

things: What can be done to local sports results.

PEOPLE, 22.6.88

# No-go area for building

SHEPWAY planners have been told to make land at Encombe near Sandgate a no-go area for developers after experts have warned the land is slipping into the sea at a rate of 10 centimetres a year.

The dramatic news means Shepway Council will have to go ahead with a scheme to stabilise the land and full soil surveys must be

undertaken before any more buildings can be considered.

Councillors on the development control committee last week agreed to recommendations by chief planning officer, Dennis Astridge, to halt developments.

Mr Astridge turned down suggestions that Channel Tunnel spoil could be used to stabilise the ground because he said the problem would recur.

Instead the council plans to use metal dowels which should be installed over the next 12 to 18 months, he said.

Councillors agreed to defer the decision on the techniques used to solve the problem to a meeting of the Environmental Services committee next month.

Meanwhile all planning permission at Encombe will not be considered unless a full soil survey can prove land underneath the building site is not slipping.

## Steer clear

## Church appeal

"ORIGINAL"

HALCROW  
1959.

"ENCOMBE", SANDGATE, KENT

Extracts, including principal observations and conclusions, from a Report dated 16th April, 1959 by Sir William Halcrow and Partners.

Encombe lies on an escarpment which in effect runs from Dover to Lympne and which, throughout its length, has a long history of landslips. At Encombe itself the broken ground and the raised mound at the bottom of the grounds are indicators of ancient slips.

Turning to recent events, a "History of ground movements at Encombe" as gathered from local enquiry is attached as Appendix 1. The two main movements in this vicinity are the 1893 landslip and the cliff fall of November, 1958. Apart from the cliff falls, recent movements appear to be associated with further movements of part of the 1893 landslip mass.

In order to assist in an explanation of these movements the relevant geology at Encombe, as far as is known, is briefly described. Drawing No. 1. shows a cross section of the ground and indicates the estimated levels of the exposed geological formations. These belong to the Lower Greensand Series, their classification and description being as described below.

- (i) Folkestone Beds - sand and blocky sandstone.
- (ii) Sandgate Beds - Clayey sand and clay.
- (iii) Hythe Beds - alternating beds, up to 2 ft. thickness of limestone and sand.
- (iv) Atherfield Clay - Clays, some of which are sandy.

The exact levels of these formations are not known and opinion differs on whether or not along this section of the coast faults occur which could have the effect of disturbing the general levels of these formations. From an examination of records of well bores in the area the general dip of the beds is seen to be in a N.E. direction at a slope of 1 in 135.

The above geology explains in part the flow of water from the under cliff, which is an important agent in causing landslips at Encombe. The water is derived from Shorncliffe and environs, forming the high ground behind, percolating through the sandy Folkestone Beds, held up by the top of the clayey Sandgate Beds.

The flow from these springs, where it is not collected by drains, will percolate through the broken ground to the sea. It is reported that considerable flows of fresh water have been seen on the beach.

The 1893 landslip extended half a mile along the coast from the eastern boundary of Encombe to the Military Hospital towards Hythe. At Encombe a mass of ground lying between the house and the sea moved downwards and in a south easterly direction. The movement was not, as might be expected, southwards which is the direction of the sea and the line of steepest slope. At the back of the slip the ground moved down 7 to 10 ft. and at the toe the beach was forced up 4 ft.

Blake (3) states that the ground slipped over the top of the Hythe Beds, the plane of slip occurring in clay at the bottom of the Sandgate Beds. He based this explanation on his observations of the relation of the outline of the toe, which was marked by clay and sand forced up on the beach, to the exposed beds of Hythe Limestone on the beach. The direction of movement of the slip is explained by the fact that these beds dip in an easterly direction.

The above explanation, may however, be over simplified since the Hythe Beds, where exposed on the foreshore, are disturbed and dip inland at angles between  $10^{\circ}$  to  $50^{\circ}$  to the horizontal. This suggests that they themselves have been forced up by a landslip which has penetrated into the Atherfield Clay.



Although the surface cracks coincide with the lines of the 1893 landslip, the amount of movement which has occurred at each crack is not what would be expected from a general movement of the whole landslip. The greatest movement would be expected at the back of the slip but the present cracks here show a movement of only  $\frac{1}{4}$ " whereas the cracks across the drive show an aggregate movement of 10". Furthermore there are no noticeable surface cracks in the street below as would occur with a general movement of the landslip.

We refer now to the remaining indications of recent movements at Encombe which are the cracks in the reservoir belonging to the Folkestone Water Works Co., the cracks in the Martello Tower moat wall and the cracks in the ground alongside. The positions of these cracks are shown on drawing No. 2. In the reservoir there are minor cracks, both old and new, in the floor, walls and roof. In addition there is a major crack,  $5/16$ " wide, which runs across the floor and which, having been repaired in the past, has now reopened. In the Martello Tower moat wall large cracks 1" to 2" wide occur and it is said that they have existed for many years. This view is supported by the existence near by of disturbed trees and sets in the ground which are apparently the remains of old surface cracks. The above suggest gradual settlements of parts of the cliff which have been taking place over a long period.

We consider now the possible forms of general ground movement which would account for the above recent disturbances at Encombe. These are:-

- (i) An extension of the 1893 landslip such that the back now emerges at the top of the cliff as indicated by the cracks there.
- (ii) A local settlement of the part of the 1893 landslip mass which includes the ground in front of the house and the steep bank above the kitchen garden together with a similar settlement of the sandy part of the cliff behind the house.
- (iii) Underground erosion.

Of these forms of ground movement our view is that (i) above can be discounted as it would involve disturbances over a far wider area than was in fact experienced. (iii) above, underground erosion, is in our opinion the major cause of the recent disturbances and due to the position in the ground in which it occurs it causes the localised movement of (ii) above. In any event (ii) and (iii) are both immediate results of an unusual rise in the water table in the area which, as we have stated before, appears to have been the prime cause of the recent disturbances.

It is evident from measurements across the cracks which opened in the ground at various points following the cliff fall and from the signs of settlement which occurred in the house that a general ground movement of the above form has taken place during the last few months.

The cliff fall of last November involved the collapse of about 15 ft. depth of material from the face of the steep cliff. The collapsed material, by mid December, had come to rest at a slope of about  $20^{\circ}$  to the horizontal. A large quantity of fine sand was washed out of the toe and a small flow of water continues to the present date. The bottom 10 ft. of the toe of the material remains saturated. Two marker pegs at the top of the cliff show that since mid January recession of the face at the back of the slip has stopped and that the cliff appears to have attained a stable angle, roughly the same as the general slope of the adjacent escarpment.

The cause of the cliff fall was undoubtedly associated with the recent exceptional saturation of the undercliff. This saturation indicated a rise of the water level within the cliff itself which might be expected from the above-average rainfall (17.2" for the months August to December compared with a 12 year average of 14.3") coupled with a low evaporation in the preceding summer. This part of the cliff before it fell stood at a steep slope of  $45^{\circ}$  but its toe had been undercut to a steeper slope, probably in

1924 when the upper terrace was laid out. A rise in the water level above the toe would cause the soil here to slump bringing with it the material above. It is possible that the collapse was assisted by trees at this level disturbing the saturated soil, but this is unlikely to have been an important factor.

It is evident from the cracks in the floor of the Folkestone Water Co's reservoir that leakage has occurred since the cracks re-opened; such leakage may well have led to further opening of the cracks. However, in our opinion, it is not possible to prove a causal connection between any leakage from the reservoir and the recent cliff fall.

We now consider the stability of the length of cliff immediately behind the house. Following the fall of the part of the cliff to the West, slight movement occurred in this length of cliff. At the top a crack opened in the ground and during the time of our periodical visits further cracks opened up alongside. Movements at these cracks have now ceased. In addition the undercliff of this length was and still is saturated. However, a well point which has been installed here shows that the water level in the ground is dropping.

This length of cliff has withstood the particular<sup>ly</sup> severe conditions resulting from the fall of the part of the cliff to the West; in the future it should be protected against the effects of a similar rise in the water level by the new drainage work constructed since November 1958 and there is no reason to expect it to fall.

A drainage shaft has been sunk in the wet ground at the foot of the cliff east of the Annex and a concrete manhole has been set in this shaft. A system of existing rubble drains, the outlet of which was found to have been blocked, was encountered while sinking the shaft and these have now been connected into the drainage shaft. Both the drainage heading and shaft have been joined to the existing land drain system.

Well points in the form of 2" dia. vertical pipes have been placed at various points in the undercliff in order to give information on the water levels in the ground here. The positions of the well points and the water levels in them on 9th March 1959 are shown on drawing No. 2.

Tell-tale pegs have been established across the recent surface cracks and their positions and references are shown on drawing No. 2.

In connection with counter measures against the ground movements at Encombe general considerations confirm that the most satisfactory measure is a drainage system which will collect the water from points as far into the cliff as possible in order to prevent the water rising to a dangerous level at the foot of the cliff and also to reduce saturation of the ground in front of the cliff. The "as now extended" land-drain system achieves this end to an extent and we do not consider that the present position warrants further drainage work.



### References

1. F. H. Edmunds, "British Regional Survey - Wealden District".  
H.M.S.O. 1954.
2. Memoir of Geological Survey, "Water Supply of S.E. England Wartime  
Pamphlet No. 10".
3. J. F. Blake, "The Lanslip at Sandgate" - Nature, March 16th, 1993 p.467.



## APPENDIX I

### History of ground movements at Encombe

1. Previous to 1893, house at Encombe damaged by gradual land subsidences and eventually pulled down. New brick house built.
2. 4th March 1893, Sandgate landslip.
3. Land drain system laid in 1893 to prevent surface water entering back of slip. Designed by Mr. Baldwin Latham, engineer for Sandgate Board.
4. 1905-06, Encombe House pulled down and new Encombe built.
5. 1924, Encombe House and gardens greatly extended to design of Mr. Basil Ionides.
6. 1946-48, storm damage and wash out of sea wall.
7. 1948, noted during inspection of 1893 land drain system that there were no signs of cracking at Encombe House but trouble was reported in southeast corner. Slip plane cracks apparent across carriageway and walls at bottom of Prospect Road and Encombe drive but these associated with wash out of sea wall.
8. 1930, small cliff fall eastern end of Encombe - said to be caused by surface water discharged from camp drains above.
9. 1951, cracks in house and terrace walls. In April existing  $\frac{1}{4}$ " wide cracks at front of house opened to  $1\frac{1}{2}$ " wide. Loggia underpinned with 37ft. concrete piles and roof repaired including 2in. closing pack at ridge.
10. 1951-52, pergola and secret staircase on west of house collapsed. Surface crack of about 5" appeared across lawn and surface cracks across drive.
11. 1954 (?), Hayward & Paramor repaired main house sewer which had sheared vertically by 3in. at a point just in front of the house.
12. 6th November 1958, cliff fall west of Annexe.

82 Param - 10" cracks across drive - no sign of

DATE

SERIAL No

20.12.67 10  
6 5 4 3 2 1 1 2 3 4 5 6

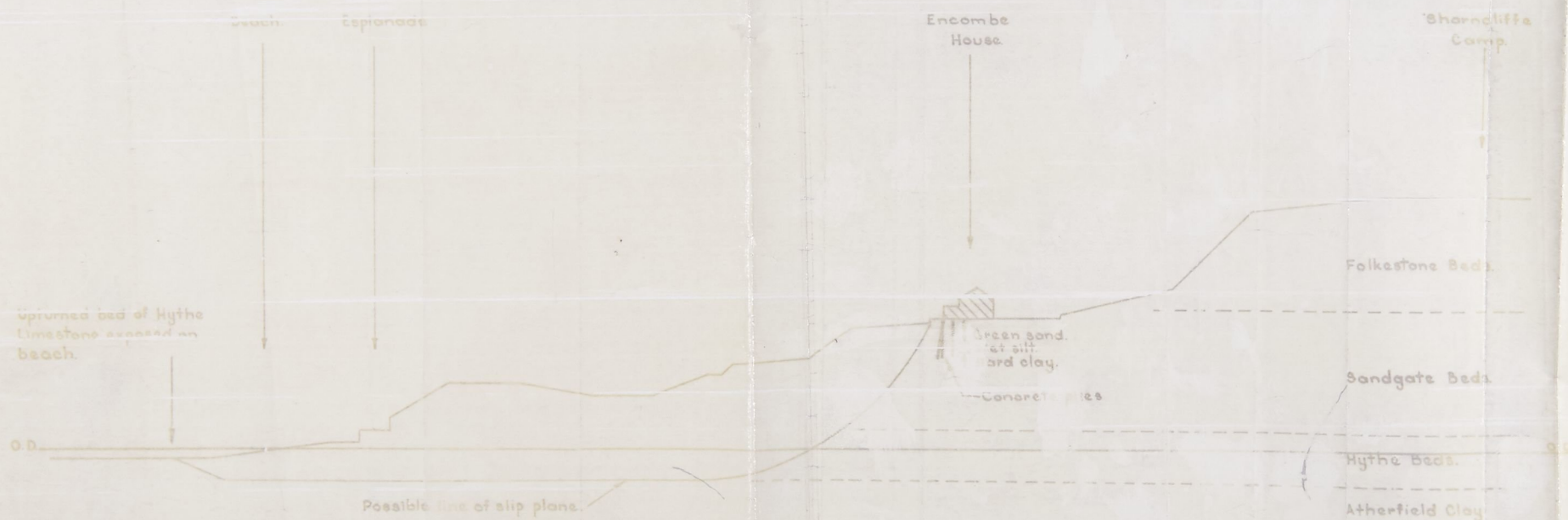
SCALE OF INCHES

DRAWING N° 1

To accompany Report  
dated 16<sup>th</sup> April 1959

CROSS SECTION AT ENCOMBE

SCALE: 1 IN TO 100 FT.



- NOTE. 1. Levels shown for geological formations are based on estimate given in letter from Geological Survey dated 16<sup>th</sup> January 1959.  
2. Details of soil shown under the house are those met in the trial at Encombe and reported in W.C. Andrews' letter of 22<sup>nd</sup> June 1951.



DATE

Serial

SCALE OF INCHES

Serial

PLAN OF ENCOMBE

SCALE 1:500

Cracks repaired in wall and now re-opened

RESERVOIR

Old crack

Fresh crack

MARTELLO TOWER

Cliff fall of November 1954

Drainage heading

Well

ENCOMBE

Cracks in terrace walls

Waterfall

Falkenstein discharge

Lodge

To Nettle

LEGEND

1. Full lines and half-tile page

2. Drainage well-points

Land drains

Lines of 1895 landslip

NOTES

1. This drawing is based on drawings of 9th April 1946.  
2. Lines of 1895 landslip are copied from drawing by Mr. Baldwin Latham, Engineer to the Board, of the land drain system laid after the 1895 landslip. Copy of this drawing is held in Falkenstein Borough Engineer's office.

Water levels in "dia M" as per

Reference	A1	A2	B1	B2	C1	C2	D1	D2
Approx. height of top of pipe above courtyard	11'	2'	10'	11'	11'	11'	11'	11'
Depth of water below top of pipe on 9.5.59	Dry	6'-8"	1'-2"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"

Land drain connected through drains of New Garage to Falkenstein B.C. Soil sensor in Wilberforce Rd.

To Falkenstein

High Street



re Dr. Leader, Encombe, Sandgate, Kent

We write with reference to Mr. Smyth-Osborne's visit to Encombe on 12th April during which, in accordance with Dr. Leader's request, he carried out a routine inspection and in addition had discussions with Mr. Evelyn and Mr. D.B. Lye concerning the siting of any new buildings in the grounds.

The inspection was carried out in the presence of Mr. Usher of Messrs. Hayward and Paramor. Two previous routine inspections had been carried out for the Abbey National Building Society on 6th August and 24th November, 1959. Copies of our letters giving the results of these inspections are attached.

The positions and reference letters of tell-tales and observation wells mentioned below are shown on drawing no.2 which accompanied our report of April 1959 to the Abbey National Building Society. Observations in respect of ground movements showed the following position in relation to our last inspection on 24th November:-

1. Existing slip - No movement of toe of the slip or recession of the cliff at the back of the slip.
2. Martello Tower - No opening of the cracks in the moat wall.
3. Surface cracks at top of cliff, references A to E - No measurable opening.
4. Surface cracks at foot of cliff, references F & G - No opening.
5. Surface cracks in main drive, references J & K - No measurable opening but slight recent movement was indicated by cracks in the new mortar filling of old cracks in the concrete kerb.
6. Surface crack above vegetable garden, reference L - No opening.
7. Cracks in terrace walls west of house - Slight recent movement was indicated by cracks in the new mortar filling of old cracks in the terrace walls.
8. Glass tell-tales inside house - Three tell-tales in the scullery which had previously been in position and remained intact for about a year had been removed and the wall tiles replaced. Tell-tale by lounge split by crack  $1/32$  in. wide.
9. Annexe - No movement of strutted walls of boiler room or store. A few further negligible cracks in the distemper on the walls.

Observations in respect of ground water showed the following conditions:-

1. Existing slip - Well points dry except for B4 in which water was at a depth of 11ft.5in. Surface of slip was dry except that at the toe of the slip on a level about 10ft. above the ground level of the house there were two small springs, one on the S.E. side and the other in the middle. There was a small flow of water from the land drains in the S.W. of the slip.
2. Steps to children's playground - Dry.
3. Undercliff behind house - water levels in well points unchanged except for D2 which had risen 6 in. Ground at foot of cliff by new drainage pit dry. A small flow from the land drains at the back of the drive.

The above observations show no change from the long term situation at Encombe which was described in our report to the Abbey National Building Society in April 1959. They show the present to be a period of quiet in respect of the continual gradual ground movements taking place at Encombe. They show that water level in the Undercliff to be appreciably the same as that noted during our last inspection and some 2ft. lower than that noted in April 1959.

As mentioned to Dr. Leader, we consider that the observations and measurements made by us during our routine inspections could be carried out satisfactorily by Messrs. Hayward and Paramor. Should any increase in the rate of ground movements be noted or a rise of the water levels in the undercliff and in the well points to those shown on drawing no.2 of our report of April 1959, then we suggest that this office should be consulted.

/If it be...

If it be decided that Messrs. Hayward and Paramor should in future carry out the measurements at tell-tale pegs and the soundings in the wall points, then we will send on for their use two copies of our drawing no.2 and a list of the results of recent measurements.

We recommend that small brass pins be set in on either side of the cracks in the terrace walls to the west of the house. These would provide together with the stool pins at present "set" in the drive, two firm places along the back of the 1893 landslide at which accurate measurements could be maintained.

We turn now to the question of the siting of new buildings in the grounds at Encombe. The main known ground movement which has occurred at Encombe is the 1893 landslide. The lines of the surface cracks which opened in the ground during the landslide are shown on drawing no.2 of our report. Since further gradual movement associated with this landslide has been indicated by surface cracks it would be unwise to build on or close to any of the lines of the 1893 landslide. In addition, other conditions being equal, areas outside the landslide should prove more stable than those within it.

Four areas were considered. First, the southern part of the grounds lying between the drive and the southern boundary was considered. A line of surface cracks of the 1893 landslide are shown to cross the area but these cracks must have been small and the ground disturbance here negligible. During the visit, cracks were noted in the masonry walls of the sunken tennis court but no cracks in the surfacing of the court itself. These cracks are not considered to be associated with any general ground movement. There is no reason to suppose that houses built in this area and not lying on the line of the 1893 surface cracks should behave any differently from the modern houses which at present stand immediately east of the area.

Second, the level ground at the foot of the steep cliff and at the N.E. corner of the grounds was considered. This area lies behind the 1893 landslide and should not be affected by any further movements of this slip. Apparently a small fall had occurred in the steep cliff at the rear in 1930 and in addition the ground was boggy underfoot. It is considered that this area would be suitable for building but beforehand a French drain some 6ft. deep should be constructed along the foot of the cliff behind which would add to the stability of the cliff and also dry out the ground.

Third, the area of lawn on the east side of the house was considered. An indication of the suitability of this area for building can be obtained from the eastern end of the present house. Reputedly this was built on timber piles but some cracking has taken place. In a new house the risk or amount of cracking would be reduced the further away it was placed from the back of the 1893 landslide.

Fourth, the western part of the grounds lying below the second vegetable garden was considered. Since this area lies well behind the 1893 landslide it also should not be affected by further movements of this landslide. Houses built in this area should behave with respect to ground stability similarly to the modern houses standing immediately west of the area.

With regard to Encombe House itself, we have given our opinion on its future in our report of April 1959 and our subsequent inspections confirm this view.

As mentioned previously, the timber strutting at the back of the courtyard could easily be replaced by concrete buttresses for the sake of appearance. There appears to be no advantage for present purposes in altering or extending the strutting in the boiler room and store in the annexe. The drainage heading on the west side of the annexe should eventually be backfilled before deterioration of the present timber lining and supports.

97/15

ESTABLISHED 1849

TELEPHONE  
HUNTER 9555  
(20 LINES)



TELEGRAMS  
ABROBUILD  
LONDON-NW1.

# ABBHEY NATIONAL

## BUILDING SOCIETY

CHIEF GENERAL MANAGER: S. W. G. MORTON, F.C.I.S.

YOUR REF.

OUR REF. JRH/HC.

HEAD OFFICE:

ABBHEY HOUSE,  
BAKER STREET,  
LONDON, N.W.1.

D.G. Vorley, Esq.,  
The Hon. Secretary,  
The Sandgate Society,  
1, Castle Road,  
Sandgate,  
FOLKESTONE, Kent.

11th July, 1967.

Dear Sir,

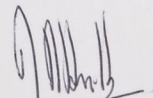
"Encombe", Sandgate, Folkestone.

Your enquiry of the 6th instant has been passed to me, since I was concerned with the implementation of the Board's policy on this property.

We purchased the house known as "Encombe" with, if I recall, some 16 acres, in 1951 for the purpose of a Staff Holiday Centre. The property was sold by the Society in 1960.

The Society did not seek consent for redevelopment during that period.

Yours faithfully,

  
J.R. Hyatt.  
CHIEF SURVEYOR.



HALLETT & CO.

Solicitors.

E. L. B. R. R.  
M. A. BOMPAS.  
D. P. SEWELL, (Notary Public)  
A. W. GADD.  
R. H. V. MOORHEAD, (Notary Public)  
J. CHALKLEN.  
C. RUSSELL, E. M. SKILBECK

TELEPHONE: No. 213  
Telegrams: Halletts, Ashford

11, Bank Street,  
Ashford, Kent.

AND AT LYDD, NEW ROMNEY AND HEADCORN

OUR REF. 4 (PLEASE QUOTE)

22nd March, 1967.

Dear Mr. Vorley,

Sandgate Landslip.

Since I came down to Sandgate and saw the 'evidence' I have given a good deal of thought to this matter. I do not think that it is possible for the owners of the houses affected to take any action against the Corporation or any owner or owners of land on which building operations have been carried out.

So far as the Corporation are concerned against any suggestion that they had been careless in the manner in which they had considered planning and bye-law applications they would probably say that in the early part of the winter the rainfall was exceptionally heavy, that in the vicinity of Wilberforce Road and the Coastguard cottages there has not been a previous land movement similar to that just experienced and such landslip could not reasonably have been contemplated.

So far as any action might lie against any developers I do not think it could be said that any of them have been guilty of any unusual form of development which from its nature might be expected to bring about the trouble which has arisen.

I need not add that any proceedings of whatever nature would have had to be supported by clear and definite evidence that a certain act or omission on the part of the Defendant had caused the landslip. You will have realised that some of these problems arose in the Aberfan disaster and will doubtless have to be resolved in the Courts at some later date.

I have written Mr. Scragg on the lines suggested in your letter. I return the letters which accompanied your letter.

Yours sincerely,

*Ans. L. R.*

D. G. Vorley, Esq.,  
Hon Secretary,  
The Sandgate Society,  
1 Castle Road,  
Sandgate, Folkestone.

173/67

MOVEMENT OF LAND AT SANDGATE, FOLKESTONE.

GEOLOGICAL.

Geology of the Country around Canterbury & Folkestone.  
By Smart, Bisson and Worssam. H.M. Stationery Office  
1966. Copy in Folkestone Library.

The Landslip at Sandgate. By J.F. Blake. Nature.  
London 47, 467-9. 1893.

The Landslip at Sandgate. W. Topley. Proceedings of  
the Geological Association. 13, 40-7.  
1893.

Report by G.C. Chapman, sub-district surveyor at  
Shorncliffe Camp - newspaper cutting dated March 1893  
in Folkestone Library - photo copy attached.

Fynmore Album, Folkestone Reference Library. (Note - this  
album is not available for inspection by the general  
public as it is in a very frail condition)  
page 175 - Column 1 - near top. Quotes Rev. J.D. Glenn  
remembering a slip on the Encombe carriage drive in  
1829 (?). This is of interest in view of the report  
in the first mentioned publication above that  
"According to Topley (1893, p44) a slip occurred  
during 1827 from the church with spire to about  
the large house (Encombe House) 500 yds to the  
West"

CHRONOLOGICAL.

1827 Slip in Sandgate-Church to Encombe.

1829 (?) Slip on Encombe carriage drive.

1884. Cutting dated 21st June. (Fynmore p 254).

"...many little ponds about the estate... for... the  
soil is full of springs... the southern side of  
the house is evidently subsiding seriously. Great  
cracks appear in the walls, the windows are  
assuming a diamond shape and the pretty pavement  
in front of the house has opened considerably in  
places.

Cutting dated December 6th. (Fynmore 249)

House at Encombe sold as building materials. House  
to be pulled down and removed.

1893 March. Landslip from Rose Inn to point below the  
Hospital. Map given in newspaper cutting dated  
"March 1893" in Folkestone Library. Photo attached.

After 1893 - Drainage scheme carried out in Sandgate.  
1958. Landslip behind garage and to West of it, at  
(or 59) Encombe. Photo Kent Messenger 30.1.59.

It is believed that it was at this time that a series of "soundings" pipes were sunk in the bank along the North side of the house at Encombe.

- 1961-63 (?) Raised edge of Encombe estate running East-West along the Esplanade removed and tipped into western end of Encombe's "Water Garden". (See Ord. Survey plan of 1933-North of West end of Wilberforce Road).
- 1964 (?) "New Road" built, eastwards from Encombe's Carriage way to point near west end of lake.
1966. Evening of 29th October. Part of new road slipped, at junction with Encombe carriage way.  
0807 hrs 30th\*October-roar of falling bricks heard. Thought to have come from north-west corner of Encombe estate. (\* a Sunday morning)  
11th December-Dovecot found lying in ruins on the ~~xx~~ ground. (Roughly south-east of W.D.Boundary Stone No.40)
- ~~1967~~. After the new road slip a number of hair cracks appeared in one of the new houses on Encombe estate, indicating that normal "working" of its raft was ~~xx~~ taking place. These cracks have not enlarged themselves Paths etc of concrete around this house and others tilted and moved. At about this time the garages on the site of the old laundry in Wilberforce Road began to break up, some cracking of walls was noticed in the Rose Inn-Coastguard Cottages-Hillside areas, garden walls of Encombe Lodge were showing signs of land movement under them and it was suspected that slight signs of movement could be detected in the Prospect Road area.

#### SPRINGS OF WATER.

- 1884 Fynmore-p.254-Cutting dated 21.6.1884, quoted under 1884 above."...the soil is full of springs..."
- 1893 Folkestone Library-cutting dated 7th March-"...water is trickling down in various directions where the land has moved..."
- 1963-Summer. Heap of fallen land at foot of 1959 slide behind Encombe garage squelching with water. Ground round childrens' playing place south of heap by the garage very wet. Also the land south of the playing place down across the footpath behind the plot where de Grange's bungalow now stands.
- 1967 Trickle of water from below Dovecot to clump of bamboos on carriageway, just west of Sir Dudley Bowater's bungalow. (Enters manhole)  
Trickle of water in southerly direction from point south of W.D.Boundary Stone No. 39 approx. into back gardens of semi-detached houses north-west of Miss Obee's "West Lawn Cottage".  
Two trickles of water running between gate pillars of Encombe, north of junction of New Road.  
Trickle of water running onto new road off one of



**R WILLIAM HALCROW & PARTNERS**  
CONSULTING ENGINEERS

**HALCROW (1967)**

*Stanhope House,*

*47, Park Lane,*

*Westminster,*

*London, W.1.*

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WESTMINSTER, S.W.1.

**BRANCH OFFICES:**  
GLASGOW, BELFAST.

**PLEASE NOTE TELEPHONE NO.**  
NOW 01-499 8171

**TELEPHONE:** \_\_\_\_\_  
**TELEGRAMS:** \_\_\_\_\_  
**CABLES:** } PROPELLING LONDON W.1.

9th October, 1967

OUR REF: **ALBRY/BB**

YOUR REF:

N.W. Castle Esq., O.B.E., M.I.Mun.E.,  
Borough Engineer & Surveyor,  
Borough of Folkestone,  
The Civic Centre,  
Folkestone,  
Kent.

**BOROUGH ENGINEER'S OFFICE**  
FOLKESTONE

10 OCT 1967

Reg'd No. 9549 Ref'd to ...  
Ack'd ... Cleared ...

Dear Sir,

Encombe Estate Development, Sandgate.

We refer to your letter dated 10th July, 1967 requesting our opinion of the ground movements in the Sandgate area with particular reference to the Encombe Estate Development, and to your letter dated 15th August requesting our views on the Developer's surface water drainage proposals for the Estate Plots Nos. 20 to 22.

As reported to you during the discussions held in your office on 26th September we inspected the site on 10th July and 26th September and we now wish to submit our preliminary report on the matters you have asked us to investigate.

GEOLOGY OF THE AREA.

As you know, we were retained by the Abbey National Building Society some years ago to advise on the ground movements affecting Encombe House and our conclusions and recommendations are given in our report dated 16th April, 1959, to the Society.

As explained in that report the geological succession at the site comprises the following series:

- (1) Folkestone Beds. - Sand and blocky sandstone forming the cliff face at the rear of Encombe House. This stratum rests on;
- (2) Sandgate Beds. - Alternating discontinuous bands of clayey sand and clay. The Encombe House terrace is believed to represent the upper horizon of these beds, which overly;
- (3) Hythe Beds. - Alternate bands of limestone and clayey sand. There is no exposure of this series at the site except on the foreshore where these beds outcrop as a result of displacements caused by old landslides; the upper horizon of the stratum is believed to lie at a level of approximately 20-ft. O.D.

Continued/.....



(4) Atherfield Clay, underlying the Hythebeds, comprise bands of clay and silty sand with an upper horizon at approximately - 25ft. O.D.

These beds are subdivisions of the Lower Greensand series; the strata dip at a slope of 1 in/ 135 in/ a north easterly direction. However, it is thought that faults along this section of the coast have caused discontinuities in the alignment of the strata.

The beds are covered to a large extent by overburden and in the absence of borehole information, the exact positions and depths of the strata are not known.

#### The Water Table.

It is evident that the Folkestone beds lying above Encombe House are waterbearing; the phreatic level is believed to be affected significantly by the intensity of rainfall.

It is likely that the underlying Sandgate Beds and also the Hythe Beds (to a greater extent) are also waterbearing, but in the absence of borings it is not known if the water is under artesian head. We have consulted the Institute of Geological Sciences on this point and they are, at present, examining their records of the area for evidence of deep lying aquifers under artesian pressure.

It is believed that the Atherfield clay is relatively impermeable.

#### HISTORY OF GROUND MOVEMENTS IN THE SANDGATE AREA.

The Sandgate area has been subject to erosion and landslides for many centuries; the area has been relatively stable in recent times probably as a consequence of the protection provided, to the toe of the zone of sliding, by the sea defence works.

The last major movement occurred in 1893 when an extensive landslide caused a half-mile length of the undercliff to move 7 to 10ft. vertically downwards and the ground at the toe of the slide was forced 4-ft. upwards through the seabed slightly below the Low Spring Tide Mark.

The approximate boundary line of this major shearing movement is shown on the drawing accompanying this report. A more detailed account of this collapse and the subsequent ground movements is given in our report dated 16th April, 1959, a copy of which we believe you have.

In 1948, slip plane cracks appeared in Prospect Road and were, at that time, thought to be associated with a washout of the seawall. A minor slip of the undercliff occurred in 1950 and a year later Encombe House developed an extensive series of cracks and the pergola and secret staircase on the west side of the house collapsed. Following minor ground movements in 1954 which caused the fracture of a sewer, a substantial cliff fall behind the annexe to the house occurred in 1958. The remedial measures which were taken at that time on our advice appear to have proved satisfactory.

\*In our Report dated 16th April 1959 we expressed the view that minor ground movements would continue to occur in this disturbed area and our recent inspections of the site has provided further evidence of continuing ground displacements.

The greatest differential movements occur at the boundary of the 1893 slip as evidenced by the discontinuities in the level of the Encombe House drive adjacent to plot No. 19 and the substantial cracks in the brick walls adjoining Wilberforce Road. At the junction of The Esplanade and the drive

Continued/...



to Encombe House there are signs of minor displacements to the sea wall and evidence of ground disturbance in the coastguard cottages at the foot of Wilberforce Road.

Several of the relatively new garages in Wilberforce Road are in a very poor condition caused by the undermining of the foundations, which has caused their failure; in some cases the walls are in danger of collapse and appear to owe their present stability to the support provided by the roof purlins. Uncontrolled ground water drainage in this area appears to have caused or contributed to this serious deterioration. Sand-laden ground water has caused the deposition of a notable quantity of saturated sand in the upper row of garages. (The extent of the damage caused to these garages would probably have been considerably reduced if reinforced concrete foundations had been provided).

We have written to the Director of the Ordnance Survey and requested that he makes available to us data recording the recent movement of the several bench Marks in the Sandgate area.

#### Causes of present ground movements.

The present ground movements appear to be mainly due to a continuation of the naturally slow settling down of the ground disturbed by the major slip in 1893. In addition to the main plane of sliding, whose position at the ground surface is shown on the attached plan, numerous secondary planes of shearing movements are likely to have occurred within the soil mass which moved. Open cracks may be present in cohesive soils and sandy materials would have tended to bulk, that is, the soil mass would have increased in volume and would therefore be susceptible to gradual self compaction under its own weight aided or aggravated by the percolation of ground water.

The ground disturbance would also have resulted in a reduction of the support given to the undisturbed soil behind the landslide and this undisturbed ground would therefore tend to relax gradually causing relatively minor settlement of the ground above.

The above hypothesis might explain why the major relative movements occur in the disturbed area adjoining the plane of sliding at the back of the slipped zone, as here the depth of disturbed ground is greatest.

In an area susceptible to natural ground movements earthworks require careful planning to avoid disrupting the equilibrium of the ground and its drainage. At this stage it is not possible to state definitely whether the damage caused to the surface water drainage system and the recent ground movements north of the new garages were a consequence of the Developers Operations or the result of natural agencies.

The effect of ground water is important as it is believed to accelerate or aggravate the process described above. As far as it is possible to assess the mechanism from a walk over inspection of the site it appears likely that the main source of water lies in the Folkestone Beds which the cliff /form face inland from Encombe House. Water flowing from these beds and percolating into the disturbed ground at the back of the slip, giving rise to the development of high pressure, could cause unstable conditions of the undercliff area.

Water under pressure within the underlying Sandgate and Hythe Beds could also contribute in a similar manner to these unstable conditions. As noted above, in the absence of borehole evidence, we have asked the Institute of Geological Sciences for information about the aquifers in these strata.

Continued/...



Some information concerning the strength of the subsoil and the levels of the strata is available as a result of the borings put down by Soil Mechanics Ltd., in connection with the Castle Bay Estate development (see attached plan). It would not, however, be meaningful to make use of this data in order to assess the overall stability of the ground in the Encombe Estate, but these boreholes generally confirm the assumed shape of the deep slip planes.

The factor of safety against sliding at the time of the 1893 landslide would have been unity and because of the kinetic component of the movement the overall factor of safety after the slide came to rest would have been greater than unity. Subsequent deterioration could have caused a reduction of this factor. If we assume, solely for the purpose of a comparative estimate, that the undercliff area is now in a state of incipient failure when the water table is at ground level, then the shear strength mobilised along the old plane of sliding in the Atherfield clay would be approximately 800 lb./ft. We have calculated that if the ground water table was drawn down 10-ft. below ground level then the shear strength along the old sliding plane would be reduced from 800 lb./ft. to 700 lb./ft. That is, the factor of safety would be increased from unity to 1.14. This, in our opinion, would represent a very satisfactory improvement.

#### Drainage Improvement Works.

From the above remarks it will be clear that we consider ground water to have an important effect on the movements which are taking place at the present time. If this is proved to be the case, then by controlling the ground water an improvement would logically result.

If the main source of water lies in the Sandgate and Hythe beds it would probably be necessary to sink wells into this aquifer in order to reduce this pressure. It should be pointed out however, that although a reduction in the water table in the ground below Encombe House would retard the ground movements in the disturbed undercliff area, some settlement of Encombe House would result.

If the main source of water lies in the Folkestone Beds then the water seeping from these cliffs could be intercepted by a garland rubble filled drain positioned along the terrace at the foot of the cliff and connected into the existing road drainage system. The connections between the interceptor drain and the road drains would pass through the boundary between disturbed and undisturbed ground and would therefore have to be designed to accommodate the continuing vertical and horizontal ground movements to be expected at this boundary.

As the level of the water table in the Folkestone Beds is sensitive to variations in the intensity of rainfall it would probably be necessary to supplement the interceptor drain by thrust boring into the base of the Folkestone beds. The purpose of these borings would be to draw down the level of the water table some distance behind the cliff face to reduce the development of springs at the foot of the cliff during periods of high rainfall and consequently reduce the risk of piping which leads to sand runs and cliff instability. Headings driven into the cliff face would provide a similar improvement but would be more costly to construct.

To be effective, such a system would have to be installed from Plot 23 to the west side of Encombe House. In the eastern zone of the unstable area the main drainage scheme may not reduce the water levels sufficiently. It may therefore prove to be necessary to construct a supplementary drainage system to intercept and collect storm water at present percolating into the garages in Wilberforce Road.

Continued...



## Estimate of Cost of Drainage Improvement Works.

In order to design a suitable drainage scheme it would be desirable, firstly, to carry out a limited soil investigation in the area. The purpose of the soil investigation would be to determine the main sources of water and the water pressure acting on the back of the old landslide. The borings would also provide positive information concerning the levels of the boundaries between the strata and the strength of the soil.

The above information could be obtained by putting down two borings, one from the terrace at the foot of the cliff face which lies behind Encombe House and the second from the terrace below Encombe House. The first boring would be carried into the Hythe beds and the second shallower boring would be put down to a level below the base of the 1893 landslide. Piezometers would be installed in both borings so that a record of the variation of the ground water levels could be made.

We estimate that the cost of these two borings would amount to approximately £1,000.

If, as a result of this investigation, it was concluded that an interceptor drain constructed along the foot of the cliff behind Encombe House, supplemented by thrust boring at selected points, would provide a measurable improvement of the existing conditions, then these remedial works would cost approximately £10,000.

### Drainage of Plots 20, 21 and 22.

We have, as requested, examined the Developer's proposals for the drainage of plots 20, 21 and 22. Although, in principle, a herring bone system of drainage should prove satisfactory, we hold the view that an interceptor drain constructed along the foot of the cliff behind these plots would be more practicable and cost less. This drain could be integrated with the main system of drainage described in the paragraph above. The herring-bone drains would require special care in design under the house foundations.

Although we have not been asked to comment on the type of house foundations which should be adopted in this disturbed area it will be evident, from the remarks made above about the Wilberforce Road Garages, that it would be judicious to make use of properly designed reinforced concrete rafts taking due account of the relative stiffness of the brick superstructure.

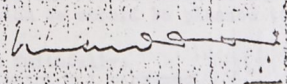
### Conclusions and Recommendations.

In our opinion the ground movements in the Sandgate area are likely to continue in the future. Some improvement could be achieved by the construction of a drainage scheme designed to intercept and collect the water flowing from the cliff face which passes behind Encombe House. However, before deciding on a particular scheme, we would recommend that a limited site investigation of the type described in this report should first be carried out.

We hope that the above remarks have covered adequately the various matters you have asked us to investigate and report upon. If there are any aspects on which you would wish to have our further views we would be very pleased to deal with these on hearing from you.

We shall look forward with interest to learning from you the Borough Council's decision.

Yours faithfully,  
SIR WILLIAM HALCROW & PARTNERS.





**WILLIAM HALCROW & PARTNERS**  
CONSULTING ENGINEERS

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OUR REF: ANON/BP

YOUR REF: DE/OT

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23rd October, 1967

N.W. Castle, Esq., O.B.E., M.I.Mun. E.,  
Borough Engineer and Surveyor,  
The Civil Centre,  
Folkestone,  
Kent.

BOROUGH ENGINEER'S OFFICE  
FOLKESTONE

25 OCT 1967

Reg'd No. 772 Ford to       

Ack'd            Cleared           

Dear Sir,

ENCOMBE ESTATE DEVELOPMENT, SANDGATE

Thank you for your letter dated 13th October, asking us to clarify certain matters arising from our report dated 9th October, on the recent ground disturbances at Encombe, Sandgate.

We should like to comment as follows.

In our opinion, when considering the stability of slopes in natural cohesive soils, particularly in those cases where there is evidence of ground movements and in the absence of data concerning the soil strength parameters, the only reliable assumption that can safely be made, is that the ground is in a state of incipient failure, that is, the factor of safety against failure is unity.

The recent movements in Wilberforce Road and Sandgate High Street clearly indicate that parts of the ground are in a delicate state of equilibrium. It is possible therefore that the movement of earth from one point to another caused local changes in this state of equilibrium, and gave rise to local ground disturbances. However, it would not now be possible, in our opinion, to state definitely whether the earthworks carried out by the developers did, or did not, give rise to ground displacements. It is possible that these works did contribute to the ground disturbance which occurred at the Constguard cottages, but this could not be satisfactorily proved or disproved. It could be coincidental that the ground movements happened at the same time as the developers' activities, but the evidence points towards a relationship even if it cannot be proved.

The supplementary drainage system if it were found necessary, would probably be provided at the foot of the steep slope in the old kitchen garden of the Encombe Estate.

In our opinion, Plots 20, 21 and 22 would not be unsuitable for building, provided the precautions enumerated in our report are observed.

We hope that the above observations serve to clarify the points which you have asked us to comment, but should there be any aspect which requires further clarification we should be pleased to deal with it on hearing from you.

Yours faithfully,  
SIR WILLIAM HALCROW & PARTNERS.

*[Signature]*



**WILLIAM HALCROW & PARTNERS**  
CONSULTING ENGINEERS

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30th November, 1967

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Borough Engineer and Surveyor,  
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The Civic Centre,  
Folkestone,  
Kent.

BOROUGH ENGINEERS' OFFICE  
FOLKESTONE  
- 4 DEC 1967  
Reg'd No. 10249 Ref'd to BE  
Ackn'd ..... Cb ref'd .....

Dear Sir,

ENCOMBE ESTATE DEVELOPMENT, SANDGATE.

You will recall from our Report dated 9th October, on the ground movements occurring at Encombe, Sandgate, that we requested the Institute of Geological Sciences to make available to us information they have concerning water levels in the various strata underlying Sandgate.

We visited the Institute, at their request, on 21st November, to examine the data they had kindly extracted from their records. The data is naturally to a large scale but generally confirms the assumptions we have made regarding the sources of water.

These records show that the strata generally dips in a north easterly direction, but is complicated in the Sandgate area by a local synclinal fold. Although the Sandgate Beds are relatively impermeable they are known to be water bearing in some localities. The Hythe Beds are pinched out to the North East and are believed to be under sub-artesian pressure in the Sandgate area.

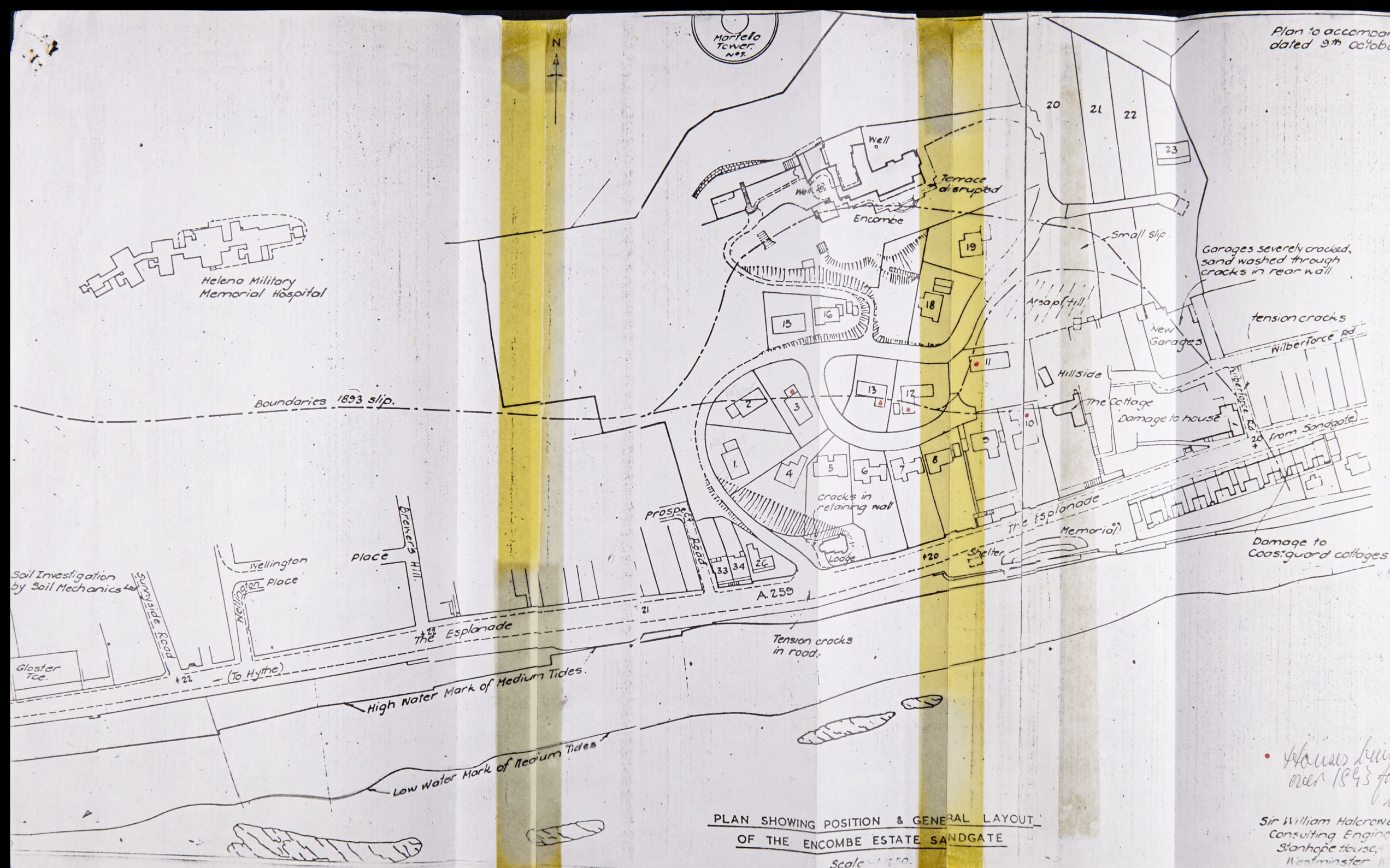
This information confirms our view that any site investigation at Sandgate to explore the mechanism causing the ground movements should include a deep borehole to measure the water levels in the Hythe Beds.

Yours faithfully,  
SIR WILLIAM HALCROW & PARTNERS

*[Handwritten signature]*



Plan to accompany letter  
dated 9th October 1967



PLAN SHOWING POSITION & GENERAL LAYOUT  
OF THE ENCOMBE ESTATE SANDGATE  
Scale 1:1250.

• Houses built  
over 1893 fault  
lines p.t.  
Sir William Halcrow & Partners  
Consulting Engineers  
Stanhope House, Park Lane  
Westminster W1



# SIR WILLIAM HALCROW & PARTNERS

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OUR REF: ELF/1.1/AMM/BCK/RW/AML

16th January, 1969.

YOUR REF:

## ENCOMBE, SANDGATE

## SUMMARY OF REPORT

This summary of a Report dated 15th January 1969, addressed to the Town Clerk, Folkestone, is provided to indicate briefly the recommendations to the present stability and the need for remedial works at Encombe, Sandgate, following completion of a limited site investigation.

Records have been studied of movements of the ground at Encombe subsequent to the major landslip in 1893. While there have been movements reported from time to time during this period, the incidents have become more frequent during the last two years; to some extent, this is explained by the recent development of the Encombe Estate in that minor ground movements are more likely to cause damage to property and services.

Fig. 1 indicates the lay-out of the area concerned and shows the position of three boreholes sunk during the recent investigation. The information provided by these boreholes is summarised on Fig. 3 on which the probable line of the boundary of slipping ground has been marked. These boreholes have also served to indicate the levels of ground water and records to date are summarised on Fig. 2.

The greater part of the slipping movement appears to have occurred in the Atherfield Clay which lies beneath the Hythe Beds, the Sandgate Beds and the Folkestone Beds (see Fig. 3).

While there is no evidence that acceleration of the present movements is to be expected, continuance of the minor ground strains may be expected to cause further minor damage to property and disruption of services. The condition is sensitive to the flow of water through the ground between the cliff and the sea.

It is concluded that ground water entering the area from the north requires to be intercepted in a more effective manner than at present in order to improve the present situation. An interceptor drain to a depth of about 6 feet together with supplementary drainage would cost up to £15,000 whilst a more substantial measure of improved stability could be achieved with a deeper drain with cut-off for a cost of up to £35,000.



HALCROW 69

TC

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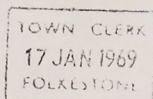
TELEGRAMS: } PROPULSION LONDON W.11.  
CABLES: }

OUR REF: ELF/1.1/AMW/BCK/RBW/SMS

YOUR REF:

15th January, 1969.

N. C. Scragg, Esq., LL.M.,  
Town Clerk,  
The Civic Centre,  
Folkestone,  
Kent.



Dear Sir,

Encombe, Sandgate  
Report on Site Investigation

We refer to your letter dated 19th July and to our subsequent correspondence with you and with Mr. N. W. Castle, the Borough Engineer, authorising us to carry out a limited site investigation in the Encombe Estate, Sandgate. We are now reporting to you on the results of this investigation.

1. Summary of Conclusions

Following a limited site investigation, which included three boreholes and a number of laboratory tests, it is concluded that ground water plays the major role in causing the instability of the area.

A scheme of drainage is recommended to reduce the level of the water table behind and within the disturbed area and thus improve stability.

It is pointed out that the lowering of the water table would result in some ground settlement but this is not anticipated to be of a degree to cause damage to sound structures.

2. Extent and Purpose of Site Investigation

In our report dated 9th October, 1967, we reviewed the probable causes of the ground movements which have been taking place at Encombe and gave our view that some improvement might be achieved by drainage works costing approximately £10,000. However, we recommended that a limited site investigation should first be undertaken to delineate the strata and to determine the position and nature of the aquifers in order to verify that the drainage works, that we had in mind at that time, would be effective.

Contd....

N. C. Scragg Esq.

15th January, 1969.

In our letter dated 29th July, 1968, we explained that this investigation would also help to assess the overall degree of stability of the area disturbed by the 1893 landslip and give some quantitative information on the effect of water level variations on stability.

### 3. Site Investigation

The tender for the site investigation works dated 9th August, 1968 received from George Wimpey & Company Limited was accepted by the Council and boring commenced on 24th August, 1968.

Originally it was intended to put down two borings; however during the course of the work we recommended the sinking of a third borehole and this was approved by the Council. The positions of the boreholes are shown on Fig I and details of the strata encountered are given in the accompanying copy of Messrs. Wimpey's final report, dated January 1969, on the site investigation.

Disturbed and undisturbed representative samples of the various soils were recovered for examination and testing. The levels from which the samples were taken and the results of the soil tests are given in Messrs. Wimpey's report. The test results are summarised in Appendix 'A' and their significance related to the probable degree of ground stability is considered later in this report.

It will be noted that Borehole No. 1 is situated in Plot No. 20 north of the boundary of the 1893 landslip; Borehole No. 2 is situated north-east of Plot No. 11 within the area disturbed by the landslip; and Borehole No. 3 is located on the Esplanade at the west end of the Coastguard Cottages.

Casagrande type piezometers surrounded with sand filters were sealed into each of the borings to provide a means of measuring the variations in ground water levels. The levels at which the piezometers were installed are shown on the borehole logs in Messrs. Wimpey's report. The piezometric levels measured by the Borough Engineer during the period September to December 1968 are shown on Fig 2; this Figure also shows the daily rainfall (measured at Folkestone) for the same period.

Slip indicator tubes were installed in Boreholes No. 2 and 3 to provide a means of detecting the positions of any deep-seated planes of sliding.

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4. Geology of the Area

The borings have confirmed the geological succession described in our report dated 9th October, 1967. The geology may be summarised as follows:-

- (a) Folkestone Beds:- Sandy and blocky sandstone forming the cliff face at the rear of Encombe House and the upper part of the terrace on which it is built.
- (b) Sandgate Beds:- Silty clay with bands of fine sand; the upper horizon of these Beds occurs at approximately 106 ft. above Ordnance Datum.
- (c) Hythe Beds:- Alternate bands of limestone and sandy silty clay; the upper horizon of these Beds occurs at approximately 55 ft. above Ordnance Datum. There are occasional outcrops of the Hythe Beds on the fore-shore which are believed to be the result of displacements caused by old landslips.
- (d) Atherfield Clay:- Stiff silty clay with laminations of fine sand. The upper horizon of this stratum occurs at a level of approximately 36 ft. above Ordnance Datum.

These formations are sub-divisions of the Lower Greensand series. The regional dip of the strata is of the order of 1 in 135 in a north-easterly direction. It is thought that faults may have caused local discontinuities in the alignment of the formations. It is not possible to confirm with confidence the direction and magnitude of the dip from the borehole logs because of the disturbance caused by old landslips.

A cross section running approximately N - S through the area, based on the results of the boreholes is shown on Figure 3. It will be seen that Borehole No. 1 which was put down in the relatively undisturbed ground north of the 1893 landslide revealed the succession of strata described above. Borehole No. 2 revealed largely material of the Sandgate Beds with occasional boulders and fragments of limestone at its base, with a covering of displaced soils from the Folkestone Beds. The stratum of Hythe Limestone is missing and the Atherfield Clay was encountered at a level 36 ft. below that in Borehole No. 1. It is likely that the order and thickness of the seams disclosed by this borehole are the result of disturbance by landslipping and are not therefore necessarily representative of the soil arrangement elsewhere within the landslide. Borehole No. 3 passed through a thick layer of gravel overlying 16 ft. of limestone interstratified with bands of sandy clay; the Atherfield Clay was encountered at a level 51 ft. lower than in Borehole No. 1.

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The absence of the Hythe limestone in Borehole No. 2 and the difference in level of this stratum at Borehole No. 3, as compared to the level at which it was encountered in Borehole No. 1, is probably due to the displacements caused by old landslips. A possible position of the plane of sliding of the foundered strata is shown on Fig. 3.

5. Ground Water Levels and the Influence of Rainfall and Tides

An interesting and important result of the site investigation concerns the information obtained regarding the position and nature of the aquifers.

It will be recalled that in our previous report we gave the view, based on regional geological evidence, that the Folkestone Beds represented the main aquifer and we suggested the possibility that the Hythe Beds were also water bearing; there was, however, some doubt regarding the Sandgate Beds.

The information obtained from Borehole No. 1, suggests that the undisturbed Sandgate Beds north of the landslide mass represent an important aquifer and that the Hythe Beds collectively are substantially dry. The undisturbed Sandgate Beds are seen to be water bearing to a depth of about 30 ft. below the ground surface at Borehole No. 1; here the normal water table lies about 3 ft. below ground level.

It seems reasonable to conclude that the Sandgate Beds help to drain the overlying permeable Folkestone Beds and thus assist in stabilising the cliff face at the rear of Encombe House. The Hythe Beds are very fissured and therefore would have high water transmissibility, but the Sandgate Beds contain sufficient clay to serve as an aquiclude, explaining the absence of drainage from the Folkestone Beds into the underlying Hythe limestone.

A comparison of the piezometric levels and rainfall shown on Fig. 2 indicates that their maximum response to heavy rain occurs after approximately two days. The normal ground water table is shown on Fig. 3; the piezometer readings taken to date show little variation from this average level, except in the case of Borehole No. 3 where, as might be expected, the level of the water table is influenced by tidal fluctuations.

The ground water levels between the boreholes are, of course, unknown and the position of the water table interpolated between the boreholes, shown on Fig. 3 is assumed. The gradient of the ground water surface between Borehole No. 2 and 3 is probably approximately correct. However, it is possible that the slope of the ground water surface between Borehole No. 1 and 2 is influenced by the soil disturbance at the back of the old landslide, particularly if this surface is thickly smeared with relatively impermeable cohesive soil.

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6. Review of Past Ground Movements

A brief account of the known ground movements in the Encombe area from 1893 to 1959 was given in our report dated 9th October, 1967. For ease of reference this account is summarised and extended in tabular form in Appendix (B).

Subsequently in 1962 a superficial slip occurred just below Encombe New Road in ground partly outside the area affected by the 1893 slip; this renewed movement may have interfered with the system of land drainage. In October 1966 part of the terrace at Encombe House is reported to have subsided some 2 ft; at this time there were no known associated movements across the Esplanade.

Since this date there are reports of many relatively minor incidents of broken gas mains, water mains, sewers and the opening up of cracks in walls and roads in various parts of the area. These incidents seem to have been most marked in the region of the back of the 1893 slip, but have also occurred in the areas of Nos 4 - 13 Encombe and Wilberforce Road. Minor cracks have also been observed in the Esplanade. Periodic inspections of the slip indicator in Borehole No. 2 have produced evidence of possible disturbance at a depth of 84 ft. below ground level.

There is no available measure of the magnitude of the movements over the years but the evidence suggests that the overall movement towards the rear of the slip amounts to several feet whereas the movement at the Esplanade has been no more than a few inches.

The greatest degree of instability of an earth mass occurs, other factors remaining unchanged, with the greatest difference in water levels between the back and the toe of the incipient surface of failure. For the area in question this condition will arise from simultaneous occurrence of high ground water levels with low tide.

As the level of the ground water is directly related to local rainfall, for unvaried conditions of drainage, it might be expected that major movements of this, as of other coastal landslips, would have occurred after periods of exceptionally heavy rainfall at times of low water on spring tides if these coincide with the period of high water table.

A further cause of instability is the removal of soil from the 'passive' parts of the unstable ground near the toe or by the addition of soil or other load to the 'active' rearward part. At Sandgate this former condition could have arisen in the past by erosion of the beach and the

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degradation of the foreshore during storms and the latter condition from regrading of the ground.

We have endeavoured to correlate the known ground movements with rainfall and tidal levels but with limited success as the available records are incomplete, except for the major movements. In view of the fact that certain of the minor ground movements have related to the rear of the 1893 landslip, involving subterranean recompaction of the slipped ground, these would not be expected to be affected by the tide.

Arrangements have recently been made with the Borough Engineer to install "tell tales" to provide means of detecting and measuring the rate and magnitude of future ground movements at ground level at several selected points.

7. Present Situation and Possible Causes

As stated in our preliminary report of 14th October 1968, examination of the available information suggests that an assessment of present conditions should be based on two main considerations, as follows:

- (a) An overall study of the present stability of the sliding mass of the old 1893 slip, and
- (b) a study of the effects of ground water in causing soil erosion and ground settlement as described in our letter dated 9th October 1967.

With regard to (a) above we wish to make the following general observations concerning ground stability.

The failure of slopes founded on cohesive soils of variable type <sup>generally</sup> occurs by sliding along a relatively deep seated non circular surface of a form represented by the line marked I on Fig. 3. Secondary planes of sliding may also develop within this sliding mass the extent depending on the shape of the principle slip surface; a plane of this type is marked II on Fig. 3.

The degree of stability of a slope is assessed by calculating the 'active' forces along the suspected surfaces of sliding and comparing these with the 'passive' shearing resistance capable of being mobilised by the soil along this surface of sliding. The degree of stability is expressed in terms of a factor of safety. When the 'active' forces equal the 'passive' forces, the factor of safety is unity, and the slope is in limiting equilibrium. For higher factors of safety, the slope is stable to a degree depending on the amount by which the factor of safety exceeds unity.

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The shearing resistance mobilised by the soil depends, inter alia, on the percentage strain and can be assessed by laboratory tests on representative undisturbed soil samples.

A sample of cohesive soil, when sheared, attains a peak shearing resistance equivalent to an angle of shearing resistance  $\phi'$ ; however, as the shear strain increases, the shearing resistance decreases from the peak value and after extended strain reaches a minimum value equivalent to an angle of shearing resistance  $\phi'_r$ , referred to as the residual angle of shearing resistance.

The major landslide which occurred in 1893 is believed to have been the result of the sliding of a mass of soil along a surface largely within the Atherfield Clay. In order to be able to assess the present degree of stability of the landslide mass along this suspected plane of sliding, special laboratory tests were carried out on soil samples recovered from the trial boreholes. to obtain a measure of the peak and residual angles of shearing resistance of the Atherfield Clay.

These tests have shown that the peak angle of shearing resistance  $\phi'$  is of the order of 36 degrees decreasing to a mean residual value,  $\phi'_r$  of 25 degrees, the minimum value being about 16 degrees, when subjected to extended strain. However, tests on similar soils, made in connection with the construction of the Sevenoaks By-pass, showed minimum  $\phi'_r$  values of 12 degrees. In view of the limited number of tests carried out at Sandgate, and pending further evidence, we have considered it prudent to assume that the angle of shearing resistance along the base of the old landslide mass at Encombe could be as low as 12 degrees.

One of the cross sections used in the assessment of the stability of the ground is shown on Figure 3. This cross section is based on the contoured plans prepared by the developer before the land development at Encombe was put in hand and is probably closely representative of present conditions as we believe the ground levels were not significantly altered by the development.

It will be noted that the cross section is taken through Encombe House along a line lying to the west of the boreholes. The position of the cross section is shown in plan on Figure 1.

The surface of sliding has been taken as lying in the Atherfield clay as indicated by the slip indicator tube blockage in Borehole No. 2 and as suggested by absence of any indication of movement within the depth of

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Borehole No. 3; this surface, has been extended back on Fig. 3 to reach the ground surface at existing persistent cracks. A second surface of sliding, II, has also been considered corresponding approximately to the position of the lower boundary of the 1893 slip as shown on Fig. 1 and substantiated in recent years by observed cracks and fractured water and gas mains. It has been assumed that tension cracks are of negligible length compared with the total length of the sliding surface. The analysis has been carried out for the condition occurring at low tide as this would represent the least stable case. The ground water table has been assumed to follow the line shown on Fig. 3.

Stability analyses show that the sliding surfaces marked I and II on Figure 3 both require an angle of shearing resistance of 12 degrees, for a factor of safety of unity. As stated above the minimum value of the angle of shearing resistance for the Atherfield Clay measured in the laboratory was about 16 degrees after extended strain, but as explained above, there is evidence from other sites that the angle of shearing resistance mobilised by the Atherfield Clay can be as low as 12 degrees. We consider it is unlikely that this low value would apply for the full length of the sliding surface and we conclude therefore that the factor of safety at Encombe is marginally greater than unity. If, however, the angle of shearing resistance is assumed to be 16 degrees the factor of safety would be about 1.3.

It seems probable that where cracking occurs along the line of the old slip this is associated with creep movement of the old landslide and that this is largely localised. The absence of all but minor damage to the Esplanade indicates that little if any movement takes place along the complete sliding surface. It is significant that damage to property along the Esplanade is related to shearing movements along the eastern extremity of the slipped ground. It is likely therefore that the safety factor of this old slide is marginally greater than unity but that a combination of a period of heavy rainfall combined with a low spring tide would tend to accentuate the movements by reducing this margin.

Turning now to a consideration of (b) above we once again stress the important part played by ground water in causing ground movements. It seems clear from the number of springs existing on the site that a significant quantity of water issuing from the Folkestone Beds is percolating through the Sandgate Beds into the landslide area. The combination of the existence of the springs with the absence of water pressure recorded by the piezometer

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placed in the Hythe Beds in Borehole No. 1 indicates that in general the horizontal permeability of the Sandgate Beds is very much greater than that in the vertical direction. This is an ideal situation for the development of localised liquefaction of cohesionless soils at relatively high ground water gradients, and the result of this could be the removal of soil from the more disturbed areas whether by piping or erosion. The large quantity of sandy silt that has been washed into the Wilberforce Road garages and the regularity with which the storm drains fed by the land drains require cleaning (not entirely due to the shingle thrown up from the beach) is an indication that some kind of erosion mechanism may be at work.

The 1893 slip would have caused severe distortions of the ground, e.g. cracking of the clays and bulking of the sands, and the effect of percolating ground water would be to cause the compaction of the ground with consequential surface settlement; this could be another mechanism at work.

These mechanisms would explain why the displacements are greatest in the region of the back of the slip surface, where the depth of disturbed ground is greatest, and the ground water gradients higher.

It is concluded at this stage that the major part of the ground movements at Encombe are due to a combination of soil erosion and consolidation of disturbed areas, coupled with a small degree of creep along the old 1893 sliding plane: the latter occurring after periods of prolonged heavy rain leading to marked rises in water table.

Ground water therefore seems to play the major role in the instability of the area and it seems clear that if seepage out of the Folkestone and Sandgate Beds could be controlled the stability of the area would be improved.

#### 8. Remedial Measures

The stability of a soil slope can be improved by regrading the slope to obtain a more stable distribution of earth forces or by lowering the level of the ground water table towards the top of the slope. At Sandgate it is clearly impracticable to regrade the area and although some improvement could be achieved by raising artificially the level of the beach, this would not represent an attractive or reliable solution. It is considered therefore that the remedial measures should comprise works designed to control the level of the water table.

By controlling the seepage of ground water through the area, some improvement of ground stability would be achieved. Ideally, the aim would be to intercept the water flowing into the area by means of a system of drains

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which would serve to collect and remove the water. The main drainage works would be located in the terrace at the foot of the cliff face which passes behind the rear of Encombe House. The effect would be twofold. Firstly, by reducing the supply of water, there should be a corresponding reduction in the downstream level of the ground water table and, secondly, the extent of the erosion and consequential ground settlement should be reduced.

The lowering of the ground water table would probably cause an immediate minor settlement of the ground but this is expected to be of an order which should not cause distress to soundly founded structures. The more effective the drainage system, the greater the degree of settlement.

The drainage of the ground could be improved by one or by a combination of the following methods:-

- (a) An interceptor drain.
- (b) A deep interceptor drain with cut-off wall.
- (c) Horizontally bored drains.
- (d) Well points.
- (e) Vertical drains to the Hythe Beds.

These alternative methods and their limitations may be briefly reviewed as follows:-

(a) Interceptor Drain

This drain would comprise a perforated pipe of some 9-inches diameter laid to self cleansing falls (about 1 in 250) at an average depth of the order of 6-feet. The pipe would be surrounded with a suitably graded filter material which would be carried up to a level 2 feet below ground surface. The pipe would be laid in the terrace at the foot of the cliffs, and if practicable would run from a point behind plot number 22 to a point within the courtyard of Encombe House. Inspection manholes would be required at regular intervals of the order of 150 feet and at all changes of directions. A similar separate drain would be required to the west of Encombe House seaward of the toe of the collapsed section of the cliff. Supplementary drainage might prove to be desirable in the ground behind the garages in Wilberforce Road and west of Encombe House.

This relatively shallow system of drainage would serve to limit the level of the water at the foot of the cliff face and contribute to its stability; and would also cause a reduction of water levels within the Estate

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to an extent, dependant on the actual levels of the water table at the back of the old landslip mass. In effect, the scheme would improve present conditions but would not result in a major change of the basic ground water conditions.

(b) Deep Interceptor Drain with Cut-off Wall

This drain would be similar to that described above but would be laid at an average depth of some 15 feet below ground level. The pipe would be laid within a sheet piled trench probably with the assistance of temporary ground water lowering methods. The line of sheet piles along the seaward side of the trench would be left in the ground to serve as a cut-off wall.

This relatively deep drain would serve to intercept a substantial volume of the ground water flowing into the area and would cause a significant drop in the ground water levels seaward of the cut-off wall.

(c) Horizontally Bored Filter Drains

This system of drainage was devised by George Wimpey & Company Limited some years ago and has since been employed successfully at some sites in improving the drainage of sloping ground and contributing to improved stability. The drain comprises short prefabricated hollow cylinders of filter units threaded on to a perforated collector pipe, the whole assembly is installed in a "horizontal" bored hole. The drain should preferably be installed on a slight gradient to provide self cleansing velocities. The topography of the Sandgate site would therefore require their installation from selected points in the sloping ground within the landslip mass to the east and west of plot number 19, the drains would pass through the back of the landslip mass into the undisturbed Sandgate Beds to the north.

The effectiveness of this system of drainage depends on the nature of the soils and also on the distances between the drains and the actual lengths of drain within the water bearing strata. To command the whole of the area lying directly north of the landslip mass and thus capture a substantial volume of the water inflow, the drains would have to pass below Encombe House. This might prove difficult as it would be necessary when installing the drains to avoid the concrete piles supporting the seaward facade of the House. In addition, any differential ground settlement along the back of the old landslip mass, after their installation, could cause the filter drains to fracture. Apart from the consequent reduction in their effectiveness, the discharge of water from the fracture at the back of the landslip might not

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be desirable. This system would therefore require frequent inspection and possibly periodic replacement.

The bored filter drains could either be used as the main system of drainage or to supplement an alternative method of drainage.

(d) Well Points

A proved type of well point consists of a fluted steel pipe covered by a gauze screen with a driving shoe at one end. The well points are jettied into the ground by applied water pressure and then joined to a common suction pipe which is connected to the well point pump. Water is drawn from the ground by suction under vacuum. Permanent well points are sometimes installed in boreholes with a graded filter surround.

The line of well points would be located in a position similar to that described for the interceptor drain in paragraph 8(a). Standby pumping equipment would be advisable to provide for mechanical breakdowns. It would also be desirable to protect the installation against damage by frost.

Before installing a scheme of this type, it would be prudent to carry out pumping tests with observation wells to determine the draw-down profile and thus decide on the optimum spacing of the well points.

This system would be relatively easy to install, should effectively reduce the seepage of water in the area and lower significantly the level of the water table. However, foolproof arrangements would be required to maintain the system in continuous operation, even with automatic controls.

(e) Vertical Drains

The vertical drains would comprise a perforated or fluted pipe covered with gauze and surrounded with a suitable graded filter material. Each drain would be installed in a borehole put down through the Sandgate Beds into the underlying Hythe Beds.

Before promoting a scheme of this type, it would be advisable to carry out tests to confirm its feasibility and determine the optimum dimensions of the drains and their spacing.

This scheme is theoretically attractive but there are practical difficulties which would require to be resolved by a prototype scheme. It is also possible that the drains would require regular maintenance and possibly periodic reinstatement to maintain their initial degree of efficiency

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which would probably deteriorate in time due to the gradual siltation of the filters and/or fissures in the Hythe limestone.

An indication of the relative order of the probable capital costs of the above alternatives is given below. It will be appreciated that these are preliminary estimates and would be subject to revision after preparing a detailed drainage scheme.

- |     |  |                    |
|-----|--|--------------------|
| (a) | Interceptor drain with supplementary drainage. | £10,000            |
| (b) | Deep interceptor drain with cut-off wall.      | £25,000 to £35,000 |
| (c) | Horizontal bored filter drains.                | £25,000 to £30,000 |
| (d) | Well points with supplementary drainage.       | £25,000 *          |
| (e) | Vertical drains.                               | £30,000            |

9. Conclusions and Recommendations

It is concluded that ground water is the main cause of the unstable ground condition and it is recommended that drainage works should be installed to control the seepage of water and thus contribute to the stabilisation of the area.

It is considered that the most effective and reliable system of drainage would comprise a relatively deep interceptor drain incorporating a cut-off wall. This would collect a significant volume of the water flowing into the area and should result in a notable reduction of the level of the water table downstream of the drain. However, for reason of economy it may prove desirable to limit the remedial works to the construction of the relatively shallow interceptor drain described under Paragraph 8(a) above. As noted above although this scheme would not cause a major change of the basic ground water conditions, an improved situation would result. As in the case of the drainage installed after the 1893 landslip this scheme would serve to dispose of surplus water at times of excessively heavy rainfall and thus reduce the volume of water entering the landslip area. The preliminary estimate of the cost of this drainage scheme amounts to £10,000. However, if it were decided to promote this scheme we would recommend that an outside provision of £15,000 should be made to allow for contingencies.

If adequate funds were available we would recommend a deeper interceptor drain incorporating a cut-off wall as described under Paragraph 8(b) above. Before carrying out this scheme we would recommend, for reasons of economy, that a line of shallow borings should be put down along the

\* Includes allowance for equivalent capital cost of operation and maintenance.

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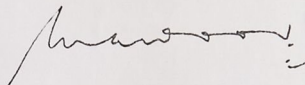
proposed route of the drain to determine, inter alia, the variation in the level of the horizon between the Folkestone and Sandgate Beds. By making this investigation some economy might be effected <sup>by</sup> reducing the depth of the trench. As noted above, once the initial settlement had occurred, this scheme would provide a substantial measure of improved stability; the estimated cost of the deeper trench is £35,000.

We would also recommend that measures are incorporated in the drainage scheme adopted to allow the effectiveness of the remedial works to be assessed during and after construction.

If there remain any points in connection with this investigation and our consequent recommendation that require clarification we shall be pleased to deal with these on hearing from you.

We should like to acknowledge the assistance we have received from the Borough Engineer and his staff throughout the investigation and for the very helpful observations made by Mr. A. H. Todd of No. 5, Encombe which you have kindly forwarded to us from time to time.

Yours faithfully,  
SIR WILLIAM HALCROW & PARTNERS

A handwritten signature in dark ink, appearing to read 'Halcrow', with a long horizontal flourish extending to the right.



## Appendix A

### Summary of Soil Properties

Folkestone Beds:- These Beds comprise medium dense brown clayey silty fine sand becoming more clayey at the base; the dry density is about  $101 \text{ lb/ft}^3$  and the natural moisture content about 25%.

Sandgate Beds:- These Beds comprise grey to black, silty clay with pockets or bands of fine sand, the average dry density is  $102 \text{ lb/ft}^3$  with a natural moisture content varying from 20 - 35%.

Hythe Beds:- These Beds comprise grey limestone (Ragstone) with layers of sandy silty clay (Hassock).

Atherfield Clay:- This is a very stiff, fissured, brown becoming grey silty clay with partings or laminations of silty fine sand. Index tests show this soil to be an inorganic clay of high plasticity with a grain size varying from a fine sand down to a clay; the clay fraction is about 30%.

Residual shear box tests were carried out on three samples of this clay and these indicated the following minimum values for the effective shear stress parameters.

	$c'$	$\phi'$
Peak	$0 \text{ lb/in}^2$	$35^\circ$
Residual	$0 \text{ lb/in}^2$	$16^\circ$

The average dry density of the clay is  $107 \text{ lb/ft}^3$  and the average natural moisture content is 22%.

Work carried out by Imperial College and the Road Research Laboratory in connection with the Sevenoaks By-pass indicates that, where the Weald and Atherfield clays have been subjected to a high degree of shearing, the effective shear stress parameter for residual shearing ( $\phi'_r$ ) may drop to a value as low as 12 degrees.

Appendix B  
History of Ground Movements at Encombe  
A Summary of Known Incidents

<u>Date</u>	<u>Type of Movement</u>
Previous to 1893	House at Encombe damaged by gradual land subsidence and eventually pulled down. New brick house built.
4th March, 1893	Great Sandgate slip.
1930	Small failure at east end of Encombe.
1948	Slip cracks apparent across carriageway and walls at bottom of Prospect Road and Encombe Drive; associated at the time with washout of the sea wall. No signs of cracking at Encombe House.
1950	Small cliff fall at east end of Encombe.
1951	Cracks apparent in Encombe House and terrace walls. Loggia underpinned with 37-ft. long piles.
1952	Pergola and secret staircase on west side of House collapsed. Surface cracks of about 5" width occurred across lawn and drive.
1954	Main sewer sheared by 3" in front of House.
1958	Cliff fall west of annexe to Encombe House.
1962	Small slide just below New Road, Encombe.
29th October, 1966	Junction of Encombe New Road and Encombe Drive collapsed. Part of the terrace at Encombe House subsided by 2-ft.
12th November, 1966	Burst water main at New Road, Encombe.
3rd December, 1966	Fractured gas main at No. 5 Encombe.
12th December, 1966	Burst water main under Encombe Drive.
14th December, 1966	Burst water main under Wilberforce Road.
30th December, 1966	Gas leak at No. 19 Encombe.



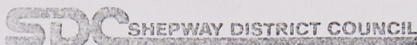
Appendix B (contd)

<u>Date</u>	<u>Type of Movement</u>
10th June, 1967	Burst water main at No. 5 Encombe.
31st October, 1967	Burst water main at No. 8 Encombe.
1st December, 1967	Fractured gas main at No. 7 Encombe.
12th December, 1967	Water main fractured under Encombe Drive.
21st December, 1967	Crack apparent in pavement on south side of New Road Encombe.
23rd December, 1967	Broken electricity cable under the Esplanade near Prospect Road.
14th June, 1968	Fractured gas main at No. 23 Encombe.
11th August, 1968	Gas main fractured under Wilberforce Road.
26th August, 1968	Water main to Encombe fractured.
25th September, 1968	Leak in water main discovered outside 160 Sandgate High Street.
27th September, 1968	$\frac{1}{2}$ " gap in north south gas pipe line outside 143 Sandgate High Street.
14th October, 1968	Fractured sewer and drain in Prospect Road.
31st October, 1968	Gas leak on boundary of Encombe House and No. 18 Encombe. Apparent movement of pipe 2".
7th November, 1968.	Burst water main in Wilberforce Road in the vicinity of the 'new' garages.
15th November, 1968	Burst water main to No. 15 Wilberforce Road.
November 1968	Slip indicator tube in Borehole 2 showed signs of ground movement 84-ft. below ground level.

15th January, 1969.

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Report Number 370



To: WORKS COMMITTEE - 12TH MAY, 1975

Subject: ENCOMBE, SANDGATE

By: CONTROLLER OF TECHNICAL AND PLANNING SERVICES, AND SECRETARY & SOLICITOR

1. The Sandgate area and in particular Encombe has been subject to erosion and landslides over a period of centuries.
2. The map attached to this report shows the site of the greatest activity at Encombe and the line of the 1893 slip scar is represented by a broken line running broadly in an east-west direction. The last major movement occurred in 1893 when an extensive landslide occurred along a line of approximately one half mile in length. On this occasion the undercliff moved two to three metres vertically downwards and the ground at the toe of the slide was forced 1.2 metres upward through the seabed. This slip was regarded as a national disaster, properties were destroyed and money was raised following an appeal by the Lord Mayor of London. Part of the fund was used to construct a land drain which ran through Encombe parallel to the coast and which was connected with link drains running down to the sea.
3. Since 1893 there have been a number of minor earth movements but the area has been relatively stable in recent times probably as a consequence of the protection afforded to the toe of the slip zone by the adjoining coast protection works.
4. Between 1964 and 1966, the Encombe Estate was developed by the erection of expensive houses and in the site development, trees were removed and parts of the area bulldozed to provide level sites. A considerable volume of earth was dumped in part of the Encombe site, formerly a water garden.
5. Prior to the development, the owner of the site, had been advised by Consulting Engineers, Sir William Halcrow and Partners, on the question of development of the site for housing purposes having regard to the likelihood of land movement. Very briefly, Halcrows advised that if properties were not erected on or near the line of the 1893 slip, they should not behave any differently from new properties erected in recent years to the east and west of the Encombe Estate. In granting planning permission, the Council required to be satisfied that the land was suitable for development and accepted the advice tendered by Sir William Halcrow and Partners. The Consultants, in their report, made it perfectly plain that it was likely that minor earth movements would still continue, although these were not likely to be of such a nature as to injuriously affect buildings on the Estate.
6. During the very wet winter of 1966/67 a series of minor earth movements occurred involving damage to service pipes and cracks to boundary walls. It was thought at the time that the drain laid after the 1893 slip had been damaged as a result of the development and was probably causing the minor earth movements. There was, however, no conclusive evidence of this. In addition to the land on the Encombe Estate, there was also movement in the property lying immediately to the south, Coastguard Cottages and properties in Sandgate High Street.



7. Although the Council had no legal obligation in this matter, they felt that they ought to obtain the advice of their Consulting Engineers, Sir William Halcrow and Partners, on the ground movements in the Encombe area. In 1967 the Consultants reported that the ground movements were likely to continue in the future but some improvement could be achieved by the construction of a drainage scheme designed to intercept and collect the water flowing from the cliff face which passes behind Encombe House.
8. The Council considered that the information provided by the Consultants should be made available, and it was accepted that whenever Solicitors acting for prospective purchasers of properties at Encombe submitted the usual enquiries of the local authority, they should be informed of the existence of their report. This effectively put a blight on the properties and the owners found it virtually impossible to dispose of them.
9. The situation naturally caused great concern to the property owners at Encombe, and in 1968 the Council agreed, at their request, to carry out a limited site investigation. In January 1969 the Consultants submitted a final report in which they concluded that ground water is the main cause of the unstable ground condition. They recommended that drainage works should be installed to control the seepage of water and thereby contribute to the stabilisation of the area.
10. The problem then was to find the powers to do the work. After considerable research the Ministry of Housing and Local Government, who had previously advised that they were unable to see the answer to the problem, advised that the provision of an interceptor drain and associated works, as suggested by Messrs. Halcrows, to improve the stability of the ground in the area of the 1893 slip in order to reduce the likelihood of damage to the sea wall, was work of a type which, in principle, could be carried out under the Coast Protection Act, 1949.
11. In his letter on the subject of Encombe, the Minister reminded the Council of their powers under the Act to obtain by agreement contributions towards expenditure, and stated that if the Council decided to carry out the suggested works they might wish to consider whether any such contributions should be sought from the owners of the properties which would enjoy substantial protection in the event of stabilisation works being carried out.
12. In October, 1970, the former Folkestone Borough Council decided to take action on the lines of the Consultants' recommendations under the Coast Protection Act, 1949, provided that owners of the properties which would benefit contributed to the scheme. The former Council considered that the total of such contributions from individual owners of properties on the Encombe Estate should be 10% of the total cost of the scheme including costs already incurred and Consultants' fees.
13. Negotiations were also entered into regarding contributions to the scheme by the various statutory bodies affected whose apparatus etc. was being constantly damaged by earth movement. The balance of cost would have been shared between the Ministry (40-45% of balance) and equally between Kent County Council and Folkestone Borough.
14. The overall cost of the scheme in 1969 was not known although the Engineer indicated that the proposed scheme was likely to be £25-35,000 but fees and expenses already incurred by the Council would have raised this to the £45-50,000 level. At the end of the day it was estimated that the Council's contribution would be in the region of £10,000: the loan charges for this would have been substantially offset by the increase in Rateable Values of properties in Encombe Estate.

15. In December, 1970, the former Council considered the response from the owners to the proposal for contributions disappointing, and in view of the lack of support from that quarter took the view that they could proceed no further with the matter at that time.
16. Following the unusually wet autumn and winter of 1974/75, further signs of movement were recorded in the form of cracks in the carriageway of Encombe with resultant damage to the service pipes and cables, broadly confirming the Consultants' views that ground movements are related to rainfall and ground water levels.
17. Shepway District Council has continued to employ the former Council's Consultants who are monitoring the situation and report thereon from time to time. They have submitted a report dated 29th April in which they draw attention to the recent evidence of ground movement in the area and they recommend that additional monitoring equipment be installed subject to the consent of the various owners. An amount of £1,500 has been allowed in the 1975/6 estimates for the extension to and replacement of surveillance equipment at Encombe. As a result of the recent ground movements the Consultants feel that some of the equipment that records very minor movements should be replaced by equipment giving the facility for recording a greater degree of movement. It is likely therefore that the total cost of surveillance equipment will be in excess of £1,500 although it is impossible to quantify at this stage until it is known what facilities the Kent County Council can assist with and whether (as highway authority) they will share some of the costs involved. It is therefore recommended that the surveillance monitoring equipment as now advised by the Consultants be installed up to the sum provided in the Estimates and that, if necessary, a further report be made to the Committee regarding additional equipment (together with potential savings).
18. The Consultants also stated in their report that "... the recent wet year and recurrence of large movements raise again the desirability of carrying out drainage works as recommended in the 1969 report in order to obtain some improvement in the conditions at Encombe".
19. Members instructions are sought with regard to the Consultants recommendations set out in paragraphs 17 and 18 above.

6th May, 1975.





*J. B. Edwards*

ENCOMBE, SANDGATE ESPLANADE, SANDGATE, FOLKESTONE

APPEAL STATEMENT  
ON BEHALF OF  
SOUTH EAST LAND DEVELOPMENTS LTD

Note. Application  
was accompanied  
by Feasibility Report  
Nov 1987, A.C. Weeks

JMS/MJCB  
APRIL 1988



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DOCUMENTS

1.     COPY LETTER DATED 26 JANUARY 1987 FROM J. GOUGH TO SHEPWAY DISTRICT  
      COUNCIL
2.     COPY LETTER DATED 16 APRIL 1987 FROM SHEPWAY DISTRICT COUNCIL TO  
      J. GOUGH
3.     FEASIBILITY REPORT FROM A.G. WEEKS AND PARTNERS NOVEMBER 1987

PHOTOGRAPHS



ENCOMBE, SANDGATE ESPLANADE, SANDGATE, FOLKESTONE

APPEAL STATEMENT  
ON BEHALF OF  
SOUTH EAST LAND DEVELOPMENTS LTD

1. THE PROPOSAL

1.1 The appeal site is situated on a plateau area cut into the face of the Sandgate escarpment. It is surrounded to the south east and west by residential development displaying a wide variety of age, density, and style, whilst to the north of the site on this escarpment top the land is occupied by the army for operational purposes. The north east and north western escarpment slopes are wooded and form part of the natural back drop to Sandgate. The site has been occupied residentially since at least the beginning of the 19th century, however subterranean geotechnical conditions have led to the structural failure and/or the collapse of previous dwellings on the site. The land is now vacant following the recent demolition of the house built on the site during the early part of the 20th century. The site is irregularly shaped but includes the plateau area revealed by recent demolition work, the majority of the scarp face to the north of the former building, and part of the former gardens to the west. The site area extends in total to approximately 1.5 hectares.

1.2 Access to the site is achieved via the adopted highway known as Encombe to Sandgate Esplanade. The road serves some 20 private dwelling houses in addition to the appeal site, the majority of which have been constructed on land formerly forming part of the curtilage of Encombe house following zoning of the land for residential development in the Kent Development plan.

1.3 The geological conditions evident within the site have led to a series of alternative development options being explored since the early 1960s to obtain a scheme on the site which would be viable in order to enable the land to be stabilized and the subterranean drainage problems to be resolved. The following planning permissions have been granted:

- |             |  |
|-------------|--|
| CH/3/63/7   | outline conversion of house to form 5 dwellings with garages.<br>Approved 16.1.63          |
| CH/3/63/311 | change of use to private coaching establishment for further education.<br>Approved 15.1.64 |
| CH/3/64/227 | erection of two steel framed class-rooms<br>Approved 19.8.64                               |
| CH/3/69/10  | conversion into 8 self contained flats and erection of 11 carports.<br>Approved 5.5.69     |
| CH/3/69/29A | conversion of garage block into 1 dwelling.<br>Approved 12.10.70                           |

SH/76/1066 change of use to guest house/hotel.  
Approved 24.1.77

SH/77/1163 change of use to residential and Retreat Centre.  
Approved 15.3.78

- 1.4. In January 1987, the appellant initiated discussions with the Deputy Planning Officer of the Shepway District Council to investigate the feasibility of the site, and to obtain advice on the Council's likely attitude to the nature, height and density of the development which would find favour. Three sketch alternatives were put forward, the Controller of Technical and Planning Services confirmed by letter dated 16 April 1987 that there were difficulties in developing the site, and that some form of compromise solution would need to be adopted. Consequently, the District Council advised that the erection of 32 units within 4 floors of accommodation provided :

*"the best prospects".*

(see letters dated 26 January and 16 April 1987). On the basis of that advice, the appellant proceeded to acquire an interest in the site, has initiated considerable geotechnical investigative surveys, and submitted the planning application the subject of this appeal.

- 1.5 In the interim however, local land values had become enhanced to the extent that the scheme became feasible at a lower density, therefore in view of the known geotechnical difficulties the number of units proposed was limited to 22 flats to be erected within two 4 storey blocks and one 3 storey block. The illustrative plan submitted to accompany the application demonstrated that the development could take place within the areas recommended by the appellant's geotechnical consultants, that the development could be accommodated on the site whilst retaining the existing protected trees, and that the necessary parking and turning areas could be accommodated in compliance with council standards. The application was accompanied by an initial feasibility report prepared by the appellant's geotechnical consultants and which concluded that the existing level area is likely to prove suitable for development. The Council were advised that further detailed investigation work specific to eventual development proposals would be put in hand forthwith. These have been completed at the time of preparing this evidence, and a copy of the consultants report will be forwarded in due course.
- 1.6 Correspondance during the processing of the application by the Council was limited to discussions regarding the demolition works proposed to Encombe House, and the consequential effects on some trees within the site. The appellant was not advised of any reservations the Council felt regarding the proposal, nor did the Council invite the submission of further feasibility studies regarding the geotechnical difficulties on the site. Planning permission was refused by members of the Council's Planning and Development Committee at the meeting on 6 April 1988, for the reasons set out in the decision notice reference SH/88/172.



2. STRATEGIC AND LOCAL PLANNING FRAMEWORK

2.1 The strategic planning framework is set by the approved Kent Structure Plan (1983) which is currently under review with an examination in public into proposed alterations due during the summer of 1988.

Policy HD1 of the review makes provision for 5,300 new dwellings in the Folkestone Hythe area over the period 1986 - 2001, amplified within Policy HD2 which places an increasing emphasis on the use of land and buildings within the confines of existing built-up areas, including derelict land and changes of use to housing, and the use of "windfall" sites such as redundant institutional land, compatible with an attractive urban environment. Policy HD2 further provides that achievement of the targets of Policy HD1 will not constitute a reason for preventing further development of the types outlined above within existing built-up areas.

2.2 The local planning framework is set by the non statutory Folkestone Hythe Local Plan (first alterations) which has been adopted by Shepway District Council for development purposes on the 22 January 1986. The area of Sandgate which contains the appeal site is subject to a specific inset map which demonstrates that no specific planning policies relate to the appeal site, with the exception that the landscape significance of the steeply sloping scarp face behind the site is recognized. The policies referred to in the report to the Council's Planning and Development Committee are:

- a) Policy H14 which identifies an area of low density residential development whose boundary lies 150 metres west of the appeal site,
- b) Policy R3 (landscape) which refers to the Sandgate/Seabrook escarpment. It states that the wooded hill slopes to the north of Sandgate and Seabrook provide a wooded skyline behind the built-up area. These areas are considered to have significant local landscape importance and The Council will seek to protect them, giving priority normally to their landscape value over other planning considerations.

3. GENERAL PRESUMPTION IN FAVOUR OF DEVELOPMENT

- 3.1 In recent years Government circulars have increasingly emphasised the presumption in favour of development. For example DOE Circular 14/85 states that:

*"The planning system...fails in its function whenever it prevents, inhibits or delays development which could reasonably have been permitted. There is therefore always a presumption in favour of allowing applications for development, having regard to all material considerations, unless that development would cause demonstrable harm to interests of acknowledged importance". (Para 3)*

- 3.2 DOE Circular 14/85 further states that:

*"It is established principle of planning law that the developer is entitled to his permission unless there are sound, relevant and clear cut reasons for refusals...nor is the developer required to prove the case for the development he proposes to carry out. If the planning authority consider it necessary to refuse permission an onus is on them to demonstrate clearly why the development cannot be permitted and the reasons must be precise, specific and relevant to the application". (Para 3.4)*



#### 4. PRINCIPAL ISSUE : VISUAL EFFECTS.

##### 4.1 Landscape:

As identified in paragraph 1 above, the site adjoins but does not intrude into an area identified in the Folkestone and Hythe Local Plan first alteration document as of local landscape importance. The whole scarp face, where it retains its wooded appearance, is of visual significance as a back drop to Sandgate, however the escarpment face displays considerable folding along its length which leads to some areas being almost entirely obscured from broader public view. A photographic survey is being carried out to demonstrate that the proposed development nestles within such a fold, and is effectively masked from public view for all but an extremely short section of Encombe itself by the wings of the hillsides to east and west. Albeit that the development is one of three and four storeys in height, it will not intrude above the skyline feature (specifically referred to in Policy R3) and does not impinge upon the general setting of Sandgate.

It must therefore be concluded that the landscape issue identified by the Council as of relevance to the refusal of planning permission will not be prejudiced by the appeal proposal.

##### 4.2 Character of the area:

The organic growth of Sandgate over the period since it first became established has led to a considerable mixture of variety and styles of development characterising the particular visual interest of the village. The Council has further identified a small area within which it considers a particular character to prevail, i.e. that of larger houses set in substantial grounds, which is clearly demarcated within the plan attached to the Folkestone and Hythe Local Plan First alterations document. The site and surroundings of Encombe are correctly omitted from that designation, as they display no such distinctive characteristics. The residential cul-de-sac known as Encombe was developed by a mixture of houses and bungalows during the 1960s within the former landscape setting of Encombe House itself. Land to the west of Encombe remains undeveloped, where as land to the east has been developed by housing at extremely high densities together with mixed commercial, retail, sheltered housing, and other developments. The appeal proposal must therefore be judged on its merits as a development for this particular site, bearing in mind its impact on the neighbouring dwellings, its impact on the landscape, its visual appearance, and any other relevant planning factors. The appeal proposal will not prejudice the character of the area in the broadest sense for the reasons set out in 4.1. and will not represent an intrusion into the visual appearance of Encombe in view of the prevailing contours and landscape features which will effectively mask it from view from all but one or two of the nearby dwellings. Of these, No 18 Encombe has been granted planning permission by the District Council to erect a bungalow within its side curtilage, and No 19 is suffering from structural failure which may necessitate its demolition. The nature of the development itself will not be "read" in the context of the surrounding development, but will be envisaged as an isolated site on its own and only within its boundaries. It cannot therefore be argued to constitute an unduly prominent and intrusive development.

#### 4.3 Design;

The design of the building blocks themselves has not been discussed with the local planning authority nor is any reference made to that issue in the grounds for refusal. It must therefore be common ground that buildings of an acceptable design may successfully be developed on this site.



5. PRINCIPAL ISSUE : ACCESS.

Preliminary discussions with The Council Highway Engineers indicated that no objection on access grounds could be made to the proposal in view of the status of Encombe as a public highway, and the compliance of the junction with highway design requirements. No ground of refusal is put forward by the District Council on this issue, therefore it is assumed that the proposed layout, parking provision, and access arrangements are acceptable to the District Council.

6. PRINCIPAL ISSUE : STRUCTURAL STABILITY.

- 6.1 The appellant is familiar with the geotechnical problems associated with the site, and has gone to considerable lengths to ensure that he has obtained the best professional technical advice at every stage in the progressing of development of this site. Early meetings were held with the Council's own Building Control officers and Structural engineer, and preliminary appraisals were done by the appellant's geotechnical consultants, A.G. WEEKS and Partners. Not only are the consultants highly qualified in the field, but extremely experienced in the particular problems associated with the Sandgate landslip area.
- 6.2 The preliminary appraisal dated November 1987 confirmed the basic constraints within the site for development purposes, and recommended that further investigation work specific to eventual development proposals ought to be carried out at a later stage. The geotechnical investigation recommended in paragraph 4.6 of the report has recently been completed, details of which will be available by the end of April 1988.
- 6.3 The Council's normal practice in such situations is to impose what is locally referred to as the "Latch Gate" condition, which is designed to ensure that in areas of known or suspected structural instability, developers are required to obtain specialist advice and particular foundation designs to deal with any local structural problems which might arise. This condition is imposed in duplication of powers available under the building regulations, and is therefore of questionable planning relevance. Nevertheless, in view of the particular difficulties within the landslip area it is generally accepted that the "Latch Gate" requirements are reasonable (if legally questionable) as a condition attached to a planning permission.
- 6.4 The Council's Building Control section has not advised that the site is so structurally unstable that it is undevelopable, nor has the advice of the Council's own structural Consultants (Mr R. Smith-Osborne of Sir William Halcrow and Partners) been consulted on the proposal. The officers report to members of the Planning and Development Committee confirms that the land stability issue could be dealt with via the normal "Latch Gate" condition.
- 6.5 Despite the considerable technical evidence to the contrary, the Council nevertheless decided that permission ought to be refused also on the grounds that it was not satisfied from the details submitted that the site can be satisfactorily developed in the manner proposed without risk to the stability of the site and surrounding properties. This reservation was not expressed to the appellant at any time prior to the making of the decision, had it been, then a deferment would have been requested in order to allow the current detailed structural investigation to be completed and the report available to the Council. It appears that the Council's only basis for the imposition of this ground of refusal was "information sheet" circulated by a Mrs Lynda René-Martin whose qualifications in this area are unknown.



6.6 It is therefore concluded that:

- (a) the structural stability of the land is not a planning matter relevant to the determination of the planning application, but in view of the local conditions prevailing the appellant would not object to the imposition of the Council's "Latch Gate" condition in this instance.
- (b) There is no reason to believe that the site cannot be developed in the manner proposed in view of the geotechnical feasibility studies which have already been carried out by the appellant's consulting geotechnical engineers.
- (c) Ground 2 is incorrectly imposed.

7. PRINCIPAL ISSUE : HOUSING PROVISION

7.1 DOE Circular 15/84 states that:

*"In meeting requirements for new housing , full and effective use must be made of land within existing urban areas. Authorities should ensure that full use is made of the practical opportunities arising from conversion, improvement and redevelopment, the bringing into use of neglected, unused or derelict land including.....sites suitable for small scale housing schemes". (Para 4)*

- 7.2 The Local Plan is under review in order to meet the targets of the Kent Structure Plan Review Document. No issue of principle is raised by the development proposed, in that the Council have accepted that residential development of the site is appropriate, and that the conversion of the former house into flats would not be inappropriate. The structure Plan emphasizes the reliance on opportunity sites, i.e. sites within the current built framework of Folkestone/Hythe which become available for housing development due to changed circumstances. The Council had previously acknowledged that the particular difficulties of this site would justify flexibility in approach both from the structural and planning points of view.
- 7.3 The site would provide an opportunity to create a high quality residential scheme, stabilize a difficult site, and tidy up an area which has been noted for its dereliction for a considerable period of time.



# Protesters claim victory as flats rejected

CHEERS rolled around the Civic Centre as two controversial planning applications were rejected.

Folkestone and Sandgate residents rejoiced as plans to build 42 flats in Encombe and to earmark Shepway Close for residential development were thrown out by the council on Tuesday.

The Encombe application, which proposed the building of a crescent-shape block of 42 flats and associated parking on the former site of Encombe house, had attracted many objections due to its positioning on a poten-

tial landslip site. The stability of the slopes was called into question by speakers councillor Joy MacMillan and Sandgate parish councillor Michael Lyons.

Cllr MacMillan, who also presented a 350-signature petition against the application to the council, said: "You cannot engineer the forces of nature. You are putting 42 flats on a geological fault line."

Despite warnings from the council officers that construction would probably stabilise the site, and the council may incur costs if reasons for refusal were thought by the

developers to be unreasonable, the committee voted seven to five with one abstention for rejection.

The plan was rejected on the grounds that it would adversely affect the amenity of the residents, through traffic, and the surrounding landscaping and it was out of character.

Members also discussed the plans for the Shepway Close and ruled that plans to turn it into a residential area were contrary to the Local Plan, as well as potentially putting strain on traffic, medical and educational services in the area.

24.03.2005

(19a)



# The Planning Inspectorate

3/15 Eagle Wing  
Temple Quay House  
2 The Square  
Temple Quay  
Bristol BS1 6PN  
<http://www.planning-inspectorate.gov.uk>

Direct Line 0117-3728731  
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GTN 1371-8731

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Mrs L Rene-Martin  
The Sandgate Society  
Coast Cottage  
149 Sandgate High St  
Sandgate  
Kent  
CT20 3DA

Your Ref:

Our Ref: APP/L2250/A/05/1180693

Date: 19 July 2005

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Dear Madam

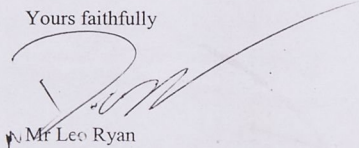
**TOWN & COUNTRY PLANNING ACT 1990**  
**APPEAL BY LEON WAYNE DFM TRUSTEES LTD**  
**SITE AT SITE OF FORMER ENCOMBE HOUSE, ENCOMBE, SANDGATE, FOLKESTONE, KENT,**  
**CT20 3DE**

Thank you for your letter. Your comments will be considered before the appeal decision is issued.

The deadline for submission of correspondence from interested parties is 20 July 2005. Any documents or correspondence submitted after that date will not be accepted and will be returned to the sender as late representation and therefore out of time.

The LPA will notify you of the time and date of the hearing.

Yours faithfully



Mr Leo Ryan

210J



This information is circulated with the approval of Sandgate Councillors: Messrs: J.Fulford, E.Hamer and P.Ovenden and has been compiled by Mrs L.Rene-Martin, a long-time resident.

ENCOMBE ESTATE, SANDGATE:(Re SH/68/1072)

Ministry of Technology Building Research Station (EN/35/65) A Survey of the Coastal Landslides of Kent by Professor J.N.Hutchinson, documents the age-old instability along this stretch of coast. In January 1970, a further six landslips were reported between Hythe and Dover. In Sandgate the geological instability has been considerably aggravated by development of the former Encombe Estate which, in 1966, destabilised a wide area. These results were, as residents warned, entirely predictable.

This Summary of events and Fact Sheet attached (p.3-7), is for the benefit of Local Councillors and Council Officers who may be of too recent origin to appreciate the full background to this highly unstable area. It is also for the benefit of those whose memories may be short, or who are unaware of the devastating and costly impact of development upon neighbouring private and public property, for the past 20 years over a wide area of Sandgate:

SUMMARY:

1. Sandgate lies between the devil and the deep -- earth movement and water percolation from the north, coast erosion on the south
2. Two landslips were recorded in the 19th century. The first in 1827 affected an area 500 yards east of Encombe House. The second in 1893 extended as far as Hospital Hill to the west, damaging 200 houses in and around the village.
3. This notorious landslide area was zoned for residential development in the Kent Development Plan (confirmed 1958). The former Folkestone Borough Council ignored their duty and offered no comment prior to its inclusion. In 1962, however, consent to build flats was refused (Note 11)
4. Extensive development on the Encombe Estate in the early 1960's<sup>p.4</sup> wrecked the 1893/94 land-drain laid under the supervision of the Sandgate UDC and which had provided stability for 70 years. The developers also destroyed the Encombe Water Gardens (see O/S maps) an effective way of channelling off springs and surface water from the area. The Sandgate Laundry (site of Car Park) utilised 100,000 gallons of this water a week.
5. Consequent upon development, ground movement was reported in 1966 over a wide area, accompanied by cracking up of residential property and frequent breakdown in main services: gas, water, electricity and telephone cables.
6. Despite the threat to public property also, Folkestone Council turned their back on the whole situation.
7. In 1967, under pressure from residents, and following the findings of the Aberfan Tribunal, the Council called on Halcrows who recommended two test borings on the hillside, only. These were carried out in 1968.
8. In 1970, the Ministry of Housing and Local Govt. agreed to contribute to a Coast Protection Scheme. For reasons shown on p.6 nothing was done.
9. Shepway Council inherited a rapidly deteriorating situation. Finally, in 1978, Halcrows carried out a well-point scheme to intercept the water. This, on their own admission in 1986, proved ineffectual. The downhill flow of water today (1988) is as bad or worse than twenty years ago. (See p.6)

10. The 1986 Halcrow Report recommended trial borings over a six month period in the rainy season, September to March. Three out of five boreholes were not ready for readings until mid-January 1988. 'A complete set of wet season's readings are required before detailed design [of dowelling] can be undertaken'. (p.7)
11. Conclusion: There is no guaranteed method of stabilisation. (Proposed 'Dowelling' solution may control future rotational movement along the major slip-curve, but will not necessarily prevent -- and may even enhance -- local ground movements nearer the surface. This pattern of local movement is clearly visible over the area of the 1893 landslide. The continued flow of water down the hillside, both rain and springs, will continue to cause wash-out of large quantities of silt, and provoke subsidence beneath roadways, seawall and property, generally. New development high on the hillside will be equally at risk.

#### DAMAGE TO PROPERTY SINCE 1966

- a. Weakening of sea defences, water forcing its way under seawall, wash-out of silt, subsidence
- b. Trunk road subsidence and buckling, also Encombe driveway (adopted) and side roads. Under constant repair and patching up
- c. Cracking of house and garden walls in Wilberforce Road, Prospect Rd. Sunnyside, Coastguard terrace, Glosster Terrace, Encombe driveway and former Encombe House itself.
- d. Rodney Court demolished 1969
- e. Four houses, 156-162 Sandgate High St (incl Hillside villas rebuilt 1896 after 1893 collapse) demolished 1972. Now site of Wilberforce Green.
- f. 37 garages on Wilberforce car park site ruined, later demolished
- g. No.19 Encombe (built 1966) in a very bad state
- h. Encombe terrace subsidence
- i. Leaning houses on Esplanade
- j. Earth fall beside Serena Cottage, Esplanade (1987)
- k. Wellington Terrace improvement grant refused (1969) because of 'engineering considerations'.
- l. Holmvale House, subsidence of balconies on seaward side (1988)
- m. Costly repairs to house foundations. Mortgages refused to intending property purchasers
- n. Eighty recorded incidents of fractured gas and water mains and interruption of telephone and electricity services between 1966 and 1972. Latest sheared water mains in Wilberforce Road, Jan 1988 and next to Request stop in High St, March 1988
- o. Recorded land movement, post-war: Coastguard 3 m. seaward)  
Encombe 2 m. seaward) O/S



## BACKGROUND TO ENCOMBE DEVELOPMENT

### DO YOU KNOW THAT:

1. In 1827, a landslip 500 yards long extended from Encombe House eastwards to the Church. There may well have been earlier landslips of which we have no record.
2. In 1884, a newspaper account of a garden fete held in the beautiful grounds of Encombe, describes the leaning and subsiding state of the uninhabited house: 'Great cracks appear in the walls, the windows are assuming a diamond shape, and the pretty pavement in front of the house has opened up considerably in places... There are many pretty little ponds about the estate for unfortunately the soil is full of springs. We say unfortunately for it is, doubtless, because of the action of water that Encombe is not inhabited...'.  
The Builder (25 March 1893) also notes that 'water in the subsoil has behaved in an erratic manner, springs becoming dry and so forth'.  
Note: There is also a possibility that there may be an underground tributary or tributaries from the Enbrook stream at the eastern end of Sandgate. This may have given rise to the name of 'En Combe'.
3. In 1893, a major slide took place which involved two thirds of the town of Sandgate and damaged 200 houses. It extended about 920 yards along the coast, reached just over 230 yards inland and involved more than 40 acres of land. (in of Technology Building Research Station LN 35/65).
4. Nature (March 1893) ascribed the disaster to the geological formation 'which cannot be altered by human agency' and to the 'excessive rainfall and the numerous springs that may be seen along the upper limit of the disturbed area... The liability may be reduced to a minimum by a suitable system of land drainage which shall prevent the access of so large a body of water to so dangerous an area'.  
The Builder (25 March 1893) also notes that 'water in the subsoil has behaved in an erratic manner, springs becoming dry and so forth'.  
Note: There is also a possibility that there may be an underground tributary or tributaries from the Enbrook stream at the eastern end of Sandgate. This may have given rise to the name of 'En Combe'.
5. In 1893/94, a 4000 ft long land-drain with five collection points and outfalls to the sea, was laid from Encombe westwards, under the supervision of Baldwin Latham, Engineer to the Sandgate Local Board of Health. The Board had exceeded its borrowing powers and, following legal opinion, the works were funded by consensus, out of the Lord Mayor's Disaster Fund.

This land-drain helped to stabilise the area for many decades. Both the Folkestone Council Planning Consent 1962 and the Halcrow Report 1967 ignored its existence.

6. In 1925, Encombe House which had been rebuilt in 1912, was entirely remodelled and transformed into a Mediterranean style villa, with beautiful paved courtyard, well and gardens. In particular, the Water Gardens (see O/S maps) were designed with a series of descending ornamental pools and falls, to channel off surface and spring water. In the 1930's on, the Sandgate Laundry (formerly on site of present Wilberforce car park) drew off 100,000 gallons of water a week, by arrangement with the Encombe owner, until the laundry was burnt down.
7. In 1950, a small cliff fall occurred at the eastern end of Encombe -- said to be caused by surface water discharge from Camp drains above (Halcrow to Abbey National, 1959)
8. In 1951, cracks appeared in Encombe House and terrace walls. In April, existing ½" wide cracks at front of house opened to 1½" wide. Loggia underpinned with 37 ft concrete piles and roof repaired including 2" closing pack at ridge. (Halcrows to Abbey National, 1959)

9. In Feb 1958, the Folkestone and District Water Company overhauled the high-level reservoir on the N.W. height above Encombe (see O/S maps) which since its installation after World War 1 had encountered problems. The following November 1958, however, a serious landslide took place in the cliff face above Encombe. The middle of the reservoir collapsed, causing cracks to open in the floor and walls. The reservoir was abandoned. About the same time, new buildings and a swimming pool at Shorncliffe Camp showed signs of cracking.
10. In 1959, the Abbey National bought Encombe for a staff holiday home, without a survey. Muir Wood of Halcrows told the Chairman he would not only need an umbrella but galoshes as well!

NOTWITHSTANDING the liability to earth movement, flooding and subsidence the Folkestone Borough Council, in an unprecedented act of land-greed and folly, failed to draw attention to the unsuitability of the area and assented to the residential zoning of this area in the Kent Development Plan, <sup>(1958)</sup> without comment or murmur.

This failure in their duty, carried serious consequences for long-established private and public property and utilities, over a very wide area, besides imposing heavy, ongoing costs to the ratepayer and taxpayer, (Summary of damage, p.2) as will be shown:

11. In April 1962, Town Planning Committee (Folkestone Council) visits Encombe. April 16: Resolved that application for 30 houses and 49 flats in three blocks, and 10 detached bungalows be refused as proposals would a) spoil a unique site by changing its character completely and tend to prejudice stability of site and b) type of houses proposed to be created is unsuited to this setting.  
2 Applicants be informed that before any permission is given to develop site, the Corporation will require to be furnished with a report by soil mechanics specialists as to what steps, if any, are necessary to ensure the stability of any development which may be undertaken on this and adjoining sites and that subject to the furnishing of a report, the Corporation would be willing to consider alternative development which could be undertaken without substantially altering the ground levels and so that the majority of the trees could be retained, the development preferably being in small units carefully sited.
12. Despite these stipulations, the whole pattern of natural and artificial land drainage was totally disrupted. Hundreds of tons of earth were shifted around the and the contours of the land were entirely altered. Many fine and mature trees which had bonded the earth and absorbed water, were hacked down in disregard of Tree Preservation orders. Most damaging, the old land-drain system which had provided Sandgate with a measure of stability for 70 years, was doubtless ripped up during bulldozing operations; the ornamental Water Gardens specifically designed to channel off surface and spring water, were totally destroyed. Today, 1988 this water flows unabated down the hillside behind Wilberforce Car Park, and another stream issues at the rear of Wilberforce Green, floods the ground and undermines public and private property.
13. December 1966: Residents report tremors and cracking up of property at main road level. Cracks apparent on Coastguard terrace, side walls of 162 Sandgate High St and elsewhere; broken gas main outside No.156 Borough Engineer for Folkestone BC issues disclaimer, front page Folkestone Herald "... responsibility of the respective owners to take any necessary action, as no danger to the public".



14. In April 1967, Mrs René-Martin writes to Albert Costain, MP, to advise him of the situation in Sandgate: 'The local council have permitted considerable development on the Encombe Estate, and the cutting down of trees on land where there is a known history of landslip and inadequate drainage facilities... roads and pavements have been dug up 8 times since Christmas in order to repair fractured mains and cables...'. MP agrees to accompany her on site visit; notes springs issuing from hillside in area of 'the tip'.
15. 28 May 1969, Mrs René-Martin shows Borough Engineer (Mr T.G.Greening) the streams and quagmire behind Wilberforce Garages (later demolished) in particular the remains of the Encombe Water Gardens, an ornamental and highly effective way of channelling off surface and spring water. This was entirely wrecked by the developers, a consortium of six of the major builders in Folkestone.
16. October 1969, Folkestone Council adopts 1400 ft of roads through Encombe. These have had to undergo constant repair -- see roller-coaster effect today, and fissures in tarmac.
17. In July 1970 Encombe House and grounds (2 acres 30 perches) was offered for auction with detailed consent (5 May 1969) for the conversion of Encombe House into 8 self-contained flats and the erection of 11 car ports subject to stringent conditions. These included the demolition of the servant's quarters to the west which were badly cracked, and on which the car port was to be erected. Later, the main building cracked so badly and the front paving sank 2 feet, that, if a fire in 1978 had not totally destroyed it, it would have had to be demolished anyway.

#### UPHILL STRUGGLE AGAINST A DOWNHILL FLOW

In 1967, following the findings of the Aberfan Tribunal, Folkestone Council no longer dared to turn their backs on the Encombe situation. Under continued pressure from residents, led by Mr Arthur Gadd, Hon. Solicitor to the Sandgate Society (later President, Kent Federation of Lawyers) Mr A.Todd of Encombe and Mrs L.René-Martin on the Coastguard Terrace the Council called on Halcrows to advise.

In October 1967, Halcrows admitted that 'recent movements in Wilberforce Road and Sandgate High St. clearly indicate that parts of the ground are in a delicate state of equilibrium, and that earthworks carried out by the developers could have given rise to ground displacements and to disturbance which occurred at the Coastguard cottages, but this could not be satisfactorily proved or disproved'. Their report concluded that 'ground movements in the Sandgate area are likely to continue into the future. Some improvement could be achieved by the construction of a drainage scheme designed to intercept and collect water flowing from the cliff face. A limited site investigation consisting of two test borings only, on the hillside was recommended.

In August 1968, work began. In the course of drilling operations, Mrs L.René-Martin sent a telegram to the Mayor 'urgently requesting a third test boring on public property, as close to toe of slip as possible'. This surely, is normal procedure, unless Folkestone Council had imposed a limited brief, in an attempt to confine the matter to the private sector only, despite the far greater amount of public property at risk -- a matter that in 1988 is at last being recognised. No 1. borehole has since been built over, and No 2 and No 3 (beside John Moore statue) became useless.

In April 1970, the Ministry of Housing and Local Govt. following an inspection of the area, were prepared to consider a Coast Protection

Scheme. They wrote 'Additionally they [the Council] may also wish to consider methods such as beach feeding to maintain the foreshore in the vicinity of Encombe Estate, 4-5ft above the tops of the piles in order to increase the factor of safety against the slip'.

In August 1977, Mr Greening wrote: 'Halcrows have consistently advised that the high cost of beach feeding is out of proportion to the marginal benefit of additional stability it would provide'. Nonetheless, the Halcrow 1986 Report shows beach feeding to be the cheapest of three stabilisation methods.' See p.5: '... if the beach were increased and maintained at its 1871 levels, the landslip movement would reduce to a fraction of its present rate and this might be an acceptable solution'.

Shepway Council inherited a rapidly deteriorating situation.

In 1978 Halcrows were therefore asked to carry out a well-point scheme.

In 1979 Shepway DC wrote 'The Encombe Drainage Scheme has recently been completed and this should reduce the flow of water running down the hill'.

On the contrary, the 1986 Halcrow Report admits that the rate of movement of the landslip was reduced only marginally. 'Much larger quantities of rainfall are entering the landslip than those intercepted by the well-points -- a substantial inflow of water [may be] entering from other locations unknown'.

Halcrows, in an attempt to excuse a 7-year delay and then the failure of their scheme of limited drainage, have cast an unwarranted slur on Encombe residents and their refusal to contribute to costs. (Report p.1)

The onus must lie entirely with the former Folkestone Council who firstly, misrepresented the facts of the case to the Ministry and then misquoted its reply. At no time did the Ministry say, (as quoted) that 'it was reasonable for residents to contribute to the cost'. In any case the Council made no attempt to even formulate a scheme.

Conclusion: There is no guaranteed method of stabilisation. The proposed 'dowelling' operation may control future rotational movement along the major slip-curve, but will not necessarily prevent -- indeed may even enhance -- local ground movements nearer the surface. This pattern of local movement is clearly visible over the area of the 1893 landslip. The continued flow of water down the hillside, both rain and springs, will continue to cause wash-out of large quantities of silt, and provoke subsidence beneath roadways, seawall and property generally. New development on the hillside will be equally at risk.

#### A WARNING

It is to be hoped that Shepway Council will heed the lessons of the past, and that very careful limitations be placed on future development of the Encombe House site and grounds.

There is, without a doubt, a much older slip-line to the north of the demolished house, which has never been fully investigated. (A.G. Weekes, Geo-technical engineers, confirm this). The 1883 Encombe sale brochure also points to the existence of many springs, ponds and a lake about the grounds. The present well-point system has generally failed to intercept these.



A WARNING (cont)

Trees: As a result of the recent hurricane, there has been a terrible massacre of trees, especially on the steep cliff-face. It is surely the responsibility of the landowner to conserve the hillside, maintain healthy trees and shrubs, and replant new ones. This must be included in the planning stipulations.

Stabilisation: Halcrow 1986 proposals for stabilising the area carry no guarantee, and will need at least a decade to prove their worth. Halcrow's efforts to date, to intercept the flow of water (one major cause of movement) have on their own admission been ineffectual. The unceasing flow of water from the hillside will continue to cause wash-out of considerable quantities of fine silt with inevitable subsidence and cracking-up, and this should be tackled first.

Tidal infiltration may have a far greater effect than rainwater infiltration. The gault at the toe of the slip acts like a sponge. It not only exudes water under pressure, but absorbs great quantities of water at high tide. With the enormous drop in beach levels since the 1930's, depth of water at high tide is greater than ever, and can only increase the water table for a considerable distance inland.

Land Drainage on Cheriton (Chunnel) Site: may also have a profound effect. Giving evidence before the Select Committee, Mrs René-Martin warned: 'Earth movement is thought to be associated with changes in beach levels, with surface water flows and, chiefly, with subsoil water whose courses are unknown but which may have their origin in the hills to the north. Indeed, this area of Kent is well-known for its streams and wells which suddenly dry up, then reappear .... Those works could disrupt the natural, seaward flow of spring water (eleven major springs on Cheriton site due north of Encombe) and within a few years, considerable drying-out and subsidence could occur'. In planning future building on the Encombe site, this new factor cannot be ignored.

In view of the deteriorating conditions since the 1969 Encombe House planning consent, the Council should act even more warily. It should also be understood that Halcrows are retained by the Council and therefore their opinions will be suitably hedged in favour of the prevailing policy. Likewise, the developer's geotechnical consultant will seek to show 'as far as practicable' that there will be no adverse consequences directly attributable to building operations. But even if new buildings were to remain stable, there can be no guarantee that the surrounding areas would not be affected. Local residents personally, and the ratepayer and taxpayer generally, have paid dearly for the errors of the past.

LATCHGATE CONDITIONS ARE, OF COURSE, A PRECAUTION BUT THE EFFECTS OF 'NON-NATURAL CAUSES' CAN NEVER BE PROVED BEYOND DOUBT. THOSE WHO SUFFER, AS THEY HAVE SINCE 1966, WILL HAVE NO RECOURSE UNLESS CONSULTANTS BACK THEIR ADVICE WITH INDEMNITIES. OPINIONS ALONE CARRY NO GUARANTEES. LOCAL RESIDENTS, THEREFORE, HAVE NO ALTERNATIVE BUT TO HOLD SHEPWAY DISTRICT COUNCIL LIABLE FOR ANY FURTHER DAMAGE TO PROPERTY CONSEQUENT UPON BUILDING OPERATIONS OR OVERLOADING OF THE SITE.

Additional Notes for Sandgate Society:

Folkestone Council acquired land to the west of Encombe House, in order to restrict further development. £8000 compensation to developers ? date

In July 1975, Shepway District Council wrote '... It appears that the well-point scheme may be more favourable than the previously proposed drain scheme.' A. Todd said that this was not 'fool-proof and would need constant supervision.' 1988 Air leak investigated.



1946 O/S map





SHEPWAY DISTRICT COUNCIL

Report Number

**3781**

To:

LOCAL ECONOMY COMMITTEE - 23RD JANUARY 1991

MARKETING STRATEGY

ENVIRONMENTAL IMPROVEMENTS

LOWER SANDGATE ROAD, FOLKESTONE

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- APPENDIX 2 - Day to day maintenance standards and costings
- APPENDIX 3 - Estimated costs of the Plan

## 1.0 REPORT PURPOSE AND SCOPE

- 1.1 This report has been prepared following consideration by Development Control Committee of a planning application for a restaurant in the vicinity of the new Southern Water Services outfall on Lower Sandgate Road. Permission was refused for the development, but the Committee came to the view, through consultations and a visit to the site, that the area requires a higher standard of maintenance and lacks any long term plan for its future management and development. Report 3681 (Local Economy Committee - October 1950) subsequently identified this area as being a priority for improvement and incorporates in it its draft Environmental Improvement Programme for 1991/92.
- 1.2 The purpose of this report is to establish the present condition of the area, make proposals for improved maintenance and improvement, and explore ideas for the future aimed at making the most of the area in relation to its tourist recreational potential.
- 1.3 The conclusions of this report are relevant to Environmental Services and Leisure Services Committees, as the Committee responsible for the management of the land, and the Local Economy Committee, which has wider environmental enhancement and co-ordinating role.

## 2.0 CONTEXT OF AREA

- 2.1 The Lower Sandgate Road must be seen as one of the facilities/attractions of Folkestone as a tourist/visitor resort, and pleasant living environment. It should compliment other facilities and not compete with them.
- 2.2 Folkestone's tourist and recreational features can be listed as follows:-
- (a) Downland walks from the Elham Valley to the Dover boundary where good walking with superb views is available for the energetic.
  - (b) The Warren and its Nature Reserve provides a quiet, wild area for naturalists and those interested in wildlife. It provides camping areas and quiet beaches.
  - (c) The East Hills, open hill top grass landscape provides tennis and golf, cafeteria, walking, and sitting, with views of the Harbour area and the White Cliffs.
  - (d) Sunny Sands. A traditional sandy cove for family bathing close to the town.
  - (e) Harbour and fishing village provides interest to young and old who can spend time watching the boats come and go, and the fishermen's work. Seeing ferries loading and leaving for France provides extra interest and a link to the Continent.
  - (f) Fun Fair. Traditional fun by the sea. Extensive family bathing beach.



- (g) Shopping Centre at Sandgate Road, Rendezvous Street and The Old High Street.
  - (h) The Leas. Formal promenading area with views of the Channel and France on a clear day. Includes entertainment facilities at Leas Cliff Hall and the Bandstand, close to the town centre.
  - (i) Kingsnorth Gardens. Although occupying but a small area, 3.1/4 acres in the centre of the town, the garden was designed with a view to providing a restful retreat for the public and to be the home for as many as possible of the more attractive plants known to the horticulturalist.
- 2.3 The Lower Sandgate Road provides a semi wild landscaped area easily accessible to the town centre and seafronts. It offers opportunities for walking, picnicking, sitting and bathing and is unique in terms of its character and location. It contrasts with the wildness and remoteness of the Warren, the open expanse of the East Cliff and the formality of the Leas. The distinctive qualities of the area should be emphasized and improved within the terms of the covenant "as a quiet, undeveloped area".

### 3.0 BACKGROUND

- 3.1 In 1982: The former Amenities Committee (Report 1992) identified problems of general condition and maintenance relating to four areas, i.e. The Leas Cliff walks, Lower Sandgate Road Marine Walk and cliff slippage, which was a source of concern.

A further report (2066) was submitted to the Committee following consideration by a Working Group. It recommended a programme of improvements over a five year period commencing April 1983, including:-

- a. the improvement of working standards - Appendix 2.
- b. stabilisation of slip area.
- c. path wall and other reinstatement works following stabilisation work.
- d. the Leas Cliff and paths. Repairs to paths, bandstand, new deck chairs, fencing, signs, notice board and shelters.
- e. Land Services & Recreation to provide more mown glades and picnic clearings.
- f. tree and shrub planting to maintain natural look and to provide shelter to setting and picnic areas.
- g. repairs to paths, walls and steps, rebuild short flight of steps.
- h. provide additional shelter.
- i. repair and renew sign posts, redecorate kiosk.
- j. additional picnic areas with seating and litter bins.
- k. Cliff Lift renovation and upgrading.

- 3.3 The following additional work was undertaken over this period:-

- (1) Tree planting within finances available and Countryside Commission Grant when 500 whips were planted in 1989.

- (2) Replanting Zig Zag path and area immediately below the Leas Cliff Hall.
  - (3) Provision of new seats, litter bins and picnic tables.
  - (4) Resurfacing Marine Parade (part)
  - (5) Post installed to prevent vehicular access along Marine Parade.
  - (6) Letting of kiosk to concessionaire on agreement that he reinstates building.
- 3.4 The area covered in this Report comprises land held for three purposes:-
- .1 Lower Sandgate Toll Road, land to the south and most of the foreshore - held for charitable purposes in trust as a public park and pleasure ground, and expressed as a place of enjoyment by the inhabitants of the town of Folkestone and of the neighbourhood in general as a quiet undeveloped open area to be enjoyed primarily by pedestrians and those seeking pleasant and peaceful surrounds.
  - .2 Leas and Cliff - held for municipal purposes for a pleasure ground for the use of the general public.
  - .3 Marine Walk and part foreshore - held for coast protection purposes.

Care will need to be taken in the final scheme to ensure that the interests of the charity land are not prejudiced and the Earl of Radnor will need to be formally consulted on some aspects of report.

#### 4.0 PRESENT CONDITION

- 4.1 The impression given to the visitor who wanders into the area is that it is rather remote, and lacking a high standard of care. One exception being the beach huts which are now leased to an operator and are smartly painted and maintained. Access for the pedestrian is poor and paths from the Leas are not adequately sign posted. They are in poor repair, steps are uneven and hand rails broken and some paths have had to be closed because of cliff movement. From the Fun Fair end there is no indication that there is anything to see or do here with poorly maintained paths and landscape and nothing to encourage or welcome the visitor.



- (9) Southern Water Authority - outfall work which has disfigured the area and vehicle movement has not been conducive in encouraging public usage.

(10) Coast Protection Works

Works activity - vehicle movement has not been conducive to encouraging public usage.

5.0 ACTION PLAN

5.1 REPAIRING THE EXISTING

The immediate and urgent need is for repair of what exists. This should include clearing fallen trees and thinning out crowded areas, phased to ensure stability of cliff face, the repair of footpaths and steps, replacement of litter bins and the increase in litter patrols; repair of picnic tables and repair of seats, repair of fences and handrails in rustic style, repair of buildings or replacement with more attractive designs. It is suggested that the following works be carried out in the next three financial years 1991/94.

- 4.2 Apart from the grant aided tree planting referred to above, the cliff has not been repaired since the 1987 and later storms have ravaged the older trees. Trees remain fallen and in some cases propped up by other trees, and felling has only been undertaken adjacent to direct public access paths. Sycamore is predominant in many areas and views from the Leas are obscured. There are few seats for visitors and picnickers. Litter bins require addition and renewal and more regular emptying. Fences and hand rails require repair, some have been temporarily repaired with Chestnut paling for safety reasons. Picnic tables have been vandalised. Access to the promenade is obscure and poor access to the beach is restricted to the agile as steps are few and far between. The promenade at the Western end is covered in shingle over damaged tarmac making it difficult to walk.
- 4.3 A detailed analysis of the present condition of the area is set out in Appendix 1.
- 4.4 From the above, it is clear that the area is not fulfilling the potential outlined in paragraph 2.3 as a valuable recreational open space and tourism facility and in the terms of the covenant "as a place of enjoyment by the inhabitants of Folkestone and neighbourhood in general as a quiet open area to be enjoyed primarily by pedestrians and those seeking pleasant and peaceful surroundings".
- 4.5 The following factors have contributed to the present situation:-
- (1) Financial Restraints - Limited availability of finance has reduced the prospects of enhanced maintenance of the area.
  - (2) Re-establishment of plants as part of the Leas improvements has been difficult because of two consecutive dry Summers, vandalism and lack of watering facilities.
  - (3) Storm Damage which has left the area devoid of trees despite a programme of replacements within budgets available and Countryside Commission Grant when 500 Whips were planted.
  - (4) Dead Trees have been left where safe to provide stability to the cliff face until replacements have matured.
  - (5) Shingle on Promenade because of insufficient finance to continually clear.
  - (6) Vandalism this is a continuing problem involving damage to seats, litter bins, car park barriers and in the physical removal of a complete picnic table and removal of newly planted material.
  - (7) Litter - the depositing of litter has increased dramatically in keeping with the present trend of fast food catering and public attitude that somebody else will pick it up.
  - (8) Sunday Market has contributed to the litter problem and increased vehicle usage and damage to grass areas.

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- 5.1.01 Access  
Ensure existing signs, furniture etc is in good condition.
- 5.1.02 Tolls and Barriers  
1. Remove old barriers and toll equipment.  
2. Provide new automatic barriers.
- 5.1.03 Buildings  
1. Repair, re-fit or reduce existing toilet buildings.  
2. Remove existing kiosk and replace with new, possibly mobile kiosks.  
3. Remove existing shelter, make good.  
4. Encourage repair and development of the Mermaid Cafe (to provide restaurant open at night with superb Channel Views).
- 5.1.04 Trees on the Cliff  
1. Remove all fallen or damaged trees on the cliff and other areas and make good.  
2. Remove all dead or dying trees and vandalised new planting or dead new planting.  
3. Replant important losses.  
4. Remove/thin Sycamore.  
5. Instigate a forestry study of the whole area to determine future planting needs.
- 5.1.05 Planting  
Reinforce existing shrub planting where damaged or dying and repair grassed areas.
- 5.1.06 Huts and Shelters  
Remove two collapsed two concrete shelters on the promenade and demolish the ugly shelter on the grassed area.
- 5.1.07 Promenade  
1. Clear shingle and repair promenade at West end.
- 5.1.08 Picnic Tables and Benches  
1. Remove damaged picnic tables, replace with new.  
2. New benches.
- 5.1.09 Fences and Handrails  
Repair all to a good standard in rustic style to match existing.
- 5.1.10 Paths, Steps and Road  
1. Repair all paths and steps, re-lay and re-form where necessary.  
2. Repair or re-lay road as necessary.
- 5.1.11 Litter and Litter Bins  
Renew bins by bins of suitable and large design.

## 5.2 THE NEED FOR DEVELOPING FACILITIES

The second priority should be to improve facilities that exist. This could include tree planting of suitable species, particularly suited to a marine environment, to provide a variety of colour and foliage. Signs to give directions and information about plants, trees and wildlife. More and larger litter bins, more seats and picnic tables, better and increased access points from the Leas, and to the beach. Planting of shrubs and bulbs suited to the marine environment to give colour throughout the Summer and Autumn. More attention to litter picking to ensure clean environment at all times. Toilets require improvement, although the new auto toilets may be a better investment. Some provision, say at two points, ought to be provided. The kiosks could be replaced with more appropriate attractive design, perhaps mobiles to avoid vandalism when unused.

Consideration should be given to the entrance to Lower Sandgate Road to exclude or reduce through traffic and also to the better regulation of parking in association with traffic calming measures such as sleeping policemen. This would be a matter for Environmental Services Committee.

If these measures succeed in re-establishing the area as a popular recreational facility, then further consideration should be given to the redevelopment of the Mermaid Cafe to provide a restaurant and cafe with better access to the road and promenade. With an improved environment, this could be a successful facility. The provision of an information point needs careful examination. These works should be tackled over a 5 year period.

### 5.2.01 Access

1. Improve pedestrian access by signs, information boards, wider paths and an increased number of paths; both to Promenade and to Leas, improve parking facility by marking out preferred parking areas.
2. Instal pedestrian lighting on all paths and promenade, vandal proof type to extend the safe access into the evenings.

### 5.2.02 Tolls and Barriers

1. Provide further information boards of larger more informative, more pictorial and more colourful type, maybe an arch in ironwork over the road with lettering saying, "Lower Sandgate Road Marine Pleasure Gardens", or some similar announcement of the facility.

### 5.2.03 Buildings

1. Encourage the rebuilding and expansion of the existing Mermaid Cafe, provide signage, lighting and car parking.
2. Repair or remove toilet blocks, provide auto toilets at intervals, say 4 number adjacent to road.

5.2.04 Trees

1. Plant new trees to reinforce character and add interest, perhaps an arboretum of marine trees. Scots Pines could be planted. Many suitable varieties are available to provide interest and colour throughout the year.
2. Provide a signed tree walk for tourists, interested in trees in a marine environment.
3. Generally thin out trees on the cliff, particularly at the top to open up views from the Leas which are at present obscured.

5.2.05 Planting

1. Carry out extensive re-planting of shrubs between the road and the promenade.
2. Investigate the idea of a marine shrub/plant collection and put up information boards. The emphasis should be on providing colour throughout the year.
3. Supplement current programme of bulbs for Spring colour in and around the grassed areas.

5.2.06 Huts and Shelters

1. Bathing huts appear well managed, encourage the building of more huts at the Eastern end, say 15 in number.
2. Provide say three shelters on grassed areas and two on the promenade to include three seats each, designed to be vandalproof and attractive.

5.2.07 Promenade and Beaches

1. Further increase step access to the shingle beaches at the Eastern end.

5.2.08 Picnic Facilities

1. Provide more tables and benches if those provided under 5.1.08 are a success.
2. Consider the use of automatic, coin-in-the-slot barbecue facilities.

5.2.09 Fences and Hand Rails

1. Provide more hand rails to steps and cliff paths to improve security for the disabled.

5.2.10 Paths, Roads and Steps

1. Develop nature walks and signposted tours including information boards.
2. Provide pedestrian lighting scheme for all paths and the road.
3. Reconsider closure or restriction of the road at the Tollhouse and provide parking areas at intervals. Narrow the road and construct sleeping policemen.



- 5.2.11 Litter and Litter Bins  
Increase the number of bins dependent on the success of those provided under 5.1.11.

5.3 THE NEED FOR IMPROVED MAINTENANCE

The third priority should be to review and update the current maintenance programme capable of achieving higher levels of care demanded by a prime tourist facility such as this.

- 5.3.01 The current standards of day-to-day maintenance are shown at Appendix 2 and the financial effect of increasing those standards on the lines of 5.3.03 - 5.3.12 are shown at Appendix 3. The additional costs of the higher maintenance should be a significant factor in reducing the need for future major schemes.
- 5.3.02 Access  
Allow for the repair and maintenance of signs at regular intervals. These are particularly vulnerable to vandalism.
- 5.3.03 Tolls and Barriers  
Allow for the maintenance
- 5.3.04 Buildings  
Allow for maintenance of toilets, kiosks and shelters.
- 5.3.05 Trees  
Allow for replacement and surgery at regular intervals.
- 5.3.06 Planting  
Allow for the repair of steps.
- 5.3.07 Promenade and Beach
1. Allow for the repair of steps.
  2. Allow for repair of promenade and clearing of shingle.
  3. Allow for maintenance of lighting.
- 5.3.08 Huts and Shelters
1. Beach huts are leased. There is no maintenance cost for the Council.
  2. Allow for maintenance of Council run shelters.
- 5.3.09 Picnic Tables
1. Allow for the maintenance repair and replacement where necessary.
- 5.3.010 Fences and Hand Rails  
Allow for the maintenance repair and replacement as necessary.
- 5.3.11 Paths and Steps  
Allow for repair of paths and steps.

5.3.12 Litter and Litter Bins

1. Allow for replacement of 25% of bins each year.
2. Arrange daily litter picking and bin emptying during season and twice a week during the Winter. Litter picking must include wooded area, cliff and beach.

5.4 IDEAS FOR THE FUTURE

The Lower Sandgate Road has great potential as both a tourist attraction and a facility for local people. Once repaired and improved, it will take its place as one of Folkestone's unique features and add to the town's attractions as a holiday resort. It is considered that its value is its informal, semi-wild nature and that any development of facilities apart from the reinforcement of existing facilities could damage this special character. The provision of improvements as detailed under 5.2 to provide more information and better facilities is essential.

6.0 CONCLUSIONS

6.1 The area has enormous potential as a tourist attraction and facility for local residents.

6.2 The present condition needs improving, and more financial resources should be directed towards attaining the objectives set out in this Report in a phased manner.

6.3 Priorities

6.3.1 Commence repairs to existing landscape and facilities in 1991/92 phased over three years.

6.3.2 Commence improve and develop landscape and facilities 1991/92 phased over five years.

6.3.3 Enhance maintenance budget for future years to maintain standards achieved.

7.0 RECOMMENDATIONS

7.1 That subject to agreement of both Committees this Report as may be amended form the basis of future maintenance and strategy for the Lower Sandgate Road area.

7.2 That the three year programme of repairs set out in Section 5.1 (estimated cost £187,000.) be agreed in principle and the first year programme (estimated cost £82,000) be included in the Leisure Services and Environmental Services Committees budgets when the financial resources can be found.

7.3 That the five year programme of improvements set out in Section 5.2 (estimated cost £248,000) be agreed and the first years programme (estimated cost £14,000) be included in the Local Economy Committee budget when the resources can be found.

- 7.4 That the increased maintenance standards set out in 5.3 (estimated cost £26,000.p.a.) be agreed and included in the Leisure Services and Environmental Services Committees budgets when the financial resources can be found.
- 7.5 That a further report updating the situation and if necessary, revising the strategy and programme be submitted to the three Committees in October/November 1991.



## APPENDIX I

### Analysis of Present Condition

- .01 Access  
Access is poor and not obvious, and generally inadequate from the Leas for all but the determined and agile. There are few signs to direct people. At the lower level, tolls are unwelcoming and paths run down. There is little to encourage access. There is no information of value provided. Access from the promenade to Sandgate Road and from Sandgate Road to the promenade is poor, limited and unsignposted except at eastern end. Access from the promenade to the beach is inadequate, resulting in very low use of this attractive beach area.
- .02 Tolls  
Toll bars are subject to constant vandalism, rusty and untidy; signage is disorganised and negative. There is no welcome or attraction to encourage use.
- .03 Buildings  
The Toll House is privately occupied and leased and is in good repair. Adjacent toilets are just acceptable; large toilet building on the north side of the road at the eastern end is in a poor state of repair and not a pleasant place to visit. The rear roof slopes are extensively damaged and show evidence of poor maintenance in the past. Internally it is run down and not a pleasant place for relief. The kiosk at the Eastern end is graffiti covered and in a very poor state, with no attractive features. The one shelter provided on the landscaped area is of ugly brick with corrugated roof, containing one seat. The Mermaid Cafe is run-down, untidy and has very poor signage.
- .04 Trees and Bushes on the Cliff  
Many fine trees remain after the '87 and later gales. Some, however, are still leaning against other trees. A modest replanting has been attempted with finances available together with clearance work. Sycamore has been allowed to establish itself, and has dominated some areas. Although not a native tree this species thrives well in this difficult environment and assists in preventing erosion of cliff face. Some replanting has been damaged by vandals and the weather, and in many cases remains unattended. However, during the annual Winter clean through the area this will be attended to.
- .05 Planting between the road and the sea.  
Plants here survive on their own - there is no evidence of any replanting or exploitation of this unique site. Marine plants only of course, but there is no colour. Plants are cut down by the footpaths to allow pedestrian access. Trees here are much damaged by gales; there is no replanting and fallen trees remain.
- .06 Beach Huts and Shelters  
With minor exceptions at the Eastern end, these are privately managed by the occupier of the Tollgate House. All have been repaired and repainted following the storms, and stand in stark contrast to the condition of the rest of the area. At the Eastern end the concrete shelters owned by the Council await repair or demolition.

- .07 Promenade and Beaches  
Apart from the Southern Water Authority outfall works, the beaches are good. There is some litter but not unpleasantly so. There is however limited access for all but the agile; there are a few steps either concrete, wood or metal. At the Eastern end, access is undesirable because of beach protection boulders making it unusable.
- The promenade has been resurfaced up to the Southern Water Authority workings. This is gritty and loose and not pleasant to walk on. At the Western end the promenade requires repair following the Winter storms and is covered in shingle making walking difficult. When the Southern Water Authority have finished and reinstated the promenade, and the coast protection works are complete, the promenade will again be a pleasant, quiet walk by the sea.
- .08 Picnic Facilities  
New tables have been provided at the foot of the Zig Zag path and are in good condition and well used. Some new tables are at the extreme Western end. Other, older fixed facilities are without exception broken and left in a derelict condition.
- .09 Fences and Hand Rails  
Generally, these are not in good order. Some repairs and some "assumed" temporary repairs using Chestnut piling for safety and economy. Hand rails are not continuous. These are important to give access to the disabled, and to provide a secure environment.
- .10 Paths, Road and Steps  
The Lower Sandgate Toll Road is a patchwork with many repairs and an uneven surface. There is parking allowed all along its length, but no bays have been marked out except at the extreme West end where a small car park has been created. Paths down from the Leas and along the cliff either on the slope or at its face are generally in poor condition; they are uneven, out of level, particularly the steps. They are overgrown and in some cases now closed because of slippage. Paths at the base are obstructed by up-rooted trees damaged in the '87 and later storms. Access via these paths is not signposted or easy to find for the visitor. There are too few ways of entering the area or reaching the beach.
- .11 Litter Bins and Litter  
The present bins are of three or four different patterns, some in very poor condition and not very numerous. New green, fibre glass bins were installed in 1989 although many older ones in poor condition remain.
- Litter abounds despite regular litter picking. Evidence of "parties" is often to be seen, both in the wooded areas and the grassy banks. These remain uncleared for days on end at times.

## APPENDIX 2

DAY TO DAY MAINTENANCE

Scheduled Work	Operation	Season	Frequency	Cost P.A.
				£
Cliff & Lower Level Areas	1. Mowing Glades and Picnic Areas	March-October	Fortnightly (14 per annum)	2,000
	2. Clear cut growth from path and step sides (3ft width) and other designated areas.	May-September	Every 6 weeks (4 per annum)	6,000
	3. Thorough sweeping and cleansing main paths and steps including Lower Sandgate Road.	April-October	Fortnightly (12 per annum)	5,500
	4. Thorough sweeping and cleansing other paths and steps.	April-October	Every 6 weeks (5 per annum)	1,500
	5. litter clearance elsewhere including bins.		daily	6,500
	6. Beach cleansing		evening work	1,500
Total				<u>23,000</u>



# APPENDIX 3

	91/92	92/93	93/94	94/95	95/96
5.1	<u>REPAIRS TO EXISTING</u>				
	01	2,000			
	02	20,000			
	03		50,000	10,000	
	04	10,000	10,000	10,000	
	05	5,000	5,000	5,000	
	06	3,000			
	07	10,000			
	08	5,000			
	09	2,000			
	10	20,000	10,000	10,000	
	11	5,000			
		<hr/>	<hr/>		
		82,000	70,000	35,000	
5.2	<u>DEVELOPING SCHEMES</u>				
	01	10,000	10,000	10,000	10,000
	02		10,000		
	03		20,000		20,000
	04	2,000	2,000		
	05	2,000	2,000		
	06			10,000	
	07		10,000		
	08		2,000		
	09		2,000		
	10		5,000	50,000	8,000
	11		5,000		
		<hr/>	<hr/>	<hr/>	<hr/>
		14,000	63,000	65,000	70,000
					38,000
5.3	<u>INCREASED MAINTENANCE (Annually)</u>				
	01	1,000			
	2	Already catered for			
	3	5,000			
	4	5,000			
	5	2,000			
	6	3,000			
	7	Already catered for			
	8	1,000			
	9	2,000			
	10	5,000			
	11	2,000			
		<hr/>			
		26,000			

Bill Fulford  
creator  
Eric Hamet

Shan Saunders  
Nick  
Dad East  
Halebow



**SHEPWAY**  
District Council

Ross House,  
Ross Way,  
Folkestone,  
Kent CT20 3UP.

Telephone: (0303) 850388  
Fax: (0303) 58854

Your Ref.  
Our Ref. Mr. B. Rochester/BMW  
Ext. 434

Date: 23rd March 1989

To: All Residents in Encombe area  
-----

Dear Sir/Madam,

ENCOMBE STABILISATION SCHEME

As you probably know, the Council are promoting a scheme to stabilise the landslip at Encombe. The scheme extends along some 410 metres of the sea front and comprises the installation of dowel piles generally through Sandgate Esplanade and the beach. The dowel piles are formed by heavy steel joists 14 metres long and installed in 1.2 metre dia. bores approximately 23 metres deep and surrounded by concrete. The upper part of the bore is to be backfilled with shingle. The centre to centre spacing of the dowel piles varies from 2.1 metres in the central length to 4.2 metres in the eastern and western lengths.

It is anticipated that Tender documents for the works will be issued to Contractors within the next few weeks and construction work (subject to approval from the Ministry of Agriculture, Fisheries and Food) should commence in the Summer.

The scheme will inevitably cause some disturbance in the area particularly to Coastguard Cottages, and consequently I think it would be useful to hold a public meeting to explain the proposals in detail and to give everyone affected by the works the opportunity to enquire about any particular aspect of the scheme that concerns them.

I have, therefore, booked the Chichester Hall in Sandgate for the evening of Friday, 14th April, and look forward to meeting you if you are able to attend. The meeting will commence at 7.30 p.m.

Yours faithfully,

for Controller of Technical  
and Planning Services.

Your Ref.  
Our Ref. Mr. B. Rochester/BMW  
Ext. 434

Date: 24th February 1989

Mr. G.C. Edmunds  
The Baker's Dozen  
13 Wilberforce Road  
SANDGATE  
Folkestone  
CT20 3ED



**SHEPWAY**  
**District Council**

Ross House,  
Ross Way,  
Folkestone,  
Kent CT20 3UP.

Telephone: (0303) 850388  
Fax: (0303) 58854

ENCOMBE LANDSLIP STABILISATION SCHEME

I refer to your recent letter, and enclose for your information a copy of my letter dated 31st January which summarises the latest situation regarding the use of Wilberforce Road Car Park.

I believe this will answer the points contained in your letter. However, if there is any further information you may require, please do not hesitate to contact me.

Yours faithfully,

for Controller of Technical  
and Planning Services.





cc: Councillor E. J. C. Hamer  
131 Sandgate High Street  
Folkestone, CT20 3BZ

Mr E Rochester/JC  
434

31 January 1989

SENT TO:

Mr. L. Chilvers,  
12 Wilberforce Road,  
SANDGATE,  
Folkestone,  
Kent, CT20 3ED

Mr. T. Murless,  
119 Sandgate High Street,  
FOLKESTONE,  
Kent, CT20 3BZ

Mr. A. Todd,  
11 Encombe,  
SANDGATE,  
Folkestone,  
Kent, CT20 3DE

Dear Sir,

ENCOMBE LANDSLIP STABILISATION SCHEME  
WORKING AND STORAGE AREAS

Thank you for your recent letter regarding the use of Wilberforce Road Car Park as a working area for the duration of the above contract. I appreciate your concern about this matter but would point out that it is essential to have a reasonable sized area for the contractors compound fairly close to the works and in an area where it will not be affected by the sea in rough weather.

In order to minimise the impact of this proposal on the neighbourhood it has been decided to restrict the use of the car park for temporary offices and light storage only. The contractor will also be required to provide and maintain a public pedestrian access from Wilberforce Road to the footpath at the north of the car park, together with access to a minimum of four-teen car parking spaces for the use of the public.

The site of 33 and 34 The Esplanade (now demolished) may also be used by the Contractor as a working and storage area, subject to satisfactory arrangements to avoid damage or disturbance to the neighbouring properties, their owners or occupiers. In addition to this, an area of Princes Parade, Seabrook is being allocated to the Contractor for storage of heavy plant and materials.

With regard to the stabilisation works it is, of course, inevitable that there will be some disturbance during the course of the contract, but I would assure you that every reasonable effort will be made to keep disturbance and noise to a minimum. However, I am sure you are very much aware of the need for these essential works particularly as your property is within the area being protected by the scheme.


Finally, I would like to inform you that I will soon be notifying the local residents of a public meeting which will be held within the next 4 to 6 weeks. The purpose of the meeting will be to inform everyone concerned of the scheme details and programme.

Yours faithfully,

for Controller of Technical  
and Planning Services

Mr. B. Rochester,  
Chief Engineer,  
Shepway District Council.

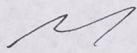
The Baker's Dozen,  
13 Wilberforce Road,  
Sandgate,  
Folkestone CT20 3ED  
6 Feb 89

  
Tel: 49180

Encombe Landslip Stabilisation Scheme: Working & Storage Areas

When we spoke on the telephone last week I was surprised that you were not in possession of my letter of 9th January, as Councillor Hamer told me that he had passed it to the Council.

Enclosed is a photostat of that letter. I shall be glad if you will adopt it and send me the appropriate reply. No doubt you will also ensure that I am recorded as requiring notification as the matter progresses.



REGINALD TURNILL  
Space Writer & Consultant  
0303-49012

Somerville Lodge  
Hillside  
Sandgate  
Kent CT20 3DB

7 January 1989

Cr Eric Hamer  
131 Sandgate High Street  
SANDGATE Kent

Dear Councillor Hamer

Thank you for letting me see the Draft of the Tender Document for the Encombe Landslip Stabilisation Project. It is a major project which I am sure most residents will welcome for the long-term protection of their property which it should provide. In the short-term it is obviously going to cause major hardship and inconvenience to many of us. I hope therefore that it will be possible to establish good relations on a two-way basis with the Contractor and his Chief Engineer.

Since you are directly concerned as a resident as well as being our local Councillor, do you think it would be possible for you to act as spokesman between the residents and the Contractor's Chief Engineer, so that problems and complaints could be dealt with as they occur as pleasantly and co-operatively as possible ?

In the meantime I would like to object most strenuously to the proposal to use Wilberforce Road car park (Page 13, para 107(1)) as a working and storage area for the following reasons:

1. To use the most unstable piece of land in Sandgate for heavy vehicles, whether for parking or carrying the massive dowel piles and other stores involved, seems likely to precipitate precisely the sort of landslips that the project is designed to prevent.
2. Many local residents have nowhere else to park their cars and to deprive them of the use of the car park for about a year is bound to lead to continuing problems and friction.
3. Access to Enbrook Lodge, Somerville Lodge, Bramble Cottage, Robingale and The Cottage already necessitates a good deal of give-and-take co-operation among the residents. At least one Hillside resident leaves home every morning by 5am. Frequent blockage of our access would seem to be inevitable.
4. Thousands of pounds of ratepayers' money has recently been spent on resurfacing the Car Park, and a weight restriction placed upon vehicles to protect it. More money was

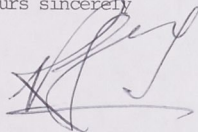


recently spent on planting trees; no effort was made to postpone the tree-planting, although the stabilisation project was then well-advanced. Why was the tree-planting not postponed ?

5. Use of the Wilberforce Road car park for storing dowel piles 14 metres long and 1.2 metres in diameter would clearly not be possible without improving the access or alternatively placing the houses in the vicinity of the narrow access roads in constant jeopardy. One suspects the Contractor would want to widen the access, which would change the character of the area permanently.
6. To ensure that residents can continue using their property during the construction work, and to ensure that money already invested in surfacing and landscaping does not have to be spent for a second time, I would suggest that an ideal storage area is readily available, with perfect accessibility. This is the area near the Canal outfall at Seabrook, used for the recent work there, and not restored since. Only 200-300 yards further away, the small extra distance would be more than compensated for in time and labour saved by easy access.

I would be most grateful if you would pass on my comments and objections to the appropriate department of the Shepway District Council. Conversations with my neighbours lead me to believe that they share these views; but no doubt they will speak for themselves!

Yours sincerely

A handwritten signature in dark ink, appearing to be 'J. J. J.', written over a horizontal line.

( PTO )

Your Ref.  
Our Ref. Mr G A Sanders/JC  
Ext. 378

17 November 1989



**SHEPWAY**  
District Council

Ross House,  
Ross Way,  
Folkestone,  
Kent CT20 3UP.

Telephone: (0303) 850388  
Fax: (0303) 58654

To: ALL RESIDENTS IN THE ENCOMBE AREA

Dear Sir/Madam,

ENCOMBE STABILISATION SCHEME

The Encombe Landslip Stabilisation Works were, as many of you will be aware, programmed to commence in the Summer or Autumn of this year. This, unfortunately, was not forthcoming and I thought it would be helpful if I explained the reason for this delay.

Although the scheme has been approved by the Council it was subject to obtaining Capital Allocation from the Ministry of Agriculture, Fisheries and Food and, regretfully, this was not forthcoming for the financial year 1989/90. This meant that the Council were not permitted to finance the works even though allowance had been made in the Council's 1989/90 Budget. Various measures were investigated to try and overcome the financing problem but these proved to be unsuccessful.

The current situation is that the Ministry have indicated the scheme will have a very high priority for funding in 1990/1991 and it is the Council's intention for the scheme to be put out to tender again in January 1990, with a view to commencing construction work in March/April 1990. This is, of course, subject to Capital allocation being made available.

At the public meeting held in the Chichester Hall on Friday, 14 April 1989, it was mentioned that another meeting would be organised, particularly for the benefit of those people directly affected by the works, i.e. 'Coastguard Cottages' and other Sandgate High Street residents. I do, of course, still intend to hold this meeting but do not consider it will be worthwhile until the lowest acceptable tender has been scrutinised and the Contractor's method of construction properly assessed.

I hope this information adequately explains the current situation but if you require any further details of the scheme please do not hesitate to contact Mr. Rochester.

Yours faithfully,

for Controller of Technical  
and Planning Services

Your Ref.  
Our Ref. Mr G A Sanders/AW  
Ext. 378  
Date. 10th May 1990



**SHEPWAY**  
**District Council**

Ross House,  
Ross Way,  
Folkestone,  
Kent CT20 3UP.

Telephone: (0303) 850388  
Fax: (0303) 58854

To : All residents in the Encombe Area

Dear Sir/Madam,

**ENCOMBE STABILISATION SCHEME**

I am writing to inform you that the above Contract will be commencing shortly and, as promised at the Public Meeting on 14th April 1989, a further meeting has been arranged.

This meeting, to which you are cordially invited, will be held in the Chichester Hall, Sandgate at 7.30 p.m. on Friday 25th May 1990. The purpose of the meeting will be to discuss the Scheme details, methods of working, storage areas, safety and Contract programmes. The Contractor and the Consultants will be represented.

I hope that you will be able to attend.

Yours faithfully,

A handwritten signature in dark ink, appearing to read 'J. L. Brame'.

for Controller of Technical  
and Planning Services





**SHEPWAY**  
**District Council**

Ross House,  
Ross Way,  
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Your Ref.  
Our Ref. Mr. G. A. Sanders/BMW  
Ext. 378

Date: 19th April 1989

Mr. G.C. Edmunds  
13 Wilberforce Road  
Sandgate  
FOLKESTONE  
Kent

Dear Mr. Edmunds,

I enclose for your information copies of the plans you requested at the Encombe Stabilisation Scheme public meeting of last Friday.

I trust you found the meeting of interest. Should you have any further queries, please do not hesitate to contact either Mr. B. Rochester or Mr. G. Sanders of this office.

Yours sincerely,

for Controller of Technical  
and Planning Services.

ENCLOSURE

REGINALD TURNILL  
Space Writer & Consultant

0303-49012

Somerville Lodge  
Hillside  
Sandgate  
Kent CT20 3DB

11 September 1990

Mr Bruce Rochester  
Principal Engineer  
Shepway District Council  
Civil Centre  
Folkestone Kent

Dear Mr Rochester

Many thanks for getting Dr Birt of Halcrow & Partners to ring me last week. It was not your fault that my talk with him in the road adjacent to the dowelling site was particularly unsatisfactory!

The purpose of this letter is to place on record the concern of residents like myself about the way this work proceeding. This of course has been brought to a head by the fact that the picturesque centre section of the Coastguard Cottages is heavily cracked with some danger of it falling into the main road.

From the beginning of the work we have experienced short but sharp periods of intense vibration, causing kitchen utensils to rattle, and radiators all round the house to vibrate noisily as well. This vibration extends right back to Bramble House, the new house behind Somerville Lodge in Hillside, even though that rests on a large concrete raft. The owner, Mr Doyle, expressed his concern and alarm to me.

My personal concern, of course, is possible effects on Somerville Lodge, which is a 200-years old listed house - and even more upon the steep bank in which my garden ends just above the road opposite to the Coastguard Cottages. It this is brought down into the road I hope and presume that Shepway Council will accept responsibility. I have maintained and contained it by my own efforts for the last 15 years, but at the age of 75 it is beyond both my physical and financial capacity to deal with such an event.

That brings me to my conversation with Dr Birt. You will recall telling me that the Council paid Halcrow's to monitor the work, and it would be better if I expressed my concerns to Birt rather than to you. Birt took the opposite view, saying that he was responsible to Shepway as his customer. When I asked him what was the position about the cracked Coastguard Cottages, and who would be responsible for repairs, he took the familiar bureaucrat's escape route. He could not discuss individual cases, he said! That was

a matter between the owner, Shepway, and the contractors. If I found myself in such a position it would have to be dealt with under the terms of the contract. I saw the original contract, but not the present one, and doubt whether it contains anything specific.

I also raised with Birt the fact that, as you know of course because you were there, Prof Hutchinson at the Hythe Marina Bill hearings in the House, expressed grave doubts about the effects of the present dowelling scheme. Birt was there too, and told me that Halcrow's take a different view - supported by "150 years of marine experience". Birt also declined to tell me how many dowells had so far been sunk (none of my business, apparently!), and I gathered that the sea will be left to clear up most of the appalling mess on the beach.

Our final concern - a matter much discussed among adjacent residents - is about the way these beautiful steel beams, costing £800,000 of ratepayers' money, and which we see arriving in pristine condition from Luxembourg, are immediately dumped on the beach to act as supports for the temporary roadway. There the tide engulfs them twice a day. I have photographs of the thick corrosive rust which results. Whether they are cleaned before being inserted I do not know; but in any case the treatment seems certain to reduce their life by many years. You are probably aware of the alarming discoveries about steel corrosion and concrete cancer which has unexpectedly reduced the life of motorway bridges.

Birt dismissed these concerns too, and said that Halcrow's had given permission for the beams to be stored below the high water mark.

All these matters were recently discussed at a Sandgate Society committee meeting, where it was agreed that it was important that they should be placed on record. Bureaucratic evasions from Halcrow's, etc, rather overlook the fact that it is the residents' properties as well as the poll tax payers' money that is involved. For us it is a question of survival rather than bureaucracy as we live through "remedial" work, the merits of which we had no opportunity to judge before it was commissioned. That being the case, we look for assurances that Shepway will accept responsibility if it goes wrong!

Yours sincerely



# HALCROW

Consulting Engineers

Sir William Halcrow & Partners Ltd  
Vineyard House, 44 Brook Green,  
London W6 7BY, England  
Telephone 071-602 7282,  
International Telephone + 44 71 602 7282  
Telex 916148 Halcro G  
Fax 071-603 0095  
International Fax + 44 71 603 0095

And at  
Burderop Park, Swindon,  
Wiltshire SN4 0OD, England  
Telephone (0793) 812479

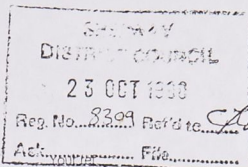
Controller of Technical & Planning Services  
Shepway District Council  
Ross House, Ross Way  
Shorncliffe  
Folkestone  
Kent CT20 3UP

For the attention of Mr B Rochester

22 October 1990

Our ref

TG/ELS/2/684



Dear Sir

## ENCOMBE LANDSLIP STABILISATION

We refer to the letter dated 11 September 1990 from Mr Turnill addressed to Mr B Rochester, a copy of which was passed to the Resident Engineer for our comment.

With regard to the cracking that has developed in Coastguard Cottages over the past months, we would assure Mr Turnill that wherever possible all reports of alleged damage have been promptly followed up by a joint inspection by the Engineer and the Contractor. Furthermore, the movement of cracks is being monitored on a regular basis; the width of the particularly noticeable crack in 145 Sandgate High Street is measured at least twice per week. One of the purposes of this regular monitoring is of course to ensure that any potential danger to property or the public is detected at an early stage.

Regarding liability for the alleged damage, complaints from the affected property owners have initially been referred to the Contractor, his insurers and loss adjusters, and discussions are continuing between the Contractor, the Employer and the Engineer.

However, we continue to maintain that we can only discuss individual properties with the particular owners, or their appointed agents, and it would be improper to do otherwise.

### Directors

R W Rothwell MA FICE  
(Chairman)  
A R Kopeck FICE  
(Chief Executive)  
T D Casey MA FICE  
A C Cadwallader BA  
(Secretary)  
M S Fletcher MBE MSc FICE  
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D Buckley FICE  
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D J Pollock PhD MICE  
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D S Kennedy BSc FICE  
C J Kirkland FICE  
M R Stewart FICE FIHE  
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P A S Ferguson MASM MICE  
C A Fleming PhD MICE  
G D Hillier BSc FICE  
J G May FICE  
R J Pannett MICE

I C Price FICE  
N A Tremier MSc MICEOL  
J Weaver PhD FICE  
V M Scott BSc FICE  
T P Walters BSc FICE  
J P Wood BSc FICE  
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R N Craig BSc MICE  
E P Evans MA FICE  
C T K Hepinstall BSc FICE  
A J Madden PhD MICE

J C Thorne BSc FICE  
P S Godfrey BSc MICE  
I C Millar BSc MICE  
C P Barnard BSc MIPM  
P Jenkin BE MICE  
B Walton MICE  
A K Allum FICE FIWM  
D H Beasley MA FICE  
P G Gammie BA FCA  
J D Lawson MA FICE

### Consultants

Sir Alan Muir Wood FRSE FEng FICE  
N J Cochrane DSc(Eng) FICE  
R S Baxter F Eng FICE  
C L Clarke MA FICE  
V J W Hoard OBE BSc FICE  
Registered in England No 1722541  
Registered Office  
Vineyard House, 44 Brook Green,  
London W6 7BY

Turning now to the subject of vibration, we are not surprised that vibration has been experienced in Mr Turnill's property, or further afield. It is a well known phenomenon that vibrations can be transmitted relatively large distances through the ground; it is also to be expected that kitchen utensils and central heating radiators will act to amplify the vibrations transmitted to a building. Furthermore, it is generally accepted that the threshold of human perceptibility to vibrations occurs at a particle velocity between 10 and 40 times less than the level at which damage may be caused to buildings. Monitoring of vibrations at the Encombe site suggests that the level of vibration experienced at Somerville Lodge and the adjacent properties is most unlikely to be such as to cause any damage to the property or indeed the steep bank.

We would confirm that members of the public may express their concerns or address their queries to either the Council, as Employer, or to our site staff as appropriate. Our site office has been equipped with an answerphone in order to facilitate such communication when our staff are occupied outside the office. Public concerns that may have a bearing on the Contractor's liability are passed on to the Contractor for his response.

If Mr Turnill is still concerned about the vibrations experienced at Somerville Lodge, then we suggest that he should contact our site staff, Mr Blight or Ms Fisentzou, and they will be pleased to arrange an inspection of the property at a mutually convenient time during piling operations.

With regard to the terms of the Contract, we would point out that not only do the ICE Conditions of Contract (Fifth Edition) define in general terms the responsibilities of the parties to the contract, but Clause 80 of the Special Conditions and Clauses 106(4), 110(1) and 112(2) of the Specification deal more specifically with the Contractor's responsibilities regarding adjacent property.

Turning to Dr Burt's conversation with Mr Turnill on 6 September 1990, Dr Burt could not inform Mr Turnill of the exact number of dowel piles installed simply because he did not have the information to hand. As he explained at the time, the information was available in the site office. For the record, 30 piles had been installed at that date; by the week ending 20 October, 54 piles have been installed. Regarding the present temporary access road in front of Coastguard Cottages, the contractor is required to dispose of excavated material and rubbish off-site and to reinstate the beach; any surplus beach shingle may well be left for the sea to disperse naturally.

Finally, with regard to possible corrosion of the heavy steel joists, we confirm that the Engineer has given permission for the joists to be stored on the beach. Indeed, an alternative storage would have been both inconvenient and costly. We would reply to Mr Turnill's expressed concern over possible excessive corrosion of the steel joists as follows:-

- (i) corrosion of the steel at the time of installation in the ground is minimal,
- (ii) the steel joists are located at depths below the groundwater level and therefore significant further corrosion will not occur,
- (iii) any deleterious effect on the concrete, although unlikely, would be of no consequence since it does not play a structural role.

We would point out that the damage to motorway bridges, quoted by Mr Turnill, is generally related to reinforced concrete structures above ground water levels, where corrosion of steel reinforcement and/or alkali aggregate reaction in the concrete causes volume changes and may subsequently cause cracking and spalling of the concrete, thus exposing the reinforcement to further corrosion.

The dowel piles at Encombe are neither reinforced concrete structures nor located above groundwater level, and the mechanisms for potential damage and decay outlined above are not therefore relevant.

We trust that the foregoing explanations will be sufficient to allay Mr Turnill's concerns. If however, he requires further or more detailed information, we would be pleased to discuss the matter again.

Yours faithfully

N A Trenter

N A Trenter  
Director

NAT/NJB/pp

cc: ICB/MF (Encombe Site Office)



ENCOMBE LANDSLIP, SANDGATE  
STABILIZATION SCHEME 1990

DESCRIPTION OF WORKS

The Works comprise the stabilisation of the Encombe landslip, which is situated in Sandgate, Folkestone, Kent, and associated investigation, instrumentation and monitoring. The stabilisation scheme extends along some 410 metres of the sea front.

Stabilisation is to be effected by the installation of dowel piles, generally through Sandgate Esplanade or the beach. The dowel piles are formed by heavy steel joists 14 metre long and installed in 1.2 metre diameter bores approximately 23 metre deep and surrounded by concrete. The upper part of the bore is to be backfilled with shingle in order to maintain free drainage of groundwater. The centre to centre spacing of the dowel piles varies from 2.1 metre in the central length to 4.2 metre in the eastern and western lengths.

The existing sea walls are to be investigated by drilling, coring and survey in order to determine the loading which may be applied to them.

Selected pile dowels are to be fitted with inclinometer survey tubes. Additional instrumentation is to be installed in the ground adjacent to the piles. Both existing and additional instrumentation is to be monitored during the Contract.

A plan and cross section are attached as Figures A1 and A2.

Reproduced from the Ordnance Survey's 1:250 map of 1970 with the permission of the Controller of Her Majesty's Stationary Office. Crown copyright reserved. Sir William Holcrow & Partners, Vineyard House, London, W6 7BY - Dec '86

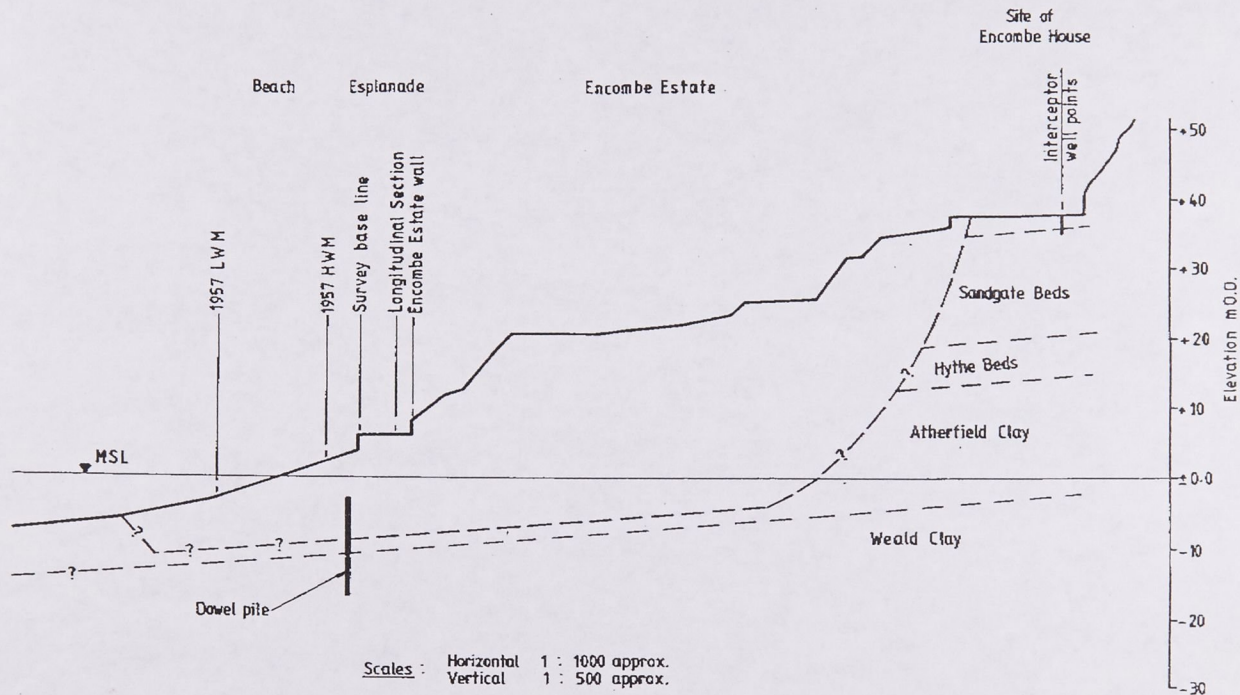


Scale 1:1250

Location Plan

Encombe Landslip Stabilisation

Fig. A.1



Geological Section through Landslip: Y-Y

Encombe Landslip Stability



Your Ref.  
Our Ref. Mr. B. Rochester/BMW  
Ext. 434

Date: 23rd March 1989

To: All Residents in Encombe area  
-----



**SHEPWAY**  
District Council

Ross House,  
Ross Way,  
Folkestone,  
Kent CT20 3UP.

Telephone: (0303) 850388  
Fax: (0303) 58854

Dear Sir/Madam,

ENCOMBE STABILISATION SCHEME

As you probably know, the Council are promoting a scheme to stabilise the landslip at Encombe. The scheme extends along some 410 metres of the sea front and comprises the installation of dowel piles generally through Sandgate Esplanade and the beach. The dowel piles are formed by heavy steel joists 14 metres long and installed in 1.2 metre dia. bores approximately 23 metres deep and surrounded by concrete. The upper part of the bore is to be backfilled with shingle. The centre to centre spacing of the dowel piles varies from 2.1 metres in the central length to 4.2 metres in the eastern and western lengths.

It is anticipated that Tender documents for the works will be issued to Contractors within the next few weeks and construction work (subject to approval from the Ministry of Agriculture, Fisheries and Food) should commence in the Summer.

The scheme will inevitably cause some disturbance in the area particularly to Coastguard Cottages, and consequently I think it would be useful to hold a public meeting to explain the proposals in detail and to give everyone affected by the works the opportunity to enquire about any particular aspect of the scheme that concerns them.

I have, therefore, booked the Chichester Hall in Sandgate for the evening of Friday, 14th April, and look forward to meeting you if you are able to attend. The meeting will commence at 7.30 p.m.

Yours faithfully,

for Controller of Technical  
and Planning Services.

July 20 1988

## DEVELOPMENT CONTROL COMMITTEE

minutes of a meeting of the Development Control Committee held at the Civic Centre, Folkestone on Tuesday, 14th June 1988.

PRESENT: Councillor C.J. Capon (in the Chair), Councillors K.J. Bowden, Mrs. E.M. Collishaw, B.W. Copping, J.M. Cox, A.H. Deighton, R.W. Fulford, S.I. George, Mrs. D.F.E. Gilbert, Mrs. V.J. Horner, K.D. Hudson, A.W. Kensett, J.C.V. Ridley-Day, Mrs. S. Simpson, R.C.E. Trice and G.F. Wood.

## MINUTES

The minutes of the proceedings of the Committee of 24th May, 1988, were submitted, approved as a correct record and signed by the Chairman.

## ENCOMBE, FOLKESTONE - LAND STABILITY - IMPLICATIONS FOR FUTURE DEVELOPMENT

REPORT: Recent inspections of Encombe and associated site investigations have shown continuing ground movements over a fairly widespread area. In view of this and taking into account the stabilisation scheme which is currently being investigated in detail, it was considered that it would be advisable for stringent consideration to be given to the nature and extent of any future development within the landslip area until the stabilisation works have been completed and their effects have been monitored and assessed.

The Environmental Services Committee considered the matter on 13th June, 1988, minute 15 and resolved that this Committee be advised of its concern regarding the situation and be requested to take this into account in the determination of any relevant planning applications until the proposed stabilisation scheme has been completed and an assessment of its effects has taken place.

A letter was reported from Sir Wiliam Halcrow & Partners advising as to the seriousness of the situation and suggesting that there were grounds for the precaution of further development on the land until the stabilisation scheme has been completed and evaluated.

The possibility of an embargo on all future development has been considered. Whilst it is considered unlikely that a soil survey could be produced which demonstrated beyond doubt that development could be safely carried out, this possibility has to be allowed for and an outright embargo would not, therefore, be sustainable. All applications have to be considered on their merits.

## RESOLVED:

1. That the Council indicates that until the stabilisation works have been completed at Encombe, Folkestone and their effects have been monitored and assessed:-

Development Control Committee - 14th June 1988

- a) it will not entertain applications for planning permission in Encombe area unless they are supported by a full soil survey.
- b) it will not grant planning permission unless the soil survey clearly demonstrates that the site can itself be safely developed and also that the proposed development will not have any adverse effect on the slip area as a whole.

2. That this Committee be kept informed of the progress of stabilisation works.



**SDC SHEPWAY DISTRICT COUNCIL**

To: FINANCE & GENERAL PURPOSES SUB-COMMITTEE  
2ND NOVEMBER, 1988

Subject: RECOMMENDATIONS AND MATTERS AFFECTING OTHER COMMITTEES

1. ENVIRONMENTAL SERVICES COMMITTEE 17TH OCTOBER, 1988

1.1 ENCOMBE, SANDGATE - STABILISATION SCHEME

**REPORT:** In March 1986 (minute 22) the former Works Committee considered a report from the consulting engineers, Sir William Halcrow & Partners, regarding the stabilisation of the Encombe landslip. The report concluded that whilst the well point de-watering system earlier installed by the Council had brought about a reduction in the rate of ground movement, further landslip activity would continue unless additional measures were taken to arrest it.

On the advice of the consulting engineers, the Committee agreed, at that time, that investigations should be undertaken into the detailed design of a landslip dwelling scheme. The required site investigations have now been completed and the consultants have produced a detailed design of a scheme which comprises the installation of a total of 166 reinforced concrete piles each 1.2m in diameter and 12m. in length.

The current estimate of the capital and revenue expenditure involved is as follows:-

**Capital Expenditure**

Works	£
Site Investigations	15,500*
Site preparation	100,000
166 Pile Dowels	940,000
Contingencies	260,000
Fees	
Halcrows - Feasibility Study	7,200*
Halcrows - Design, benefit/cost analysis	55,100*
Halcrows - Supervision	45,000
KCC - Monitoring	4,000*

## Salaries for

Supervision and Liaison	<u>10,000</u>
Total Capital Cost	1,436,800
Less MAFF grant	<u>574,700</u>
NET CAPITAL COST	<u>862,100</u>

**Revenue Expenditure**

Average annual loan charges on net Capital Cost	104,600
Less KCC Cost (50%)	52,300
Net Average Annual cost to Shepway District Council	<u>52,300</u>

\*Includes expenditure already incurred on feasibility study and site investigations etc.

Provision has been made in the capital programme for expenditure amounting to £1,315,000 on this scheme with a start programmed for 1988/89. The additional capital costs detailed above and amounting to £121,800, will be incurred during 1989/90. The estimated additional annual revenue costs resulting from the increase in the capital cost of the scheme (which should be undertaken without delay) amount to £4,400 and will not be incurred until 1990/91.

The Council is currently in negotiation with the Department of Transport regarding a contribution towards the capital cost of the scheme in view of its implications for the A259 trunk road and if successful, this would have the effect of reducing the net revenue cost to the Council.

The Environmental Services Committee now recommend

1. That, subject to the approval of the Ministry of Agriculture Fisheries and Food and a specific capital allocation being made to cover the expenditure, the necessary capital funds be released to enable the works to be carried out, as a matter of urgency, with a programmed start in March 1989.

2. That this Sub-Committee be requested to increase the provision in the Council's capital programme by a sum of £121,800 to £1,436,800 in respect of this scheme and to endorse the release of the required capital funds in order to allow the works to proceed as planned.

**RECOMMENDATION:** That the capital budget for this scheme be increased to £1,436,800 and in view of the revenue costs of this large project that the capital finance be released subject to the agreement of the Policy & Resources Committee.



## 1.2 COAST PROTECTION WORKS - MARINE WALK, FOLKESTONE

The Council has approved, subject to approval by the Ministry of Agriculture, Fisheries and Food, the construction of two artificial headlands as Phase II of a scheme to prevent erosion of the beach and protect the sea wall, between groynes nos. 4 and 14, from undermining and collapse (3rd September 1987 in minute 29).

Phase I of the scheme, which comprises the construction of a rock revetment, has been undertaken as emergency coast protection works and is now virtually complete.

Following approval of the scheme in principle, the Council's consultants have carried out the detailed design of the artificial headlands. Preliminary discussions have also been held with M.A.F.F. who have required the preparation of a benefit cost analysis before considering the scheme for grant approval. This has now been completed by the consultants who investigated the following options together with the preparation of detailed estimates for the purposes of the benefit cost analysis:-

- (a) Scheme I - Rock revetment alone
- (b) Scheme II - Rock revetment combined with beach raising and annual replenishment
- (c) Scheme III - Rock revetment, beach raising and artificial headlands.  
(The beach raising element of this scheme is much smaller than for Scheme II and is an additional requirement for the scheme previously approved by the Committee).

The results of the analysis show that Scheme III provides the best benefit cost ratio at 4.1 (The ratio is the value of benefits divided by the cost) although Scheme I ranged from 3.7 to 6.1. However it is important to note that Scheme I involves future large scale repair of the existing sea wall. The extent and cost of these repairs (which are likely to range from £1000 to £3000 per metre of sea wall) cannot be accurately assessed and in consequence there is a large possible range to the benefit cost ratio for this scheme.

In addition it should be noted that the shingle nourishment options provide additional amenity benefits to the area which have not been evaluated for benefit cost purposes. Also of course the shingle will protect the existing sea wall from abrasion and the major part of the headlands and revetment against wave action thus minimising future maintenance costs and increasing their life.

The consultants have therefore recommended that application should be made to M.A.F.F. for the third option, Scheme III and that contracts should be prepared for the headlands as agreed in principle by the Council plus beach nourishment as Phase II of the coast protection scheme. This scheme should ideally commence immediately after Phase I (the revetment scheme) but as Phase I has only recently been substantially completed the consultants recommend that commencement of Phase II is delayed until the Spring of 1989 so that the marine works avoid the risk of winter storms.



Notwithstanding the consultants original recommendations in the benefit cost report, this matter has been reconsidered and it is now thought prudent not to undertake the beach nourishment work immediately. The reason for this is that the Folkestone coast protection works - Stage 2 will need to be reconsidered owing to delays in agreeing contributions from the Department of Transport towards the cost of works along the A259 Sandgate Esplanade frontage. Other options for the Folkestone Stage II scheme (which will be the subject of a future report) will also probably require beach nourishment and consequently it would be much more economical if it were possible to combine the shingle nourishment requirements for both schemes thus avoiding the extremely high mobilisation costs for this work.

The revised estimates have therefore been split into two further phases rather than one and are as follows:-

### Phase II

#### Capital Expenditure

Works	£
Short headland	256,000
Long headland	415,000
	<u>671,000</u>

#### Fees

Balance of preliminary study costs (not included in Phase I)	3,000
Benefit Cost Report (whole scheme)	6,000
Contract Documents (include Phase III)	22,000
Supervision Fees	8,000
SDC Salaries - Supervision	12,000
	<u>722,000</u>

Less M.A.F.F. Grant	<u>288,800</u>
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Net Capital Cost	<u>433,200</u>
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#### Revenue Expenditure

	£
Average annual loan charges on net capital cost	50,800
Less K.C.C. Cost (50%)	<u>25,400</u>
Net Average Annual Cost to Shepway District Council	<u>25,400</u>

### Phase III

#### Capital Expenditure

Works	£
Beach Nourishment (41000 m3)	287,000

Mobilisation of Plant	200,000
	<u>487,000</u>
Supervision Halcrows	6,000
SDC Salaries	10,000
	<u>503,000</u>
Less M.A.F.F. Grant	201,200
Net Capital Cost	<u>301,800</u>

#### Revenue Expenditure

Average annual loan charges on net Capital Cost	35,500
Less K.C.C. Cost (50%)	<u>17,750</u>
Net Average Annual cost to Shepway District Council	17,750
	=====

Provision has been made in the Committee's Capital Programme for £444,000 with a planned start during 1989/90 in respect of Phase II, i.e. the construction of the artificial headlands excluding beach nourishment works. The capital cost of the revised Phase II, amounting to £722,000 will be spread over two years, with £100,000 being spent in the current year and the balance of £622,000 in 1989/90.

The Environmental Services Committee has recommended:

1. That, subject to approval by the Ministry of Agriculture, Fisheries and Food and a specific capital allocation being made to cover the expenditure, the necessary funds be released from the Committee's capital programme to enable Phase II of the works to be commenced in March 1989.
2. That the Finance and General Purposes Sub-Committee be requested to increase the provision in the Council's capital programme by £278,000 to £722,000 in respect of the scheme and to endorse the release of the required capital funds to allow the works to proceed as planned.
3. That provision be included in the Committee's draft budget for 1990/91 for the beach nourishment works as the final stage of this scheme (£503,000) subject to further consideration in conjunction with the Folkestone C.P.W. scheme Stage 2.

**RECOMMENDATION:** That the capital budget for this scheme be increased to £722,000 and in view of the revenue costs of this large project that the capital finance be released subject to the agreement of the Policy and Resources Committee

## 2. LEISURE SERVICES COMMITTEE - 19TH OCTOBER, 1988

### 2.1 FOLKESTONE SPORTS CENTRE - ROOF REPAIRS - APPLICATION FOR FINANCIAL ASSISTANCE

**REPORT:** An application for grant assistance has been received from Folkestone Sports Centre Trust Limited for major repairs to the roof of the Sports Centre. A quotation has been received by the Trust in the sum of £86,658 (exclusive of VAT) for a remedy comprising a flexible membrane coating, although following a meeting with the Trust, an Officer of the Council is looking into this and other possible alternatives.

It is a fact that the leaking roof constitutes such a hazard that certain areas of the building have to be closed to the public at times in the interests of safety. If the repairs are not carried out as a matter of urgency, the situation could result in far more serious consequences in the future.

The Leisure Services Committee firmly supports this application to ensure that the facilities at the Centre are retained and available at all times to the General Public.

The Sports Centre has no funds available and therefore is seeking a grant for the full cost of the works.

The cost of the works might be met from budget votes provided in the current year but not now required (e.g. contributions to the East Kent Land Development Agency £70,000 and the Tourism Development Action Programme £20,000) or if these are required for other expenditure then a once-off contribution could be made from the Building Repairs Reserve Fund although this was set up for works to the Council's own buildings.

**RECOMMENDATION:** That the Policy & Resources Committee be informed that finance can be found to assist the Folkestone Sports Centre Trust and the method of funding be reconsidered when the revised estimates for the year are considered.

### 2.2. LEAS CLIFF HALL - VIREMENT

**REPORT:** The Council's approved Capital Programme for 1988/89 includes a sum of £66,000 for various works of improvement in the Leas Cliff Hall.

In the event, the cost of the various works undertaken has not been as great as it might have been and a sum of £40,000 from the original budgetary provision is available to be spent in the current year.

The Entertainment and Catering Working Group has suggested that the Council should make full use of this outstanding sum by undertaking a comprehensive refurbishment of the Channel Bar so as to improve the service offered to the public and thereby increase the revenue which it generates. The works would involve:-

1. The complete stripping out the existing room.
2. The provision of a new bar, canopy, equipment and fittings; the construction of a new ceiling and the installation of new lighting; the fitting of a new carpet.



### 3. Full redecoration to a high standard.

The total capital cost of the works can be contained within the £40,000 underspending on the other approved works mentioned above and the revenue costs would amount to £4,700 in a full year.

The Leisure Services Committee would like to proceed with these works and seeks the approval of this Sub-Committee to the transfer of the budget vote to cover the cost.

**RECOMMENDATION:** That virement of £40,000 be allowed to cover the refurbishment of the Channel Bar.

## 3. HEALTH AND HOUSING COMMITTEE - 24TH OCTOBER 1988

### 3.1 LAND ASSEMBLY - CANTERBURY ROAD, FOLKESTONE

**REPORT:** The Health and Housing Committee wish to acquire three adjoining parcels of land that will provide a site for redevelopment for up to 24 small dwellings to meet special housing needs. The total value of the site is estimated at £310,000. If the Council is to act in its enabling capacity by assembling this development site, prompt action is required to secure its acquisition, as one of the parcels of land is currently being offered for sale on the open market and the vendor is in receipt of an offer. The cost to be incurred in the current year will be contained within the approved Housing Capital Programme.

**RECOMMENDATION:** That the capital finance be released and executive authority be sought in order to finalise the contracts at the earliest possible opportunity.

### 3.2 HOMELESSNESS

**REPORT:** The Health and Housing Committee have provided in the capital programme for the acquisition and provision of intermediate accommodation for the homeless. The Department of the Environment has recently indicated that the special additional capital allocations given this year may be aggregated for this purpose provided that expenditure is incurred in the current financial year. The Committee therefore request that up to £302,000 be released to allow the purchase of property to proceed.

**RECOMMENDATION:** That the capital financed be released and executive authority be sought for that purpose.

THE DEPARTMENT OF THE ENVIRONMENT



*Ministry of Housing and Local Government*

Our Ref: IG1/Q/153:

Whitehall, London SW1

01-930 4300 ext. 316:

28th October, 1971.

Dear Mrs. René-Martin,

Thank you for your letter of 20th October.

I fully understand the view which you take of this matter, but equally I trust that you appreciate the Department's position. Although the Department are of the view that the drainage works needed to help to stabilise the cliff can properly be carried out under the Coast Protection Act 1949 and that they would attract grant-aid, there is no immediate need to carry out these works for the purpose of saving the sea-wall. That would be a long-term benefit. The principal reason for doing the works now rather than later would be to safeguard the properties from the effects of further earth movements. This is why the council have sought contributions from property owners. Were it not for the danger to the private properties, there would be no suggestion that coast protection works were needed now.

In this situation the Department would not be justified in advising the Folkestone Borough Council that their duties as a coast protection authority required them to carry out the works as a matter of urgency, or in suggesting to them that they should abandon the claims for contributions which they have evidently decided to be appropriate in the circumstances. We have, as you know, advised that the council may, if they think fit, properly use their powers under the Coast Protection Act 1949, to carry out the works now, and that if they do so an Exchequer contribution will be made towards the cost. It must now remain a matter for the council themselves to decide how they should proceed, and whether to claim contributions from property owners. The Department would have a further locus only if it appeared that the coast protection interest was likely to suffer; and there is no sign of that at present.

Yours very truly,

*R. G. Adams*

(R. G. ADAMS)

Mrs. Rene-Martin,  
Flat J,  
4 Oxford and Cambridge Mansions,  
Old Marylebone Road,  
LONDON, N.W.1.

BOROUGH OF FOLKESTONE



YOUR REF:

MY REF.: TC/C/319/1/B

THE CIVIC CENTRE,  
FOLKESTONE.

N. C. SCRAGG, LL.M.

SOLICITOR

TOWN CLERK  
CLERK OF THE PEACE

TELEPHONE: 55221  
(STD 0303)

18th February, 1970

Dear Mr. Vorley,

Encombe, Sandgate

Further to my letter to you of the 10th February, I have now heard from Mr. Muir Wood on this subject.

He informs me that all of these plots lie within the landslipped area where ground movements are still occurring and are close to the slip scarp. He believes the area occupied by these plots was filled in a few years ago during recent development of the Encombe Estate and the filling is likely to settle to an extent dependent upon the applied weights of the buildings and the looseness and depth of filling.

Mr. Muir Wood further states that it is not feasible to construct permanently stable foundations on active landslipped ground unless the zone subject to move-ment is first stabilised overall or unless the building is supported on piles bearing on terra firma. Thus any movement of the ground containing plots 25, 30 and 31 would affect pad or raft foundations thereon and expose the buildings they support to consequential damage unless allowance is made in the design to provide for the periodical realignment of the structure relative to the foundations, or for tolerance to some rotation. The risk of damage to buried services caused by differential ground movement could be minimised by the use of suitably positioned flexible pipe joints. However, Mr. Muir Wood continues, the cost of all these precautionary measures could prove to be prohibitive.

Mr. Muir Wood states that assuming extensive earthworks were not involved and provided the existing natural drainage was not impeded, ground movements resulting from the construction of the new houses would probably be local to them. However, there always remains the possibility

The person dealing with this matter ~~EX-100-6000~~ is the Town Clerk Ext. 202  
All correspondence to be addressed to the Town Clerk



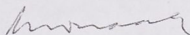
that the new construction might give rise to some movement of adjoining properties. Putting the matter another way, if ground movements were observed in the properties adjoining plots 25, 30 and 31 after developing the latter, it could not be proved that the movements were not a consequence of the development.

In Mr. Muir Wood's view, taking a broad technical view of the matter under present conditions, he feels that the restrictions that must be placed on the development of these plots would make them uneconomic as sites for housing or permanent construction.

As I mentioned in previous correspondence, if details of proposed development of these plots for housing are received, the Council will seek the advice of Mr. Muir Wood who, I am sure, will satisfy himself that they comprise the necessary precautions so far as the houses themselves are concerned and the adjoining properties before he advises the Council that he is satisfied with the form of construction.

I trust that the above will reassure your members.

Yours sincerely,



Town Clerk.

D.G. Vorley, Esq.,  
Honorary Secretary,  
The Sandgate Society,  
1 Castle Road,  
Sandgate,  
Folkestone.

*Copy to Mrs Todd for retention and  
perusal by Mr Burton if so desired.*

*21/2/70 - Message to Mrs Burton -  
sfs nearly same as his own.*

*D.H.*

*20/2.*

FOR DATE OF P/AS 6/2/3 860/7 (189/62) (1160)

MIN 5

6/5

12.

Appendix to Proceedings of Housing  
and Town Planning Committee.

H & T P EXEC. SUB-COMMITTEE -  
15-8-1962

area on more appropriate sites has been  
made in the Development Plan.

- (4) That, in connection with the submission of details of the proposed layout of the road and the proposed road junction of the development with Canterbury Road in respect of the under-mentioned application which was the subject of outline permission in March, 1961, the proposals be approved, subject to the consent of the Minister of Transport as the development will abut upon a trunk road:-

61/22B - - - - - Walton Manor Farm - Canterbury Road -  
Outline residential development for Messrs.  
(Revised) Snape & Leslie.

- (5) That, in connection with the under-mentioned application, which arises out of an outline permission issued in March, 1962, the proposed layout be approved, subject to any direction the Minister of Transport may make and to the conditions and for the reasons respectively stated:-

62/211 - 9786 - "Encombe", The Esplanade - construction of new estate road and sewers for The Land and Property Development Co. Ltd., subject to (i) details relating to the design of the buildings, their siting, external appearance and means of access being submitted to and approved by the Corporation before any works are begun; (ii) the permission ceasing to have effect after the expiration of three years from the date of notification of the decision upon the application unless within that time, approval has been notified in respect of the matters reserved under condition (i) above; (iii) the lines of sewers being revised to the approval of the Corporation; (iv) the Corporation being furnished with a report by soil mechanics specialists as to what steps, if any, are necessary to ensure the stability of any development which may be undertaken on this site and to any recommendation of the specialists being undertaken as part of the approved scheme of development; (v) amenity planting and landscaping in accordance with a scheme to be submitted to and approved by the Corporation being undertaken within twelve months after the development has been carried out, the reasons for the imposition of the conditions being that the property abuts upon a trunk road and also respectively (i) that no such details have been submitted (ii) in order to prevent the accumulation of permissions in respect of which no details have been submitted; (iii) in order that the stability of the ground shall not be prejudiced and the sewers shall not be injuriously affected by ground movement; (iv) to ensure the stability of the site and of any development thereon and (v)

Borough of Folkestone

From MINUTES attached to SUMMONS  
to COUNCIL MEETING of 5th September,  
1962.



**SHEPWAY**  
**District Council**

Ross House,  
Ross Way,  
Folkestone,  
Kent CT20 3UP.

Telephone: (0303) 850388  
Fax: (0303) 58854

Your Ref.

Our Ref. Mr. P. C. Kirby/ER/SH/88/0905

Ext. 456

6th September, 1988.

Mr. G. C. Edmonds,  
The Bakers Dozen,  
13 Wilberforce Road,  
Sandgate,  
Folkestone,  
Kent.

Dear Sir,

ENCOMBE HOUSE, ENCOMBE, SANDGATE

Thank you for your letter of the 21st August and I note the comments contained therein.

With regard to your final paragraph I would advise you that the Appellants have not withdrawn the appeal but have asked the Department of the Environment to hold it in abeyance pending the outcome of this subsequent planning application.

Yours faithfully,

for Controller of Technical  
and Planning Services

DEFRA. No records  
that far back



RAJ/CJG/S/Soc.

24th October 1991

Controller of Technical and Planning Services,  
Shepway District Council  
Civic Centre,  
Castle Hill Avenue,  
Folkestone CT20 2QY.

Attention Planning Officer, Mrs. S. Yates

Dear Mrs. Yates,

17 Encombe - Ref. 91/0689/SH

I thank you for your detailed letter dated 9th October 1991 which will be brought to the attention of the Committee in due course.

I am sure that the Committee would want me to ask that if there is to be a planning embargo in the Encombe area until the effectiveness of the stabilization works can be assessed, then can some of the sites which have been left in an untidy condition be restored by the applicants or owners. Specifically, I refer to the demolition site on the esplanade, the breach in the wall alongside West Wedge, and of course, more importantly, the Enbrook House site and its perimeter wall.

I am also glad to note from your letter that the right of way along the track to the south west of the site will be kept open for access to the general public.

Yours sincerely,

Roger A. Joyce

cc

Mrs. J. Thompson  
33 Bybrook Field,  
SANDGATE.

*Spoken*

Your Ref.  
Our Ref. Miss J Thomas/EMW/91/0689/SH  
Ext. 467



**SHEPWAY  
District Council**

The Civic Centre,  
Castle Hill Avenue,  
Folkestone,  
Kent CT20 2QY.  
Telephone: (0303) 850388  
Fax: (0303) 58854  
DX 4912 Folkestone

9 October 1991

Mr Roger A Joyce  
The Sandgate Society  
Stowting Court Barn  
Stowting  
Ashford  
Kent TN25 6BB.

11 OCT 1991

Dear Mr Joyce,

**TOWN AND COUNTRY PLANNING ACT 1990  
APPLICATION: 91/0689/SH - 17 ENCOMBE SANDGATE**

I refer to this application and your letter of 28 August 1991 and apologise for the delay in replying which was due to lengthy consultation between departments.

The Encombe area is a known area of active landslip. In recognition of this, stablization works have been carried out recently and a monitoring programme is in hand to ascertain its effect. It is considered that, in general, no development should be permitted in this area until the stablization works have been shown to be effective.

The right of way along the track to the south west of the site is proposed to be used for access to the site and there is no proposal to block access for the general public.

Yours sincerely,

*Susan H. Yates*

for Controller of Technical  
and Planning Services.



# The Sandgate Society

The Old Fire Station  
51 High Street, Sandgate,  
Kent CT20 3AH  
email: sandgatesociety@uk2.net

Reply to: Mrs L.Rene-Martin  
Coast Cottage, 149 High St.  
Sandgate, Kent CT20 3DA

18 July 2005

TO THE PLANNING INSPECTORATE Bristol BSL 6PN

Appeal Reference: APP/12250/A/1180693

Site of the former Encombe House, Encombe, Sandgate. Ref: Y03/0392/SH

The Committee of the Sandgate Society has recently asked me to represent the Society (approx 470 members) in person at the forthcoming Appeal hearing, and I now take the opportunity to append a follow-up to the Society's strong objections (4 July 2005) with supporting written and pictorial evidence for consideration.

I am a founding member of the Society (1962) with widespread local knowledge, in particular the Encombe vicinity and its ongoing problems since my grandfather in 1932, bought the Coastguard cottage on Sandgate High St. and where I now reside. Author of SANDGATE - Rise and Progress of a Village (2004), I attach some extracts (Item A).

The Society's objectives include Conservation and Enhancement. It not only shares the concerns of Encombe residents who have registered their own objections, the Society also is alert to the experience and ongoing concerns of members and others living within a wide perimeter of Encombe estate itself, (i.e. heave and creep, underpinning, rotational movement, cracks etc) and who could suffer further risk and loss (Item B)

(Note: In 2004 my insurance deductible for subsidence doubled to £1000.)

Furthermore, the current Shepway legal warning in answer to land searches (Item C) and Latchgate conditions set a contradiction which cannot be ignored.

Grounds for objections and concerns include:

1 Environmental Impact    2 Traffic Problems    3 Stability Issues and unabated WATER flow within the Encombe area and site

1 (a) The steeply rising, wooded slopes form a precious backdrop to the village Conservation Areas, and beyond. These slopes are defined as an LLA, being of local landscape importance. The proposed 80ft high-rise building sited 40m. above OD, will be clearly visible and intrusive from many viewpoints including the beach (Item D) also by pleasure craft and Channel traffic off this scenic shoreline.

(b) The proposed layout will demand the sacrifice of a valuable mix of 14 mature trees (TPA No 8, G.L.) incl. Yew, Holm Oak and conifers - slow to replace.

Affiliated to Kent Federation of Amenity Societies and the Committee of the Preservation of Rural Kent.

Registered with the Civic Trust.

Registered Charity no. 280497



Environment (cont) (c) DENSITY is another governing factor. Within the boundaries of the site -- 1.65 hectares -- the well-documented fault line (NW/SE) and the steep and vulnerable slopes to the north (Folkestone beds) reduce the available building site to approx one-third of the Appellants' claim in meeting Government requirements. (Item D)

2 (a) Traffic Concerns: Described by the Appellant as an 'urban public highway' it should be noted that the present narrow, winding uphill cul-de-sac was originally designed for horse-drawn vehicles and pony traps. Following the Encombe estate development in the 1960's, the developpers succeeded in getting Folkestone BC to adopt it as a Public Highway. This driveway intersects with the A 259, a two-lane highway plus limited beachfront parking and is the only route through Sandgate

(b) Highways Authority are unable to produce statistics for main traffic flow. Thus the Appellant engaged Tony Gee Consultants to provide a brief. Their site projection of daily average movement (below the 500 norm) however fails to note peak period dangers at the intersection, i.e. morning and evening business and service traffic, and increasing leisure and tourism use at weekends. Often pedestrians have a long wait to cross the road in safety. This flask intersection is flanked by two private properties which form an obstacle to improved visibility.

3 Stability in question: (See Appellants under General). The subject of unpredictable earth movement may well crop up at the Hearing. In this complex pattern of strata and ancient landslip debris, WATER -- surface and spring water, flash floods and tidal inflow -- is the main activator of instability. In addition, no mention has been made of Climate Change, now a fact of life, nor of Global Warming, both of which are expected to bring a rise in sea levels and heavier rainfall. Already in 1978, Halcrows designed a well-point scheme (Item A) to intercept the water. Eight years later, they reported to Shepway DC much larger quantities of rainfall are entering the landslip than those intercepted by the scheme and a substantial inflow of water may be entering from other locations unknown.

(b) Inconsistencies in strata depth are another factor, and Halcrows (1967) bear this out '... it is thought that faults along this section of the coast have caused discontinuities in the alignment of the strata...' thus factors of safety must remain in doubt, in this jumbled ancient land mass.

It also became apparent that within short distance, dwelling operations in 1990-91, met with unexpected soil variations. (Item B, bottom)

(c) Serious problems identified by Southern Water Services (surface water and sewage) and Folkestone and Dover Water Services will engender heavy costs, considerable upheaval and may trigger further movement in the process. Excavation and on-site soil disposal will create further problems.

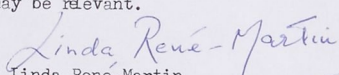
- (c) Council's concern We consider it worth quoting briefly Richard Moore, former Chief Engineer Shepway to Mrs Sue Yates, Case Officer (26 January 2005). He refers to the retaining wall 2m high along the main road Hythe to Folkestone and writes that despite stabilisation measures 1990-1 '.... there is now a potential for a new and modified slip surface developing with its toe at the of the above mentioned retaining wall ... Further .... a slip surface may be developing regardless of whether a new structure went on top of the slope and the risk of such a slip circle needs to be considered in the context of some huge historic slips that have occurred between Encombe and Sandgate in the past'.

Quoting TERRA FIRMA (Marc Ritson on Objectors' file) THE ONLY CERTAINTY IS UNCERTAINTY where the proposed development is concerned.

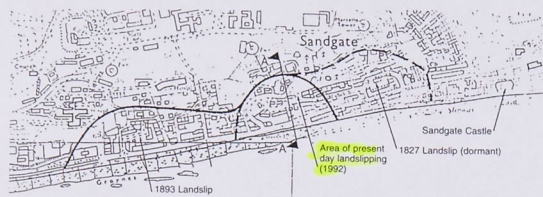
IN CONCLUSION: The Society views the proposed development as a striking concept in an inappropriate area. It can see no justification for it, either social, economic or environmental. Far from bestowing a benefit upon Sandgate as the developer claims, it will set a dangerous precedent for the hillslopes which form an essential element in Sandgate's unique character and charm and will do irrevocable harm.

The Society would not be averse to a few, well-spaced, low level, lightweight residences on concrete rafts etc. in keeping with the Encombe estate as a whole and the surrounding area.

On behalf of the Society, I hope to be present at the Inspector's hearing and I reserve the right to expand upon these background notes, to comment or present further evidence as may be relevant.

  
(Mrs) Linda Rene-Martin





- 1958 EARTH MOVEMENT REACTIVATED, 20thC; The Kent Development Plan is confirmed. It zones the notorious Sandgate hillside for residential development heedless of liability to earth movement, flooding and subsidence. The Folkestone Borough Council, in an unprecedented act of land-greed and folly, has failed in its duty to comment.

In February 1958 the Folkestone and District Water Company overhaul the high-level Reservoir NW of Encombe heights which, since its installation after World War I, is beset with problems. In November 1958 the cliff gives way behind Encombe. The Reservoir is abandoned, while new buildings and a swimming pool at the Camp show signs of cracking.

- 1962 Land & Property Development Co. Ltd. (a group of major Folkestone builders) obtains planning consent to develop the Encombe site on the basis of a limited Halcrow Report (April 1960) prepared for a previous owner for another purpose. Planning stipulations are ignored. Eight thousand tons of earth are shifted around; the contours of the land are entirely altered; fault lines are disregarded; fine and mature trees which have bonded the earth and absorbed water are hacked down despite Tree Preservation Orders. The whole pattern of natural and artificial land drainage is totally disrupted. The ornamental Water Gardens, designed to drain off surface and spring water, are utterly destroyed.\* Most damaging, the 1893 Land Drain system which has provided a measure of stability for nearly 70 years is, undoubtedly, torn-up.

Sites are sold off. Unsuspecting newcomers move in. In future, the Council is obliged to draw attention to the terrain. Around 1970, 'latchgate conditions' are imposed on new construction in parts of Sandgate but are no safeguard to adjacent properties.

- 1966 Predictably, destabilisation is widespread. Residents report tremors and both public and private property are affected. Between 1963 and 1980 Encombe House terrace subsides three times, a total of 10 ft. Settlement, fractured service pipes (80 recorded incidents between 1966-72), damaged houses, cracked roads are evident, and the seawall is at risk. Folkestone Borough Council turns its back on a serious situation: *Private property is not the Council's concern*. Local residents exert pressure, notably Alex Todd.

- 1967 Only the damning report on the Aberfan disaster stirs the Council into action. Halcrows undertake a preliminary survey. In October they admit that recent movements in Wilberforce Road and Sandgate High Street clearly indicate that parts of the ground are in a delicate state of equilibrium – also that earthworks carried out by the developers could have given rise to various disturbances *but this cannot be satisfactorily proved or disproved*.

\*At one time the Sandgate Laundry drew off 100,000 gallons per week before burning down (c.1954).

- 1968 Halcrows recommend two test borings only, on the hillside. Drilling is underway when Coastguard resident telegraphs the Mayor of Folkestone, urgently requesting a *third test boring on public property as close to toe of slip as possible*. Subsequently, this takes place near the Sir John Moore statue. Kent River Authority is unable to consider a land drainage scheme.

- 1970 The Ministry of Housing and Local Government inspects and agrees to contribute to a Coast Protection Scheme to arrest or reduce the movement. Certain Councillors under a false impression (as can be proved) insist that residents, scattered across west Sandgate, must contribute or *nothing* will be done. The Ministry also adds: *Additionally [the Council] may wish to consider methods such as beach feeding to maintain the foreshore in the vicinity of the Encombe Estate (sic), 4-5ft above the tops of the piles in order to increase the factor of safety against the slip*. Halcrows, consistently maintain that the high cost of beach feeding (i.e. road transport) is out of proportion to the marginal benefit of additional stability it would provide (Aug 1977).

- 1972 Four houses on Sandgate High Street (Nos 156-162) are so badly cracked they have to be demolished. The site becomes Wilberforce Green. Ludlow's garages, some thirty on Hillside, are in ruins. The site becomes the Wilberforce Car Park.

- 1974 Shepway District Council, the new local authority, inherits an ugly situation on two fronts – earth movement to the north and coast erosion accompanied by loss of toe-weighting, to the south. In 1977, slippages occur in the Riviera area.

- 1978 Halcrows design a Well-point scheme on Encombe to intercept ground water flowing at deep level. Encombe House, now empty and derelict, burns down in mysterious circumstances (4 Oct).

- 1979 Shepway DC report: *The Encombe Drainage Scheme has recently been completed and this should reduce the flow of water running down the hill*.

- 1986 Halcrows state that the present movement started in the period 1931 and 1957 and, thereafter, the land-mass moved 4.0 metres seaward. They also admit that the Well-point scheme is proving ineffectual: *Much larger quantities of rainfall are entering the landslide than those intercepted by the well-points and a substantial inflow of water may be entering from other locations unknown*.

Meanwhile, severe storms in the 70's and 80's increase the rate of coast erosion; beach levels are at an all-time low; timber and ironwork groynes are beyond repair; large sections of vertical seawall and promenade as far as Hythe are breached or undermined; the Trunk Road is at risk. Halcrows now advise beach feeding (i.e. toe-weighting) as the cheapest of three stabilisation methods.

(22)

- 1988 A developer applies for Planning Permission to build three blocks of flats on the Encombe plateau. The planning officer who recommends acceptance, resigns a few weeks earlier to set up in Sandgate as an independent planning consultant, and to the developers. The Planning Committee reads a detailed report compiled by a knowledgeable local resident and holds a site meeting. Permission is refused. In 1990 a Public Inquiry is held on the subject of relevant conditions in the new Shepway District Local Plan. The Inspector turns down a specific objection: *There can however be no absolute guarantee [concerning] the period of time which will be needed to allow the upper land on which the Encombe site is located, to settle, and the Council would have to be satisfied that development would not initiate any further instability*.

From 'Sandgate - Rise & Progress of a Village' by Linda Renee Martin © 1998  
Second Edn. 2004





No 145, Coastguard terrace, High St. Sandgate  
Cracks before repair Oct: 1997

Below 1990/1 : Dowelling unexpectedly meets  
boiling sand. Two week delay while extra 3m.  
casing is welded on, various locations



Above: Cracks re-open. 'Stopped' June 2005







Below: Oct 1997  
 Left: June 2005

(B)



High Street Sandgate  
 Collapsed wall, 2005

Wilberforce Rd. area. Earth movement

**SHEPWAY**  
DISTRICT COUNCIL

Your Ref:  
Our Ref: 5.C2850/2/O'Callaghan  
Direct Dial: 03/1100  
Fax: 01303 852234  
E-Mail: 01303 852293  
clare.blundell@shepwaydc.gov.uk



7 May, 2003 (Currently in use)

Dear Sir/Madam

I would advise that there is a long history of landslip movement at Encombe.

In 1978 a drainage scheme comprising the installation of well points to the rear of the major landslip was implemented to intercept ground water flow and reduce ground movements. After the installation of the wellpoint scheme, the rate of movement of the landslip only marginally reduced and consequently the Council's consultants, Sir William Halcrow and Partners, were requested to re-evaluate the effect of the drainage system and report on methods of stabilising the landslip.

The consultants recommended that the landslip mass should be anchored to the underlying stable ground by piles installed along Sandgate Esplanade. These works were completed in 1991. Subsequent monitoring, to the present date, has provided evidence to suggest that the major landslip has been stabilised. However, as the land mass continues to consolidate against the piles, localised small movements are likely to occur and the Council can give no guarantee that further movement will not occur. Monitoring still continues in accordance with consultants' advice.

No doubt you will wish to seek independent professional advice on any implications that might arise from this information.

Yours faithfully

P.P.

Mrs C Blundell  
Legal Services Administrator

P.J. Wignall  
Solicitor to the Council

Shepway District Council  
Civic Centre, Castle Hill Avenue, Folkestone, Kent CT20 2QY  
Tel: 01303 850388 Fax: 01303 852293 DX 4912 Folkestone  
E-Mail: shepway.dc@shepwaydc.gov.uk  
www.shepway.gov.uk



INVESTOR IN PEOPLE





Sandgate View taken from beach June 2005 looking up to Encombe Estate  
Proposed development will intrude on wooded hillside  
(40 m. above sea level)





1970



23 bedrooms  
incl: servants  
annex:  
38 ft piles  
failed to  
support  
loggia

## ENCOMBE

Sandgate, Folkestone, Kent (Auction Brochure 1970)

Proposed building —  
6 storeys plus garage  
undercroft, roof terrace  
with sunrooms  
provides 42 units  
and 102 bedrooms  
i.e a 450% increase

300 ft. wide at base  
82 ft. high



Early 1980's. (House burnt down 4. Oct 1978)



JUNE 21 : 2005

low tide, streams flowing  
from land to sea — also loss  
of toe weighting. Temporary  
according to littoral drift and  
spring tides.

Beach fronting Encombe estate  
and C.G terrace





BOROUGH OF FOLKESTONE  
ENCOMBE ESTATE DEVELOPMENT SANDGATE

FIG. 2  
TO ACCOMPANY REPORT  
DATED JANUARY 15<sup>TH</sup> 1969

RAINFALL IN INCHES  
PER DAY

*Rainfall in 24 hours to 10.00 B.S.T.  
at West Terrace, Folkestone*

BOREHOLE 1

BOREHOLE 2

BOREHOLE 3

PIEZOMETRIC LEVELS: DEPTH BELOW TOP OF BOREHOLE  
FEET

SEPT.    1    2    3    4    5    6    7    8    9    10    11    12    13    14    15    16    17    18    19    20    21    22    23    24    25    26    27    28    29    30    OCTOBER    NOVEMBER    DECEMBER

CHART OF RAINFALL AND PIEZOMETER LEVELS  
FOR PERIOD FROM 1<sup>ST</sup> SEPTEMBER 1968

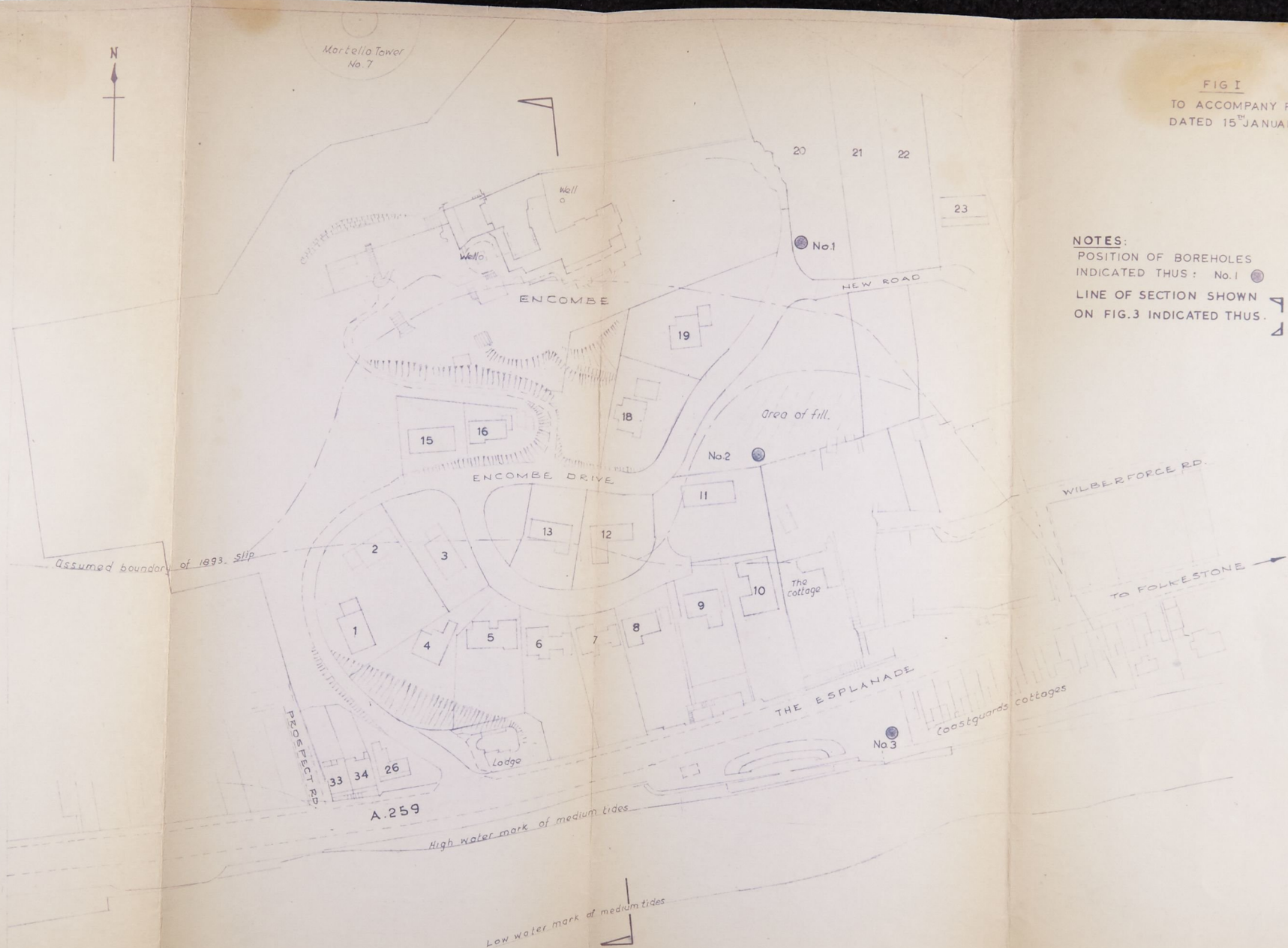


FIG I  
TO ACCOMPANY REPORT  
DATED 15<sup>TH</sup> JANUARY 1969

NOTES:  
POSITION OF BOREHOLES  
INDICATED THUS: No. 1 ●  
LINE OF SECTION SHOWN  
ON FIG. 3 INDICATED THUS: ▴

BOROUGH OF FOLKESTONE  
ENCOMBE ESTATE DEVELOPMENT SANDGATE  
PLAN SHOWING POSITIONS OF BOREHOLES

Scale. 1:1250