

Table View Beachfront Upgrade
Overview

21 July 2021

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Making progress possible. Together.

Historical context

Table Bay Issues:

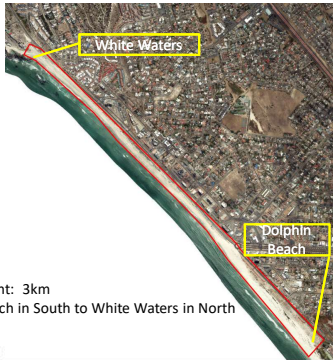
- Vulnerable to beach erosion and wind-blown sand inundation
- Vulnerable due to extensive developments which occurred over centuries, but particularly within the last 80 years
- Coastal management at Table Bay has historically been neglected
- 13 km between Port & Blouberg; over decades there has been conflict between uses and users (**developers, recreation, sport, environment, industries, port, etc.**)
- Over decades: millions have been spend on **research and experiments** (CSIR, UCT & private entities) **MSc & PhD studies** - still the conflict between users and environment has not been solved.
- No "QUICK FIX": if there was a quick fix, there would not have been a problem

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Project Location



White Waters

Dolphin Beach

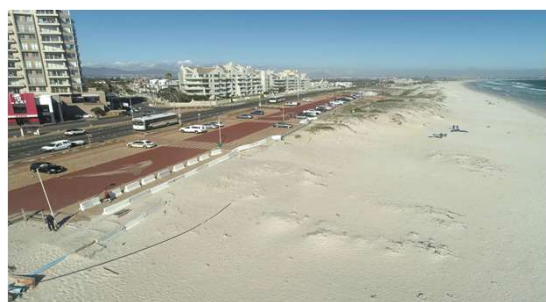
Project extent: 3km
Dolphin Beach in South to White Waters in North

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Present Situation



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Background to this project

- Over last 15 years this area has deteriorated:
 - resulting in poor quality public open space;
 - loss beach amenity;
 - poor access to beach;
 - loss of dune function;
 - windblown sand smothering infrastructure;
 - decay of infrastructure such as Stormwater and parking areas
- In 2019 CMB engaged with all relevant City Asset Owners (Roads, Stormwater and Rec and Parks) regarding possible upgrade of Tableview Beachfront – no funds!
- Undertook in house review of existing conceptual planning
- CMB appointed Kathy Ziel-Roux to produce a business plan to assist with planning, budget estimates to secure budget, and ensuring a coordinated and coherent strategy for upgrading the Table View Beachfront



ICM approach

- Obtain all historical data, reports, studies
- Obtain recent data (physical characteristics)
- Experts & competent scientists have been involved over decades – incorporate their knowledge
- Incorporate all users requirements
- Develop sustainable solution to address all "conflict", but with **minimum cost** to everyone



Physical Characteristics & Coastal Processes



Site Specific: Aeolian Sediment Transport Studies

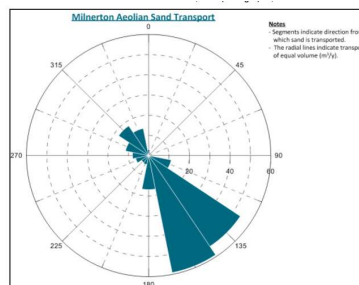
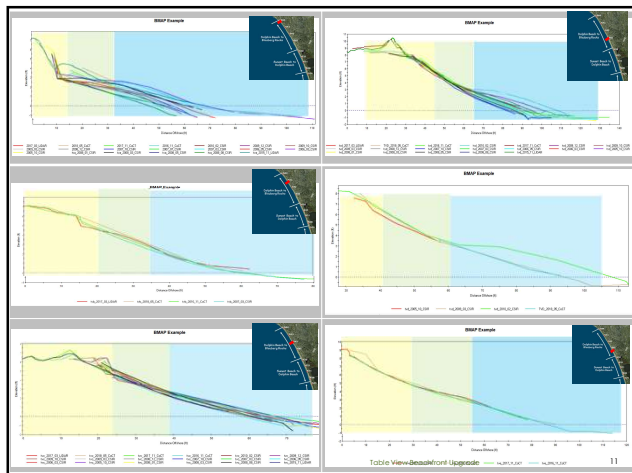
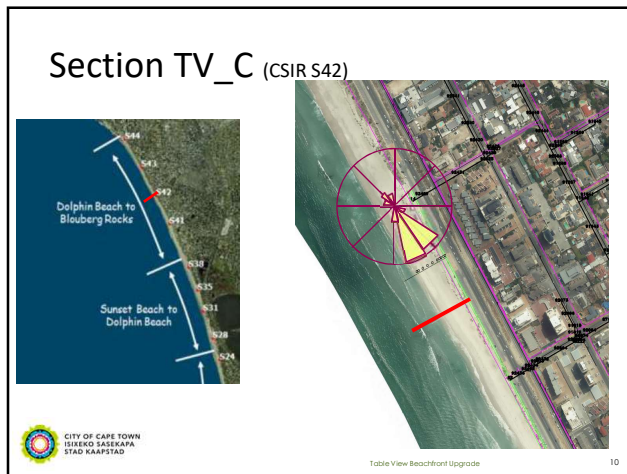


Figure 7.9. Example of a windblown sand transport rose at Milnerion, showing potential sand transport of up to almost 60 m³/year per metre width of beach.

2010 (DEAD & P);





Coastline Stability: Summary


- From available data it was confirmed that the coastline orientation and beach (extending from Dolphin beach to the most northern portion of Table View) is *dynamically stable*.
- Although there is a long-term erosion trend, it is *not an aggressively eroding coastline*.
- Due to the above, as well as the setback distance and elevation of the road and walkway, it is *not considered likely that a coastal protection structure will be required within the next 20 – 50 years* (subject to accuracy of international climate change and sea-level rise predictions as well as potential impact of future development(s)).
- Continuous monitoring of the beach profiles is recommended* in order to assess the beach stability.

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Managing Wind-blown Sand: Comparison between (i) Coastal Dune Rehabilitation and (ii) Hard structure (vertical wall/sand trap)

	Coastal Dune Management	Hard edge functioning as a sand trap
Functionality: <ul style="list-style-type: none"> Trapping wind-blown sand Preventing wind-blown sand blowing onto road/walkways 	<ul style="list-style-type: none"> Research and case studies have shown that the most effective method/technology of trapping/managing windblown sand along coastlines Significantly more effective and less maintenance to trap wind-blown sand as close to the high-water mark as possible, compared with trapping it more landwards (i.e. physical barrier/wall immediately adjacent infrastructure which requires protection) Dune management was implemented from 2005 – 2010 in Table View and it was highly effective while managed properly. 	<ul style="list-style-type: none"> The orientation of the coastline of Table View, compared with the dominant aeolian transport direction and volumes is such that a hard edge/sand trap parallel with the pedestrian walkways and road will not trap the bulk of the net transport effectively.


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Managing Wind-blown Sand: Comparison between (i) Coastal Dune Rehabilitation and (ii) Hard structure (vertical wall/sand trap)

	Coastal Dune Rehabilitation	Hard edge functioning as a sand trap
Maintenance	<ul style="list-style-type: none"> Maintenance cost significantly less compared with the cost of successfully operating a "hard-structure sand-trap" Dune management requires irrigation, which is considered a risk due to on-going strain on water sources in the Western Cape region. 	<ul style="list-style-type: none"> Ongoing reshaping of the beach will be required (i.e. excavating sand at the "sand-trap"/physical barrier and placing it in the tidal zone. Large-scale earthmoving plant (i.e. excavators) are required Due to above, maintenance cost will increase exponentially depending on the number of beach reshaping events required during a financial year cycle Risk of damage to the physical barrier/sand-trap during "beach-reshaping" activities (i.e. earthmoving plant damaging the structure)


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Early 2000's



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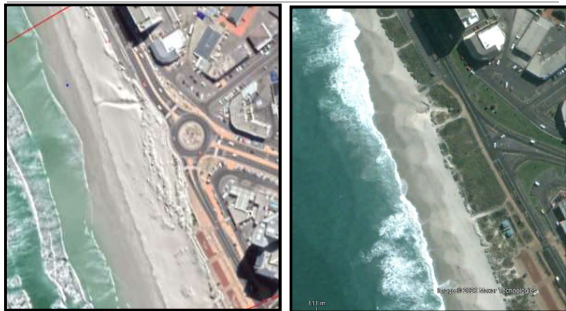
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Scope of Project

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Overview of works - storm water and maintenance access



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Conceptual planning



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Project Objectives

To rehabilitate, revitalise and maintain the Tableview beachfront.

- Rehabilitate the dune cordon to reduce impacts of wind-blown sand on adjacent infrastructure and to provide a soft interface between beach and infrastructure, to provide buffering from coastal process;
- Upgrade and repair all derelict infrastructure and abutting services;
- Upgrade and improve all amenity facilities such as parking areas, pedestrian walkways and recreational facilities; and
- Develop and implement an integrated maintenance plan to ensure long-term sustainability and correct asset-ownership.



Overview of works

Civil Works

The Civil works comprise the following:

- Repair and upgrade of services (like for like), including reticulation and stormwater which includes 6 minor and 1 major stormwater outlet on the beach.
- Irrigation connections (potable water/treated effluent/ground water).
- Repair all damaged post and rail, all damaged wooden boardwalks, beach access stairs and chain links, all brick walkways, parking areas adjacent to the beach (edging and surface).
- Upgrade and optimise White Waters parking area.
- Widen the pedestrian walkway at the Blaauwberg Road traffic circle
- Widen the pedestrian walkway between Doodles and White Waters



Overview of works - Access points and stormwater



Overview of works – Ablution & Parking area White Waters



Overview of works - Sand Management, Parking Area



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Overview of works - stormwater and doodles boat ramp



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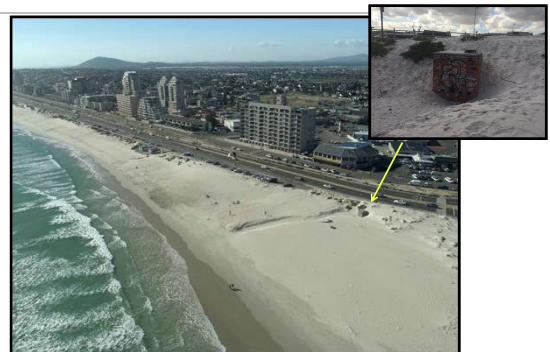
Overview of works - Access Points



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Overview of works - storm water and maintenance access



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Overview of works – Building Scope

- **Building Works**
- The following building works are required:
- Demolish two existing ablution buildings (approximately 280m²).
- Design and construct two new ablution facilities
- Upgrade two existing ablution facilities
- Develop a master plan (concept design and cost estimate) for the new recreational precinct adjacent to the KFC parking area which includes offices, outside gym/play area, lifesaving clubhouse and law enforcement buildings. Detailing and construction of new recreational facilities is not included in this project.



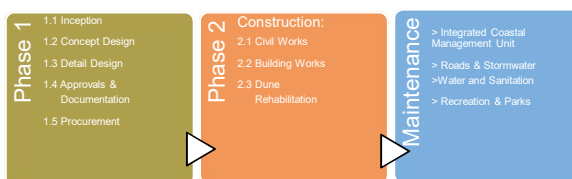
Overview of works - Infrastructure Services



Recreational Precinct Master Plan



Project Approach



High level Project Schedule

Milestone	Estimated Date	Deliverables
Consultant Appointment	1 March 2021	PO to be finalised
Design & Procurement		
•		• Reception report
•	1 March 2021	• Scope of work for all field surveys and specialist studies
•	1 April 2021	•
•	April & May 2021	• Topog, geotech, services, etc
•		• Specialist studies (i.e. traffic, water, sewer, storm, etc, etc)
•	1 April 2021 - 30 June 2021	• Preliminary Design drawings, reports
•		• Detailed project risk register
•		• Revised project schedule & cost estimate
•	1 Aug - 30 Aug 2021	• Stage gate 25: Aug: Internal approval and signature
•		• Detail Design drawings, reports, technical specifications
•	1 Sep 2021 - 28 Feb 2022	• Revised project risk register
•		• Revised project schedule & cost estimate
•		• Submit tender documents to SCM
•	1 March 2022	• 32 x copies of tender documents
•		•
•	1 March 2022	• Signed construction contract(s)
•		• Monthly progress reports
•		• Contract management documentation
•		o Meeting minutes
•		o Risk and Environmental audits
•		o Revised risk registers
•		o Payment certificates
•		o Site Instructions
•		o etc
•	May 24	• Practical Completion certificate
•		o Asset handover



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Completion



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Thank You

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