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CONSULTING

# uMkhomazi Project Module 3 - Potable Water

Project Steering Committee  
Meeting No. 3

20 March 2013

# uMkhomazi Water Project: Module 3

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## 8.1. Overview of Module 3

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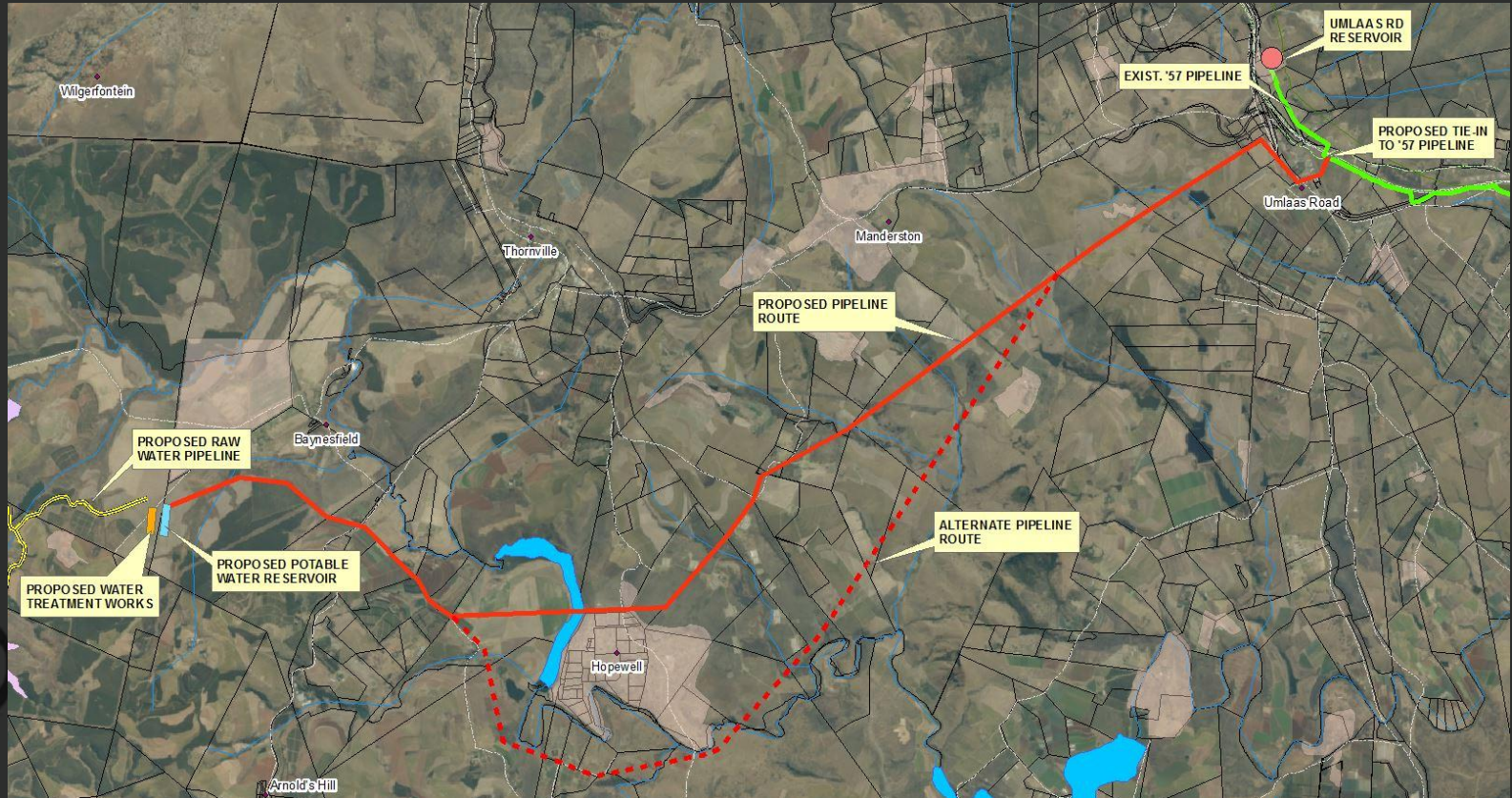


Overall Layout of Scheme

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# 8.1. Overview of Module 3



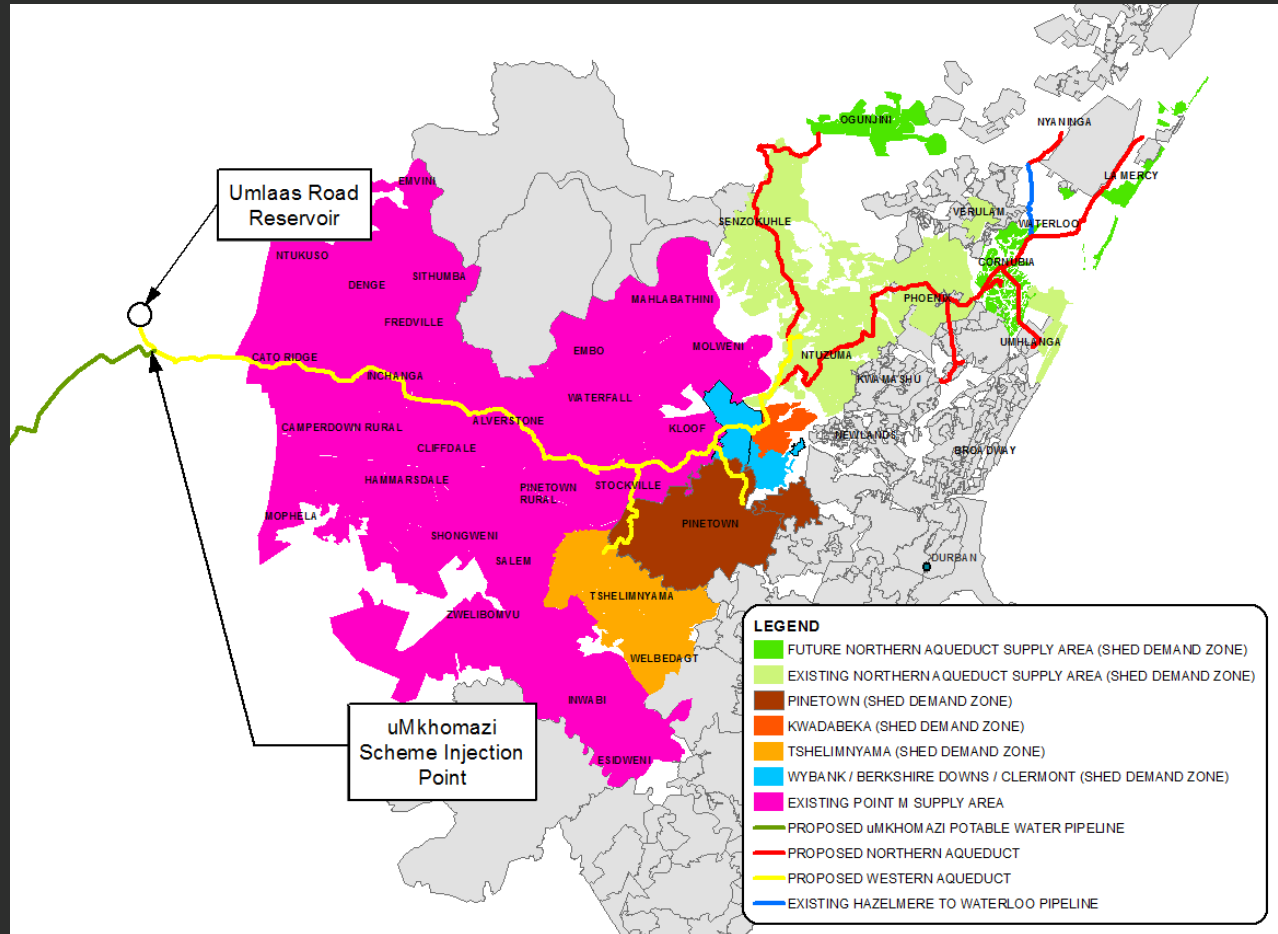
Potable Water Module Layout

# uMkhomazi Water Project: Module 3

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## 8.2. Progress and Findings

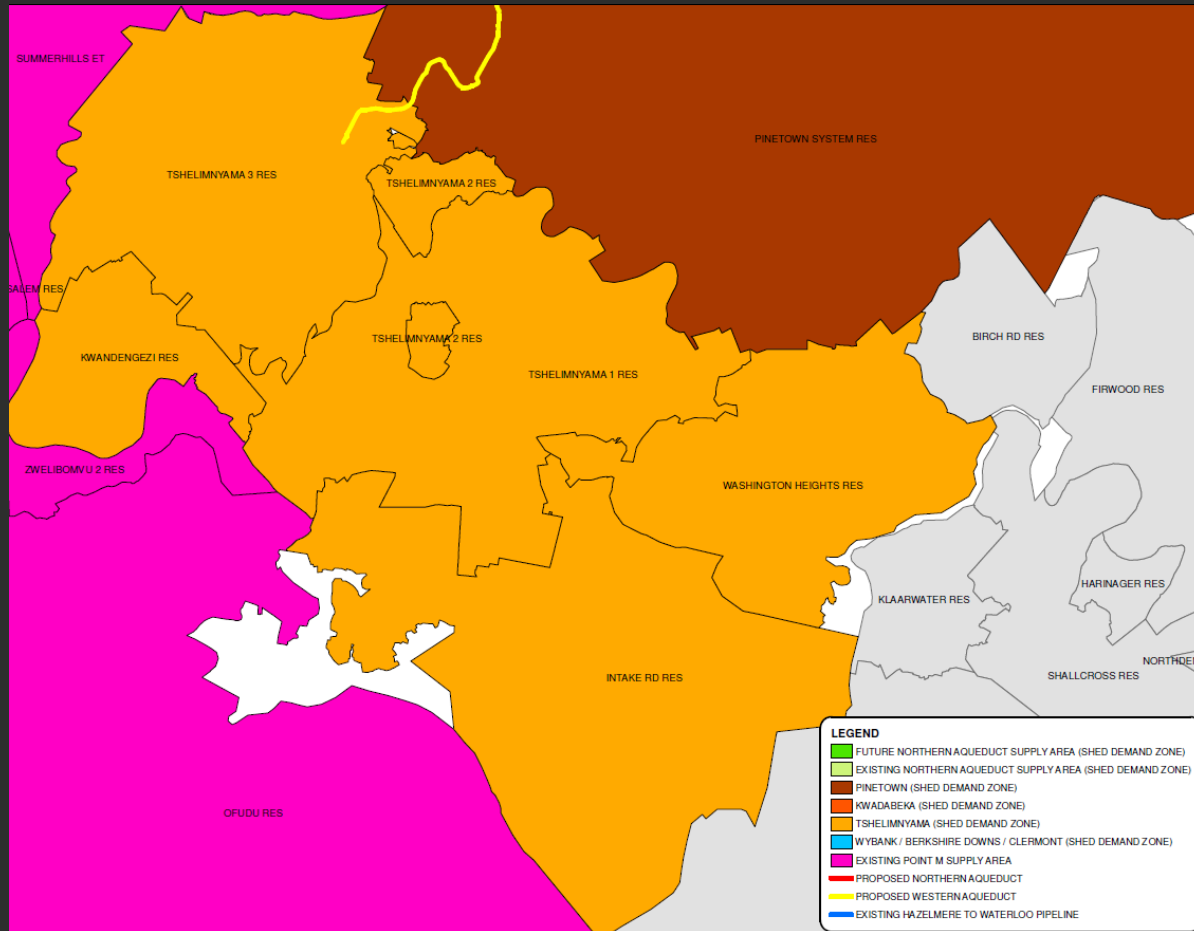
# 8.2. Progress and Findings



## 8.2.1. Proposed uMkhomazi Supply Area



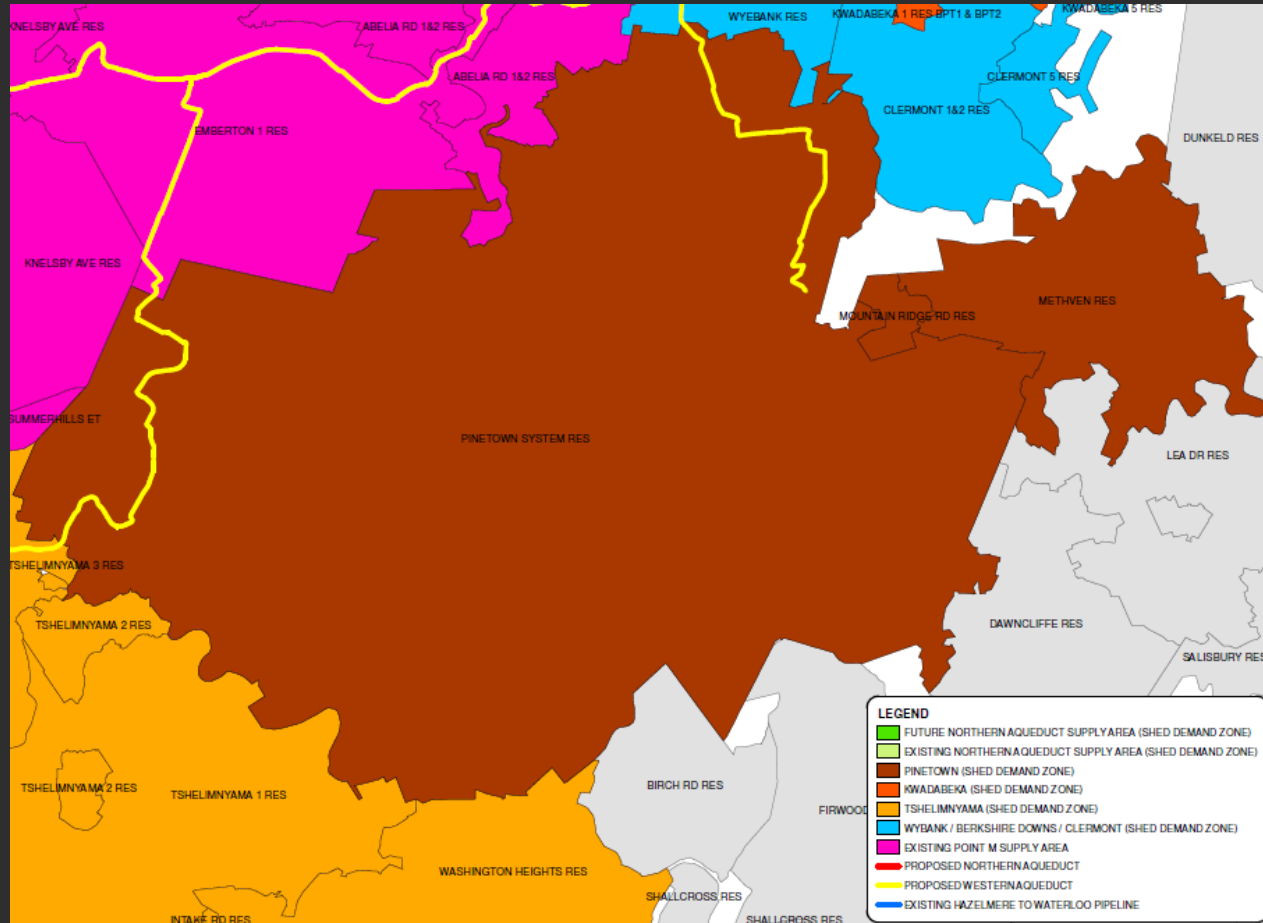
## 8.2. Progress and Findings



### 8.2.1. Proposed uMkhomazi Supply Area: Tshelimnyama

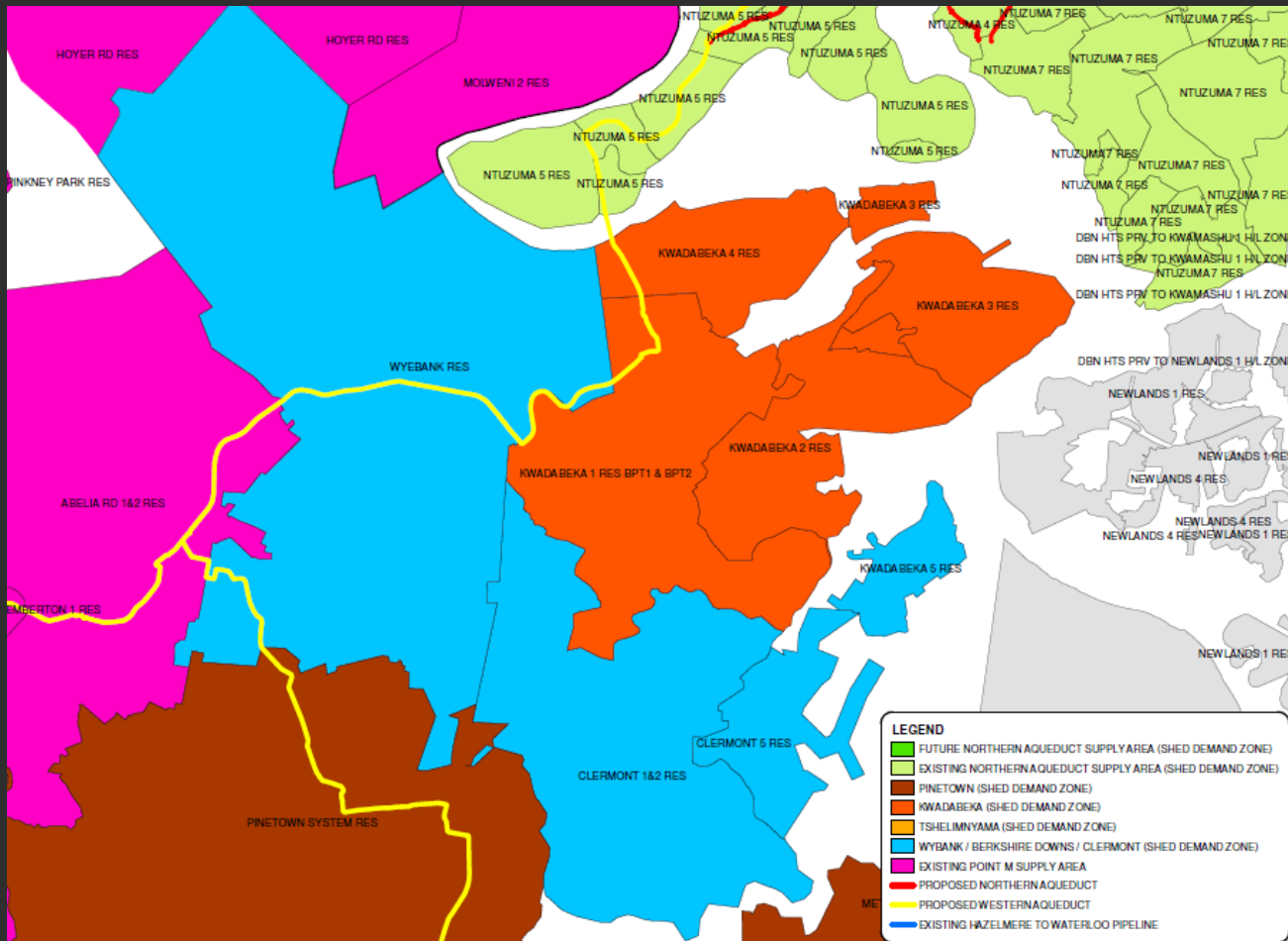


## 8.2. Progress and Findings



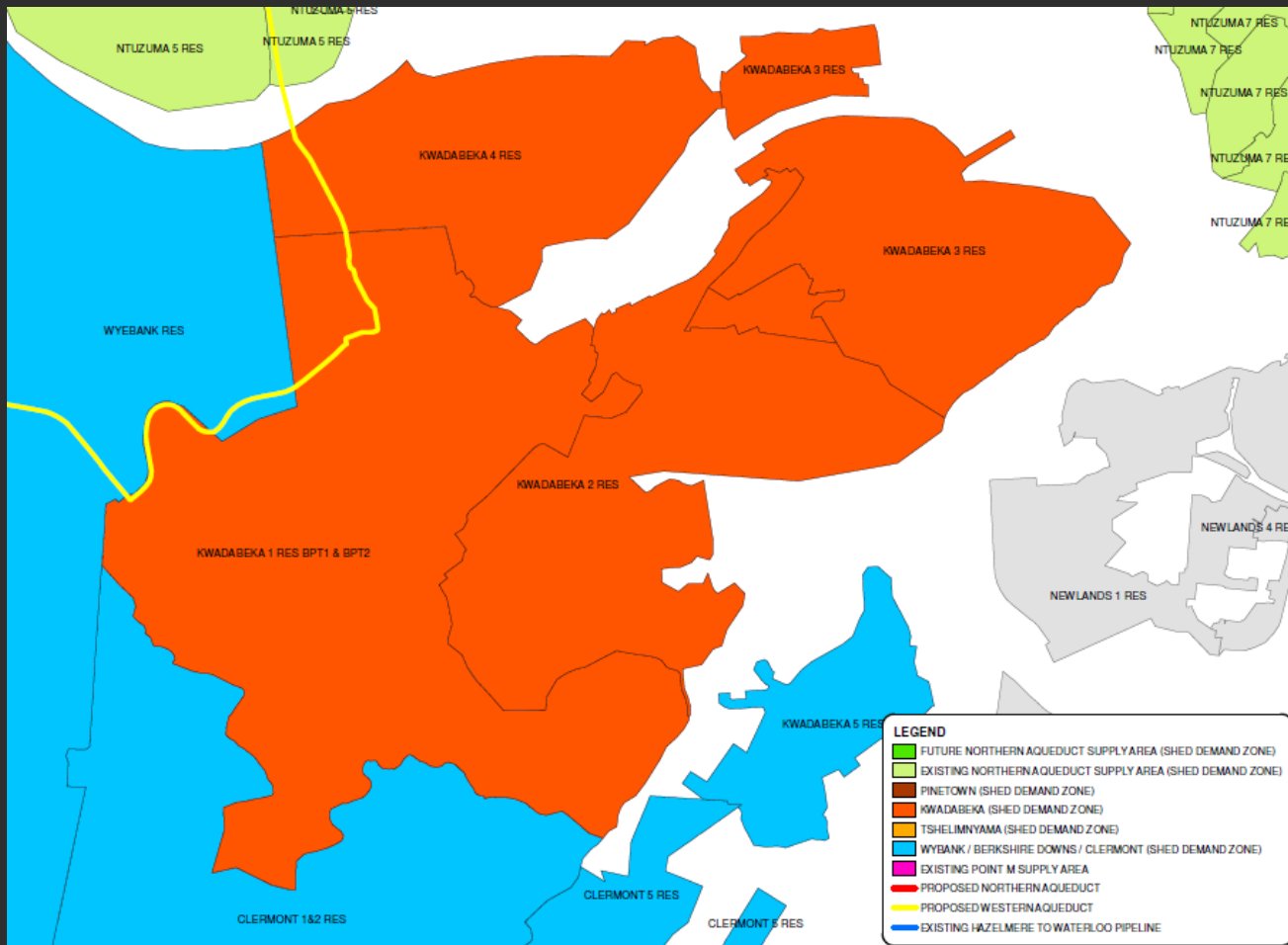
### 8.2.1. Proposed uMkhomazi Supply Area: Pinetown

## 8.2. Progress and Findings



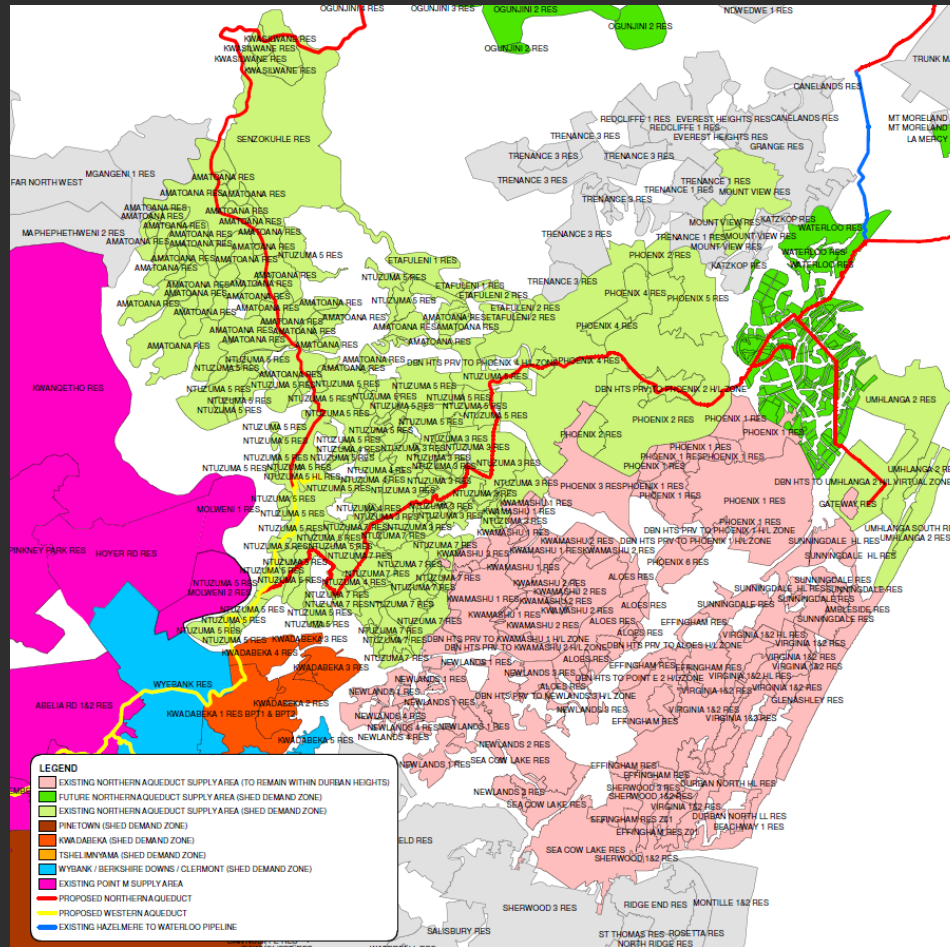
### 8.2.1. Proposed uMkhomazi Supply Area: Wyebank, Berkshire Downs, Clermont

## 8.2. Progress and Findings



### 8.2.1. Proposed uMkhomazi Supply Area: KwaDabeka

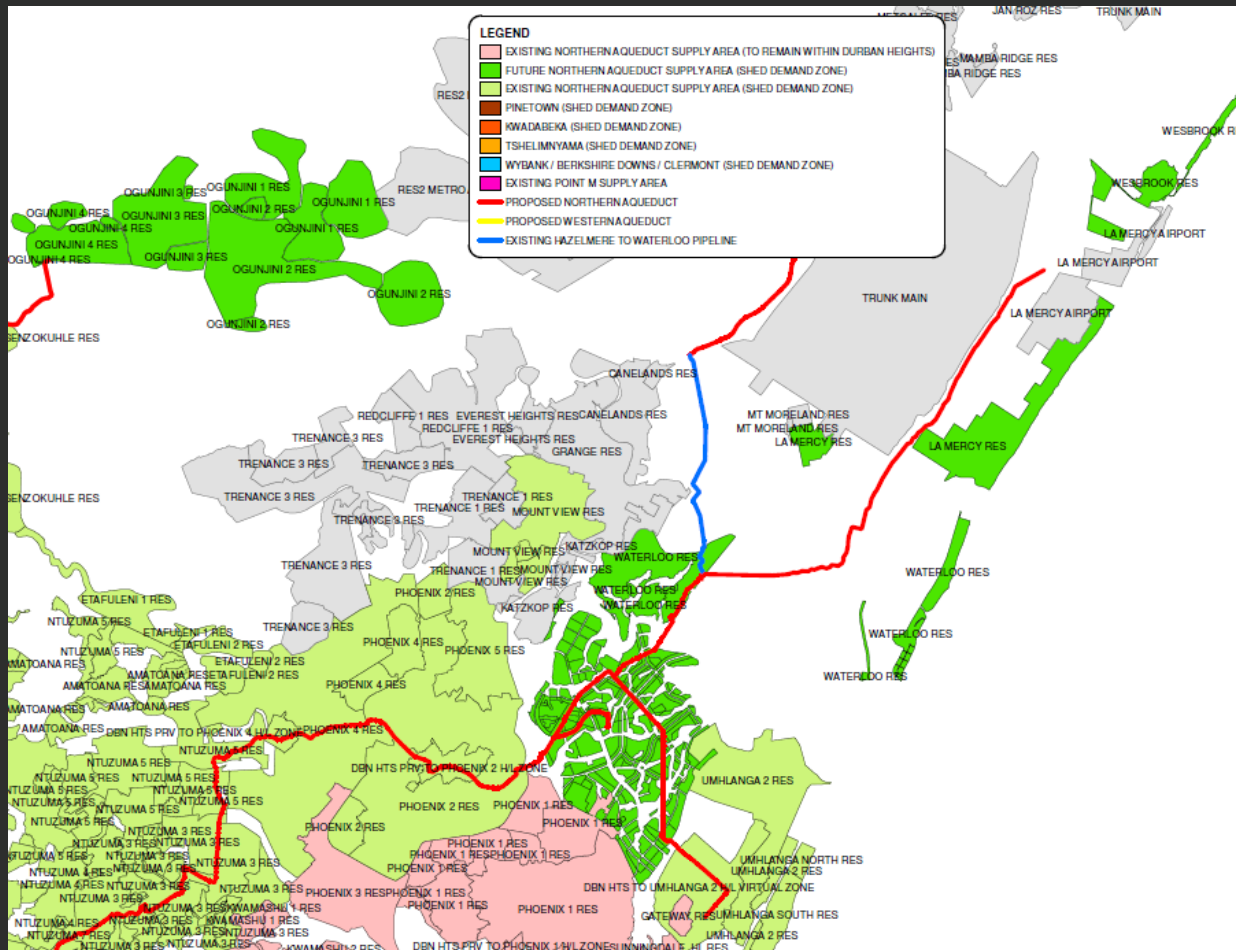
# 8.2. Progress and Findings



## 8.2.1. Proposed uMkhomazi Supply Area: Northern Aqueduct Existing Supply



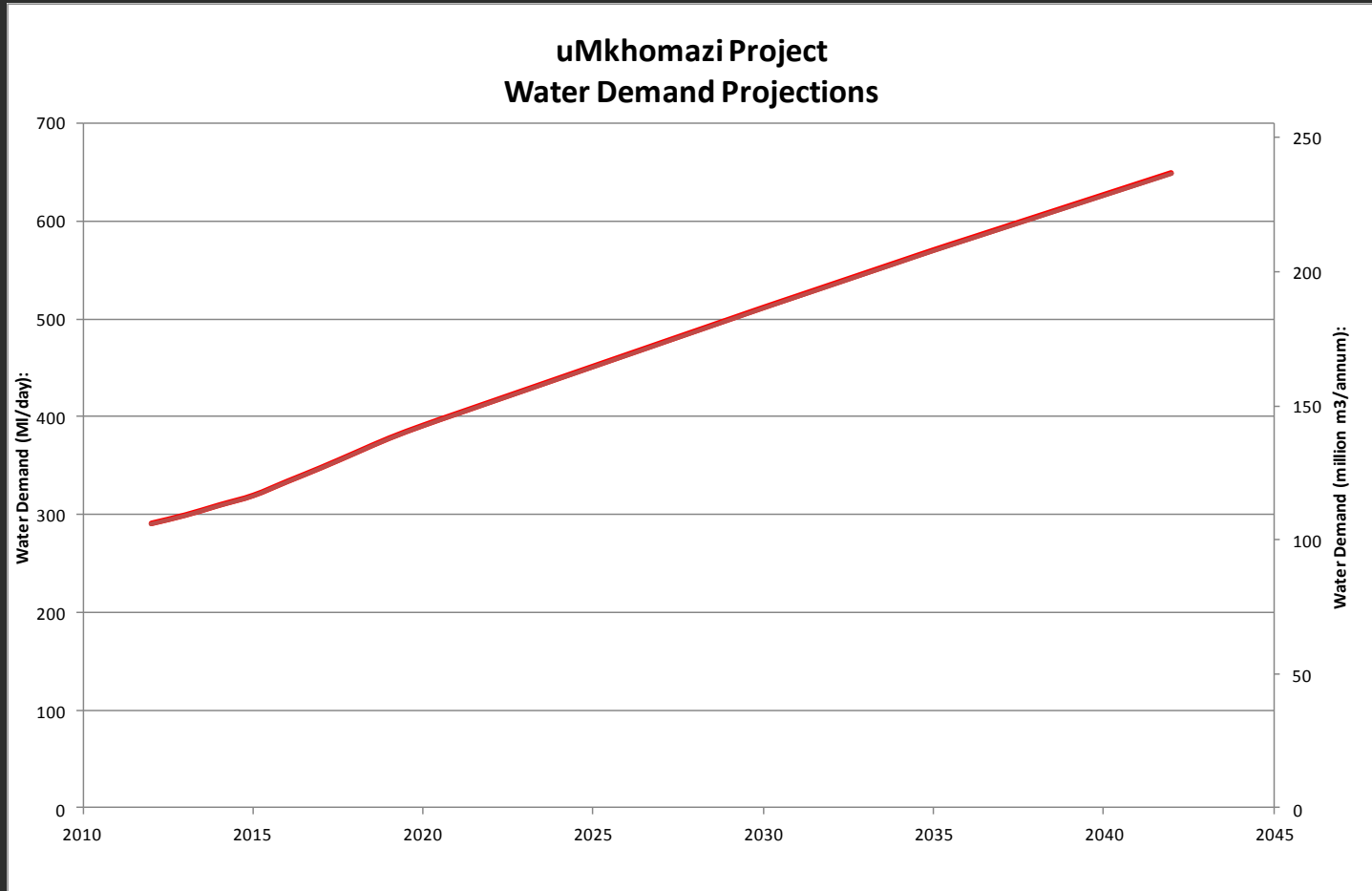
# 8.2. Progress and Findings



## 8.2.1. Proposed uMkhomazi Supply Area: Northern Aqueduct New Supply

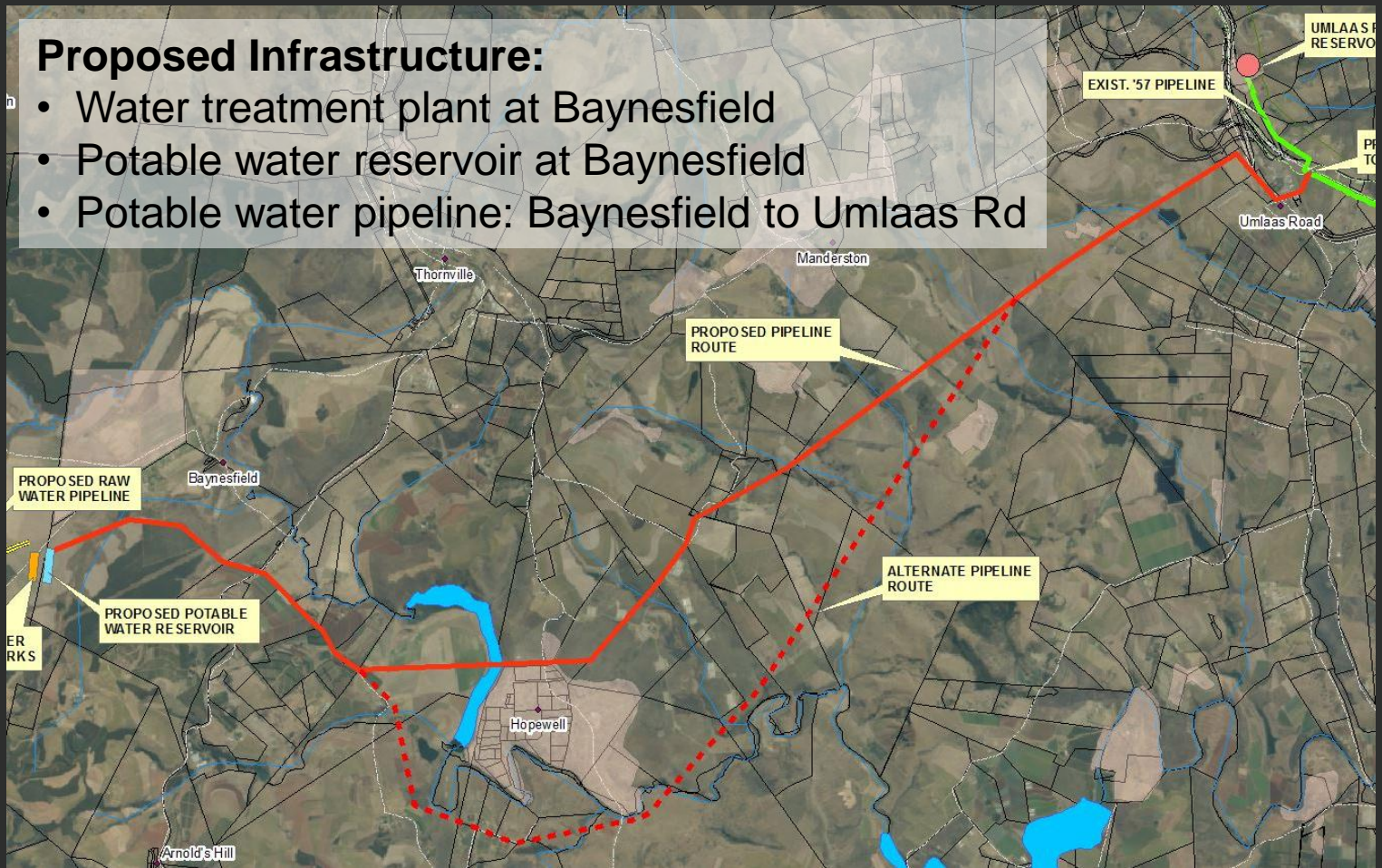
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## 8.2. Progress and Findings



### 8.2.2. Water Demand Projections

## 8.2. Progress and Findings



### 8.2.3. Proposed Infrastructure Layout and Costs Update

## 8.2. Progress and Findings

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- 8.2.4. Phasing of infrastructure:
  - Load shedding comprises a major portion of the uMkhomazi projected demands.
  - May result in Durban Heights (DH) WTW becoming underutilised after uMkhomazi scheme is commissioned.
  - May be possible to phase uMkhomazi infrastructure if load shedding is delayed to a future date, i.e. continue pumped supply until DH WTW reaches ultimate capacity at a future date.

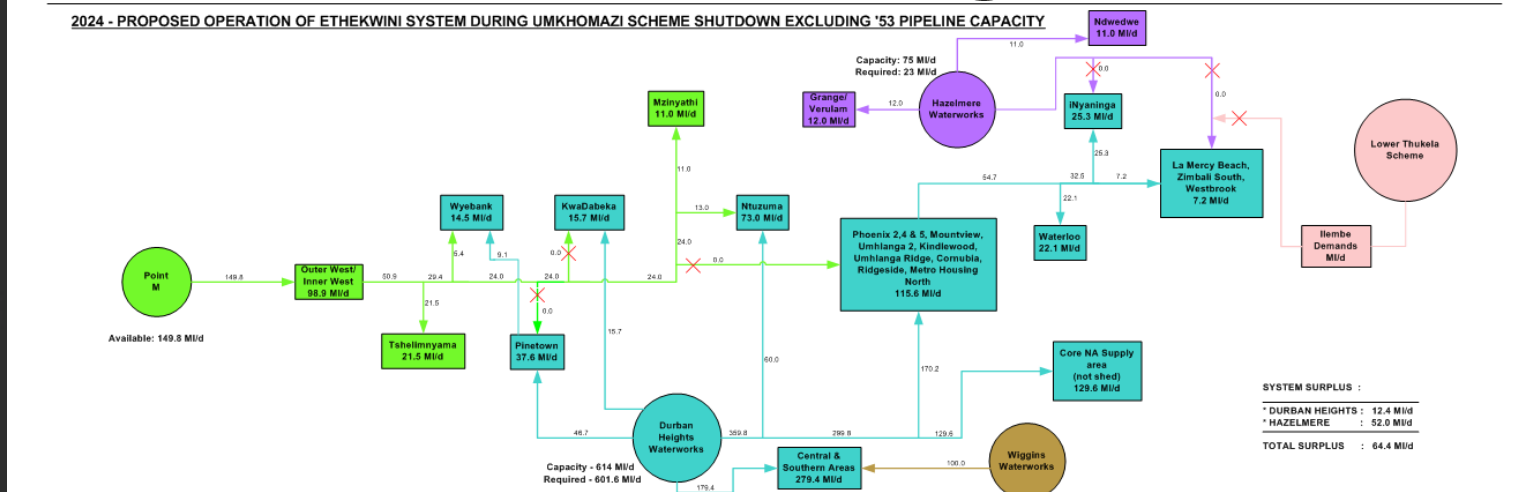
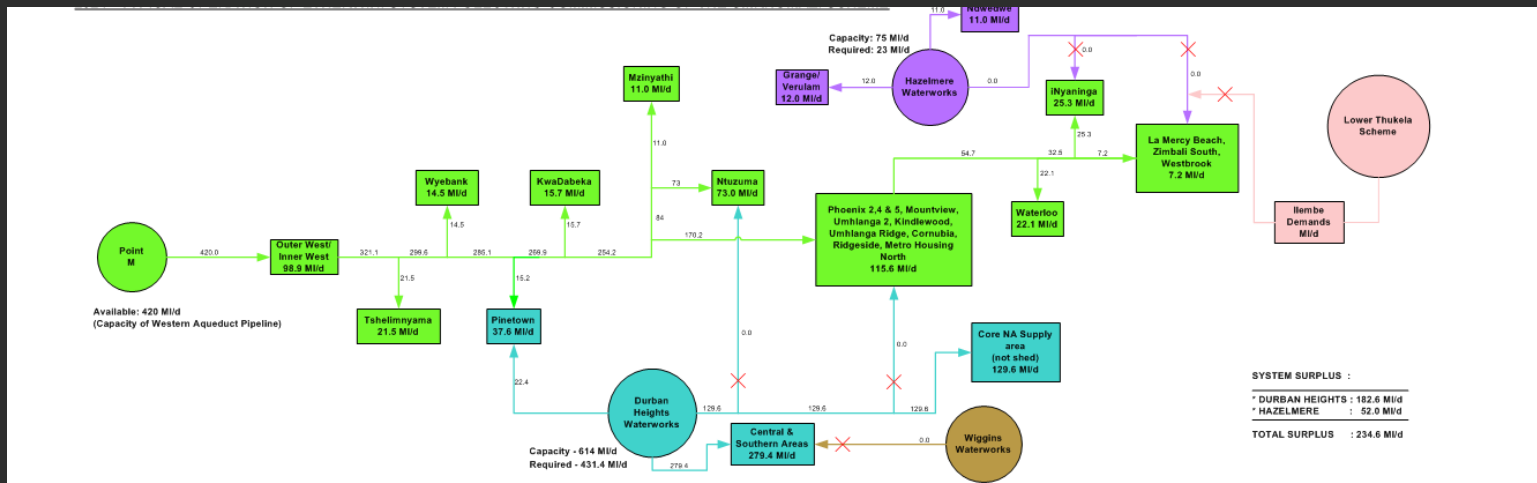


## 8.2. Progress and Findings

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- 8.2.5. Mgeni System Revised Operating Rules:

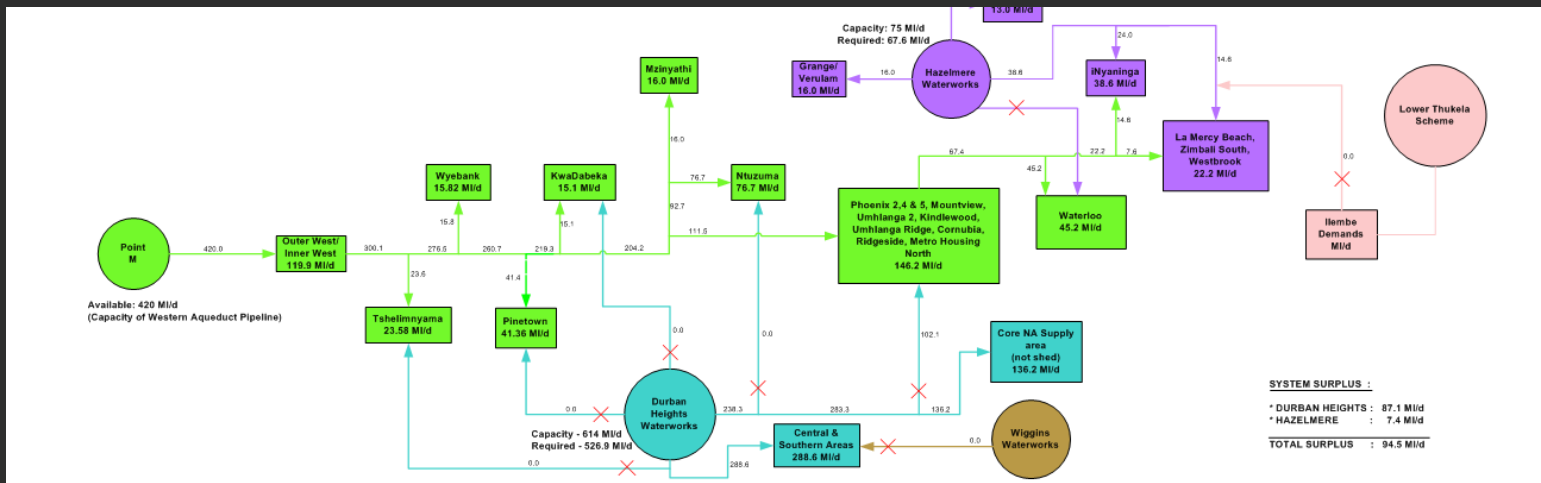
# 8.2. Progress and Findings



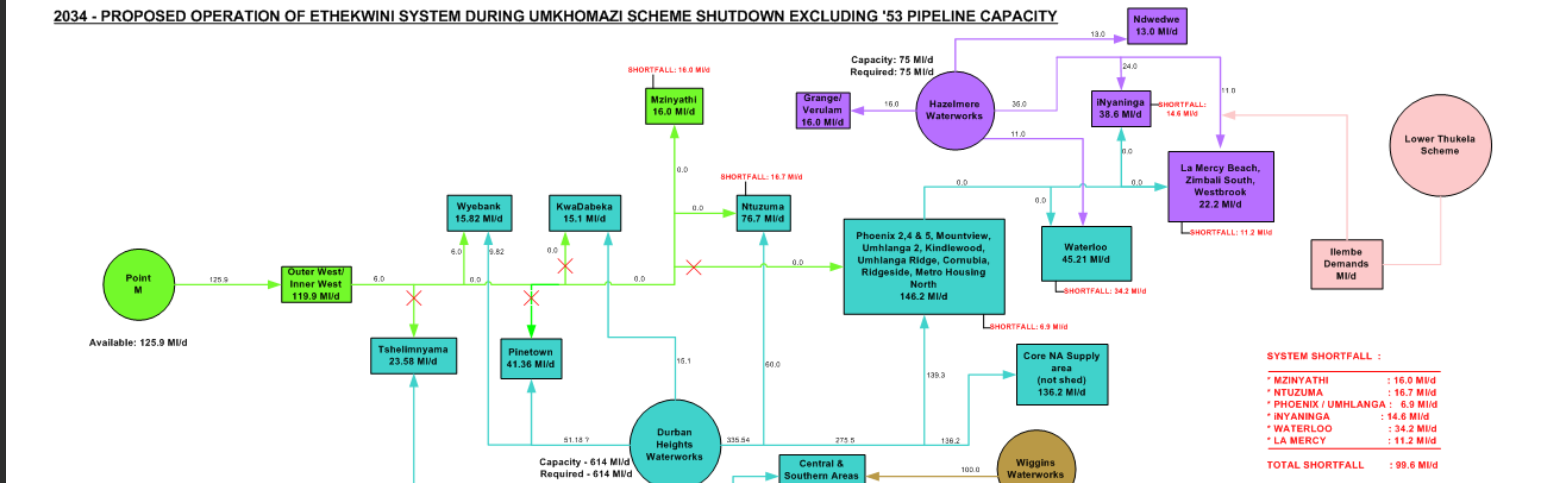
## 8.2.5. Revised Operating Rules - 2024

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# 8.2. Progress and Findings



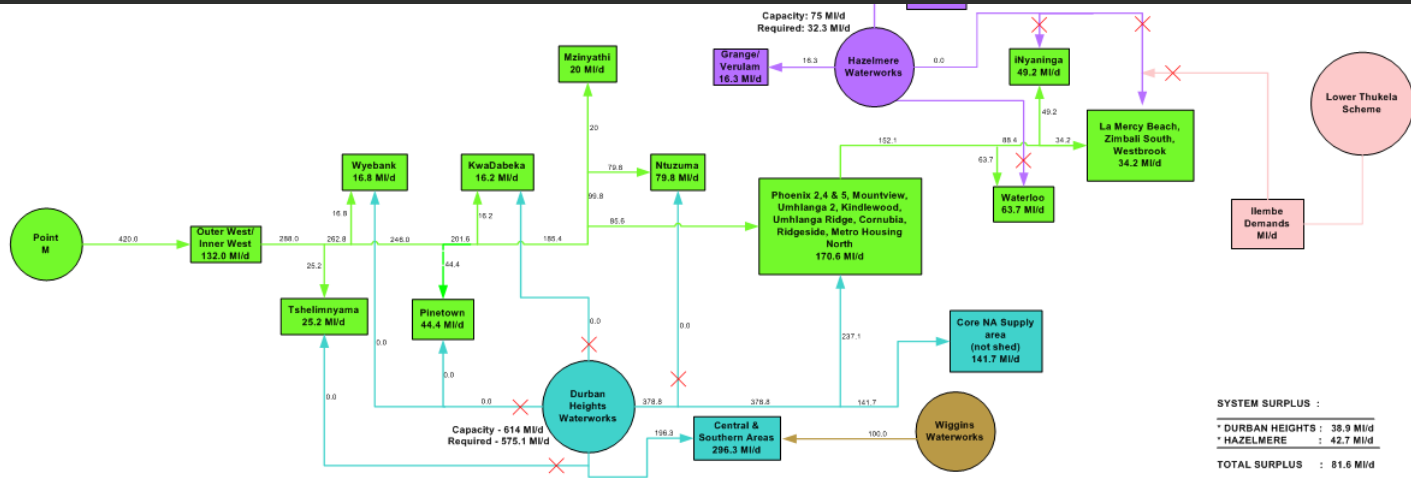
2034 - PROPOSED OPERATION OF ETHEKWINI SYSTEM DURING UMKHOMAZI SCHEME SHUTDOWN EXCLUDING '53 PIPELINE CAPACITY



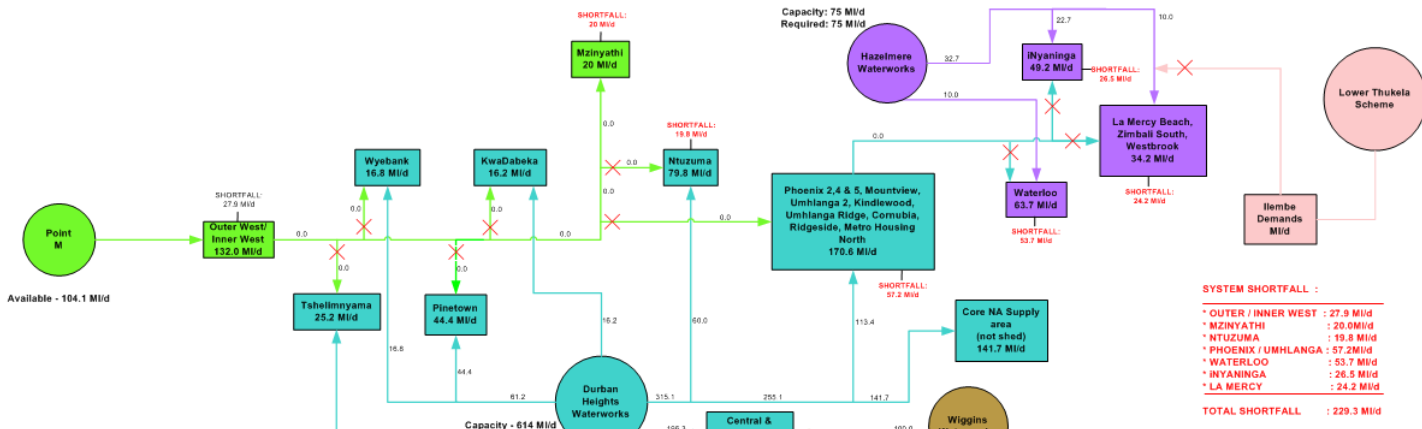
## 8.2.5. Revised Operating Rules - 2034

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# 8.2. Progress and Findings



2042 - PROPOSED OPERATION OF ETHEKWINI SYSTEM DURING UMKHOMAZI SCHEME SHUTDOWN EXCLUDING '53 PIPELINE CAPACITY



## 8.2.5. Revised Operating Rules - 2042



## 8.2. Progress and Findings

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- 8.2.5. Mgeni System Revised Operating Rules - Results:
  - Revised operating rules for the Mgeni system cannot delay need for balancing dam at Baynesfield for tunnel shutdowns after 2024.
  - Minimum 4830 MI of raw water storage is required at Baynesfield for the planned 2044 tunnel shutdown (230 MI/d x 21 days).
  - EWS has serious concerns about using pump stations only once every ten years.



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Thank you!

**KPI**