

**Department of the Marine and  
Natural Resources**

**Killybegs FHC  
Refurbishment of Piles in Landing Pier  
and Blackrock Pier**

**Post Maintenance Inspection**



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## 1.0 INTRODUCTION

The 12 month maintenance period for the Killybegs FHC – Pile Refurbishment Contract ended on the 2<sup>nd</sup> June 2001. An inspection was carried out of the works to establish the extent of any remedial works required. Three main areas were covered during the inspection, coating works, collar integrity and the wave curtain repair. The inspection was carried out over the 14<sup>th</sup> and 15<sup>th</sup> of June 2001. Those present for the inspections were: -

Mr J Campbell		Department of the Marine and Natural Resources
Dr M Shaw	KMM	Consultant Engineer/Diver
Miss L Calderwood	KMM	Resident Engineer
Mr W A Wilcox	SAR	Project Manager/Diver
Mr R McLeod	SAR	Site Engineer/Diver
Mr B Pingree	SAR	Dive tender

## 2.0 INSPECTIONS

On the 14<sup>th</sup> June 2001 an inspection of the coating works to the tops of the existing piles was carried out. The 10 piles selected as monitoring points at completion of the coating works were inspected for Dry Film Thickness and general coating integrity. The area of each pile to be tested was cleaned to remove surface contaminates before 10 DFT readings were taken on each pile. The readings recorded were compared with the readings taken from the same points at completion of the coating works. Each pile was then assessed for general condition and coating integrity.

On the 15<sup>th</sup> June 2001 an inspection of the Hot Dip Galvanising to the collars was carried out at random points throughout the works. Again the area to be tested was cleaned before thickness readings were taken. The points previously tested at completion of the works could not be used, as the tidal condition did not allow access for the thickness meter. During this inspection measurements were also taken of the steel plates fitted to the wave curtain under the Landing Pier and the fixings to the steel plates were checked.

Dive inspections of the collars were then carried out by both Dr M Shaw and Mr W A Wilcox, with the fixings being checked and an assessment made of the general condition of the collars. Surface supply equipment was used for all diving inspections.

### 3.0 RESULTS

#### 3.1 Coating works to the tops of the existing piles.

When the DFT readings taken during the inspection of the Zinga coating, see appendix A, are compared to those take at completion of the works no significant change can be seen.



*Plate 1. Area of pile cleaned for inspection*

The general condition of the Zinga coating was found to be good with only small amounts of rusting found in areas where very limited access had prevented proper preparation and

application, i.e. to the bottom of the piles to row A, that are surrounded in rocks and the tops of the piles to row Z which are surrounded in steel work. The hardness of the coating was found to be good and when a small area of the coating was removed, bright shiny metal was

revealed. No cracking or disbondment was found. The joint between the top of the pile and the deck concrete showed no signs of under cutting.



*Plate 2. Testing for hardness and bounding of the coating to steel.*

### **3.2 Galvanised Coating to the collars.**

We can not compare the coating thickness readings taken during the inspection with those taken at completion of the works, as they were not taken from the same points. The readings taken indicate that there has been no noticeable depletion of the galvanised coating to the collars, with readings remaining at 300 microns or above.



*Plate 3. Thickness Readings of Galvanising to Collars*

### **3.3 Collars General.**

The general condition of the collars was found to be good with all bolts inspected tight and no movement noted. On row 22 of the Landing Pier it was found that the bed level had dropped below the bottom of the collars on some piles, this had revealed between 50 and 100mm of the existing pile. Boat movements in this area will result in constantly changing bed levels and thickness measurements taken at bed level during the pre-start survey show this to be a very low corrosion area. The grout was found to be in good condition with no cracking around the tops of the collars.

### **3.4 Steel Plates to the Wave Curtain below the Landing Pier**

All steel plates fitted were found to be in place and no fixing bolts were missing. Light corrosion was noted on all plates.



*Plate 4. Steel plates to Wave Curtain.*

#### **4.0 CONCLUSION**

The inspection has shown that no remedial works are required and that the system adopted to refurbish the piles of the Landing Pier and Blackrock Pier has been successful.

#### **5.0 RECOMMENDATIONS**

Following the final inspection of the works the only recommendation to be made would be the fitting of anodes to the steel plates used to repair the wave curtain.