

Project Brings Sand Back to Durban's Beaches

[Durban, South Africa, 18 May 2018] An innovative sand pumping initiative between eThekweni Municipality and Transnet National Ports Authority (TNPA) has successfully reinstated sand along eroded sections of Durban's popular Golden Mile and could offer similar benefits for beaches extending further northwards.

The municipality and TNPA proposed the initiative late last year to tackle beach erosion exacerbated by climate change and inclement weather. A trial of the project was conducted in October 2017.

The special beach nourishment programme involves deploying one of TNPA's dredging vessels, the Ilembe, out at sea. Sand collected by the dredger during TNPA's usual harbour dredging operations from the 'sand trap' (an area just around the outside of the southern breakwater) is then discharged directly onto the beach via a floating under-sea pipeline. Private contractors appointed by the Municipality, Subtech and Katlantic, are responsible for managing the positioning of the pipeline as well as the shore side managing of the sand, under the guidance of an expert from Royal IHC, the Netherlands company which built the Ilembe vessel. This method of sand replenishment – in use globally but not to date on South African beaches – has provided direct nourishment to affected areas of the Durban beachfront in a fast, productive and cost-effective manner.

Portions of North Beach, Dairy Beach, Country Club and Battery Beach were closed to the public from 20 April 2018 to allow the sand pumping operations to take place over approximately four weeks.

To date North Beach has been completed with approximately 74 000 m³ of sand replenished in this area. As at mid-May a total of 194 000 m³ of sand was dredged across the initial beaches – and locals have already noticed the difference.

Dairy Beach commenced on 10 May and is expected to be completed by 17 May. Thereafter sand will be provided to the Suncoast area.

Carl Gabriel, Executive Manager for Dredging Services at TNPA, said: "Durban and Richards Bay are the only cities in which TNPA has an agreement with the municipalities to replenish sand onto the beaches. Our top priority as the port authority is to ensure that the entrance channels, basins and berths at our commercial ports are safe for navigation. This is achieved through regular maintenance dredging in which our dredging fleet is shared across our ports according to a national dredger deployment plan that ensures our equipment does not sit idle."

He added: "Our beach nourishment agreement with the eThekweni Municipality requires us to provide a minimum of 250 000 cubic metres of sand a year to reinstate the city's beaches situated north of the channel mouth, due to the natural migration of sand along the coast. A maximum of 500 000 cubic metres can be supplied, subject to the availability of the upper limit from the sand trap, a deep hole in the sea on the south side of the South Pier that is used to trap sand that naturally moves northwards due to winds and currents."

Gabriel further said: "This current project is of high importance to us as it proves that the dredger is able to nourish the beaches from the sea-side. This opens the possibility of providing the same service to nourish beaches even further North such as Umhlanga and Umdloti. These projects would provide an excellent means of TNPA Dredging Services utilising our spare trailing suction hopper dredger capacity for the benefit of our port cities."

While TNPA has exceeded 500 000 cubic metres of sand annually supplied to the City over the last 10 years, climate change and delays in commissioning TNPA's sand hopper station have necessitated this extra project. TNPA's Dredging Services division continues to collaborate closely with the municipality under the guidance of Godfrey Vella, manager of coastal engineering, storm water and catchment management, at eThekweni Municipality.

TNPA's temporary solution for sand pumping also includes a direct discharge line (DDL) to replenish large volumes of sand from the channel back onto the Durban beaches as quickly as possible. However, the permanent solution

will be the commissioning of the TNPA sand hopper station by the end of May, once final performance testing has been completed at the facility. The new sand hopper will deliver sand directly into the municipality's sand pumping booster station for sand to be distributed to the beaches north of the port's entrance channel. The TNPA sand hopper was built to replace the municipal sand hopper which had to be demolished to accommodate the harbour entrance widening project in 2007.

To view a video showing the beach replenishment underway on Durban's North Beach, visit <https://youtu.be/SeTnm6Vcduc>.

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About Transnet National Ports Authority

Transnet National Ports Authority (TNPA) is one of five operating divisions of Transnet SOC Ltd. The National Ports Authority is responsible for the safe, effective and efficient economic functioning of the national port system, which it manages in a landlord capacity. It provides port infrastructure and marine services at the eight commercial seaports in South Africa – Richards Bay, Durban, Saldanha, Cape Town, Port Elizabeth, East London, Mossel Bay and Ngqura. It operates within a legislative and regulatory environment and is governed by the National Ports Act (Act No. 12 of 2005). For more information visit www.transnetnationalportsauthority.net.

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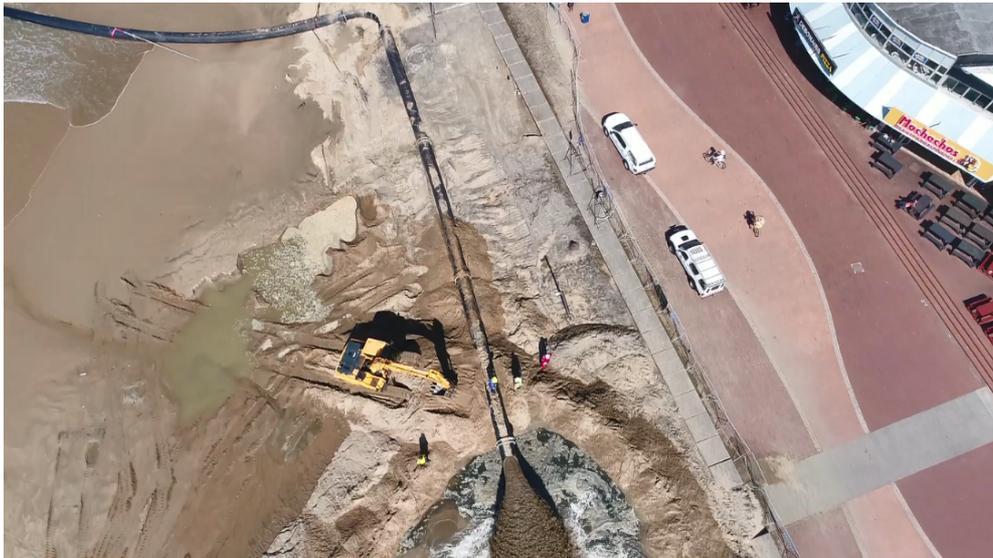
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Image Gallery

Below: TNPA's Ileembe dredger out at sea connected to a floating pipeline that has been pumping sand directly from the dredger onto Durban's beaches.



Below: The special sand pumping operation commenced on North Beach where it was completed on 8 May. Operations teams are now tackling other beach sections including Dairy Beach, Country Club and Battery Beach.



Below: (left to right) - Carl Gabriel, Executive Manager for Dredging Services at TNPA, TNPA Project Manager Khulani Khambule, TNPA Lead Project Manager and Operations Engineering Manager Arthro Peterson, eThekweni Municipality Manager of Coastal Engineering, Storm Water and Catchment Management, Godfrey Vella, and Gerrit Last of Royal IHC.



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