

11, Market Place,
SPALDING.

17th January 1940.

To the Chairman and Members of the River Welland Catchment Board.

Mr. Chairman, My Lords and Gentlemen,

As instructed in November last, I arranged a meeting with Mr. Taverner of the Deeping Fen, Spalding and Pinchbeck Internal Drainage Board and Mr. Simpson, Consulting Engineer to the Bourne South Fen Drainage Board. This meeting did not take place until 14th December, owing to Mr. Simpson's inability to attend before, but Mr. Taverner and I employed the interval in working on data of the Counter Drain Scheme, as this seemed most suitable to all parties. Certain suggestions and explanations were prepared in order that no more time should be wasted than was necessary.

I regret to have to report that our suggestions and ideas were brushed aside by the Bourne South Fen Engineer, and he expressed a determination to pump direct into the River Glen. The difficulties, cost and dangers of such a scheme were dismissed with very little discussion. The reasons for his attitude, Mr. Simpson put forward, were as follows :-

- (a) That the Glen was the natural way for Bourne South Fen drainage.
- (b) That it was the cheapest way.
- (c) That it was in accordance with Mr. Latham's recommendation.

In reply to these points it was maintained that the Bourne South Fen could never have been drained naturally into the River Glen. Sir Gilbert Heathcote's Tunnel top 5.66 O.D. Liverpool would represent the lowest possible level of the River Glen bottom at this point, and that according to levels taken in 1938, was approximately 10 inches below the land level in Bourne South Fen. In other words, the ordinary Summer level of the water in the River Glen was nearly 5 feet above the average of field spots taken during the Watt's -v- W.C.B. case investigation. In flood time the difference in levels would be increased to some 12 feet.

With regard to reason (b) it was pointed out that far from being the cheapest method of draining the Bourne South Fen,

the Glen scheme would prove most expensive if this Board of 3,000 acres of potential drainage area was called upon to meet the cost of.

- (1) Piling the River Glen through the Pinchbeck bottle neck to provide a channel with adequate depth and Section for the discharge of extra waters.
- (2) The raising and strengthening of both banks of the River Glen with the necessary purchase of land through theseverals for :-
 - (a) The widening of the Bank base commensurate with the raising of the bank and to give a stronger bank slope and
 - (b) for the procuring of spoil.

(Here it would be an advantage to say that the Counter and Vernatts Drains could be widened if necessary but any such Glen widening would present great difficulties.)

Taking Mr. Simpson's point that Mr. Latham recommended the pumping into the Glen it was argued that Mr. Latham disregarded to some extent local knowledge and facts as to flooding etc., put at his disposal, but even then he was very guarded in his recommendations. He also gave no alternative means of getting rid of the Bourne South Fen Drainage waters during the time when pumping was to be stopped by the Catchment Board. Mr. Simpson put that time as low as twelve hours, but, with a river swollen with previous pumping a following flood and possibly adverse tidal conditions, the time could be extended; and the banks which might be able to stand a flood of short duration, would become tired. The example of January 1939 was given also to prove what happened under favourable tidal conditions, and the danger to Bourne South Fen as well as to Deeping Fen in a possible unfavourable tidal period was stressed.

The suggestion for the pumping of the Bourne South Fen, as well as the Gravel Drain waters, was considered, (the Glen Soke dyke Scheme being ruled out as impracticable). Here Mr. Simpson, perhaps was at a disadvantage, for he did not seem to have a really working knowledge of the geography of the lands on the Deeping Fen side of Sir Gilbert Heathcote's Tunnel, and his adherence to the Glen scheme seemed to preclude any inclination to learn much from the meeting.

However, he was eventually persuaded to make some notes on the proposal to instal a pumping plant in the Counter Drain at Pode Hole, together with proposed ways and means for the meeting of the cost of the scheme. Although it may be regarded as outside my position as Engineer to the Board, I felt that the expense was one of the main features on which the scheme might fail, and, indeed has failed in the past. Accordingly, suggestions were put forward that, as lands between the Gravel and King Street Drains, as far South as the line of the Swinesmeadow Drain would enjoy accelerated drainage, and as lands further South to the River Welland and bounded by King Street and the Deeping Fen Boundary already benefit from drainage through Deeping Fen, a solution for the payment of the cost of the Scheme would be the formation of two new Drainage Districts as set out below. The rates from the first districts ie., the Gravel Drain Lands and the Bourne South Fen would be levied in the proportion of one fourth and two fourths of the full cost of the works and an amount equal to the remaining fourth would be levied on the Deeping area to reimburse Deeping Fen, Spalding & Pinchbeck Internal Drainage Board for their portion of the cost of the Counter Drain Scheme.

Mr. Simpson's reply to the foregoing (given without prejudice to his original preference for the Glen Scheme) was to question the proportion of cost to his Board. Answering this objection it was pointed out that by pumping the Counter Drain the Bourne South Fen's chance of forcing a discharge of drainage was greater than that of the Gravel Drain lands whose drainage would remain chiefly gravitational.

Throughout the discussions, Mr. Taverner supported the Counter Drain Scheme in the main, but expressed his uncertainty as to the strength of the Sir Gilbert Heathcote's Tunnel.

I regret that the meeting was not more productive of practical suggestions.

I am, Gentlemen,
Your obedient Servant,

Benefits derived from Counter Drain Pumping Scheme

BOURNE SOUTH FEN

Constant discharge of pumped water assured
Double pumping of waters travelling in a circle
via Fen, pump, Slibe Fen abolished with consequent
saving in pumping costs.
Present head of upland waters diminished

DEEPING FEN

Extra revenue from lands already drained through
pumping system free.
If lower level is maintained in Counter Drain less
seepage is likely to occur through Counter Drain Bank
into Sixth District lands.
Less likelihood of actions for flooding by 6th. District
uplands floods through intensive draining above Gravel
Drain.

UPLANDS AND DEEPING AREA

Gravel Drain District lower level maintained at all
times and flood waters have steady discharge.
Deeping Area would enjoy recognized drainage through
Deeping Fen by way of the Hallmeadow, Froggall, Deeplake
Hole and Park Engine Drains into Cross Drain and South
Drove Drain.

WORKS NECESSARY

Pumping Plant at Pote Hole in Counter Drain to drain
say 6250 acres.
Possible Deepening and Grading of Counter Drain.
Opening of Gravel Drain.
Improvement of PRIVATE Drains in Deeping Area which is
well served at present by Public Drains of the 5th.
District.

Estimated Cost £10,000 of which 50% would be met out
of grants.

AREAS

Bourne South Fen	2996 acres
Gravel Drain Lands.	3218 "
Deeping District	3643 "

9857 acres.

£5000 for repayment in 30 years @ $4\frac{1}{4}\%$ £292

Flat rate over 9857 acres $7\frac{1}{4}d.$ per acre

or

£5000 for repayment in 30 years @ $4\frac{1}{4}\%$ £292

2996 acres Bourne South Fen $11\frac{1}{4}d.$

6861 acres Rest of Area $5\frac{1}{4}d.$

£5000 for repayment in 25 years @ $4\frac{1}{4}\%$ £329

Flat rate over 9857 acres $8d.$ per acre

or

£5000 for repayment in 25 years @ $4\frac{1}{4}\%$ £329

2996 acres Bourne South Fen $1/0\frac{1}{4}d.$

6861 acres Rest of Area $6\frac{1}{8}d.$

£5000 for repayment in 20 years @ $4\frac{1}{4}\%$ £376

Flat rate over 9857 acres $9\frac{1}{4}d.$ per acre

or

£5000 for repayment in 20 years @ $4\frac{1}{4}\%$ £376

2996 acres Bourne South Fen $1/2d.$

6861 acres Rest of Area $7d.$

£5000 for repayment in 15 years @ $4\frac{1}{4}\%$ £457 - 10 - 0

Flat rate over 9857 acres $11\frac{1}{8}d.$ per acre

or

£5000 for repayment in 15 years @ $4\frac{1}{4}\%$ £457 - 10 - 0

2996 acres Bourne South Fen $1/5d.$

6861 acres Rest of Area $8\frac{1}{2}d.$