

SESSION II.

1906.

NEW ZEALAND.

DRAINAGE OF THE TAIERI PLAIN

(REPORT OF COMMISSION OF INQUIRY UPON THE).

Laid upon the Table of the House of Representatives by Leave.

Dunedin, 21st May, 1906.

To His Excellency the Right Honourable William Lee, Baron Plunket, K.C.M.G., Governor and Commander-in-Chief in and over His Majesty's Colony of New Zealand and its Dependencies.

MAY IT PLEASE YOUR EXCELLENCY,—

We have the honour to make the following report for Your Excellency's information pursuant to a Commission issued to us by Your Excellency in Council, and dated the 27th February, 1906, and extended by a further Order dated the 23rd March, 1906, instructing us to inquire "as to the desirableness or otherwise of constituting one united drainage district for the Taieri Plain in lieu of the three existing districts"; and also to report "on the subject of the drainage of the whole of the lands forming the area known as the Taieri Plain."

In pursuance of Your Excellency's instruction we visited various parts of the Taieri Plain, the Taieri River, and several of the streams leading into the same, and made ourselves thoroughly acquainted with the local conditions so far as they could be observed within the time at our disposal. We issued notices of our appointment to all the local bodies having any jurisdiction or interest in the Taieri Plain and in the Taieri River in the vicinity of the Taieri Plain. In doing so we called upon them to be represented before us, and to adduce any evidence they thought fit on the subject. We also subpoenaed a number of representative men from various parts of the Taieri Plain to give evidence before us, and we also gave public notice of the sittings of the Commission, and we invited evidence from any one who wished to give evidence before us.

Evidence was taken at Mosgiel on the 5th and 6th April, at Outram on the 7th April, at Henley on the 18th April, again at Mosgiel on the 19th April, and finally at Dunedin on the 20th April.

Fifty-five witnesses in all were examined, and notes of their evidence are attached hereto. We believe that without unduly prolonging the proceedings the evidence thus obtained is amply sufficient to enable a just decision to be arrived at.

The matters upon which we are instructed to report naturally divide themselves into two portions—viz., (a) those in respect to which Your Excellency has power to adjust; and (b) those which if adjusted at all, must be dealt with as the result of further legislative action. The first division has reference to the proposed amalgamation of the three existing drainage districts known as West Taieri, Otokia, and Maungatua. The second division has reference to the drainage of the whole of the area known as the Taieri Plain.

Before dealing with these matters separately, it will be more convenient, and will tend to a clearer understanding of the difficulties of the case, if we first of all state the facts relating thereto.

FACTS OF THE CASE.

The Taieri Plain is a large area of alluvial land formed probably, in past ages, by *débris* brought down from higher land by the action of the Taieri and Waipori Rivers, but principally by the former river. This land is of a very fertile character, and in parts where it is not frequently flooded is capable of producing large and abundant crops.

The area of the plain is approximately about 40,000 acres, and from a report made by Messrs. Gordon, Hayes, and Flatman in April, 1900, it appears that about 21,500 acres of it, held by about 164 settlers, and valued at £296,000, was then liable to flood from the Taieri River alone. The area flooded by the Waipori River is stated in a report by Messrs. Maitland and Gordon in March, 1894, "to amount to at least 7,000 acres of very valuable flat land"; and, as the report of these

gentlemen showed that the value of about 5,900 acres of this land (which they specially dealt with) was nearly £37,000, it will be seen that the value of the 7,000 acres was then about £43,700, or £6 5s. per acre. If we add these two areas together it will be found that at the time the reports were made there were about 28,500 acres of land, valued at about £339,700, seriously affected by water from the Taieri and Waipori Rivers. This gives an average value of all the flooded land as being then a little under £12 an acre. From these figures it is very easy to see that if this land could be effectively drained its value would probably be greatly enhanced, considering its fertility and close proximity to railways and market. It is probable that it cannot all be drained at reasonable cost; but it is certain that a very great deal of it could be freed from all but very exceptional floods at a moderate expenditure.

The Taieri River divides the plain into two portions, but the portion known as the West Taieri is about twice the size of the other portion known as East Taieri. The Waipori River passes through a portion of the plain between the point where this river leaves the hills and the point where it falls into the Waipori Lake. The whole of what is known as the Taieri Plain is in Taieri County, but a small area of land in Bruce County is flooded by the Waipori River and is included in this report.

EAST AND NORTH TAIERI DISTRICT.

No organized effort has been made to cope with the floods on the east or north side of the Taieri River. Individual settlers have erected banks from time to time to keep out the river from their properties, but the greatest damage to land on this side arises from the Silverstream, which takes its rise in the hills to the north of the plain. The evidence on this point is conflicting; but we have reason to believe that originally the stream, after entering for some distance upon the plain, lost itself in a swamp, part of which may have tended towards the Owhiro Stream. The main body of the water, however, originally found its way by swamps or otherwise down the plain into a lagoon, and thence into the river by no properly defined channel. The facts connected with this stream are detailed further on in this report.

On the west side of the river a high bank, referred to later on, has been erected, and this bank has the effect in high floods of throwing the water over on to lands on the east side; and the action of the settlers on the west side in thus raising this bank is bitterly resented by settlers on the east side; and it is, in our opinion, the root of the antagonism that unfortunately exists between the settlers on both sides, as will be referred to hereafter.

Several works on the east side, mentioned later on in this report, were suggested by witnesses as necessary, but Your Excellency has no power to order them to be done. The parties appear, moreover, to be too disunited to set up a Drainage or River Board to deal with these things, as their interests are very conflicting, and the County Council either will not or cannot assist the settlers.

WEST TAIERI DISTRICT.

This district is severely damaged by flood and other waters that lie upon it, and a great deal of such damage arises through the divided control that exists. There are four Drainage Boards and two River Boards exercising control in this district, and the boundaries of the River Boards' districts overlap and embrace the drainage districts in the manner indicated on the plan attached. The existing districts are the West Taieri, Otokia, Maungatua, and Berwick Drainage and the Henley and West Taieri River Districts. The Drainage and River Boards appear to have got on fairly well together, but there has been and still is considerable friction between the Drainage Boards. This has principally arisen by the action of one Board throwing water from its district on to the adjoining district, or else by blocking or otherwise dealing with the drains through its lands to the detriment of other districts. There is no comprehensive scheme of drainage. The main channels through which the water should escape are more or less neglected or choked with weeds or silt.

Some years ago the County Council raised a loan of £3,000 for the drainage of the plain, and works were then constructed that were of considerable benefit; but these were not afterwards maintained, and the benefit of the expenditure was largely lost. Then the settlers formed several Drainage and River Boards, and the principle of draining known as the "block system" was adopted. Under this system drains were made across the plain at right angles to the Taieri River, and each block was then supposed to get rid of its own water by gravitation or pumping into the Taieri River. This principle is no doubt a good one if it were carried out in its entirety, but it is not and cannot be carried out in this case. The Drainage Boards do not pull together, and there exists a depression in the centre of the plain which is generally lower than the outlet of the block drains into the river, and a great deal of water comes on to the plain by drainage from higher levels and by a deviation of the upper waters of the Lee Creek, and in some instances by the settlers in the upper part of the plain letting river-water into the drains for the purpose of watering stock in dry seasons. All this extra water does great damage. It is either not caught by or it escapes from the block drains, and flows in an irregular manner down the centre of the plain.

The damage has been accentuated by the Lee Creek. This is an important creek on the north-west side of the plain, and it empties itself into Waipori Lake. The stream itself is banked to some extent, but it is full of weeds and rubbish, and consequently does not carry all the water it ought to carry, and its waters overflow its banks in many places in times of flood. The outlet of this creek is also blocked, partly by matter brought down by it, and partly by the silting-up of Lake Waipori, which is now very shallow, so that, instead of the waters from the creek getting a free outlet to the lake, they overflow the adjacent land.

The drainage districts are strangely constituted, and in some cases the boundaries leave out lands which ought to have been included, but which were apparently omitted because of the opposi-

tion of the owners thereof. In other cases the districts include lands upon which no rates are now levied, because the owners pump the water from such lands or otherwise get rid of it as best they can.

The whole of the district suffers very much more from internal waters than from floods coming from the Taieri River. The river has been successfully blocked off the district by a large bank from Outram southwards, made several years ago by the two River Boards at a great cost; but the Otokia Drainage Board narrowed the outlets to the block drains into the river, and this, it is asserted, largely impaired their usefulness.

There is plenty of evidence to show that the condition of the lower plain is getting worse and worse, for lands that would grow good crops a few years ago are now swamps and lands which are capable of giving very large returns if relieved of water can now be used only for grazing purposes.

The present value of the whole plain is upwards of half a million pounds sterling, and one has only to go over it, to see the thousands of acres of otherwise valuable land that is either swamp or next to it, to realise that the present system of drainage is inadequate and that the consequent loss to the settlers must be very great.

Under these circumstances, therefore, it is quite clear a radical change is necessary, and that the case calls for the interference of Your Excellency.

Dealing with the engineering propositions placed before the Commission, we find that, generally speaking, two main projects for effectively draining the whole of the Taieri Plain were submitted for consideration.

The first of these propositions was advanced by Mr. D. Reid, jun., M.H.R., who advocated the construction of a tidal wall with sluice-gates across the Taieri River near its mouth, with the object of preventing the inflow of the tide, while letting out the river-water. The idea is not altogether a new one, and in point of fact the same suggestion was made so far back as the year 1880 by the late Mr. E. B. Cargill. In that year a Royal Commission was set up by the Hall Government to report on the floods which occurred in the Taieri River in 1879. The members of the Commission were Messrs. C. Napier Bell, C.E., H. P. Higginson, C.E., and W. N. Blair, C.E., and in the report forwarded to the Government by these gentlemen (*vide* Appendix to the Journals of the House of Representatives, 1880, paper E.-6) it is stated, *inter alia*, that the proposal did not appear to consider fully the interests of settlers in the higher portions of the plain, who, while receiving no benefit from the lowering of the permanent tides, would be seriously damaged by floods. Without entering into further details, it may be said at once that the scheme was condemned by Messrs. Bell, Higginson, and Blair; and Mr. D. Reid, jun., alive to this fact, addressed a letter to the Commission on the subject, stating that in his opinion the reasons given by the engineers were not such as to justify the condemnation of the proposal *in toto*. Mr. Reid further suggested that a special report going fully into particulars should be procured by the Commission, but the limited time at our disposal did not permit of the carrying-out of this suggestion. Mr. Robert Hay, C.E., who gave evidence before the Commission at Dunedin, declined to express an opinion on the practicability of the scheme. Mr. E. Roberts, C.E., another witness, was strongly adverse to any obstruction being placed on the river at all; while Mr. G. M. Barr, C.E., stated that a tidal wall would be a serious block to navigation, and would have the effect of making the bar rise higher. It is evident that the construction of a wall of this kind will be a very costly item, and as the feasibility of the scheme can only be decided after the most careful measurements and surveys of the proposed site have been taken, we have been unable, in the absence of a special engineering report on the subject, to arrive at a definite conclusion as to whether the idea is or is not a tenable one.

The second proposal which claimed the attention of the Commission was the construction of storage-reservoirs in the upper reaches of the Taieri River, with the dual object of arresting the flood-water on its way down and giving time for the escape of water from the lower areas.

The construction of storage-reservoirs is warmly advocated in the report of Messrs. Bell, Higginson, and Blair, already alluded to, and in fact these gentlemen strongly recommended the Government to proceed with the construction of two storage-reservoirs—one at a gorge below the junction of the Kyeburn, a little below the outlet of the Taieri Lake, and the other at the Hogburn, a few miles higher up the river. Their estimated cost of these works was £66,000, and it may here be remarked that these engineers were of opinion that the reservoirs should be built of masonry or concrete, as being the safest and most reliable kind of material, and were altogether opposed to earthen embankments.

The principle of storage-reservoirs in the interior was supported before the Commission by Mr. G. M. Barr, C.E., who in his evidence recommended that the reservoirs, if ultimately constructed, should be of random rubble, with sluices and culverts of concrete, the material being quite as effective and at the same time less costly. It was pointed out to this witness that conditions had greatly altered since the scheme of storage-reservoirs was recommended in 1880 by Messrs. Higginson, Bell, and Blair, inasmuch as Taieri Lake, where it was proposed to place one of the reservoirs, was now practically filled up with silt. Mr. Barr, however, reiterated his opinion that the idea of storing the water at a suitable locality in the upper reaches of the river should still be entertained, and referred the Commission to a special report made by Mr. W. N. Blair, C.E., to the Board of Conservators of the Taieri River in 1877, in which Mr. Blair advocated and recommended the construction of a reservoir at Taieri Lake (*vide Otago Daily Times*, 14th September, 1877).

After perusing Mr. Blair's report, and also a former one by the late Mr. J. T. Thomson to the Otago Provincial Government (*vide* Appendix to Otago Votes and Proceedings, Session XXVII, 1870) on similar lines, we are of opinion that the idea of storing water at suitable localities in the upper reaches of the Taieri River should not be dismissed without a thorough examination and engineering survey of various suggested sites, notably at Tannahills, Hogburn, Deep Stream, and Lee Stream.

At the same time we feel it our duty to point out that the silt brought down by the river during the past thirty years has altered the country to such an extent, and the conditions of settlement in the interior have also altered so considerably during the last quarter of a century, that places formerly recommended as suitable sites for storage-reservoirs are now no longer available for the purpose.

GENERAL.

On reviewing the evidence relative to the drainage of the plain as a whole, we found the testimony to be extremely contradictory. The views of the settlers on the upper and lower ends are totally at variance as to the best methods to be adopted.

WESTERN PORTION OF PLAIN.

On the land on the western side of the river we found that a scheme known as the "block system" had been adopted. Briefly, the system amounts to this: The district is divided into separate blocks, and at the south-western end of each block drains have been constructed and led into the river at the nearest practicable point, and the water discharged there by gravitation when the river is sufficiently low, but when there is no outflow into the river the water backs into and fills up the several drains. It then overflows the drains and finds its way into another drain at the outlet of which there may be a pumping station. The water still further down the plain flows either by way of one of these cross-drains into the river, or through what is known as "Berkeley Estate" to a pumping plant worked by the company owning the estate. The objections urged against the "block system" of drainage by its opponents were that the drains could not discharge into the river at any time after the river reached half flood-level, the result being that the water has then to find its way over the country or into drains which are not at present capable of carrying the extra flood-water. The upper blocks were therefore to a certain extent being drained to the detriment of those lying lower down. On account of mismanagement the "block system" has become partially a failure.

A proposal in lieu of the "block system" was strongly advocated by a good many witnesses—namely, to carry the water by a central channel from the upper end of the plain down to a point immediately opposite the Maori Kaik. Into this channel the various existing cross-drains and others were to be discharged. This proposal, if carried into effect, would drain an area of approximately 20,000 acres. The discharge at the Maori Kaik would be by gravitation while the river remained at its normal level, and in times of freshes or floods the water would be discharged by a powerful pumping plant established there. The opponents to this particular scheme are the settlers at the lower end of the plain, and especially those interested in the Berkeley Estate. They urged that if this scheme were adopted it would be impossible in time of flood to cope with the abnormal discharge of water.

Other witnesses asserted that if the head-waters of what was formerly part of Lee Creek were conveyed back into the creek by a channel along the Outram-Berwick Road there would be no difficulty in coping with the drainage of the land below that road-line. This would not only reduce the area to be drained from, say, 20,000 to 16,000 acres, but would greatly diminish the sudden flow of water from the various gullies running into the head of the plain.

The portion of the Lee Creek which runs through a part of the plain drains the land on the north-western side of that creek only, as the bed of the creek lies at a higher level than the portion of the plain to the south-eastern side of it. Consequently it is of little or no value to the drainage of the interior of the plain. Towards its outlet it has already been straightened and improved. Further up, the creek remains in its natural state, and is a menace to the land on the south-eastern side through the water overflowing its banks. It will therefore be necessary in any scheme for this creek to be dealt with in a comprehensive manner. This leads to the question of the silting-up of the outlet of the creek and Lake Waipori. It has been suggested by a number of witnesses that the only means of dealing with this difficulty is by dredging a channel through the Waipori Lake and its outlet towards the Taieri River. By this means the outlet of the creek could be deepened and a fall obtained thereby sufficient to carry all the water of the Lee and the drainage leading into it.

Returning to the question of the drainage of the central part of the West Taieri, and taking into account the evidence adduced and our own observations, it appears to us that the most feasible scheme is that of a main channel down the centre of the plain to a point of discharge opposite the Maori Kaik. The channel would be brought to the lowest possible point in the river, at which the tidal rise is only 2 ft. 3 in., and as according to the evidence the flood-water seldom reaches a high level there, as compared with a rise of up to 15 ft. at points further up the river, an earlier discharge by gravitation after floods would be assured. Such a scheme would necessitate only one powerful pumping plant for this main outlet. Of course, the success of such a scheme would largely depend upon whether its practicability could be assured after an engineering survey had been carried out.

By reference to the suggestion made by the witnesses towards the improvement of the Lee Creek and its outlet, we are of opinion that any effective scheme can only be carried out in the direction of dredging the lake, deepening and widening Lee Creek, and erecting embankments on the south-east side of that creek.

EASTERN PORTION OF PLAIN.

Starting on the eastern side of the Taieri River, the two most important questions are (a) the embankment of the river, and (b) the control of the Silverstream.

A portion of the embankment of the river has already been carried out from near the West Taieri Traffic Bridge to about the Mosgiel-Outram Railway. From that point to Allanton little or no embankments have been erected. The result is that the greater part of that portion of the

country becomes periodically flooded. This flooding is further intensified by all the water of the Silverstream being penned back by the Taieri River, and until the flood abates there is no means by which the country can be relieved of the storm-water.

Dealing with the Silverstream exclusively, the evidence adduced showed that the works on the upper portion of this stream have caused a scour by which the creek at its outlet and for upwards of nearly two miles up stream has been practically blocked by the gravel brought down from the upper reaches. To cope with this difficulty the stream was cut by a straight course into the Taieri River, it being presumably expected thereby to keep the outlet clear. The desired result was not, however, attained, as a good part of the channel has become practically blocked by the travelling shingle. It may here be pointed out that on this side of the river there is no Drainage or River Board to deal with these matters. The settlers, through want of concerted action, have apparently been content to allow things to drift until now they recognise the necessity of taking measures to deal with both river and stream in a comprehensive way.

It has been asserted by several of the witnesses that, as the Owhiro Creek runs at a much lower level than the Silverstream, the latter should be diverted from its present course at a point probably a mile from the Taieri River, and conveyed into the Owhiro Creek, and thence by that stream into the river. The two principal arguments for this proposal are that by the lower level of the Owhiro and the better outlet this stream has into the Taieri River the flood-water would be more quickly carried away, and hence the flooding would be of a very temporary character.

Another scheme suggested is to clear out the Silverstream from the point at which it is now blocked by gravel, and carry it by a comparatively straight cut into the Taieri River. The advocates of this scheme hold that by carefully selecting the point and method of discharge into the river there would be little danger of the stream not keeping itself clear.

Taking the first of these proposals, we may say that everything depends on the alleged difference of level between the two streams. If such a difference exists, the advocates of this scheme think it possible to continue the embankment of the Taieri River to Allanton and prevent the back-water and Silverstream flooding this block of country. This would mean that all the water from that side of the plain would be diverted from the present main outlet by the Silverstream into the river by a new course, and that the Taieri River would be confined with embankments on both sides to Allanton.

We think that, before a definite opinion can be offered on these and most of the other engineering suggestions, careful surveys would require to be made, and, as we do not consider it is intended that we should do more than ascertain the facts in a general way, we have confined ourselves to the statement of same.

PROPOSED REMEDY.

We are, *inter alia*, instructed to report as to whether or not the West Taieri, Otokia, and Maungatua Drainage Districts should be amalgamated; and, so far as that is concerned, we have no hesitation in reporting that this is highly desirable, but it is not in itself sufficient. There is another district—viz., the Berwick Drainage District—which should be included, and there is also a considerable area of land outside these four districts that would be benefited by a proper system of drainage, which ought therefore to be included.

Your Excellency has, however, at present only power under section 15 of "The Land Drainage Act, 1904," to unite the three first-named into one district. No petition to include Berwick District has been presented as required by subsection (4) of the section. Even if Berwick were included, we are of opinion that this would not meet the requirements of the case.

This aspect has apparently been recognised by Your Excellency, for in the extended Commission we are instructed to report on the drainage of the whole Taieri Plain.

In pursuance of this latter direction, we have the honour respectfully to submit, firstly, a proposal to make one united district to deal with the river and drainage works for the whole plain; and, secondly, proposals as to such further legislative powers as would in our opinion be required to enable such a United Board to be set up and to successfully carry out the necessary works.

FIRSTLY, PROPOSED UNITED DISTRICT.

From among the fifty-five witnesses whom we examined there was hardly one who did not favour the proposal to unite all the four drainage districts on the west side of the Taieri River into one district, although they were divided in opinion as to the necessity for including the two River Boards in such district.

Similarly, there was little or no dissension to a proposal to create one drainage district for the east side of the river; but the great bulk of the witnesses (though not all) opposed making one United Board for both sides of the river. This opposition has its origin mainly in circumstances already explained; but in addition thereto there is a fear that such a Board would not work amicably on account of the diverse interests of east and west, and also a fear that the rates or funds of one side would be utilised for works on the other side. The east side is also apprehensive lest the west side should outvote them on any question in which the east might have a special interest. This arises from the fact that the area of the west side is twice as large as that of the east, and the west side is therefore entitled to twice the representation of the east side on such a Board. These difficulties will be found to be met in our proposals as to the special powers required to be granted to such a Board, and they are not, therefore, discussed here.

No solid reasons were adduced before us against the proposal to create one United Board for both sides, other than those first stated; and we now enumerate the reasons why we consider that one United Board is not only required, but it is an absolute necessity if the drainage of the plain is to be efficiently carried out. These reasons are:—

1. A united district could be more systematically, economically, and efficiently managed under one control than under divided authority.

2. An efficient engineer could be appointed for a joint Board who would carry out a combined and comprehensive scheme for the benefit of all interested at a cheaper rate than could be done if two persons were employed; and this would prevent works being done on one side that would clash with the requirements of the other side.

3. The Taieri River is the common enemy of both sides, and this fact supplies the strongest reason why, in our opinion, there should be a united district. So long as there is a separate authority on each side of the river, so long will one side seek to throw the water on to the lands of the other side, and the friction between each side, which now exists, will continue. There should therefore be one central authority who would have it in its power to deal justly with both sides, and this would probably stop the antagonism.

4. Works may require to be done from time to time at the mouth of the river, or on the banks of the river, or at some distance up the river, to prevent floods, or for this purpose the river may require to be dredged or deviated, or openings may require to be made into it, and such works can only be satisfactorily done by one paramount authority. To give two conflicting local authorities power to do these things would be disastrous and unworkable. Some of these works are now required, and the others may be required at a future time.

5. The extended powers which we hereinafter recommend be granted to a United Board could not, in our opinion, be safely intrusted to two Boards, for each would be almost certain to use some of these powers to the detriment of the other, and endless litigation would follow.

6. The present condition of the drainage and consequent loss on both sides of the plain is an eloquent and unanswerable argument against divided control, and the fact that a strong feeling exists in the minds of settlers on the east against those on the west shows that it would be dangerous to set up two Boards.

The boundaries of the proposed united district are set forth in the First Schedule and map attached hereto. As any lowering of Waiholo or Waipori Lakes or any improvement of the outlet of the Waipori River would benefit certain lands in the Bruce County, we have decided to so extend the boundaries of our proposed district as to include these lands. These boundaries may include some lands that are not subject to flood, but it is impossible without a careful survey to define a boundary that shall only include flooded land. This the United Board can do, and as it has power to put into a class by itself all lands that will not, in its opinion, benefit by the drainage-works and free them from rates, no one will be injured by including this land in our proposed boundaries. Besides this, it is necessary that the boundaries should be plain and easily understood, and that they should include all lands that are probably affected by flood to some extent.

Having thus decided to recommend the dissolution of all the present existing River Boards and Drainage Boards on the Taieri Plain and the creation of one United Board to control the drainage of the plain, it becomes necessary to make several minor recommendations to enable our proposal to be carried into effect.

The existing law, in the opinion of your Commissioners, is not sufficient to meet the requirements of the situation, and we recommend that special legislation be passed to enable the proposed amalgamation to be made.

As already mentioned, we found considerable hostility on the part of the settlers to the suggestion of combining the eastern and western districts in one Board. To secure fair representation, we have cut the proposed district into six ridings of about equal area, and each riding will return one member to the Board. There will thus be four ridings on the west side and two ridings on the east side.

Having the aforementioned diversity of interest and the inequality in representation of east and west in view, we recommend the strengthening of the Board by the addition of three of the permanent Government statutory officers stationed in Dunedin. These officers, being quite independent and free from all local bias, and having no special interest to serve, would take a broad comprehensive view of all proposals and, by having the balance of power in most cases, would be able to secure the adoption of that which will make for the general betterment of the whole plain, and prevent anything which was unjust or unfair from being forced on a minority. We suggest that, as the Government has special interests in the plain in the shape of railways and Momona and Janefield Settlements, and for other obvious reasons, one of these Government officers be Chairman of the Board.

Your Commissioners considered carefully the question of handing over the entire control of the river drainage of the plain to the Taieri County Council on the dissolution of the present Boards, instead of to the United Board. We found, however, such solid opposition to the proposal that we have not recommended it. We do not, however, recommend any step that would make the ultimate merger of the Drainage Board into the County Council impossible when the time is ripe for such a happy consummation. For this reason we therefore recommend that provision be made so that at any time after five years the Board may, with the consent of the Bruce and Taieri County Councils, upon such terms as may be agreed upon by a two-thirds majority of the members, dissolve itself and become merged in the Bruce and Taieri County Councils respectively.

By the end of five years the comprehensive scheme which we anticipate will be undertaken by the Board for the drainage of the whole plain will probably have been carried out, and all the necessary primary things requiring engineering and financial skill will, we hope, have been done. The duties of the Board may then be reduced to maintaining the works and collecting the rates, which could easily be done by the County Council.

To further allay any feeling of uneasiness which may arise in the settlers' minds as to the expenditure on the respective sides of the river, we recommend the following provision, which explains itself, and carries its own weight in argument: the cost of all works carried out by the

Board which benefits solely all or any parts of the ridings on one side only of the river shall be paid for out of the portion of any loan or rates raised or struck over such ridings or parts of ridings on that side only. By this provision the east side will not be paying for works which will solely benefit the west side, and the west likewise will carry its own share of the burden entirely—no more and no less.

The United Board will perform all the functions of all the dissolved Drainage and River Boards, so it must have the powers given by both "The Land Drainage Act, 1904," and "The River Boards Act, 1884," with extra special powers as well, justified by the circumstances of the situation. We propose the Board to have the following additional powers, so that no legal obstacles may be found barring the carrying-out of any comprehensive scheme: (a.) Power for the Board to erect dams and do any other thing in, across, or about the Taieri or the Waipori River or any of their tributaries, and generally to exercise all the powers of a Drainage or River Board, and for that purpose to enter upon any land within the watershed of such rivers or tributaries, notwithstanding that the site of such proposed works is outside the district. (b.) Power for the Board to divert any drain, stream, or river, or to close up the outlet or inlet to or from the same within the district without payment of any compensation for loss of riparian or other water-rights, and the owner or other person to be prevented under a penalty from taking water from any such river, stream, or drain, for any purpose, contrary to the Board's by-laws. The last power may be regarded by some as drastic, but it is not so. The problem in the Taieri, on the west side particularly, is to deal with the internal drainage after the Taieri River is kept out by means of watertight banks. During a dry spell some of the farmers let the water in from the river through the banks into the drains or ditches, with which to water their stock. When a fresh comes, the water backs through these outlets and soaks the plain, and makes the problem of the internal drainage more difficult than ever. This must be stopped. We understand that the settlers may now get artesian water anywhere on the plain, so there is no need to tamper with the banks and play with such a dangerous element.

Your Commissioners have considered and discussed the question of rating, and recommend that the United Board levy all their rates on an acreage basis, irrespective of capital value. The Drainage Act provides for classification of the lands in the district into four classes according to the degree of benefit received from the drainage-works, the fourth class being exempt from paying any rates whatever. Your Commissioners think that this differential system of rating would enable the Board to place the rating burden upon the land most justly entitled to bear it, when the rating is calculated upon an acreage basis. This cannot be done under a valuation basis, because the lands to be most benefited by the drainage are at present the least valuable.

We recommend that the Government Valuation Department, immediately upon the appointment of the Returning Officer, furnish him with a list of the occupiers of all the land in each riding, with their respective areas, and such shall be the electors roll for the election of the Board.

As to the maximum rating-power for general rates, your Commissioners point out that under the Drainage Act the Board could levy a six-farthings general rate, and the River Boards Act enables the Board to levy a further general rate of the same amount. We find the land is valued at from £12 to £20 per acre in many parts, so that the present rating-power under both Acts enables general rates from 3s. to 5s. per acre to be levied. We therefore recommend that the general rate in any one year do not exceed the sum of 4s. per acre.

Taking the principle from "The Local Government Voting Reform Act, 1899," we recommend that the voting for election of members, and also for polls, be as follows: The occupier of an area not exceeding 50 acres to have one vote; exceeding 50 acres but not exceeding 250 acres, two votes; exceeding 250 acres, three votes.

To enable the Board to carry out a comprehensive scheme of drainage, your Commissioners recommend that the Board have statutory powers to raise loans from time to time, but the total of such loans not to exceed in all the sum of £75,000, without having to take any poll of rate-payers. We have had no estimate of probable cost of any scheme or schemes put before us, but we think the amount suggested leaves a sufficiently wide margin. The reason why we make this recommendation is because, although your Commissioners are satisfied the bulk of the settlers must see that a loan is necessary to carry out any comprehensive scheme, still, owing to the diversity of opinion, the success of a poll might be jeopardized and so hamper the financial arrangements of the Board.

As previously mentioned, the beds of Lakes Waihola and Waipori are silting up steadily, but without being optimistic in the matter your Commissioners realise the possibility of something being done in the way of cutting a channel through these lakes to dispose more quickly of the water from the Waipori River and Lee Creek. The effect of such a work would be to lower the water; and the rest of the bed of the lakes might then be drained or turned to some profitable account. We would recommend, therefore, that the soil or bed of these lakes be vested in the Board as an endowment, giving the Board extensive powers of reclamation, letting and leasing such parts of the lakes for any term of years at a nominal or other rent to induce some enterprising person to do something in the way of assisting to get the water off them.

On the dissolution of the existing Boards, we recommend that the following provisions take effect: (a.) All property, real and personal, belonging to any of the former Boards shall become vested in the United Board. (b.) All rates or other moneys payable to any of the former Boards shall become payable to the United Board. (c.) All the liabilities of all the former Boards shall become liabilities of the United Board. (d.) All actions, suits, and proceedings pending by or against the former Boards may be carried on and prosecuted by or against the United Board. We would, however, further provide that the liabilities of the present respective Boards, whether for loans or otherwise, remain a charge upon the area of land comprised in the district of each respective Board, and the United Board to continue to levy such special and other rates as may be necessary to liquidate such liabilities in the same manner as the dissolved Board could do.

Nothing in our proposals is to in any way affect the rights or interests of any creditor of any of the dissolved Boards, if such creditor be secured by a special rate on the rateable property in any such dissolved district; nor should the ratepayers of the United Board for the time being in the area of such dissolved district be relieved from their liability to pay such special rate. The principle of our recommendation which we wish embodied in the proposed legislation is that the rights and liabilities of the old Boards up to the date of their dissolution are to be retained by the ratepayers in the area comprised in the districts of the respective Boards. No creditor is to be any better or any worse for the amalgamation, and no ratepayer to have any change in his liabilities.

SUMMARY.

From the foregoing it will be seen that your Commissioners recommend that an Act be passed by the General Assembly during its coming session, embodying the following provisions:—

1. The area described in the First Schedule hereto, and outlined on the plan attached herewith, to be a special combined drainage and river district, to be called "The Taieri Drainage District."

2. Such area to be subdivided into the six ridings as shown in the Second Schedule and on the above plan.

3. There shall be for such district a Board, under the name of "The Taieri Drainage Board"; such Board to be a body corporate, with full powers to make all kinds of contracts connected with or incident to the carrying-out of the drainage of the Taieri Plain or river-works connected therewith.

4. Such Board to have all the powers of a Drainage Board as if constituted under "The Land Drainage Act, 1904," and also all the powers of a River Board under "The River Boards Act, 1884." Except where inconsistent herewith, all the provisions of both Acts are to be incorporated as if set out at length, and in case of conflict between the provisions of the two Acts the Land Drainage Act to prevail.

5. The Board to consist of nine members, one of whom shall be elected by each of the six ridings, and three to be appointed by the Governor in Council from the Government officers stationed in the Otago District.

6. The Governor, by Order in Council, to appoint a Returning Officer and a day for the election of the first members of the Board, and upon the day of such election the following Boards (hereinafter called "the old Boards") to be dissolved: viz., the Otokia Drainage Board, the West Taieri River Board, the West Taieri Drainage Board, the Henley River Board, the Maungatua Drainage Board, and the Berwick Drainage Board.

7. The Returning Officer to prepare a ratepayers list as provided by the Land Drainage Act, with this exception—that there shall be inserted opposite the name of each occupier the total acreage of the land held by him within the district.

8. At such first and at all subsequent elections and polls of ratepayers every person whose name appears on the *corrected* list of ratepayers shall be entitled to exercise in so voting the number of votes following—that is to say, if he appears as occupier of land not exceeding 50 acres in area he shall have one vote; if he occupies over 50 acres and under 250 acres of land he shall have two votes; if he occupies more than 250 acres he shall have three votes.

9. In the event of the Board classifying the land in the district for the purpose of differential rating, those occupiers who are so classed as to pay no rates shall not be entitled to any vote.

10. At any time after the expiration of five years from the creation of the Board it may, with the consent of the Taieri and Bruce County Councils, upon such terms as may be mutually agreed upon by a two-thirds majority, pass a special resolution dissolving the Board and merging the same in the Taieri County Council, and thereupon at a date to be fixed by such resolution the Board shall become merged in the Taieri County Council; Provided that the part of the district within the Bruce County shall then come under the control of that county.

11. The Board may for the purpose of this Act levy on all lands within the district (subject, however, to classification if the Board think fit) a general rate not exceeding 4s. per acre, the fraction of an acre to count as a whole acre.

12. Where the Board levies and collects special rates already struck by any of the old Boards as security for past loans, the Board may levy and collect the same on the rateable value of the land as heretofore, but all special rates struck by the Board shall be on an acreage basis.

13. The Board, in addition to the powers of an ordinary Drainage Board and River Board, shall have full power to do all such things as may in the opinion of the Board be reasonably necessary to effectively cope with the drainage of the district, and to remedy any of the evils and losses arising from the flooding of the Taieri Plain, either from the surface waters or by floods and freshes in the Waipori and Taieri Rivers or any of their tributaries.

14. In particular, and without restricting the general powers hereby given, the Board shall have power (a) to erect or make any dam or reservoir in, about, or across the Taieri or Waipori River or any of its tributaries, and have and exercise all the powers of a River Board at any part of the said rivers or on any land anywhere in their watershed, notwithstanding that the sites of such works be outside the district; (b) to enter upon any land within the district, divert any drain, stream, or river, and close up any outlet or inlet to or from the same without payment of any compensation for loss or riparian or other water-rights.

15. If any person shall divert, take, or let into or upon any land in his occupation within the district any water from any drain, creek, stream, or river, contrary to the Board's by-laws, he shall be liable to a penalty not exceeding £50.

16. The Board, for the purposes of this Act, from time to time, without any poll of the ratepayers, may borrow such money, not exceeding in the whole £75,000, as it shall from time to time determine by special order; such special order to be sufficient authority for the raising of the loan, and to be binding on the Board.

17. The soil or bed of Lakes Waipori and Waiholā to be vested in the Board as an endowment, with power for the Board to let or lease all or any part or parts thereof at a nominal or other rent for any term of years, and upon any special terms and conditions as the Board may think fit.

18. All works carried out solely for the benefit of the eastern side of the Taieri River shall be paid for and also thereafter maintained solely out of the portion of the loan or out of the rates raised or levied in such eastern part.

19. All works carried out solely for the benefit of the western side of the Taieri River shall be paid for and thereafter maintained solely out of the portion of the loan or out of rates raised or levied in such western part. The expression "western side" shall also include all the land in the district on the south side of the river lying between Allanton Township and the steel traffic bridge near Henley.

20. On the dissolution of the old Boards all property of the old Boards shall be vested in the United Board, and all the liabilities and engagements of all the old Boards shall become liabilities and engagements of the United Board, all rates payable to any of the old Boards shall be paid to the United Board, and all proceedings and actions pending by or against any of the old Boards may be carried on by or against the United Board: Provided, however, that the liabilities of the old Boards, whether for loans or otherwise, shall remain the same charge upon the area of land comprised in the old Board districts as if the old Boards had not dissolved. The United Board shall continue to levy the same special rates struck as security for loans and other special rates only within the area over which they were originally levied by the old Boards in order to liquidate all liabilities of the old Boards. Nothing herein shall in any way affect the rights or interests of any creditor of any of the old Boards, nor shall the ratepayers of the Board for the time being in the area of the old Boards be relieved from their liability to pay any special or other rates as security for loans or otherwise to the old Boards respectively.

21. Generally any machinery provisions usual in local-body statutes not already provided for to enable the Board to work smoothly, including extended power for the Board to make by-laws.

We have, &c.,

D. BARRON, Chairman of Commission.

E. R. USSHER,

G. CRICKSHANK, } Commissioners.

W. S. SHORT,

FIRST SCHEDULE.

BOUNDARIES OF PROPOSED TAIERI DRAINAGE DISTRICT.

COMMENCING at West Taieri traffic bridge; thence along Main Road, Outram towards Mosgiel, to Wyllie's Crossing of the Mosgiel-Outram Railway; thence along Wyllie's Road to the Dunedin and North Taieri Road; thence along that road to the black bridge over the Silverstream; thence along the said road to the boundary of the Taieri District; thence along the Taieri District boundary in a south-easterly direction to the south-east corner of Block XIII, said district; thence along the southern boundaries of Blocks XIII and V to the Otago Central Railway; thence by said railway to the Wingatui Railway-station, on the Hurunui-Bluff Railway line; thence in a south-westerly direction by said railway to the Gordon Road; thence by a road in continuation of Gordon Road to the Main South Road; thence by Main South Road to the steel traffic bridge at Henley; thence along the Main South Road to the south-western side of the Township of Waiholā; thence along the boundary of said township to the shores of Lake Waiholā; thence along the southern, western, and northern shores of said lake to the south-eastern corner of Block XVI, Waiholā District; thence by the southern and western sides of said block to the north-east corner of Block XVII; thence along the northern boundary of said block to its north-western corner; thence in a south-western direction along the boundary of said block to the south-eastern corner of Section 5, Block VII, Clarendon District; thence along the south side of said Section 5 to the road-line bounding that section; thence along said road to Berwick; thence by the right bank of the Waipori River up to a point immediately opposite the south-west corner of Section 45, Block II, Maungatua District; thence along the north-western and north-eastern boundaries of Section 45, the north-eastern boundary of Section 46, the north-western boundary of 1 of 47 and 2 of 47 and the north-eastern boundary of 2 of 47, to the main road, Berwick to Outram; thence along the Berwick-Outram Road to the Woodside Road to its intersection with the north-east corner of Section 1, Block IV, West Taieri District; thence by Woodside Road to Woodside; thence by Woodside-Outram Road to western boundary of River Section 38, West Taieri; thence along western and northern boundary of said Section 38 to the Taieri River; thence along the river and the West Taieri Bridge to the point of commencement: excluding the Borough of Mosgiel and the Government railways.

SECOND SCHEDULE.

BOUNDARIES OF PROPOSED RIDINGS OF TAIERI DRAINAGE DISTRICT.

Silverstream Riding.

COMMENCING at the intersection of the eastern boundary of Section 4, Block XVII, East Taieri District, with the south side of Main Road, Outram to Mosgiel; thence along that road towards Mosgiel to Wyllie's Crossing of the Mosgiel-Outram Railway; thence along Wyllie's Road to the Dunedin and North Taieri Road; thence along that road to the black bridge over the Silverstream; thence along the said road to the boundary of the East Taieri District; thence along the

East Taieri District boundary in a south-eastern direction to the south-east corner of Block XIII, said district; thence along the south boundaries of Blocks XIII and V to the Otago Central Railway; thence by said railway to the Wingatui Railway-station, on the Hurunui-Bluff Railway line; thence in a south-western direction by said railway to the Gordon Road; thence by a road in continuation of Gordon Road to the Main South Road; thence by Main South Road to boundary between Sections 15 and 16, Irregular Block, East Taieri District; thence by that boundary produced in a north-western direction to the starting-point, said line being the centre section-line through Blocks IV, VIII, and XII, East Taieri District: excluding the Borough of Mosgiel and Government railways.

Owhiro Riding.

Commencing at the centre of south side of West Taieri traffic bridge; thence along Main Road, Outram towards Mosgiel, to boundary of Silverstream Riding; thence south-east by said boundary to Main South Road; thence south-west along said road to south-west side of Township of Greytown; thence along boundary of said township to centre of Taieri River; thence up centre of Taieri River to point of commencement on West Taieri traffic bridge: excluding Government railways.

West Taieri Riding.

Commencing at the centre of south side of the West Taieri traffic bridge; thence southerly by Owhiro Riding to Momona Riding boundary; thence by boundary of Momona Riding to Berwick-Outram Road; thence along said road to Woodside Road to its intersection with north-east corner of Section 1, Block IV, West Taieri; thence by Woodside Road to Woodside; thence by Woodside-Outram Road to west boundary of River Section 38, West Taieri District; thence along western and northern boundary of said Section 38 to Taieri River; thence along river to point of commencement: excluding Government railways.

Momona Riding.

Commencing at the north-east corner of Section 2 of 8, Block I, Maungatua District, on the Berwick-Outram Road; thence north-east along said road to boundary of West Taieri Survey District; thence by south-west boundaries of Sections 36, 37, the south-eastern boundary of Section 38, Irregular Block, West Taieri District, and south-western boundary of Sections 65 and 66, Block III, Maungatua District; thence by south-east boundary to Sections 66, 67, 56, 38, 32, 25, said Block III, Section 4, Irregular Block, and River Section 23, West Taieri District, and boundary produced to Owhiro Riding boundary, centre of Taieri River; thence southerly along said boundary to Main South Road; thence south-westerly along said road to River Section 7, Taieri District; thence by north-east boundary of said Section 7 and boundary produced to south-east corner of Section 46, Block IV, Maungatua District; thence by north-east boundary of Sections 46, 37, 26, 19, 8, and 3, said Block IV, and Section 2 of 8, Block I, Maungatua District, to point of commencement: excluding Government railways.

Lee Creek Riding.

Commencing at the north-east corner of Section 10, Block II, Maungatua District, on the Berwick-Outram Road; thence along said road to boundary of Momona Riding; thence south-east along said boundary to Main South Road; thence along that road to Section 50, Block IV, Otokia, by north-east boundary of said Section 50, and by right line to south-east corner of Section 78, Block II, Maungatua District, and by north-east boundary of said Block VI, Maungatua District, and Section 10, Block II, Maungatua District, to starting-point: excepting Government railways.

Lakes Riding.

Commencing at the north-east corner of Section 10, Block II, Maungatua District, on the Berwick-Outram Road; thence south-east by Lee Creek Riding to Main South Road; thence along the said road to steel traffic bridge at Henley; thence along the Main South Road to western side of the Township of Waihola; thence along the boundary of said township to the shores of Lake Waihola; thence along the southern, western, and northern shores of said lake to south-eastern corner of Block XVI, Waihola District; thence by the south and west sides of said block to north-eastern corner of Block XVII; thence along northern boundary of said block to its north-western corner; thence in a south-westerly direction along boundary of said block to south-eastern corner of Section 5, Block VII, Clarendon District; thence along south side of said Section 5 to road-line bounding that section; thence along said road to Berwick; thence by right bank of Waipori River up to a point immediately opposite south-western corner of Section 45, Block II, Maungatua District; thence along the north-western and north-eastern boundaries of Section 45, the north-eastern boundary of Section 46, the north-western boundary of Section 1 of 47 and 2 of 47, and north-eastern boundary of 2 of 47 to Main Road, Berwick to Outram; thence along the Berwick to Outram Road to point of commencement: excepting Government railways.

Approximate Cost of Paper.—Preparation, not given; printing (1,400 copies), £4 7s. 6d.

By Authority: JOHN MACKAY Government Printer, Wellington.—1906.

Price 6d.]