

**PROPOSED DUNDALK TO BLACKROCK  
COASTAL WALKWAY**

**ORNITHOLOGICAL ASSESSMENT**

**JUNE 2007**

**PREPARED FOR  
TOBIN CONSULTING ENGINEERS**

**BY**

**BIOSPHERE ENVIRONMENTAL SERVICES**

**29 La Touche Park, Greystones, Co. Wicklow  
Tel: 01-2875249 E-mail: [maddenb@eircom.net](mailto:maddenb@eircom.net)**



## **CONTENTS**

|                                                                                                                            |    |
|----------------------------------------------------------------------------------------------------------------------------|----|
| 1.0 Introduction                                                                                                           | 3  |
| 1.1 Background                                                                                                             | 3  |
| 1.2 General description of existing walkway                                                                                | 5  |
| 2.0 Dundalk Bay and its birds                                                                                              | 5  |
| 2.1 Importance of Dundalk Bay for waterbirds, and its conservation status                                                  | 5  |
| 2.2 Numbers and distribution of waterbirds in the Marsh South area, and their utilisation of the salt marshes and mudflats | 7  |
| 2.3 Waterbirds of major conservation concern in the Marsh South area                                                       | 9  |
| 3.0 Impact of proposed walkway on waterbirds                                                                               | 11 |
| 3.1 Proposed walkway along the entire route linking Soldier's Point to Blackrock Village                                   | 11 |
| 3.1.1 Disturbance effects                                                                                                  | 12 |
| 3.1.2 Assessment of alternative layouts (without mitigation)                                                               | 13 |
| 3.2 Proposed walkway contained within the proposed development at Rockview Farm                                            | 15 |
| 4.0 Mitigation measures                                                                                                    | 15 |
| 4.1 Visual presence of people on embankment                                                                                | 15 |
| 4.2 Access to salt marsh                                                                                                   | 15 |
| 4.3 Control of dogs                                                                                                        | 16 |
| 5.0 Evaluation of impacts with mitigation                                                                                  | 17 |
| 5.1 Proposed walkway along the entire route linking Soldier's Point to Blackrock Village                                   | 17 |
| 5.2 Proposed walkway contained within the proposed development at Rockview Farm                                            | 18 |
| 6.0 Overview and recommendations                                                                                           | 19 |
| 7.0 References                                                                                                             | 20 |

|                     |                                              |
|---------------------|----------------------------------------------|
| Figure 1            | Locations of high tide roosts at Marsh South |
| Drawing 1634 – 1045 | Proposed Coastal Walkway Cross Sections      |
| Drawing 1634 – 1046 | Proposed Coastal Walkway Routes              |

## **1.0 INTRODUCTION**

### **1.1 Background**

Tobin Consulting Engineers are involved in the preparation of a Local Area Plan for a proposed housing and amenities development at Rockview Farm, Dundalk. As part of this process, Dundalk Town Council has requested that flood protection for the site should be addressed and that the condition and status of the existing coastal embankment be investigated. At the same time, the provision of a coastal walkway along the embankment should also be considered.

As the embankment and walkway are adjacent to the Dundalk Bay Special Protection Area, it was considered, and indeed recommended by the National Parks & Wildlife Service, that an appropriate assessment would be required to ensure that the ornithological interest and conservation status of the SPA site is maintained.

In this respect, Biosphere Environmental Services was commissioned to carry out an ornithological assessment for the following:

- **For a proposed walkway along the entire route linking Soldier's Point Dundalk to Blackrock Village**

This route essentially follows the line of the coastal embankment, and is shown in drawing no. 5356.00/002 in the feasibility study for a walkway that was carried out by RPS-Kirk McClure Morton (Anon. 2003). There are three alternative layouts for this walkway, as follows:

- i. Following the top of the existing coastal embankment
- ii. Following the foot of the coastal embankment on the landward side (with two alternative heights for the stepped down walkway, i.e. 4.35 m ODM and 3.8 m ODM )
- iii. Set back at some distance from the embankment in the existing fields (exact route unknown for section north of Rockview).

Additionally, the route will have to detour inland to pass to the landward side of the existing army firing range, diverting walkers around the perimeter of the range. This diversion would operate whilst the range is in use, at other times walkers would be free to continue along the embankment.

There are also two alternative routes to link the southern end of the embankment to Blackrock village (details given in RPS-Kirk McClure Morton report).

- **For a walkway contained within the proposed development at Rockview Farm**

It is proposed to develop a self-contained walkway within the Rockview development. This will be along the eastern edge of the housing and then linking in to a walkway following the embankment. It will provide the option to join up with any future development of the full coastal walkway from Soldier's Point to Blackrock village.

The walkway along the edge of the housing will be set up on an embankment that overlooks the amenity lands. The embankment will be at a height of 5.0 m and set approximately 200 m back from the existing coastal embankment (shown as Option 3 on the attached Drawings).

At the southern end of the housing units, the walkway will join the coastal embankment and run north, as far as the firing range. It will then rejoin the walkway at the eastern edge of the housing.

Cross Sections of the route along the coastal embankment are shown on the attached Drawings

***Option 1***

The walkway will be along the top of the embankment. The embankment will be raised to give a top height of 6.25mOD.

***Option 2 Embankment 1***

The walkway would be stepped down from the top of the embankment on the landward side. The height of the walkway is to be 3.5mOD, i.e. 2.10m below the top of the embankment. The design includes for planting on the landward side of this walkway to break up silhouettes of people using the walkway.

***Option 2 Embankment 2***

The walkway is again stepped down from the top of the embankment on the landward side but this time the height of the walkway is to be 4.35mOD, i.e. 1.25m below the top of the embankment.

The attached drawings show that the ability to link up with any future development of walkway that links Dundalk to Blackrock village has been allowed for.

The assessment is by desk review but the authors of the report (Brian Madden & Oscar J. Merne) are familiar with the site from involvement in the bird study for the Rockview development planning application (BES 2005) and from long-term monitoring of the waterbirds in Dundalk Bay (by OJM).

The present report reviews the importance of Dundalk Bay for migratory waterbirds, highlights the importance of the salt marshes and mudflats of Marsh South for these birds, assesses the impacts of the proposed coastal walkway options, and proposes

measures to mitigate these impacts. Account is taken of the statutory nature conservation designations of the salt marshes and mudflats under European Union environmental directives and national legislation.

## **1.2 General description of existing walkway**

The embankment provides sea defences between Soldier's Point (at the entrance to Dundalk Harbour, at the mouth of the Castletown River) and the north end of Blackrock, near The Loakers.

Currently there is a hard-topped walkway along the south side of the Castletown River from the north-eastern outskirts of Dundalk to Soldiers' Point. This is much used by the public for recreational purposes – walking, jogging, exercising dogs, and occasionally for bird-watching, cycling, etc. From Soldier's Point almost to Blackrock there is a c.3.2 km long low embankment, which separates the salt marsh at Marsh South from fertile farmland on the landward side. This embankment was built in the 19<sup>th</sup> century as a means of claiming for agricultural production the flat, low-lying area at the upper levels of the salt marsh. It also functions as a sea defence embankment, to protect the claimed lands from flooding. Drainage of the claimed lands is effected by gravity drainage through a one-way flap valve at the southern end of Marsh South. It is noted that in recent years there have been five small breaches of the embankment, in a cluster in the north/middle section (Anon. 2003 & Flood Risk Assessment Report 2007 ).

The salt marshes on the seaward side of the embankment are extensive and have in parts extended in width substantially since the Ordnance Survey map of the early part of the 20<sup>th</sup> century (see Figure 1). A feature of the marshes is the presence of the alien Cordgrass *Spartina anglica*.

## **2.0 DUNDALK BAY AND ITS BIRDS**

### **2.1 Importance of Dundalk Bay for waterbirds, and its conservation status**

Dundalk Bay is a large, shallow, open sea bay, bounded on the north by the Cooley Peninsula, and on the south by Dunany Point. Several small rivers (the Glyde and Dee, Fane, Castletown, and Flurry) flow into the bay, with the Castletown and Flurry Rivers forming significant estuaries at Dundalk Harbour and Ballymascanlan Bay. At low tide very extensive sandflats and mudflats are exposed, and these provide abundant feeding for the tens of thousands of migratory waterfowl which occur in Dundalk Bay in autumn, winter and spring. There are significant areas of salt marsh at Lurgangreen, Marsh South, Dundalk Harbour, Ballymascanlan Bay and Bellurgan. These marshes provide safe and undisturbed roosting grounds for the waterbirds at high tide, while some species, notably Brent Geese and Wigeon, graze on the salt marsh grasses.

Waterfowl surveys and censuses that have been carried out at Dundalk Bay since 1971-72 show that wader and wildfowl numbers regularly reach 50,000 birds (Crowe 2005 and data of OJM). Many of the earlier censuses did not include gulls: if these are taken into account, peak numbers of all waterbird species combined exceed 60,000. Dundalk Bay is the most important wetland for waders in Ireland, with numbers exceeding those recorded in Strangford Lough, the Shannon/Fergus Estuary and Cork Harbour.

Five waterfowl species occur in Dundalk Bay in internationally important numbers, i.e. 1% or more of the total flyway<sup>1</sup> population of these species regularly occur in Dundalk Bay. A further 14 species occur in the bay in nationally important numbers, i.e. 1% or more of the total Irish population of these species regularly occur. These species and their numbers are given in Table 1.

---

**Table 1** Waterfowl species occurring in Dundalk Bay in internationally and nationally important numbers (from Crowe 2005). Figures given are the means of peak counts over the five season period 1996/97 to 2000/01.

| <b>Internationally important species</b> | <b>Average peak numbers 1996/97-2000/01</b> |
|------------------------------------------|---------------------------------------------|
| Light-bellied Brent Goose                | 309                                         |
| Knot                                     | 9,914                                       |
| Black-tailed Godwit                      | 1,441                                       |
| Bar-tailed Godwit                        | 2,274                                       |
| Redshank                                 | 1,927                                       |
| <b>Nationally important species</b>      |                                             |
| Great Crested Grebe                      | 410                                         |
| Greylag Goose                            | 451                                         |
| Shelduck                                 | 526                                         |
| Teal                                     | 632                                         |
| Mallard                                  | 853                                         |
| Pintail                                  | 122                                         |
| Red-breasted Merganser                   | 160                                         |
| Oystercatcher                            | 9,726                                       |
| Ringed Plover                            | 172                                         |
| Golden Plover                            | 5,159                                       |
| Grey Plover                              | 173                                         |
| Lapwing                                  | 4,983                                       |
| Dunlin                                   | 12,149                                      |
| Curlew                                   | 1,446                                       |

---

<sup>1</sup> A flyway is a corridor along which populations of birds migrate between their breeding areas and wintering areas.

Note: Since winter 2000/01 some of these species have occurred in numbers significantly greater than shown above, especially Teal, Pintail, Red-breasted Merganser, Golden Plover, Grey Plover, Knot, Black-tailed Godwit and Bar-tailed Godwit (unpublished data, O.J. Merne).

Significant numbers of gulls also occur in Dundalk Bay, notably Black-headed Gulls (6,533), Common Gulls (426) and Herring Gulls (708) (numbers of Black-headed and Herring Gulls are of national importance, while Common Gull is very close to the 1% threshold and exceeds it in some years).

In addition to the above 22 species of waterbirds<sup>2</sup>, 17 other species have been recorded, most of them regularly but in relatively small numbers. This indicates an exceptionally rich diversity of species for an Irish coastal wetland site.

Following the criteria set down in the *Ramsar Convention on Wetlands of International Importance*, Dundalk Bay qualifies for classification as a wetland of international importance on the basis that five wetland bird species occur there regularly in internationally important numbers. The site also qualifies as internationally important on the basis that more than 20,000 wetland birds occur there regularly. It has been formally designated a Ramsar Site under this convention (to which Ireland is a signatory).

Because of its international importance for migratory waterbirds, and also because two regularly occurring species (Bar-tailed Godwit and Golden Plover) are listed in Annex I of the European Union Directive 79/409/EEC on the conservation of wild birds (the *Birds Directive*), Dundalk Bay has been designated a Special Protection Area (SPA) for birds.

Dundalk Bay has also been designated a candidate Special Area of Conservation (cSAC), under the European Union Directive 92/43/EEC on the conservation of natural habitats and of wild flora and fauna (the *Habitats Directive*), mainly on account of the extensive sand and mudflat habitats that occur there but also for the salt marshes and shingle beaches.

The area is also a proposed Natural Heritage Area under national legislation – The Wildlife (Amendment) Act 2000.

## **2.2 Numbers and distribution of waterbirds in the Marsh South area, and their utilisation of the salt marshes and mudflats**

For the purposes of the waterbird surveys and censuses referred to above, Dundalk Bay was divided into ten sub-sections, and count data were recorded for each of these sub-sections. One of these sub-sections is the salt marsh at Marsh South, extending along the seaward side of the embankment from Soldier's Point to The Loakers, at the north end of

---

<sup>2</sup> The term "waterfowl" covers swans, geese, ducks and waders, whereas "waterbird" covers these groups and also other wetland species such as divers, grebes, herons, gulls and terns.

Blackrock. The mudflats and sandflats beyond the salt marsh are also included in this sub-section. These flats extend up to 3.0 km from the salt marsh edge and, when not covered by the tide, provide most of the food resources for the thousands of waterbirds which frequent this part of Dundalk Bay. At high tide some of the feeding birds fly to roosting sites in other parts of Dundalk Bay, but the majority roost over the high tide period on the salt marsh at Marsh South. Most of these rest and sleep in dense concentrations at the north and south ends of the salt marsh, but Brent Geese and Wigeon graze on the salt marsh grasses here.

One of the authors of this report (OJM) has carried out waterbird surveys/censuses in Dundalk Bay between August 1987 and March 2007, during which a total of 85 counts were made at Marsh South. The count data from Marsh South between January 1994 and November 2006 are reproduced in an appendix to a report on *The Ecology of Blackrock* (Roe and Merne 2006). The survey and census methodology employed in the Marsh South area are detailed in the earlier report for the Rockview development by Biosphere Environmental Services (2005). For the report on the impact of the proposed housing development on the waterbirds in the area, emphasis was placed on the large high-tide roost at the south end of the salt marsh, adjacent to the development site. For the current report the waterbird count data from the entire Marsh South area are combined.

The Marsh South data show that a total of 39 waterbird species were recorded over the 85 counts, while Table 2 summarises the peak numbers recorded there for the 16 most important and regularly-occurring species.

As stated earlier, the large numbers of waterbirds that occur in the Marsh South area utilise the intertidal mudflats and sandflats for feeding when these flats are exposed or covered by very shallow water. The relatively small numbers of Brent Geese and Wigeon that occur here (peaks of 325 and 350 respectively) feed on the mats of green algae (*Enteromorpha* and *Ulva*) on the flats, but the great majority of the waterbirds feed on invertebrates that live in and on the flats. The invertebrates that are eaten by the birds are mainly polychaete worms, bivalve shellfish and crustaceans, while Shelduck favour *Hydrobia* snails, which sometimes occur at densities of up to 50,000 per square metre.

As the tide rises and covers the flats the birds are forced off the feeding grounds and move to the salt marsh to spend the high-tide period (1.5-2.0 hours either side of high tide) roosting mainly at the salt marsh edge at the north and south ends of the marsh complex. Brent Geese and Wigeon often continue feeding through this period, but on the salt marsh grasses (e.g. *Puccinellia* spp. and *Festuca rubra*). Of the waders, which make up the great majority of the roosting birds, only Curlews tend to disperse among the longer vegetation of the central areas of salt marsh. The gulls sometimes roost on the salt marsh, but when the sea is calm they also spend the high-tide period floating on the water. Mallard often behave in a similar way.

**Table 2.** Waterbirds occurring regularly at Marsh South, Dundalk Bay, in significant numbers, August 1987-March 2007. The qualifying thresholds for International and National Importance are given (after Crowe 2005).

| Species            | 1%<br>International | 1%<br>National | Peak nos. at<br>Marsh South | % of Dundalk Bay<br>peak nos. |
|--------------------|---------------------|----------------|-----------------------------|-------------------------------|
| Brent Goose        | 200                 | 200            | 325                         | 85                            |
| Shelduck           | 3,000               | 150            | 95                          | 18                            |
| Wigeon             | 15,000              | 900            | 350                         | 34                            |
| Teal               | 4,000               | 570            | 215                         | 34                            |
| Mallard            | 20,000              | 840            | 535                         | 63                            |
| Oystercatcher      | 10,200              | 700            | 5,430                       | 56                            |
| Golden Plover*     | 9,300               | 1,500          | 3,200                       | 54                            |
| Grey Plover        | 2,500               | 75             | 250                         | 100                           |
| Lapwing            | 20,000              | 2,000          | 740                         | 15                            |
| Knot               | 4,500               | 340            | 5,500                       | 47                            |
| Dunlin             | 13,300              | 1,400          | 7,850                       | 65                            |
| Bar-tailed Godwit* | 1,200               | 180            | 1,925                       | 85                            |
| Curlew             | 4,200               | 660            | 513                         | 34                            |
| Redshank           | 1,900               | 330            | 680                         | 35                            |
| Black-headed Gull  | 20,000              | 1,000          | 1,100                       | 17                            |
| Common Gull        | 17,000              | 500            | 825                         | 100                           |

\* Species listed in Annex I of the EU Birds Directive.

### **2.3 Waterbirds of major conservation concern in the Marsh South area**

The two waterbird species occurring at Marsh South (see Table 2 above) which are of greatest conservation concern are Golden Plover and Bar-tailed Godwit. The reason for this is that they are both listed in Annex I of the European Union Birds Directive. This means that they are species of conservation concern within the European Union and therefore should be the subject of special conservation measures, such as Special Protection Area designation of their principal sites and habitats.

The Bar-tailed Godwit also occurs in Dundalk Bay in internationally important numbers (see Table 1 above), and up to 85% of the Dundalk Bay wintering population occurs in the Marsh South area.

Three of the other four waterbird species that occur in Dundalk Bay in internationally important numbers also occur at Marsh South in significant numbers – 85% of the Brent Geese, 47% of the Knot, and 35% of the Redshank. Two other species occur at Marsh South in numbers that are a significant percentage of their Irish wintering populations.

These are Oystercatcher and Dunlin, whose Marsh South numbers represent 8% and 6% respectively of their Irish populations.

Because Marsh South is so important for the above species, it is crucial that their roosting and feeding grounds are conserved, and also that disturbance to these birds be kept to a minimum.

### **3.0 IMPACT OF PROPOSED WALKWAY ON WATERBIRDS**

#### **3.1 Proposed walkway along the entire route linking Soldier's Point to Blackrock Village**

The principal concern from the proposed coastal walkway relates to disturbance to birds. Potential disturbance may be caused by the following:

- (a) people walking along the top of the embankment in full or even partial view,
- (b) people gaining easy access to the salt marshes,
- (c) unleashed dogs straying onto the salt marshes.

There is a specific requirement in the EU Birds Directive (Article 4) that significant disturbance to birds within Special Protection Areas should be prevented.

As stated earlier, the main high-tide roosting areas at Marsh South are the north and south ends of the salt marsh. Over the rest of the salt marsh relatively small numbers of Brent Geese and Wigeon are found grazing occasionally, while Curlews also roost away from the main sites at the north and south ends of the salt marsh. These three species have a preference for the outer half of the salt marsh and are seldom seen close to the embankment.

The extent of the salt marsh at Marsh South as shown on the 6":1 mile Ordnance Survey map (and other maps based on this) is significantly less than its current extent. During the 20<sup>th</sup> century the salt marsh has grown considerably due to accretion of marine and estuarine sediments and their colonisation by stabilising salt marsh plants (see detailed review in section 5.4 of Flood Risk Assessment report). Salt marsh extension is especially evident along the south-eastern half of the marsh, and also south-east of Soldier's Point (see Figure 1). This extension has been determined (approximately) by comparing the 6" O.S. map with a recent digital vertical image taken from Google-earth. From this it is possible to locate more precisely the positions of the two main roosts, and therefore to estimate the distance of these roost positions from the embankment. The distance of the southern roost is c.450-550 m from the nearest point on the embankment, while that of the northern roost is c.300-400 m south-east of Soldier's Point.

In addition to the main impact of disturbance, the potential impact on birds by the requirement to extend the embankment from its southernmost point across to Blackrock village (as discussed in the RPS-Kirk McClure Morton Study, Anon. 2003) requires consideration.

### **3.1.1 Disturbance effects**

#### **3.1.1.1 Disturbance by people walking along the embankment**

With the two main roosting areas located c.300-400 m and c.450-550 m from the embankment it is predicted that people walking along the embankment will present a minimal risk of significant disturbance to the large flocks of roosting waterbirds in these areas at normal high tides. However, exceptionally high tides will occur from time to time, and these will force the birds to roost at higher levels on the salt marsh, considerably closer to the embankment. Such high tides typically occur when spring tides coincide with strong onshore winds, low atmospheric pressure, and when the Earth and Moon are closest to each other. In these circumstances, human activity on the embankment could prevent birds from roosting on the reduced area of uncovered salt marsh, and they will be forced to move elsewhere. At these times, alternative roosting areas in Dundalk Bay (mainly other salt marshes and raised shingle beaches) will also be greatly reduced in extent, and some even completely inundated, and therefore possibly unable to accommodate displaced birds. The loss of roosting areas, even for the small number of exceptional high tide events, can have serious consequences for birds in terms of the energetic demands of not being able to roost safely. Should such a scenario occur during a cold spell of weather, mortality of birds could occur.

While it is assumed that the great majority of people walking on the embankment will be well-behaved, there is always the possibility that some will engage in activities that will disturb roosting birds, even at 300-550 m range.

Also, it is noted that some bird species are intrinsically more tolerant of human activities than others, and/or become habituated to the close presence of people. For example, Brent Geese are well known to tolerate people as close as 10 m in some areas (e.g. the North Bull Island in Dublin Bay), while Curlews and Redshanks are much less tolerant.

#### **3.1.1.2 Disturbance by people gaining easy access to the salt marshes**

At present the embankment between Soldier's Point and Blackrock is readily accessible only at Soldier's Point and at the end of Shore Road, and the thick vegetation on the bank discourages people from walking along the bank on either side of these access points. Over the 85 visits to the area for waterbird monitoring, Oscar Merne only once has seen a person on the embankment away from the Shore Road access point. A coastal walkway along the embankment will completely eliminate access difficulties and result in significant numbers of people using the walkway, at all stages of the tide, and throughout the year. While the great majority of users of the walkway are expected to stay on the walkway, there is a risk that some people will stray onto the salt marsh and cause disturbance to roosting (and feeding) birds. Some may even disturb large flocks deliberately, e.g. to witness the spectacle of the birds in flight, to photograph them, or out of sheer mischievousness.

### **3.1.1.3 Disturbance from unleashed dogs straying onto the salt marshes**

Many users of public walkways exercise their dogs while walking. While responsible dog-owners keep their pets to heel or on a leash, it is common practice in open, non-urban landscapes, to let the animals off the leash to run freely. It is anticipated that this will happen at the Soldier's Point – Blackrock coastal walkway and that some of the dogs will vigorously chase roosting birds again and again. This is a frequent occurrence at, for example, Sandymount Strand in Dublin Bay.

While the concern of unleashed dogs applies to the proposed coastal walkway in general, the problem could be expected to be exacerbated in the vicinity of large scale housing developments that are in close proximity to the embankment (should free access to the embankment be available).

### **3.1.2 Assessment of alternative layouts (without mitigation)**

#### **3.1.2.1 Alternative following the top of the existing coastal embankment**

This alternative could have major adverse impacts on the wintering waterbirds in the vicinity of the identified roost sites due to the high visibility of users. Significant adverse impacts could also arise from people having easy access to the salt marshes and from uncontrolled dogs causing distress to roosting and/or feeding birds.

#### **3.1.2.2 Alternative following the foot of the coastal embankment on the landward side**

With this alternative, users will be less obvious to birds on the nearby marshes, especially with the lower height. The higher variant could still cause some disturbance to birds at the identified roosts. Significant adverse impacts could also arise from people having easy access to the salt marshes and from uncontrolled dogs causing distress to roosting and/or feeding birds.

#### **3.1.2.3 Set back at some distance from the embankment in the existing fields**

With this alternative there would be no issues arising from disturbance due to the visual presence of users on the embankment. The issues of people having easy access to the salt marshes and from uncontrolled dogs causing distress to roosting and/or feeding birds would be also reduced.

#### **3.1.2.4 Potential impact on birds by extension of embankment to Blackrock village**

It is considered unlikely that the proposed extension of the walkway south across the salt marsh to link up with the north Blackrock coast road would have any negative impacts on waterbirds as this area is seldom used by any birds, either for feeding or roosting

(personal observations by Oscar Merne). It is noted, however, that impacts on habitats would require assessment as the area is within the Dundalk Bay candidate Special Area of Conservation.

### **3.2 Proposed walkway contained within the proposed development at Rockview Farm**

The section of this walkway away from the coastal embankment would not have any impacts on the waterbirds of Dundalk Bay.

The issues that impact on birds associated with a walkway along the embankment have been discussed in section 3.1 and apply equally to the three given options associated with this proposal.

Briefly, and without mitigation, **Option 1** could have major adverse impacts on the wintering waterbirds in the vicinity of the southern roost site due to the high visibility of users. Significant adverse impacts could also arise from people having easy access to the salt marshes and from uncontrolled dogs causing distress to roosting and/or feeding birds.

**Option 2 Embankment 1** is unlikely to cause disturbance to birds at the identified roost as most users will not be visible to the birds. Significant adverse impacts could still arise from people having easy access to the salt marshes and from uncontrolled dogs causing distress to roosting and/or feeding birds.

**Option 2 Embankment 2**, where the walkway is stepped down to 4.35m on the landward side, could still cause some disturbance to birds at the identified roost. Significant adverse impacts could still arise from people having easy access to the salt marshes and from uncontrolled dogs causing distress to roosting and/or feeding birds.

## **4.0 MITIGATION MEASURES**

The following measures relate to the impacts on waterbirds arising from development of the proposed walkway on the embankment. Mitigation measures for waterbirds are not necessary for a walkway developed away from the embankment or within the Rockview development.

### **4.1 Visual presence of people on embankment**

To avoid or minimise disturbance to birds roosting/feeding on the salt marsh on the seaward side of the embankment, whether they be close to the embankment or at some distance, it is generally best to ensure that entire silhouettes of people on the skyline are not visible to the birds. Generally, birds tolerate people more readily when they can see only the upper parts of the body, and it is clear that some form of barrier lies between the birds and the people. Low walls (knee- to waist-high) are effective in some locations, e.g. at Baldoyle estuary on the north Dublin coast. In other places screening made from timber, wickerwork or hedging (preferably evergreen) has been used to good effect. If it is proposed to construct the walkway on the top of the embankment at Marsh South, it is probably not necessary to install such a wall or screening along the entire 3.2 km length of the walkway, but simply to limit it to the stretches closest to the main roosts at the north and south ends of the salt marsh.

Alternatively, and preferably, the walkway could be put in place at the base of the landward side of the embankment, or stepped down from the crest of the embankment (as discussed in the Flood Risk Assessment Report). It is understood that the level of the embankment will be raised somewhat (to 5.6 m) to improve its sea defence function, so a basal or stepped-down walkway on the landward side would effectively screen human activities from the roosting and feeding birds. If desired, the walkway could be allowed to rise to the crest of the embankment for much of the middle stretch, where few birds occur.

To allow people to view the maritime landscape and to see the waterbirds without disturbing them, it is suggested that observation hides (with appropriate educational and interpretative panels) be placed strategically on the embankment overlooking the main roosts. It is essential that the approaches to these observation hides are screened so that birds on the salt marsh do not see people coming and going.

### **4.2 Access to salt marsh**

To discourage people from walking out onto the salt marsh and disturbing the birds, a number of measures can be considered. These include the following:

1. The erection of formal/legal signage informing the public that the salt marsh and intertidal flats are designated as a Special Protection Area for birds and a Special Area of Conservation, and that disturbance to birds must be avoided.
2. Informative and educational display panels erected at each end of the walkway (and at observation hides if present), explaining the importance of the salt marsh and intertidal flats and why it is important to avoid disturbance.
3. The construction of a physical barrier to prevent or discourage people from walking out onto the salt marsh. This could be a type of fencing (wire and/or wood) along the base of the seaward side of the barrier or possibly an artificially dug channel parallel to the bank that would naturally fill with sea water at high tides, and may be linked with the existing creeks that tend to run perpendicular to the embankment. Further assessment of the existing physical conditions would be required. It is noted that the fence or channel proposals may not need to run the entire length of the embankment, but simply be concentrated at the sensitive roost locations.
4. On the landward side of the embankment in the vicinity of the Rockview development, i.e. between the recreation area and the embankment, consideration should be given to creating a water barrier to discourage people accessing the embankment near the main roost at the south end of the salt marsh.

#### **4.3 Control of dogs**

Preventing dogs from running out onto the salt marsh and chasing birds presents more of a problem, especially if the dogs are not accompanied by their owners. Undoubtedly, information about the importance of the area and the need to avoid disturbance will encourage many dog owners to ensure that their dogs do not cause disturbance. However, it can be expected that some dogs will not be properly under the control of their owners, and it is difficult to envisage how these can be prevented from causing disturbance. The addition of sheep wire fencing to the measures referred to above (i.e. fencing and/or channel) would probably be effective in excluding dogs from the salt marsh at the sensitive roost locations.

## **5.0 EVALUATION OF IMPACTS WITH MITIGATION**

### **5.1 Proposed walkway along the entire route linking Soldier's Point to Blackrock Village**

#### **5.1.1 Alternative following the top of the existing coastal embankment**

With effective screening in the vicinity of the sensitive roost sites, disturbance to nearby birds from users could be minimised. However, the screening would need to be well maintained and its effectiveness monitored for a period.

The suggested measures to restrict access by users and dogs to the marshes would also need to be implemented and monitored.

Impact: Neutral to Minor Negative if mitigation effective but potentially Major Negative

#### **5.1.2 Alternative following the foot of the coastal embankment on the landward side**

With this alternative, disturbance to birds by users is unlikely to be a significant issue though in the vicinity of the sensitive roost sites some screening may still be necessary with the higher level variant.

The suggested measures to restrict access by users and dogs to the marshes would also need to be implemented and monitored.

Impact: Neutral to Minor Negative if mitigation effective but potentially Moderate or even Major Negative if restriction of access to salt marsh is not achieved.

#### **5.1.3 Set back at some distance from the embankment in the existing fields**

With this alternative there would be no issues arising from disturbance due to the visual presence of users on the embankment. The issues of people having easy access to the salt marshes and from uncontrolled dogs causing distress to roosting and/or feeding birds would depend somewhat on the proximity of the walkway to the embankment and the ease of physical access between the two.

Impact: Neutral (full assessment subject to detail of route)

#### **5.1.4 Potential impact on birds by extension of embankment to Blackrock village**

It is considered unlikely that the proposed extension of the walkway south across the salt marsh to link up with the north Blackrock coast road would have any negative impacts on

waterbirds as this area is seldom used by any birds, either for feeding or roosting purposes.

Impact: Neutral

## **5.2 Proposed walkway contained within the proposed development at Rockview Farm**

The section of this walkway away from the coastal embankment would not have any impacts on the waterbirds of Dundalk Bay and no mitigation measures are necessary.

### ***Option 1***

With effective screening in the vicinity of the sensitive roost site, disturbance to nearby birds from users could be minimised. However, the screening would need to be well maintained and its effectiveness monitored for a period.

The suggested measures to restrict access by users and dogs to the marshes would need to be implemented and monitored.

Impact: Neutral to Minor Negative if mitigation effective but potentially Major Negative

### ***Option 2 Embankment 1***

With this alternative, disturbance to birds by users is unlikely to be an issue.

The suggested measures to restrict access by users and dogs to the marshes would need to be implemented and monitored.

Impact: Neutral to Minor Negative if mitigation effective but potentially Moderate or even Major Negative if restriction of access to salt marsh is not achieved.

### ***Option 2 Embankment 2***

With this alternative, disturbance to birds by users is unlikely to be a significant issue though in the vicinity of the sensitive roost site some screening may still be necessary.

The suggested measures to restrict access by users and dogs to the marshes would need to be implemented and monitored.

Impact: Neutral to Minor Negative if mitigation effective but potentially Moderate or even Major Negative if restriction of access to salt marsh is not achieved.

## **6.0 OVERVIEW AND RECOMMENDATIONS**

This desk review study has shown that Dundalk Bay is an internationally important site for wintering waterfowl and, indeed, is the premier wetland site in Ireland by way of sheer numbers of birds. At Marsh South, two important high tide roosts exist at the northern and southern parts of the salt marsh.

Potential impacts on waterbirds by the construction of a walkway on the coastal embankment are discussed. It is considered that disturbance from users could under certain tidal conditions have significant adverse impacts on the birds by way of (i) the physical presence of people on the embankment, (ii) people deviating from the walkway onto the salt marshes, and (iii) uncontrolled dogs causing direct disturbance.

It is considered, however, that with appropriate mitigation, a walkway could be constructed that would have minimal impact on the birds and which would be compatible with the requirement of the Special Protection Area designation.

The principal advised mitigation measures are:

- The construction of the walkway at the base of the landward side of the embankment, or at least stepped down from the crest of the embankment to the proposed 2.1m (Option 2 Embankment 1) or 1.25m (Option 2 Embankment 2) variants, at the identified sensitive roost locations
- The use of physical barriers at or near the base of the seaward side of the embankment, at least in the vicinity of the identified sensitive roost locations

Mitigation by way of education and information would also be useful in reducing potential adverse impacts.

If the project proceeds, it is suggested that monitoring of disturbance events should be carried out for a period after completion, and mitigation measures altered or expanded if considered necessary.

Further assessment of existing physical conditions in the vicinity of the roost sites is required to determine the optimum stepped down height at the locations of the roost sites and also the required distances for physical barriers at these locations.

It is noted that all proposed works associated with the walkway on the embankment need to be notified to the Department of the Environment, Heritage and Local Government.

## **7.0 REFERENCES**

Anon. 2003. *Dundalk to Blackrock Coastal Walkway – Feasibility Study*. RPS-Kirk McClure Morton report (unpublished) to Dundalk Town Council.

Biosphere Environmental Services 2005. Rockview Farm Planning Application : Ornithology. Report prepared for TES Consulting Engineers.

Crowe, O. 2005. *Ireland's Wetlands and their Waterbirds: Status and Distribution*. BirdWatch Ireland, Newcastle, Co. Wicklow.

Roe, J., Merne, O.J. 2006. *The Ecology of Blackrock: an ecological survey of Blackrock, Co. Louth*. Blackrock Tidy Towns Committee, Blackrock, Co. Louth.

Royal Haskoning (2007) Rockview Farm Flood Risk Assessment. Report prepared for Tobin Consulting Engineers.

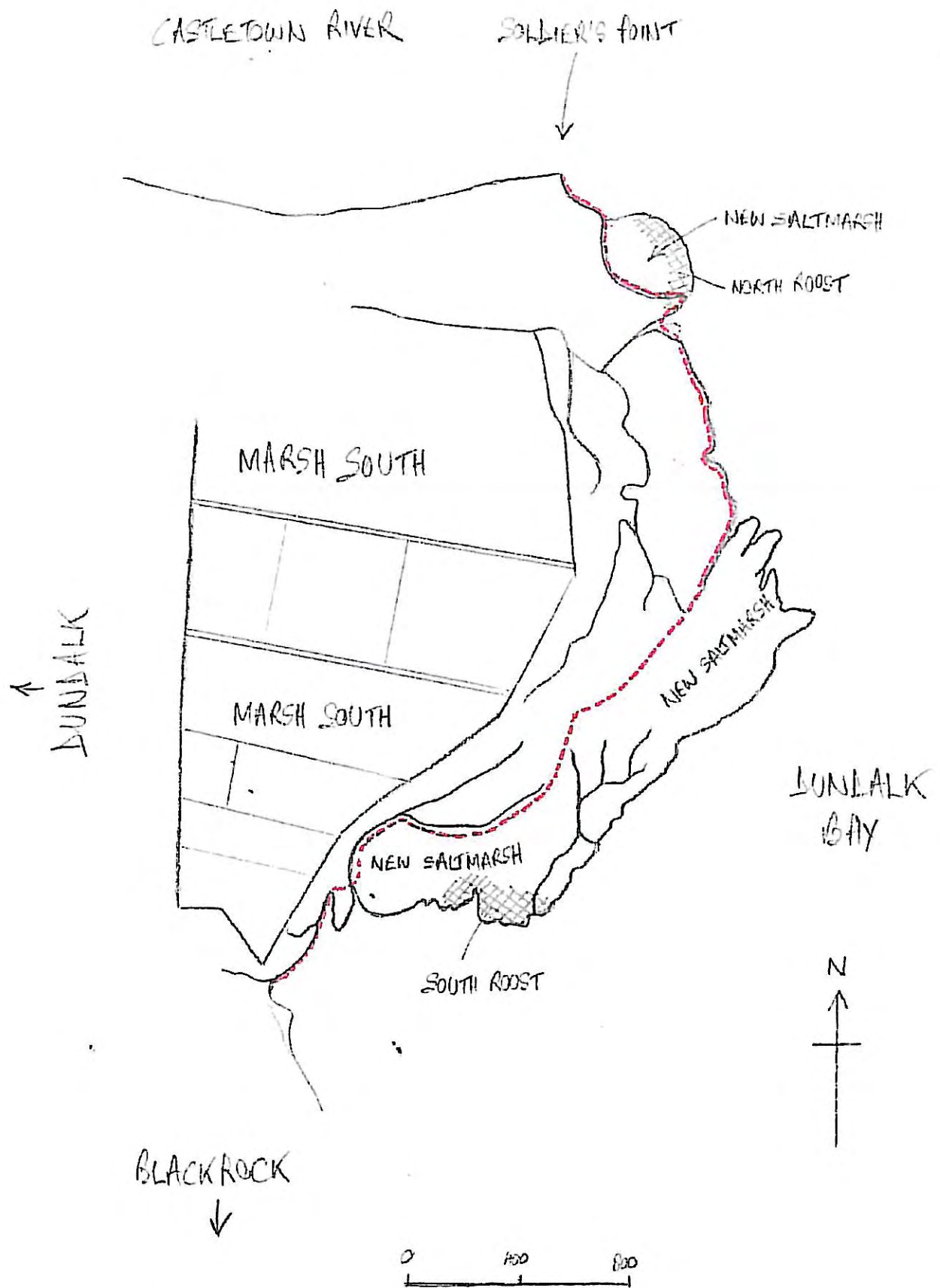
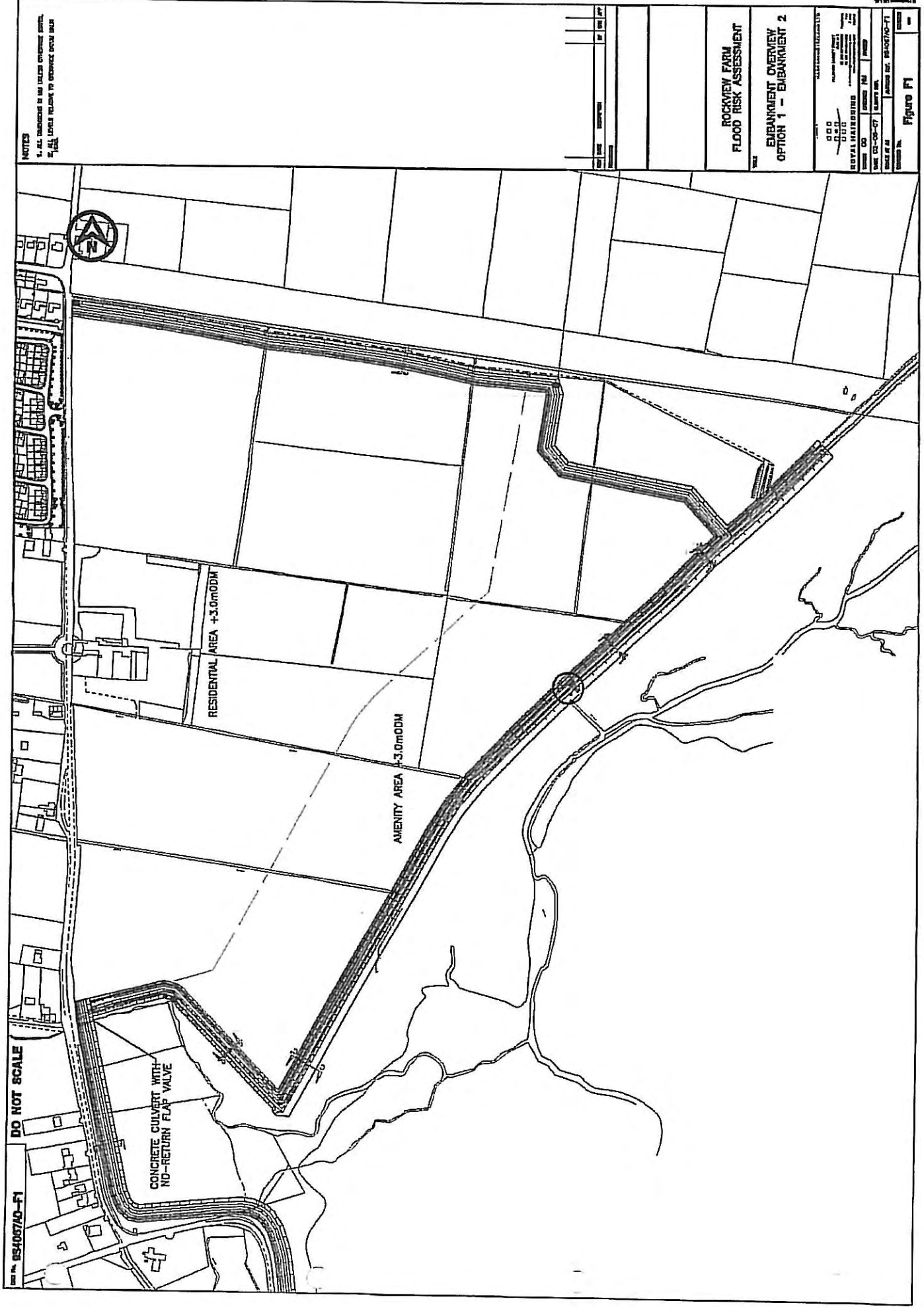


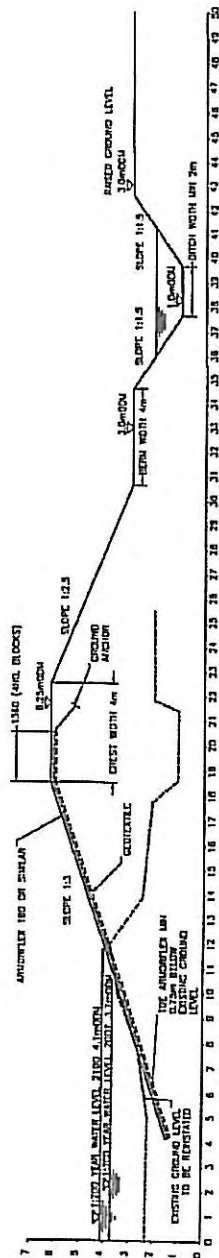
FIGURE 1. HIGH TIDE ROOSTS AT MARSH SOUTH



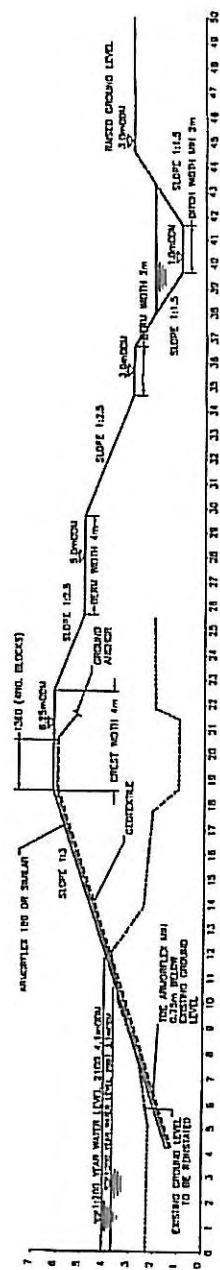
NOTES

1. ALL DIMENSIONS IN METERS UNLESS OTHERWISE STATED.
2. ALL DIMENSIONS RELATIVE TO EXISTING GROUND SURFACE.

SECTION A  
OPTION 1  
EMBANKMENT 1  
CHAINAGE 985



SECTION A  
OPTION 2  
EMBANKMENT 2  
CHAINAGE 985



| NO | DATE     | REVISION           | BY  | CHK |
|----|----------|--------------------|-----|-----|
| 1  | 17-05-07 | ISSUED FOR TENDERS | XXX | XXX |

ROCKVIEW FARM  
FLOOD RISK ASSESSMENT

MAIN COASTAL EMBANKMENT  
CROSS-SECTION A, OPTION 1  
EMBANKMENT OPTIONS 1 & 2

|                                                                        |                                                |
|------------------------------------------------------------------------|------------------------------------------------|
| <p>DESIGNED BY: XXX</p> <p>CHECKED BY: XXX</p> <p>APPROVED BY: XXX</p> |                                                |
| <p>DATE: 17-05-07</p> <p>SCALE: 1:100</p>                              | <p>FIGURE NO: 954067AD-F2</p> <p>FIGURE F2</p> |



**NOTES**  
 1. ALL DIMENSIONS IN MM UNLESS OTHERWISE STATED.  
 2. ALL LEVELS RELATIVE TO ORDNANCE DATUM 1984.

DO NOT SCALE

63406740-FB

| NO. | REV. | DESCRIPTION        | DATE       |
|-----|------|--------------------|------------|
| 1   | 1    | ISSUED FOR TENDERS | 10/01/2023 |
| 2   | 1    | ISSUED FOR TENDERS | 10/01/2023 |
| 3   | 1    | ISSUED FOR TENDERS | 10/01/2023 |

**ROCKVIEW FARM  
FLOOD RISK ASSESSMENT**

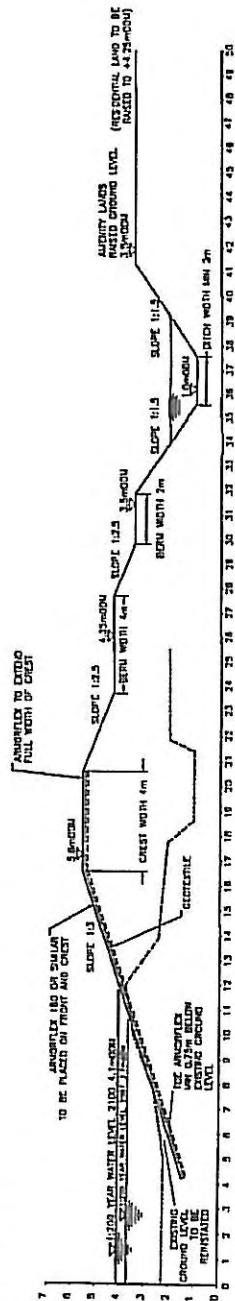
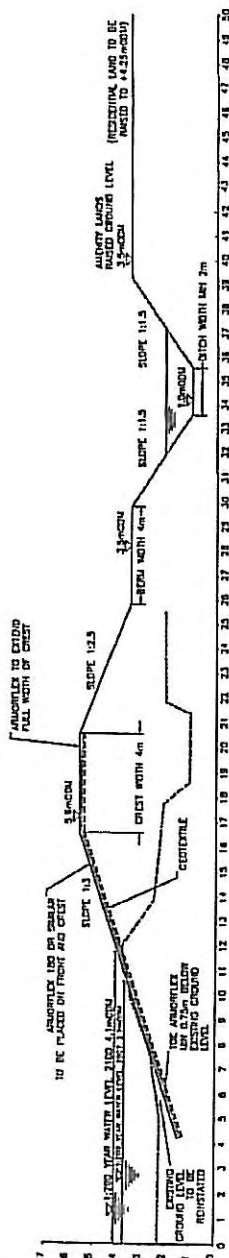
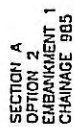
**EMBANKMENT OVERVIEW  
OPTION 2 - EMBANKMENT 2**

|             |               |
|-------------|---------------|
| PROJECT NO. | 63406740-FB   |
| CLIENT      | ROCKVIEW FARM |
| DESIGNER    | ROYAL HARBOR  |
| DATE        | 10/01/2023    |
| SCALE       | 1:1000        |
| PROJECT NO. | 63406740-FB   |
| CLIENT      | ROCKVIEW FARM |
| DESIGNER    | ROYAL HARBOR  |
| DATE        | 10/01/2023    |
| SCALE       | 1:1000        |

FIGURE FB

A

1. ALL INFORMATION CONTAINED HEREIN IS UNCLASSIFIED  
DATE 08-14-2008 BY 60322 UCBAW

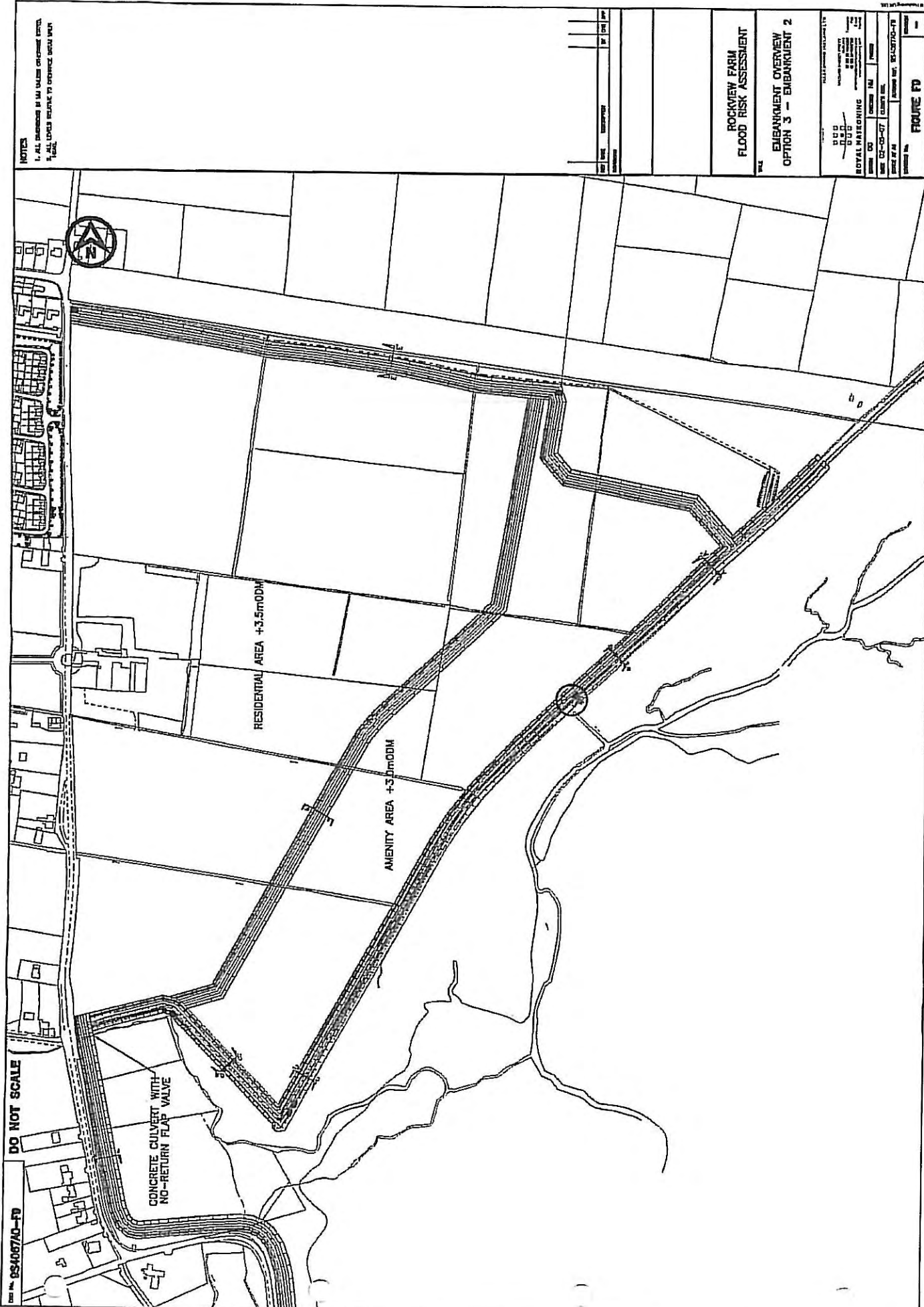


|   |           |     |   |
|---|-----------|-----|---|
| 3 | A F E D N | L A | C |
| 2 |           |     |   |
| 1 |           |     |   |

ROCKVIEW FARM  
FLOOD RISK ASSESSMENT

MAIN COASTAL EMBANKMENT  
CROSS-SECTION A, OPTION 2  
EMBANKMENT OPTIONS 1 & 2

[illegible]



**NOTES**

- 1. ALL DIMENSIONS IN MM UNLESS OTHERWISE STATED.
- 2. ALL LEVELS RELATIVE TO CHARTERED SURVEY DATA.

ROCKVIEW FARM  
FLOOD RISK ASSESSMENT

EMBANKMENT OVERVIEW  
OPTION 3 - EMBANKMENT 2

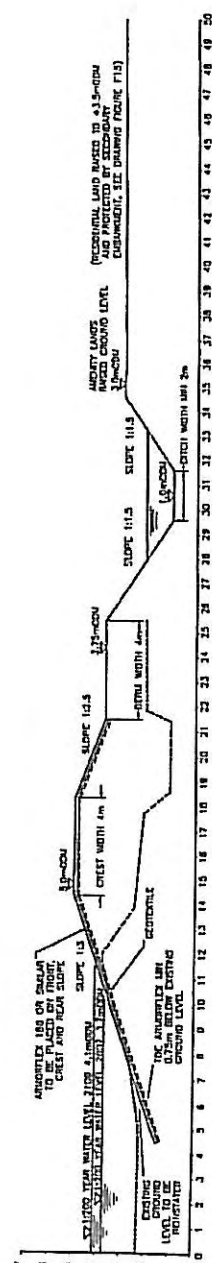
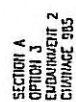
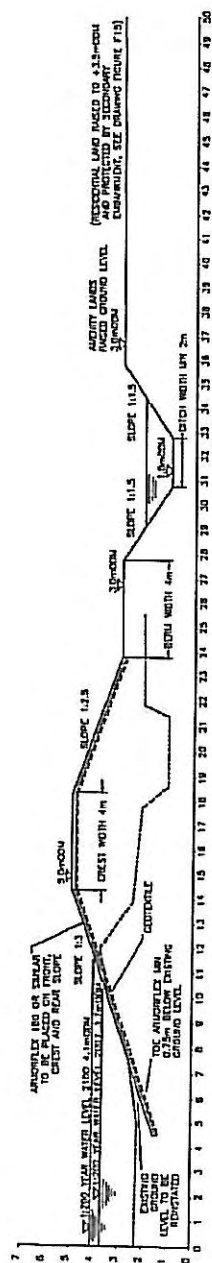
|                                                                                            |  |
|--------------------------------------------------------------------------------------------|--|
| PROJECT NO: 03-03-07<br>DATE: 03-03-07<br>DRAWN BY: [Signature]<br>CHECKED BY: [Signature] |  |
| PROJECT NAME: ROCKVIEW FARM<br>PROJECT LOCATION: [Address]<br>PROJECT STATUS: [Status]     |  |
| PROJECT NO: 03-03-07<br>DATE: 03-03-07<br>DRAWN BY: [Signature]<br>CHECKED BY: [Signature] |  |
| PROJECT NAME: ROCKVIEW FARM<br>PROJECT LOCATION: [Address]<br>PROJECT STATUS: [Status]     |  |

FIGURE F9

**DO NOT SCALE**

NOTES

IN THE COURT OF COMMONS AT WESTMINSTER  
THE 1<sup>ST</sup> OF JANUARY 1791.



| DATE     | TIME  | LOCATION | REMARKS |
|----------|-------|----------|---------|
| 10/10/19 | 10:00 | 1000     | 1000    |
| 10/10/19 | 10:00 | 1000     | 1000    |
| 10/10/19 | 10:00 | 1000     | 1000    |

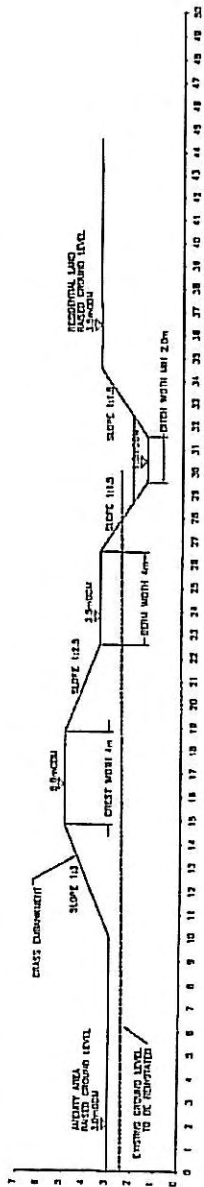
ROCKVIEW FARM  
FLOOD RISK ASSESSMENT

MAIN COASTAL EMBANKMENT  
CROSS-SECTION A, OPTION 3  
EMBANKMENT OPTIONS 1 & 2

[illegible]

|          |          |            |          |          |
|----------|----------|------------|----------|----------|
| DATE     | 17-03-07 | CLEVER RT. | DATE     | 17-03-07 |
| TIME     | 14:00    | 14:00      | TIME     | 14:00    |
| LOCATION | 14:00    | 14:00      | LOCATION | 14:00    |
| REMARKS  | REMARKS  |            |          |          |

SECTION G  
SECONDARY EMBANKMENT FOR  
OPTION 3



NOTES

1. ALL DIMENSIONS IN METERS UNLESS OTHERWISE STATED
2. ALL DIMENSIONS RELATIVE TO EXISTING GROUND LEVEL

| REV | DATE | DESCRIPTION | BY | CHK |
|-----|------|-------------|----|-----|
|     |      |             |    |     |

ROCKVIEW FARM  
FLOOD RISK ASSESSMENT

SECONDARY EMBANKMENT  
FOR OPTION 3  
CROSS-SECTION G

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| PROJECT NO. 954067A0-F15<br>PROJECT NAME: ROCKVIEW FARM FLOOD RISK ASSESSMENT<br>PROJECT LOCATION: ROCKVIEW FARM, 15.5 KM NW OF KENYA, N. PROVINCE<br>PROJECT OWNER: N. PROVINCE<br>PROJECT MANAGER: N. PROVINCE<br>PROJECT ENGINEER: N. PROVINCE<br>PROJECT SURVEYOR: N. PROVINCE<br>PROJECT DESIGNER: N. PROVINCE<br>PROJECT CONSTRUCTOR: N. PROVINCE<br>PROJECT DATE: 17-05-07<br>PROJECT SCALE: 1:1000<br>PROJECT STATUS: IN PROGRESS<br>PROJECT PHASE: DESIGN<br>PROJECT DRAWING NO.: 954067A0-F15<br>PROJECT DRAWING TITLE: SECONDARY EMBANKMENT FOR OPTION 3 CROSS-SECTION G<br>PROJECT DRAWING DATE: 17-05-07<br>PROJECT DRAWING SCALE: 1:1000<br>PROJECT DRAWING STATUS: IN PROGRESS<br>PROJECT DRAWING PHASE: DESIGN<br>PROJECT DRAWING CONSTRUCTOR: N. PROVINCE<br>PROJECT DRAWING DESIGNER: N. PROVINCE<br>PROJECT DRAWING SURVEYOR: N. PROVINCE<br>PROJECT DRAWING ENGINEER: N. PROVINCE<br>PROJECT DRAWING MANAGER: N. PROVINCE<br>PROJECT DRAWING OWNER: N. PROVINCE<br>PROJECT DRAWING NO.: 954067A0-F15<br>PROJECT DRAWING TITLE: SECONDARY EMBANKMENT FOR OPTION 3 CROSS-SECTION G<br>PROJECT DRAWING DATE: 17-05-07<br>PROJECT DRAWING SCALE: 1:1000<br>PROJECT DRAWING STATUS: IN PROGRESS<br>PROJECT DRAWING PHASE: DESIGN<br>PROJECT DRAWING CONSTRUCTOR: N. PROVINCE<br>PROJECT DRAWING DESIGNER: N. PROVINCE<br>PROJECT DRAWING SURVEYOR: N. PROVINCE<br>PROJECT DRAWING ENGINEER: N. PROVINCE<br>PROJECT DRAWING MANAGER: N. PROVINCE<br>PROJECT DRAWING OWNER: N. PROVINCE |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|