



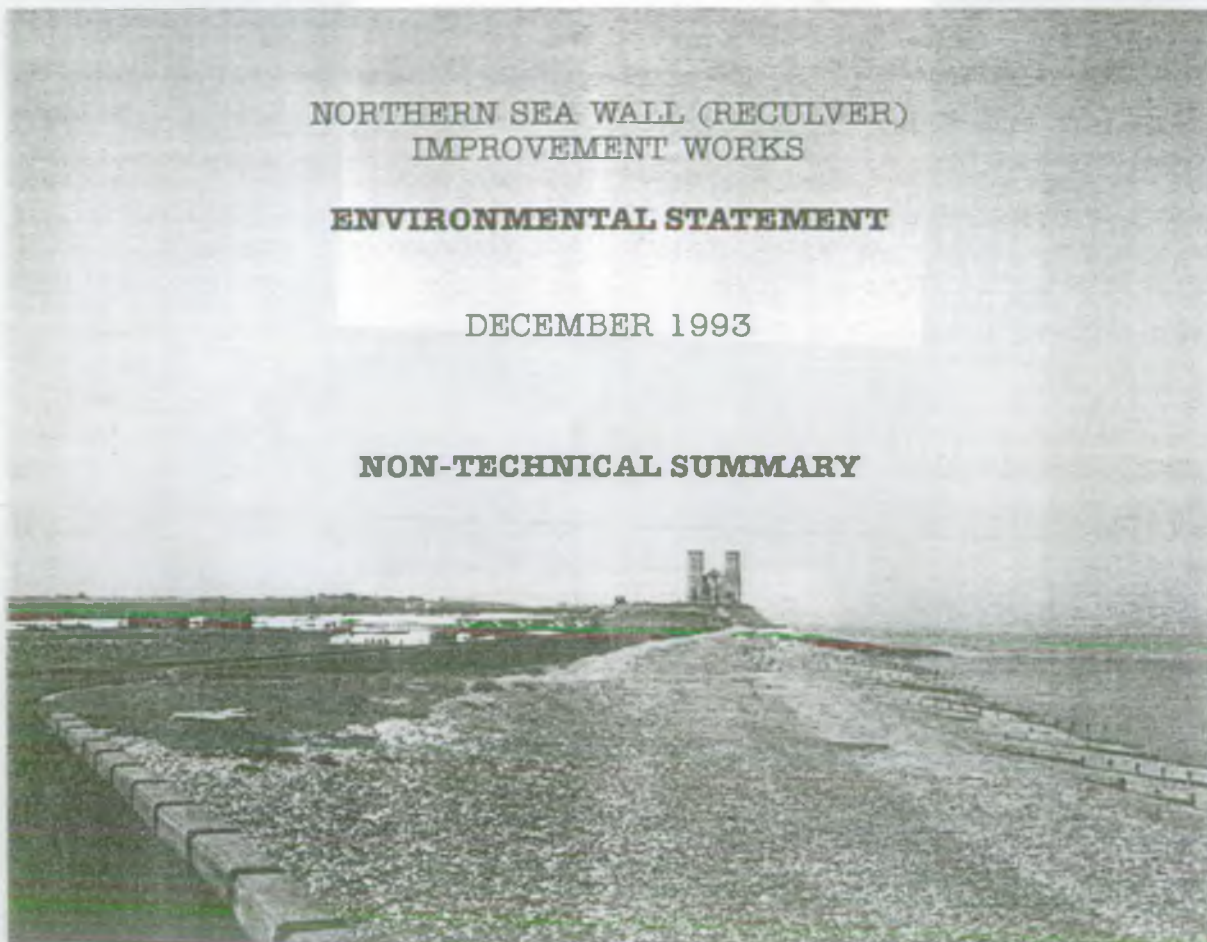
NATIONAL RIVERS AUTHORITY
(Southern Region)

NORTHERN SEA WALL (RECVLVER)
IMPROVEMENT WORKS

ENVIRONMENTAL STATEMENT

DECEMBER 1993

NON-TECHNICAL SUMMARY



Prepared by



Environmental Assessment Services Limited

NATIONAL RIVERS AUTHORITY
(Southern Region)

NORTHERN SEA WALL (RECVLVER)
IMPROVEMENT WORKS

ENVIRONMENTAL STATEMENT

December 1993

NON-TECHNICAL SUMMARY

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**NATIONAL RIVERS AUTHORITY
(Southern Region)**

**NORTHERN SEA WALL (RECVLVER)
IMPROVEMENT WORKS**

ENVIRONMENTAL STATEMENT

December 1993

NON-TECHNICAL SUMMARY

1.0 Introduction & Description of the Proposed Works.

1.1 The Environmental Statement (ES) has reported in detail on the assessment of the probable effects of improvement works on the environment of the North Kent Coast between Reculver and Minnis Bay. See Fig. 1. Matters relating to sea defence and land drainage are the responsibility of the National Rivers Authority (NRA) on this frontage. This document comprises the summary of the ES.

1.2 The environmental assessment for this project was carried out in accordance with the Land Drainage Improvement Works (Assessment of Environmental Effects) Regulations 1988. These regulations implement European Community (EC) directive 85/337, known as the environmental assessment directive. It is a requirement of the regulations that the Environmental Statement (ES) should include a Non-Technical Summary, this being a synopsis of all the issues which have been addressed in detail in the ES. The range of aspects considered is specified by the above-mentioned EC directive. The aspects addressed in the assessment and ES are as follows:-

* Geomorphology	* Social and amenity
* Ecology	* Socio-economic
* Archaeological	* Agricultural
* Historical	* Fisheries
* Landscape/visual	* Climate
* Air/Water Quality	* Noise/vibration
* Construction Impacts	* Planning context

- 1.3 The improvement works proposed by the NRA comprise the construction of 14 rock mound type groynes, three of which will incorporate repaired and extended land drainage outfalls, plus repairs to the sea wall apron immediately to the West of the Reculver towers. Shingle beach nourishment will be placed between the rock groynes. See Figures 2 & 3.
- 1.4 The purpose of the works is to protect the existing Northern Sea Wall from damage by storm driven high tides and to reduce the risk of flooding of the land behind the sea wall.
2. The Site
- 2.1 The site extends East from Reculver to Minnis Bay comprising some 4.5 km of sea defences fronted by mobile shingle beaches. The principal sea defence on the frontage is the Northern Seawall the decking of which forms a pedestrian causeway. The wall protects the entire length of the frontage and provides flood protection for the low lying farmland extending Southward to the railway embankment. The railway embankment forms a secondary line of defence against flooding.
- 2.2 The site of the proposed works falls within the boundary of part of a Site of Special Scientific Interest (SSSI), which extends over a large section of the Thanet Coast. The SSSI designation has been conferred on the area by English Nature for reasons of geological and ecological importance. See Fig 4 for detail of the SSSI boundary in the vicinity of the proposed works. The site is also proposed for designation as a Special Protection Area (SPA) under the EC habitat directive, and as part of a proposed Ramsar site.
- 2.3 There are several features of archaeological and cultural importance at Reculver and in the inter-tidal zone of the adjacent beaches. The remains of a Roman Fort and the ruins of the ancient church of St Mary stand on a mound overlooking the sea. The re-constructed twin towers of the church are a well known local landmark and were originally preserved as a daymark for navigation. Other features are located outside the fort walls (largely below ground).
- 2.4 Whilst there are no residential settlements in the immediate locality, a caravan park is located to the South East of Reculver. A mollusc hatchery, which rears oysters, is situated further to the East behind the sea wall. Towards the Eastern limit of the study area the Plumpudding Equestrian Centre operates a livery/riding stables. The farmland adjacent to the sea wall is used largely for the cultivation of wheat, rape, peas and potatoes.

- 2.5 The area is widely used for a variety of leisure activities which include walking, cycling, sea angling, freshwater fishing (in the River Wantsum), sailing and windsurfing.

3. Background to the Scheme

- 3.1 There is a long history of coastal erosion at the site and there has been a continuing loss of beach in front of the Northern Sea Wall. Should the sea wall become undermined, or otherwise damaged, its flood protection function would be in jeopardy.

- 3.2 In 1992 the National Rivers Authority prepared a coastal defence study for a section of the North Kent Coast between Reculver and Minnis Bay. This study reviewed four engineering options designed to improve existing sea defences and reduce the risk of flooding. These were as follows:

Option 1: Managed Retreat - this proposed allowing the coastline to re-adjust by natural processes in order to achieve its own alignment. Works to prevent the sea outflanking at each end of the frontage and to protect the railway embankment also formed part of the scheme, see Figs. 5 and 6.

Option 2: Rock Groynes - this proposed the construction of 14 rock groynes, combined with adding more shingle to the beach between the groynes; (the present scheme).

Option 3: Revetment Scheme - this proposed reinforcement of the existing shoreline by constructing a sloping apron of concrete blocks or rocks at each end of the frontage, but leaving the centre unchanged, see Figs 7 and 8.

Option 4: Headlands/breakwaters - this proposed building offshore/inter-tidal rock islands along the frontage combined with the addition of more shingle to the beach, see Figs 9 and 10.

- 3.3 The preliminary environmental assessment of the options was carried out as part of the engineering feasibility study. From this it was apparent that of the four options the Managed Retreat option offered significant benefits for wildlife, conservation and the local ecology. Whilst this was a favoured option, it was not selected for reasons of its high cost.
- 3.3 Of the remaining three proposals, Option 2 was finally selected on a balance of cost, engineering practicability and environmental effects.

4. Effects of the Works

Geomorphology

- 4.1 Changes in coastal geomorphology (landform) have created the need for the proposed works and the works will have an impact on the existing geomorphology.
- 4.2 Some 6000 years ago rising sea levels separated the Isle of Thanet from the rest of Kent. The Channel left between the Isle of Thanet and Reculver eventually silted up leaving the present low-lying landscape. The land was originally swampy and difficulties in cultivation were overcome by various land drainage works.
- 4.3 The beach is made up of shingle, probably eroded from the coast to the East. The coastline has been eroding over a long period and a number of historic settlements were known to exist seaward of the present shoreline. Measures to control the erosion have included timber groynes to trap the shingle and stone and concrete revetments to make the shore less easily erodible.
- 4.4 The uprush of the sea during calm periods forms a berm or ridge, which then provides some flood protection to the low lying land behind. However, this berm tends to be too low to prevent inundation of the hinterland during extreme storm surge events. The 1953 storm surge caused widespread flooding all along the East coast, flooded the farm land at the site and caused the railway line to be closed. Recent storm surges have not caused the same degree of flooding due to the Northern Sea Wall which provides protection to a level some 2m above the 1953 flood level. The landward movement of the beach ridge has created two lagoons on the frontage, the larger at Coldharbour and the smaller towards Plumpudding Island. These lagoons provide a valuable wetland habitat.
- 4.5 The purpose of the works is to control the risk of flooding by the control of coastal erosion and thus by reducing the risk of overtopping of the existing sea defences by storm driven high tides.
- 4.6 The primary functions of the proposed works, maintaining a protective beach in front of the Northern Sea Wall and thus preserving the flood protection provided by the wall, should have largely beneficial impacts in the area. Two particular areas of concern have been identified, namely; the proposed groynes may exacerbate erosion to the West of Reculver and the apparent gap in the proposed groyne field between Groyne 9 and Groyne 10 could exacerbate erosion on that section of the frontage. These undesirable effects should be avoided by ensuring adequate volumes of beach nourishment (shingle recharge) to prevent any interruption in the supply of littoral material to the centre of the frontage and to the West.

4.7 It is considered that the proposed works are unlikely to cause the loss of the sandy nature of the beach at Minnis Bay. Although some of the shingle recharge may move East instead of West (on occasion), the quantities are unlikely to be sufficient to change the slope and particle grading of the Beach at Minnis Bay.

4.8 The proposed works will tend to preserve the coastal lagoons by preserving the protective beach berm. However, these lagoons are dynamic features that will, to some extent, continue to degrade under natural processes.

Ecology

4.9 Three different types of wildlife habitat are evident in the study area:

a) Terrestrial: this includes the strip of grassland and the drainage channel to the South of the sea wall and the shingle bank, up to the high tide mark, on the North side of the sea wall.

b) Small areas of saltmarsh and coastal lagoons: these are located at Coldharbour and to the East near Plumpudding Island, see Fig. 12.

c) Inter-tidal zone: this is the area of the beach between extreme high and low water marks.

4.10 As the site lies within the Thanet Coast SSSI, see 2.2 above, the NRA have been in consultation with English Nature throughout the development of the proposals. There should be no long term adverse effects on the main habitat types and some small benefits may result for the species of plants and animals which live in the inter-tidal zone, as the rocks which form the groynes will provide niches for such species to become established.

4.11 Plants suited to the rather harsh conditions of a coastal environment grow in the shingle above the high water mark. Some of the species growing here are nationally scarce and need to be protected. In order to do this it has been recommended that, where practicable, access to the beach and foreshore for construction traffic should be limited to areas where damage to these plants can be minimised.

4.12 The most important wildlife and conservation consideration in the area is the need to protect the birds which use the site for roosting and breeding. In order to ensure that these requirements are taken into account, a schedule has been agreed between English Nature and the NRA whereby the proposed works will be phased around the species which would be particularly at risk. This has been arranged in a way that will ensure ornithological interests are properly protected.

Archaeological and Historical Interests

- 4.13 There are three main parts to the works which could affect local archaeological and historical interests:
- a) The upgrading of an existing track through Canterbury City Council's caravan park for use by construction vehicles entering and leaving the site, see Fig 11.
 - b) The repair and extension of existing three outfalls, see Fig. 2, at North Mouth, Coldharbour and Brooks End.
 - c) The construction of 14 rock groynes, followed by supplying additional shingle to the beach between the groynes.

Of these a) has been identified as being the most likely to damage archaeological features thought to be located outside the walls of the Roman Fort, but within the caravan park. (Fig. 15)

- 4.14 The NRA is presently trying to obtain more information regarding the location and depth of any features which risk being disturbed or damaged by the works. The decision to route construction vehicles via the caravan park was made as the existing NRA access to the beach runs directly alongside the walls of the Roman Fort. Therefore, to protect the ancient walls from the risk of damage by vibration caused by heavy construction traffic passing close to it, the NRA proposed the alternative route.
- 4.15 Subject to further information on the archaeological sites, the NRA, in consultation with Kent County Council and other local archaeological groups, propose to upgrade the track in such a way that archaeological features will not be damaged or disturbed.
- 4.16 The main works on the outfalls and the groynes should have no adverse effects on archaeological sites, although there are three sites of known importance in the inter-tidal zone, see Fig. 13. To ensure that these are not accidentally damaged or disturbed, it has been recommended that a qualified archaeologist should oversee all excavations made on the frontage. If discoveries are made, the NRA should be prepared to allow time for investigation and mapping of exposed deposits before continuing with the works.

Fisheries

- 4.17 It is unlikely that the works will have any long term detrimental effects on local fishing interests. However, this will depend on ensuring that any construction materials delivered by sea are not left dumped on the sea bed short of their appointed destination in the works. The same proviso applies to any waste materials arising from the works.
- 4.18 If such materials are left on the sea bed they could be a hazard to navigation and could also foul fishermen's trawl gear. Surveys before and after materials are supplied by sea would help monitor this problem. However, it has been suggested that these surveys are often inadequate and some obstructions are missed. Other measures to detect obstructions such as diving and sonar surveys should also be included as part of an offshore monitoring programme. It has also been suggested that final payment to the Contractor, should be withheld until all parties are satisfied that the sea bed is clear of debris and imported rock.
- 4.19 During its production process, the oyster hatchery at Reculver, owned and operated by Seasalter Shellfish (Whitstable) Ltd, pumps sea water into settling ponds and thence to tanks where young oysters are developing. Oysters can become unfit to eat if clean water is not always available to them. Once the groynes have been built it is possible that sea water will not circulate as freely around the hatchery's intake pipe, as it does at present. The result being that occasionally, at certain times of the year, the water being pumped in may not be as clean as usual, which would adversely affect the hatchery's successful operation.
- 4.20 Possible re-location of the in-take pipe to avoid the above problem is being investigated by the NRA in consultation with the Managing Director of Seasalter Shellfish (Whitstable) Ltd.
- 4.21 The NRA should also consult MAFF regarding the site of origin of the beach recharge shingle as it is possible to accidentally introduce a disease affecting oysters (Bonamia) by importing infected shellfish in shingle.

Landscape and Visual

- 4.22 The landscape in the vicinity of the site is largely a function of the geology and geomorphology. The principle view points are from the Northern Sea Wall as this, with the exception of St Mary's Churchyard, represents both the highest elevation and the easiest access.

4.23 The crests of the proposed groynes will be at least 1.5m below the crest of the existing sea wall and will follow the slope of the beach. Thus they will have no impact on the landscape viewed from anywhere except St Mary's Churchyard and points along the sea wall.

4.24 The visualizations, Figs. 16, 17, 18, 19 and 20, show the probable impacts being on the views from Reculver looking East and from Minnis Bay looking West. It is concluded that whilst the proposed works will have some impact on the views of the beach, these impacts need not necessarily be adverse.

Social and Amenity

4.25 Public access to the frontage from both Reculver and Minnis Bay and along the Northern Sea Wall will not be adversely affected by the works once construction is completed. One of the long term benefits of the works will be the preservation of the access along the Northern Sea Wall. This access forms part of a network of footpaths along this stretch of the coast. Similarly, there will be no adverse impacts on the recreational value of Reculver Country Park, the amenity of the caravan park at Reculver or the normal pursuit of leisure activities in the locality. During the construction period it will be necessary, for reasons of safety, for the public to be temporarily excluded from those areas of the beach where work is in progress.

4.26 The groynes could be a potential hazard to people who climb on them. In the inter-tidal areas where marine growth may make the rocks slippery it would be possible to slip and fall into the gaps between the rocks. The provision of prominent notices at regular intervals along the frontage to warn of the dangers of climbing on the groynes should reduce this risk. It is recommended that the NRA maintain these notices, to ensure that they remain legible.

4.27 The sandy beach at Minnis Bay is considered an important tourist attraction. The risk of the beach recharge shingle moving East to spoil this feature of the seaside is considered to be very small. See section 4.7 above.

4.28 Concern has been expressed by the Parish Councils, Kent Ornithological Society and a local landowner that there appears to be a large gap between Groynes 9 and 10 (see Fig. 2). The concern was that the gap could allow erosion in the centre of the frontage to the detriment of ecological interests. The consultees' suggestions for extra or relocated groynes are shown on Fig. 13. See also Section 4.6 above. However, any alterations to the presently proposed scheme could change the predicted effects on archaeological, historical and ecological interests.

Socio-economic and Agricultural Interests

- 4.29 One of the greatest benefits of the works will be the reduction in flood risk to the land South of the sea wall. This will be of long term economic benefit to landowners as the risk of damage to crops from salt water will be considerably reduced. The railway line will also benefit from the works, as the chances of its operation being adversely affected by flooding will also be largely removed.
- 4.30 The existing land drainage system should also benefit, as the need to cope with occasional flood events should be considerably reduced.

The Planning Context

- 4.31 The proposed works are being undertaken by the NRA as Land Drainage Improvement Works, see 1.2 above and it is understood that there is not a formal requirement for the NRA to seek planning consent for the works.
- 4.32 However, in terms of existing Kent County Council Planning strategy, Canterbury City Council and Thanet District Council planning policies, the proposals do not appear to be in conflict with existing policies. This is with particular reference to matters relating to tourism and recreation, landscape, archaeological, cultural and ecological issues.
- 4.33 Thanet District Council has stated that it considers planning permission would be required for some parts of the works.

Air Quality, Water Quality and Climate

- 4.34 There should be no long term changes in air quality. There is likely to be an increase in the turbidity of the sea during construction work in the inter-tidal zone, but this should have no long term effects on water quality.
- 4.35 The significant issue relating to climate is whether account has been taken in the design of the works to allow for predicted rises in sea level during the life of the proposed works. The proposed works do not include plans to raise the level of the sea wall and there appears to be no overwhelming need to. The present wall crest level is some 2m higher than the highest water level recorded to date, thus there appears to be an adequate margin against a suggested 6mm a year sea level rises for the proposed design life of the works. The groynes and beach nourishment proposed should keep breaking waves well seaward of the wall and reduce the risk of overtopping.

Noise and Vibration

- 4.36 There are no significant noise and vibration impacts likely to result from the completed works.
- 4.37 There may be significant noise impacts during construction. The noise levels may increase noticeably (estimated increases of 13 dB(A) & 17 dB(A) over measured daytime and night-time background levels respectively) at the King Ethelbert public house during sheet pile driving for the reconstruction of the apron West of the Towers and the construction of Groyne 1. The increase in noise levels above ambient would reach nuisance levels, particularly if the work was to be carried out at night. However, by limiting the work to daylight hours the impacts should be minimised. Pile driving for the outfall works is also likely to be noisy, however, there are no houses close enough to the outfall sites for the pile driving to result in a significant nuisance to the residents. In the event of complaints, monitoring should be carried out during the noise generating operations.
- 4.38 The NRA's engineers should consider whether there is any risk to the King Ethelbert public house from vibration resulting from sheet pile driving for the apron repairs to the West Of the Towers. The short length of piles proposed and the strata into which they are to be driven suggest that the risk is small. Potential vibration damage to the remains of the Roman fort from site access traffic is addressed in Section 4.14 above.

Other Construction Impacts

- 4.39 Construction impacts are by definition only temporary. Provided the works are phased as agreed with English Nature, to protect ornithological interests and according to recommendations made to ensure that archaeological features are not damaged, there should be no serious or significant long term adverse impacts on the area. However, a high standard of re-instatement and monitored site clearance should be included in the contract for the works.
- 4.40 Traffic resulting from the construction of the proposed works has been estimated at a maximum of 30 car/light van and 5 HGV visits to the site per day. All bulk materials (rock and beach re-charge shingle) will arrive by sea.

The Planning Context

- 4.41 The proposed works are defined as land drainage improvement works and as such it is not anticipated that planning consent will be required for the groynes, beach recharge or outfalls. However, the proposals do not appear to conflict with the planning policy or the local plans of the affected local planning authorities.

5. Conclusions

- 5.1 There is some risk of damage to archaeological sites from construction access works and some risk of damage to fishing gear if rock for the groynes is left short dumped offshore on completion of construction. Both these potential impacts may be mitigated by monitoring the related activities. Risks of disturbance to birds and other ecological impacts should be minimised by the agreed scheduling of construction activity. Thus, provided recommendations to ensure that ecological, archaeological and fisheries interests are protected, there should be no long term adverse effects.
- 5.2 The overall benefit in terms of reducing the risk of flooding will be significant for social, amenity, economic and agricultural interests. However, there is some risk to the safety of people who may choose to disregard the recommended warning notices and climb on the groynes.
- 5.3 There will be some loss of public access, and therefore amenity, in the immediate vicinity the works during the construction period for safety reasons.
- 5.4 Noise and vibration impacts will be limited to the construction period and, unless night working is permitted on Groynes 1 and 14, are likely to have only a short term or minor adverse impact on two most exposed residences.
- 5.5 The minor visual impact of the proposed rock groynes may be partially mitigated by adopting an irregular crest line and using a mixture of rocks of different sizes and, if possible, shades of colour.
- 5.6 It is recommended that standard markers be installed at the seaward ends of the groynes to reduce any potential hazard to inshore navigation at high tide.

Impact matrix

- 5.7 The conclusions of the environmental assessment are further summarised in the impact matrix given below:

Impact Matrix

PHASE OF WORKS	PERMANENT WORKS			CONSTRUCTION		
	ROCK GROynes	OUTFALL RECONSTRUCTION	BEACH NOURISHMENT	MARINE SUPPLY OF ROCK & SHINGLE	ACCESS & TRAFFIC	SITEWORK & PILING
ENVIRONMENTAL ASPECTS						
GEOMORPHOLOGY	⊖ ⊕	⊖	⊖ ⊕	•	•	•
ECOLOGY	⊖ ⊕	⊖	⊖	⊖	⊖	⊖
ARCHAEOLOGICAL	• ⊕	• ⊕	•	•	⊖ ⊕ ⊕	⊖ ⊕
FISHERIES	⊖	•	•	⊖ ⊕ ⊕	•	⊖
LANDSCAPE	⊖ ⊕	⊖ ⊕	⊖	•	•	•
SOCIAL & AMENITY	⊖	⊖	⊖ ⊕	⊖	⊖	⊖
SOCIO-ECONOMIC	⊖	⊖	⊖	•	•	⊖
AGRICULTURAL	⊖	⊖	⊖	•	•	•
AIR/CLIMATE	•	•	•	⊖	⊖	•
WATER QUALITY	⊖	⊖	⊖	⊖	•	•
NOISE/VIBRATION	•	•	•	⊖	⊖	⊖ ⊕ ⊕

Key:



Minor beneficial effect
 Minor adverse effect
 Partial mitigation possible
 Effects require verification by monitoring
 No significant impact



Major beneficial effect
 Major adverse effect
 Full mitigation possible

* * * * *

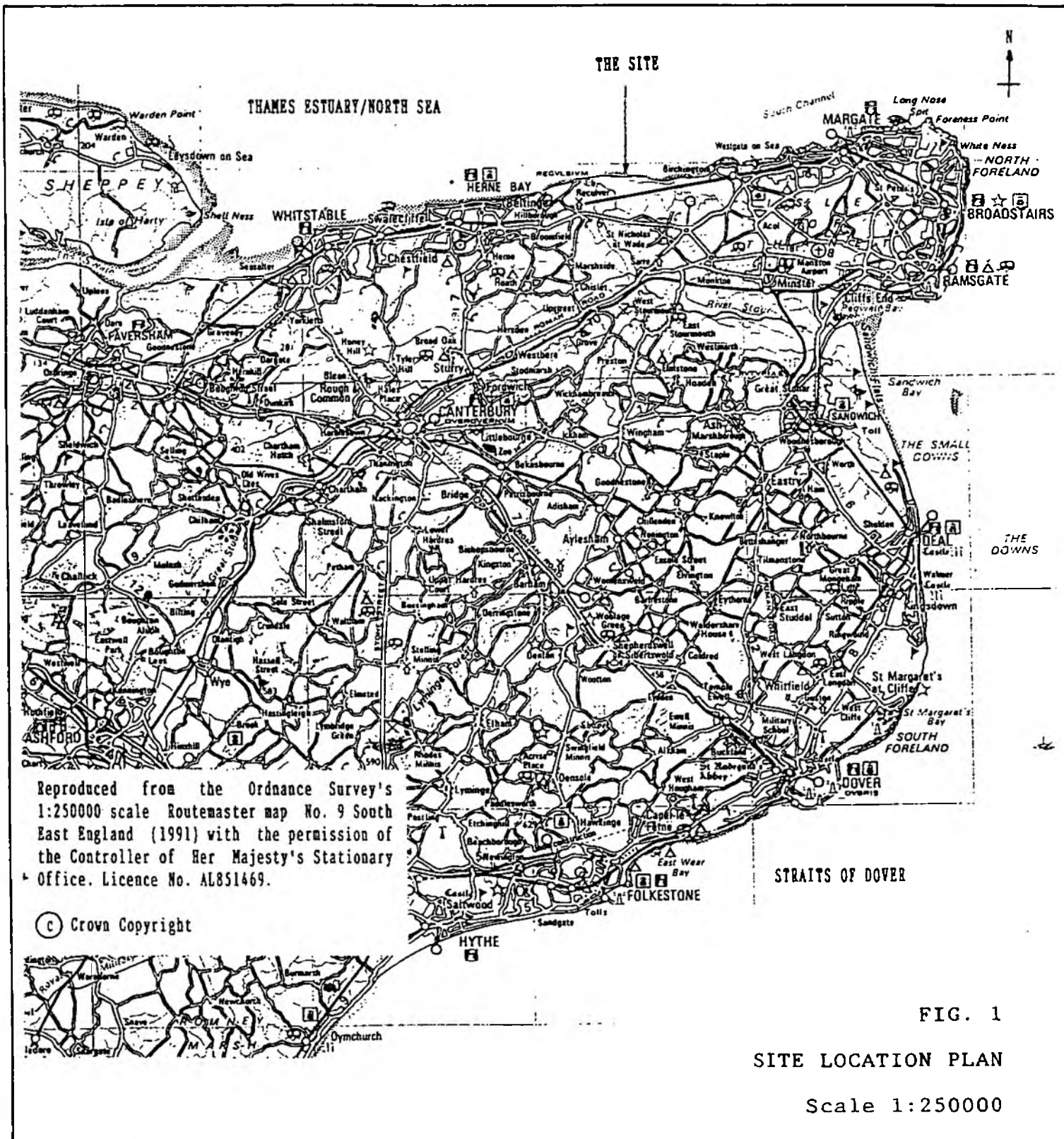
APPENDIX A

FIGURES

NATIONAL RIVERS AUTHORITY
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NORTHERN SEA WALL (RECLIVER) IMPROVEMENT WORKS

ENVIRONMENTAL STATEMENT



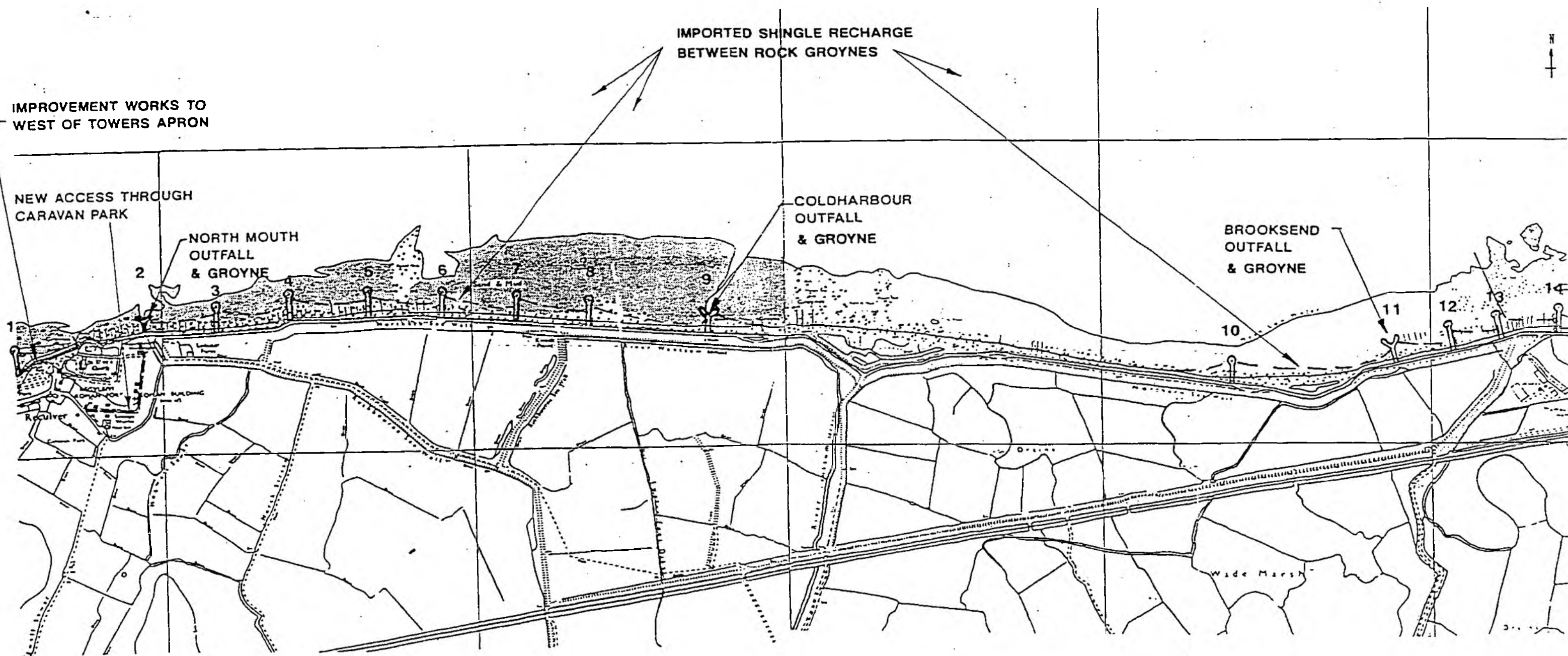


FIG. 2

PROPOSED IMPROVEMENT WORKS
ROCK GROYNES & BEACH NOURISHMENT
PREVIOUSLY KNOWN AS OPTION 2

Scale 1:12500

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NORTHERN SEA WALL (RECVLVER)
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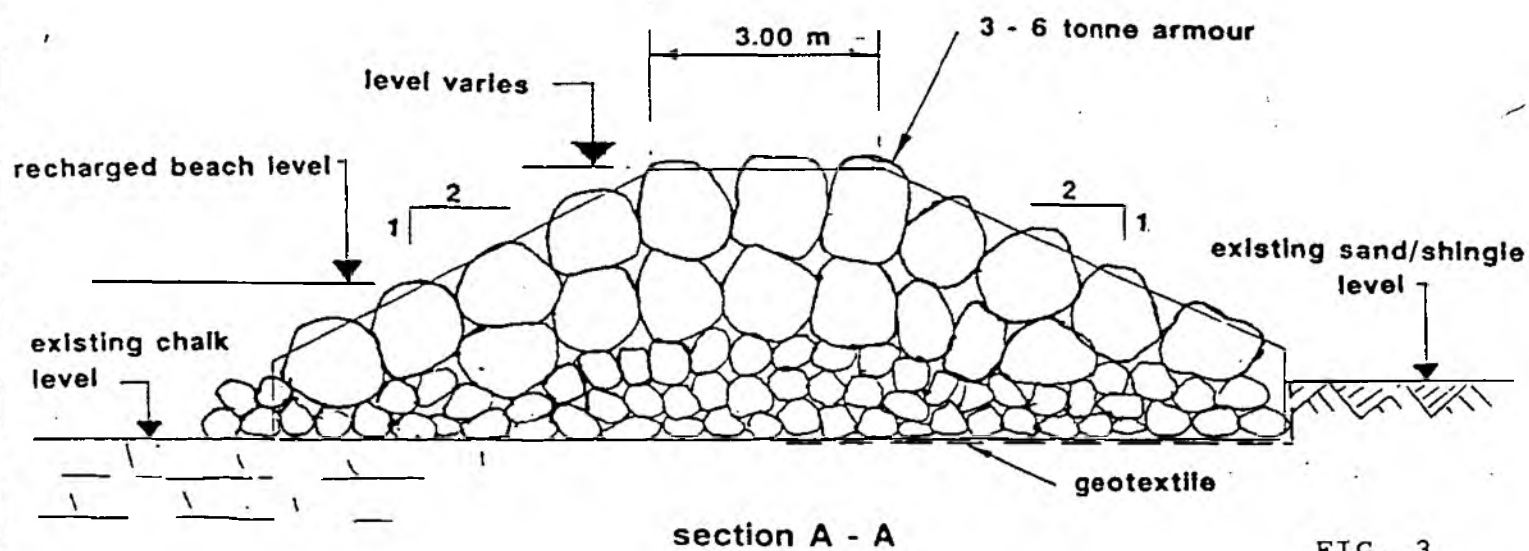
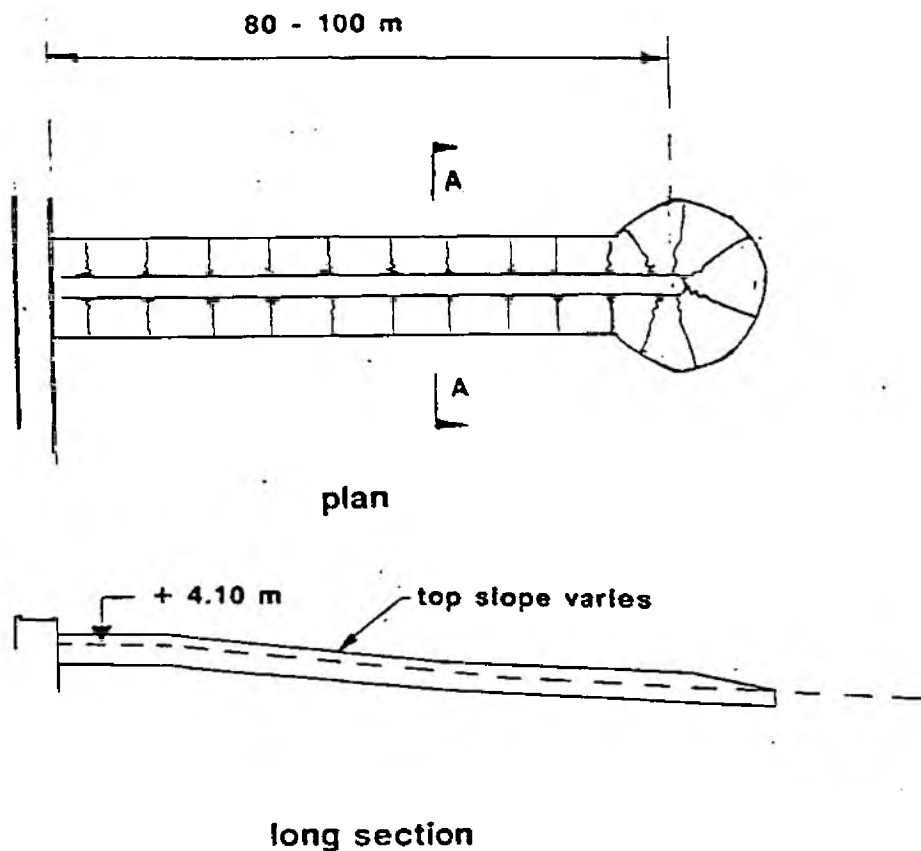


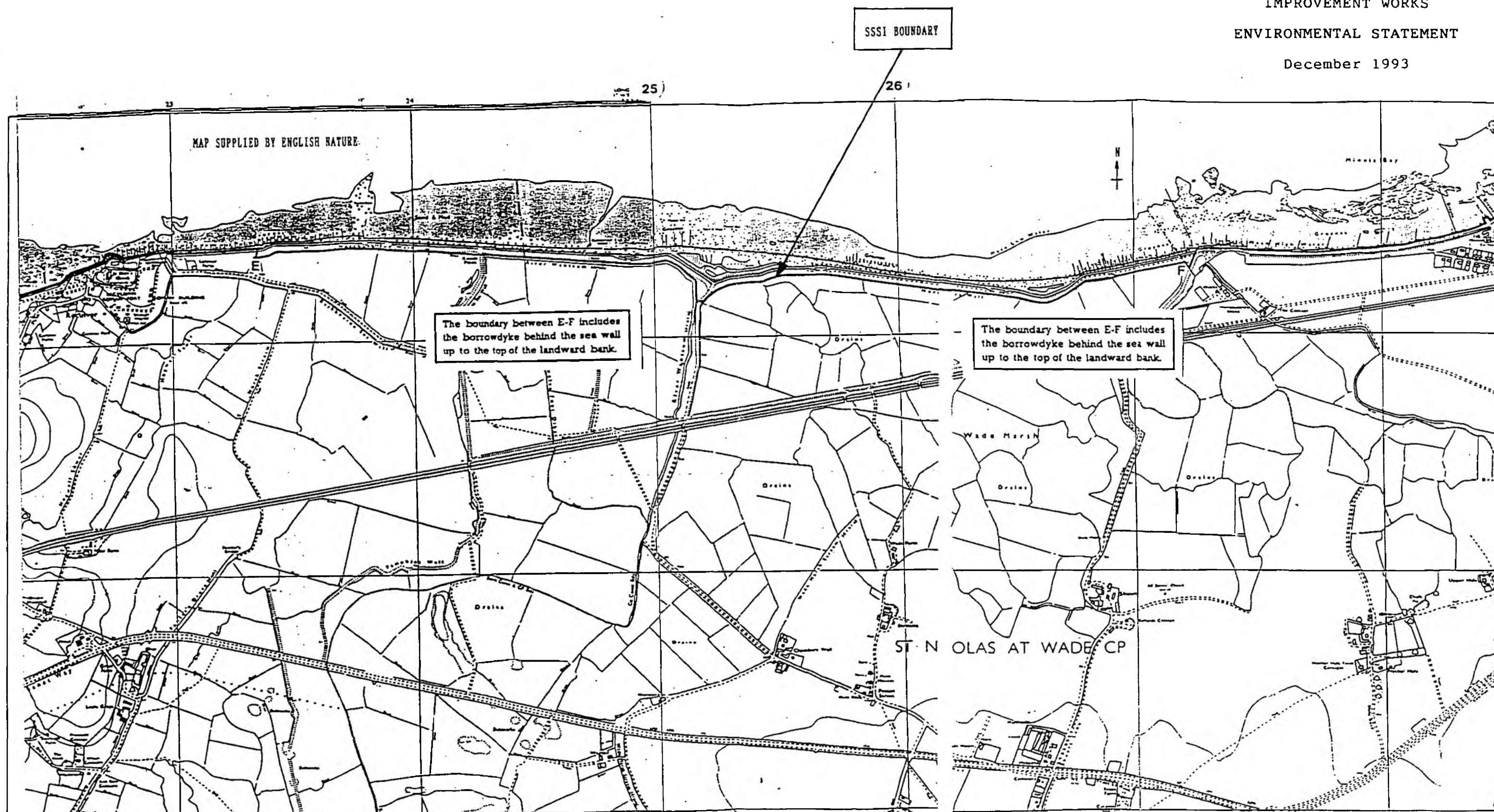
FIG. 3

PROPOSED IMPROVEMENT WORKS

DETAILS OF ROCK GROYNES

PREPARED BY ROBERT WEST & PARTNERS

Not to scale



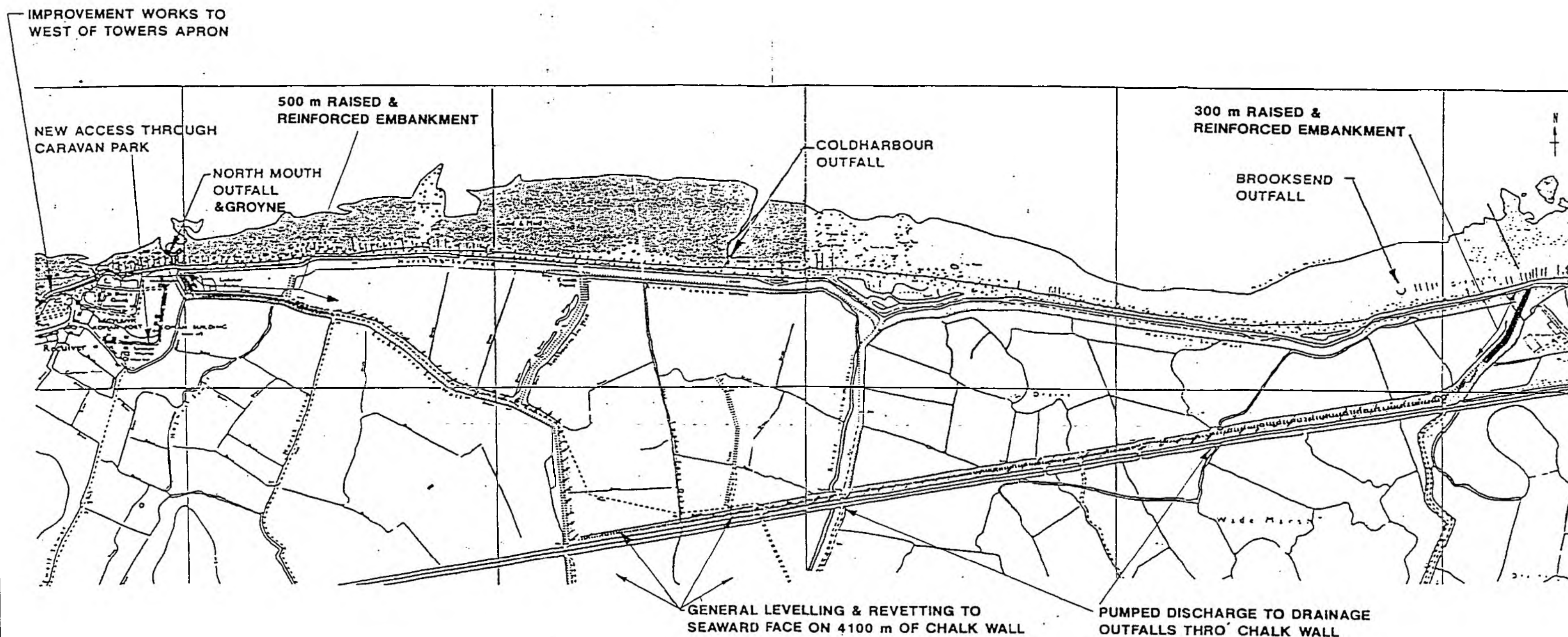
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FIG. 4

MAP SHOWING SECTION OF THANET COAST SSSI

Scale 1:15000



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PROPOSED IMPROVEMENT WORKS OPTIONS
OPTION 1 FROM PRELIMINARY ASSESSMENT

MANAGED RETREAT

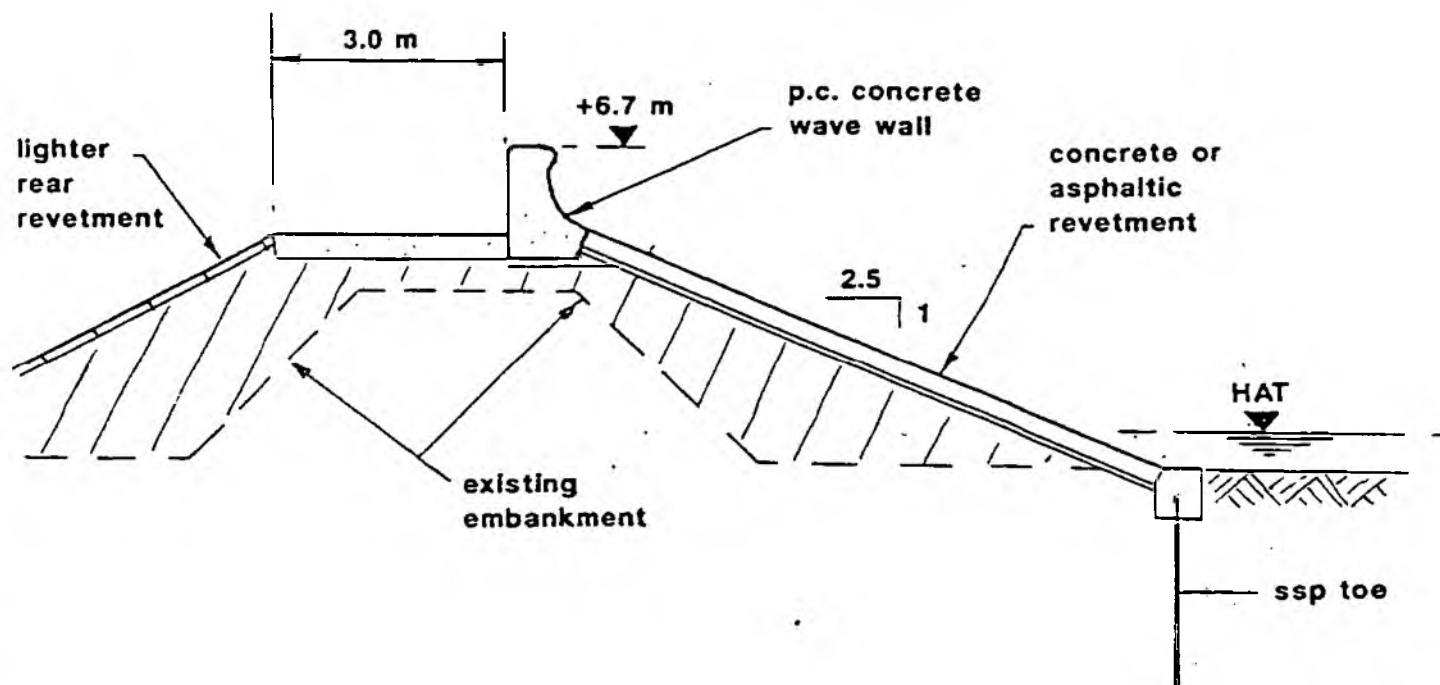
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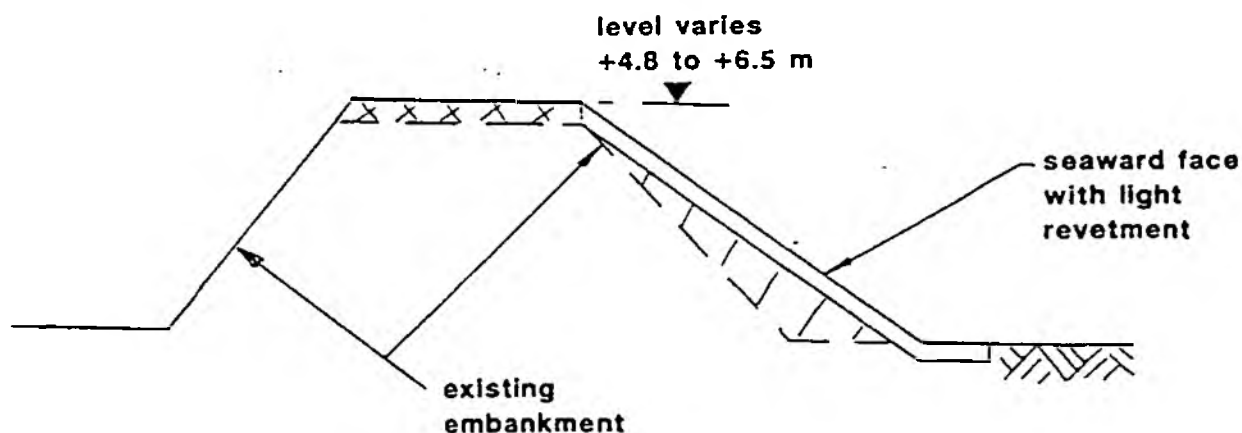
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raised and reinforced embankment



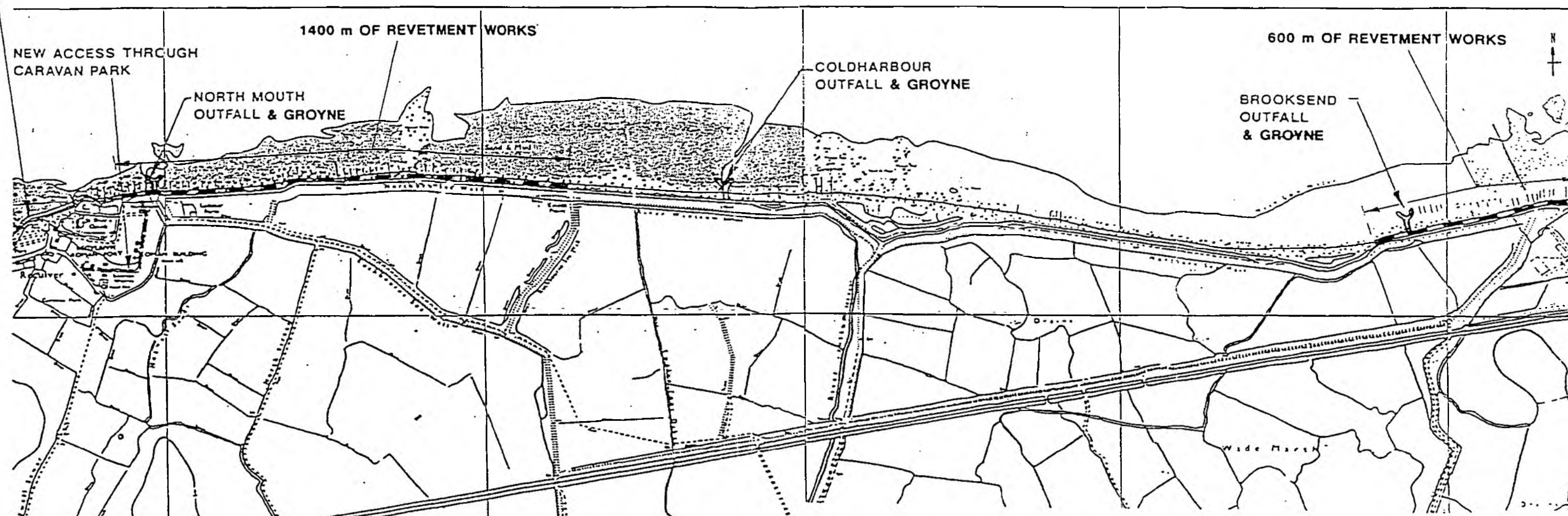
levelled and revetted embankment

FIG. 6

PROPOSED IMPROVEMENT WORKS OPTIONS
DETAILS OF EMBANKMENT WORKS - OPTION 1

Not to scale

IMPROVEMENT WORKS TO
WEST OF TOWERS APRON



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FIG. 7

PROPOSED IMPROVEMENT WORKS OPTIONS
OPTION 3 FROM PRELIMINARY ASSESSMENT
REVETMENT SCHEMES

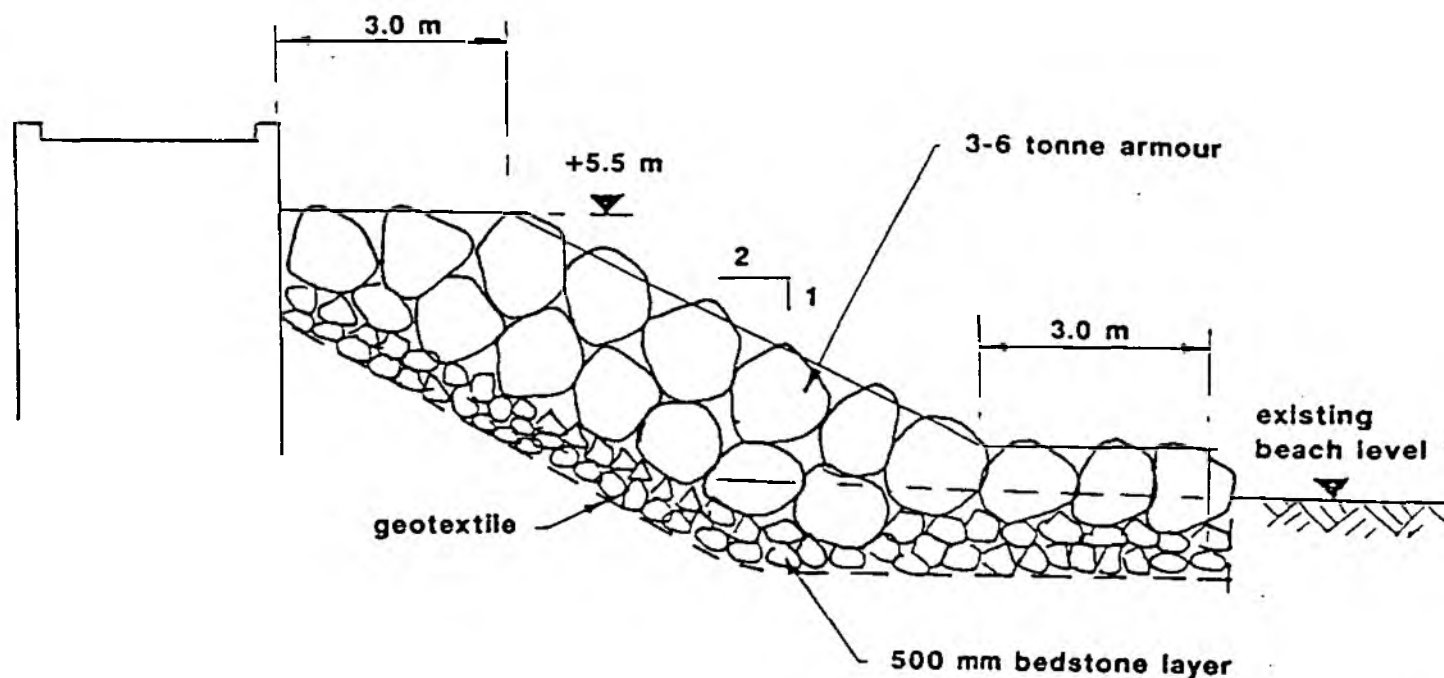
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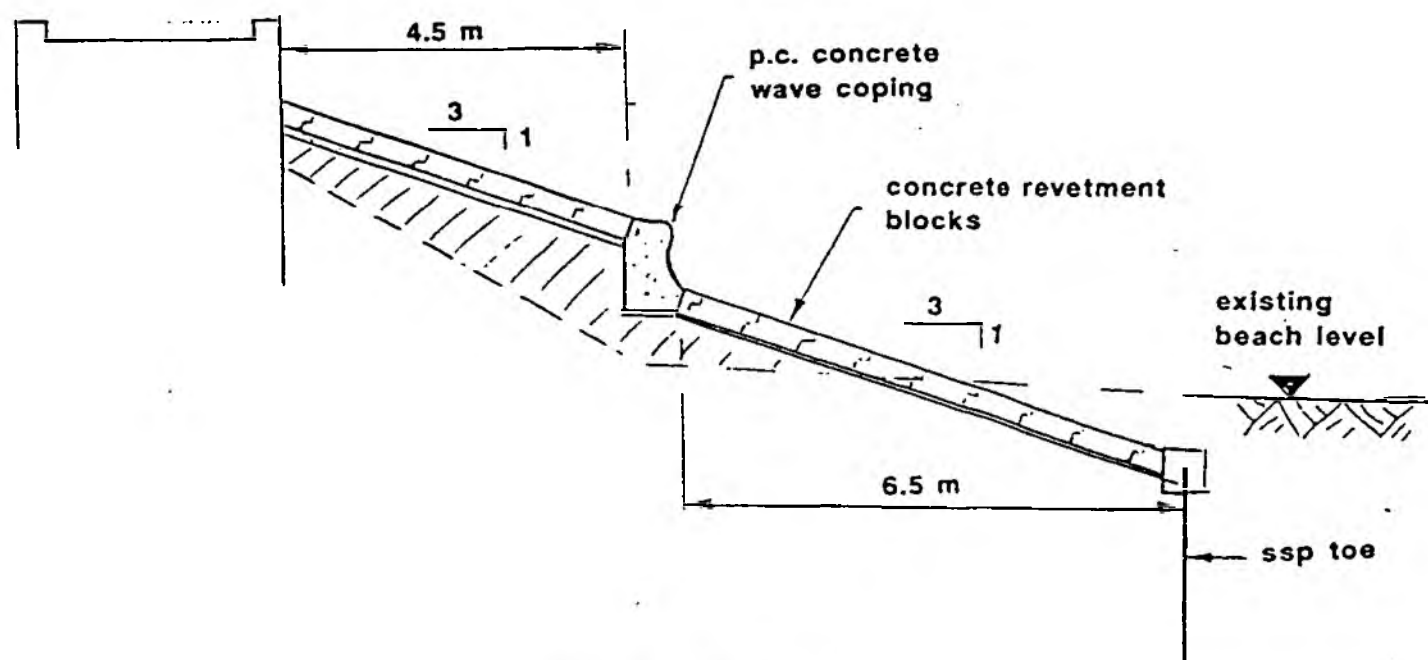
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rock revetment

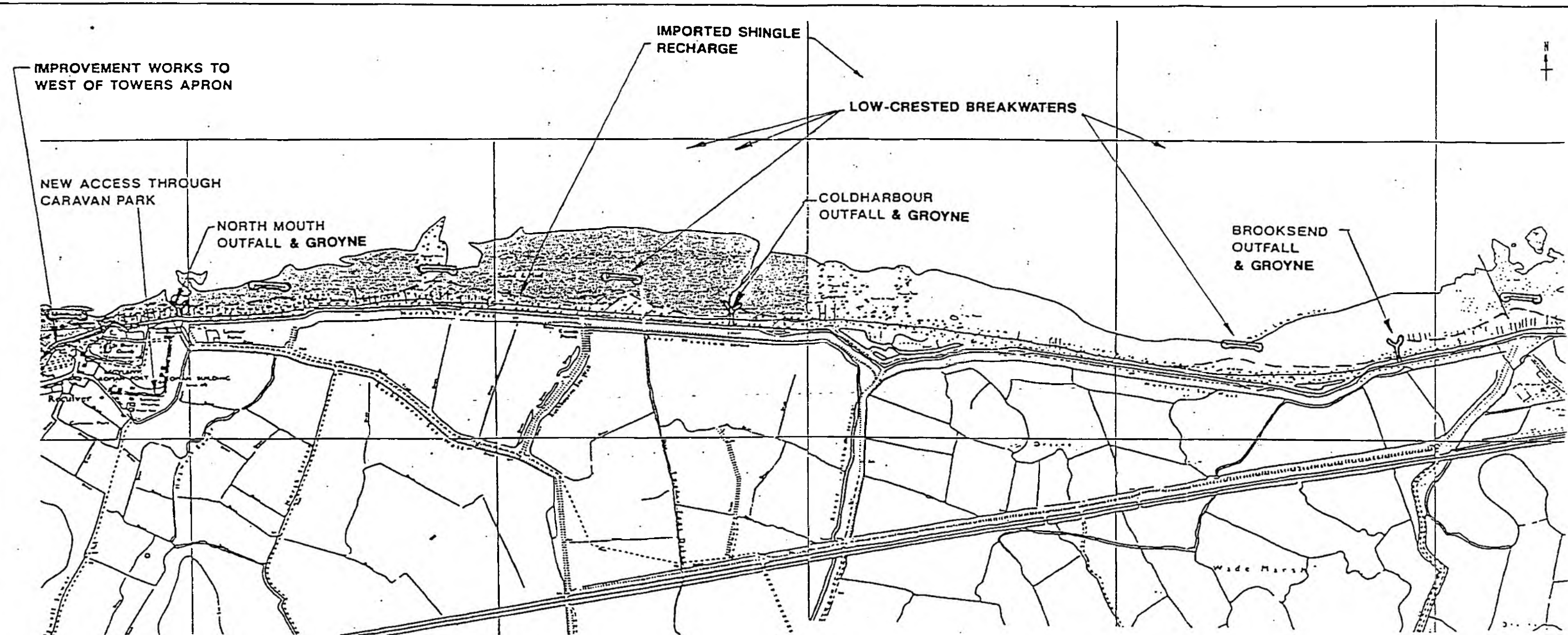


concrete revetment

FIG. 8

PROPOSED IMPROVEMENT WORKS OPTIONS
DETAILS OF REVETMENT TYPES - OPTION 3

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FIG. 9

PROPOSED IMPROVEMENT WORKS OPTIONS
OPTION 4 FROM PRELIMINARY ASSESSMENT
HEADLANDS/BREAKWATERS

Scale 1:12500

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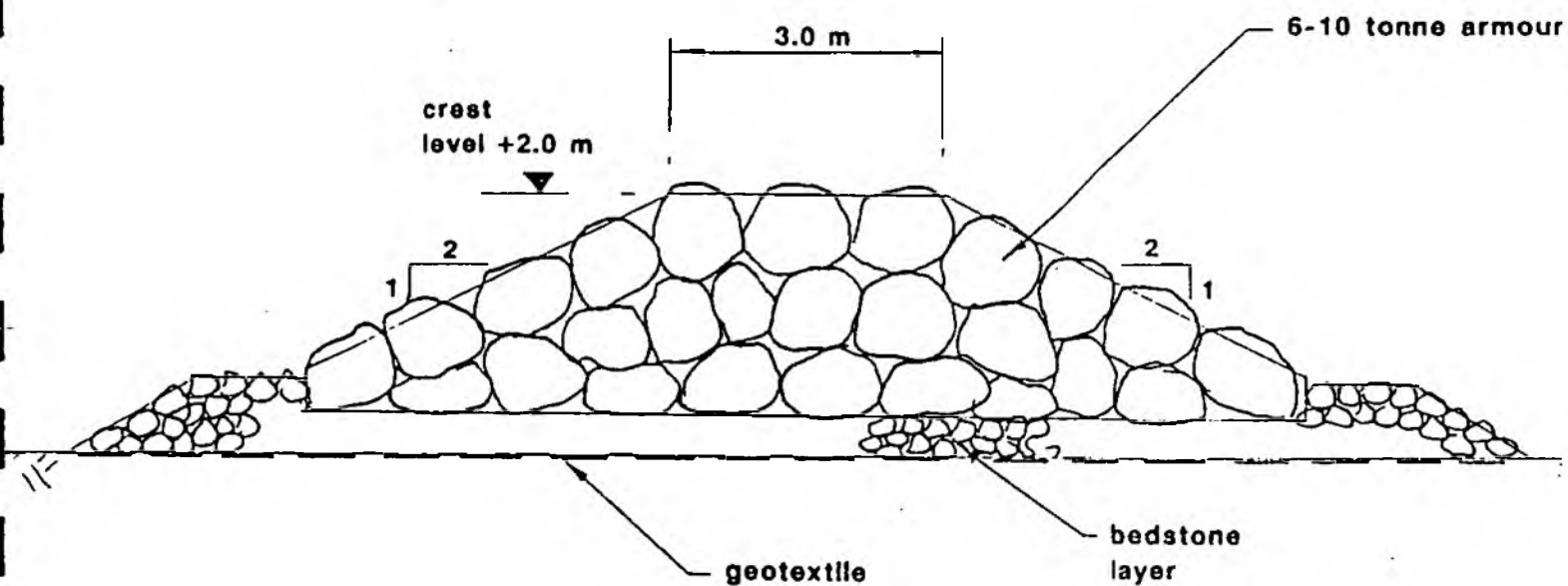


FIG. 10

PROPOSED IMPROVEMENT WORKS OPTIONS
SECTION THROUGH BREAKWATER - OPTION 4

Not to scale

NATIONAL RIVERS AUTHORITY
Southern Region

NORTHERN SEA WALL (RECVLVER)
IMPROVEMENT WORKS

ENVIRONMENTAL STATEMENT

December 1993

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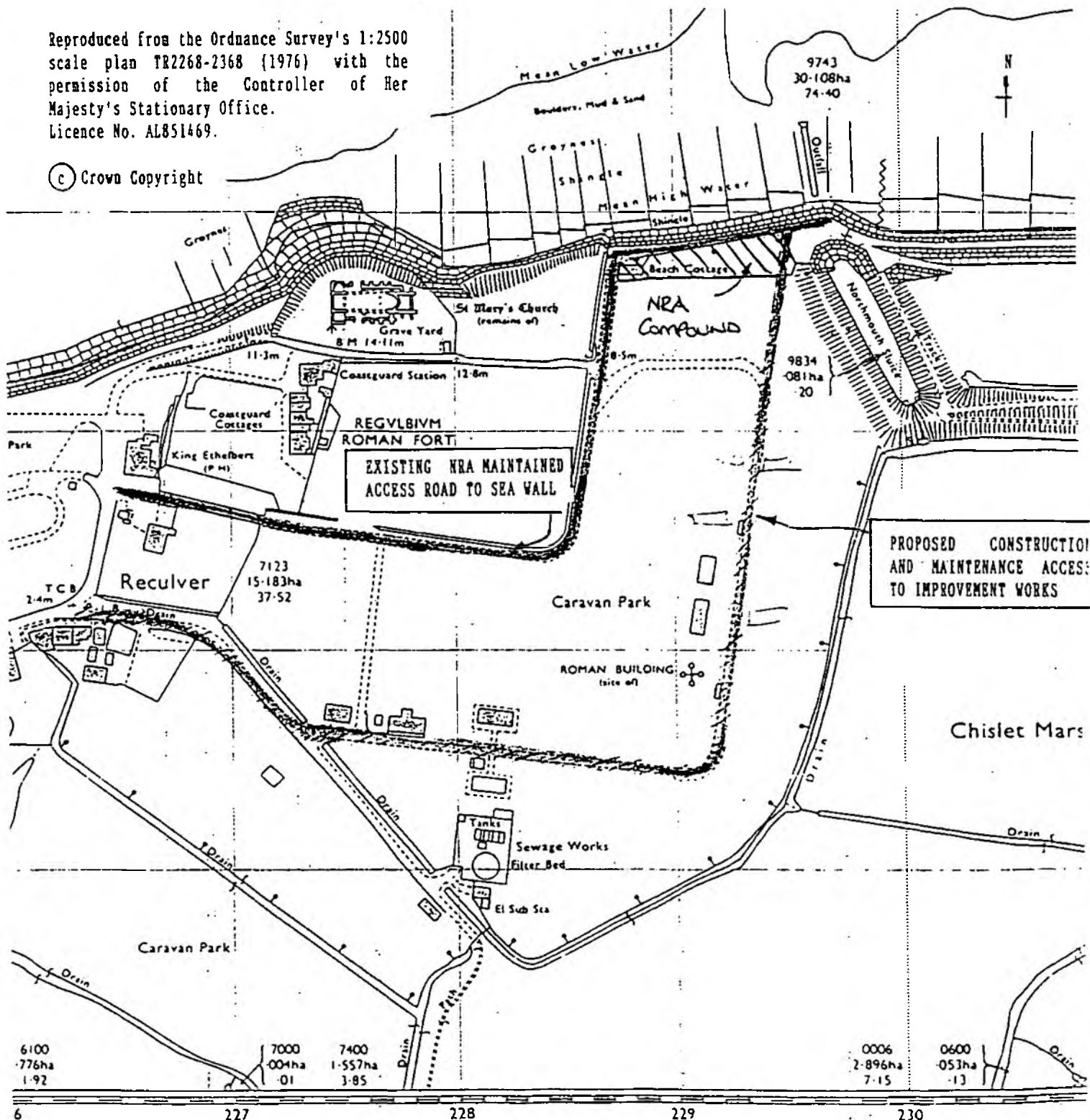
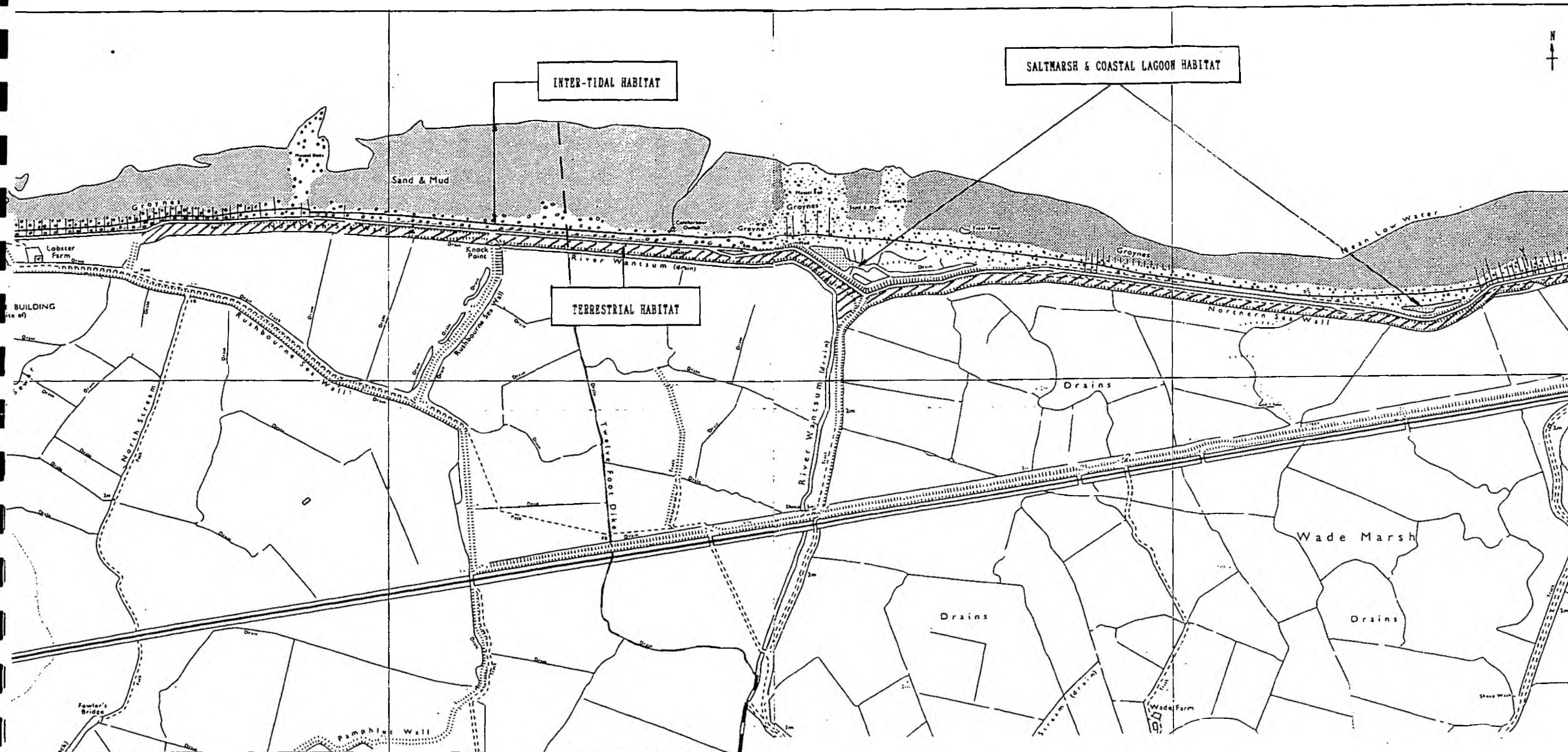


FIG. 11

PROPOSED CONSTRUCTION ACCESS TO SITE

Scale 1:2500



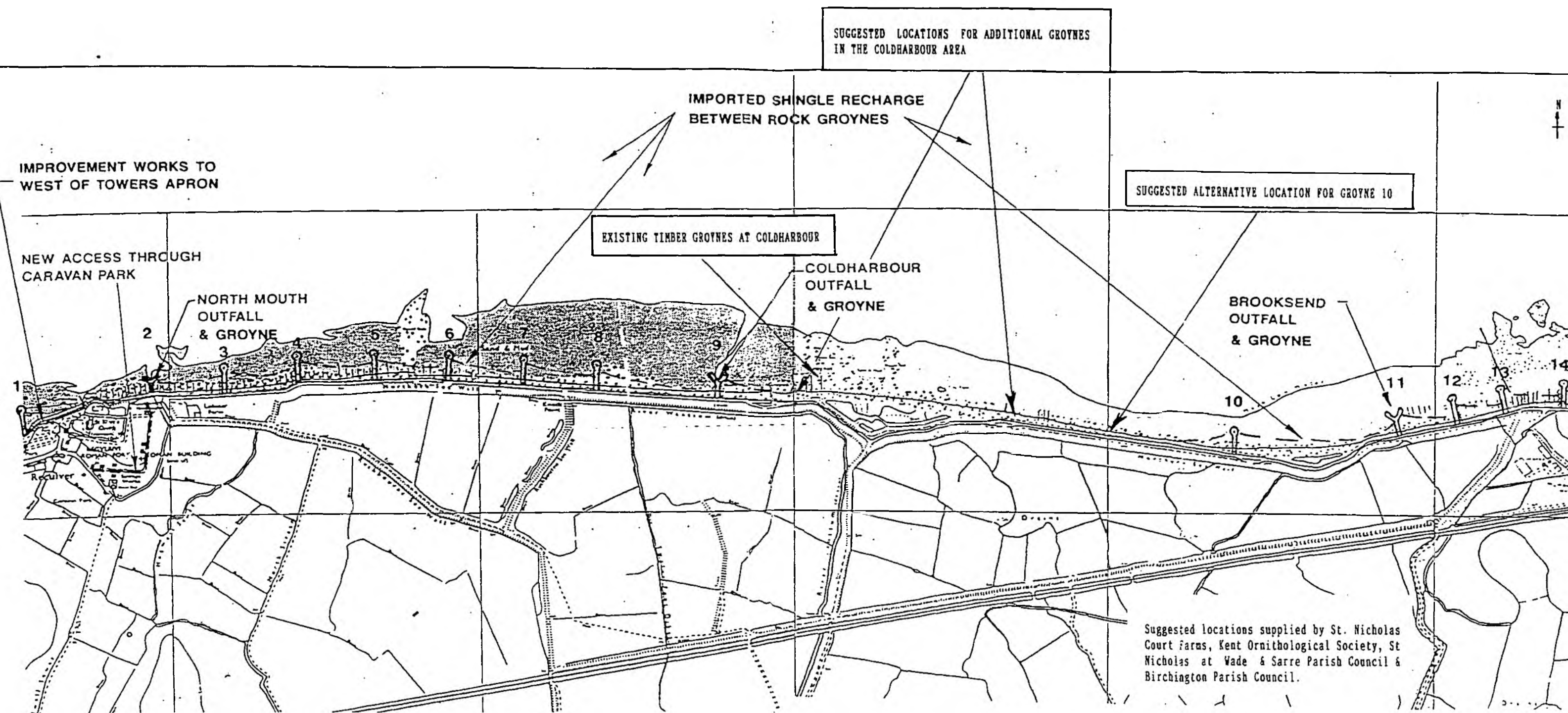
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1:10000 scale plan TR26NW/NE (1980) with the
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FIG. 12

HABITAT MAP

Scale 1:10000



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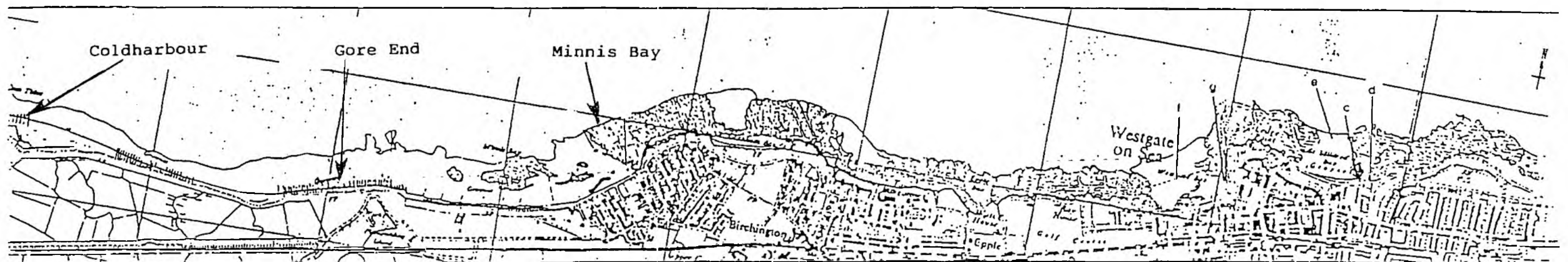
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FIG. 13

SUGGESTIONS FOR REVISED LOCATION OF GROYNE 10
AND POSSIBLE ADDITIONAL GROYNES
BASED ON RESPONSES RECEIVED FROM CONSULTEES

Scale 1:12500

Map supplied by the Thanet Trust for
Archaeology



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FIG. 14

KNOWN SITES OF ARCHAEOLOGICAL SIGNIFICANCE

COLDHARBOUR, GORE END & MINNIS BAY

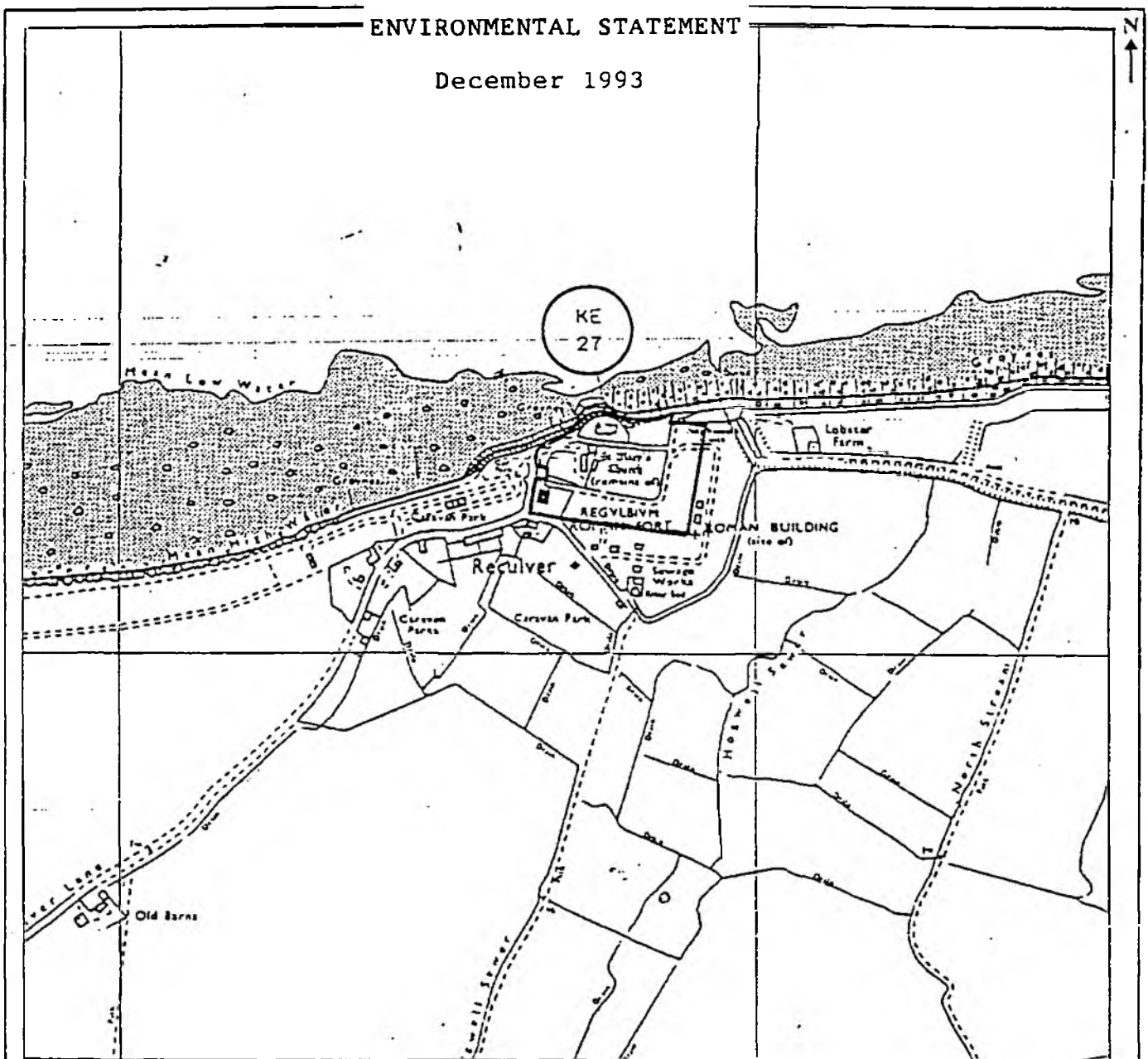
Scale 1:25000

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For identification purposes only

Site Name: Reculver Roman Fort and Towers

County: Kent

District: Canterbury City

Parish: Herne Bay

Notes: Reculver Towers was formerly KE27a, & Reculver Fort was KE27b.



English Heritage

Historic Buildings & Monuments Commission for England
Fortress House, 23 Savile Row, London W1X 2HE
Telephone 01-734 6010

Key: Location/extent of site

Excluded area

Extract from OS sheet: TR26NW

Date: 19.4.89

Scale: 1:10000

NGR: TR22706930

Derived from: 1:10000

County No: KE27

FIG. 15

COPY OF ENGLISH HERITAGE SCHEDULED MONUMENT MAP

RECVLVER ROMAN FORT & TOWERS

Scale 1:10000



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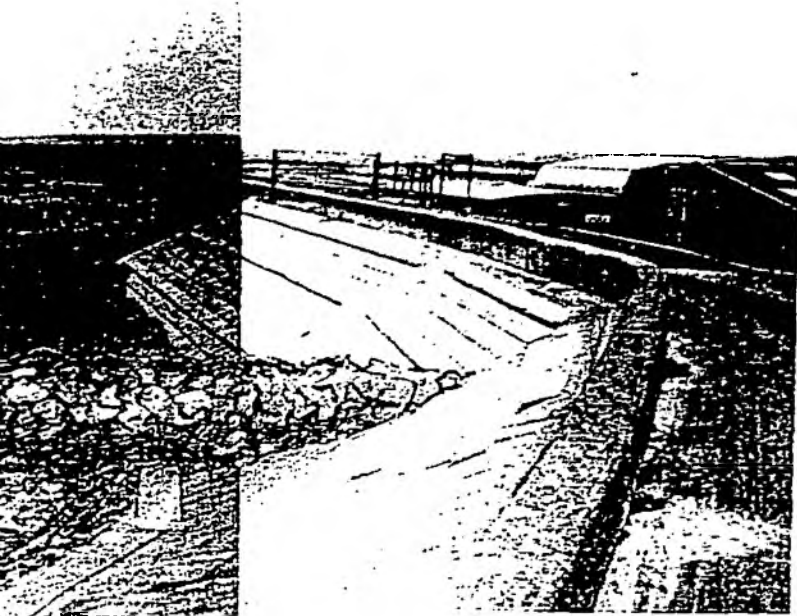
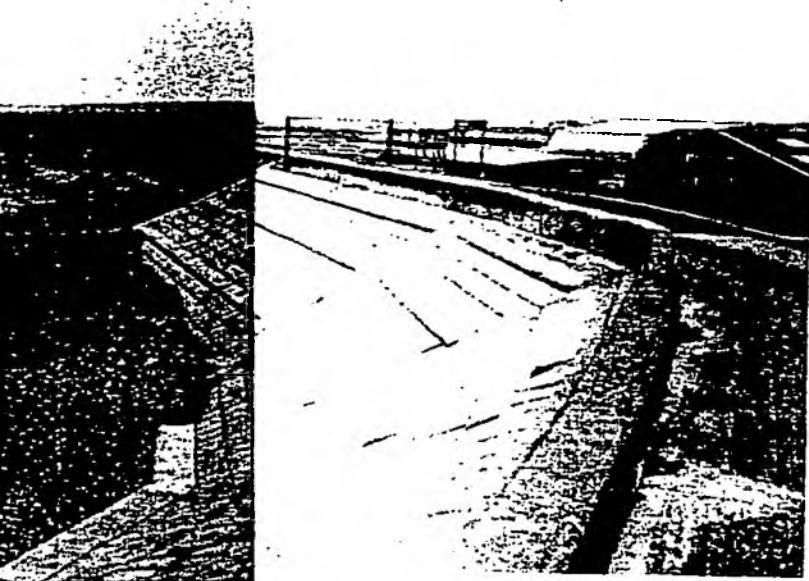


FIG. 16

VISUALIZATION 1

VIEW EAST FROM RECVLVER

CLOSE TO NORTH MOUTH SLUICE

(AS EXISTING AND WITH THE PROPOSED WORKS)

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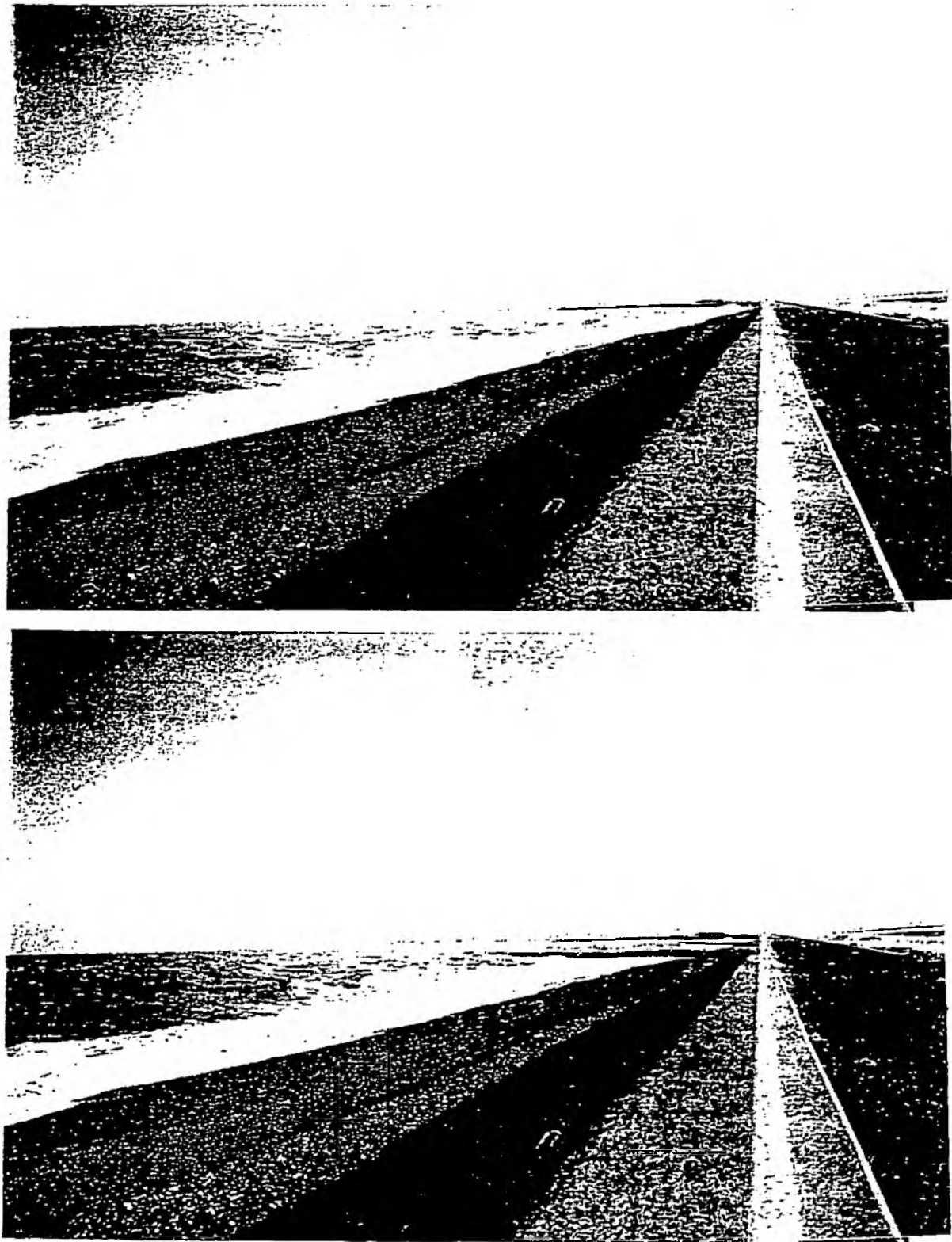


FIG. 17

VISUALIZATION 2

VIEW EAST FROM LOCATION OF GROUYNE 7

(AS EXISTING AND WITH THE PROPOSED WORKS)

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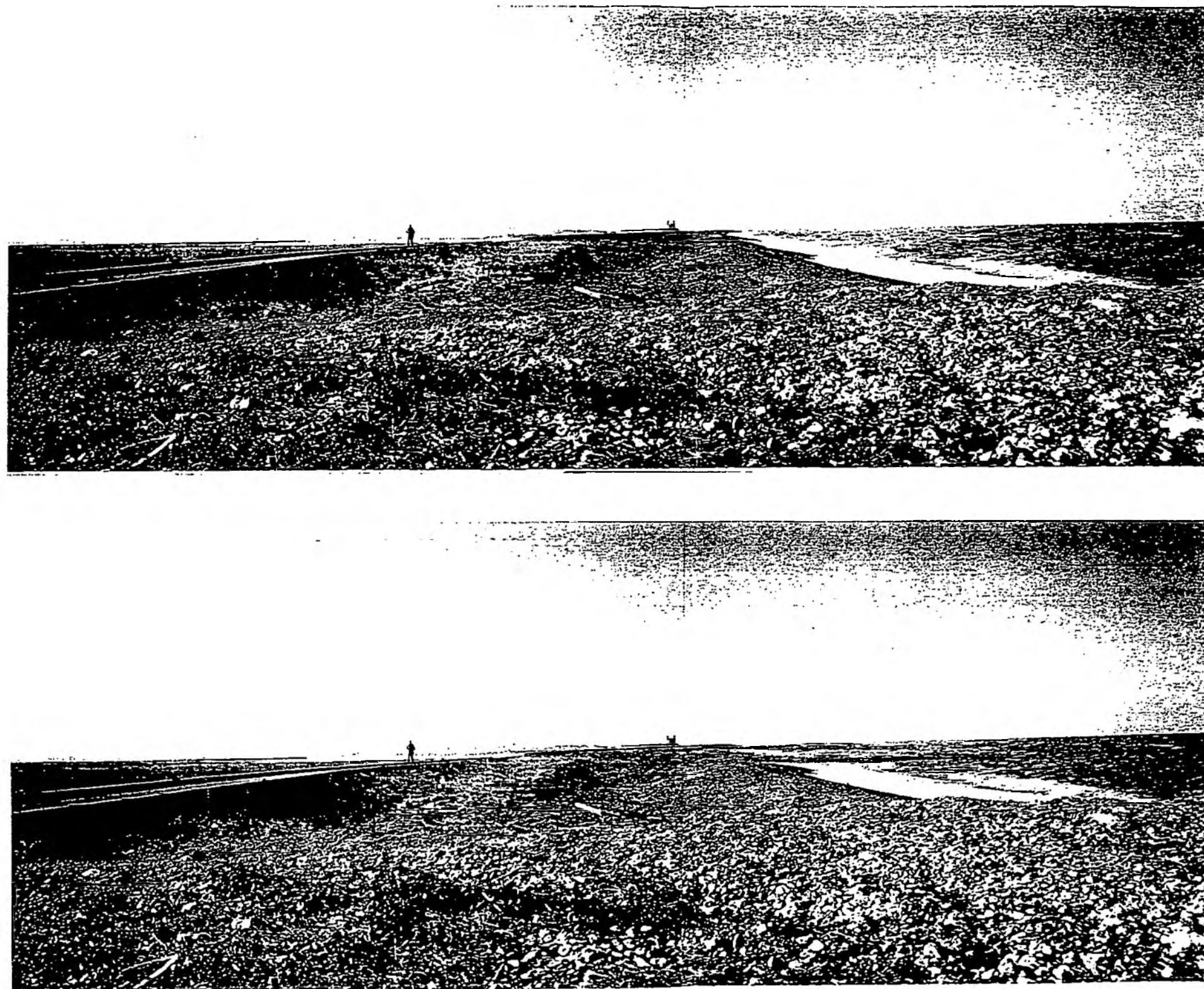


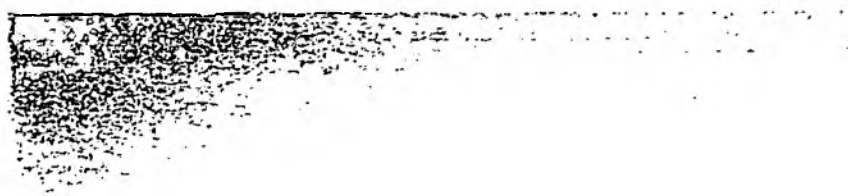
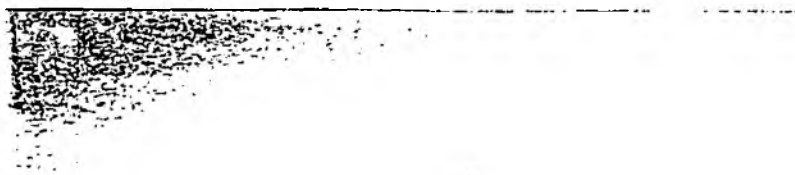
FIG. 18

VISUALIZATION 3

VIEW WEST FROM THE WESTERN EDGE

OF THE COLDHARBOUR LAGOON

(AS EXISTING AND WITH THE PROPOSED WORKS)



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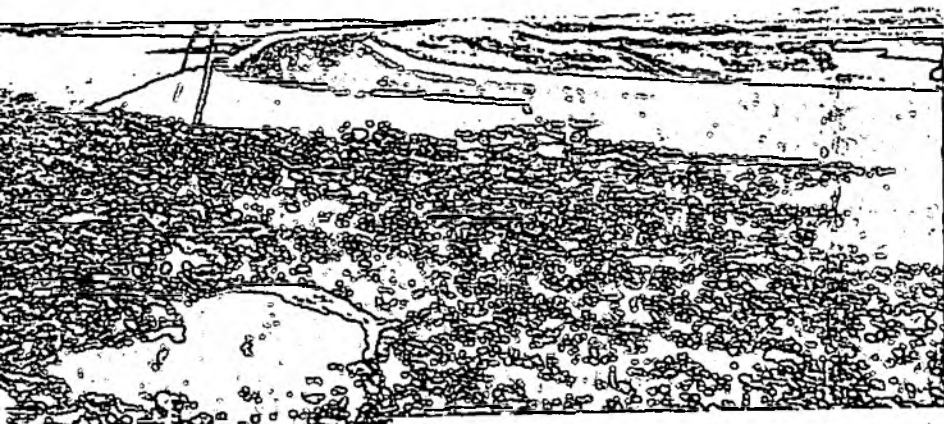


FIG. 19

VISUALIZATION 4
VIEW EAST ACROSS THE
COLDHARBOUR LAGOON

(AS EXISTING AND WITH THE PROPOSED WORKS)

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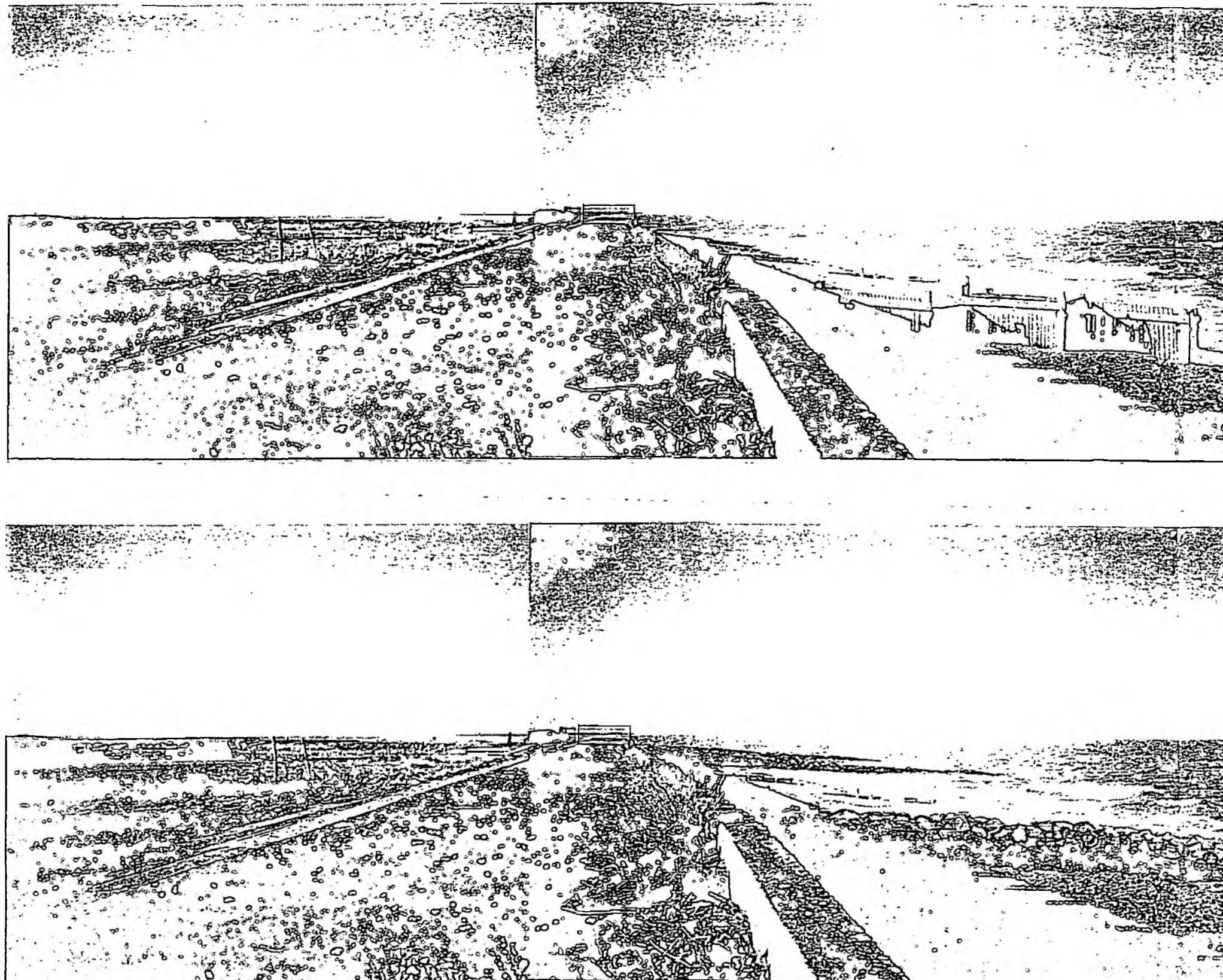


FIG. 20

VISUALIZATION 5

VIEW WEST FROM PLUMPUDDING ISLAND

(AS EXISTING AND WITH THE PROPOSED WORKS)

APPENDIX B
PHOTOGRAPHS



PHOTO 1. THE VIEW EAST FROM ST MARYS CHURCH AT RECULVER

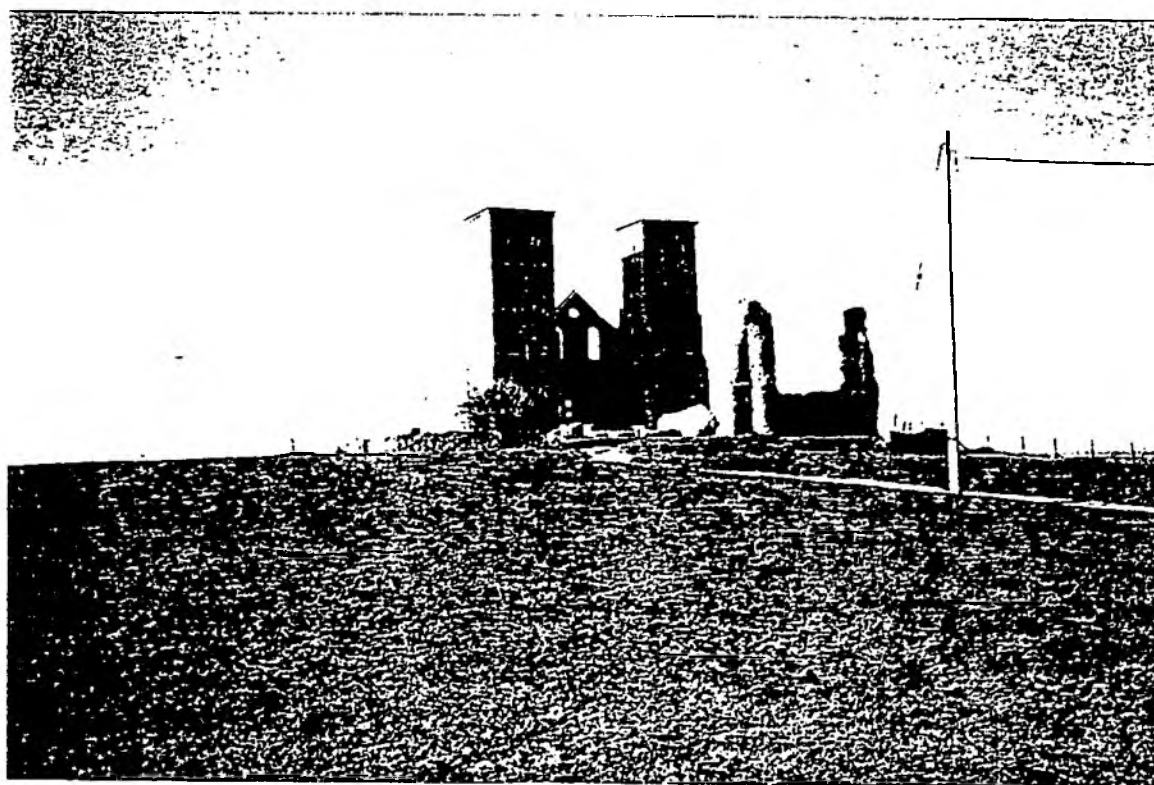


PHOTO 2. THE TWIN TOWERS - RECULVER LANDMARK

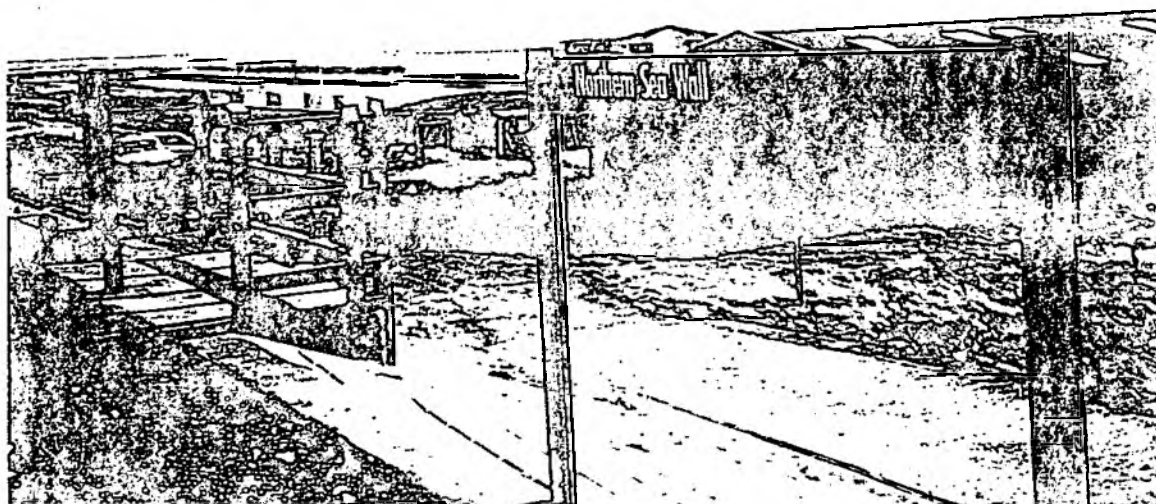


PHOTO 3. THE SEA WALL AT NORTH MOUTH SLUICE

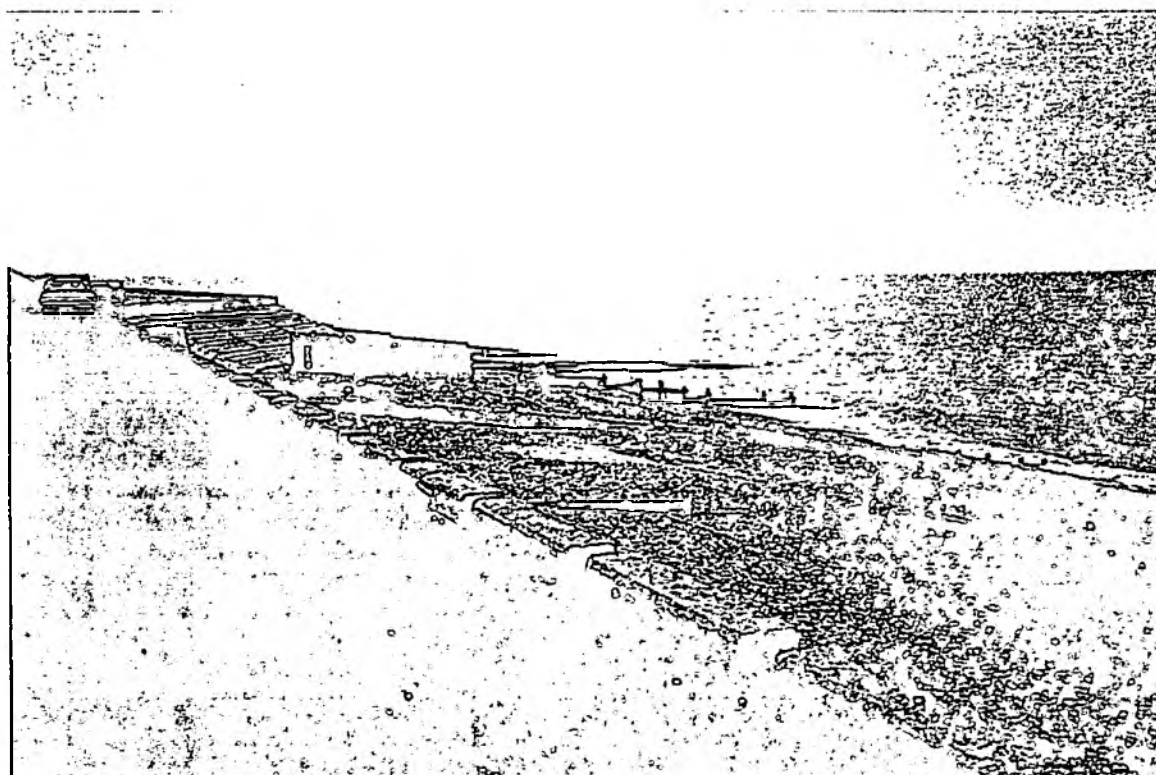


PHOTO 4. THE NORTH MOUTH OUTFALL



PHOTO 5. THE MOLLUSC HATCHERY INTAKE IN THE SEA WALL

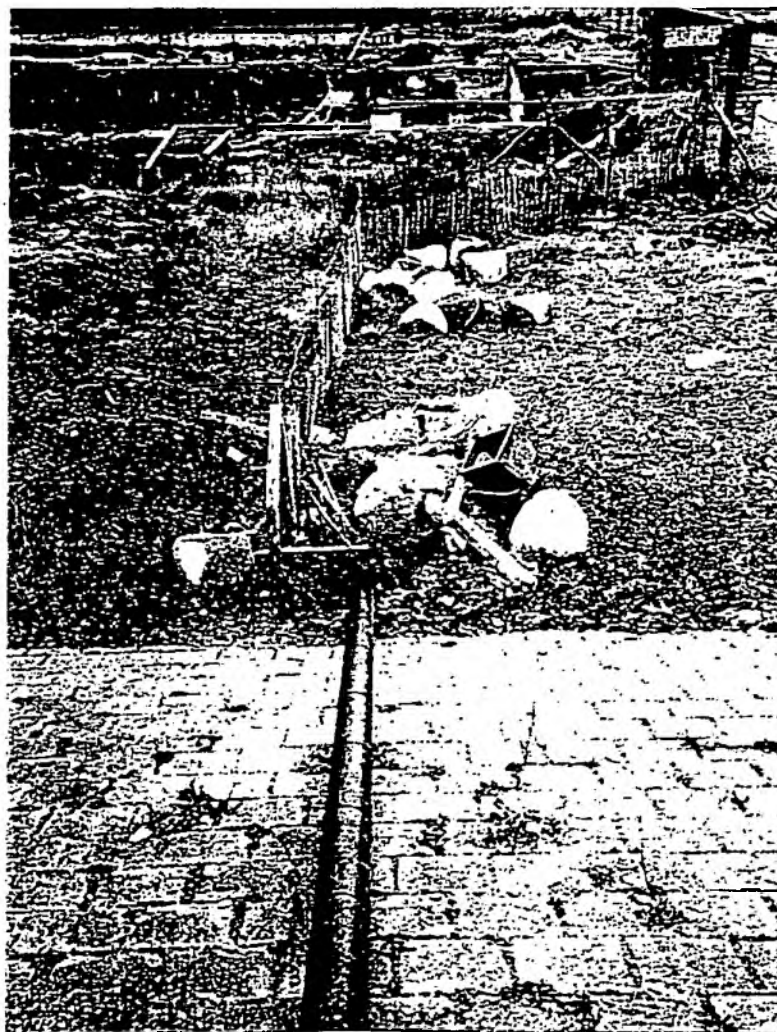


PHOTO 6. THE MOLLUSC HATCHERY INTAKE, LANDWARD SIDE



PHOTO 7. THE COLDHARBOUR LAGOON BARRIER SHOWING STORM DAMAGE



PHOTO 8. BREACH IN THE LAGOON BARRIER AFTER BREAKOUT



PHOTO 9. BIRDS ON THE BEACH CREST AT COLD HARBOUR



PHOTO 10. TYPICAL STRAND LINE DEPOSITS

APPENDIX C
LIST OF CONSULTEES

List of Consultees

English Nature (South-East Region: Kent Office)

English Nature: (Head Office: Peterborough)

Ministry of Agriculture, Fisheries and Food
(Fisheries, Hastings)

Kent & Essex Sea Fisheries Committee

Seasalter Shellfish (Whitstable) Ltd.

Countryside Commission

Kent County Council (Planning)

Kent County Council (County Archaeologist)

Canterbury City Council

Thanet District Council

English Heritage

Local landowner - Mr Martin Tapp

Kent Trust for Nature Conservation

Ian Titley - British Museum

RSPB

Kent Ornithological Society (KOS)

Canterbury Archaeological Trust

The Trust for Thanet Archaeology

Kent Archaeological Rescue Unit

Minnis Bay Windsurfing Club

Minnis Bay Sailing Club

St Nicholas-at-Wade with Sarre Parish Council

Birchington Parish Council

Wantsum Angling Association

Nayland Boat Angling Club

Birchington Angling Sea Association

Plumpudding Island Equestrian Centre