



The River Stour



NRA

National Rivers Authority

Guardians of
the Water Environment

CATCHMENT MANAGEMENT PLANS

THE ISLE OF WIGHT
THE EAST HAMPSHIRE RIVERS

CONSULTANTS BRIEF

CATCHMENT MANAGEMENT PLANS

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SECTION 1

INSTRUCTIONS TO TENDERERS

1. TENDER DOCUMENTS AND ACKNOWLEDGEMENT OF RECEIPT

Tenderers will receive Tender Documents as listed in the letter of invitation to tender. The Tenderer shall promptly acknowledge receipt of the Tender Documents.

2. CLARIFICATION

If there is any query regarding the meaning of the Tender Documents the Tenderer shall set out such queries in writing for clarification by the Authority. If nevertheless at the time of tendering any such doubt should remain, the Tenderer shall submit a statement setting out these doubts with his tender.

3. ADDENDA OR CORRIGENDA

Prior to the date for the submission of Tenders the Authority may issue Addenda or Corrigenda to clarify modify or add to the Tender Documents. A copy of each Addendum or Corrigendum will be issued to every Tenderer and shall become part of the Tender Documents. The Tenderer shall promptly acknowledge receipt of each Addendum or Corrigendum using the form of acknowledgement provided.

4. PRE TENDER INSPECTION

Tenderers, before entering upon any land or premises being the Site of any of the works comprised in this Contract to inspect same, must make prior arrangements to do so through the Liaison Officer (as stated in the Letter of Invitation).

5. RETURN OF TENDERS

The Tender Documents must be returned using the addressed return cover provided (not bearing any identification of the sender) to the offices of the Authority not later than noon on the date stated in the letter of invitation to tender.

6. SUBMISSION OF TENDER

Tenders shall be submitted by completion of the Form of Tender, Memorandum of Agreement and Supporting Documentation. Every item in the Memorandum of Agreement or Supporting Documentation for which the Tenderer would expect to be paid under any ensuing Contract shall be legibly priced in ink.

7. ALTERNATIVE TENDER

If the Tenderer considers that he can offer any advantage by submission of an alternative he may submit with his Tender a document giving full details of any such alternative. However, such an alternative will only be considered if it constitutes a fully priced alternative Tender and is submitted with a bona fide Tender in accordance with the Tender Documents.

8. ERRORS

Following receipt of tenders, they will be arithmetically checked. Tenderers will be notified of any errors and amendments and asked either to confirm the revised Tender Total or withdraw their tender. If any discrepancy exists between information contained in the Memorandum of Agreement and the Supporting Documentation, the Memorandum of Agreement will prevail.

9. WITHDRAWAL

If a Tenderer decides that he is unable to submit a tender he shall immediately notify the Liaison Officer responsible for the project (as stated in the letter of invitation). The Tenderer must then return all Tender Documents to the Authority, including any copies using normal letter post. The Tenderer shall state in writing the reasons for withdrawal.

10. ACCEPTANCE OF TENDER

The Authority does not bind itself to accept the lowest or any Tender, nor will the Authority be responsible for or pay for any expenses or losses incurred by the Tenderer in the preparation and presentation of his Tender.

11. PRESENTATION OF PROPOSALS

Tenderers may be required to make a presentation of their proposals as part of the Tendering procedure.

12. CONFIDENTIALITY

Tenderers shall not divulge to any third party any confidential information belonging to the Authority which may become known to the Tenderer.

Please Return to: Insurance Section

TO: NATIONAL RIVERS AUTHORITY

CERTIFICATE - PROFESSIONAL INDEMNITY INSURANCE

CONSULTANT(S):
PRINCIPAL OFFICE:
CONTRACT TITLE:
REFERENCE: TENDER NO:
PERIOD OF CONTRACT FROM:
NAME OF INSURER:
REGISTERED OFFICE:
POLICY NO: EXPIRY DATE:

THIS IS TO CERTIFY THAT the Consultant(s) is/are indemnified by the above numbered policy against liability at law for damages and claimants and defendants costs and expenses in respect of breach of contract and/or their professional duties in the performance of the above contract. The indemnity limit is £ any one claim but without limit as to the number of claims in any one year.

In addition, the policy

- (a) indemnifies the National Rivers Authority as Principal
- (b) extends to the liability of outgoing partners
- (c) covers breach of warranty of authority
- (d) covers contract supervision

Specific exclusions or limitations (if any):

Warranties:

WE UNDERTAKE to inform you if the cover is terminated or amended in respect of any matter referred to in this certificate

Signed:
Date:
Name:
Insurer/Brokers:
Address:

NATIONAL RIVERS AUTHORITY - SOUTHERN REGION

PREPARATION OF CATCHMENT MANAGEMENT PLANS

SECTION 2

THE CONSULTANTS BRIEF

2.1 Background Information

2.1.1 The National Rivers Authority is preparing Catchment Management Plans (CMP) for all rivers in England and Wales, which integrate its own proposals for the future with those of other river users. Within the Southern Region thirteen Catchment areas have been identified, six of which are already the subject of CMPs; it is the intention of the Authority to appoint consultants to assist with data collection and the preparation of Catchment Plans for the remaining seven.

2.1.2 The process is described in the supporting NRA document "Catchment Management Planning Guidelines, August 1993". It involves the production of a descriptive Consultation Report, public consultation and publication of a Final Report which includes an action plan.

2.1.3 The current invitation to tender is for consultancy services relating to the preparation of Catchment Plans within the financial year 1994/95. These three plans are for the areas shown on the accompanying maps.

(1) The Isle of Wight, and

(2) The East Hampshire area being the catchment of the rivers Hamble, Meon, Wallington and streams draining the area eastwards to the Sussex/Hampshire border (but excluding the River Ems), and also Portsea Island, Hayling Island and the tidal waters of Portsmouth and Langstone Harbours.

Contractors are invited to tender for individual plans or for both of them, in which case the costs of producing individual plans should be priced and invoiced separately.

2.1.4 It should be noted that unlike previous plans which were based on river catchments, these plans are based on geographic areas. This is because individually the rivers within these areas are small, and this point will have to be borne in mind when reading section 2.4 of the Catchment Management Planning Guidelines.

2.2 Specification

2.2.1 The base document for the production of the plans is the "Catchment Management Planning Guidelines, August 1993". A typical example is given in the supporting documents for the River Itchen.

2.2.2 Maps illustrating catchment uses etc. will be A4 size and coloured. The NRA will provide a digital base map as Autocad DWG files; headings, text and topic-specific overlays derived from catchment data will be prepared by the Consultant.

2.2.3 The Consultant will submit reports and data both as printed hard-copy and as digital Wordperfect 5.1 or ASCII files provided on 3.5" DS/HD 1.44MB computer discs. Map overlay data will be in a digital format readable by Autocad.

2.2.4 The Consultant will manage all the printing contracts for the Plan documents both at the Consultation and Final version stages. In the fee structure provision is made for the management fee to be entered as a percentage of the printing and publishing costs.

2.2.5 The Consultant will be responsible for producing the display material for use at public meetings, but will not be expected to attend these meetings.

2.3 Time Periods

2.3.1 Within twenty weeks of appointment the Consultant will submit a draft Consultation Report to the Client, including data, maps, diagrams, text and a schedule of issues identified as being important for the management of the catchment, having regard to Government policy, local authority objectives and the responsibilities of the NRA. A range of management options will be identified for the resolution of each catchment issue, together with estimates of their costs.

2.3.2 Within four weeks of receipt from the Client of edited draft documents, the Consultant will produce camera-ready copy in the approved NRA format for printing. Artwork for printing covers will be provided by the NRA.

2.4 Project Management

2.4.1 The NRA Project Manager will be John Chandler who may be contacted on 0903 820692 Extension 2164.

2.4.2 Liaison for data collection will be with the NRA Hampshire Area Manager and his staff.

2.4.3 It is anticipated that monthly progress reports will be required and the Consultant is to price for producing these. In addition four formal progress meetings will be required and these will take place at the Consultants office, the Consultant is to include for writing the minutes.

2.4.4 A monthly financial statement is to be produced by the Consultant to monitor staff charges. This should be produced and sent together with the monthly invoice.

2.5 The Proposal

- 2.5.1 The Consultant is invited to include in his proposal the names and curriculum vitae of the staff that are planned to be used on the project together with their function. It is also important to show precisely the involvement of any of his Area Offices that the Consultant may have within the Southern Region of the NRA.
- 2.5.2 It will also be important for the Consultant to give details of experience on similar projects during the past five years.
- 2.5.3 The quality assurance systems currently used in the Consultant's practice should be given in outline, together with a copy of BS. 5750 accreditation certificate.
- 2.5.4 A statement of the use of any sub-consultants, the scope of their involvement with the study and their BS. 5750 accreditation.
- 2.5.5 A bar chart showing the time related elements of the study and key decision points.
- 2.5.6 A narrative to support the bar chart detailing the approach and methodology to be used for the Study.
- 2.5.7 A listing of reports (other than those provided by the client) and research papers which the Consultant proposes to refer to during the study.

SUPPORTING DOCUMENTS

1. Typical Catchment Management Plan for the River Itchen
(enclosed).
2. Typical Consultation document for the River Itchen
(enclosed).
3. Catchment Management Planning Guidelines - August 1993
(enclosed).
4. A catchment description of the Meon and the Rivers of the
Isle of Wight (NRA Publications).
5. Maps of the Isle of Wight, and the East Hampshire catchments
together with principal statistics.

THE ISLE OF WIGHT

The River Yar (Eastern)

Catchment Area 88 km, main river length 22 km. The main tributaries are the Wroxall Stream and Scotchells' Brook. 7% of the catchment is urbanised, 90% to agriculture and 3% wooded. The largest urban areas are Sandown and Shanklin.

Palmers Brook, Blackbridge Brook, Wootton Creek, Monktonmead Brook and Springvale Brook.

The total catchment area of these small streams is 43 sq km in the north east of the Island. Ryde and Wootton form a significant part of the 11% urban use, 18% is woodland and 71% Agricultural.

The River Medina, Merstone Stream and Lukely Brook

The total catchment area is 70 sq km, with 5% of the catchment to urban use, 8% woodland and 87% agricultural. The major town is Newport.

The Newtown River

The catchment covers 50 sq km of agricultural land in the north west of the Island. The main tributaries are the Caul Bourne, Ningwood Brook, Clamerkin and Rodge Brook.

The Gurnard Luck

The catchment is 7 sqm and is mainly set to agriculture.

The Yar (Western), Thorley Brook and Barnfields Stream

The catchments total about 21 sq km to the west of the Island.

The Brook Stream, Atherfield and Brighstone Brooks

These streams drain into the sea along the south west coast of the Island between Freshwater Bay and Blackgang and the combined catchment is about 29 sq km.



EAST HAMPSHIRE

River Hamble

The total catchment area is 160 sq km, of which 10% is urban and the remainder agriculture. There is extensive horticulture in the coastal belt. The main urban areas are Warsash, Swanswick, Bursledon, Hamble, Hedge End and Botley. Bishops Waltham is an expanding former market town.

The principal tributaries are Ford Lake, Pudbrook Lake, Curbridge Stream and the Hungerford Stream.

Hook Lake

A small urbanised catchment of 9 sq km.

River Meon

A linear river draining a catchment of 100 sq km and flowing through the principal riverside settlements of East and West Meon, Exton, Meonstoke, Droxford, Wickham and Titchfield.

River Alver

This river drains the western parts of Gosport, having a catchment of 13 sq km. About half the catchment is urban.

Black Brook

A totally developed catchment of 5 sq km within the Borough of Fareham.

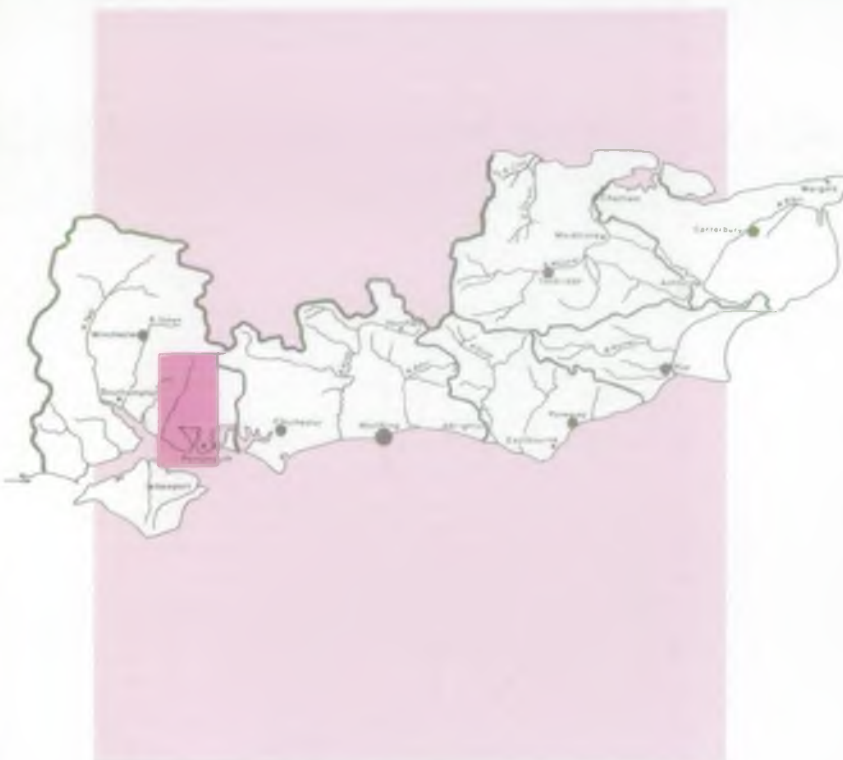
River Wallington

A mainly rural catchment of 122 sq km but the headwaters drain the expanding towns of Waterlooville, Denmead and Purbrook. The river discharges into Fareham Creek.

Hermitage Stream

A catchment of 19 sq km which can take water via a transfer pipe from the Lavant Stream (50 sq km). There is a complex of channels which drain the flows to the sea, known as the Brockhampton Stream, Mill Stream and the Lymbourne Stream.

THE RIVER MEON



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THE RIVER MEON

COURSE AND HISTORY

The River Meon is one of the famous Hampshire chalk streams. It rises as a spring 2 km to the South of East Meon, at the foot of Ramsdean Down and Butser Hill. After flowing north-west through West Meon towards Warnford, the river turns South towards the sea, passing through several villages including Droxford and Soberton. Although these headwaters are on the permeable chalk, once South of Mislingford the river begins to flow over less permeable sands, silts and clays of Tertiary age through the villages of Wickham and Titchfield. The river then finds its way to the sea at Hillhead.

The landscape of the Meon catchment was sculpted in the

Titchfield Canal



last Ice Age. Although it is unlikely that the ice sheet reached very far South, the area was certainly very cold and the ground would have been frozen to a considerable depth all the year round. Under these permanent frost conditions, frost action and very rapid runoff from rainfall shaped the dry valleys that exist today. In common with the other Hampshire chalk streams, the actual line of the river and its tributaries suggests a right angle grid pattern, reflecting the structure of the

underlying chalk.

It has been suggested that the Upper Meon upstream of Warnford was originally a tributary of the River Itchen and was captured by the Meon which had the advantage of a more direct route to the sea.

The Lower Meon and the River Itchen were once tributaries of the ancient Solent River which flowed eastwards from the River Frome to join the sea somewhere near Littlehampton in times when the Isle of Wight was part of the mainland. The Solent River system was dismembered during the Pleistocene Period when the sea made inroads into the catchment to the East and the West of the Isle of Wight.

Historically the steep gradients of the middle and upper reaches enabled the river's water power to be harnessed for iron working, wool processing, paper making, tanning, flour and grist milling as well as for the generation of electricity. The Iron Mill, North of Titchfield was one of the early pig iron manufacturers supplying Portsmouth Dockyard and used water power to drive a drop hammer. The paper mill at Warnford was a one vat mill established in 1618. Although none of the traditional working mills survive today, traces of the iron mill can be seen at Funtley and those of a substantial flour mill at Wickham. Several other mill buildings still exist along the river.

Structures built to harness water power and to improve navigation were also used for the water meadow systems of surface irrigation. Water was led onto the meadows in winter by high level distributaries or carriers (many of which still exist) and then back into the main channel. This kept the ground temperature relatively high and promoted the growth of grass. The process was labour intensive and changes in agricultural practice from sheep to dairy and arable use have been a major factor in the demise of the water meadow systems.

The name Meon is possibly a legacy of the Celtic language. Meon is a word of the same stem as Mene, Menai, etc. For the Domesday survey East Meon was part of the Mene hundred (a part of a shire) and West Meon part of the Menestoches.

GEOLOGY AND HYDROLOGY

It is the very permeable chalk that gives the river its special character. Almost all of the rainfall that falls on the chalk catchment either evaporates or soaks into the ground. In the summer the evaporation always exceeds rainfall, but in winter the rain percolates to the water table and flows underground to springs in the river valley, a process that takes a very long time. The result is that the river flow shows a slow seasonal variation peaking in the spring when the groundwater table is at its highest and receding to a minimum in the late autumn. The maximum flow in any year is typically only four to five times the minimum, unlike rivers of Kent and Sussex where the ratio is often 1 to 100 or more. Natural growth and management of the weed in the river as the flow falls away over the summer months keeps the river always looking full.

The Hampshire chalk is not entirely uniform and is split into three classes, these being the Upper, Middle and Lower Chalk. Over most of Hampshire the Upper Chalk outcrops at the surface but it is in the Lower Chalk that the river rises above East Meon where the groundwater table intercepts the surface and springs occur. Between East and West Meon the river flows over the more permeable Upper Chalk. It is there, that because of the lower water table in dry summers, the river loses water through its bed and can dry up almost as far downstream as Warnford. Here the river is referred to as being 'perched' above the groundwater table.

In the Warnford area the river flows again over the Lower Chalk, where the water table is much higher. Here there is a large increase in spring flow and the river rises accordingly. Then to the South the river crosses the Upper Chalk again and some flow is lost, though because the river is larger, the loss is less noticeable.

As with the majority of Hampshire Chalk rivers the flow is split between a number of channels over many sections of the river's length. This is often a relic of the old milling and water meadow systems, but also means that there are

not many sites with a fall in water level, where gauging weirs could be installed without interfering with hatches and levels that are in private ownership. However, the National Rivers Authority measures flow at a continuous gauging weir at Mislingford on the Chalk to Tertiary boundary where flow records go back to 1957. The catchment area above this weir is 32.8 sq km and the average flow recorded is 1.024 cu m/sec. There are also more limited records of flow in the Titchfield, Warnford and West Meon area.

The Thomas Lord, West Meon



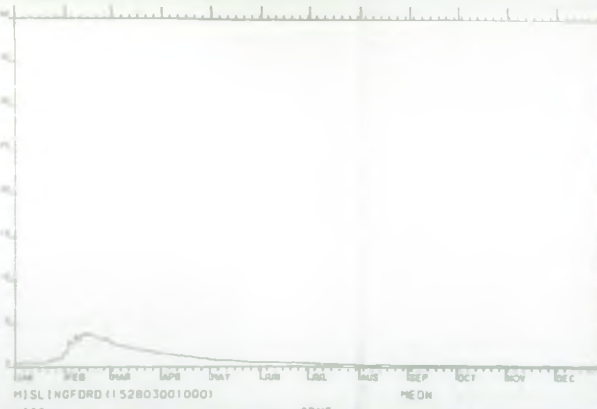
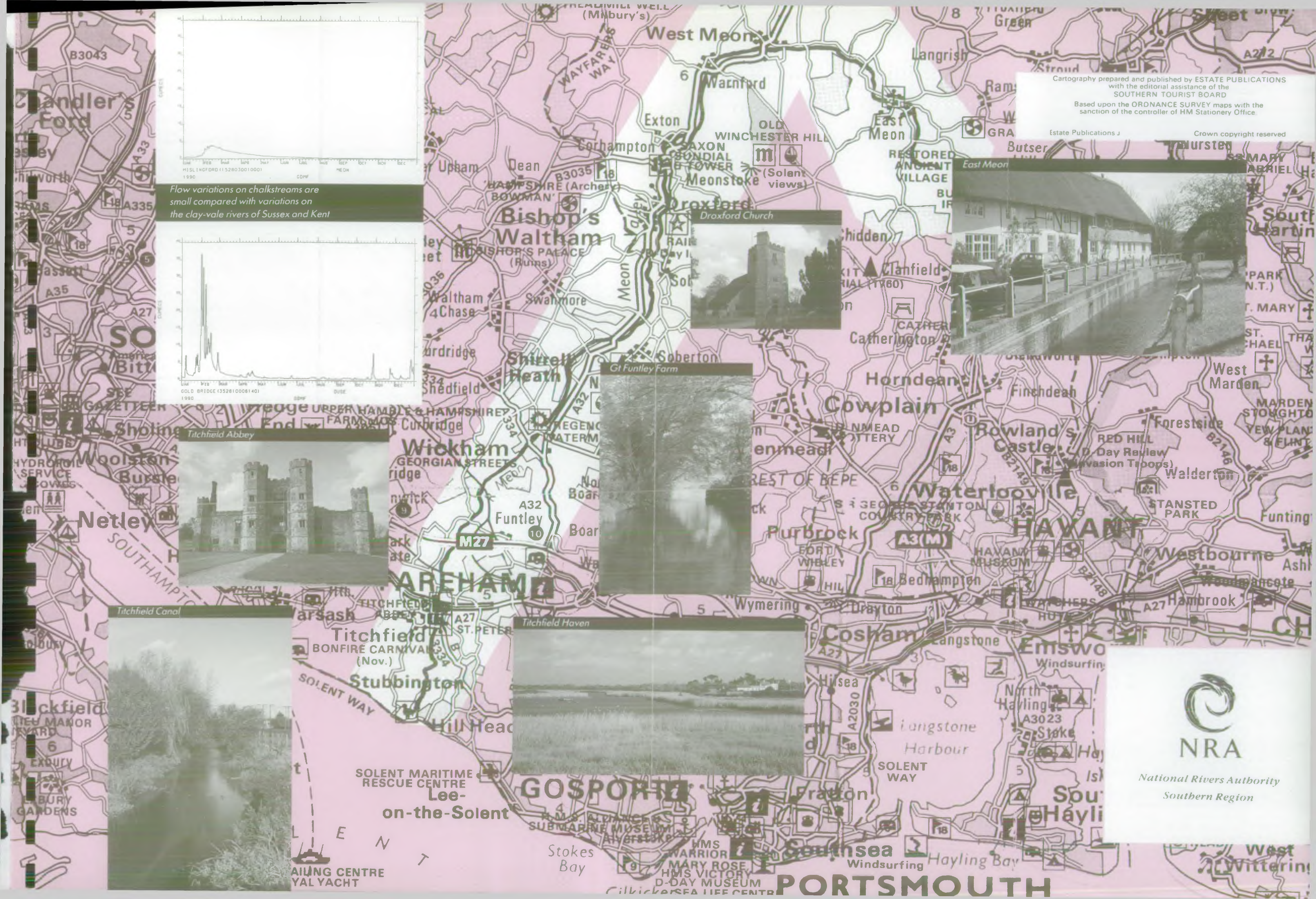
In addition to measuring flow, the NRA regularly monitors over 50 wells and boreholes to gather data about underground reserves of water. This data enables the extent of the groundwater table to be plotted. The true groundwater catchment area contribution to the Meon is slightly larger than the surface catchment.

Both the Mid Southern and Portsmouth Water Companies abstract water for public water supply at a number of points in the catchment. The major ones being at East Meon, West Meon, Soberton and West Street. These are all groundwater abstractions and there are no direct water supply abstractions from the river. The water is mostly used within the immediate catchment but there is some export towards the Portsmouth area.

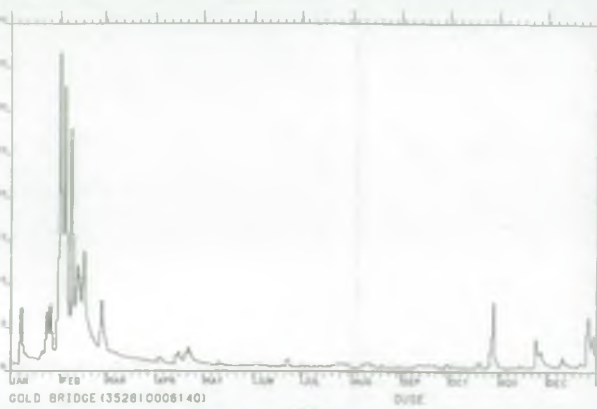
There is also a significant number of private abstractions in the Meon Valley, many of which are for spray irrigation, particularly in the Titchfield area, but there are also agricultural abstractions to the North of Droxford.

All abstractions are licensed by the NRA to ensure that the water is only taken at the right times and from where it can most be spared.

Average annual rainfall is 838 mm.



Flow variations on chalkstreams are small compared with variations on the clay-vale rivers of Sussex and Kent



Titchfield Abbey



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PORTSMOUTH

WATER QUALITY

Because of the long residence time of the river water in the chalk and the unique cleansing properties of chalk rock, water of high quality that is hard, alkaline and of relatively constant temperature flows beneath the ground into the river.

This high quality water has given rise to a thriving cress industry in the Warnford area where a good proportion of Hampshire cress is produced. It also supports a medium sized trout farm which is sited downstream of Warnford Village adjacent to Warnford Lake.

The river above Funtley is designated as a Salmonid Fishery under the EC Fresh-water Fisheries Directive which requires the water to be maintained at a high standard. Accordingly, the National Rivers Authority has set the objective that the River Meon should be of good quality and suitable for high class game and coarse fisheries (Class 1B). The river meets this objective for all 32 km of its length.

Within the Meon Valley there are only three small sewage treatment works that discharge into the river. Two of these works are operated by Southern Water Services Ltd. and serve the communities of East Meon and Wickham. The consented dry weather flows of these discharges are 127 m³/d and 750 m³/d respectively. The third sewage treatment works serves Knowle Hospital which is sited to the South of Wickham. This sewage works has a dry weather flow of 685 m³/d and is the largest sewage works discharge

The river above Wickham



not operated by Southern Water Services Ltd., in Hampshire. To ensure that the water quality of the river is protected, the NRA sets limits on all permitted

discharges restricting the strength and quality of the treated effluents that may be discharged. The discharges are regularly monitored to ensure that they meet their required quality standards.

Houses in the other smaller villages that are sited on the chalk but are not served by mains foul drainage, tend to use septic tanks which are soakaway systems for foul drainage. Septic tanks are permitted, subject to NRA licences which impose conditions on standards and quantity. Their use is only consented where there is no risk of contamination to water supply.

No industrial discharges are made into the river or its tributaries, apart from one very small cooling water discharge of 9 m³/d in Titchfield which is monitored by the NRA as a part of its routine effluent monitoring programme.

In view of the highly rural and agricultural nature of the Meon Valley, it is not surprising that the majority of the more serious pollution incidents tend to be of agricultural origin. Such incidents are rare but have arisen from the loss of silage liquors or cow slurry either by accident or due to vandalism.

The small number of incidents reflect the high degree of co-operation that exists between the NRA and the agricultural community in maintaining the quality of the river.

FISHERIES

The hard chalk water and abundance of weed have made

the river ideal for trout, and fishing takes place throughout its length. Sea trout are particularly important in the lower river with brown trout in the

middle and upper reaches. The National Rivers Authority has built fish passes at Funtley and Wickham to ease the upstream passage of sea trout to their spawning grounds and a further pass is planned for Titchfield Mill.

In the lower reaches dace are the predominant coarse fish. Mullet enter the first mile



or so of the estuary.

The high quality alkaline water in the river has made the Meon Valley ideal for the development of trout farms. Rainbow trout are grown intensively for the table and for re-stocking rod fisheries. The main farms are in the Warnford area. Each requires an abstraction licence from the NRA which regulates the amount of water that may be taken from the river. Used water returned to the river is subject to consent conditions imposed by the NRA which ensure that the river water quality is safeguarded.

FLOOD DEFENCE

The Flood Defence Department of the National Rivers Authority is responsible for improving land drainage and protecting people and property from flooding.

Generally, because of the permeability of the chalk heavy storms only affect the river flow where the rain falls on the river itself or on paved areas that drain direct to the river.

However, severe flooding occurred at East Meon and to a lesser extent at West Meon, in 1951 and 1953. Roads and

houses were seriously affected. As a result, extensive flood relief works were carried out in 1954-56. Six small arch bridges were replaced by clear span structures and the stream was widened and deepened to improve its flood capacity.

Flooding such as this is uncommon on chalk streams but the floods in the upper river in the Fifties reflected the underlying geology. In the East Meon and Warnford areas inliers of Lower Chalk reach the surface. This chalk is much less permeable than the Upper Chalk, allowing heavy rain to run-off rather than soak into the ground. Consequently the Meon has a greater range of flows than other Hampshire chalk streams where winter flows are only three to four times the minimum.

There are mills with control structures at Titchfield, Wickham, Soberton, Droxford, Corhampton and the sluice of a former corn mill at Exton.

There are also sluices at Iron Master's House, Funtley, Bridge Cottage, Titchfield and at South Farm. The sluice at Bridge Cottage is maintained and operated by the NRA whereas the other sluices and structures on the river are in private ownership.

At Hillhead, the outfall to the sea is controlled by four tidal flaps which prevent the ingress of sea water and have allowed agricultural use to be made of the valley to Titchfield. Prior to this the river was navigable to small sea going ships as far as Titchfield. The first obstruction

Hill Head Harbour



East Meon Church



of the estuary took place in 1611 when the Earl of Wriethesley built an outfall bypassed by a large canal. The structure has been rebuilt several times since then but the last major repairs were carried out by the former Catchment Board in 1947. The canal, which can still be traced by the navigation, was a failure and the port died.

An NRA biologist examining river life

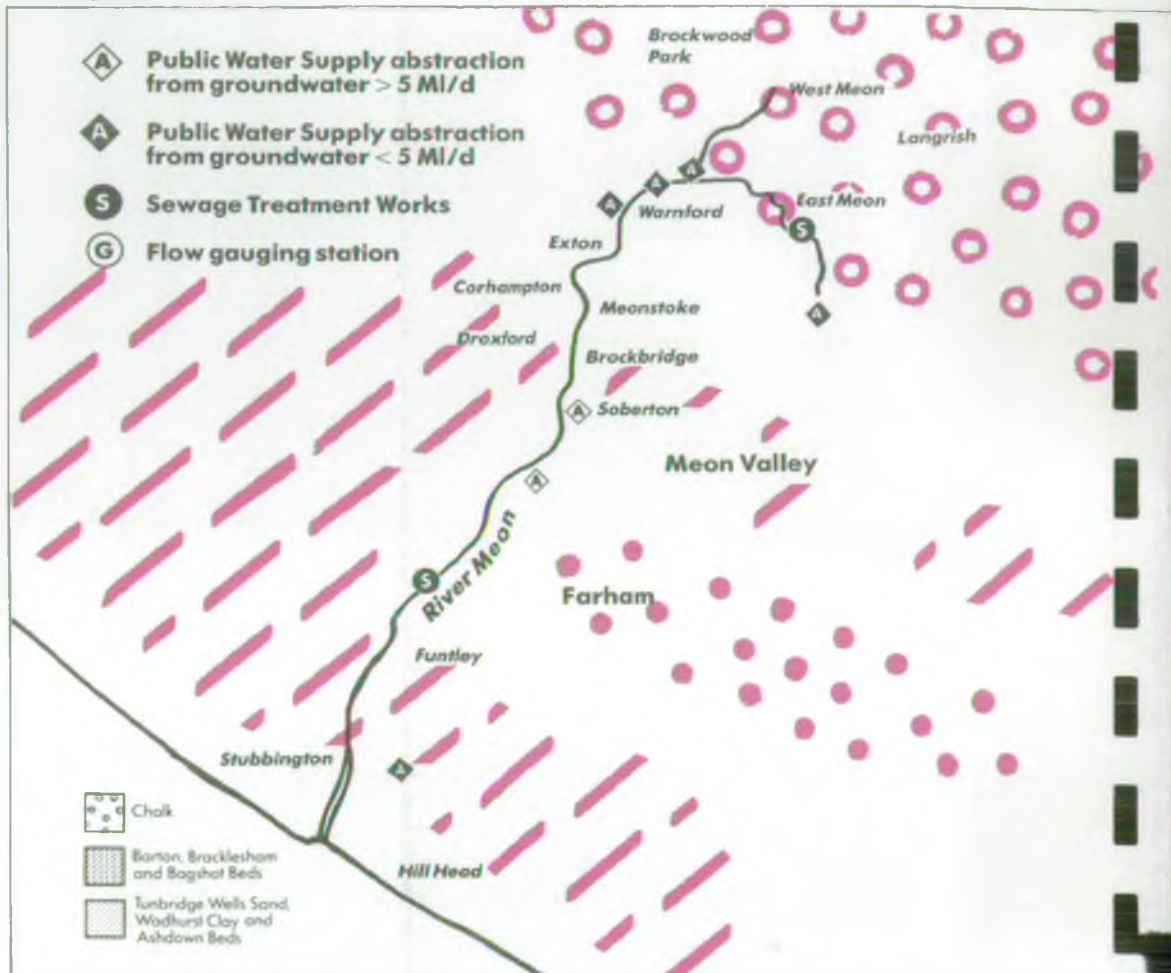


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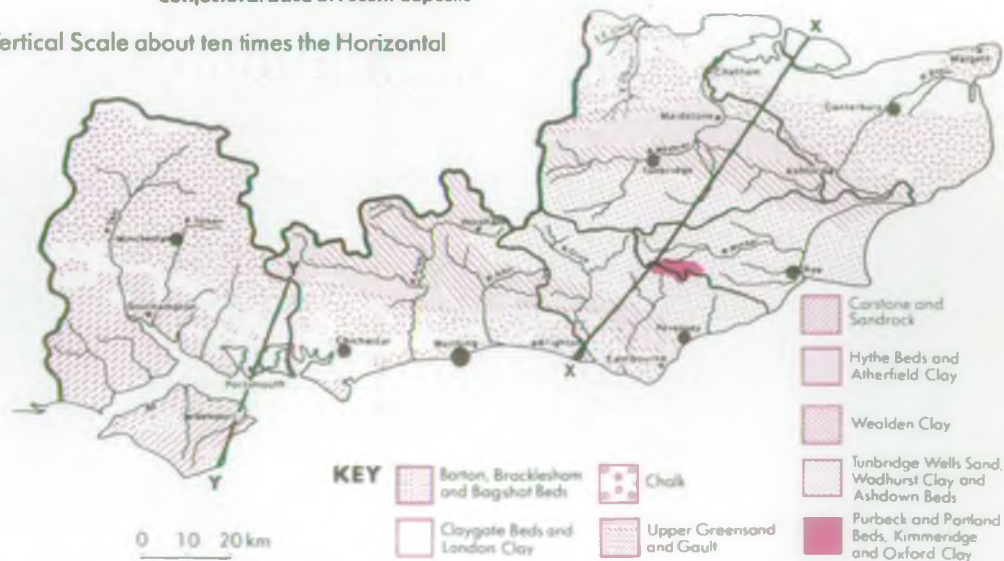
Manhire, B. *The River Meon*. Available from the National Rivers Authority.



Sections showing the general relations of the rocks along the lines Y-Y' drawn on the map



Vertical Scale about ten times the Horizontal



NRA

National Rivers Authority
Southern Region

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(0903) 820692 March 1991

RIVERS OF THE ISLE OF WIGHT



Sandown Sea Wall



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**Guardians of the
Water Environment**

RIVERS OF THE ISLE OF WIGHT

HISTORY AND GEOLOGY

The shape of the Isle of Wight resembles a diamond, measuring 23.5 miles from East to West and 13.75 miles North to South. Even though its area is only 381 sq km (155 square miles), there is contrasting landscape as a result of the varied geology.

In fact the geology of the Island is almost a microcosm of that of the whole of South East England in a very small area. There are three distinct formations, the Tertiary Clays and Sands in the North of the Island which are similar to those in the Southampton area of the Hampshire Basin, the central Chalk ridge which used to connect via the Needles to the Chalk of the Isle of Purbeck, and the Greensands, Gault and Wealden Clays in the South of the Island which equate with the Weald of Kent and Sussex.



Eastern Yar

All these rocks were laid down in a series of subsiding sea basins mainly in the Cretaceous and Tertiary geological timescales. The Northern part of the Island simply forms a continuation of the Hampshire Basin with low and undulating topography characterised by often heavy soils and many small streams. On the central ridge the Chalk rock has been bent up in a geological structure known as a monocline so that the rock on the Northern edge of the ridge is lying almost

vertically. As on the mainland there are few streams on the permeable Chalk. Across the South of the Island the Chalk used to lie in a manner similar to the Hampshire Downs but here the rivers over time have cut through the Chalk and exposed the older Greensands and ultimately on the South East and South Western coasts, the Wealden Clays. The Chalk cap of St Catherine's Down and St Boniface Down is now all that remains of a once more extensive Chalk downland. This area with its generally light sandy soils is again drained by a multitude of small streams and rivers which are often spring fed from either the Chalk or Greensands.

Where the Clays and Sands are exposed to the action of the sea on the South and East coast there are extensive areas of landslips. A subsidiary cause of this land slipping is groundwater moving through the relatively soft rocks. Some of the best examples of this can be seen around the Blackgang Chine and Brook areas where the coast is moving back at a relatively rapid rate. Where in Victorian times it was possible to walk to the sea down Blackgang Chine there is now a cliff up to 100 m high and fields, roads and properties are being lost to the sea.

Except for a few short brooks on the South coast and the steep rivulets which have created the chines of the Southern Cliffs, all the Island streams flow northwards. These include the Western Yar, the Newtown River (Caul Bourne) to the West, and the Palmer's, Blackbridge and Monktonmead Brooks to the East. Altogether there are no fewer than fifty separate catchments having outfalls into tidal waters.

The two largest rivers, the Medina and the Eastern Yar both rise as springs from St Catherine's Down which is a feature of the southern chalk outcrop. The Eastern Yar is 27 km long with a catchment of 76 sq km. The river flows North-East collecting the Wroxall Stream, the Scotchell's Brook and a number of small tributaries before it cuts through the central chalk ridge at Brading.

The River Medina is 17 km long with a catchment area of 71 sq km. The river flows due North, collecting the Merstone Stream at Blackwater before

intersecting the ridge at Shide. The Lukely Brook which rises in the Bowcombe Valley joins the Medina at the head of the estuary in Newport. The apt name of the river derives from the symmetry with which it divides the Island into the two Hundreds or Liberties of East and West Medina.



Newtown Creek, Upper Reaches

The Western Yar was once a river with a well developed system of tributaries but its upper catchment has been destroyed by erosion of the Channel coast. Protection works now prevent the sea running into the Western Yar at Freshwater Gate though the freshwater spring which is its source ebbs and flows coincidentally with the tide. The river must once have been one of the largest on the Island but is now no more than a brook with a disproportionately large estuary.

Until well after the last Ice Age the Isle of Wight was part of the mainland. A major trunk stream, the Solent River, flowed eastwards from the River Frome in Dorset along the line of the Solent and Spithead, to outfall to the sea in the Littlehampton area. Its northern tributaries would have included the Avon, Test and Itchen and its southern tributaries would have been the streams which drained from the northern slopes of Purbeck and the Isle of Wight. The drainage system was dismembered by the sea breaking into the main channel between Purbeck and the Island.

This breach occurred as a result of a depression of the land, or rise in sea level, which lasted until about 2,000 BC and also led to the submergence of the downstream reaches of the North flowing rivers, giving them their well marked estuaries. The Harbours of Yarmouth, Newtown, Cowes and

Wootton Creek owe their origins to this movement.

HYDROLOGY

Rainfall on the Island varies from about 840 mm (33") on the coast to about 736 mm (29") inland. The Isle of Wight has suffered frequent water supply problems due to its limited surface sources and high summer population. The Island is, however, well provided with underground water and following several years of short supply and hosepipe bans in the early Seventies, several new sources have been developed. The Cross Solent Main was also laid between Fawley and Gurnard to import water from the lower reaches of the River Test. In addition to this almost all properties on the Isle of Wight have individual water supply meters which were fitted in the late 1980's. These meters have resulted in a decrease in water supply demand on the island which has also helped to balance the shortfall in water resources.

The porous chalk around Carisbrooke is a long standing source of underground water which is particularly close to the surface and requires minimal treatment for potable supply. Southern Water Services Ltd pumps the water from boreholes in the Bowcombe valley and at Carisbrooke to supply the local community.

Another source of groundwater is the Lower Greensand.

Water is taken from three boreholes in the Medina catchment and transferred via a pumping station at Blackwater to the nearby Eastern Yar at Kennerly. Three other boreholes in the Yar catchment are also used to discharge directly to the headwaters of the Eastern Yar for subsequent abstraction at Sandown.

In addition to abstractions for public water supply there are a number of small abstractions from groundwaters and rivers for sand washing, cooling water and for agriculture.

All abstractions, whether from groundwater or from rivers are subject to licences issued by the National Rivers Authority, which imposes conditions to ensure that water is taken at the right times and only from the places where it can most be spared.



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NRA

National Rivers Authority
Southern Region

The NRA manages water resources by measuring river levels and flows using gauging weirs and water level recorders. On the Eastern Yar there are recorders at Sandown and Budbridge as well as recorders on the Scotchell's Brook and the Wroxhall Stream. In the Medina catchment there are recorders on the main river at Blackwater and Upper Shide, and on the Merstone Stream and the Lukely Brook.

There are more than fifty groundwater monitoring boreholes on the Island.

WATER QUALITY

River water quality is largely determined by the underlying geology, land use and urban development. Most water quality problems occur on the clay soils of the northern half of the Island, especially where there are problems with domestic septic tanks. Most livestock farming is carried out on these less well drained soils and this is reflected by the number of agricultural pollutions occurring in these areas.

However, the high level of public interest in environmental issues on the Island results in many pollutions being reported promptly to the Authority, allowing early action to be taken.

The National Rivers Authority sets quality objectives for each stretch of inland and tidal water and imposes conditions on permitted discharges to ensure that the environmental objectives are met.

On the Isle of Wight 51.5 km of river have an objective of Class 1B (suitable for high class game and coarse fisheries), and 36 km of river have an objective of Class 2 (suitable for reasonably good coarse fisheries). None of the Island's rivers have objectives of Class 3 or Class 4.

Most of the population is concentrated along the coast and the resulting domestic effluents are discharged to the sea. There is only one major inland sewage treatment works on the Island, which serves Newport and was commissioned in 1986. This discharges to the tidal River Medina at Fairlee and has a consented dry weather flow of 12,115 m³/d. There are small sewage works at Roud, Brading and St Helens discharging to the catchment of the River Yar as well as two relatively new sewage works at Wroxhall and Godshill. Dry weather flows at

these works are in the range of 300 and 900 m³/d. There is a smaller, but significant input of treated sewage effluent to the headwaters of the Medina at Chale (160 m³/d). A number of minor sewage works with flows of between 5 and 160 m³/d serve other small communities on the Island. Altogether only 6.5% of the Island's sewage is discharged to the freshwater sections of rivers and streams.

The Cowes sewerage scheme is now almost complete and the remaining few properties connected to old outfalls will be re-directed into the new sewerage system during 1992.

There are very few industrial discharges and most water quality problems result from surface water which has been contaminated with oil before being discharged from drains. In particular the Scotchell's Brook at Sandown receives significant diffuse pollution as a result of run-off from urban areas. In rural areas there are occasional pollutions from septic tanks or from farm slurry and silage.

The natural quality of the streams is variable. Those arising from springs in the chalk are well buffered and neutral, whereas those originating from the iron rich sandstones may be acidic, depositing rusty deposits on vegetation and gravel. A particularly marked contrast can be seen between the River Medina and the Merstone stream where they meet at Blackwater. The bed of the Merstone Stream draining from the Ferruginous Sands of St George's Down is vividly stained by the iron deposits.

FISHERIES

The small size of the rivers on the Isle of Wight limits their potential as fisheries though the lower reaches of the Eastern Yar at Brading and Alverstone are fished for coarse fish. The steeper, smaller streams which comprise the headwaters of the Medina and Yar are characterised by small wild brown trout, stone loaches, bullheads and eels. On the Medina these species are typical along the whole length of the river with a few fairly sizeable trout between Blackwater and Newport. Sea trout are infrequent visitors to the Medina Estuary and the freshwater reaches below Shide.

On the Eastern Yar, coarse fish such as carp are first found downstream of Horringford

with dace becoming the predominant species below Heasley Manor. Between Newchurch and Alverstone small numbers of roach are found amongst the dace and below Alverstone carp and rudd add to the species diversity. In the slow flowing waters between Yarbridge and St Helens there are good stocks of dace, roach, carp and bream together with small numbers of rudd, perch and tench. Mullet and bass frequent the estuaries.

The Eastern Yar between Horringford and its mouth, and the Medina between Chillerton and Newport are designated as Cyprinid fisheries under the EEC Freshwater Fisheries Directive. This reinforces the water quality standards to which the rivers must be protected.



FLOOD DEFENCE

The National Rivers Authority is responsible for protecting people and property from flooding by rivers and from the sea. The Isle of Wight, although exposed to the full force of storms and gales in the English Channel, is well endowed with natural defences, namely its high coastline and cliffs.

There are 4.65 km of sea defences which protect land below sea level, the most significant being Sandown Sea Wall which has a 600 year history. The NRA is responsible for 550 metres of the frontage between Fort Street and the Grand Hotel whilst the adjacent

coast protection works are the responsibility of South Wight Borough Council.

These defences prevent the sea breaking into the river system, protecting 300 hectares of farmland and about a hundred properties on the Brading and Sandown levels. The wall was strengthened in 1978 and the associated timber groynes were repaired. The Authority is also responsible for sea and tidal defences at Thorley Level, Yarmouth, Newtown, Gurnard, Ryde and the tidal walls adjacent to the sluices through which the Eastern Yar enters the Harbour.

There are 114 km (71 miles) of main river on the Island for which the Authority has flood defence responsibility. The river systems of the Island are typically small hill streams rising at the base of the chalk beneath the Downs, periods of high flow are therefore short-lived but peak flows are high. Consequently the lower reaches of the rivers, particularly the Eastern Yar and Thorley Brook, are subject to fairly frequent flooding adjacent to the main channel, especially when their discharge to the sea is tide-locked.

Following flooding of properties in the Schoolgreen area of Freshwater in August 1954 a flood alleviation scheme was carried out on the Western Yar.

Severe flooding occurred on the River Medina on October 1, 1960 when rainfall of 50–60 mm fell following a wet summer and autumn. River flooding was aggravated by tidal factors which limited the discharge of floodwater to the estuary. The valley flooded from Newport to Blackwater with the stretch below Carisbrooke being particularly badly affected. A second flooding incident followed at the end of January when rainfall of 60–70 mm produced floods in Newport which were only slightly less severe.

In response to these incidents a comprehensive flood relief scheme for 4 km of the River Medina and another for the Lukely Brook between Towngate Bridge and Westminster Mill were installed by the Isle of Wight River Authority. These schemes improved retaining walls, removed constrictions, re-aligned the channel and provided seven velocity-control weirs.

Other schemes to alleviate

flooding in the 1950s were carried out on the Shalfleet Mill Stream, Thorley Brook and on 20 km of the Eastern Yar between St Helens and Southford Mill.

At Monktonmead Brook two electrically operated pumps at the sea outfall supplement gravity drainage of water through tidal flaps when high rainfall and adverse tides coincide.

The NRA Flood Defence Department ensures that rivers are kept free from obstructions by maintaining channels and cutting weed throughout the year. It also ensures that tidal sluices are maintained in good condition.

CONSERVATION

The rivers of the Isle of Wight are small compared with those on the mainland and many have been modified by river engineering, but they support, in patches, a diverse aquatic flora. The more common species include Fool's water-cress, water mint and yellow flag as well as less common species like marsh mallow.

The river systems and associated wetlands including reed beds, marshy grassland and carr woodland provide important habitats for wildlife. Some are of national importance and have been designated as Sites of Special Scientific Interest. Freshwater Marshes, a Local Nature Reserve is such a site, where the NRA has been directly involved in management to maintain the interest of the site.

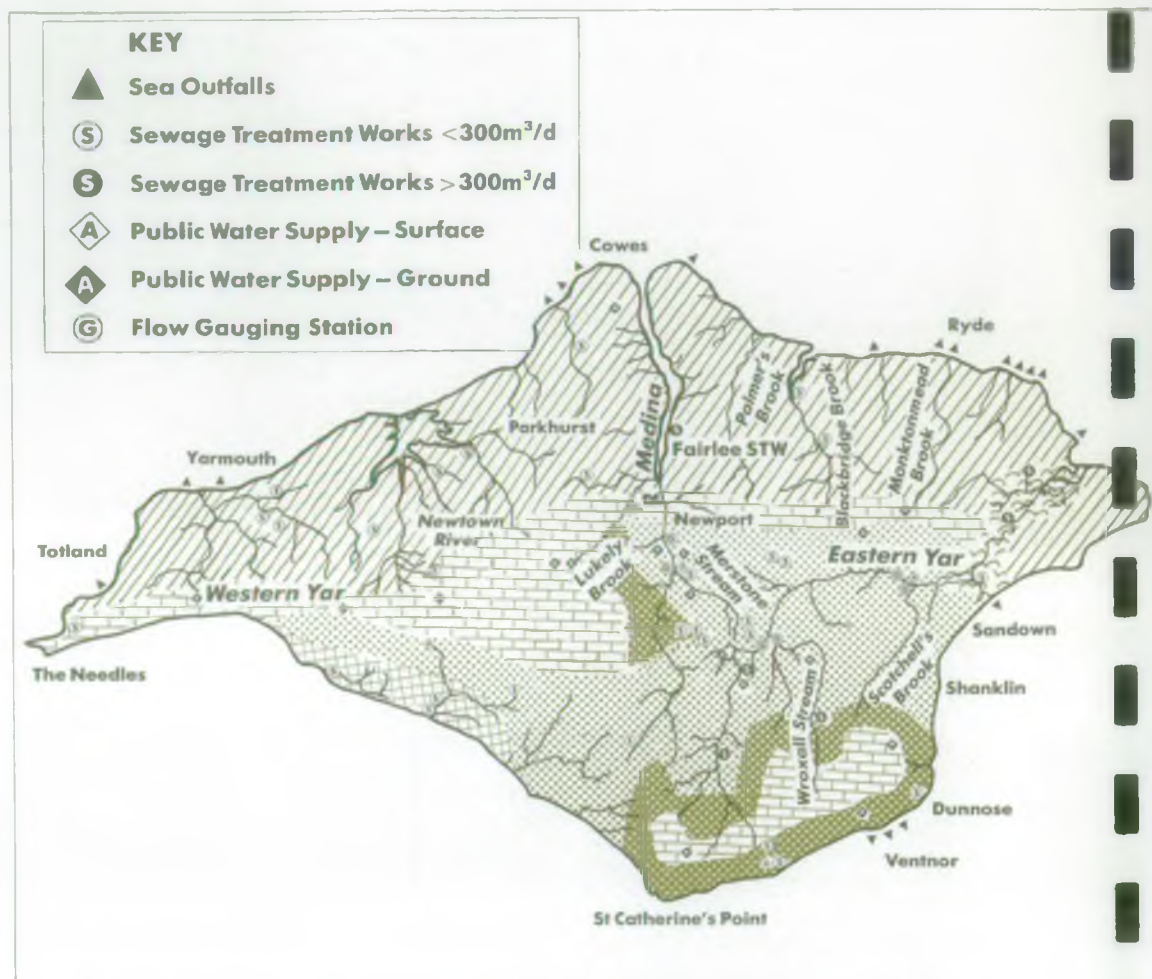
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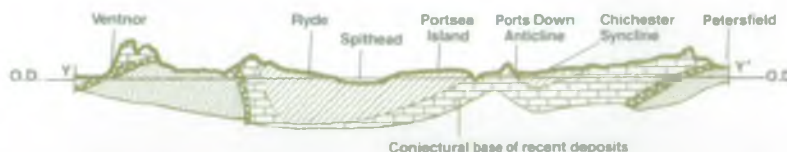
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Sections showing the general relations of the rocks along the lines Y-Y' drawn on the map



Vertical Scale about ten times the Horizontal



NRA

National Rivers Authority

Southern Region

Regional Office

Guildbourne House Chatsworth Road

Worthing West Sussex BN11 1LD

(0903) 820692

July 1992

SECTION 3 THE FEE PROPOSAL

Preamble

The Consultant is invited to submit a fee proposal for each of the catchment areas as a stand alone exercise. If sufficient funding is made available then it will be possible to let both catchment areas in one package.

The Consultant is therefore invited to price a reduction to be applied to each catchment if it is possible to commission both together.

SECTION 3THE FEE PROPOSAL3.1 General Information

The Study is to be carried out on a fixed fee basis which must include for all disbursements and out of pocket expenses. Provision is also made for a schedule of rates for time based work. This will only be used if the Authority order any work which it considers to be outside the term of the brief.

3.2 FIXED FEE PROPOSALSECTION A THE ISLE OF WIGHT

		Hours	Sum
3.2.1.A	Initial data collection from NRA Sources		£
3.2.2.A	Data collection from external sources, eg local authorities etc - please specify in the proposal section.		£
3.2.3.A	Familiarisation with the two areas including site visits.		£
3.2.4.A	Producing the draft Consultation Report text.		£
3.2.5.A	Preparation of maps and plans for Consultation Report.		£
3.2.6.A	Layout design and typesetting for Consultation Report.		£
3.2.7.A	Invitation to tender, specifications, and supervision of the printing contract for the Consultation Report, base percentage fee on contract value of £6,000	%	£
3.2.8.A	Production of monthly progress reports including cost monitoring		£
3.2.9.A	Progress meetings including the writing up of minutes (base price on 16 hrs)	16	£
3.2.10.A	Correction and addition to the text diagrams and maps for the final report.		£
3.2.11.A	Layout design and typesetting for the Final Report.		£
3.2.12.A	Invitation to tender, specifications and supervision of the printing contract for the Final Report, base percentage fee on contract value of £4000	%	£
3.2.12.A	The preparation and supply of display material for the Public Meeting.		£

Collection Sum

£

3.2	<u>FIXED FEE PROPOSAL</u> <u>SECTION B THE EAST HAMPSHIRE RIVERS</u>	Hours	Sum
3.2.1.B	Initial data collection from NRA Sources		£
3.2.2.B	Data collection from external sources, eg local authorities etc - please specify in the proposal section.		£
3.2.3.B	Familiarisation with the two areas including site visits.		£
3.2.4.B	Producing the draft Consultation Report text.		£
3.2.5.B	Preparation of maps and plans for Consultation Report.		£
3.2.6.B	Layout design and typesetting for Consultation Report.		£
3.2.7.B	Invitation to tender, specifications, and supervision of the printing contract for the Consultation Report, base percentage fee on contract value of £6,000 %		£
3.2.8.B	Production of monthly progress reports including cost monitoring		£
3.2.9.B	Progress meetings including the writing up of minutes (base price on 16 hrs)	16	£
3.2.10.B	Correction and addition to the text diagrams and maps for the final report.		£
3.2.11.B	Layout design and typesetting for the Final Report.		£
3.2.12.B	Invitation to tender, specifications and supervision of the printing contract for the Final Report, base percentage fee on contract value of £4000 %		£
3.2.12.B	The preparation and supply of display material for the Public Meeting.		£
Collection Sum			£ -----

Collection Sums

Section A. Only £

Section B. Only £

Percentage reduction to each section sums if both sections are let at the same time to same consultant.

Section A. % Revised Sum £

Section B. % Revised Sum £

* Total Fee £

* Please enter this sum in the Form of Tender.

3.3. TIME SCHEDULE TO BE USED FOR WORK OUTSIDE THE BRIEF

3.3.1 The schedule can be priced:

- either at an all in rate including disbursements as calculated in Clause 14.2 in "The Agreement".
- or as a normal multiplier on salary costs plus a percentage administration charge on disbursements.

When compiling the proposal please state which method has been used when completing the schedule.

3.3.2 Staff time rates on an hourly basis:

- | | | |
|-------|----------------------|------------------|
| i) | Partner | £ per hour |
| ii) | Associate | £ per hour |
| iii) | Principal Consultant | £ per hour |
| iv) | Senior Consultant | £ per hour |
| v) | Graduate | £ per hour |
| vi) | Senior Technician | £ per hour |
| vii) | Junior Technician | £ per hour |
| viii) | | £ per hour |
| ix) | | £ per hour |
| x) | | £ per hour |
| xi) | | £ per hour |

3.3.3 Percentage administration charge on reasonable out of pocket expenses

..... %

MEMORANDUM OF AGREEMENT
BETWEEN CLIENT AND CONSULTANT
FOR REPORT AND ADVISORY WORK

MEMORANDUM OF AGREEMENT made the day of 19
BETWEEN NATIONAL RIVERS AUTHORITY, (insert regional address)
..... (hereinafter called "the Client")
of the one part and
.....
..... (hereinafter called "the Consultant") of the other
part.

WHEREAS the Client has requested the Consultant to provide professional
services as described in the Brief hereto in connection with
.....
.....
..... (referred to in this Agreement as
"The Task")

NOW IT IS HEREBY AGREED as follows:-

1. The Client agrees to engage the Consultant subject to and in accordance
with the Conditions of Engagement attached hereto and the Consultant
agrees to provide professional services subject to and in accordance
with the said Conditions of Engagement.
2. This Memorandum of Agreement, Brief, Supporting Documentation,
Certificate of Professional Indemnity Insurance and the said Conditions
of Engagement shall together constitute the Agreement between the
Client and the Consultant.

3. In the said Conditions of Engagement:

- (a) the rate or rates referred to in Clause 9.1(a) shall be:-
.....
..... (C)
- (b) the multiplier referred to in Clause 9.1(b) shall be:-
..... (C)
- (c) the multiplier referred to in Clause 9.1(c) shall be:-
for field staff who are permanent employees of
the Consultant (C)
for field staff who are recruited specifically for the Task
..... (C)
- (d) the fee referred to in Clause 9.2(a) shall be:-
..... (C)
-
- (e) the sum referred to in Clause 9.3(a) shall be:-
..... (C)
- (f) the lump sum referred to in Clause 11.2 shall be
payable in equal monthly instalments. (C)
- (g) the intervals for the payment of instalments under
Clause 14.1(a) and the instalments referred to in the
said sub-clause shall be
..... (C)

4. The method of payment for services under Clause 6 of the said Conditions of Engagement shall be that described in Clause ~~9.1~~, ~~9.2~~ and 9.3* thereof.

(E)

*Delete as appropriate.

PROFESSIONAL INDEMNITY INSURANCE

5. The amount of professional indemnity insurance referred to in Clause 15 of the said Conditions of Engagement shall be

..... *One Million* Pounds
(£1,000,000...)

(E)

for any one occurrence or series of occurrences arising out of this engagement.

This professional indemnity insurance shall be maintained for a period of ...*3*.... years from the date of this Memorandum of Agreement, unless such insurance cover ceases to be available in which event the Consultant will notify the Client immediately. (E)

LIMITATION OF LIABILITY

6. Notwithstanding anything to the contrary contained elsewhere in this Agreement, the total liability of the Consultant under or in connection with this Agreement, whether in contract, in tort, for breach of statutory duty or otherwise, shall not exceed ...*One Million*..... pounds (£1,000,000...).

(E)

AS WITNESS the hands of the parties the day and year first above written.

Duly Authorised

Representative

of the Client Consultant

Witness Witness

Notes on Memorandum of Agreement

- (E) to be completed by the Employer prior to tender.
- (C) to be completed by the Consultant at the time of tender.

FORM OF TENDER

TO: National Rivers Authority

Dear Sirs

Having examined the Brief, Conditions of Engagement, site and made sufficient investigations, we offer to

We undertake to carry out these services within the period stipulated, and meet the targets stated in the brief for a fixed fee of £.....

It is understood that the Agreement will be formally expressed which expression may be at the discretion of the Authority be under seal and that unless such formal expression is executed this Tender, together with your written acceptance thereof, shall constitute a binding contract between us and for the time being be the appointment herein referred to.

We understand that you are not bound to accept the lowest or any Tender you may receive and that we tender at our own expense.

This Tender will remain open for acceptance for a period of 13 weeks commencing on the latest date specified for receipt of Tenders.

Dated the day of 19...

Yours faithfully

Signature: Partner
Director
Regional Manager

For and on behalf of:

Address:
.....
.....

DECLARATION RELATING TO COLLUSIVE TENDERING

The essence of tendering is that the Client shall receive bona fide competitive tenders from those tendering. In recognition of this principle, we certify that this is a bona fide tender, intended to be competitive, and that we have not fixed or adjusted the amount of our tender by, under or in accordance with any agreement or arrangement with any other person. We also certify that we have not done and we undertake that we will not do at any time before the hour and date specified for the return of this tender any of the following acts:-

1. Communicating to a person other than the person calling for the tenders the amount or approximate amount of the proposed tender, except where the disclosure, in confidence, of the approximate amount of the tender was necessary to obtain insurance premium quotations required for the preparation of the tender;
2. Entering into any agreement or arrangement with any other person that he shall refrain from tendering or as to the amount of any tender to be submitted;
3. offering or paying or giving or agreeing to pay or give any sum of money or valuable consideration directly or indirectly to any person for doing or having done or caused or having caused to be done in relation to any other tender or proposed tender for the said work any act of the sort described above.

In this certificate, the word "person" includes any person or any body or association, corporate or unincorporate; and "any agreement or arrangement" includes any such transaction, formal or informal, and whether legally binding or not.

Signed: Dated:

on behalf of:

.....

SECTION 4

TERMS OF APPOINTMENT

1. The Agreement between the Client and Consultant shall comprise the amended version of the Association of Consulting Engineers Conditions of Engagement 1981. Agreement 1 (reprinted 1990) and Memorandum of Agreement, The Brief and Supporting Documentation.
 2. All fees, costs, terms, etc shall be as entered in the Memorandum of Agreement and Supporting Documentation. The Client takes no responsibility for the accuracy of assumptions included in the Supporting Documentation.
 3. You are asked to tender for a Feasibility Report, Strategy Report, Mathematical Model (Clause 6 of the Conditions of Engagement). Payment on the basis of clause ~~9.1~~, ~~9.2~~ or 9.3 of the Conditions of Engagement.
- * Delete as appropriate.

THE AGREEMENT

"THE AGREEMENT" shall comprise the Conditions of Engagement, Memorandum of Agreement, The Brief, Supporting Documentation and Certificate of Professional Indemnity Insurance.

The Conditions of Engagement referred to in "THE AGREEMENT" are those published by The Association of Consulting Engineers, Conditions of Engagement 1981, Agreement 1 (reprint 1990) (a copy whereof may be examined at the offices of the Employer) but amended and extended as follows:-

AGREEMENT 1

CLAUSE 1 DEFINITIONS

Amend the following definition:-

"The Task" In line 1, delete "Memorandum of Agreement" and insert "The Brief".

CLAUSE 2 DURATION OF ENGAGEMENT

Add the following clause:-

2.1 Delete in line 2 "Memorandum of Agreement" and Add "Letter of Acceptance".

2.3 Delete in line 1 "the Task" and Add "the Task or part of the Task".

Add the following clause:-

- 2.8 In the event of failure by the Consultant to perform his services or obligations under this Agreement to the reasonable satisfaction of the Client, the Client may by reasonable notice to the Consultant as warranted by the circumstances terminate his appointment under this Agreement.

CLAUSE 3 OWNERSHIP OF DOCUMENTS AND COPYRIGHT

3.1 Delete this clause and insert the following:-

- 3.1 The ownership and copyright in all drawings, reports, calculations, computer software, data and other documents provided by the Consultant in connection with the Task shall be vested in the Client, but the Consultant shall have a licence to use such drawings and other documents for any purpose related to the Task. Save as aforesaid, the Consultant shall not make copies of such drawings or other documents nor shall he use the same in connection with the making or improvement of any works other than those to which the Task relates without the prior written approval of the Client and upon such terms as may be agreed between the Client and Consultant.

3.2 Delete this clause and insert the following:-

- 3.2 The Consultant may not, unless with the prior written consent of the Client, publish any articles, photographs or other illustrations relating to the Task.

Add the following clause:-

- 3.3 At any time during this appointment and on termination of this Agreement the Consultant shall promptly deliver up to the Client all documents, papers and other property belonging to the Client or acquired at the Clients expense which may be in the possession and control of the Consultant.

CLAUSE 5 CARE AND DILIGENCE

5.2 Add the following to the end of the clause

"although this clause shall in no way limit the duty to exercise all reasonable skill, care and diligence in the discharge of the services as contained in clause 5.1 above.

Add the following clause

- 5.3 "The Task involves matters of a confidential nature and the Consultant is not to communicate any matter considered confidential by the Client to any other party or individual without the Client's express approval except where information is required as a result of a contract or agreement entered into by the Client or Consultant in pursuance of the task or the associated scheme or where a statutory requirement exists.

CLAUSE 6 NORMAL SERVICES

6(a) Delete this sub-clause and insert the following:-

6(a) all or any of the services stated in The Brief.

CLAUSE 7 ADDITIONAL SERVICES NOT INCLUDED IN NORMAL SERVICES

7.3(d) Add the following to the end of the sub-clause:-

"other than those referred to in The Brief".

CLAUSE 8 INFORMATION TO BE SUPPLIED TO CONSULTANT

8.1 Delete this clause and insert the following:-

8.1 The Client shall supply to the Consultant without charge and within a reasonable time all necessary and relevant data and information described in The Brief and shall give assistance as shall reasonably be required by the Consultant in the performance of his services under this Agreement.

CLAUSE 9 PAYMENT FOR SERVICES

9.1 Delete this clause and insert the following:-

9.1 Payment at hourly rates

In respect of services provided by the Consultant under Clauses 6 and 7 the Client shall pay the Consultant:

- (a) For time spent by self-employed Principals and Consultants of the firm, including time spent in travelling in connection with the Task, at the hourly rate or rates specified in Article 3(a) of the Memorandum of Agreement.
- (b) For Directors, salaried Principals and technical and supporting staff working in or based on the Consultant's Office: Salary Cost times the multiplier stated in Article 3(b) of the Memorandum of Agreement, plus Other Payroll Cost.

- (c) For Directors, salaried Principals and technical supporting staff, in or based on any field office established in pursuance of Clause 10: Salary Cost times the appropriate multiplier specified in Article 3(c) of the Memorandum of Agreement, plus Other Payroll Cost.

Unless otherwise agreed between the Client and the Consultant, the Consultant shall not be entitled to any payment in respect of time spent by secretarial staff or by staff engaged on general accountancy or administration duties in the Consultant's office.

CLAUSE 11 DISBURSEMENTS

Delete this clause and insert the following:-

- 11.1 The rates, multiplier, fixed fee and fixed sum stated in Article 3(a) (b) (c) and (e) of the Memorandum of Agreement and referred to in Clause 9.1 and 9.3 shall be deemed to have assessed and included all disbursements properly made in connection with:-
 - (a) Printing, reproduction and purchase of all documents, drawings, maps, records and photographs.
 - (b) Telephone, telex, postal and other communication charges.
 - (c) All travelling, hotel expenses and other similar disbursements.
 - (d) Advertising for tenders and for field staff.
 - (e) Printing, postage and all other costs associated with the invitation of tenders.
- 11.2 Alternatively the Consultant may include under Article 3(f) of the Memorandum of Agreement a lump sum payment in respect of all disbursements listed in Clause 11.1.

CLAUSE 14 PAYMENT OF ACCOUNTS

- 14.3 Delete "Base Rate of the Engineers Principal Bank as stated in Article 3(h) of the Memorandum of Agreement" and insert "Clearing Banks Published Base Rate".
- 14.4 Add the following to the end of the clause
"providing all necessary supporting data was submitted by the Consultant with the original account".

Add the following clause:-
- 14.6 Reimbursement of all fees under clause 9.1 shall be subject to the maximum timescale Target Fee entered under Supporting Documentation which shall only be exceeded with the prior consent in writing of the Authority.

Add the following new clause:-

CLAUSE 15 INSURANCE

15.1 The Consultant hereby indemnifies the Client from and against any claims, demands, proceedings, damages, costs, charges and expenses arising out of injuries or damage to any person or property whatsoever (including damage which was reasonably foreseeable by the Consultant to any property to the Client) cause by or resulting from any negligence, omission, default or breach of statutory duty done or committed by the Consultant, PROVIDED however, that the Consultant's liability to indemnify the Authority as aforesaid:-

(a) shall be reduced proportionately to the extent that the act or neglect of the Client, its servants or agents may have contributed to the said loss injury or damage; and

(b) shall not extend to any such matters which are the unavoidable result of carrying out this appointment in accordance with this Agreement.

15.2 The Consultant shall effect and maintain insurance or insurances in amounts stated in Articles 5 and 6 of the Memorandum of Agreement, and with insurers approved by the Client.

The insurances under this clause shall be effected and maintained by the Consultant at his own cost and the Consultant shall complete the Certificate of Professional Indemnity Insurance as part of The Agreement.

In the event of default by the Consultant in effecting or maintaining such insurances the Client may effect and maintain such insurances and shall be entitled to recover the cost of doing so from the Consultant and may deduct any such cost from monies due to the Consultant whether under this Agreement or otherwise.

Add the following new clause:-

CLAUSE 16 NRA RULES AND PROCEDURES

In the performance of their services under this Agreement the Consultant shall comply with the requirements of the NRA Policy Implementation Guidance Note (PIN) Volume 7 and adopt all NRA Standard Documentation and regional Project Standards.

At any time during the appointment, the Client must have full and unrestricted access to the Consultant's offices in order to review and examine information and resources that form part of the Task.



NRA

National Rivers Authority

Southern Region

Regional Office
Guildbourne House Chatsworth Road
Worthing West Sussex BN11 1LD
(0903) 820692

