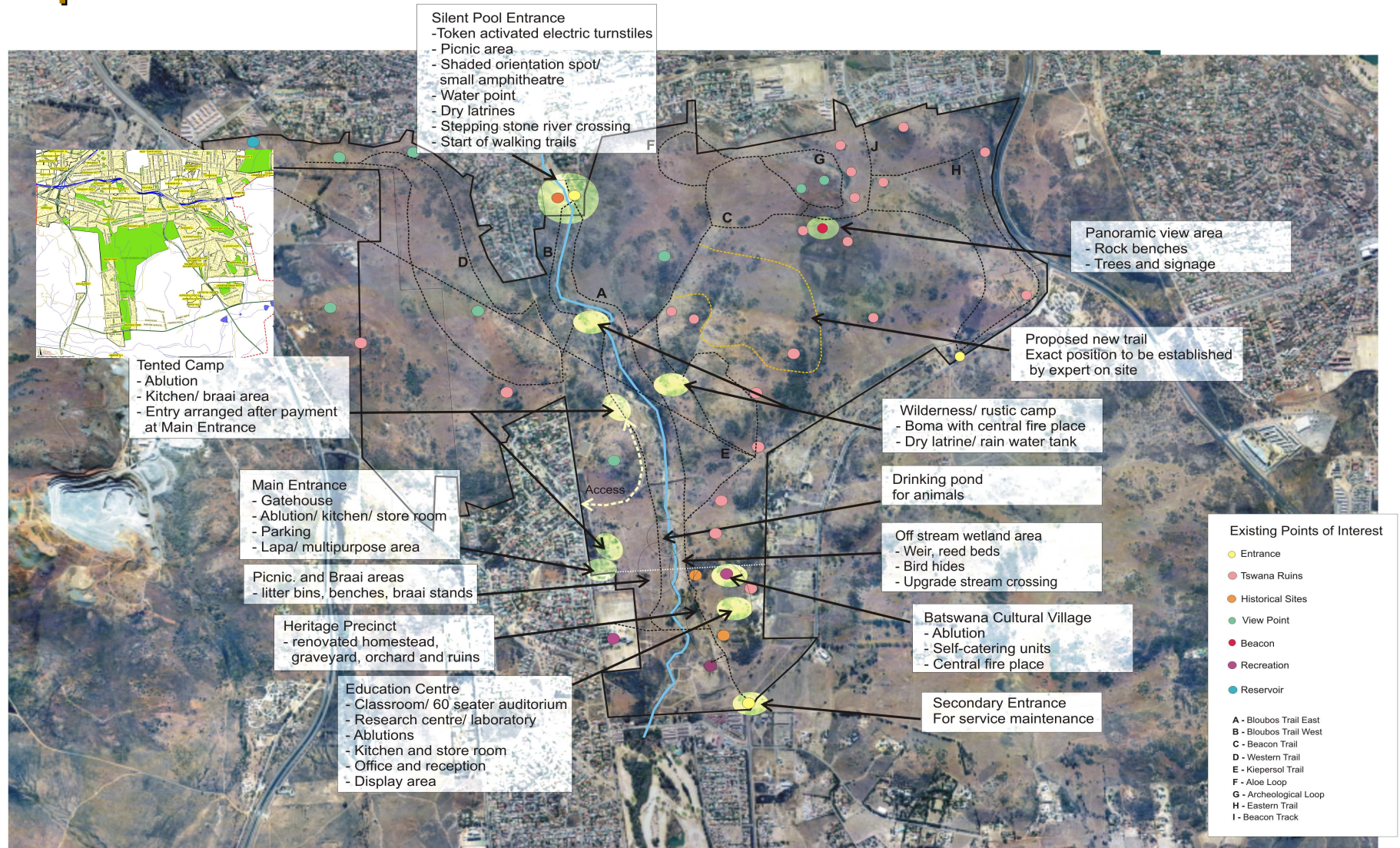
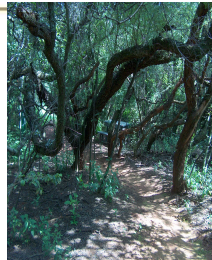


Figure 12 - Master Plan (Zoning and Activities)



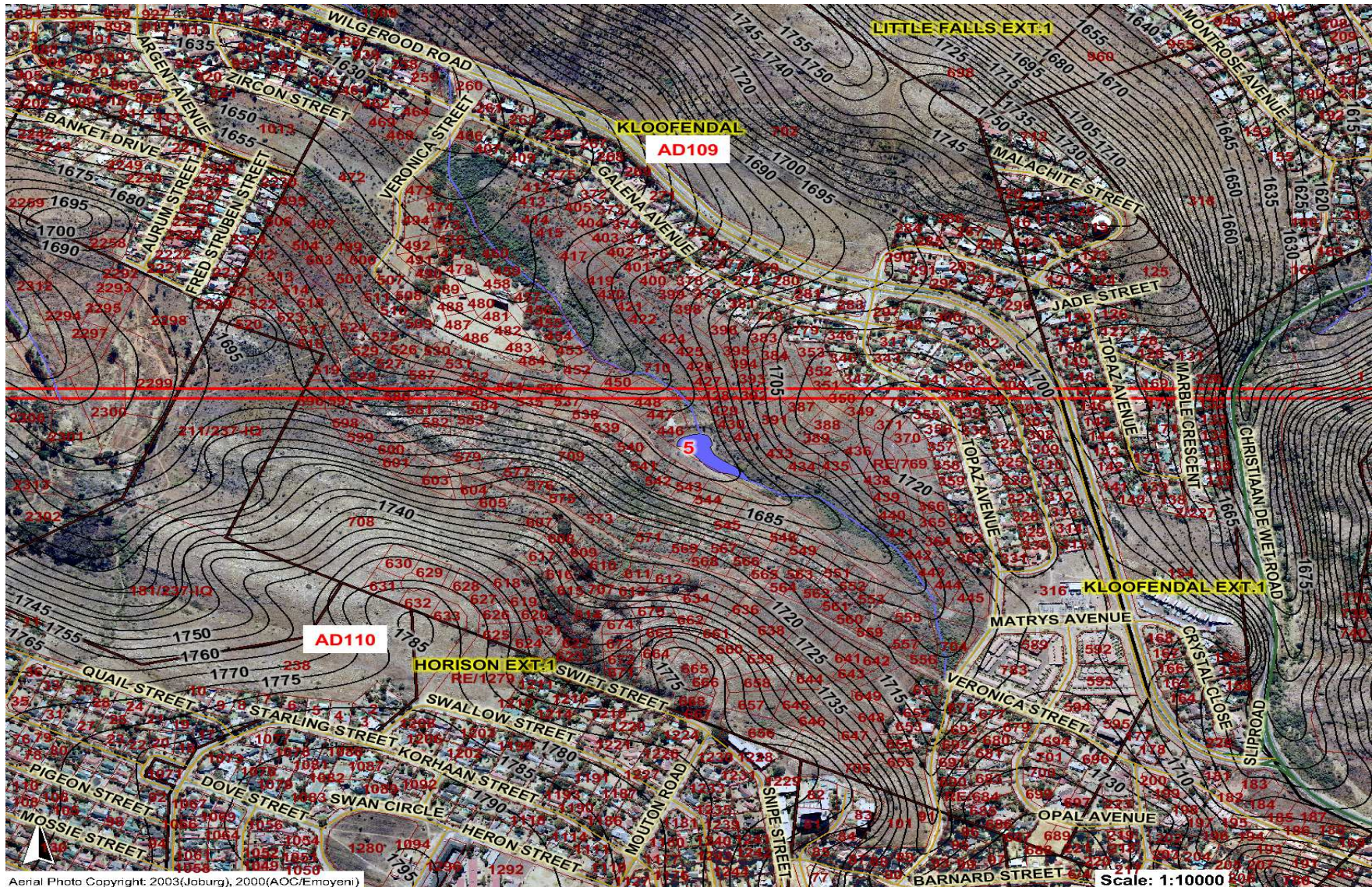
# Multi-purpose Facilities – Kloofendal Nature Reserve

Joburg





# Multi-purpose Facilities – Kloofendal Nature Reserve



Aerial Photo Copyright: 2003(Joburg), 2000(AOC/Emoyeni)



**Joburg**



# CONCLUSION

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# CONCLUSION



- Partnerships with the local communities
- Partnerships with national and provincial governments on defined programmes like alien invader control and wetlands management
- Partnership with private sector on Urban Greening
- Partnership with academic institutions and donor agencies on research and greening programmes
- Partnerships with specialist groups in the management of sensitive species and habitats.
- Partnerships with other city's departments on projects with biodiversity implications



## CONCLUSION



The value of open space in this Johannesburg context cannot be underestimated and its role needs to be enhanced in order to fulfil its purpose, which includes among others the following:

- Provision of recreation opportunities
- Conservation of natural resources
- Enhancement of ecologically productivity and integrity
- Provision of opportunities for environmental education
- Contribution to economic vitality

# THANK YOU



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***Member of Mayoral Committee:***

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