

# **IERM CONFERENCE: 2022**

## ***Re-imagining Parks Recreation features: Developing Diversity in recreation spaces***

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of  
**Newtown Landscape Architects**

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*“Our **eyes** do not **divide** us from the **world**, but **unite** us with it. Let this be known to be **true**. Let us then abandon the **simplicity** of **separation** and give **unity** its **due** (in **diversity**). Let us abandon the **self-mutilation** which has been our way and give **expression** to the **potential harmony** of **man-nature**. The world is **abundant**, we require only a deference born of **understanding** to fulfil **man's promise**. Man is that **uniquely conscious creature** who can **perceive** and **express**. He must become the **steward** of the **biosphere**. To do this he must **Design with Nature**.”*

- Ian McHarg, Design with Nature, p.5





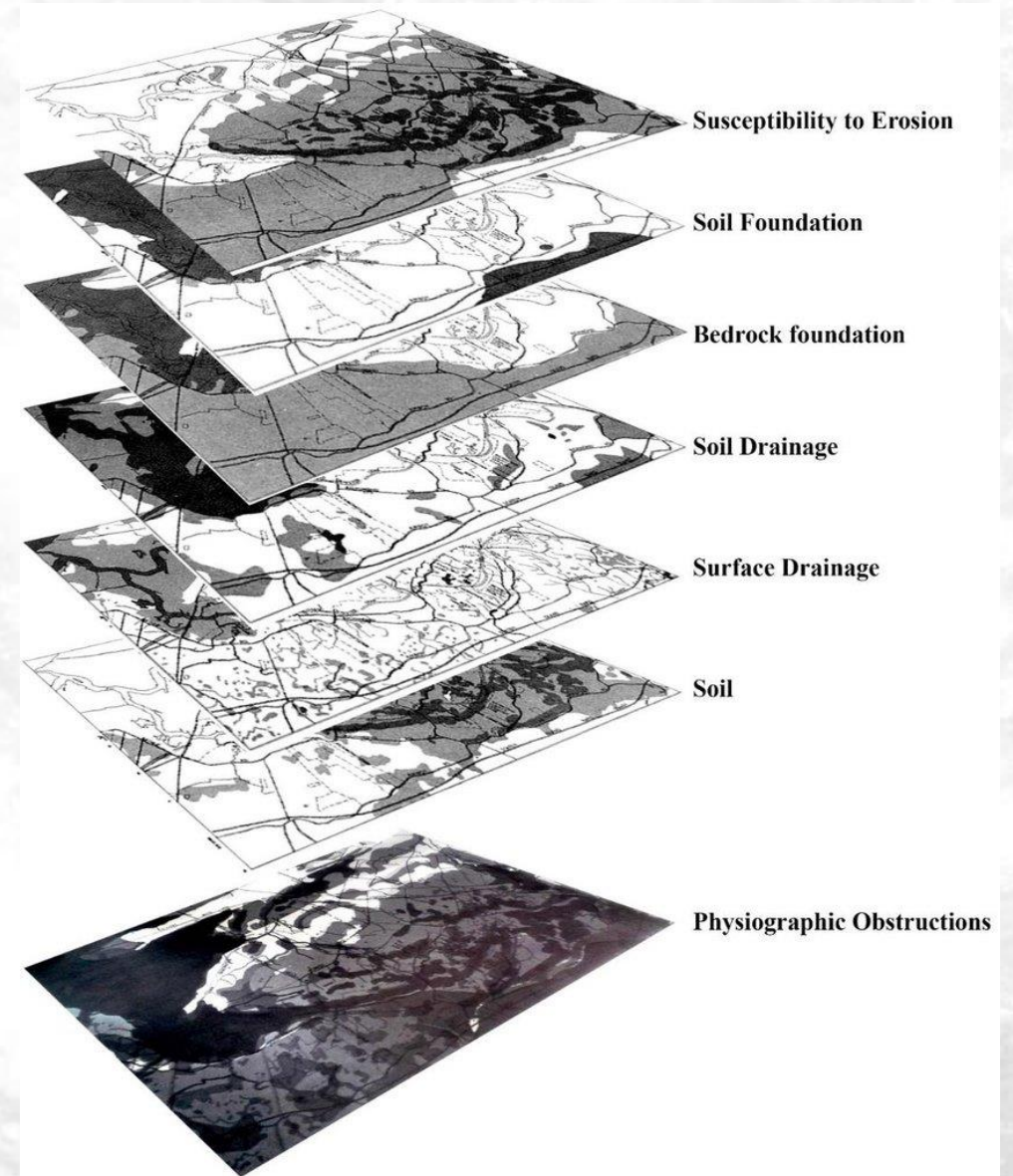




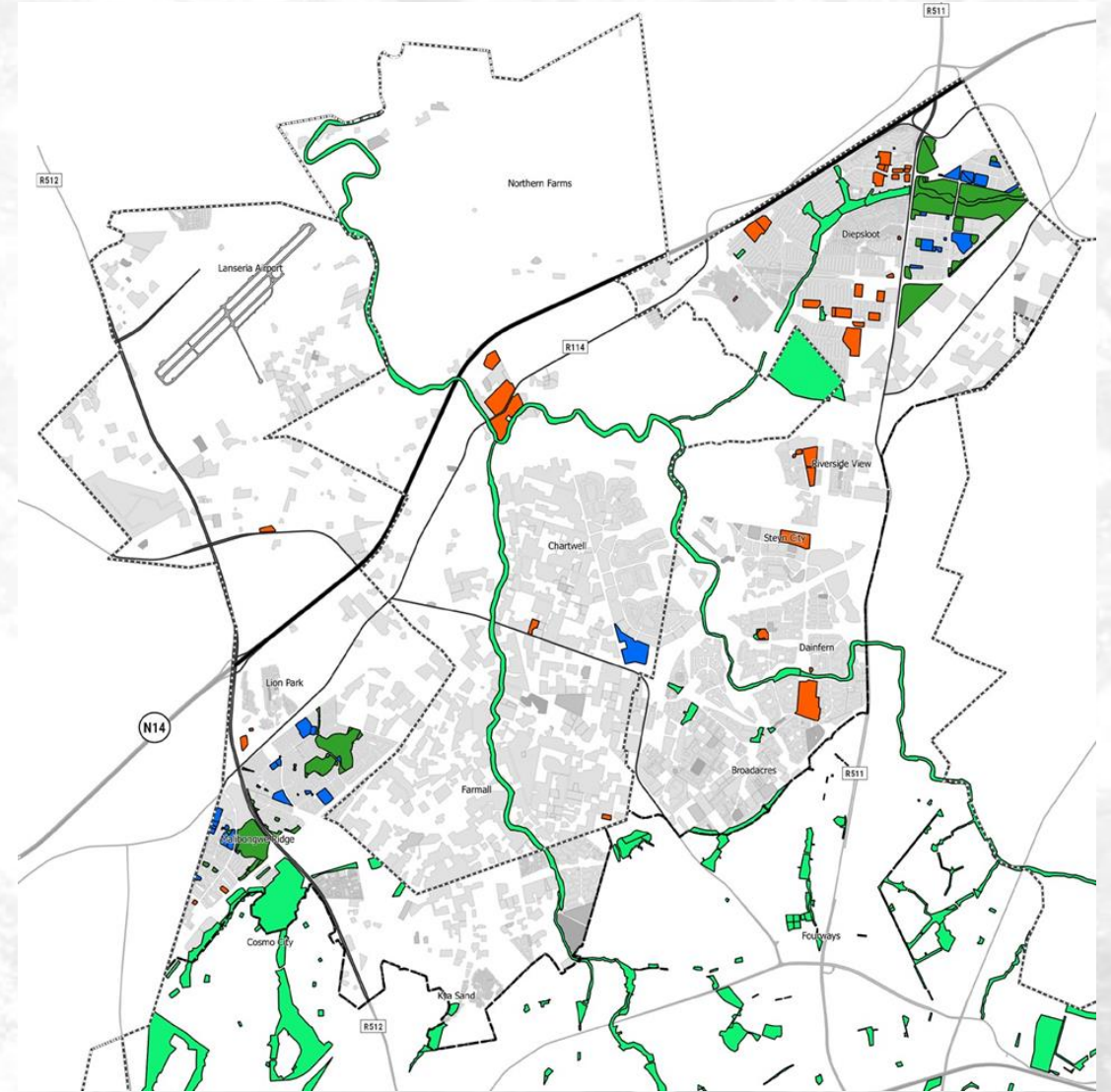


## Design with Nature (1969)

- “Here are the foundations for a civilization that will replace the **polluted, bulldozed, machine dominated, dehumanized, explosion-threatened** world that is even now disintegrating and disappearing before our eyes.
- In presenting us with a vision of **organic exuberance** and **human delight**, which **ecology and ecological** design promise to open up for us, McHarg gives hope for a better world.



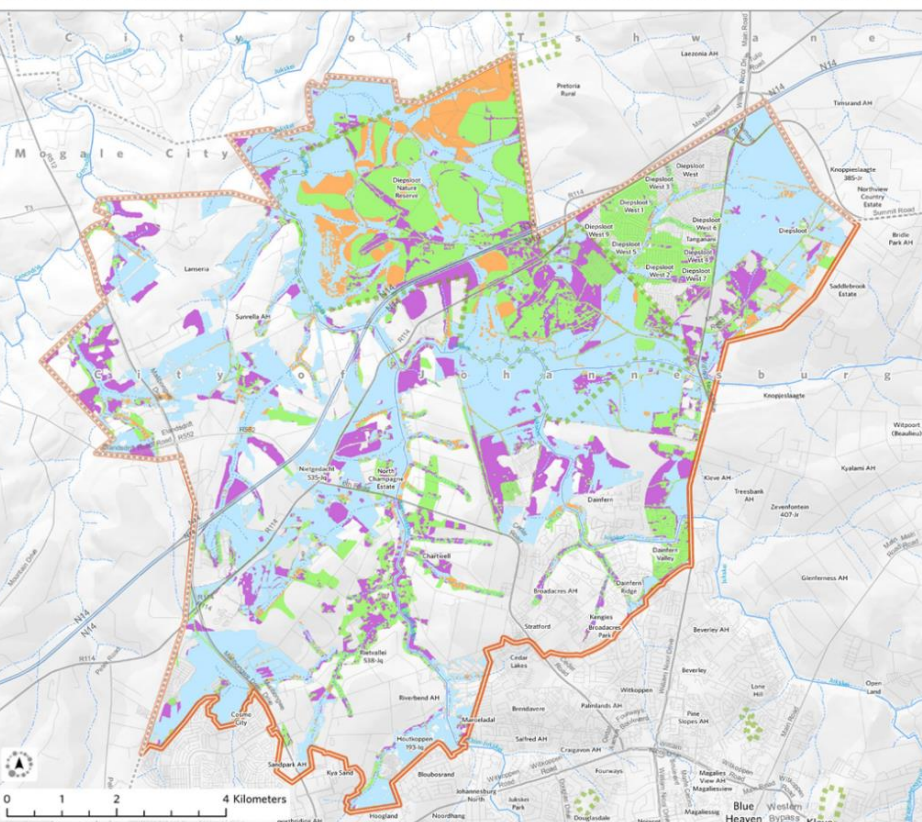




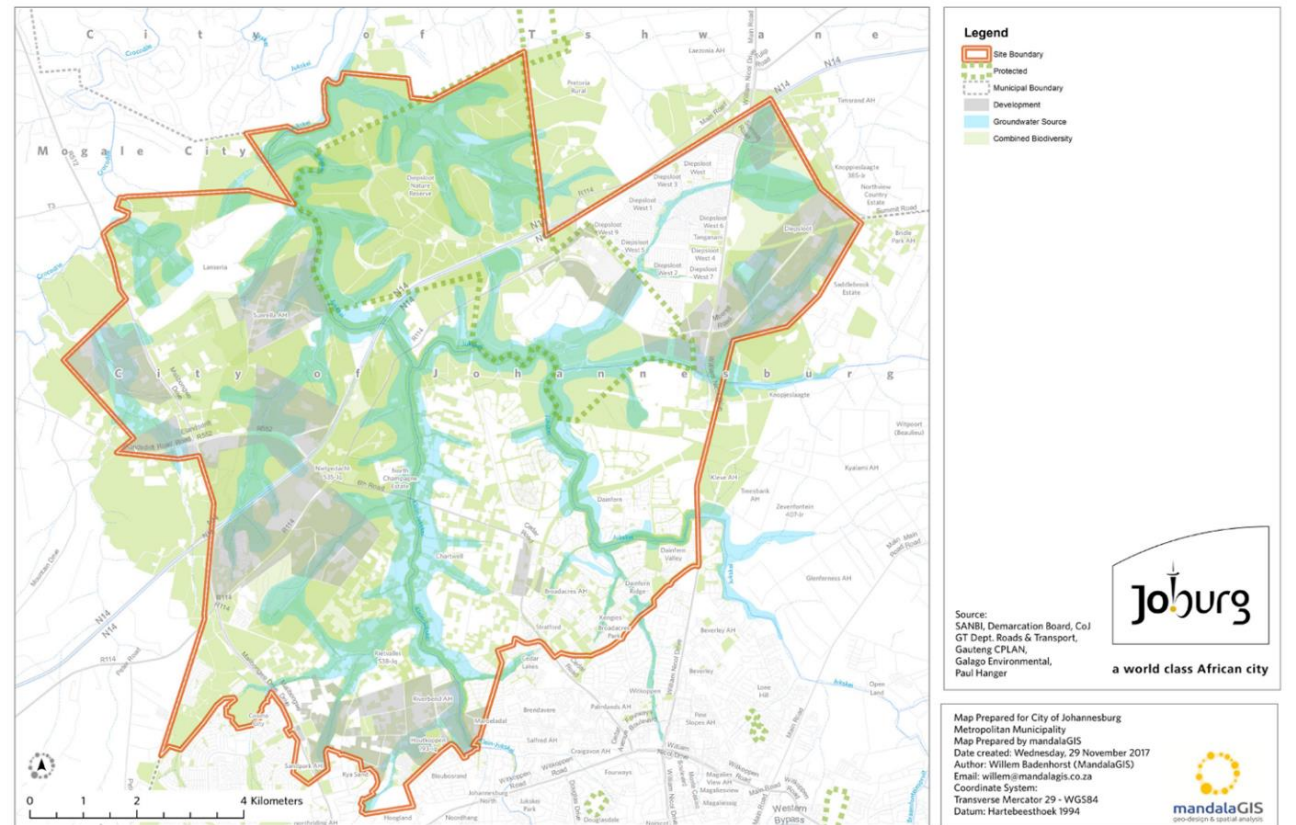
# CoJ: Lanseria Integrated Open Space Plan



## Lanseria Integrated Open Space Plan: Critical Biodiversity and Ecological Sensitive Areas



## Lanseria Integrated Open Space Plan: Snapshot 2: Biodiversity, groundwater and development



Open Space Plan data



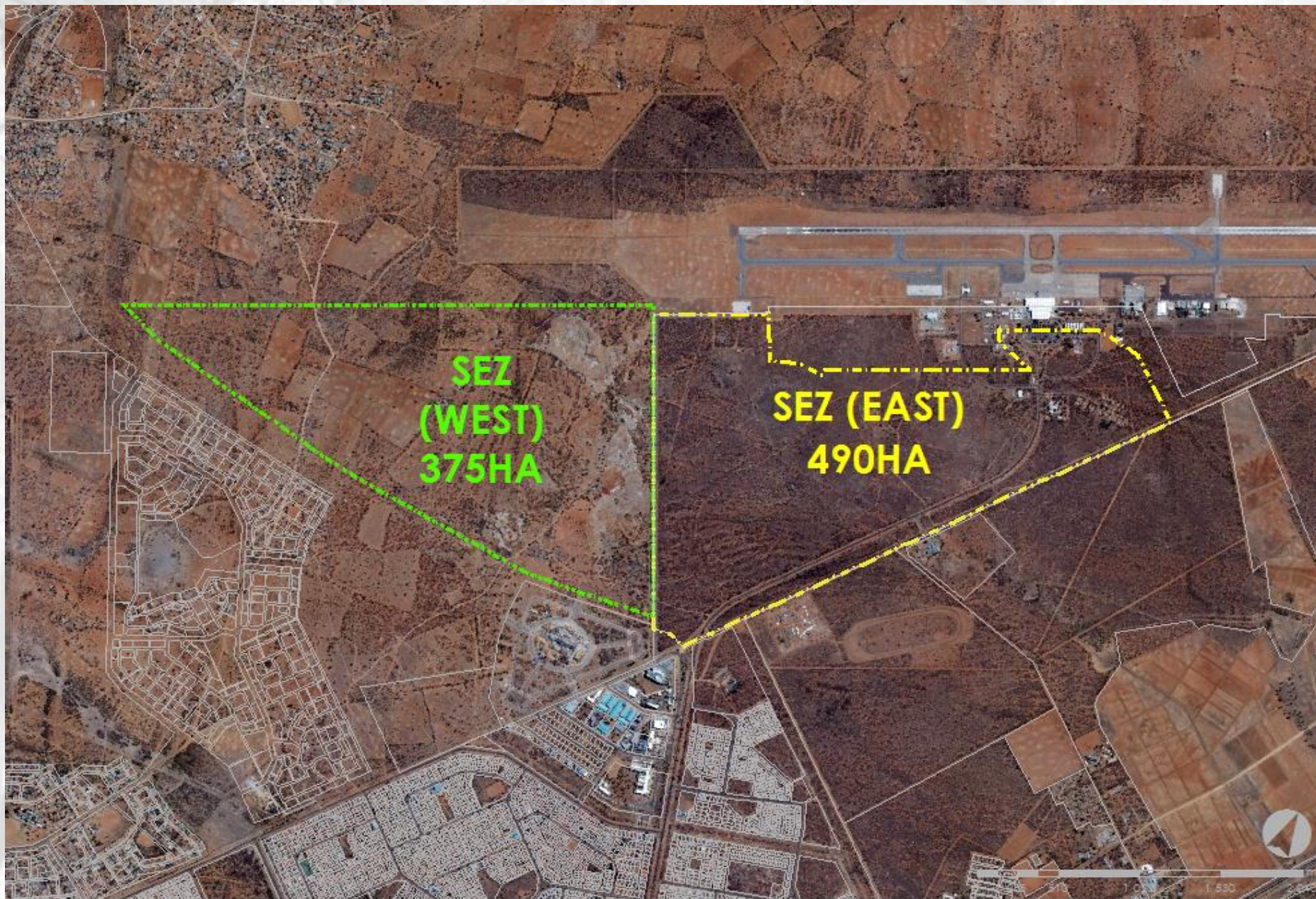


## Lanseria Open Space Plan for Diversity



- Benedict's book ***Green Infrastructure : “Linking Landscapes and communities - A strategic approach to natural resource planning and conservation”*** (2006),
- **Green infrastructure** is a new term, but it's not a new idea. Green infrastructure has its origin in two important concepts:
  - (1) **linking** parks and other green spaces for the benefit of **people**, and
  - (2) **preserving** and **linking** natural areas to benefit **biodiversity** and **counter habitat fragmentation**.
- **Green infrastructure** is a potential solution, promoting new practices has become an essential component of **sustainable urban stormwater management** (Benedict & McMahon, 2006; U.S. EPA, 2003; U.S. EPA, , 2007).





**SSKIA SEZ**



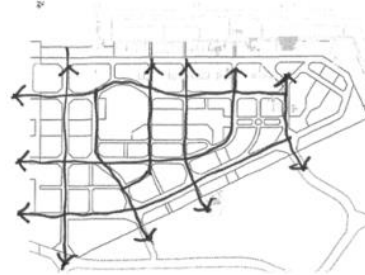
#### PRESERVE ECOLOGICAL FUNCTIONALITY

Recognise the need for and establish a functional **ecological corridor and system** that will integrate, protect, conserve and enhance ecological functionality and promote environmental sustainability in both the SEZ and the City.



#### ESTABLISH CONNECTIVITY, ACCESSIBILITY AND WALKABILITY

Establish a **hierarchical network of vehicular and pedestrian movement routes** that connects the SEZ into the City movement systems and provides for efficient access and circulation to developable land within the SEZ. The grid that is established also enables a high level of permeability for the pedestrian (walkability).



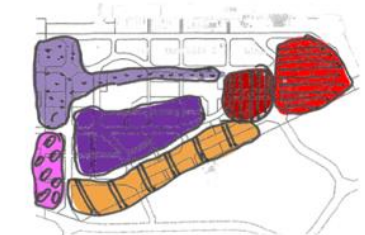
#### CREATE FLEXIBILITY AND ROBUSTNESS

Establish a robust, flexible **grid of urban blocks** (which are integrated by the "capital web" of public spaces, streets and buildings) that can accommodate a range of site sizes and land uses.



#### PROVIDE FOR IDENTITY AND MIXED USE

Create an ensemble of **identifiable, functionally discrete and human scaled precincts** and neighbourhoods which can accommodate the Priority Business Sectors identified for establishment in the SSKIA SEZ and which will also serve to mitigate both the size, scale and expansiveness of the SEZ site and development.



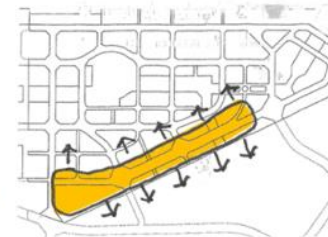
#### PROVIDE ACCESS TO GREEN SPACE

Establish a **range of recreation, conservation and public spaces** that can provide relief to intense mixed use activity, promote and retain the "sense of place" of the Botswana landscape, all of which will visually, spatially and symbolically integrate the different precincts of the SEZ.



#### PROVIDE FOR "LIVE WORK PLAY" SPACES

Create an **urban mixed use corridor** ("Edge City") to interface with the growing northern quadrant of the City along the south eastern edge of the site and to provide for local uses and local investment, for residential development and as a gateway corridor to and from the SSKIA along Airport Road.



#### ACKNOWLEDGE THE OPERATIONAL REQUIREMENTS OF THE SSKIA

Manage the interface between SSKIA airside master-planning with the SSKIA SEZ Masterplan via a **logistics corridor and Airport Business precinct** so as to ensure compatibility between uses and traffic, access to, and land provision for, all existing and planned passenger, general aviation, cargo handling and aviation services activities.



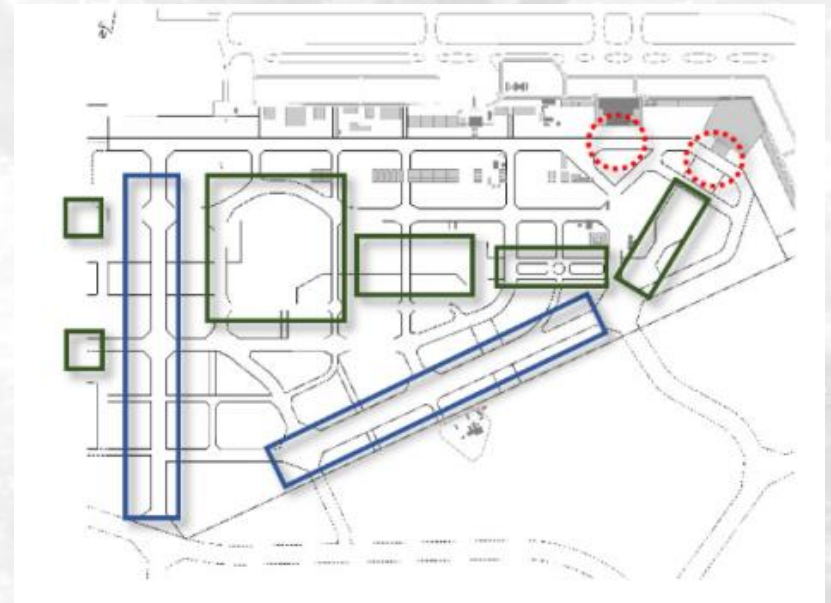
#### ESTABLISH THE ECONOMIC HEART

Establish a large **multi-purpose manufacturing "heart" or economic "engine"** to the SEZ to cater for a variety of industrial and logistics activities surrounded by other supporting and complimentary activities.





- Identify and establish a **central multi-purpose “green-corridor”**. Acts as a reminder of the natural landscape and will serve as link across the site, providing major recreational facilities and management of water resources.
- Promoting public spaces **that reflects local climate, cultural patterns and forms, materials and colours.**
- Promoting the SEZ development as an **“urban precinct” within the city.**
- The Airport Business Centre as **the primary gateway zone**, celebrating the sense of arrival in Botswana.
- Network of **diverse public spaces and places; high quality boulevards and avenues** to establish the importance of linking the site.







## SEZ – Landscape Development Master Plan



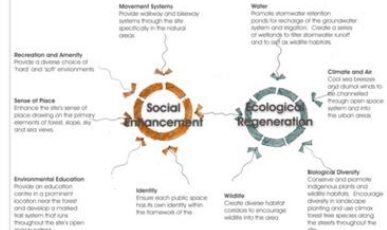
- “The basic principle of **The Granite Garden (1984)** is the need to **understand design** for both the **natural ecosystem** and the **social system** driven by **cultural, political** and **economic processes**; the city's physical environment being the common ground between the two”.
- By **embracing the presence of nature's processes** within the **city**, we can create an **ecological urbanism** that combines **human** and **natural systems** for the betterment of both”. (Spirn).
- “Humans’ survival as a species depends upon **adapting** ourselves and our...**settlements** in **new, life-sustaining ways**, shaping **contexts** that acknowledge **connection** to **air, earth, water, life**, and to **each other**, and that help us feel and understand these connections, **landscapes** that are **functional**, **sustainable**, **meaningful**, and **artful**” (Spirn 1998, 26).



## The Landscape Concept

The landscape concept is derived from a philosophy that seeks to enhance the social aspects of the site's open space system and to regenerate the ecological components of what will become the 'natural' areas of the site. The concept also makes cultural reference to the meaning of the Zulu word 'umhlango', which refers to the notion of water and plants. In the design sense this concept is extrapolated to mean 'water', 'wetland' and 'forest'. And it is this concept that gives impetus to the main elements of the landscape design for the site.

### Design Strategy



### The Green Web

As a vital layer in the structuring of the site, the open space system or Green Web becomes the 'glue that binds' with the other structuring systems (movement and urban form) to create a network of interconnected and integrated public environments. A key priority of the Green Web is to reintegrate nature back into what will become an urbanized area and establish greenway connections between the site's open spaces and larger regional open spaces (Umhlanga promenade and beach areas). Within the Green Web, streams, ponds and wetlands would be created by 'day-lighting' storm water and animals could move along existing and created wildlife corridors.

The media for the regenerative processing of the site are two of nature's most powerful and pervasive systems: the urban river and the urban forest.



### The green web

### The Urban River

The urban river is expressed as a river network flowing along the main valley and fed by the surrounding urban areas. A series of stilling ponds at storm-water outlets, which then feed through wetlands into two large retention ponds. Supplementing this system is a series of swales extending from the urban areas into a series of retention ponds/wetlands adjacent the existing forest. These ponds act as filters that slowly release the water back into the ground.

The ponds also act as natural elements that will become the focus of recreation activities. The swales and ponds would be integrated with habitat movement corridors, and pedestrian/cyclist corridors. The result being a network of green corridors and waterways that feed down to the lowest point of the site below an envisaged new dam or end in small ponds/wetlands where the water slowly infiltrates into the ground water system.



### The urban river

### The Urban Forest

Trees play a major role in maintaining the quality of both air and water and they cool the urban environment. To accomplish these tasks, the urban landscape must become a functioning ecosystem and not merely a decorative feature. The landscape plan proposes an urban forest network that builds on the existing coastal forest along the eastern edge of the site. The forest would protrude into the adjacent urban areas in a series of natural 'fingers' that provide natural habitat for animals as well as routes for pedestrian activity and the flow of water. The urban forest would be abstracted along streets and in public plazas as another green network overlaid onto the urban plan. Here the geometry of planting would be forced resulting in formal arrangements of tall forest trees, which symbolically represent the forest. The proximity of species within the urban forest would mimic that of the natural coastal forest.



### The urban forest

These two structuring systems are derived from the existing forest and a newly established river/wetland system associated with the deep valley running across the site and the open space between the forest and the urban edge. Together they establish a major north-south and east-west 'green plug' that holds the development and defines the character of the open spaces. These spaces would connect with 'nodes' of public space (urban parks) and streets, either directly or indirectly. Sea breezes would be channelled through these open spaces and into the adjacent urban areas.

Umhlanga Triangle  
 The Landscape Concept

## Approach

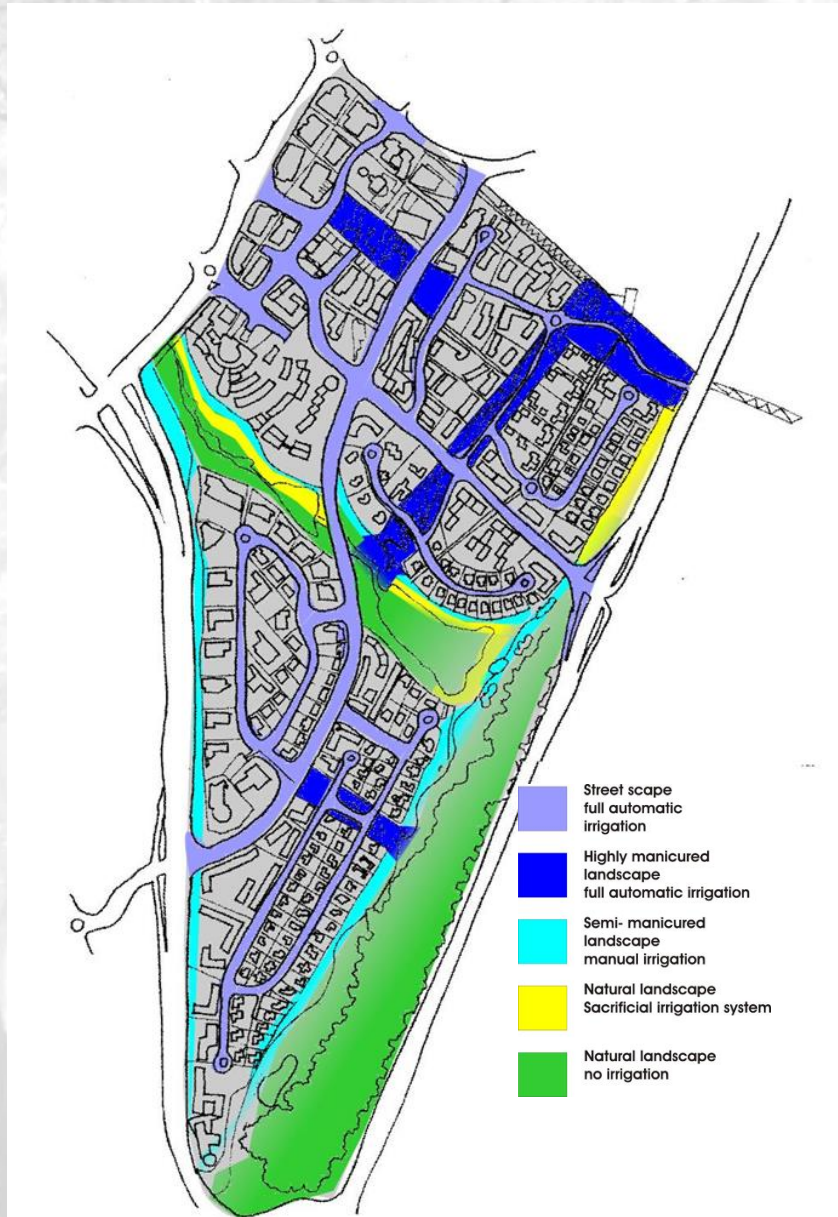
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# Ridgeside Precinct

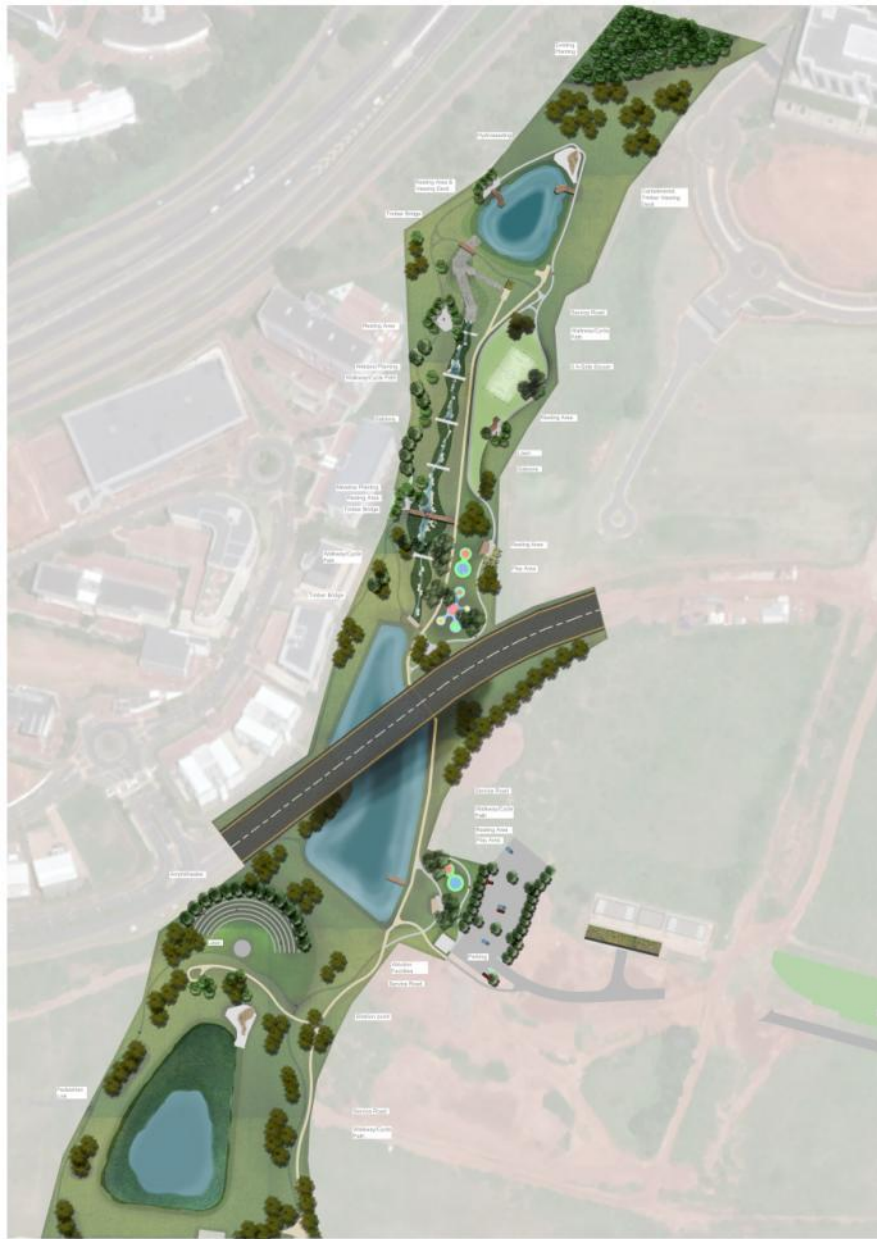










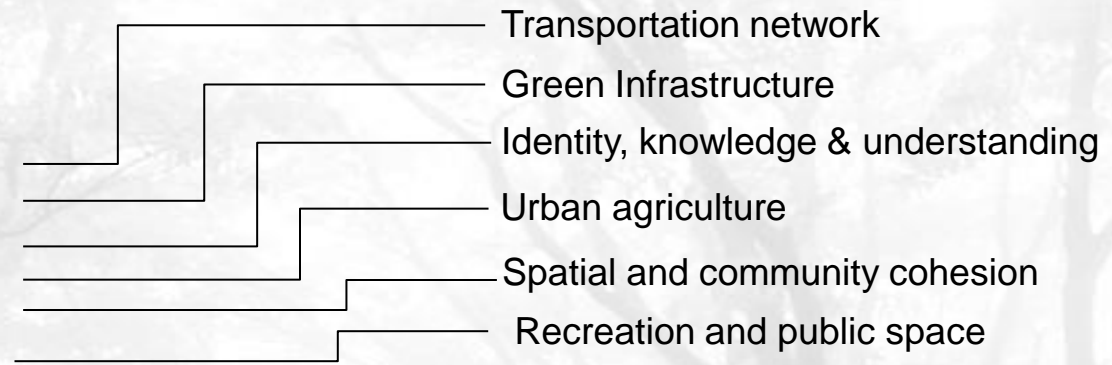


**Landscape Design**

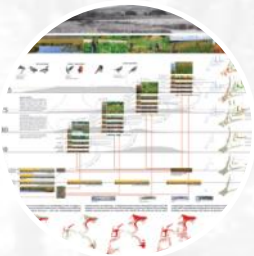
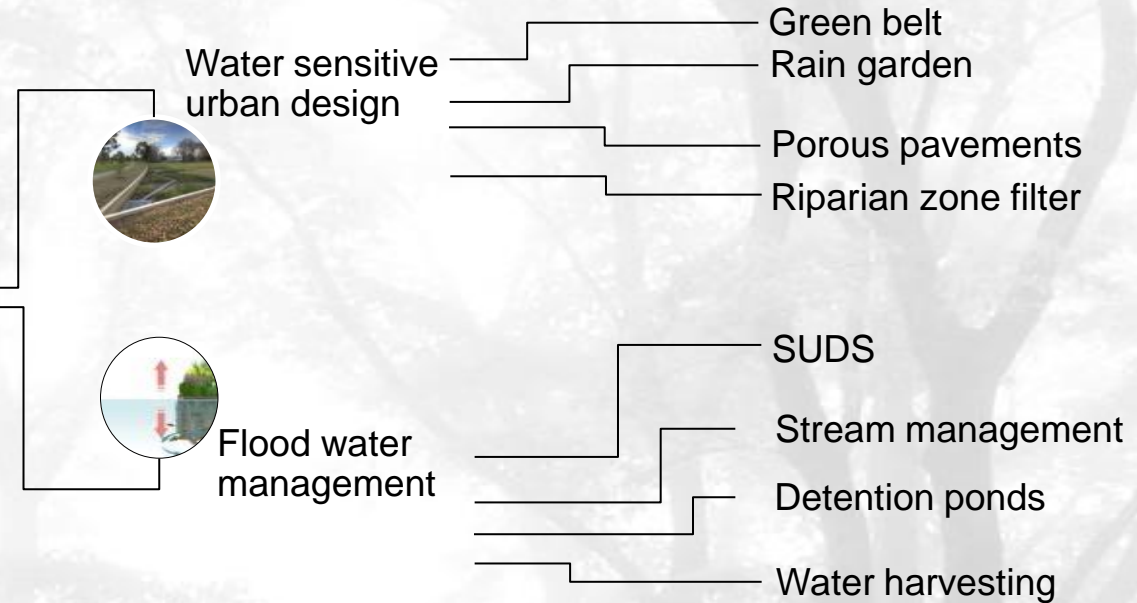




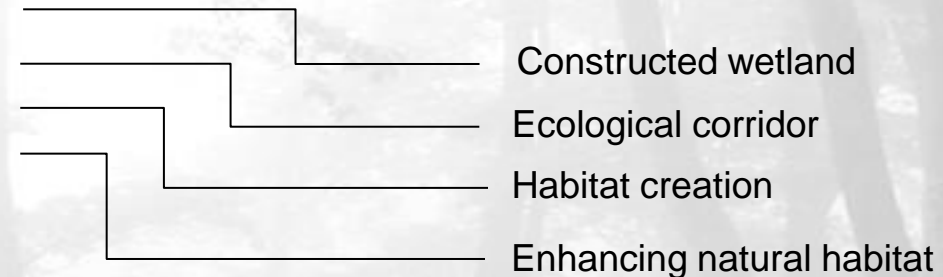
## Productive Landscape for Humans



## Water Management



## Biodiversity







## LEGEND

- Acacia kaffra
- Combretum erythrophylum
- Kiggelaria africana
- Rhus lancea
- Existing

PATERSON PARK MASTER PLAN





**Patterson Park - Pre-Construction**









**AFTER 1<sup>ST</sup> WINTER**



**AFTER 1<sup>ST</sup> SUMMER**





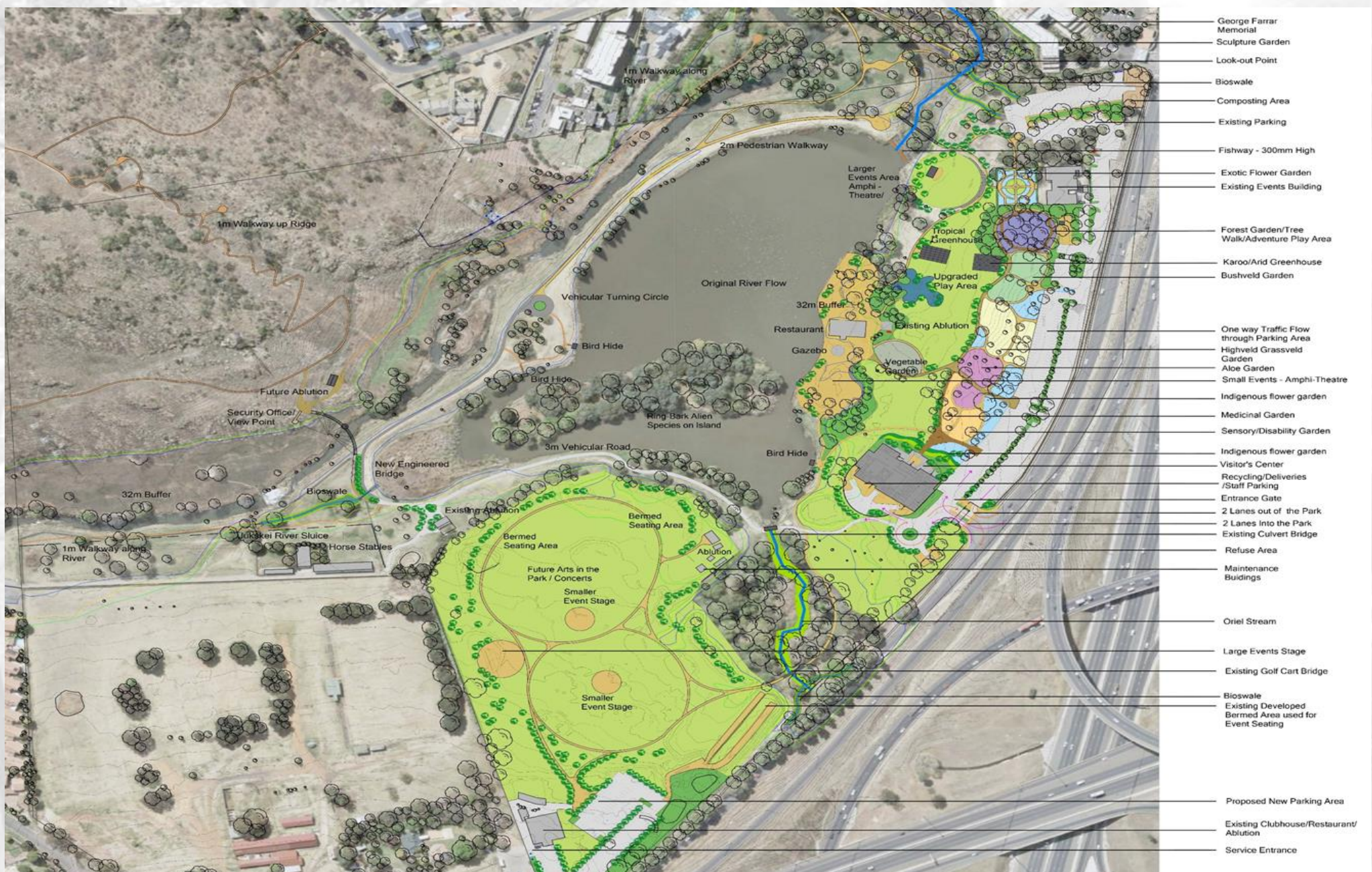












# CoE: Botanical Garden



## LOCATION



## EXISTING AMPHI-THATRE



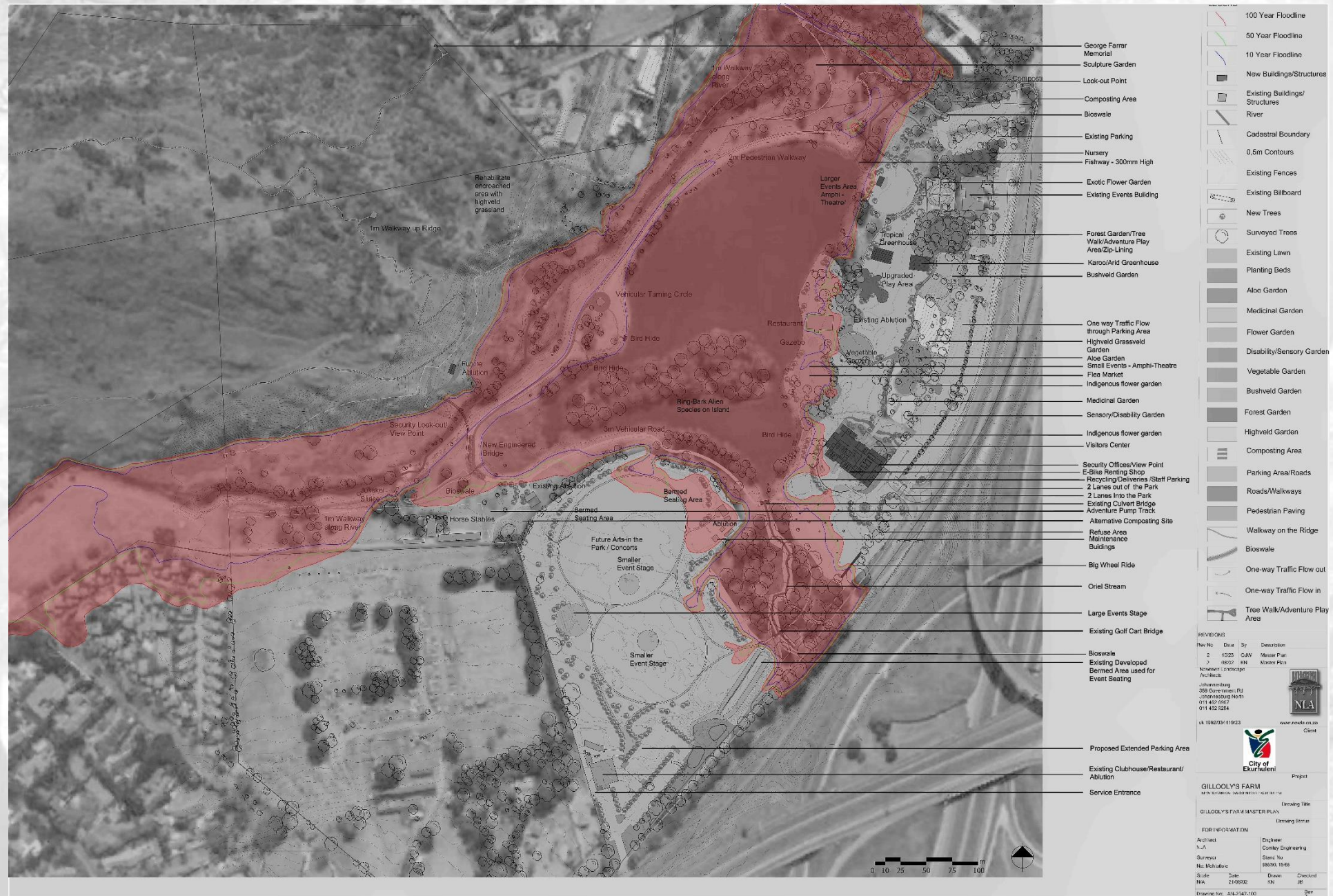
<https://www.facebook.com/pages/category/Community/Amphitheatre>

-Durban-Botanic-Gardens-131792406894041/



<https://alumni.bathspa.ac.uk/image/amphi.jpg>







## LOCATION



## EXISTING LAWN AREA



[http://1.bp.blogspot.com/-k-ZZMHCeR3M/UXGSavh44YI/AAAAAAAv-Q/PpU4GJfVKG6E/s1600/130403\\_Lotusland\\_Aloe-Garden\\_PM\\_292.jpg](http://1.bp.blogspot.com/-k-ZZMHCeR3M/UXGSavh44YI/AAAAAAAv-Q/PpU4GJfVKG6E/s1600/130403_Lotusland_Aloe-Garden_PM_292.jpg)

<https://www.alamy.com/stock-photo-johannesburg-south-africa-african-roodepoort-walter-sisulu-national-80285705.html>





LOCATION



EXISTING  
FOREST AREA



FOREST PLAY



**LOCATION**



**EXISTING RIVERINE  
AREA**



**REHABILITATED WETLAND VEGETATION**

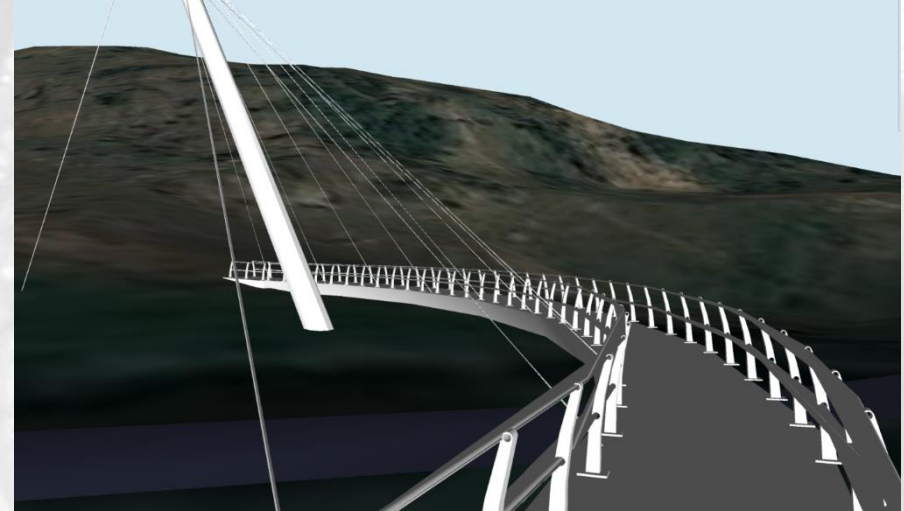


**REHABILITATED RIVER**



**TEMPORARY ART ATTRACTIONS**





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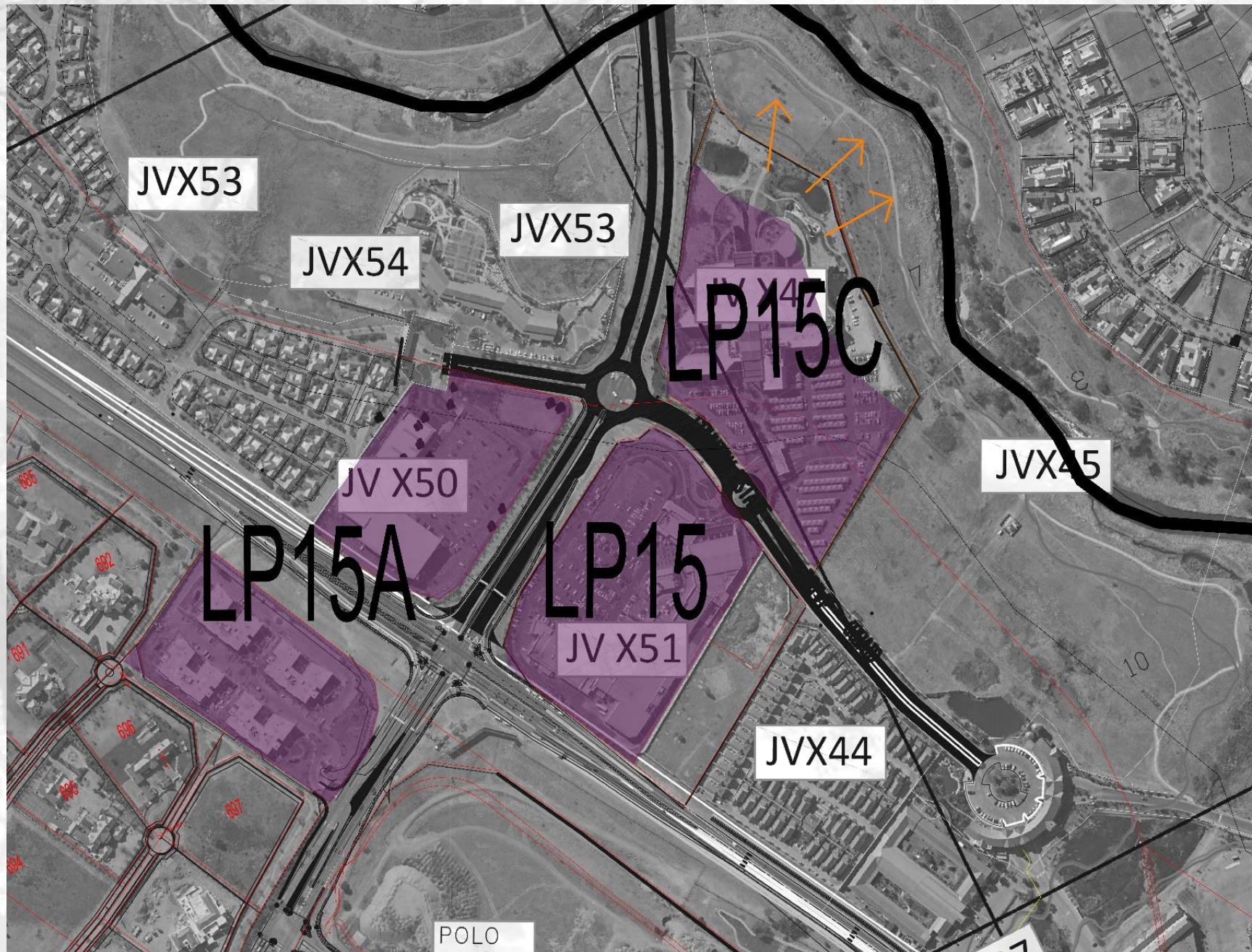






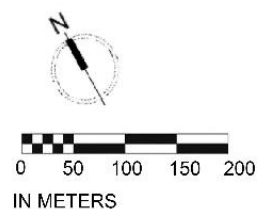
- 
- Direction to future use and opportunities presented by the individual and collective Land partials.
  - Both social cohesion and ecological function must be balanced with practical operational strategies.
  - Open Space Plans must address the following issues:
    - Environmental degradation
    - Biodiversity
    - Conservation of habitat
    - Protection of ecological sensitive
    - Storm water management/flooding
    - Illegal dumping;
    - Improve social well-being that enhances strong and healthy communities;
    - Recreation facilities; and
    - Education of ecological and historical importance of the area.
    - Reduce unnecessary maintenance practises
    - Defining clear management activities for each classified open space





## LEGEND

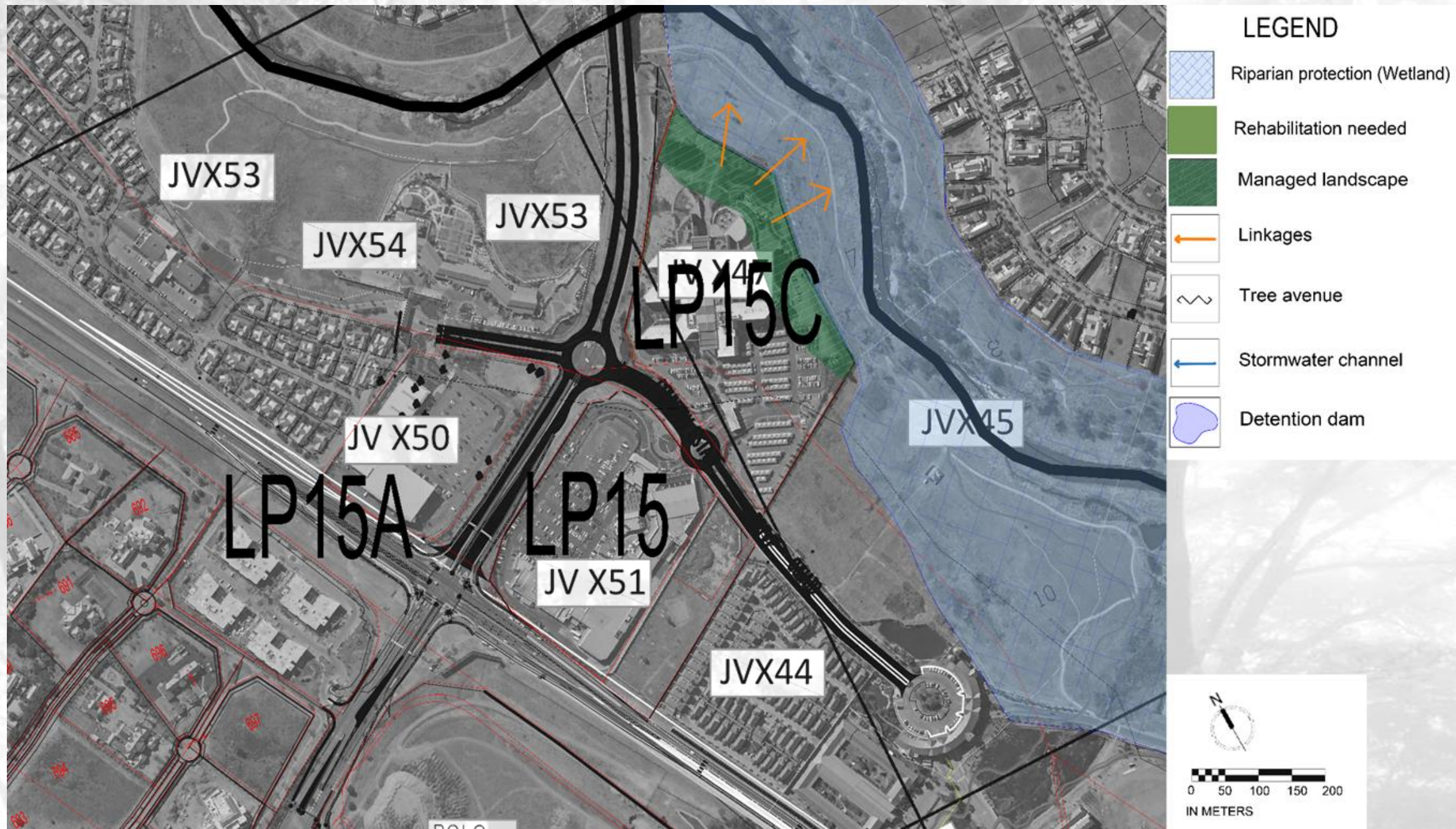
- Maintained landscape
- Linkages
- Tree avenue
- Stormwater channel







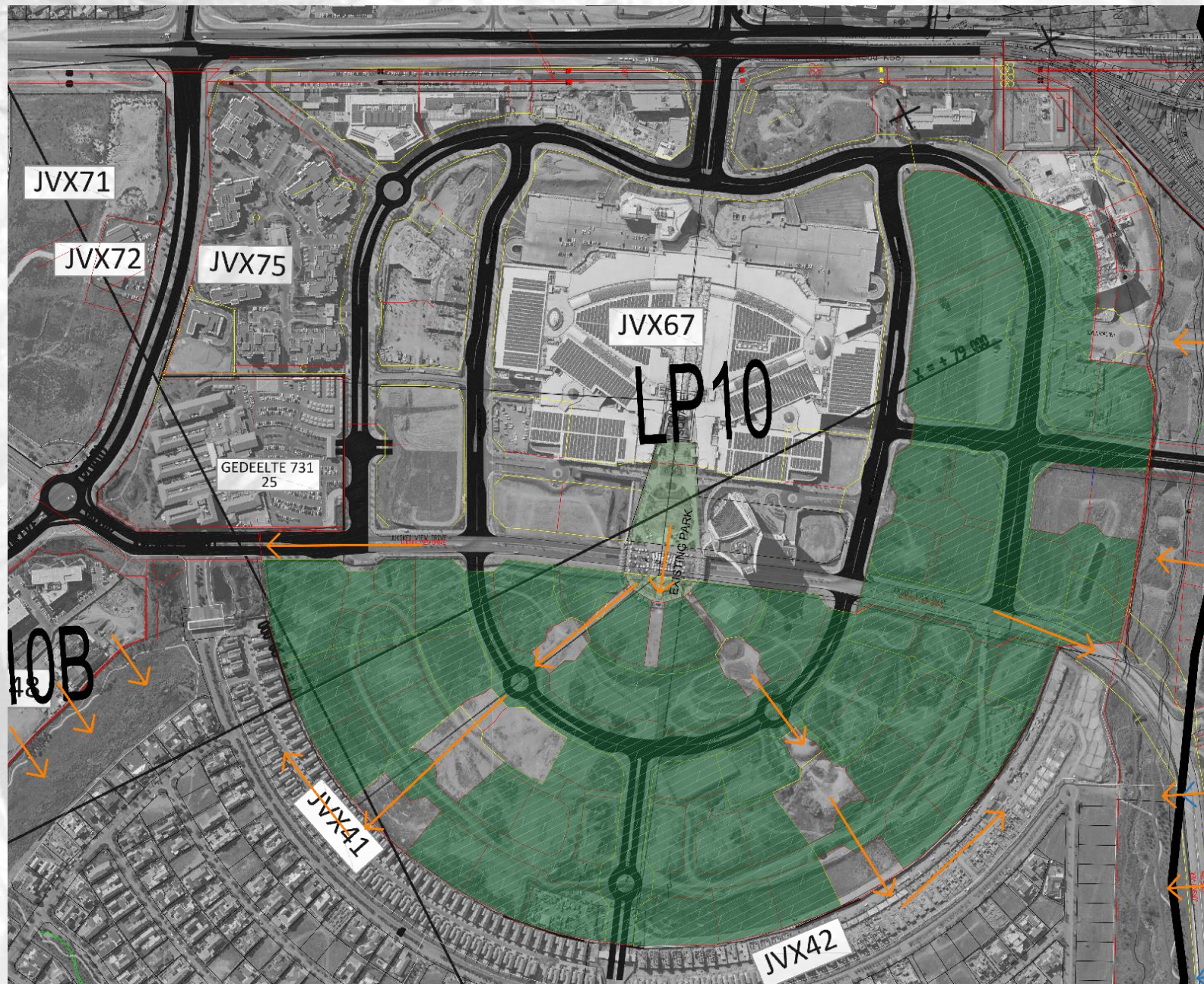











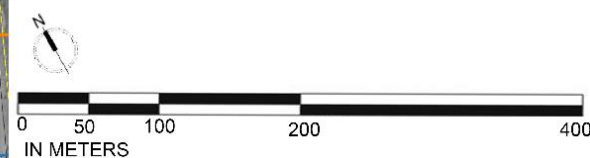






## LEGEND

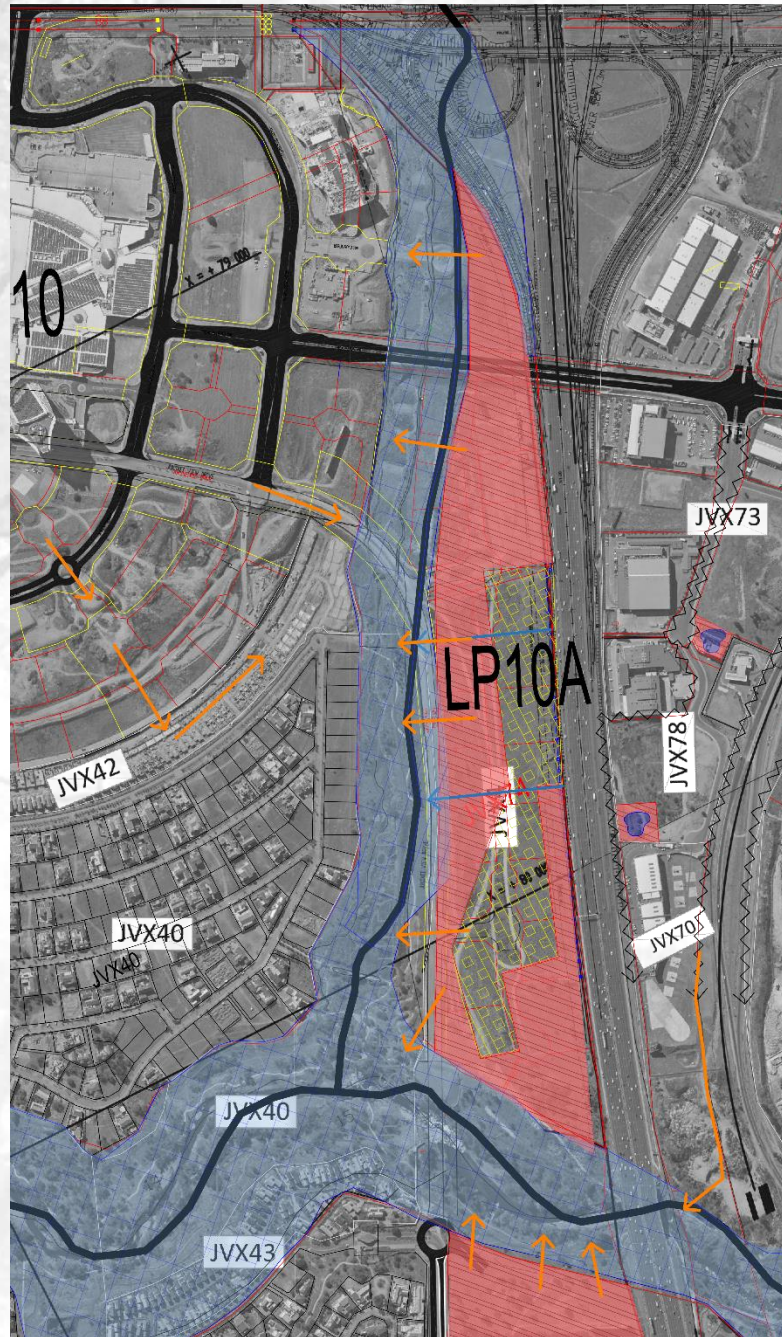
-  Managed landscape
-  Linkages
-  Tree avenue
-  Stormwater channel
-  Detention dam











## LEGEND

-  Natural protection
-  Riparian protection (Wetland)
-  Sensitive area (Egoli Grassland)
-  Linkages
-  Tree avenue
-  Stormwater channel
-  Detention dam









Maintained Landscapes Management Actions - LP 15			
Immediate Management Activities			
ASPECT	ACTION	RESPONSIBILITY	TIMEFRAME
Storm Water Management	<ul style="list-style-type: none"> <li>Stormwater inlets/outlets should be inspected for erosion and damage on a monthly basis and records kept</li> <li>Stormwater pipes should be kept clean to allow for fauna migration</li> </ul>	Appointed contractor	Monthly
Weeds & Alien & Invasive Species (A&IS)	<p>Landowner is obligated in terms of the National Environmental Biodiversity Act, 2004 (Act No. 10 of 2004) to take steps to combat or eradicate listed invasive species on their property.</p> <p>Please refer to Annexure A for booklet of common A&amp;IS with recommended removal measures.</p> <p>Landscaped Area:</p> <ul style="list-style-type: none"> <li>Contractor should be educated on Alien &amp; Invasive species &amp; removal thereof</li> <li>LP to be inspected weekly for weeds and A&amp;IS.</li> <li>Record to be kept indicating infestation, plan for removal and timeframe</li> <li>All areas must be hand-weeded to remove any exotic weeds or other unwanted species</li> <li>Herbicides must be applied strictly in accordance with manufacturer's instructions and done as last resort</li> </ul>	Appointed contractor	Weekly basis
Fire management	<ul style="list-style-type: none"> <li>No fires should be allowed on this LP</li> <li>Fire management plan to be developed and implemented and reviewed annually</li> </ul>	Attacq	Annual
Landscaped Areas	<ul style="list-style-type: none"> <li>Lawn areas should be mowed every 2 weeks or when and as required. If a lawn grows really fast, then it may have to be mowed once a week. Lawn should not be cut too short as this will decrease growth and groundcover</li> </ul>	Appointed contractor	2 years





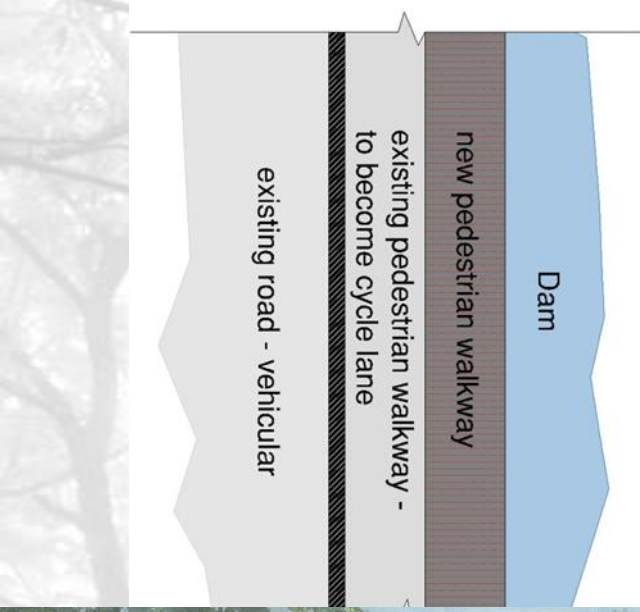
## Westdene Dam Park Redevelopment





Westdene Regional Context





**Functional Diversity**





Historic and Cultural Diversity





**Visual Diversity**











“Clearly the problem of man and nature is not one of providing a **decorative background** for **human play**, or even ameliorating the **grim city**: it is the necessity of **sustaining** nature as **source of life**, **milieu teacher**, **sanctum**, **challenge** and, most of all of **rediscovering** nature’s corollary of the **unknown in self**, the **source of meaning**.”

- Ian McHarg, Design with Nature



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