



# SITE SENSITIVITY VERIFICATION REPORT

## Proposed Dredging of Milnerton Lagoon in the Diep River Estuary, Cape Town

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City of Cape Town

**PREPARED BY**

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# DOCUMENT DETAILS

## Proposed Dredging of Milnerton Lagoon in the Diep River Estuary, Cape Town: Site sensitivity verification report

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#### Report purpose

This report is prepared in compliance with the requirements of the Procedures for the Assessment and Minimum Report Content Requirements for Environmental Themes (GN 320 of 2020). ('The Protocols') came into effect on 9 May 2020 and 30 October 2020. These protocols mandate site sensitivity verifications for identified Themes on the site based on the National Environmental Screening Tool.

### VERSION HISTORY

Date	Version
26 March 2025	Draft
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# 1 INTRODUCTION

## 1.1 Screening Tool and Protocols for Assessment

On 5 July 2019, the Minister of the Department of Environment, Forestry and Fisheries (DFFE) promulgated regulations requiring the compulsory submission of a report generated by the national web based environmental Screening Tool, when submitting applications for environment authorisation (GN 960 of 2019). The screening tool generates a report based on mapping of environmental sensitivities and on proximity to other features such as defence and civil installations and others. On 20 March 2020, the Minister published Procedures for the Assessment and Minimum Criteria for Reporting on Identified Environmental Themes (GN 320 of 2020) in terms of sections 24(5)(a) and (h) and 44 of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended (NEMA). These procedures prescribe the general requirements for undertaking a site sensitivity verification (SSV) and present protocols for the assessment and minimum report content requirements of environmental impact assessments for specific environmental themes identified by the screening tool. Further Protocols were gazetted on 30 October 2020 for terrestrial plant and animal species assessment in GN 1150 of 2020.

## 1.2 Sensitivity Verification

Each set of specialist protocols provides for a SSV to be undertaken by an Environmental Assessment Practitioner (EAP) or suitable specialist, prior to commencing with specialist assessment and reporting on the identified themes. The purpose of a SSV is to confirm and contextualise the current use of the land and potential environmental sensitivity of the site, and to compare these with the sensitivity mapped or identified by the Screening Tool. The outcome of the verification must be recorded in the form of a site sensitivity verification report (this report; SSVR) that is submitted together with the relevant Basic Assessment Report (BAR) and confirms or disputes the environmental sensitivities mapped by the screening tool. The SSV is to confirm the actual state of the site as compared with that indicated by the Screening Tool. The SSV aims to confirm or dispute the sensitivity ratings of the various environmental themes identified by the Screening Tool Report and to determine whether specialist studies are required for those themes.

This report is prepared in accordance with the requirements of the Protocols as published in terms of GN 320 of 2020 and GN 1150 of 2020. It has been prepared by Kudakwashe Chimatira of Infinity Environmental (Cand. EAP Reg No: 2023/7160) based on a desktop analysis, site inspection, and other available information.

## 1.3 Methodology

The SSV was undertaken by the EAP in March, 2025, and consisted of the following key aspects:

- A desktop review of:
  - Satellite imagery using Google Earth Pro, including historical imagery of the site from 2000 to present.
  - National Freshwater Ecosystem Priority Area wetland mapping.
  - The City of Cape Town's Biodiversity Network, dated 2018.
  - Draft Diep River Estuarine Management Plan (EMP) (City of Cape Town and Infinity Environmental, 2022).
  - The Water Quality Remediation Plan for the Milnerton Lagoon (Infinity Environmental, 2023)

- An Estuarine Impact Assessment report, dated May 2025.
  - An Avifaunal Compliance Statement, dated March 2025.
- The EAP conducted site inspections in March 2024, which included walking over the park area alongside the eastern verge of the site, and considering the vegetation, soils, and topography.

This report presents the outcomes of the SSV as described above.

## 2 FINDINGS

### 2.1 Current Situation

The Milnerton Lagoon ('lagoon' or 'estuary') is the well-known lower section of the Diep River Estuary where the Diep River enters the sea at Lagoon Beach in Cape Town (refer to Figure 1 below). Water quality in the lagoon has declined significantly in recent years due to high levels of pollution and other anthropogenic impacts. The effects of poor water quality in the estuary include a sulphurous odour and discoloured water, due to high levels of suspended solids and extremely low oxygen levels.

Sewage-derived pollution is a major contributor to water quality impacts in the estuary, and includes excessive loading of organic solids from the Potsdam wastewater treatment works (WWTW). During 2024 and 2025, the lagoon has also been affected by the discharge of large volumes of untreated sewage because of the episodic failure of the Koeberg Road sewage pump station and its resulting discharges into the Theo Marais stormwater canal upstream of Otto du Plessis Drive).

In addition to the ongoing effects of inflowing pollutants, water quality in the lower estuary is affected by the extent to which clean seawater can enter the lagoon during high tides, replacing polluted river flows with cooler, saline water with higher dissolved oxygen concentrations. This daily tidal exchange is dependent on the dynamics of the estuary mouth, coastal processes, and flows from the river. In general, greater tidal exchange has been associated with improved water quality in the lower lagoon (between the Loxton Road bridge and the mouth). Tidal exchange is reduced when the mouth is partially closed, which is influenced by many different factors including deposition of sediments at the mouth. Organic sediments derived from wastewater and urban runoff accumulate on the bed of the estuary over time and are periodically flushed out to sea in large flood events. Accumulated organic-rich sediments increase the demand for oxygen from the water column as microbes decompose the material. This process reduces the levels of dissolved oxygen concentrations in the estuary. If there is insufficient oxygen available in the water (as is often the case in the lagoon), conditions turn anoxic, allowing certain bacteria to produce hydrogen sulphide, resulting in characteristic foul odours.

The proposed activity is the dredging (with or without off-site disposal) of the lower section of the Milnerton Lagoon from just upstream of the Loxton Road bridge to the estuary mouth with the placement of dredged sediment along channel margin(s) (refer to **Figure 2 and 3** below).

Up to 30 000 m<sup>3</sup> of material will be moved within the lagoon to achieve this during the dredging phase of the project, and up to 120 000 m<sup>3</sup> during the post-dredging phase to maintain the scoured depth of the dredged channel and an open estuary mouth in accordance with the MMP (see Appendix H2 of the Basic Assessment Report [BAR]), as and when needed to ensure the hydrodynamic function of the lower lagoon is maintained. Furthermore, should partial off-site disposal be the implemented design and layout alternative (refer to Design and Layout Alternative 5 below) then the dredged material would be separated by cyclone, with clean sand returned to the lagoon (i.e., with placement of sediment particularly on the eastern bank of the channel) and approximately 6 000 m<sup>3</sup> of nutrient-enriched fine sediments dewatered and removed off-site (see **Figure 3** below).

The main purpose of the dredging is to maximise tidal flushing and improve the hydrodynamics of the lower section of the lagoon. The dredged material is proposed to be placed on the side(s) of the dredge channel to form sand banks. Additional benefits associated with this sediment placement on the side of the channel include exposure of the deposited sediment to ultraviolet (UV) light and oxygen during low tide, which can reduce odours and increase the rate of decomposition of organic materials.



Figure 1: Locality map indicating the site located on Erf 20315, within the Milnerton Lagoon.

The various sensitivities and contextual constraints presented by the site resulted in two potential design and layout alternatives, which together with the no-go alternative were considered for this application:

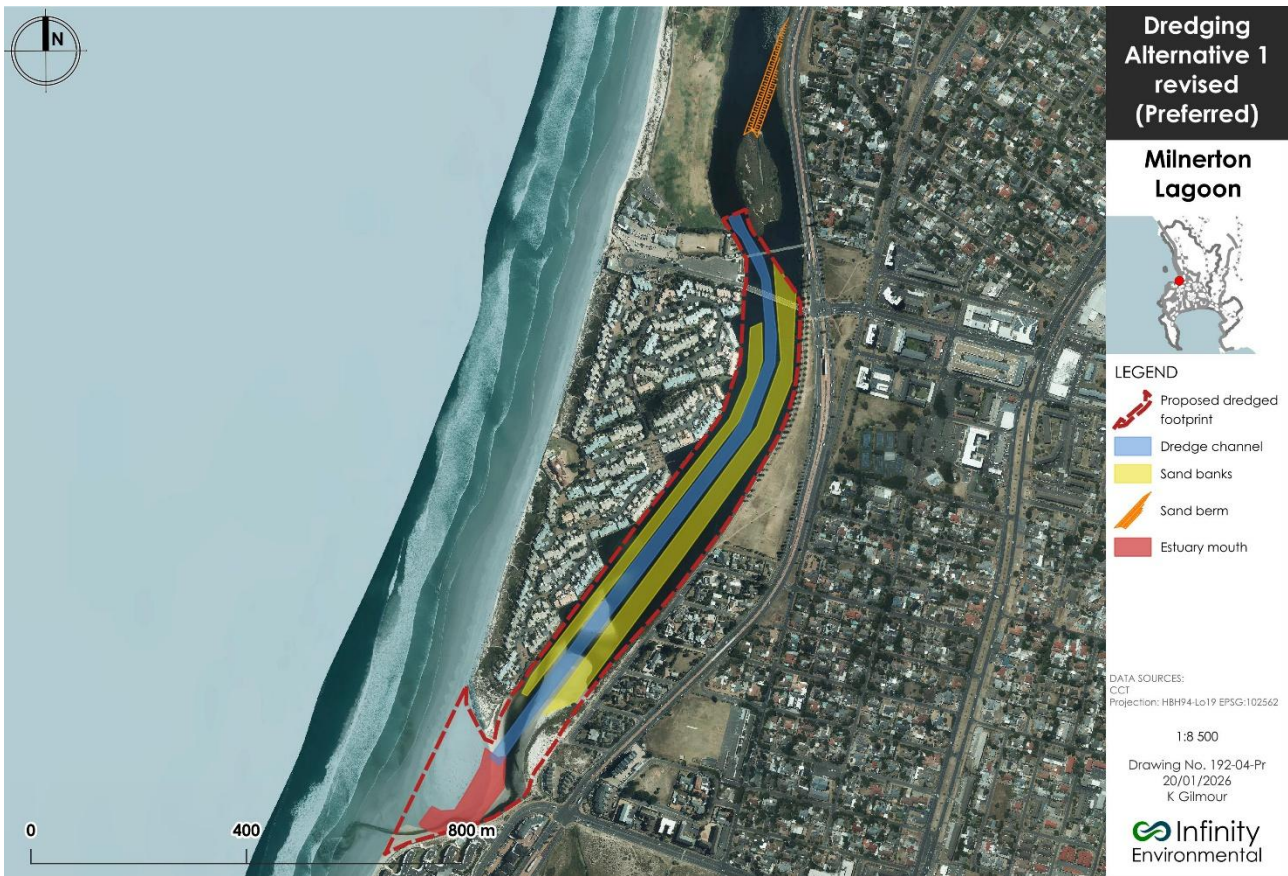
- **Alternative 1 (Preferred Alternative)- Dredging with placement of material within the lagoon:**  
This option involves dredging approximately 30,000 m<sup>3</sup> of sediment from the channel and placing it on the sides of the dredged area to build up sandbanks within the intertidal zone – refer to **Figure 2** below. During the post-dredging phase of the project, up to 120 000 m<sup>3</sup> of sediment will be dredged from the channel and/or estuary mouth, and placed on the sides of the channel within the intertidal zone and an open estuary mouth maintained in accordance with the MMP (see **Appendix H2**), as and when needed to ensure the hydrodynamic function of the lower lagoon is maintained.  
These sandbanks would be naturally exposed to cycles of oxygen and ultraviolet light (UV) through wetting and drying, assisting in the breakdown of organics. Importantly, this option does not require off-site disposal or dewatering, thereby will not take up scarce landfill space nor involve the excessive transport and loading to move sediment off-site to an appropriate and capacitated landfill site, making it the least costly and least disruptive alternative.

Dredging could be completed in approximately five months, with impacts limited to the dredged footprint and without significant loss of public space.

- **Alternative 5 (Least Preferred) – Dredging of the channel with partial off-site disposal:** This option involves dredging of up to 30,000 m<sup>3</sup> of material, which would be separated by cyclone, with clean sand returned to the lagoon (i.e., with placement of sediment particularly on the eastern bank of the channel) and only around 6 000 m<sup>3</sup> of nutrient-enriched fine sediments dewatered and removed off-site (refer to **Figure 3** below). During the post-dredging phase of the project, up to 120 000 m<sup>3</sup> of sediment will be dredged to maintain the scoured depth of the dredged channel and an open estuary mouth and placed on the eastern side of the channel within the intertidal zone in accordance with the MMP (see **Appendix H2**), as and when needed to ensure the hydrodynamic function of the lower lagoon is maintained.
- **The No-Go Alternative:** Entails maintenance of the *status quo* and therefore not implementing dredging (with or without off-site disposal) in the Milnerton Lagoon. This option would essentially ensure the persistence of the lagoon's current degraded state without any remedial relief, and the likely heightened public scrutiny for the City's failure to respond to the effects of pollution within the lagoon (refer Section G, question 8 above for more detail on the socio-economic aspects of the project).

Under this option, the hydrodynamic functioning of the lagoon would not be markedly improved but instead will remain limited in tidal flushing with periodic mouth closure and increased retention of freshwater during summer with high evaporation rates, resulting in the development of a reverse salinity gradient. While winter flooding may cause natural and temporarily improved intertidal exchange, this is inconsistent and insufficient to support lasting ecological recovery.

Given the continued environmental degradation and potential to lose out on socio-economic opportunities under the No-Go Alternative, it is considered neither reasonable nor feasible. The implementation of the proposed dredging (with or without off-site disposal) and sediment placement activity is therefore strongly preferred, as it offers clear, tangible short- to medium-term benefits for the hydrodynamic function of the lower lagoon, with the subsequent potential to pose a positive indirect impact both on estuary ecosystem health and upon local community well-being.



**Figure 2: Schematic representation of the proposed dredging of a central scour channel (indicated by the blue polygon) within the lower Milnerton Lagoon with placement of material along the channel margins as indicated by the yellow polygons.**

The main purpose of the dredging is to maximise tidal flushing and improve the hydrodynamics of the lower section of the lagoon. The creation of a dredge channel is intended to increase flow velocities and help keep fine material suspended so that it can be flushed out to sea during tidal cycles. The dredged material is proposed to be placed on the sides of the dredge channel to form sand banks. Additional bioremediation benefits associated with this sediment placement on the side of the channel include exposure of the deposited sediment to ultraviolet (UV) light and oxygen during low tide, which can reduce foul odours, pathogens, and labile organics such as dissolved organic carbon.



Figure 3: This schematic presents the design and layout Alternative 5 – the proposed dredging with off-site disposal.

## 2.2 Biophysical Characteristics

### 2.2.1 Terrestrial biodiversity

The site falls within a Protected Area, part of the Table Bay Nature Reserve (as per Provincial Gazette No. 8825, published in Gazette Notice No. 91, 22 September 2023) is a part of the Cape West Coast Biosphere Reserve and Fynbos Biome (particularly Cape Flats Dune Strandveld vegetation – listed as an endangered ecosystem in terms of Section 22 of the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004), as amended). However, the site itself falls within the boundaries of the lower estuary and is not a terrestrial environment.

Desired management objectives for Protected Areas are that they must be kept in a natural state, with a management plan focused on maintaining or improving the state of biodiversity. The National Environmental Management Protected Areas Act, 2003 (Act No. 57 of 2003), as amended (NEM:PAA) requires that land use and management in protected areas is governed by a formally approved management plan; for the Milnerton Lagoon, this is the 2022 Diep River Estuarine Management Plan (EMP).

According to the 2022 Diep River EMP, the upper reaches of the estuary exhibit various habitats including salt marshes, reeds, sedges, coastal vegetation and disturbed wetland habitat. The lower reaches of the lagoon, where the proposed dredging is to occur, consists largely of development (housings, roads, bridges etc.) surrounding open water. The development around the lower reaches of the lagoon has removed natural salt marsh habitat, with only a few small pockets evident near Woodbridge Island and the Milnerton Golf Course.

The proposed dredging activity aligns with the management objectives for Protected Areas since it aims to improve the hydrodynamic functioning of the lower reaches of the Milnerton Lagoon and is

a remediation measure which, if implemented alongside other pollution abatement measures, is intended to improve the water quality in the Milnerton Lagoon and Diep River Estuary.

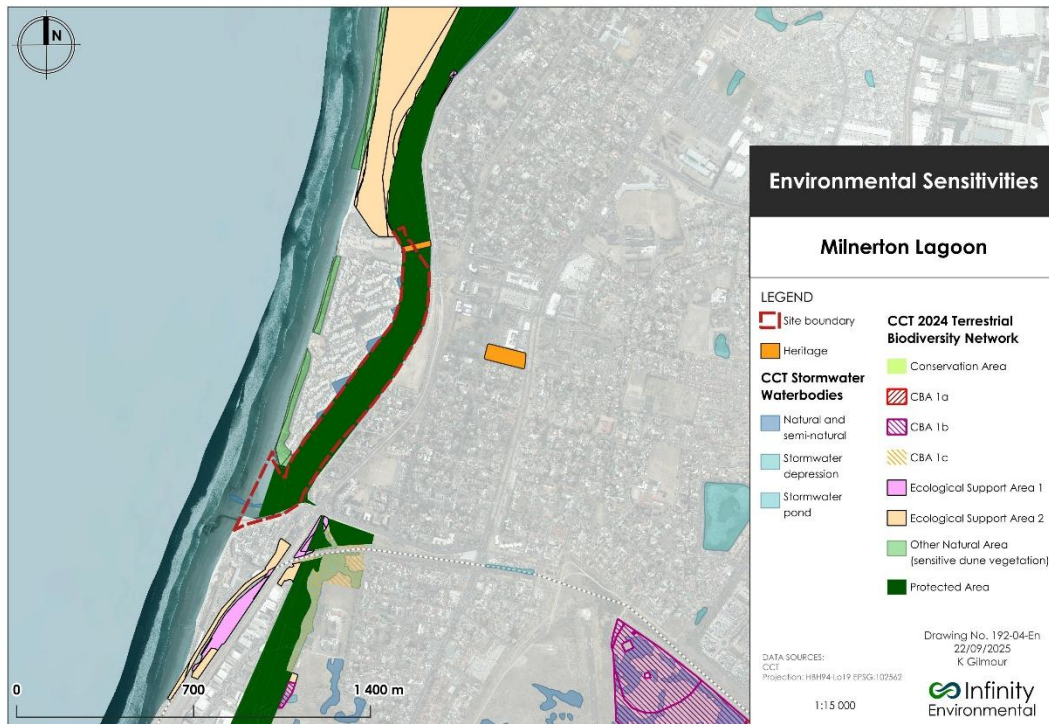


Figure 4: Biodiversity Spatial Plan classifications of the site

### 2.2.2 Aquatic biodiversity

The site is located within the estuarine functional zone of the Diep River Estuary. The mouth of the lagoon is highly dynamic and forms part of the littoral active zone\*. The proposed site is also considered part of the Coastal Protection Zone† (CPZ) and Coastal Public Property‡ (CPP) in terms of National Environmental Management: Integrated Coastal Management Act, 2008 (Act No. 24 of 2008), as amended (NEM:ICMA).

Milnerton Lagoon is part of the Diep River Estuary (DWS quaternary catchment G21F), which lies downstream of the Diep River Catchment within the City of Cape Town and Swartland Local Municipality (West Coast District). The catchment is in the winter rainfall region of the Western Cape, and mean annual rainfall is relatively low, contributing to the low flows in the Diep River Estuary in the summer months. Milnerton Lagoon is located in, and forms part of the Berg-Olifants Water Management Area. Like all catchments within the City's boundaries, the catchment is included in the Berg River Classification. Resource Quality Objectives (RQOs) have been gazetted for rivers, estuaries, dams and groundwater resources in this area (GN 1179 of 2020).

\* The NEM:ICMA, defines the 'littoral active zone' as "any land forming part of, or adjacent to, the seashore that is unstable and dynamic as a result of natural processes; and characterised by dunes, beaches, sand bars and other landforms composed of unconsolidated sand, pebbles or other such material which is either unvegetated or only partially vegetated".

† The NEM:ICMA, defines the 'coastal protected zone' as the buffer area of land adjoining coastal public property that safeguards the ecological integrity, natural functioning, and hazard-mitigation role of the coastal environment.

‡ The NEM:ICMA, defines the 'coastal public property' includes the seashore, coastal waters, and natural coastal resources that are held in trust by the state for the benefit and enjoyment of all South Africans.

Flows in the estuary are seasonally variable, with significantly reduced or non-existent flows from the upstream catchment during summer, while constant Wastewater Treatment Works (WWTW) discharge remains the majority of flows during the drier summer months. According to the 2022 Diep River EMP, the lagoon is impacted by an excessively high loading of organic waste from the Potsdam WWTW discharging into the estuary, and that the lagoon has also been affected by the discharge of large volumes of untreated sewage as a result of the episodic failure of the Koeberg Road sewage pump station and its resulting discharges into the Theo Marais stormwater canal.

In addition to the ongoing effects of inflowing pollutants, water quality in the lower estuary is affected by the extent to which clean seawater can enter the lagoon during high tides, replacing polluted river flows with cooler, saline water with higher dissolved oxygen concentrations. This daily tidal exchange is dependent on the dynamics of the estuary mouth, coastal processes, and flows from the river. In general, greater tidal exchange has been associated with improved water quality in the lower lagoon (between the Loxton Road bridge and the mouth). Tidal exchange is reduced when the mouth is partially closed, which is influenced by various factors including increased deposition of organic sediment(s) at the mouth. Organic sediments derived from wastewater and urban runoff accumulate on the bed of the estuary over time and are periodically flushed out to sea during large flood events. Accumulated sediments use oxygen from the water column to decompose, and this increased oxygen demand lowers dissolved oxygen concentrations in the estuary. If there is insufficient oxygen available in the water (as has often been the case in the lagoon), anaerobic decomposition may result, producing hydrogen sulphide with its characteristic foul odours.

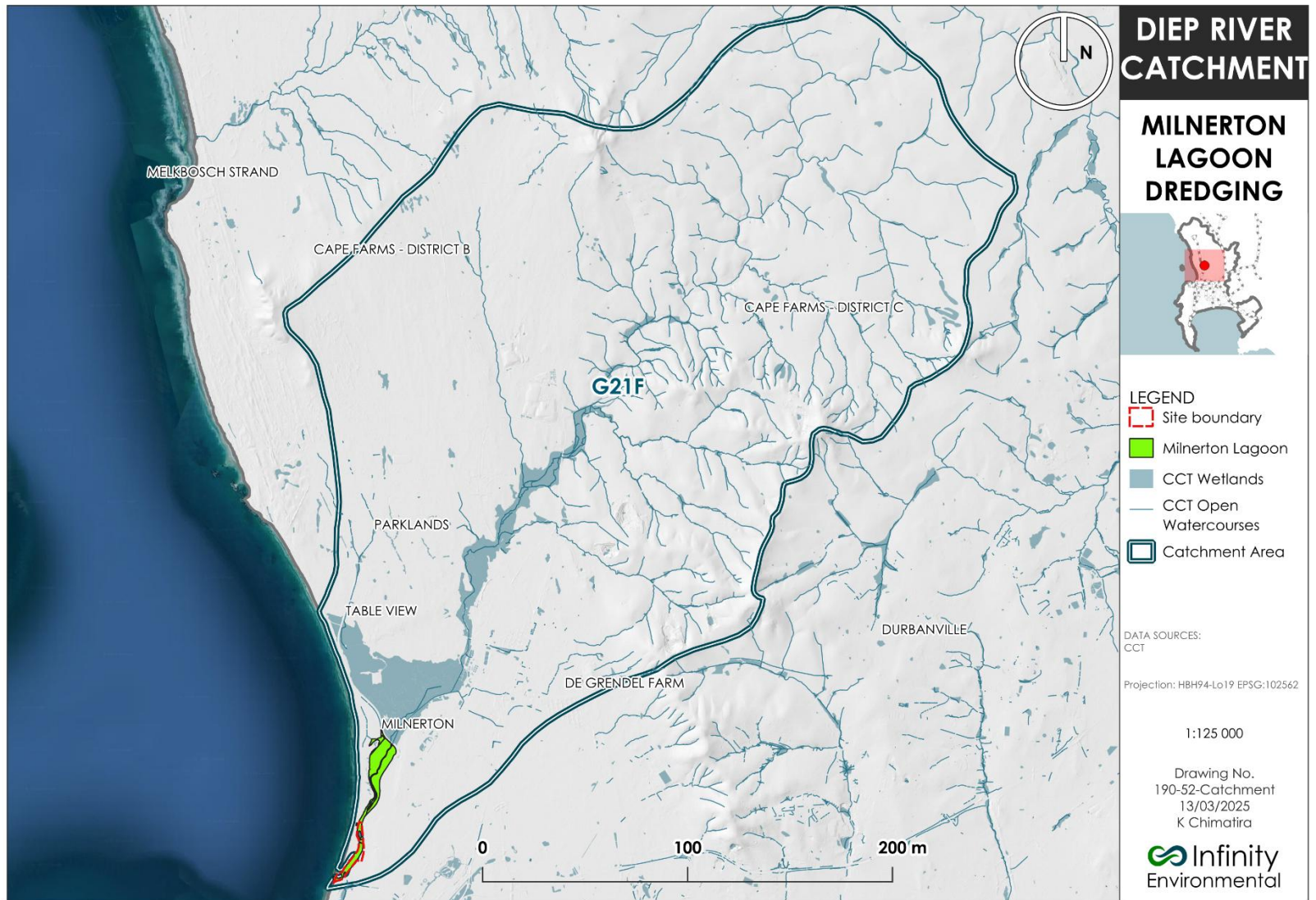


Figure 5: Diep River Catchment

### 3 VERIFICATION OF THE MAPPED SENSITIVITIES

The Procedures for the Assessment and Minimum Report Content Requirements for Environmental Themes (GN 320 of 2020) ('the Protocols') came into effect on 30 October 2020, and mandate site sensitivity verifications for specific themes based on the DFFE National web-based environmental Screening Tool Report. The following environmental themes were assessed for the subject site:

Table 1: Summary of sensitivity themes

Theme	Sensitivity			
	Very High Sensitivity	High Sensitivity	Medium sensitivity	Low sensitivity
Agriculture			X	
Animal species		X		
Aquatic biodiversity	X			
Archaeological and cultural heritage	X			
Civil aviation		X		
Defence	X			
Palaeontology			X	
Plant species			X	
Terrestrial biodiversity	X			

The themes above require a SSV followed by specialist assessments in terms of the Protocols. The sections below provide an overview of the verified site sensitivity.


Other specialist studies unrelated to the identified themes but listed in the screening tool report, included:

- Landscape/Visual Impact Assessment;
- Hydrology Assessment;
- Marine Impact Assessment; and
- Socio-Economic Assessment.

In terms of the Protocols, the themes listed in Table 1 above require a SSV followed by specialist assessments depending on the confirmed sensitivities. The sections below provide an overview of the verified site sensitivity.

#### 3.1 Agriculture Theme

The site's medium sensitivity rating by the Screening Tool for the Agriculture theme results from its identification as having low to moderate agricultural land capability. This assessment is based on the National Land Capability Dataset, which considers climate and soil type but does not consider existing land use. However, the site itself is located within the Diep River Estuary.

 This site sensitivity verification therefore **disputes** the Screening Tool rating of Medium sensitivity for the Agriculture theme and confirms the agricultural sensitivity to be non-existent. No agricultural assessment or compliance statement is required.

## 3.2 Animal Theme

The site is mapped as having a high sensitivity for the Animal Species theme. The species on which this sensitivity rating is based, as noted in the Screening Tool Report, are listed below:

**Aves - *Circus ranivorus* (African marsh harrier):** The African marsh harrier is classified as Endangered and is sparsely distributed across wetlands throughout central and east Africa, and southwards to southern Africa. It is usually found in wetland areas, especially those with reeds, but also occurs in grassland and farmland. This species has an extremely large range, but the primary threat faced by this species is loss and degradation of its sensitive wetland habitats, brought about by drainage or damming for development and agriculture. Along the Milnerton Lagoon, much of the original wetland habitat has already been lost due to surrounding infrastructure and development. The lagoon's edges are largely hard-engineered and canalised, and as a result, the proposed dredging is expected to have a negligible impact on this species.

**Aves - *Hydroprogne caspia* (Caspian tern):** The regionally vulnerable species is restricted to a small number of breeding locations leaving it prone to the effects of human activities or stochastic events within a short time-period. Their preferred nesting habitat is on sandy beaches, sand-dunes, sheltered reefs or islands with sparse vegetation surrounded by clear, undisturbed, shallow waters. Hunting is carried out 3 – 20 m above the water, parallel to, and within 100 m of the shoreline. This species does not breed in areas exposed to high levels of disturbance. The proposed site is the Milnerton Lagoon, which is disturbed and unfavourable for nesting and therefore the probability of this species occurring on the site is low. It may occur and hunt in the vicinity of the site, which is located within 100 m of the shoreline, and along Lagoon Beach.

**Aves - *Pelecanus onocrotalus* (Great white pelican):** This species is restricted to less than five breeding locations in the country and is vulnerable to short-term anthropogenic activities and stochastic events. In South Africa, breeding takes place at three localities, namely Vondeling, the Dassen islands in Western Cape, and at Lake St Lucia in KwaZulu-Natal. Birds spread out from these breeding sites, extending up the West Coast of Western Cape, and in KwaZulu-Natal southward down the East Coast to Durban and northward into Mozambique. Non-breeding birds are found scattered at large waterbodies in all other provinces. Great white pelicans inhabit estuaries, lagoons, coastal bays, shallow lakes, floodplain pans and dams where they feed on fish and, at times, other seabirds. Owing to the diminished fish population in Milnerton Lagoon as well as unfavourable breeding conditions, the species is unlikely to be found in significant populations at the site.

**Invertebrate – *Conocephalus peringueyi* (Peringuey's Meadow Katydid):** This species is known only to inhabit the mountains of the south-western Cape, South Africa, particularly in the Fynbos biome. This species is vulnerable and key threats include habitat destruction due to livestock grazing and habitat shifts associated with climate change. This species is found at high elevations; therefore, it is unlikely to be found at the Milnerton Lagoon.

The lagoon does not provide suitable habitat for the listed invertebrate, which is associated with mountain fynbos. All three listed bird species have historically been identified in the lower Diep River Estuary, which may provide foraging habitat for these species. Deterioration in the habitat quality over the past five years is expected to have reduced the value of the lagoon as habitat for these species, but they may well be present from time to time. While some temporary disturbance is anticipated, the proposed dredging will not result in any loss of habitat used by these species, and the ratings in the Screening Tool Report are not of direct relevance due to the nature of the application and of the activities, which are proposed as remediation measures for existing pollution.

The avifaunal specialist confirmed that with the application of the recommended mitigation measures, the impacts of the proposed dredging on local birdlife are of Low significance and thus the avifaunal sensitivity rating of the Screening Tool is disputed.

The impacts of the proposed dredging on birds are assessed in both the Avifaunal Compliance Statement and the Estuarine Specialist Assessment.



This site sensitivity verification **disputes** the Screening Tool rating of High sensitivity for the animal species theme because the site on which the proposed development is set to occur is not expected to provide a suitable habitat for any of the listed species at present. Moreover, the avifaunal specialist confirmed within the Compliance Statement that with the application of the recommended mitigation measures, the impacts of the proposed dredging on local birdlife are of Low significance.

### 3.3 Aquatic Biodiversity Theme

The site is mapped as having Very High aquatic biodiversity sensitivity rating because the site area falls within the Diep River Estuary and its associated wetland habitat.



This sensitivity rating in the Screening Tool **confirms** the Screening Tool rating of **Very High sensitivity** for the Aquatic biodiversity theme due to the site's location within the lower reaches of the Diep River Estuary. An Estuarine specialist assessment was deemed more appropriate than an Aquatic Biodiversity assessment. An Estuarine Impact Assessment and Hydrodynamic Modelling Report was compiled by Anchor Environmental and is attached as Appendix G1 to the draft BAR.

### 3.4 Archaeological and Cultural Heritage Theme

The site is mapped as having a Very High sensitivity rating for the archaeological and cultural heritage theme due to the site being within 2 km of a Grade II Heritage site and within 100 m of an Ungraded Heritage site. Woodbridge was built in 1901 and is identified as a Heritage Site. In terms of Section 34 (1) of the National Heritage Resources Act, 1999 (Act No. 25 of 1999), as amended (NHRA), "no person may alter or demolish any structure or part of a structure which is older than 60 years without a permit issued by the relevant provincial heritage resources authority".




The proposed activity is not anticipated to impact on the Wooden Bridge, as dredging activities will be limited to the lagoon itself. While the sensitivity rating is not disputed, the proposed activities will not impact on this heritage resource but will be carried out below the bridge; thus the need for a standalone specialist assessment is disputed.

### 3.5 Civil Aviation Theme

The site is mapped as High sensitivity for being:


- Within 15 km of a civil aviation radar (high sensitivity);
- Between 8 and 15 km from a major civil aviation aerodrome (high sensitivity); and
- Between 8 and 15 km of other civil aviation aerodrome (medium sensitivity).

The proposed activity is approximately 14 km north-west of the Cape Town International Airport. The Ysterplaat Air Force Base is located approximately 1.2 km south-east of the proposed site. Any impact by the dredging on civil aviation radars is highly unlikely as the activity will not require the erection of any structures above the height of existing structures. As a result, a compliance statement will not be necessary.

-  This Site Sensitivity Verification therefore disputes the screening tool sensitivity rating and confirms that the site proposed for dredging has low sensitivity as no obstacle to aviation is proposed. The proposed activity is consistent with the description of a low sensitivity rating, in that, *"No negative impacts on the civil aviation installation are expected"*.


### 3.6 Defence Theme

The site is mapped as Very High sensitivity for the defence theme due to the existence of a military defence site. The Screening Tool does not provide any background information explaining the reason for this classification, and there is no formal guidance available on methods for determining a site's Defence Theme sensitivity. It is most likely the Ysterplaat Air Force Base causing the very high sensitivity classification. As discussed in the aviation theme, this activity will not involve buildings above the height of surrounding developments or installing any electrical equipment that has the potential to interfere with radar or communication equipment.

-  This site sensitivity verification therefore **disputes** the Screening Tool rating of Very High sensitivity for the defence theme and confirms that the site has no defence sensitivity. A compliance statement is not required.

### 3.7 Palaeontology Theme

The site and the wider area are mapped as Medium sensitivity owing to features with a medium palaeontological sensitivity. Although the activity will require excavation in the form of dredging, the screening tool does not provide metadata indicating the reasons for such classifications. The site is surrounded by development as evidenced by the presence of roads, rail and housing developments, and the lagoon mouth is a dynamic area exposed to tidal flow and flushing. It is therefore unlikely that there are any intact fossils in the area that would not have been destroyed or carried out to sea.

-  This site sensitivity verification therefore **disputes** the Screening Tool rating of Medium sensitivity for the palaeontological theme, and confirms that the site has no palaeontological sensitivity. A specialist assessment is not required.

### 3.8 Plant Species Theme

The site is mapped as having a Medium sensitivity rating due to the existence of Low and medium sensitivity plant species.

The site, excluding the park area adjacent to Marine Drive (which may be used for temporary dewatering), is not terrestrial, and has been highly disturbed by prolonged anthropogenic pollution inputs. An Estuarine Impact Assessment was undertaken, which found that the only remaining 'natural vegetation' of environmental significance is the vegetation downstream of the Woodbridge comprising a thin strip of dunes between the Woodbridge Island development and the beach itself.

The open space park area proposed for dewatering activities (should the least preferred Design and Layout Alternative 5 be implemented), is completely transformed and exhibits no remaining natural habitat features. It is fully landscaped and maintained as a manicured grassed area, reflecting a high degree of human modification.



The sensitivity rating of the site is therefore contested and is instead proposed as Low, based on the following considerations. Due to the highly modified and degraded nature of the site, which is within the Diep River Estuary itself, it is not likely that the proposed dredging will impact on any plant species identified in the Screening Tool. Moreover, an Estuarine Impact Assessment was undertaken, which assessed anticipated impacts on estuarine ecosystems (including a review of vegetation).

### 3.9 Terrestrial Biodiversity Theme

The proposed dredging area, excluding the park area adjacent to Marine Drive (which may be used for temporary dewatering), is within the estuary itself and does not therefore support any terrestrial vegetation. The Estuarine Impact Assessment undertaken for the project (Appendix G1 of the BAR), found that the only remaining 'natural vegetation' of environmental significance is the vegetation downstream of the Woodbridge comprising a thin strip of dunes between the Woodbridge Island development and the beach itself.

The open space park area proposed for dewatering activities (should the least preferred Design and Layout Alternative 5 be implemented), is completely transformed and exhibits no remaining natural habitat features. It is fully landscaped and maintained as a manicured grassed area, reflecting a high degree of human modification.



No impact upon terrestrial biodiversity is expected because of the proposed dredging. The sensitivity rating in the Screening Tool is disputed for this theme and suggested instead to be Low.

## OTHER STUDIES IDENTIFIED IN THE SCREENING TOOL REPORT

### 3.10 Landscape and Visual Impact Assessment

The proposed dredging will not result in any permanent change in the landscape or sense of place. Temporary visual disturbance is anticipated as a result of the dredging activities, which has been assessed in the BAR.

A standalone visual impact assessment is not required and instead measures to reduce visual impacts for the proposed dredging have been accounted for within the Environmental Management Programme (EMPr).

### 3.11 Hydrological assessment

One of the primary aims of the dredging activity is to improve the hydrodynamic functioning of the Milnerton Lagoon and thus the need for a hydrological assessment is concurred with.



This Screening Tool Verification Report **confirms** the Screening Tool's identification of the need for a Hydrological Assessment due to the site's location within the lower reaches of the Diep River Estuary. An Estuarine Impact Assessment and Hydrodynamic Modelling Report addressing the hydrological impacts of the proposed dredging was compiled by Anchor Environmental and is attached as Appendix G1 to the BAR.

### 3.12 Marine Impact Assessment

The site is located within the Diep River Estuary, which forms the interface between marine and freshwater environment. Considering the proposed dredging does not constitute any disposal of dredged material to sea nor to the estuary mouth but rather constitutes the placement of dredged material along the sides of the dredged channel within the intertidal zone of the lower lagoon, no direct impacts on the marine environment are anticipated. Instead, impacts on the estuarine environment are anticipated and thus an Estuarine Impact Assessment was undertaken for the proposed dredging.



This Site Sensitivity Verification Report **confirms** the Screening Tool's identification of the need for a Marine Impact Assessment due to the site's location within the lower reaches of the Diep River estuary. An Estuarine Impact Assessment and Hydrodynamic Modelling Report addressing marine impacts was compiled by Anchor Environmental and is attached as Appendix G1 to the BAR.

### 3.13 Socio-economic assessment

The poor water quality of the Milnerton Lagoon currently results in significant socio-economic impacts, most notably the persistent foul odours that negatively affect nearby residents, businesses and beach-goers.



No significant negative socio-economic impacts are expected because of this project; instead, improvements are expected in this regard post-dredging since the improved water quality of the lower lagoon is anticipated to contribute to improved user experience of the lagoon, nuisance reduction for nearby residents and businesses and potentially cultivate a boost in recreational and tourism opportunities within the area. It is the opinion of Infinity that the socio-economic aspects of this project are adequately assessed in the BAR.

A standalone socio-economic assessment is not required.

## 4 CONCLUSION

The purpose of this report is to respond to the findings of the national web-based Screening Tool Report (STR) and to present the outcomes of the SSV undertaken as per the requirements of GN No. 320, 20 March 2020. This report confirms or disputes the current use of the land and the environmental sensitivity of the site under consideration, as identified by the STR, and contains a motivation and evidence of either the verified or different use of the land and environmental sensitivity.

This report has been compiled through a desktop analysis of available information, including aerial imagery (e.g., Google Earth Pro and QGIS), a site visit; and other information available at the time of writing (such as specialist inputs).

The report also serves to confirm the specialist studies that have been undertaken and a motivation for not undertaking any of the specialist studies identified in the STR.

Based on the findings in this SSVR, it is confirmed that the project site has aquatic sensitivities, and an Estuarine Impact Assessment, with an assessment of the hydrodynamic impacts of the proposed dredging on the lower lagoon is required for these themes. In addition, a Faunal Compliance Statement was compiled to assess the effects of the proposed dredging with placement of dredged material within the intertidal zone, on faunal species. The specialist reports will be submitted as part of the appendices accompanying the BAR and has informed the application and assessment of alternatives and impacts.