

# ROADS AND STORMWATER MAINTENANCE DEPARTMENT

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## STREAM AND STORMWATER INFRASTRUCTURE MAINTENANCE INITIATIVE

24 JULY 2025





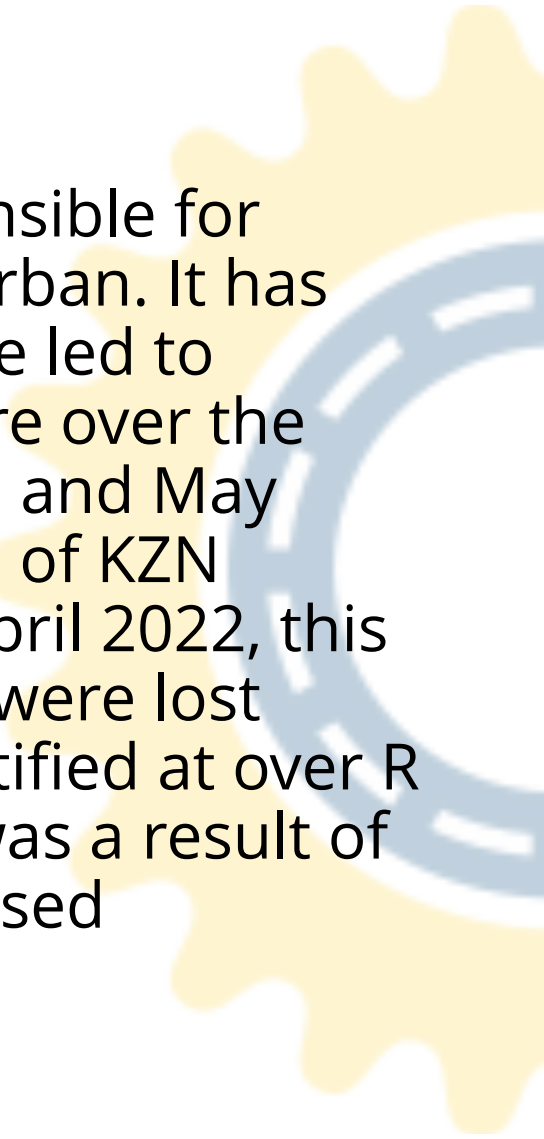
# • SIHLANZIMVELO PROGRAM

24 JULY 2025



# CLIMATE CHANGE CHALLENGES

- The eThekweni Municipality Metropolitan authority is responsible for managing the eThekweni Municipal Area, which includes Durban. It has documented a number of extreme weather events that have led to substantial flooding, loss of life and damage to infrastructure over the past few years, most recently the devastating floods of April and May 2022. This resulted in large parts of Durban and some parts of KZN receiving almost 1/3 of its annual rainfall between 10 - 12 April 2022, this being over 300mm of rainfall. Unfortunately, over 450 lives were lost during the April 2022 event with loss of infrastructure quantified at over R 25 billion. Most of the storm water infrastructure damage was a result of historical systems not designed to accommodate the increased stormwater runoff and blockages within the system.



# CLIMATE CHANGE CHALLENGES(Continued)

- Climate change is also compounding the problem of alien plant and other invasive species' infestations, which is impacting upon local biodiversity and infrastructure. An estimated 60% of materials impacting rivers are from alien invasive plants with shallow root systems that are swept downriver during extreme rainfall events. During the April 2022 flooding event, it was clear that much damage to infrastructure was caused by such blockages. Improved riverine management that includes the management of invasive alien plants on riverbanks, and the removal of solid waste, is critical in reducing the flooding risks associated with blocked culverts.

# SIHLANZIMVELO PROGRAM (Background)

- ❑ A study conducted by the RSWM Department in 2009 concluded that a substantial portion of watercourses within the Ethekewini Municipal area were infested with invasive weeds and polluted with litter. Stormwater systems were being blocked causing frequent damage to infrastructure. The study also revealed that 11 departments, each with their own scope of work were responsible for maintaining streams in an uncoordinated manner.
- ❑ After extensive consultation with line departments and ward structures it became evident that in order to address these issues, collaboration was required to establish an integrated approach for the maintenance of rivers/streams and water courses within the metro.
- ❑ Further consultation with all role players were held to identify and map streams and water courses within the highest density areas of city which included Umlazi , Inanda, Ntuzuma and Kwamashu (INK)
- ❑ The Sihlanzimvelo program commenced in 2011 utilizing a cooperative model ,where each cooperative was allocated 5km of stream to maintain with a clearly defined scope of work . External service providers were appointed to manage the performance of cooperatives in terms of an operations manual which clearly defines the scope of work and objectives of the program.
- ❑ The program has been successful in reducing stormwater infrastructure damage and downstream pollution to rivers and estuaries

# SIHLANZIMVELO PROGRAM (scope/coverage)

Co-operative's carry out the following tasks over a 5 km section of stream per month and will be paid a rate per kilometre on work measured and successfully completed.

Work covered by the Sihlanzimvelo co-operatives includes

- Clearing of culverts and storm water systems (RSWM de-silt if required)
- Minor erosion control of embankments
- Litter and debris removal and disposal (disposal sites and recycling)
- Cutting back of vegetation
- Alien vegetation control
- Planting of indigenous vegetation (planned)
- Repairs to minor infrastructure (planned)

Areas	No. of co-ops Received	km
Umlazi	47	235
North (INK)	43	215
South	9	45
West & West Central	7	35
Total	106	530

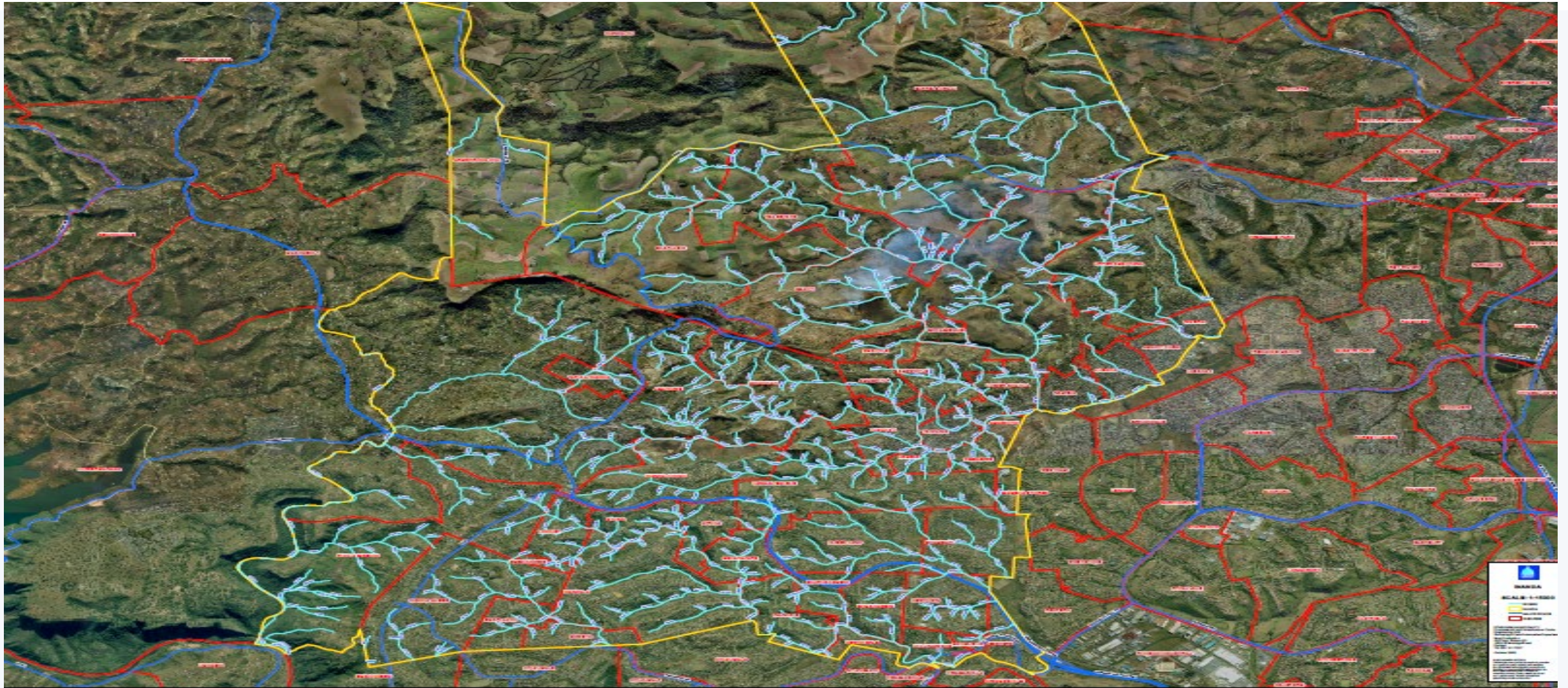


# NTUZUMA





# INANDA



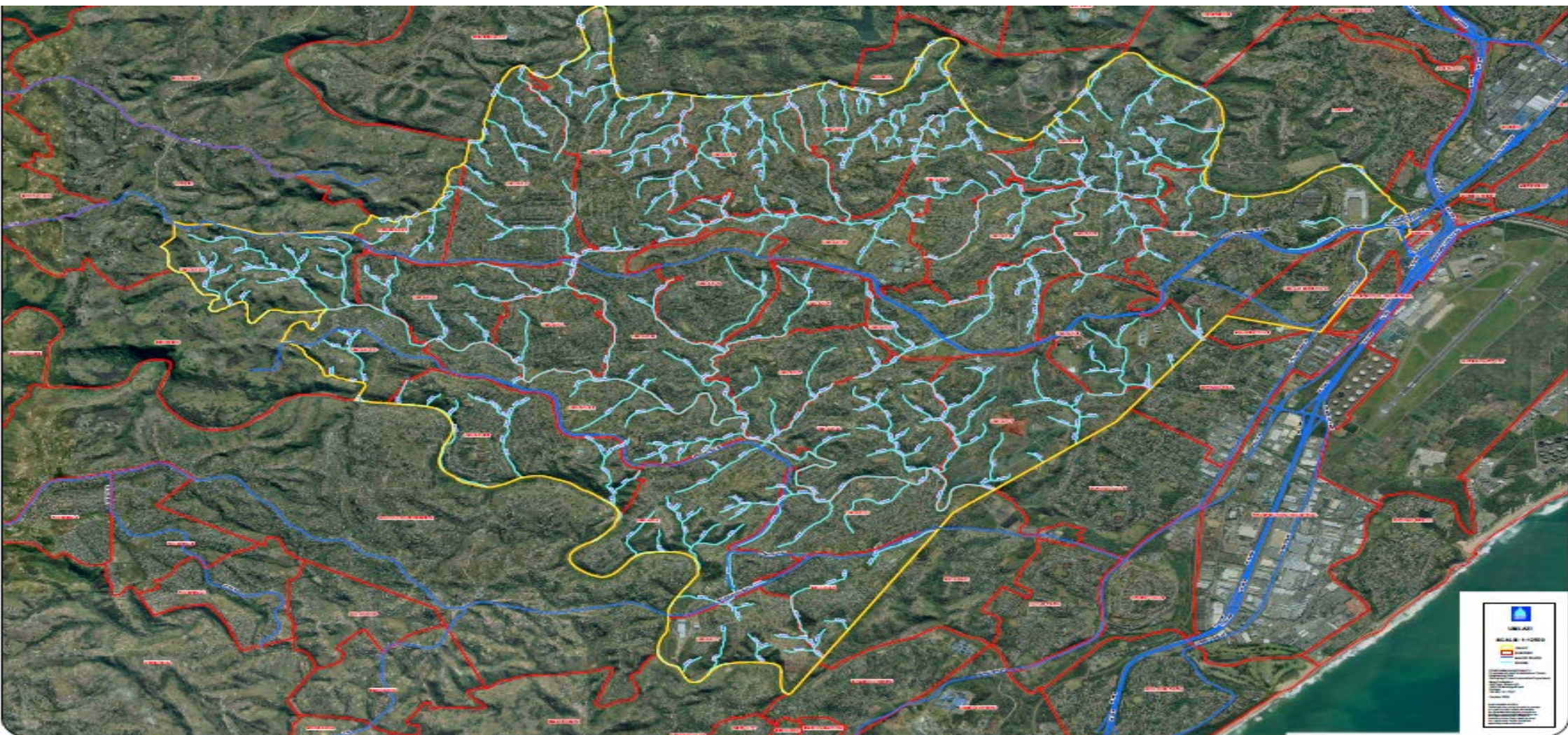


# KWAMASHU





# UMLAZI







## Challenges

### Operational Challenges

Illegal sewerage pipes from households into the streams

Illegal dumping into streams (by households, street vendors, and local business centers; taverns and tuck shops, etc.)

Solid waste that is not picked up along the streams

Health and Safety of co-operatives on site – streams that are situated in remote areas and the workers on site can be easy targets for criminals

## Successes

Co-operative ensures that the stream are kept clear of all debris, litter and all alien vegetation overgrowth reducing blockages and pollution downstream

sewer reticulation defect reporting



# Streams maintained in the Umlazi area



Currently there are 530 km of streams under maintenance by 106 co-operatives.

There is a positive response from the community since the Sihlanzimvelo programme was implemented .

The programme has been largely successful

Socio-economic benefits realised



## Expansion of the program

**Within the contract starting in July 2025, there is scope to increase the number of co-operatives by 20. This will expand coverage within the INK and Umlazi area to 630km (current coverage is 530km).**

Maintain the geographic focus of the programme within the INK and Umlazi area but expand the scope of work within contracts (e.g. increasing the area adjacent to streams that is cleared of waste and invasive alien plants; active ecological restoration; environmental education etc)

Maintain the broadened work scope, and expand the Sihlanzimvelo programme to all relevant streams in the municipal area (approx. 1168km – additional 538km). Costs will include additional human resource costs within RSWM Department

- Securing **additional human resources** for the Roads and Stormwater Maintenance Department (Human Capital and RSWM)
- Regular and timeous **updating of the co-operatives database** for eThekweni Municipality (SCM)
- Securing **budget**
- Exploring and establishing **relevant partnerships** *(also dependent on municipal hub resource being established)*

## Employment opportunities

The Sihlanzimvelo program has created 848 localized sustainable employment opportunities and training .

- Identification and removal of alien vegetation
- OHSA
- First aid training
- Cooperative basic business skills training

90 % of project costs are injected into local communities .

The program provides a steppingstone for future opportunities in gainful employment .



## Recognition

The Sihlanzimvelo program has received international recognition for its contribution in negating climate change .

The program has been recognized as one of the best environmental engineering projects locally and internationally

local and international universities have carried out research on the positive impacts of the program and its implementation.

A Cost Benefit Analysis completed as part of CFF support has shown significant returns on investment .

