

FILE

Graham Leaver

From: Ian Thompson [thompsoneda@talktalk.net]
Sent: 12 January 2015 16:27
To: 'Jesse Grey'
Cc: Ewan Larcombe; Graham Leaver
Subject: RE: Doc_Eton Rd - Flood Defences .pdf

Doc 3 PAGE 1

Jesse,

Thank you for providing the attached information, and apologies for a late response due to a server failure.

May I offer the following comments;-

Whatever is installed must be a permanent solution.

Network Rail must approve the structure.

The structure must be of a height to match the existing ancient bund. (which should match the new school bund works). (I have a Survey of existing crest heights that can be made available).

The structure must be able to withstand flood water from both sides where a different source of flooding is present in each case.

Where flooding occurs on both sides of the barrier with the water level on the North side able to be higher than the south, ref 2014, there must be a means of draining this water towards the south draining culverts into the River Thames, (a one way flap valve is suggested to be installed into the new flood barrier).

This valve would relieve back pressure from the north upon the flood barrier as the flood water recedes on the southern side the water level would remain approximately equal upon each side of the flood barrier and consequently equalise the pressure accordingly therefore reducing the forces acting on the barrier under these circumstances. However, the initial flooding comes from the south side and the barrier requires to be able to withstand this force without counter pressure from the north.

Having north side back pressure relief will assist in adding to the structural stability of the wall where it is located within an outward splay to the south.

The provision of a one way valve is similar to the method and installation used by the Environment Agency to protect the Myrke Stream from the identical conditions.

The flood barrier MUST be constructed in order to prevent floodwater being pumped by the EA at Black Potts from "looping" where the EA were pumping water out of the north side into the Jubilee River, where it then entered the south side floodwater and was able to freely flow through the railway arch to the north side to a common level. The current situation is a design failure of the EA that has been aired by Datchet Parish Council at countless Borough flooding meetings since 2003.

Only action by Datchet Parish Council with the assistance of the Army and Network Rail ended this scenario by temporarily blocking the underpass in

2014 and making the pumping effective but too late.

Meanwhile It would be appreciated if you could pass these comments to the Structural Engineer and the Borough for their comments and consideration.

Regards,

Ian,

-----Original Message-----

From: Jesse Grey [mailto:jesse.grey@btinternet.com]
Sent: 08 January 2015 16:17
To: Thompson Ian
Subject: Doc_Eton Rd - Flood Defences .pdf

For info!

Kevin J Turner

Chartered Surveyors • Architecture • Town Planning

DOC 3 PAGE 2

Councillor Jesse Grey
By e-mail

Dear Councillor Grey

**Passing tunnel south of Eton End School, Eton Road, Datchet
Flood Defences**

I refer to the above and to my recent site visit and inspection.

The area inspected consists of a passing tunnel under the main railway line that connects land to the rear of Eton End Primary Scholl with Datchet Golf Club. It is clear that during the early 2014 floods significant volumes of water passed through this opening and there are the remnants of the counter measures that were put in place at that time to prevent the passage of water. This consists of old sandbags approximately 1000mm high that are stacked at a point commensurate with the narrow passage where the tunnel actually travels under the railway line.

I have examined the area and have found that the tunnel is approximately 4.5 metres in width as it passes under the railway line which is raised on an embankment. Beyond this passage, there is on both sides of the railway line a brick built retaining wall constructed in 337mm brickwork that is shaped and splayed outward over a distance of 7 metres. The walls run down from the embankment, at its highest point, being circa 2.5 metres outward to a termination point where two large brick piers are provided to the end of each wall, these piers are angled slightly and are approximately 787.5mm square and 1.2 metres in height.

On the southern (Golf Course) side the piers are basically square and roughly vertical on the northern (school) side the easternmost pier has twisted and moved outward, presumably due to ground pressure, this may need to be restrained or rebuilt. However this is a decision that the railway operator will need to make as it is unconnected with the flooding issues.

I would recommend that a barrier be constructed on the southern (golf course) side of the tunnel; this can either be a solid or demountable barrier, thus requiring mechanical fixings to the brickwork that forms the edge of the tunnel structure and the retaining wall.

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Or it can be a totally independent structure using a simple methodology such as sand bags, of the jute hessian type, that be stacked using a staggered bond (stone wall bond) to the required height. This can be confirmed with the Environment Agency but I would recommend a height of 1.5 metres as a minimum.

This form of structure would not require any mechanical fixings to the brickwork in order to restrain the structure, the bags would simply abut the brickwork and the joint between the new defences and the retaining wall can be finished with a lean mix concrete mixture to act as a seal. This can then be finished with an injected mastic to deal with any irregular joints between bags and brickwork.

The location to the barrier needs to be considered against the background of cost and effectiveness. The narrowest point between the brick retaining walls lies at the mouth of the passing tunnel and is 4.5 metres in width, assuming that the barrier is placed in a position just as the splay of the retaining walls starts; this would be circa 5 metres. The alternative is to locate the barrier at a point between the brick piers where the retaining wall terminates.

Clearly this would be more costly in terms of labour and materials and will then limit the height of the barrier to the height of the piers, i.e. 1.2 metres. Moreover the barrier would be some 9 metres in width making the barrier weaker in flood conditions because the water pressure would be imposed on a larger face of the structure. Of course you could increase the depth of the barrier but this becomes grossly uneconomic.

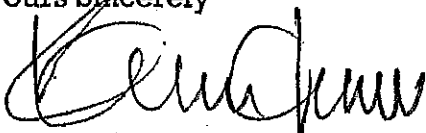
One factor to consider is that although the effect may be marginal the new barrier would add a level of restraint to the retaining wall at the suggested point.

I have prepared some plans that firstly, show the location of the site in the wider context, secondly show the suggested location at a larger scale and finally show a sketch elevation and section of what I am suggesting.

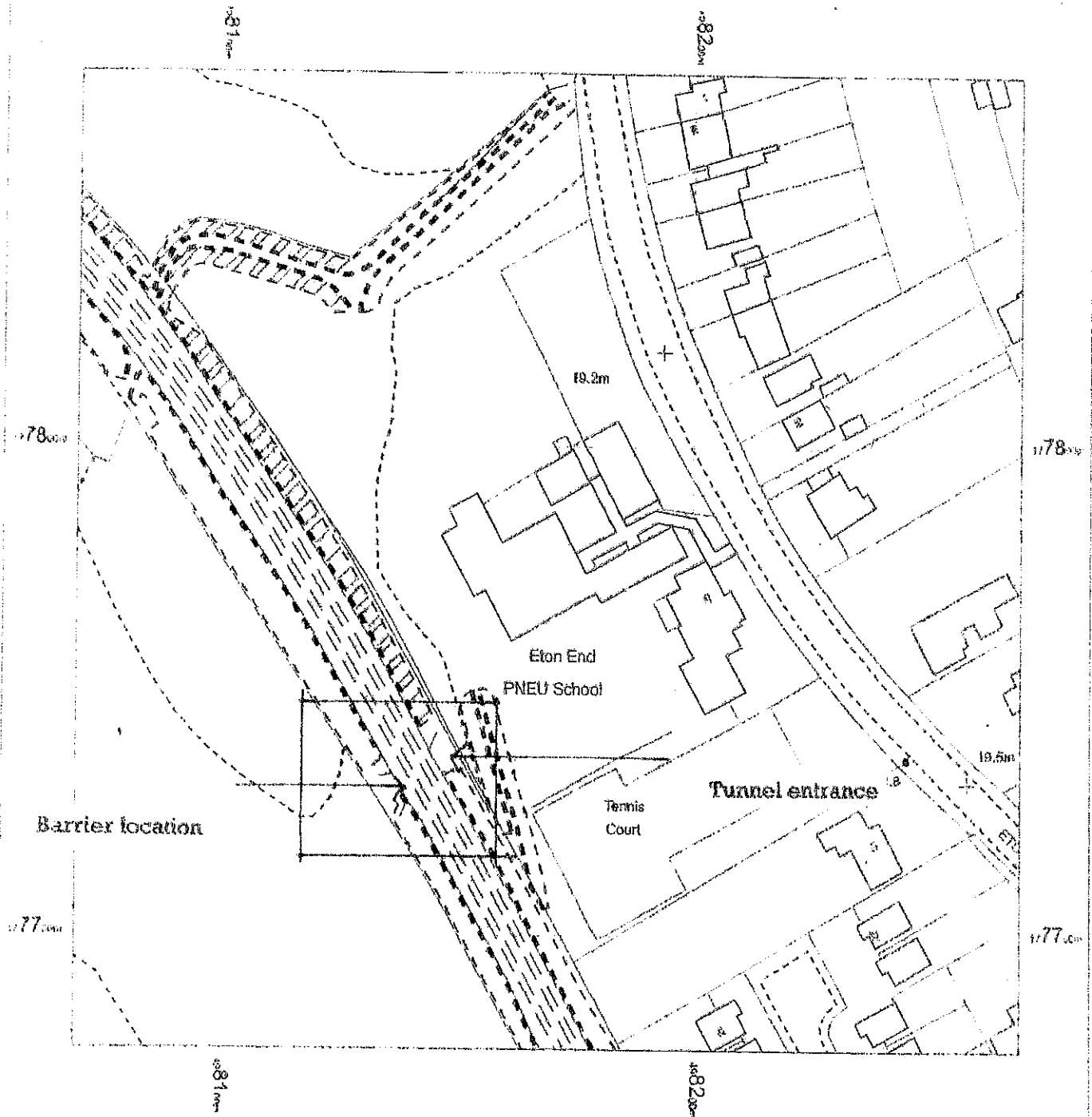
I hope this enables to consider the proposal sufficiently however should you require further information, or clarification of any matter raised in the report, please do not hesitate to contact me.

With Kindest Regards

Yours Sincerely

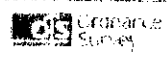
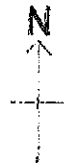


Kevin J Turner Dip U.D. FRICS



ETON END SCHOOL
 ETON RD
 SL3 9AX

OS MasterMap 1:250/2500/10000 scale
 07 January 2013, ID: BW1-00389671
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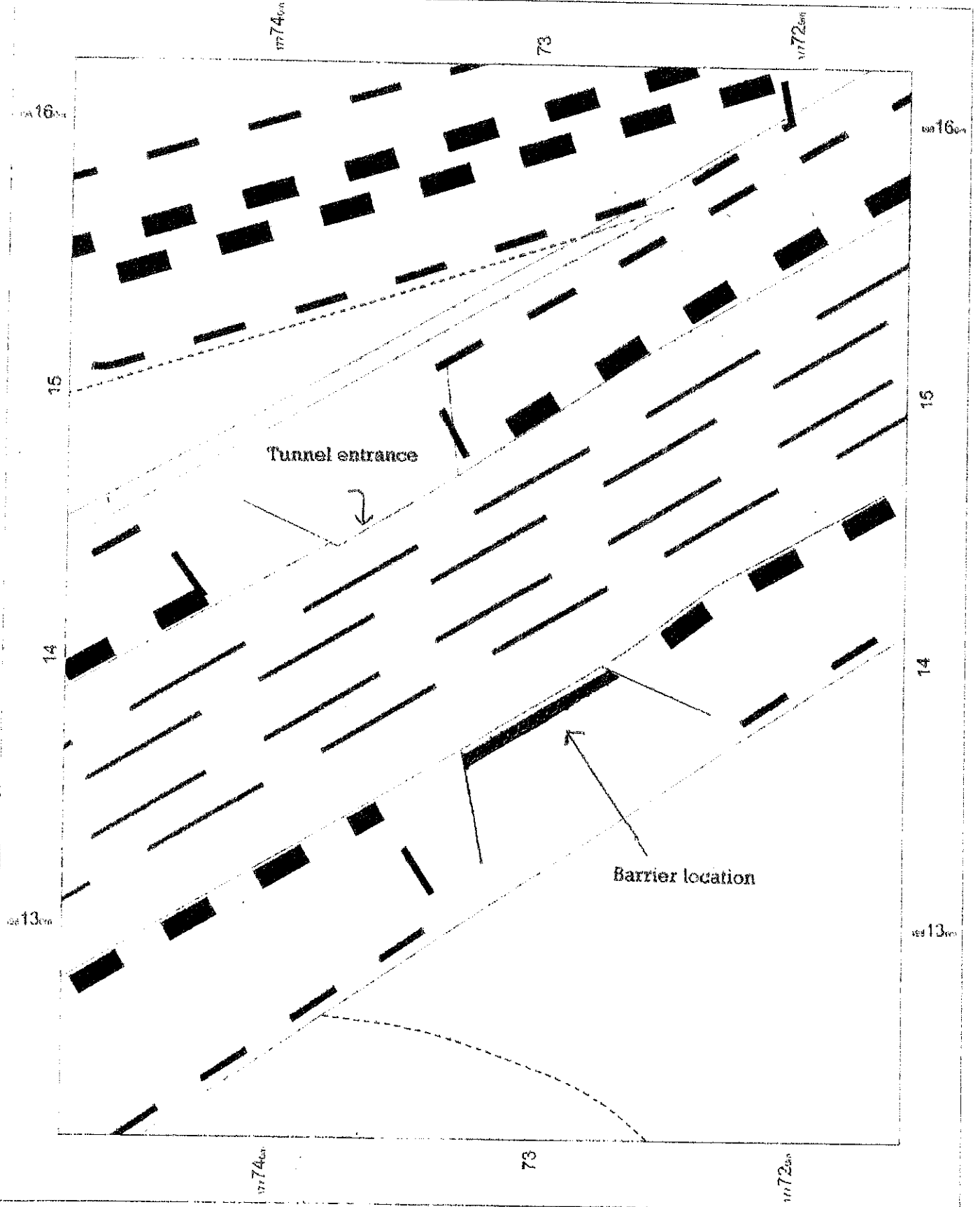
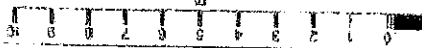


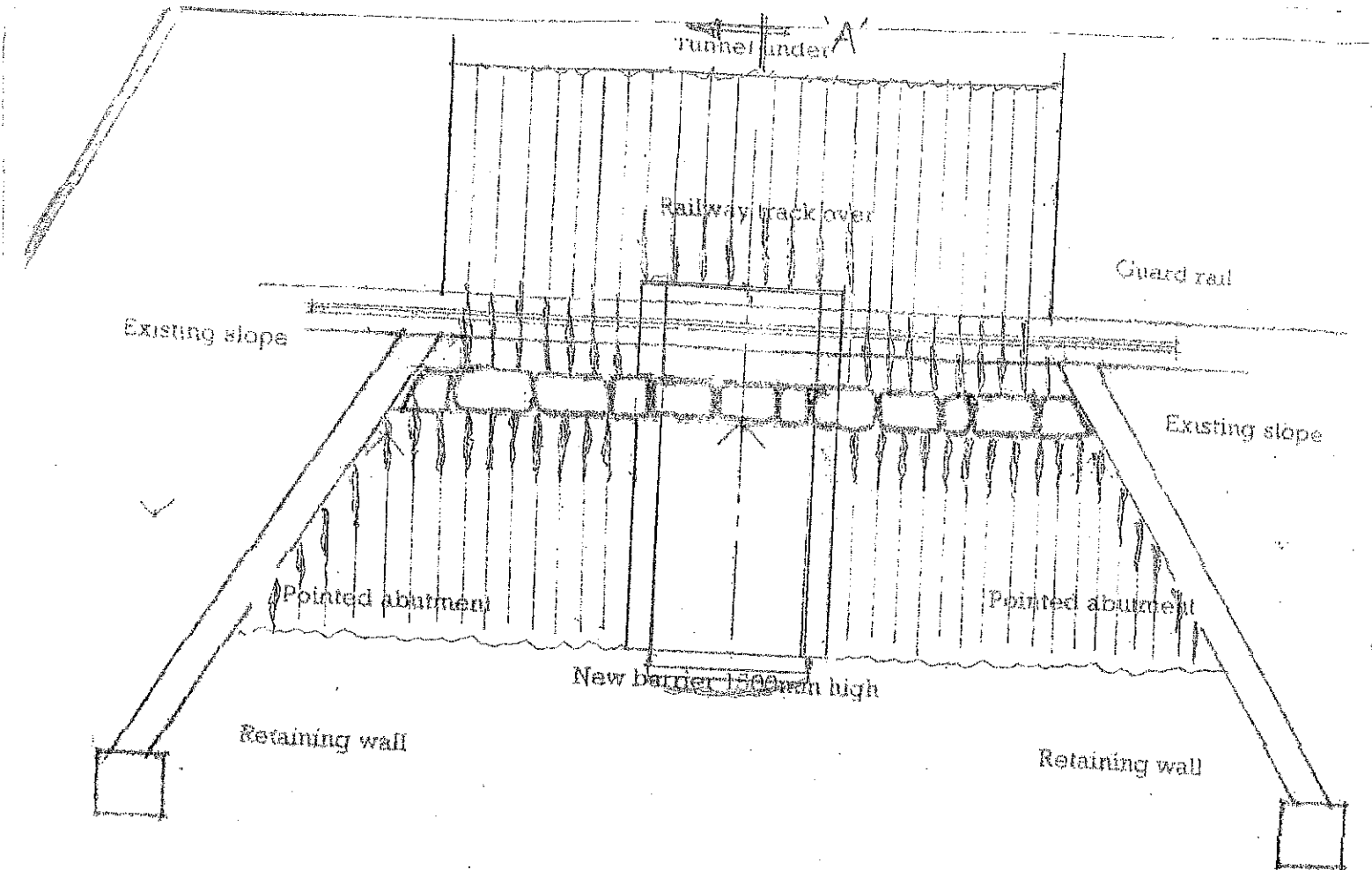
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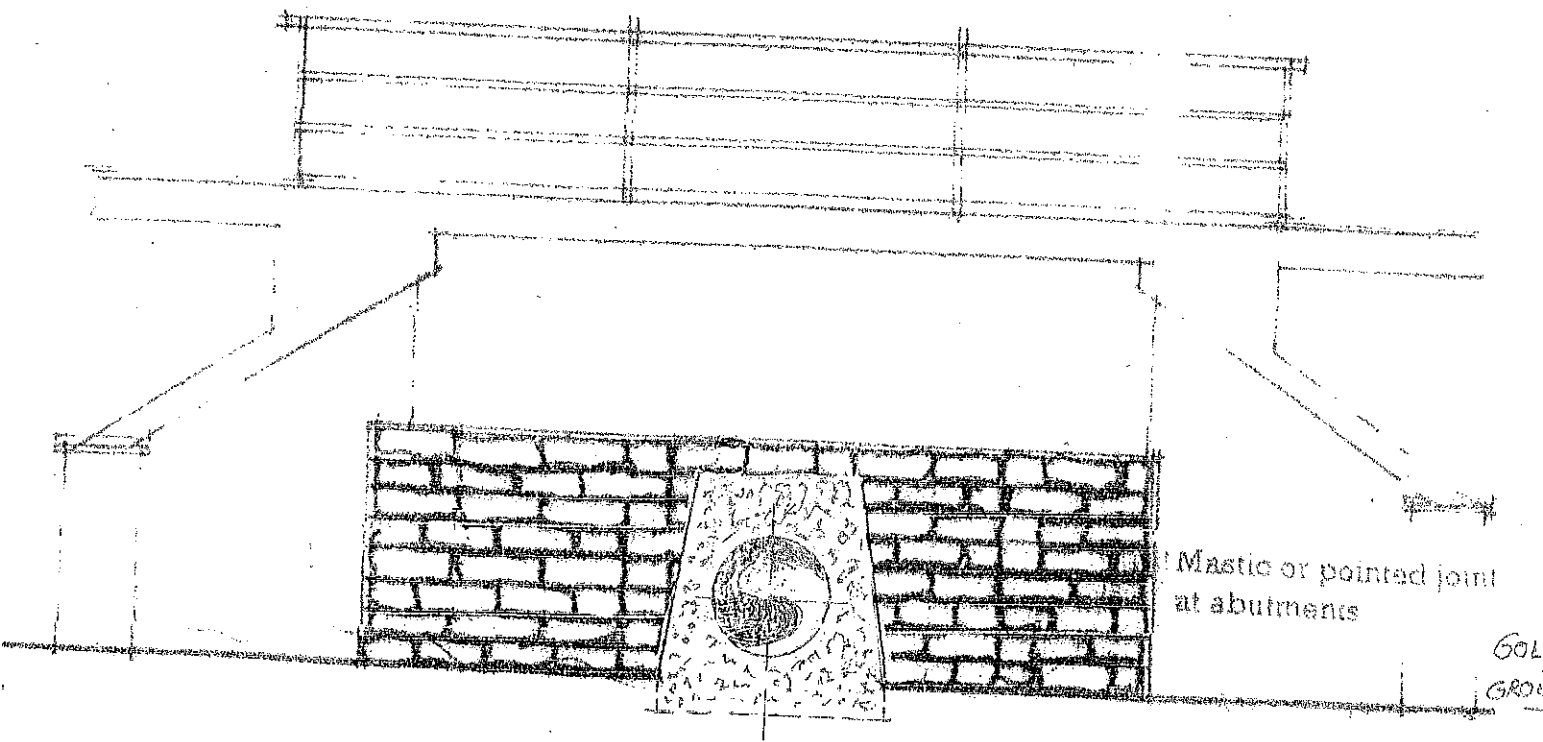


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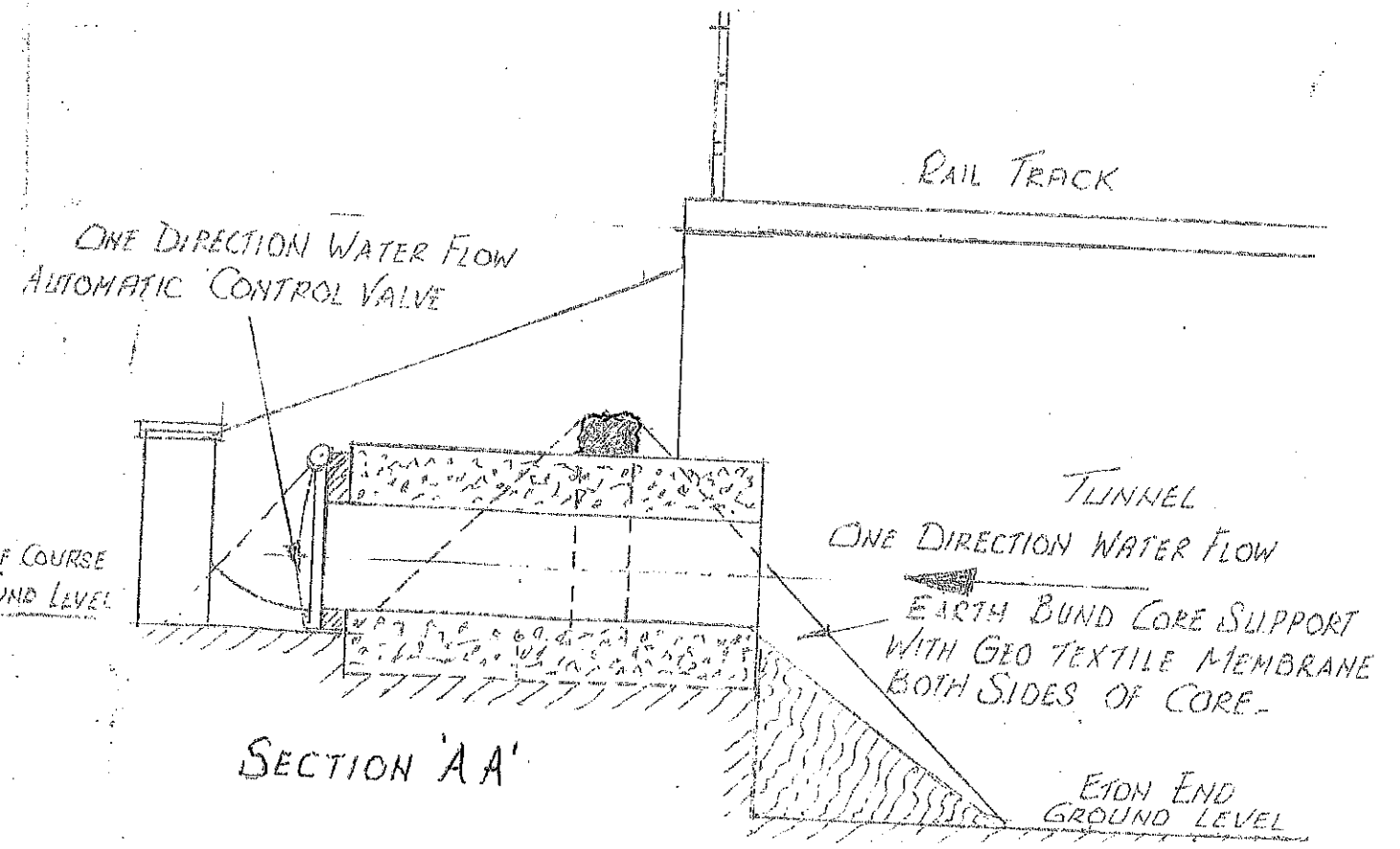
Hessian Jute sandbags
450 by 350mm crossbonded
and compacted to makers
recommendations
Maximum 1500mm high



Elevation view
1.50
SHOWING CORE CONSTRUCTION

THIS DRAWING IS AN ILLUSTRATION OF A PROPOSAL FOR A FLOOD WATER CONTROL & CONTAINMENT STRUCTURE TO PREVENT WATER FLOW FROM THE DATCHET GOLF COURSE INTO WEST DATCHET (ETON END) & WILL ALLOW WATER FLOW FROM ETON END INTO THE RIVER THAMES. THE ILLUSTRATION IS BASED ON A KEVIN J. TURNER ARCHITECTS DRAWING

DPC FLOOD DEFENCES SCHEME 1 DOC 26-02-14 RET
ZAN THOMPSON 01-02-2019



Date 30/1/02

120

Sketch No. MWEFAS/C9/ 148
TELEMETRY - STILLING TUBE (B) @
MYRKE PUMPING CHAMBER

Drawn J P WALTON Chkd

3 NO. MANHOLE COVERS
2900x1200 OVERALL
CLEAR OPENING.

3 NO. MANHOLE COVERS
2900x1000 OVERALL
CLEAR OPENING.

STEP IRONS AT 300 CTS.
HORIZONTAL AND VERTICAL.

SURFACE BOX IN MH COVER
FOR PENSTOCK OPERATION.

225 ENGINEERING
BRICKWORK CLASS B
SURROUND TO
GROUND LEVEL.

MORTAR SURROUND
TO MANHOLE FRAME.

PROPOSED GROUND LEVEL 20.12

DOUBLE TUBULAR
HANDRAIL.

2 NO. 1000x1000
CLEAR OPENING
FLAP GATES.

GALVANISED M.S.
ACCESS LADDER.

2 NO. PENSTOCKS
SEE NOTE 8.

STILLING TUBE
(3 m LONG)

MS SAFETY CHAIN
SUITABLE FOR PLACING
ACROSS MOUTH OF
OUTGOING CULVERT.

16.29

2100x1000 PRE-CAST
BOX CULVERT.

