



DEPARTMENT OF
ENVIRONMENT
CAYMAN ISLANDS GOVERNMENT

Coastal Works Review

Ministry of District Administration, Tourism & Transport

Construction of a Public Dock and Excavation of Existing Channel and
Turning Basin

Sam McCoys Drive, Little Cayman

Block: 77A Parcel: 31 and 32

PREPARED FOR: MINISTRY OF HEALTH, ENVIRONMENT, CULTURE AND HOUSING

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Construction of Public Dock & Excavation of Existing Channel & Turning Basin Block: 77A Parcel: 31 & 32

Project Proposal

The applicant – the Ministry of District Administration, Tourism and Transport (DATT) – is seeking permission to construct a breakwater and public dock, and to excavate a channel and turning basin. Block 77A Parcel 31 is occupied by the now derelict Sam McCoy’s Dive Lodge.

We note from the cover Memo provided by the Ministry of DATT that the arrangement for the facility is:

- a) *“Lease the McCoy dock for the sake of public use;*
- b) *Arrange through the Land Registry public access along the western boundary of 77A/31, and*
- c) *Construct the channel, breakwater, dock and pave the public access”.*

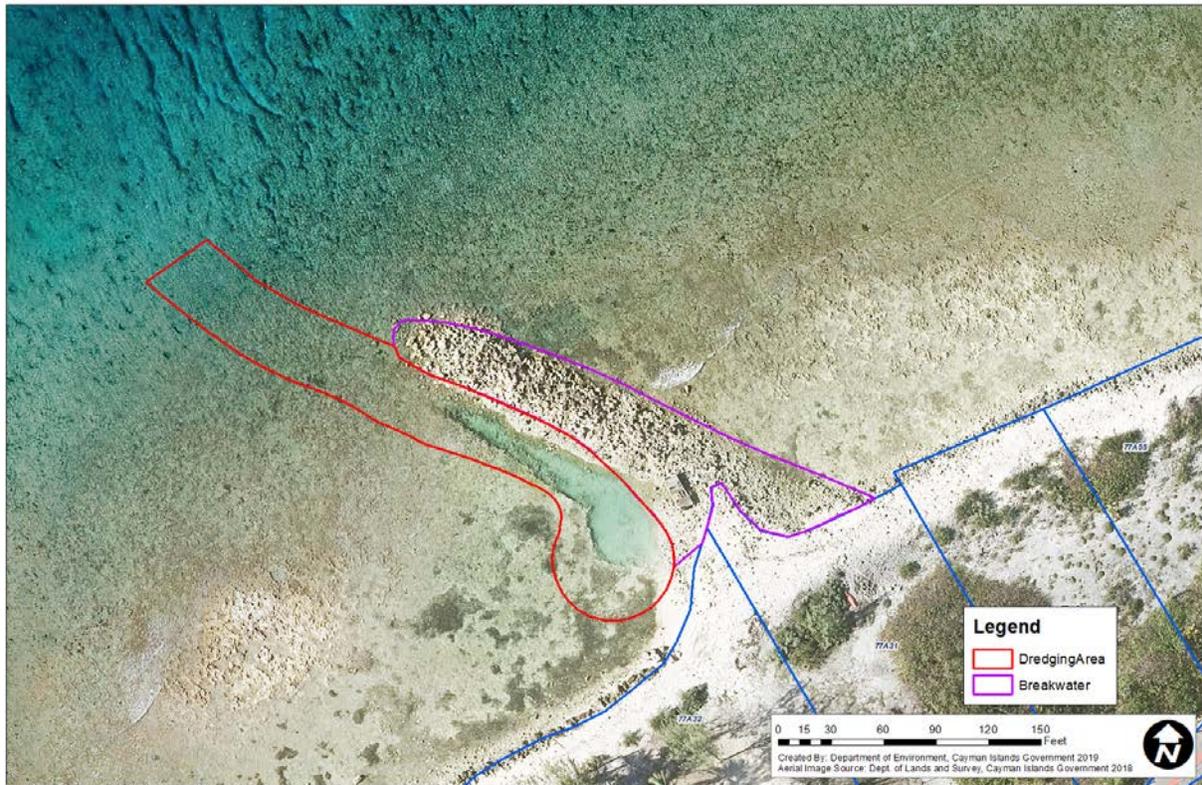


Figure 1: Aerial imagery showing the proposed breakwater (purple) and dredging area (red)
(Source: DoE 2019, LIS 2018)

Background

A breakwater and dock has been proposed in this area since at least late 1990 when a Coastal Works Application was submitted. The proposals included a large swim area and a much larger area of dredging

than was eventually approved. The application was debated by the Coastal Works Advisory Committee (which reviewed applications at that time). There was debate regarding the scale of development, the need for the dock and the precedent it would set in the area. It is believed that this application was deferred.

A second application was submitted in 1994 with revised plans and was refused. The recommendations of the Department of Environment were as follows:

- As per the 1977 Development Plan, Little Cayman is considered a unique island and every effort should be made to retain its unspoilt character and to make it appealing for people interested in nature.
- A public/commercial dock should be constructed to enhance safety and convenience while preventing the proliferation of dredging projects.
- McCoy's channel, dock and turning basin could be approved with the provision that the public and other dive operations may use the facility.

A third application was submitted in 2004, for a dredging access channel and turning basin, construction of a groyne and construction of a dock. This Coastal Works Permit was granted on 25 April 2005. The Coastal Works Review for the previous permit reiterated an on-going recommendation from the Department that there should be a public-private facility at the site, or a public facility should be developed at another site on Little Cayman's north coast for use by all diver operations in order to prevent the proliferation of private facilities. The access channel was dredged, and the groyne and dock were constructed in 2006. It was considered that the facilities proposed, with a relatively short 20 ft dock and a smaller turn basin, would not be useable by more than one dive operator at a time.

The dock and dredging area was never fully constructed and the dock was destroyed in 2008 by Hurricane Paloma. The breakwater has become dilapidated without maintenance since Sam McCoy's Dive Lodge closed.

Since then, a public dock with dredging has been constructed at Block 89A Parcel 18, located approximately 7 m to the east. This dock has potentially filled the need for a public dock on the north side of the island. This project involved dredging as well and the dock is in a more sheltered location within a reef protected lagoon and therefore less subject to bad weather.

The current proposals would expand on the application proposed in 2005. The previous dock was 20 ft in length by 8 ft in width. The proposed dock is 40 ft long. The dredge basin was previously 50 ft in diameter, and the new basin proposed in 70 ft wide. The dredged channel is much more extensive, with a larger area and is now 40 ft wide. The proposed dredged channel is 200 ft longer than the extent of the previous dredging.

It is unlikely that the proposed dock would be used extensively by the public. It may be useful to dive operators during periods when weather conditions are such that they would like to take guests to the dock via vehicle for comfort. This is likely to only be a few times a year. It could also be considered useful to have a dock in that location for emergencies. In addition, as the dredging will only be to 4 feet below Mean Sea Level, the larger dive boats will not be able to use the dock. Although the nearby Salt

Rock Dock is located within deeper water, the existing facilities are not ideal for smaller boats and the dock is difficult to use in an emergency.

Environmental Impacts

The proposed dredging and breakwater is not located within a Marine Protected Area, but is within the boundary of the enhanced marine parks. The proposed dock will involve the dredging of approximately 15,000 sq ft. The applicant has used the bathymetric data to calculate the dredging volume as 1,472 cubic yards. An area of 15,000 sq ft will be directly affected by the dredging, and only 3,000 sq ft of this area has been previously dredged. The vast majority of the area will be dredged for the first time under these proposals. The applicant is proposing to use a silt screen. The dredging will reach a level of 4 feet below Mean Sea Level.

In addition, the applicant is proposing to reconstruct a breakwater which has an area of approximately 11,300 sq ft. There will be a direct impact from the placement of rocks on the seabed and the materials that will be used will likely create issues of turbidity and sedimentation arising from particles washing off the rocks.

There is an existing derelict dock which is proposed to be removed. The dock has 8" PVC piles and concrete/rubble resting on the sand. The material will be transported to the Little Cayman Public Works Department site. Any sand excavated with the above will be sifted and spread on the beach. The project is proposed to take 9 months to complete.

The proposed dock will impact areas of seagrass benthic habitat and some coral heads.

Water Quality during Construction and Operation

The environmental consequences of dredging have long been documented. The primary direct and irreversible impact of dredging is the absolute physical removal of the bottom substrate. However, dredging has also been known to change water circulation, tidal flow and water levels. These impacts can significantly alter the presence, distribution and abundance of species that currently colonise the area, performing vital ecological functions, while also changing the nearshore's ability to protect the coastline. Dredging operations generate transient plumes of sediment as the material is removed. The water column will be affected by turbidity for a period of time, reducing water quality in the long period of construction (9 months), potentially impacting fish and other marine species, as well as smothering nearby seagrass beds and corals. In the medium to long-term the fine-grained character of the silts and clays are susceptible to re-suspension from propeller movement and natural perturbation if bottom habitat such as seagrasses do not recolonize the dredged area in a timely manner sufficient to trap sediment and foster reasonable localised water quality. This can be mitigated to some extent by the appropriate use of silt screens but not entirely. Therefore, there will be negative effects from the dredging of the area, even though part of the area has been it has been partially dredged before.

Loss of Benthic Habitat

The nearshore marine habitat in this location is partially seagrass, partially isolated coral stands and hard pan bottom with gorgonians, seagrass and algae. There has been permanent loss of habitat and resources to the footprint of the breakwater, and these will be slightly larger although it is likely that recovery of seagrass and other organisms will happen over a long period of time within the channel

footprint. However, there will be the loss of ecosystem services during this recovery timeframe. Even with eventual recovery of the area the habitat will remain a man modified remnant of the currently existing ecosystem.

Comments & Recommendations

There is an extensive area of dredging proposed. The Department of Environment has no objection to the repair of the breakwater or the construction of the dock. However, the extensive dredging will have negative environmental impacts on coral and seagrass due to the turbidity generated during dredging and due to the physical removal of material during dredging. The dredging currently proposed would affect a wider area (12,000 sq ft more) than the area which has already been disturbed (3,000 sq ft).

In reaching a decision, it is important to balance the value that the project delivers against the environmental losses that will arise from these works. There has been no compelling case for the need for this facility put forward and the benefits to be derived for the public are at best extremely limited. Furthermore, the arrangement of Government leasing the dock from a private individual is unusual given that the dock construction is being funded by Government and is located on Crown property. On balance, the Department does not support the proposed works.

If Cabinet is minded to approve the proposed works, the DoE recommends that:

- a Coral Relocation Plan be developed and implemented prior to any dredging or construction; and
- a Construction Management Plan be developed to govern the dredging and construction.

Director – Department of Environment

On behalf of the National Conservation Council