

Coastal Works Review

**George Town Harbour – Repair of an Existing Seawall
Block: OPY Parcel: 18**



CAYMAN ISLANDS GOVERNMENT

PREPARED FOR: MINISTRY OF SUSTAINABILITY AND CLIMATE RESILIANCY

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Department of Environment

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Project Proposal

The applicant-Little Liquor Store Ltd.- is seeking permission for the repair of an existing seawall in order to secure the existing structure that is being undermined by corrosion and impact from the sea, as shown in Figures 1 and 2.

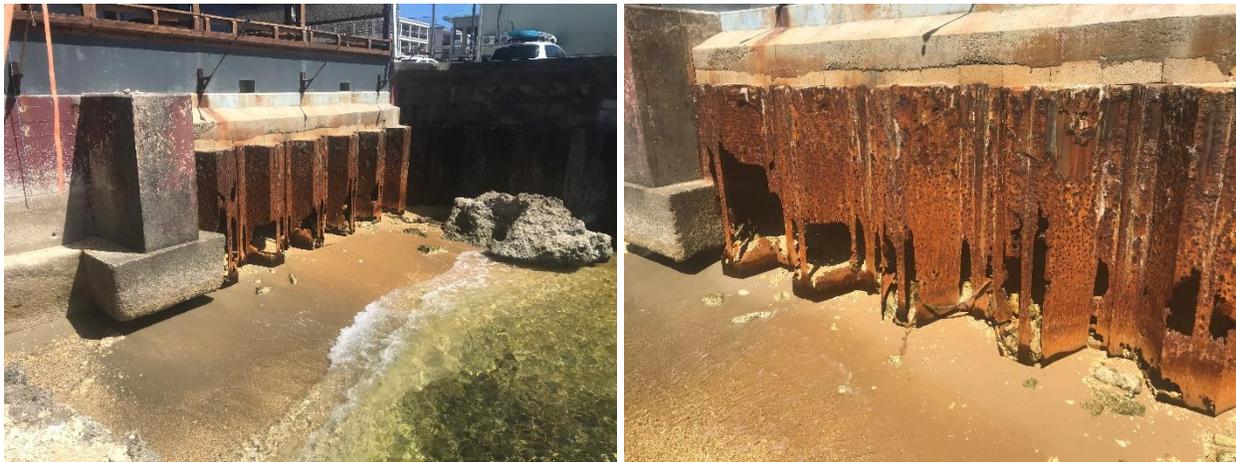


FIGURE 1: DOE SITE VISIT PHOTOS SHOWING THE DAMAGED SEAWALL (2021)

The proposed works will affect approximately 16.5 square feet of Crown property. The area of the works will be completely contained using both silt screens and a sand bag wall placed approximately 10ft seaward of the seawall (as shown in figure 2 below) to minimise wave action and to contain and turbidity created by the works. Initially a trial excavation will be carried out in a small area in the footprint of the seawall in order to establish the depth to bedrock as shown in red in figure 2 below. A small excavator will be lowered into position in front of the seawall from the neighbouring parcel seawall area to the south in order to conduct the excavation by removing 2 cubic yards of sand from the seabed. Once those works are completed the excavator will be removed. Following this, the corrosion covering the existing seawall will be removed by hand using wire brushes and any resultant debris will be cleaned from the area by vacuum. Once the formwork for the seawall has been prepared, the small excavator will once again be lowered into position to carry out the remaining excavation for the footing of the seawall. The formwork will then put in place and the concrete for the seawall poured. Any sand excavated during the works is to be returned, and all construction debris, seawall formwork and sand bags shall be removed from the area immediately following the completion of the works.



FIGURE 2: AERIAL IMAGERY SHOWING THE PROPOSED SEAWALL (ORANGE), THE TRIAL EXCAVATION AREA (RED), THE SILT SCREEN PLACEMENT LOCATION (GREEN) AND THE SAND BAG WALL (YELLOW) (SOURCE: DOE, 2021)

Background of Area

The shore line in this area of George Town is predominantly man modified or ironshore with much of the coastline having been developed with very limited setbacks. As a result, the sea walled sections require maintenance such as this proposal to ensure the structures do not fail.



FIGURE 3: DOE SITE VISIT PHOTOS SHOWING THE AREA OF THE PROPOSED WORKS (2021)

Environmental Impacts

The area of the proposed works is a Port Control Zone, having previously been a Marine Park prior to the establishment of the Cayman Islands Enhanced Marine Protected Areas. The immediate area of the proposed work is predominantly sand, loose rock and algae, as shown in figure 3 above. The wider surrounding marine environment

does include ecologically important coral reef habitat in the immediate vicinity of the proposal, as shown in figure 4 below, which is a potentially vulnerable receptor to the impacts of the works.



FIGURE 4: AERIAL IMAGERY SHOWING THE PROPOSED AREA OF THE WORKS AND THE WIDER SURROUNDING AREA (SOURCE: LIS, 2018)

Port Control Zone

Whilst the works will be taking place in the Port Anchorage Area, according to the plans it is unlikely that there will be disruption of the area very far from shore. However, permission should be sought from the Port Authority in accordance with the existing legal framework and in order to ensure there is no conflict with the management of this zone.

Seawall Impacts

As the proposed seawall is intended to reinstate the previously existing one, it is unlikely there will be a significant change in influence to the cove and sand area immediately in front of it. Although the sand area provides very limited amenity value in terms of use as an area of coastline, its loss could mean that the seawall is more susceptible to becoming undermined. However, given the stability of this coastline generally and the shelter provided by the surrounding sea walled area and ironshore it is likely to be relatively stable.

Construction Impacts

The excavation and construction activities will result in the spread of turbidity in the water caused by the disturbance of the seabed and the introduction of fine material such as the corroded seawall sections when rust is removed by wire brushing. In order to minimise these potential impacts to the surrounding marine environment the applicant is proposing to place silt screens and a sandbag wall across the entrance of the cove and remove any corrosion debris from

the wire brushing of the seawall using vacuums. It is important that these impacts are addressed in order to reduce risk to nearby receptors such as the coral reef offshore of the subject parcel.

Comments & Recommendations

Notwithstanding the above mentioned environmental impacts associated with the proposed seawall, there is little alternative than to support the proposed works to prevent the collapse/failure of the structure. Therefore the Department **recommends this application for approval** subject to the standard Permit conditions and recommended Permit fees (Royalty, Environmental Mitigation and Administration & Monitoring) outlined in Appendix 1, including the following conditions:

- 1) All debris created by the wire brushing of the seawall shall be removed by vacuum for disposal offsite prior to placement of the seawall form work.
- 2) No excavation to the coastline is permitted other than at the base of the seawall and the trial pit located in the cove area. The ironshore surrounds shall not be impacted by heavy equipment or any of the works.
- 3) If any damage occurs to the marine environment as a result of a breach by the permit holder of any covenants on its behalf in this Permit, the permit holder shall covenant that it will remedy such damage to the reasonable satisfaction of the Department within such time as the Department may reasonably specify. If this is not done the Grantor may remedy the damage and recover the costs from the permit holder.
- 4) Turbidity resulting from construction shall be mitigated through the installation of silt screens and a sand bag wall placed approximately 10ft seaward of the seawall of sufficient length to fully enclose the work area. Work shall not commence without these in place. Screens must be maintained to the satisfaction of the DoE and remain in place throughout the construction until the water contained in the screen has cleared to the same appearance as the water immediately outside of the screen.
- 5) During any inclement weather all equipment and materials shall be removed from the area in order to reduce the risk of them being impacted by wave action.

Technical Review Committee
For Director of Environment