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MILITARY SETTLEMENT IN THE
MIDDLE WAIKATO BASIN

Thesis presented in partial fulfilment of
the requirements for the degree of M.Phil.
in Geography

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CONTENTS

ACKNOWLEDGEMENTS	v
FIGURES AND PLATES	vi
ABBREVIATIONS	ix
ABSTRACT	x
I. INTRODUCTION	1
The context of inquiry	1
The method of inquiry	3
Sources	5
II. THE LANDSCAPE OF THE MIDDLE WAIKATO BASIN IN THE 1850's	10
The Setting	10
Location	10
Topography	10
Climate	12
Vegetation Cover	13
Soils	15
Human Occupation of the Middle Waikato Basin in the 1850's	17
III. MILITARY SETTLEMENT: THE SCHEME OF SETTLEMENT	23
Conflict of Races	23
Auckland and the Middle Waikato Basin	25
The European invasion of the Middle Waikato Basin	29
The Scheme of Military Settlement	31
Enlistment of the Waikato Military Settlers	35
Confiscation of Maori lands for military settlement	36
IV. THE MILITARY TOWNSHIPS	41
Selecting the Sites of the Townships: the Criteria	41

The Sites of the Townships	43
Alexandra	43
Kihikihi	45
Cambridge	45
Hamilton	47
Occupation of the Middle Waikato Basin by the Military Settlers	48
The Military Townships	49
Criteria for township surveys	49
Alexandra	50
Kihikihi	52
Cambridge	53
Hamilton	54
Similarities in township form	55
Occupying the Townships	56
Allocation of town allotments	56
The townships in December 1864	60
Subsidiary Settlements	60
Whatawhata	63
Harapepe	63
Forming the Patterns of Circulation	64
By Land	64
By Water	66
 V. SETTLING THE LAND	 72
Land for Militia Farms	72
Farm Surveys	74
Confiscation	74
Farm surveys: the Criteria	75
The first farm surveys	77
District of the Second Waikato Regiment and Forest Rangers	78
District of the Third Waikato Regiment	81
District of the Fourth Waikato Regiment	82
Locating the Settlers on the Land	84
Allocation procedure	84
Rejection of farm sections	85
Extension of farm surveys	87

Settling the Land	90
Taking possession of the land	90
Government Assistance	91
Protection for the Settlers	94
Cessation of rations and Crown grants	96
The Changing Landscape of the Middle Waikato Basin	98
Clearing and Farming the Land	98
Adjusting the patterns of circulation	100
The failure of Military Settlement	102
VI. MILITARY SETTLEMENT IN THE MIDDLE WAIKATO BASIN	107
The Scheme of Military Settlement in retrospect	107
The Pattern of Military Settlement	112
APPENDIX	118
SELECTED BIBLIOGRAPHY	121

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FIGURES AND PLATES

	facing page
Figure II:1. Location of the Middle Waikato Basin.	10
Figure II:2. Location details of the Middle Waikato Basin.	10
Figure II:3. Major topographical features of the Middle Waikato Basin.	11
Figure II:4. Pre-European vegetation of the Middle Waikato Basin.	13
Figure II:5. Generalized soil patterns of the Middle Waikato Basin.	15
Figure II:6. Distribution of Maori-modified soils in the Waipa and Waikato Counties.	16
Figure II:7. Distribution of Maori population in the Middle Waikato Basin during the 1850's.	17
Figure II:8. The distribution of flour mills and mission stations in the Middle Waikato Basin in 1853.	19
Figure III:1. Showing the approximate distribution of lands owned by European settlers and those remaining in the possession of the Maoris in 1860 - 1861.	24
Figure III:2. The advance of the southern military frontier.	28
Figure IV:1. Sketch showing proposed positions of Militia Townships as indicated by the Government on 6th June 1864.	41
Figure IV:2a. Alexandra West.	50
IV:2b. Alexandra East.	50
Figure IV:3. Kihikihi.	52
Figure IV:4a. Cambridge West.	53
IV:4b. Cambridge East.	53
Figure IV:5a. Hamilton West.	55
IV:5b. Hamilton East.	55
Figure IV:6. Whatawhata.	63
Figure IV:7. Harapepe.	63

	facing page	
Figure IV:8.	Showing the Military townships and villages established in the Middle Waikato Basin for the military settlers.	64
Figure IV:9.	Showing the routes taken by old Maori tracks which were later used by the military settlers.	65
Figure V:1.	Land confiscated in the Middle Waikato Basin for military settlement in December 1864.	74
Figure V:2.	Farm districts of the Second, Third and Fourth Waikato Regiments.	77
Figure V:3.	Farm district of the Second Waikato Regiment and Forest Rangers.	79
Figure V:4.	Farm district of the Third Waikato Regiment.	81
Figure V:5.	Farm district of the Fourth Waikato Regiment.	82
Figure V:6.	Areas of land in each Regiment district rejected by the military settlers as unsuitable for settlement.	86
Figure V:7.	Areas in which fifty-acre farm sections were surveyed to replace those rejected as unsuitable by the military settlers.	88
Figure V:8.	Land confiscated for military settlement in September 1865.	89
Figure V:9.	Roads formed or partly formed by the military settlers.	100
Plate 1.	The mission station at Fepepe on the Waikato River during the 1850's.	17
Plate 2.	The mission station at Otawahao in the district of Rangiahia.	19
Plate 3.	A sketch of the township of Cambridge in 1863 - 1864.	53
Plate 4.	The Ngaruawahia River Transport Station	57

		facing page
Plate 5.	The early settlement of Hamilton West.	65
Plate 6.	The township of Cambridge.	73
Plate 7.	The head of river navigation on the Waikato River at Cambridge.	90
Plate 8.	River transport on the Waikato River.	94
Plate 9.	Road formation by the military settlers.	98
Plate 10.	The Rangiawhia district in the 1880's.	101
Plate 11.	Aerial photograph of Pirongia.	113
Plate 12.	Aerial photograph of Kihikihi.	113
Plate 13.	Aerial photograph of Cambridge.	114
Plate 14.	Aerial photograph of Hamilton.	114

NZMS 177 Cadastral Maps included in a pocket at the end of the thesis:

Sheet N 56	Ngaruawahia
Sheet N 65	Hamilton
Sheet N 66	Matamata
Sheet N 74	Otorohanga

ABBREVIATIONS

- AJHR Appendices to the Journals of the House of Representatives.
- CD Files of the Colonial Defence Department held in the National Archives, Wellington.
- AD Files of the Army Department held in the National Archives.
- IA Files of the Internal Affairs Department held in the National Archives.
- AGG-A Files of the Agent for the General Government at Auckland, held in the National Archives.
- SO Survey records and maps of the Department of Lands and Survey, Hamilton.

ABSTRACT

Military settlement formed a brief but distinctive phase in the European occupation of the Middle Waikato Basin. Prior to the 1863 - 1864 Waikato War, few Europeans, other than a small number of missionaries and traders, were settled in the region. The setting of the Middle Waikato Basin was largely unmodified by Man, except along the major rivers where a dense Maori population was settled.

During the 1850's, the encroachment of European settlers upon Maori tribal lands in many North Island regions, including the Waikato, led to an increase in tension between the two populations and open conflict. This conflict slowed down the progress of colonization in the North Island. To enable colonization to continue in those regions disturbed by Maori unrest, a scheme of military settlement was devised. The aim of this scheme was the formation of compact, self-sufficient defensive settlements to act as a deterrent to Maori unrest. These settlements would also provide an assurance to settlers of security for their life and property.

Military settlement in the Middle Waikato Basin consisted of two phases. In the first phase, the nodal points of the military settlements, the townships, were established and occupied by the military settlers. In the second phase, farm districts were surveyed around the nodal points and the military settlers moved out from the townships to occupy and develop the land they were allocated. A number of factors, relating to deficiencies in the scheme of military settlement and to the particular problems of settlement in the region, contributed to the failure of the military settlers to successfully establish farms on the land they were allocated.

The scheme of military settlement largely failed as a method of colonization in the Middle Waikato Basin. However, the pattern of human occupation, established in the initial phase of military settlement, remained when the need for defensive settlements had gone, and forms the basis of the present pattern of settlement.

I. INTRODUCTION

"a report of a revolutionary change
in the character of a region." (1)

The context of inquiry

The object of this thesis is to examine the military settlement of the Middle Waikato Basin in the context of Man's role in changing the face of the earth, and to describe the resulting changes in the character of the region.

The theme of 'change' is of basic importance in any field of geographic study since the patterns of phenomena that make up the geography of the earth's surface are constantly changing in response to Man's changing evaluation and exploitation of his environment. Each phase in this process of evaluation and exploitation has left its imprint on the earth's surface. The task of the historical geographer is to reconstruct past geographies, so that the nature of changes in these geographies, and the contribution of relict patterns to the present landscape, may be more fully understood (2). The process of colonization of new lands and the resulting landscape changes have been the subject of study by many historical geographers (3). It is with this aspect of Man's role in changing the earth's surface that this study of military settlement deals.

Many studies have been made of the changes in the earth's surface which resulted when European migrants, equipped with the attitudes of Europe of the Industrial Revolution, left their homelands and settled in North America, Africa and Australasia in the nineteenth and twentieth Centuries. These migrants, settled in regions previously almost undisturbed by man, and, in adapting themselves to their new environment, they initiated revolutionary changes in the landscape of those regions (4).

These changes included the radical replacement of one vegetative cover with another, cultivation and consequent disturbance of the soil, the spread of a new population over the land and, consequently, the imposition of a new pattern of settlement on the land.

The significance of Man's role in changing the earth's surface through colonization is nowhere more evident than in the colonization of New Zealand by European migrants over the past 150 years. As migrants arrived in New Zealand, they struggled to gain command of the right kind of land, in the right amount, and in the right location (5). This struggle involved the radical modification of the natural environment and the imposition of patterns of settlement and land-use expressive of the settlers' struggle to survive.

Two major obstacles faced Europeans in the early colonization of the North Island of New Zealand. These obstacles were the thick, sub-tropical forest or 'bush' as it became known, and the indigenous Maori population. Techniques of bush-burn farming were gradually developed to meet the challenge of the bush. The Maoris posed a different challenge. The colonization of the North Island during the first forty years of settlement, from the 1840's to the 1870's, was slowed down and, at times, stopped, by the resistance of the Maoris to the encroachment of the European settlers upon their tribal lands. To enable the process of colonization to continue in those regions where conflict with the Maoris became violent, settlers were organized into defensive settlements which provided for their protection. The military settlements also provided defensive barriers between the Maoris and established settlements on the coast.

While the techniques and problems of these settlers, in clearing and developing the land, were similar to those in

other regions not affected by Maori-European conflict, the method of settlement and organisation of the settlers upon the land was quite different, influenced as it was by the need for the settlers to group together for safety. This pattern of organisation, particularly in the Middle Waikato Basin, persisted after the need for defensive settlements had passed.

The method of inquiry

In striving to understand "the evolving pattern of space content and space relations on the earth's surface," the geographer is faced with the dual problem of explaining the process of evolution and of describing the patterns that are the landscape expression of this process (6). These patterns are described by means of cross-sections, of which the best example is the map, which give a representative picture of existing situations (7). Since these patterns are constantly changing, however, a balanced account of the evolution of the geography of a region depends upon the linking of cross-sections by an explanation of the changes that have taken place before, and those that have taken place after, each cross-section.

H. C. Darby stated that:

"if each cross-section in a sequence aims at being a balanced geographical account, consisting of description and explanation, there must be much repetition and varying degrees of overlap. If each cross-section is limited strictly to its own contemporary materials the sequence constitutes a series of static pictures that ignores the process of becoming. They will reflect changing geographical values by the mere fact of following one another, but only by implication and inadequately." (8)

Many features which may be observed in the landscape at a point in time are expressive of past processes and patterns of settlement. The landscape of a particular phase in the settlement of a region cannot, consequently, be fully understood, nor can its significance in the continuing process of settlement and

landscape change be appreciated, if it is studied in isolation. The process of military settlement and the landscape changes that resulted are studied, not in isolation, but as one phase in the continuing process of settlement in the Middle Waikato Basin. The landscape of the Middle Waikato Basin, during the 1850's, is described in Chapter II. This landscape is described so that the extent of landscape changes, initiated by the military settlement of the region following the war with the Maoris in 1863-1864, may be appreciated.

In Chapter III, an account is given of the tension between the European settlers and the Maoris which led to a series of conflicts in the 1860's and 1870's. To maintain the progress of colonization in the North Island and to provide settlers with the security they needed, a scheme of military settlement was devised and the objectives of the scheme, particularly in relation to the Middle Waikato Basin, are outlined in this chapter.

The process of military settlement of the Middle Waikato Basin from 1863 to 1867, and the landscape changes that resulted are described in Chapters IV and V. The military settlement of the region was undertaken in two stages. In Chapter IV, the process of selecting sites for the military settlements, and the surveying and establishment of the military townships and villages is outlined. During the second stage of military settlement, settlers moved out from the townships and established themselves on farms which had been granted to them and this process of settling and developing the land is described in Chapter V.

In conclusion, the significance of military settlement as one phase in the European settlement of the Middle Waikato Basin is assessed in relation to the landscape of the region today.

Sources

Heavy emphasis is placed, in geography, on the value of field work in reconstructing past geographic patterns. Field work is, however, no substitute for actually seeing the landscape as it was during the period under study. For the historical geographer the most productive method of reconstructing the past is to view the landscape through the eyes of observers contemporary with that period. The records of such contemporary observers have provided considerable information for this thesis on the scheme of military settlement, the process of military settlement, and the forms it took in the Middle Waikato Basin during the 1860's. (9)

Most of these records are found in the files of the Colonial Defence and Army Departments, the Internal Affairs Department, the Agent of the General Government at Auckland and the Auckland Provincial Government which are held in the National Archives, Wellington. The files of the Colonial Defence and Army Departments contain accounts and reports of the establishment and development of military settlements on confiscated lands in the Waikato, reports on the employment of settlers, the construction of defence works and roads, the selection of sites and the supply of the settlers. Of considerable value are the reports and statistics, relating to land allotment and rejection, compiled by the Government surveyors. Included in these reports are sketch maps showing the extent of town and farm allotments surveyed for the military settlers. The Nominal Rolls and Land Registers of the First, Second, Third and Fourth Regiments of the Waikato Militia are also held in the National Archives. These are valuable in that the land registers show the amount and whereabouts of land received by each member of the Regiments, except the Second Regiment Rolls which are not included in the series.

The files of the Agent of the General Government at Auckland include further information on the survey and allotment of farm sections to the military settlers in the Waikato. Information is also included as to the numbers of military settlers quartered at Auckland and the numbers of militiamen recruited into the Regiments. Administration of the military settlements in the Waikato was taken over from the General Government by the Auckland Provincial Government. Unfortunately the early records for the Auckland Provincial Government were destroyed by fire, although some useful information is contained in the Journals of the Auckland Provincial Council and the Auckland Provincial Government Gazette.

The Appendices to the Journals of the House of Representatives provide valuable information on the scheme of military settlement, the confiscation of rebel Maori lands, the recruitment of military settlers, the selection of sites and the settlement of the militiamen in the Waikato. The Journals for the years 1863, 1864 and 1865 are particularly valuable. The New Zealand Government Gazette contains official notices relating to military settlement and census information of the Waikato Regiments.

Records of the Lands and Survey Department are a valuable source. Using the original survey maps, now lodged in the Department's office at Hamilton, it is possible to trace the progress of the settlement of the militiamen upon their town and country allotments. These survey maps also carry notes, made by the surveyors in the field, as to the nature of the land on which farms were being laid out. These notes provide information as to the problems facing surveyors laying out farms and settlers clearing and developing the land.

Records of censuses taken in 1861, 1864 and 1867 and an earlier census of 1858 undertaken by F. D. Fenton and published under the title, Observations of the State of the Aboriginal

Inhabitants of New Zealand, provide statistics of population numbers and movements in the Colony and are of use in relation to Auckland and the Waikato.

Some use has been made of manuscript diaries and other records kept during the period under study, and which supplement the information available from official sources. In particular, this applies to the period immediately before the Waikato War, and for this period heavy reliance is made on the records kept by missionaries and travellers through the Waikato.

Newspaper records provide inadequate coverage and information of the Waikato during the 1860's. The New-Zealander provided useful information and statistics on trade between Auckland and the Waikato in the period prior to the Waikato War. The Weekly News and New Zealand Herald had correspondents in the military settlements, particularly Hamilton, soon after their establishment and their reports provide useful additional information on the development of the settlements.

Secondary sources include a wide range of texts on the historical geography of settlement, contemporary texts of travels and description and studies relating to the history of New Zealand during the period under study. Few studies directly concerned with military settlements have been published.

A recent study, by H. C. M. Norris, is concerned with military settlers of the Fourth Waikato Regiment at Hamilton, and the book also makes reference to other military settlements in the Waikato (10). Other studies have been made, in Masters' theses, of aspects of military settlement and the confiscation of Maori lands, but there is no such study of the military settlement of the Waikato, particularly in the context of the changing landscape of the region and of the impact that the phase of military settlement has had on the landscape of the region today (11).

REFERENCES: CHAPTER I

- (1) Clark, A.H. The Invasion of New Zealand by People, Plants, and Animals, New Brunswick 1949 pv.
- (2) The changing nature of geography is frequently referred to as 'evolution'. Use of the term in this study implies change involving an orderly sequence of events following one another, each event inter-linking with those preceding and succeeding it in such a way that the whole can not be understood without an examination of each part and its relations to the whole.
- (3) Many of these studies are listed in the Selected Bibliography. Among these studies are those by:
- Meinig, D.W. On the Margins of the Good Earth, John Murray, 1963.
- Clark, A.H. The Invasion of New Zealand by People, Plants, and Animals, 1949.
- Duncan, J.S. The Evolution of Settlement of New Zealand, Ph.D. thesis, London University, 1960.
- (4) J.O.M. Broek defined the landscape as being "the outward manifestation of a closely related complex of factors which give a certain region a unity in appearance".
- Broek, J.O.M. The Santa Clara Valley, California: a study in landscape change. Ph.D. thesis, Utrecht, 1932.
- (5) Buchanan, R.O. "Some aspects of settlement in the overseas Dominions." The Advancement of Science, Vol.IX No. 34, Sept. 1952.
- (6) Ackerman, E.A. Geography as a fundamental research discipline. Research Paper No. 53, University of Chicago, 1958, p.32.
- (7) Clark, A.H. "Praemia Geographia: the Incidental rewards of a Professional Career," Annals of the Association of American Geographers, Vol. 52 No. 3 1962.
- (8) Darby, H.C. "Historical Geography of England before 1800, Twenty years after." Geographical Journal, 126, 1960, pp. 149 - 151.

- (9) A.H. Clark discusses this problem in his article, "Titus Smith, Junior, and the Geography of Nova Scotia in 1801 and 1802." A.A.A.G., Vol. XLIV 1954, pp. 291 - 314:

"No matter how assiduously a geographer checks the documents and maps of another day in the field or searches for evidence of the past in the present landscape, he has found thereby no really satisfactory substitute for actually seeing the land as it was."

- (10) Norris, H.C.M. Armed Settlers, Paul's Book Arcade, 1963.
- (11) These theses are listed in full in the Selected Bibliography.

II. THE LANDSCAPE OF THE MIDDLE WAIKATO BASIN IN THE 1850's

In this chapter, the major details of the setting of the Middle Waikato Basin will be outlined. The human occupation of the region in the 1850's will be briefly described so that subsequent changes in the pattern of human occupation as a result of military settlement, may be viewed in the context of the changing landscape of the Middle Waikato Basin.

The Setting

Location

The location of the Middle Waikato Basin in relation to the North Island of New Zealand is shown on the map, Figure II:1. Situated some twenty to thirty miles inland from the West Coast, the Middle Waikato Basin is almost completely surrounded by ranges reaching up to 3,000 feet above sea level. The Basin extends from Maungatautari Gorge in the south, located sixty miles to the south of the source of the Waikato River, Lake Taupo, to Taupiri Gorge, forty miles south of the mouth of the Waikato River at Port Waikato.

To the north the region is flanked by the Taupiri and Kapamahanga Ranges, to the west by Pirongia Mountain and its associated foothills and to the east by the Hangawera Hills, the Pakaroa Range and the Maungakawa Hills (Figure II:2). To the south, the region is flanked by Maungatautari Mountain and the Pukekura Hills. The region is, therefore, isolated by surrounding ranges except in the south where the Waipa River flows into the Basin.

Topography

Most of the Middle Waikato Basin consists of a plain formed by the fan of the Waikato River and by alluvium laid down by the Waipa River. The Waikato River filled the basin with

Figure II:1 The location of the Middle Waikato Basin.

LOCATION OF THE MIDDLE WAIKATO BASIN

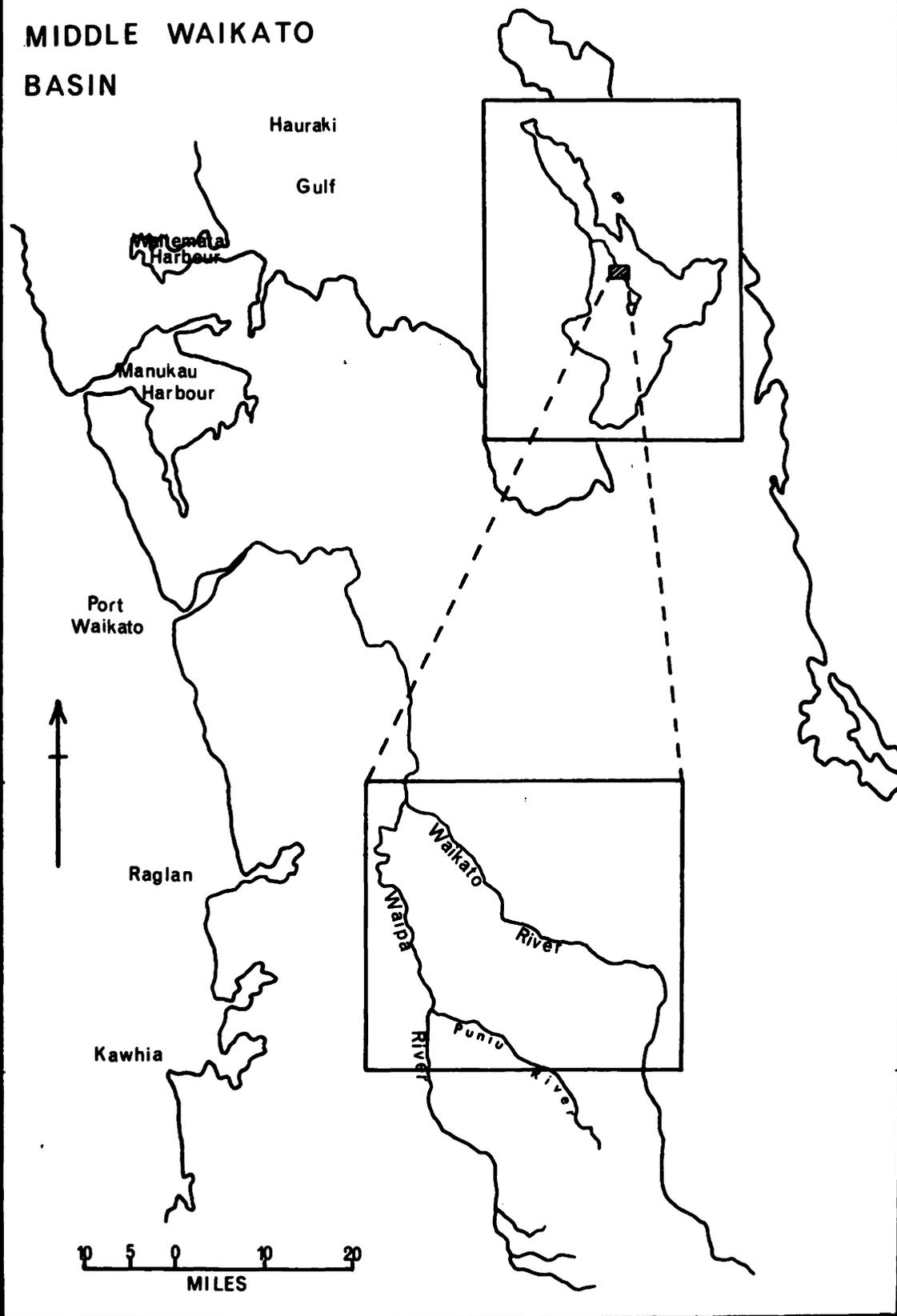


Figure II:2 Location details of the Middle Waikato Basin.

alluvium consisting mainly of current bedded sands and gravels derived from ignimbrite, andesite, greywacke and pumice together with large quantities of quartz sand (Figure II: 3).

The Middle Waikato Basin is a structural depression bounded by faults which define the boundary between the infilled grabens of the lowlands and the surrounding upland horsts. The alluvium deposited by the Waikato River partly buried the older ash-covered topography of the basin. This older topography appears in the form of low hills above the alluvial plain, and is shown on the map, Figure II: 3.

Two major rivers flow through the basin, the Waikato River and its major tributary, the Waipa. The Waikato River, flowing northward from its source in Lake Taupo, enters the basin in the south-east through a narrow gap, the Maungatautari Gorge. The Waikato flows from the basin in the north, through a narrow gorge at Taupiri. The Waipa drains the southern portion of the basin, flowing close to the base of the western ranges.

The two rivers are entrenched beneath the surface of the alluvial plain. At Cambridge the Waikato River flows 170 feet below the plain surface. The amount of entrenchment decreases downstream until Ngaruawahia, the point of confluence with the Waipa River, where the Waikato River is entrenched only 36 feet below the surface. The Waipa River is not as deeply entrenched, flowing only 70 feet below the surface at Pirongia.

Deeply entrenched streams are a feature of the basin. Tributary streams have cut deep gullies across the plain surface. The nature of the pumice-derived alluvium is such that the gullies have very steep banks, and are often from 80 to 90 feet deep.

The Waikato and Waipa Rivers, above the confluence at Ngaruawahia, are swift flowing. The Waikato is navigable from the mouth of the river at Port Waikato as far south as Cambridge. Below Ngaruawahia constantly shifting sand bars and tree stumps

Figure II:3 Major topographical features of the Middle
Waikato Basin.

Source: N.Z.M.S. 1 Ngaruawahia, Hamilton Sheets
J.D. McGraw, Earth Sci. Jnl., Vol. 1
No. 1, 1967; p. 64.

Figure II:3 Topography of the Middle Waikato Basin

REFERENCE



Swamps and alluvial flats
with impeded drainage



Low rolling hills and ridges
carved from former floodplains



Uplands surrounding basin

Source: Soils and Agriculture of part of Waipa County, p. 13
Earth Sci. Jnl. Vol. 1 No. 1, 1967, p. 64

TOPOGRAPHY OF THE MIDDLE
WAIKATO BASIN



in the river channels provide additional impediments to river transport. The Waipa River is less suitable for river transport. During periods of average flow the Waipa is navigable as far south as Pirongia but a meandering course, sand banks and numerous submerged tree trunks make navigation on this river hazardous. Both rivers flow at low levels during periods of summer drought.

The Waikato River has changed its course through the Middle Waikato Basin several times. Along each course levees of coarse sands and other sediments have been formed by deposition and these form low ridges particularly on the "delta", the term applied to that part of the Basin which is situated between the Waikato and Waipa Rivers. As the levees were formed along each new course of the Waikato River they acted as dams ponding back streams and generally impeding drainage in areas that eventually became extensive swamps.

In the south-east corner of the basin, flanked by the Pukekura Hills is the Moanatuatua Swamp which was originally some 18,000 to 20,000 acres in extent. To the north and situated between the Waikato and Waipa Rivers, is the Rukuhia Swamp some 15,000 acres in extent. To the east of the Waikato River is the extensive Piako or Great Swamp (1). In addition to these very extensive swamps each ridge tended to impede drainage so that over a large area of the Basin particularly on the delta, the topography consists of a series of low, dry ridges with alternating swampy depressions.

Climate

The climate of the Middle Waikato Basin is without extremes in temperature or rainfall. Summers are warm and humid, average temperatures being in the 60 degrees F. range. There are mild winters, average temperatures ranging between 35 and 55 degrees F. The sheltered nature of the Basin, however, often leads to calm, clear nights and severe frosts in winter. Frosts occur about 70 to 80 days a year on average, throughout the Basin.

There is an annual rainfall over most of the region of 45 to 60 inches. This is distributed fairly evenly throughout the year, although there is a winter maximum and there are sometimes periods in summer, usually in February and March, when drought conditions may prevail. During this period, rivers and streams flow at low levels.

Vegetation cover

The map, Figure II: 4, shows the general distribution of pre-European vegetation in the Middle Waikato Basin. Much of the information about the nature of the pre-European vegetation cover came from observations made by the earliest European travellers in the region (2). Some account has to be taken of the changes made in the vegetation by the Maoris and by the early European settlers but the general vegetation cover remained largely undisturbed until the 1860's.

There were four major groups of pre-European vegetation cover; mixed forest broad-leaved podocarp with kauri in parts, manuka scrub and fern, semiswamp forest (kahikatea), and bog and swamp vegetation.

Manuka scrub and fern was the dominant vegetation cover over a large area of the basin. The obstacle of dense subtropical rain forest that faced settlers in the early stages of colonization in many areas of the North Island, particularly in Taranaki during the period under consideration, was absent from the Middle Waikato Basin. Instead, the settlers were faced with an obstacle that proved even greater - the swamps.

The hills and ridges around the margins of the basin and north of Rukuhia Swamp showed evidence of a more continuous forest cover in primitive times. Survivals consisted of scattered clumps of turepo (*Paratrophis microphylla*), Kohuhu (*Pittosporum eugenioides*), and pokaka (*Elaeocarpus hookerianus*). The primitive forest cover was probably a sub-tropical rain forest of podocarp-dicotylous broad-leaved trees similar to the forest

Figure II:4 Pre-European vegetation of the
Middle Waikato Basin.

Figure II:4 Pre-European Vegetation of the Middle Waikato Basin

REFERENCE



Mixed forest broadleaved podocarp
with kauri (in parts)



Manuka scrub, fern etc. (after forest)



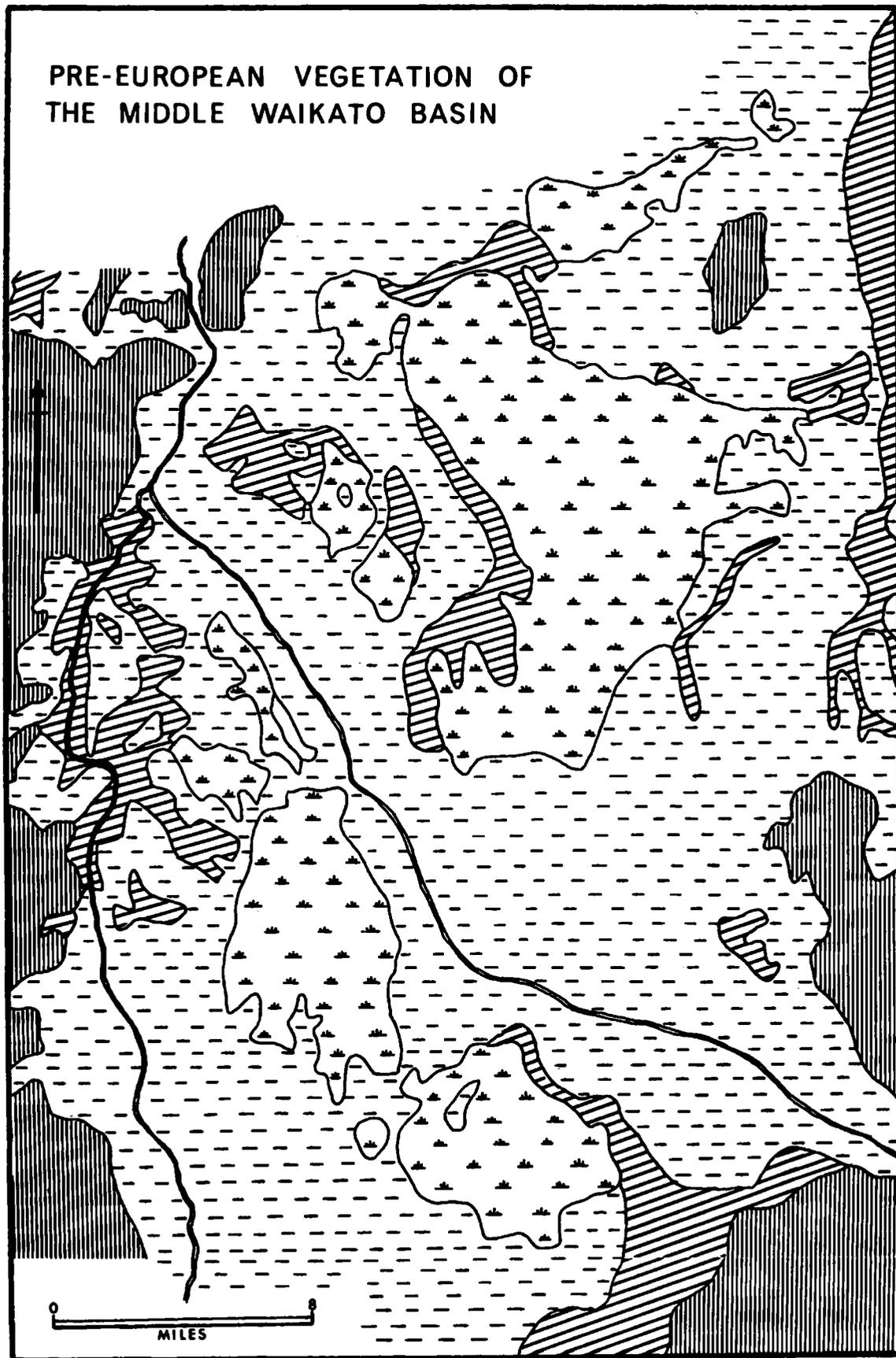
Semiswamp forest



Bog and swamp vegetation

Source : Taylor, N.H. et. al. Proc. N.Z. Soc. Soil Sci., Vol. 3 1958, p.27

PRE-EUROPEAN VEGETATION OF
THE MIDDLE WAIKATO BASIN



cover in many other areas of the North Island during this period.

The forest cover was more continuous on the ranges surrounding the basin and consisted largely of rimu (*Dacrydium cupressinum*), rata (*Metrosideros lucida*), matai (*Podocarpus spicatus*), tawa (*Belischniopsis tawa*), and rewarewa (*Knightia excelsa*).

The ridges and low hills of the Waikato Basin were covered with low scrub and fern. The manuka cover did, in places, grow to a considerable height, up to 10 to 12 feet, especially on the margins of swampy areas. In the depressions between the gravel ridges and around the margins of the peat swamps a kahikatea semi-swamp forest flourished in which kahikatea (*Podocarpus dacrydioides*) was dominant, together with some matai, rimu, and mahoe (*Melicope ramiflora*).

On parts of the fan covering the transition from wet to dry conditions there was a greater species' range of tawa, rimu, maire, titoki (*Alectryon excelsum*), hinau (*Elaeocarpus dentatus*), and lancewood (*Pseudopanax crassifolium*).

The swamps supported a variety of vegetation cover. Raupo swamp communities occurred frequently in the region in which the bull-rush, raupo (*Typha angustifolia*), was dominant. In the central dome-shaped part of the peat swamps the vegetation consisted largely of bog, usually Sphagnum bog. The peat bogs were usually surrounded by raupo swamp communities. On the margins of the peat bogs in the shallower water occurred the Phormium communities in which the flax (*Phormium tenax*) was dominant. These latter communities were of considerable economic significance to the Maoris during the early years of European contact. In the swampy depressions raupo and Phormium swamp communities were most in evidence.

On the Waipa flood plain and along the river terraces there occurred a sporadic cover of kahikatea swamp forest, the

wetter parts of the terraces supporting a typical swamp growth of large monocotyledons such as raupo, sedges, flax and, frequently, cabbage trees (*Rhopalostylis sapida*) and toe toe (*Arundo conspicua*) (3).

The early traveller remarked on: "the groves and clumps of elegant pines . . . intersected with small placid lakes and level plains." (4) Standing on Pirongia Mountain, Dieffenbach observed that:

" . . . the broad and open valley of the Waipa stretched out towards the north-east, and was bounded to the east by distant hills. To the south-west the eye reached to the hilly chain of Rangitoto, near Mokau, on the western coast . . . everywhere the coast-hills descended gradually towards the interior, and . . . all these hills were covered with forest. Only some small spots of the valley of the Waipa were wooded . . . the surface of the Waipa [is] enriched by the forest which in ancient times covered it. The groves which are still standing in many places, especially where the swamps are found in the depressions of the land, consist mostly of kahikatea: this pine, the swamp-pine, generally occupies low and swampy ground." (5)

Soils

The map, Figure II: 5, shows the general distribution of soils in the Middle Waikato Basin. Comparison of this map with Figures II: 3 and II: 4, shows that there is a close relation between soil distributions and the nature of the topography and vegetation cover.

On the long, low, dry ridges, composed of alluvial gravels and sands and frequently covered with an ash mantle, the soils are of a loamy nature. The soils consist mainly of silts, sands and gravels. In the intervening swampy depressions similar soils are gleyed as a result of the impeded drainage.

The river terraces along the Waikato River are covered with coarse pumice and current bedded sands and gravels derived from erosion of the Waikato fan alluvium.

Figure II:5 Soils of the Middle Waikato Basin.

Figure II:5 Soils of the Middle Waikato Basin

REFERENCE



Recent soils



YELLOW-BROWN EARTHS

- moderately and weakly leached

- related stepland soils

- strongly leached and podzolised



YELLOW-BROWN LOAMS

- associated with gley soils



BROWN GRANULAR CLAYS, ETC., FROM VOLCANIC
ASH

- associated with strongly leached and podzolised
yellow-brown earths



Gley soils - associated with organic soils

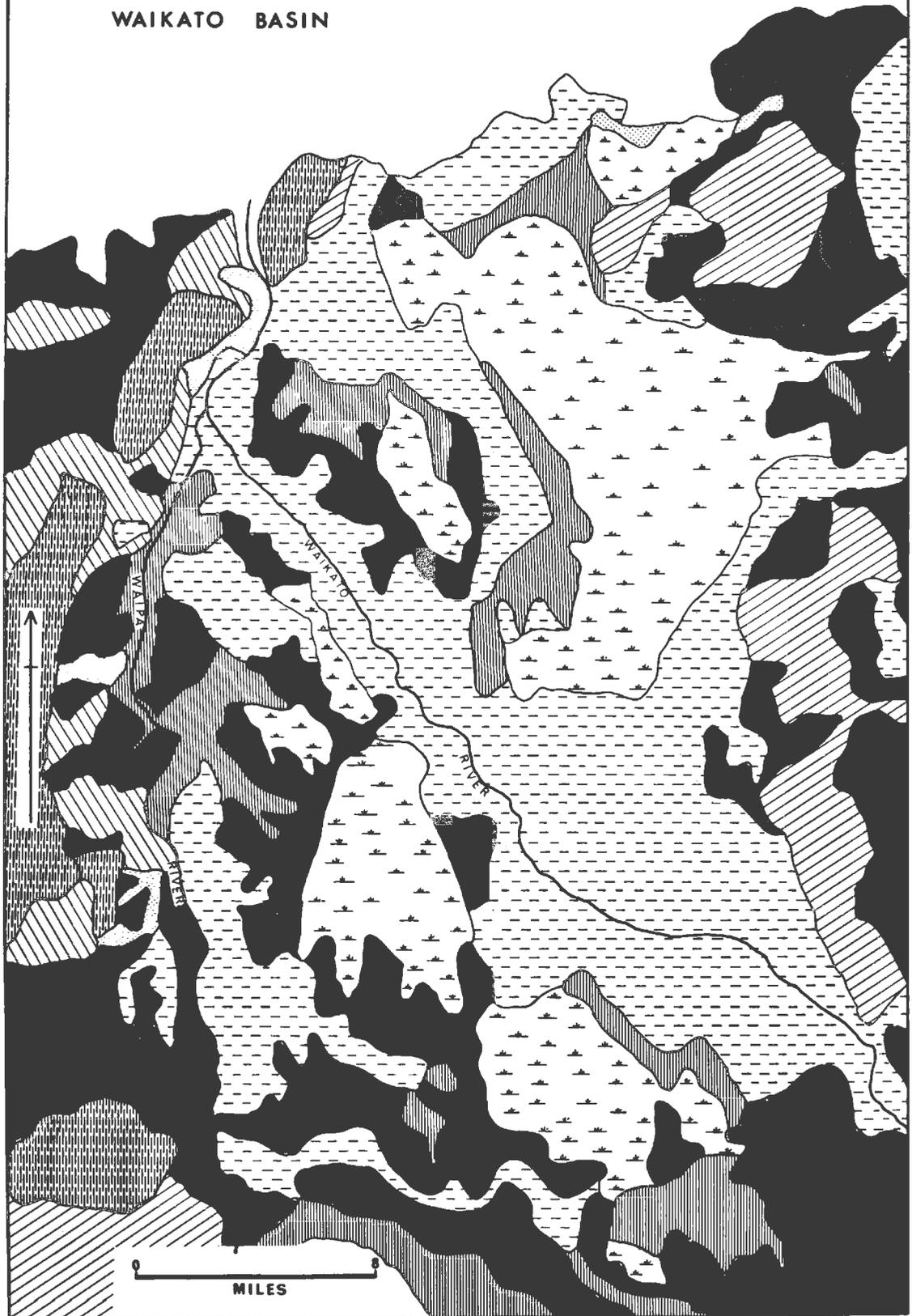


Organic soils

Source: Soils and Agriculture of part of Waipa County

Taylor, N.H. et. al. Proc. N.Z. Soc. Soil Sci., Vol. 3 1958, p. 27

SOILS OF THE MIDDLE
WAIKATO BASIN



There are three main groups of organic soils. The Te Rapa soils developed from shallow peats, probably rich in organic matter that had grown out over the land surrounding the large bogs. Kaipaki soils developed on deeper low-moor peats, generally in what were the shallow portions of the old lakes that gave rise to the peat bogs. Rukuhia peat occurs on domed peat bogs and is mainly raw peat with little soil formation. It is extensive over the greater part of the bogs.

Many of the soils on the levees and river terraces of the region were comparatively recent in development and were usually infertile. The Maoris recognised this and modified extensive areas of soil along the Waikato and Waipa Rivers in developing a soil suitable for kumera cultivation. The successful cultivation of the kumera demanded a light, friable topsoil, high in organic content over a well-drained subsoil which held moisture. To obtain such a soil, the Maoris excavated gravels from large pits close to the Waikato and Waipa Rivers. These gravels were spread over the soils of the river terraces. Manuka was carried in and burnt and the soils were worked with digging sticks until a soil of suitable texture and fertility was obtained.

The extent of the Maori-modified soils is not exactly known. A 1939 soil survey mapped 1,797 acres of them in the northern part of the Waipa County and a similar amount in the southern part of the Waikato County (Figure II: 6).

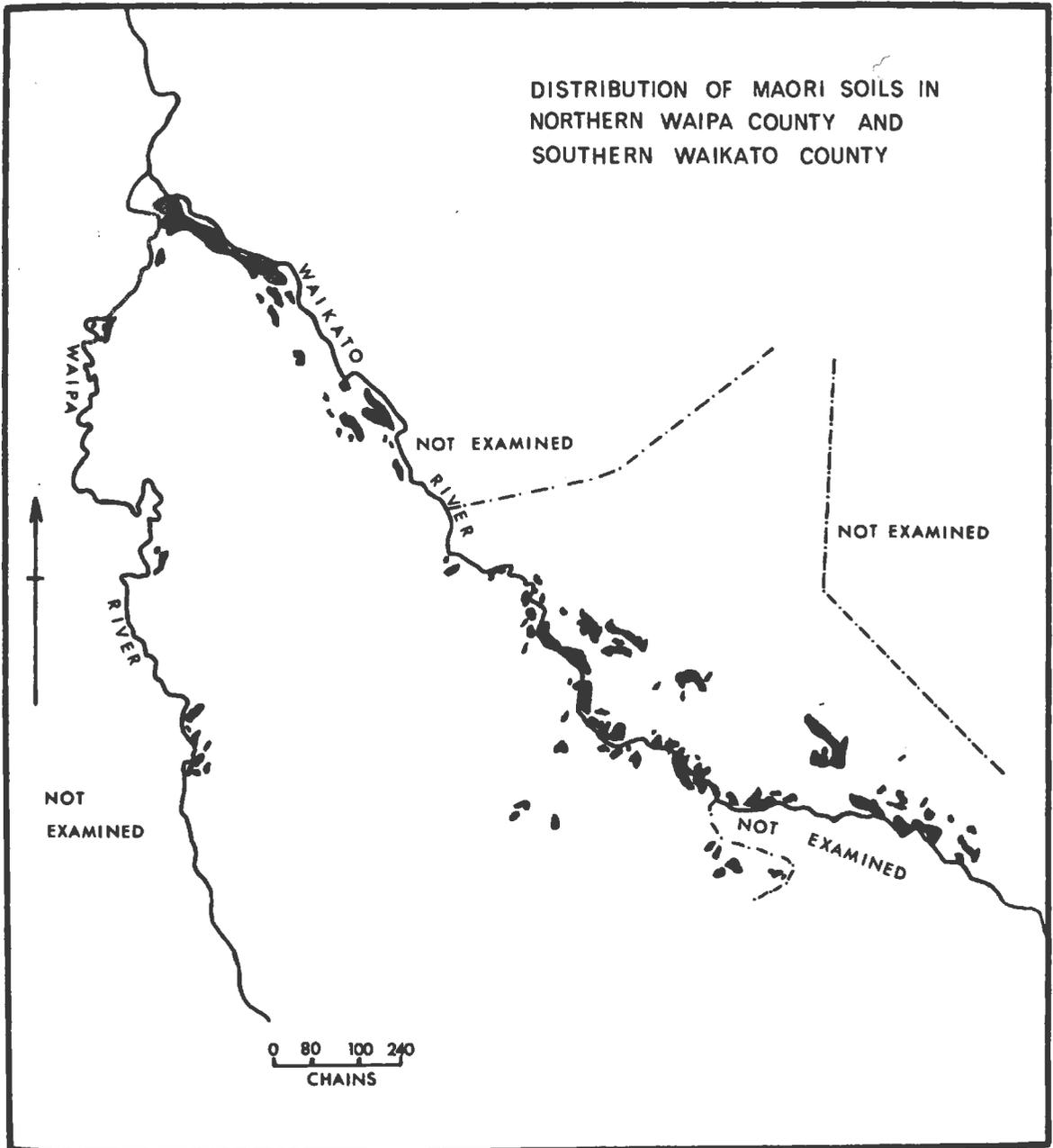
It has been estimated that there are probably about 5,000 acres of these soils along the Waikato and Waipa Rivers (6). In some areas these modified soils occur in areas of more than 500 acres but patches of from 5 to 10 acres are more common.

The natural environment is the fundament modified by Man who is the agent of change in the region's landscape. Some features of the natural environment of the Middle Waikato Basin

Figure II:6 Distribution of Maori-modified soils in the
Waipa and Waikato Counties.

Source: N.H. Taylor, N.Z. Sci. Rev., Vol. 16
Sept.- Oct. 1958, Nos. 9-10; p. 77.

DISTRIBUTION OF MAORI SOILS IN
NORTHERN WAIPA COUNTY AND
SOUTHERN WAIKATO COUNTY



were of importance in determining the nature of the military settlement of the basin. Such features as the enclosed nature of the basin, the swift flowing rivers, the deep gullies, extensive swamps and the infertility of many of the soils all contributed to the problems that were to face the military settlers in their task of developing the land.

Human Occupation of the Middle Waikato Basin in the 1850's.

The Middle Waikato Basin supported a considerable Maori population during the 1850's, some of the densest Maori settlement in the Auckland Province being located along the Waikato and Waipa Rivers (Figure II:7). The region was inhabited by a large number of tribes which divided geographically and politically into three sections - Ngatimaniapoto, Ngatihaua, and a group of small tribes called Waikato. The upper Waipa was inhabited by the Ngatimaniapoto tribe. The main villages of this tribe were sited south of the Puniu River and in the Rangiawhia-Otawhao area. The Ngatihaua tribe was concentrated mainly along the banks of the Waikato River south of Ngaruawahia, the main settlement of this tribe being sited at Tamahere. Other settlements of this tribe were sited on the Maungakawa Hills which flank the basin to the south-east, and on the slopes of Maungatautari Mountain.

Maori villages were concentrated along the rivers and streams which were the main routes of transport and communication and which were also a major source of protein for the Maori in the form of eels and waterfowl (Figure II:7). Villages were also located on the low hills and ridges between the Waikato and the Waipa Rivers. Each village was of a nucleated type, consisting of a collection of raupo huts. Each village usually had a meeting house and 'patakas', small wooden huts on posts above the ground, which were used for food storage (7).

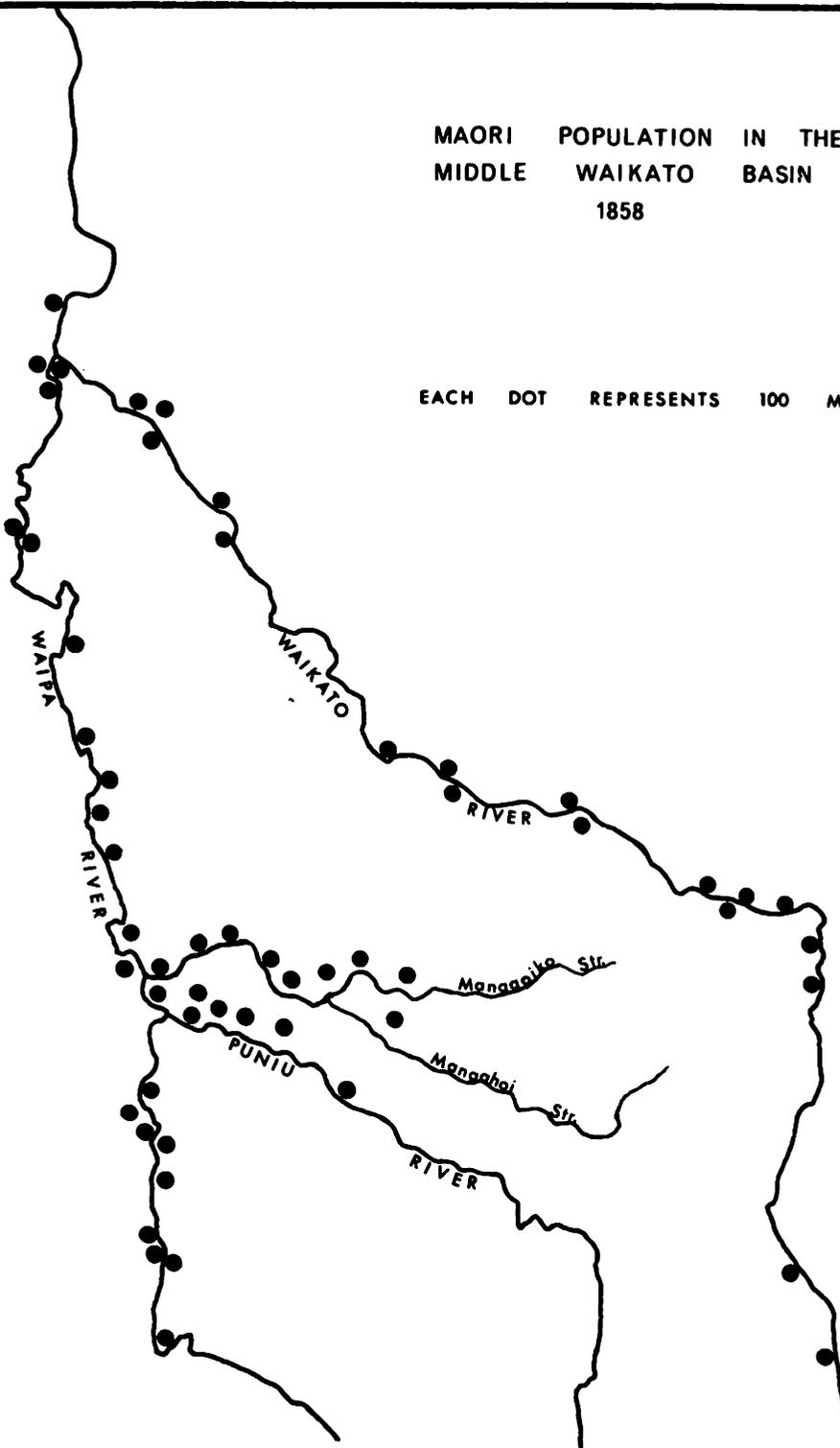
Figure II:7 Distribution of Maori population in the
Middle Waikato Basin during the 1850's.

Source: Map in Appendix to Journal of House
of Representatives 1863 (A - 8a).

R.P. Hargreaves, Jour. Polynesian
Soc., Vol. 63, 1959; p.63

MAORI POPULATION IN THE
MIDDLE WAIKATO BASIN
1858

EACH DOT REPRESENTS 100 MAORIS



20 10 0 10 20 40
MILES

Plate 1. During the 1850's a number of mission stations were established along the Waipa and Waikato Rivers. European settlers tended to congregate in small groups at these stations. The mission station at Pepepe on the Waikato River is shown in this photograph.

Photo : Auckland Public Library Photograph Collection.



CHURCH MISSION STATION ON THE BANKS OF THE RIVER



Tracks between the villages followed the drier ground across the alluvial flats and along the ridges of the surrounding ranges. Where a swamp had to be crossed this was done by means of "branches of manuka, resting on stumps of trees sunk two feet under water." (8) River crossings were fewer owing to the swift flowing nature of the major rivers. Rivers were often crossed by means of "a native pig-bridge, composed of two trees, with a hollow wattle of brushwood in the middle." (9)

European influence on Maori settlement patterns and the Maori way of life was nowhere more evident than in the Middle Waikato Basin where missionaries had introduced the techniques of European commercial agriculture to the Maoris. During the 1850's the Maoris of this region were amongst the major suppliers of agricultural produce to the Auckland market. This produce was intended for local consumption and for export to Australia. Maori agriculture was a combination of traditional techniques and of introduced European methods. Kumeru cultivation remained important in the Waikato but European crops rapidly gained favour. These included wheat, maize and potatoes together with vegetables and fruits. European methods of cultivation were also adopted and ploughs, spades and hoes became common implements.

The demands of commercial agriculture led to a stabilisation of Maori settlement patterns and a gradual cessation of the practice of migrating from one settlement to another during the year.

The basic settlement pattern shown on the map, Figure II: 7, was not radically changed by this process of stabilisation of Maori settlement patterns. The adoption of commercial agriculture by the Maoris had its most significant impact in the Rangiawhia area where the greatest density of

Maori population was located. During the 1850's Maori tribes built their own flour mills to grind their wheat, this usually being accomplished with the aid of Europeans (10). The map, Figure II: 8, shows that the greatest concentration of flour mills was located in the Rangiawhia area. Anglican missionaries had originally established a mission station in the Rangiawhia area because of the great density of Maori population and it was in this area that the missionaries first taught the Maoris the techniques of commercial agriculture and established the first flour mills. In this area, by 1853, there were four flour mills in operation or under construction. These developments led to a further concentration of Maori population in the district. John Morgan estimated, in 1852, that the total population at Otawhao and for five miles around was 990 persons (11). The era of Maori commercial agriculture led to an intensification of Maori settlement along the main rivers and streams. J. E. Gorst reported that for almost fifty miles along the Waipa River there were continuous cultivations (12).

It was in the Rangiawhia - Otawhao area that the most notable landscape changes took place during the 1850's. Visitors commented on the settlement in terms such as the following:

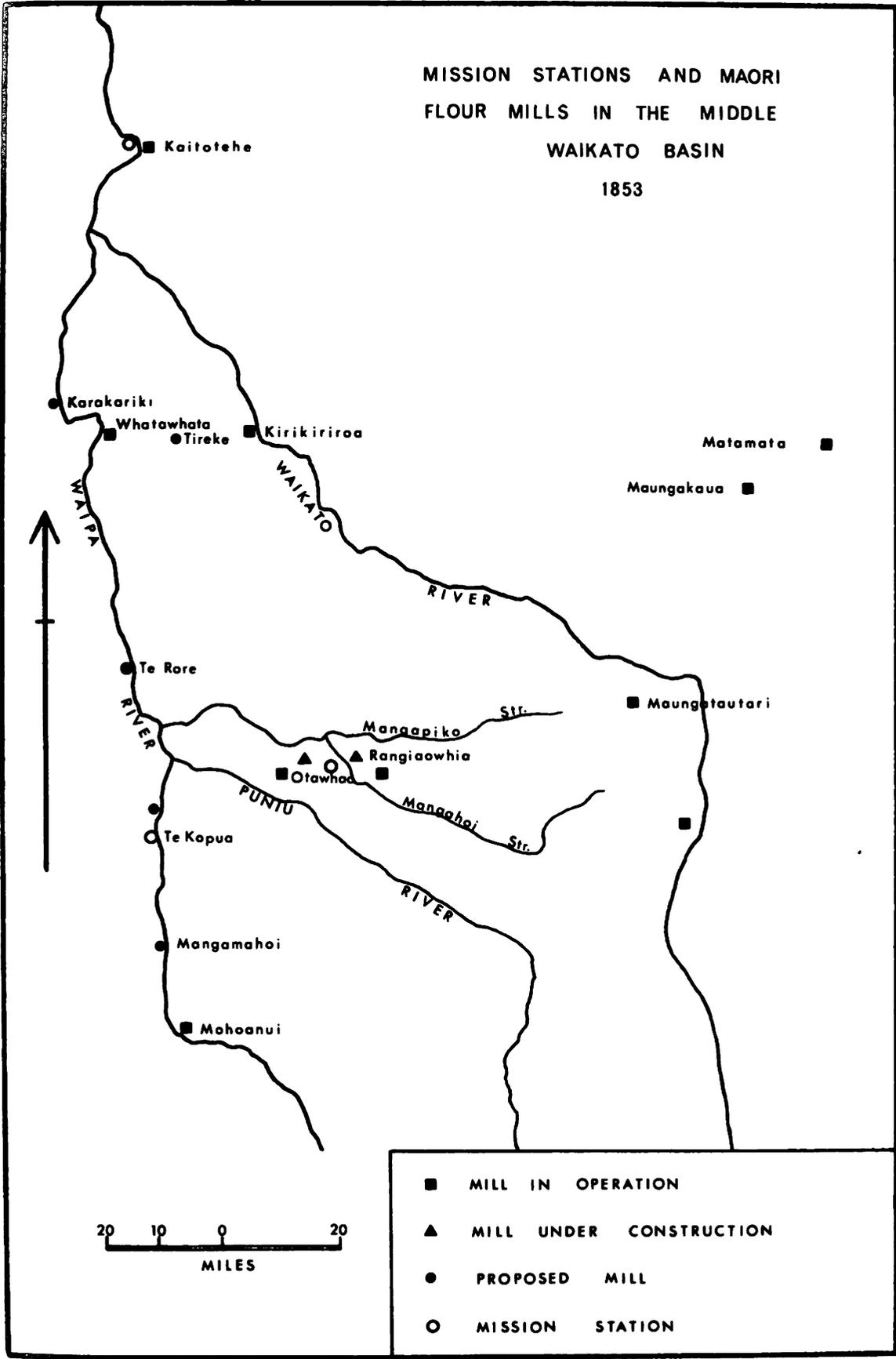
"This settlement in appearance is similar to an English village. Neat homesteads dotted here and there with hay-stacks, ploughs, harrows, and other implements of husbandry . . . and scenery enlivened by several flour mills. The natives are extensive cultivators of wheat, which is ground at their mills and sold at Onehunga and Auckland." (13)

Although European missionaries and traders had a considerable impact upon Maoris in the Middle Waikato Basin during the 1850's, the number of Europeans actually settled in the region, compared with the Maori population, was small. Estimates of the European population in the region during this period are difficult to make because of the lack of reliable

Figure II:8 The distribution of flour mills and mission stations in the Middle Waikato Basin in 1853.

Source: Map by John Morgan, Diaries, 1853, showing number, situation and value of mills, within 50 miles around Otawhao, Waikato.
R.P. Hargreaves Jour. Polynesian Soc., Vol. 63, 1959; p.71.

MISSION STATIONS AND MAORI
 FLOUR MILLS IN THE MIDDLE
 WAIKATO BASIN
 1853



- MILL IN OPERATION
- ▲ MILL UNDER CONSTRUCTION
- PROPOSED MILL
- MISSION STATION

20 10 0 20
 MILES

Plate 2. The district of Rangiawhia was important during the 1850's as the centre of Maori commercial agriculture in the Middle Waikato Basin. The mission station at Otawhao (Te Awamutu), shown in this photograph, formed a focus of settlement for the Maoris in this district.

Photo : Auckland Public Library Photograph Collection.



information. However, an 1863 Government report on Europeans occupying Maori land, shows that up to 1862 there were some 30 Europeans who held land on lease from the Maoris. These holdings ranged in size from 6,000 acres to $\frac{1}{2}$ to $1\frac{1}{2}$ acres (14).

Information available from early travellers' diaries and missionary reports indicates that approximately 50 to 60 Europeans lived in the Middle Waikato Basin during the mid-1850's. Most of these settlers were engaged in missionary or trading activities amongst the Maoris and, consequently, usually lived in close proximity to Maori settlements, especially in the Rangiawhia - Otawhao district (Figure II: 8).

During the mid-1850's, extensive cultivations of commercial crops and orchards along the main navigable rivers and streams and a stable and prosperous Maori population gave to the landscape of the Middle Waikato Basin a settled and prosperous appearance which was frequently commented upon by travellers and missionaries. However, this pattern of human occupation was only transitory, being based upon special economic conditions which were largely responsible for the prosperity of the Waikato Maoris during the 1850's. When these conditions disappeared in the late 1850's, the pattern of human occupation of the Middle Waikato Basin began to change. The 1863-1864 Waikato War between the Maoris and the European settlers was to mark the beginning of a new pattern of human occupation of the region, that of the military settlers.

REFERENCES: CHAPTER II

- (1) During the period under study i.e. that of military settlement, the Piako Swamp was more commonly referred to as the Great Swamp and this term is used in the thesis.
- (2) Among these early travellers were W. Colenso, Excursion in the Northern Island of New Zealand in the summer of 1841-2;
E. Dieffenbach, Travels in New Zealand; with contributions to the Geography, Geology, Botany and Natural History of that Country. Vol. 1.;
J. Johnson, Notes from a Journal;
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Extracts of reports by W. Colenso, and J. Johnson are contained in N.M. Taylor, Early Travellers in New Zealand, Oxford, Clarendon Press, 1959.
- (3) Information for this section is obtained from Cockayne, L. The Vegetation of New Zealand, H. R. Engelmann, 1958.
Grange, L.I. et al. Soils and Agriculture of part of Waipa County, Bull. no. 76, Soil Survey Publication No. 5, D.S.I.R., 1939.
- (4) Colenso, W. Report contained in N.M. Taylor, 1959, p. 41.
- (5) Dieffenbach, E. Travels in New Zealand, Vol. 1., p. 312 - 3, 317.
- (6) Taylor, N. H. N.Z. Sci. Rev., Vol. 16. Sept - Oct. 1958, Nos. 9 - 10, p. 77.
- (7) Gorst, J.E. The Maori King, London, 1864; p. 18 - 20.
- (8) Johnson, John. Notes from a Journal, N.M. Taylor, 1959, p. 84.
- (9) Selwyn, G. A. Letters from Bishop Selwyn, N. M. Taylor, ibid., p. 84.

- (10) Hargreaves, R. P. "The Maori Agriculture of the Auckland Province in the mid-Nineteenth Century." Jnl. Polynesian Soc., Vol. 68 No. 2, June 1959, pp. 69 - 70.
- (11) Morgan, Rev. J. Diaries and Reports, Vol. 3, Feb. 1852, p. 550.
- (12) Gorst, J. E. 1864, p. 21.
- (13) Hargreaves, R. P. 1959, p. 72, quoting from Maori Messenger: Te Karere Maori, Vol. 1. No. 1. Jan. 1 1855:5
- (14) AJHR, E - 16, 1863; Return of Europeans in the occupation of Native land in the Northern Island of New Zealand.

III. MILITARY SETTLEMENT: THE SCHEME OF SETTLEMENT

In this chapter, the reasons for the emergence of racial tension in the North Island of New Zealand will be discussed, in particular in relation to Auckland and the Middle Waikato Basin. The objectives of the scheme of military settlement that was developed as a result of racial tension in the North Island during the 1860's will be examined and the plan for the settlement of the Middle Waikato Basin outlined.

Conflict of Races

Despite the large indigenous population in the North Island, (in the 1858 Census the Maori population was placed at 53,056), racial conflict between the Maoris and the European settlers was slight until the late 1850's. To a large extent this was due to the distribution of the two populations and to the nature of European settlement in the North Island.

Early European settlement by small groups of whalers, traders and missionaries was confined to the coastline, particularly on the east and west coasts of the Northland peninsula, during the 1820's and 1830's. The focus of permanent European settlement during the 1840's was on the Cook Strait region of the North Island where settlements were founded at Wellington, Taranaki and Wanganui. These settlements were located on navigable harbours or rivers. Few Europeans penetrated inland from the coast.

The greater part of the Maori population was concentrated in the interior of the North Island and on the Northland peninsula.

The frontier of European settlement in the North Island consisted of a series of movements by settlers inland from the settlements scattered around the coast. With a continued influx of settlers into the colony, settlers moved out from the nuclear settlements as land close-by became scarce and expensive.

From the 1820's until the late 1850's, the European and Maori communities in the North Island co-existed without serious tension. In the northern part of the Island the degree of dependence of the settlers upon the Maoris was considerable, many settlers acting as entrepreneurs for the produce brought into the settlements by the Maoris.

The map, Figure III: 1, compiled in 1860 - 1861, shows the nature of the European and Maori settlement patterns by land holdings in the North Island (1). During the late 1850's the first major movements of European settlers inland from the coastal nuclear settlements brought the settlers into direct conflict with the Maoris. These conflicts resulted from the resistance of the Maoris to the continued encroachment of the European settlers upon their tribal lands.

The regions in which racial conflict took place, were located around the fringe of the Maori 'core' region, situated in the centre of the North Island. These regions included the area to the south of Auckland, the Bay of Plenty, East Coast - Hawke's Bay, Taranaki, and north of Wanganui (Figure III: 1). This core region was the centre of Maori resistance to the European settlers.

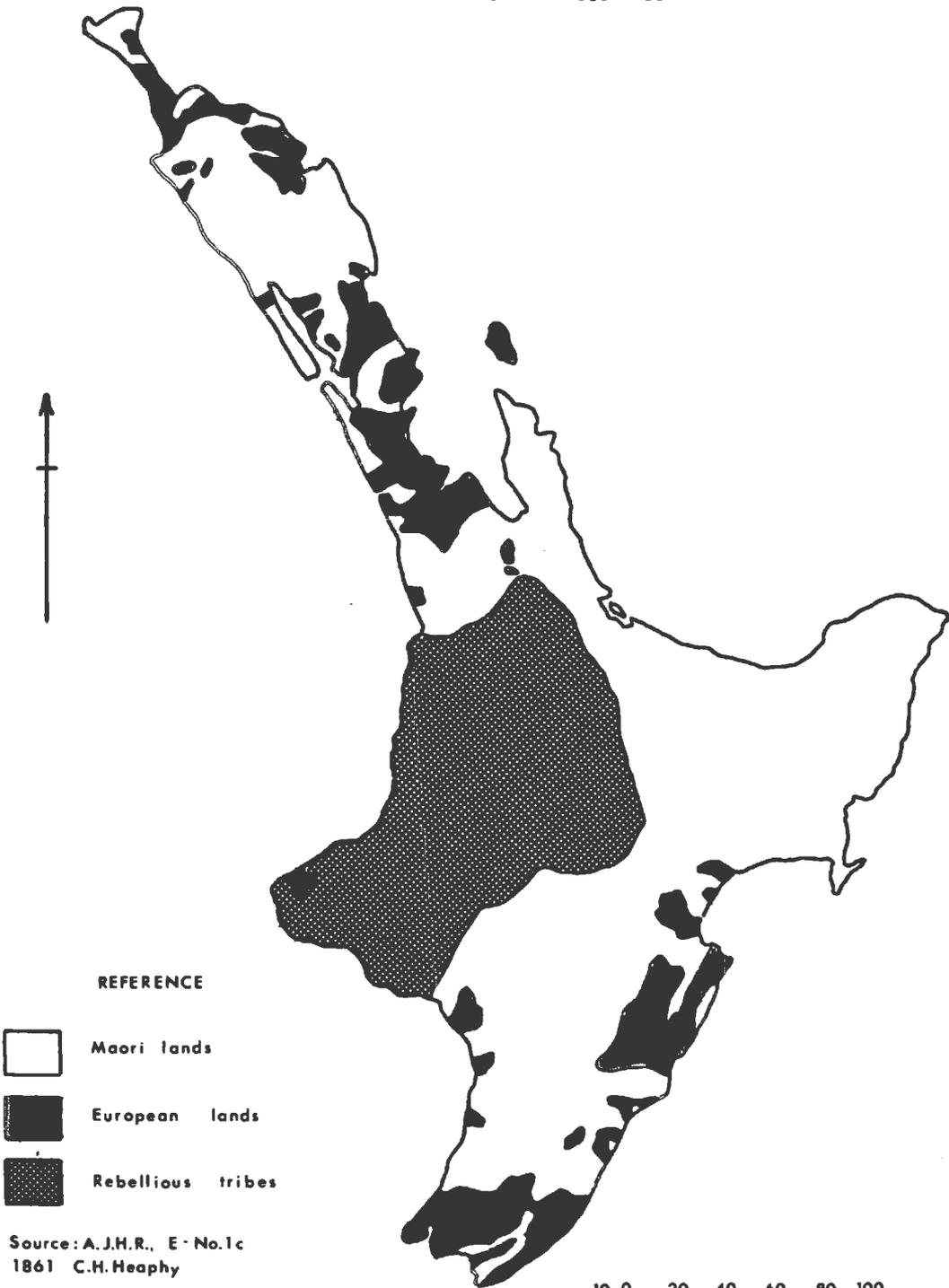
Conflict between settlers and the indigenous inhabitants of the areas being settled, was a feature of the colonization of many new lands during the eighteenth and nineteenth centuries. As the settlers sought to impose new forms of land tenure and land use, in short, a new culture, on the lands they occupied, the indigenous inhabitants resisted. In North America settlers met such resistance from Indian tribes and in South Africa tribes strongly resisted European attempts to settle tribal lands.

The nature of settlement in these regions was influenced by these conflicts. Settlers tended to group

Figure III:1 Showing the approximate distribution of
lands owned by European settlers and
those remaining in the possession of the
Maoris in 1860 - 1861.

Source: AJHR E - No. 1c 1861; compiled
by C.H. Heaphy.

SHOWING THE APPROXIMATE
DISTRIBUTION OF LANDS OWNED BY
EUROPEAN SETTLERS AND THOSE
REMAINING IN THE POSSESSION OF THE
MAORIS IN 1860-1861



Source: A.J.H.R., E-No.1c
1861 C.H.Heaphy

10 0 20 40 60 80 100
MILES

together for self-defence. Threat of attack and the consequent insecurity felt by the settlers placed constraints upon the subsequent development of settlement.

In many regions the violent resistance of indigenous populations led to a major slowing-down or even cessation of settlement. The problems and hazards of settling virgin land were too great for most settlers to accept the additional danger of settling an area occupied by a hostile indigenous population, unless there was some guarantee of security of tenure and life before they took up land. This guarantee was frequently supplied by government agencies which undertook the direction and support of settlements threatened by attack. The guarantee usually took the form of military posts around which the settlers congregated for safety. Until the threat of attack diminished, only land in close proximity to such posts was usually settled. Frequently, the settlement pattern that developed as a result, persisted when the fear of attack had gone.

The wars of the 1860's between the Maoris and European settlers that took place in Taranaki, the Waikato and, in later years, on the East Coast and at Wanganui, represented a struggle for dominion over the land and for the right of the Europeans to settle that land. It was to assist in the settlement of those regions in which conflict between Maori and European had taken place, that a scheme of military settlement was devised.

Auckland and the Middle Waikato Basin

Auckland exerted economic and political influence over the northern part of the North Island as far south as the Middle Waikato Basin and the Bay of Plenty during the 1840's and 1850's. Auckland was the focal point for this region and settlers intending to establish themselves in the area, either in North Auckland or to the south of Auckland, usually passed through

Auckland on their arrival in New Zealand.

Auckland was located between the largest concentrations of Maoris on the Northland peninsula and in the Waikato - Bay of Plenty regions. A census of Maori population, taken in 1845, stated that the total Maori population was "109,050, of which it was estimated there were 22,000 Maoris in the North Auckland districts and around the Hauraki Gulf and some 18,000 in the Waikato" (2).

At the same time, the European population of Auckland was reported to be 3,970 (3). Amongst the settlers there was a certain feeling of vulnerability to attack from the Maoris because of the small size of their settlement. An Auckland newspaper, The New-Zealander, stated that there were nearly 70,000 Maoris within three hundred miles of Auckland and that "this most important fact should awake vigilance." (4) The greatest danger of attack was regarded by the settlers as coming from the Maoris of the Waikato Valley to the south of Auckland:

" ... the Maoris of the Waikato confederation have been for many years regarded as the most important in New Zealand. Their pre-eminence over other tribes is due not to any intrinsic merit of their own, but solely to their geographic position. Their greatness has grown up with the settlement of Auckland - the richest in the North Island - which lies at their feet, and has been for many years at their mercy. The land on which they live is fertile and difficult to be invaded, while at their backs they have a rugged, inaccessible country, a retreat where they can set our civilised armies at defiance." (5)

Although this statement was made during the 1860's, it refers to a situation that existed at Auckland throughout the 1840's and 1850's. Fear of the Waikato Maoris, together with the difficulties of the terrain, inhibited the movement of settlers south from Auckland. Without steam transport, the

swift flowing Waikato River prevented settlers from entering the Middle Waikato Basin from the north. The Waikato Maoris, however, could descend the river to Auckland by canoe suddenly and without warning.

Fear of attack from the south led to the establishment of the first line of military settlements as a bulwark between the Maoris and Auckland in 1848. A series of settlements of pensioner soldiers, known as the Fencible settlements, were founded nine to thirteen miles south of Auckland (Figure III: 2). These settlements extended across the Auckland isthmus and their main purpose was to act as "a barrier from any sudden irruption of natives from the Waikato." (6)

Despite this fear of attack, during the 1840's and early 1850's, relations between the settlers of Auckland and the Waikato Maoris were generally harmonious. The Maoris of the Waikato Valley played an important part in the economic life of the growing town of Auckland. The Maoris supplied Auckland with very large quantities of agricultural produce and the extent of this trade with Auckland is shown in Table III:1 in the figures for imports of Maori-grown wheat, maize and potatoes into Auckland for the years 1852 to 1856 (7). A very large proportion of these imports came from the Waikato tribes and from the Ngatimaniapoto tribe of the Waipa River district. Statistics published in The New-Zealander show that of a total of 337 Maori canoes which brought produce to Auckland from January to March 1858, 139 canoes were from the Waikato and Ngatimaniapoto tribes (8). The produce was intended for sale on the Auckland market for local consumption or for export to the goldfields of Australia. Keen demand for Maori produce resulted in good prices being paid, an important factor in stimulating Maori interest in commercial agriculture.

In the late 1850's, the expansion of Australian agriculture and a decline in demand from the Australian gold-

TABLE III:1AUCKLAND IMPORTS OF SELECTED MAORI PRODUCE 1852 - 1856

	Wheat (Bushels)	Maize (Bushels)	Potatoes (Tons)
1852 Coastal Vessels [≠]	30,633	10,959	188
Canoes	1,674	2,157	235
1853 Coastal	37,541	14,556	850
Canoes	2,454	4,139	282
1854 Coastal	65,833	18,569	535
Canoes ⁺	3,715	1,123	94
1855 Coastal	82,228	29,250	1,175
Canoes	1,372 bags	1,398	212
1856 Coastal [‡]	56,930	7,873	279
Canoes	3,557	774	125

≠ July - December only

+ excluding April - June

‡ January - September only

Source: R.P. Hargreaves, Jnl. Polynesian Soc., Vol. 68 No. 2
June 1959 pp. 74

Figure III:2 The advance of the southern military
frontier.

Source: A.R. Pybus The Royal New Zealand
Fencibles M.A. Thesis, 1949.
Map in K. Sinclair, The origins of
the Maori War 1961; p. 288.

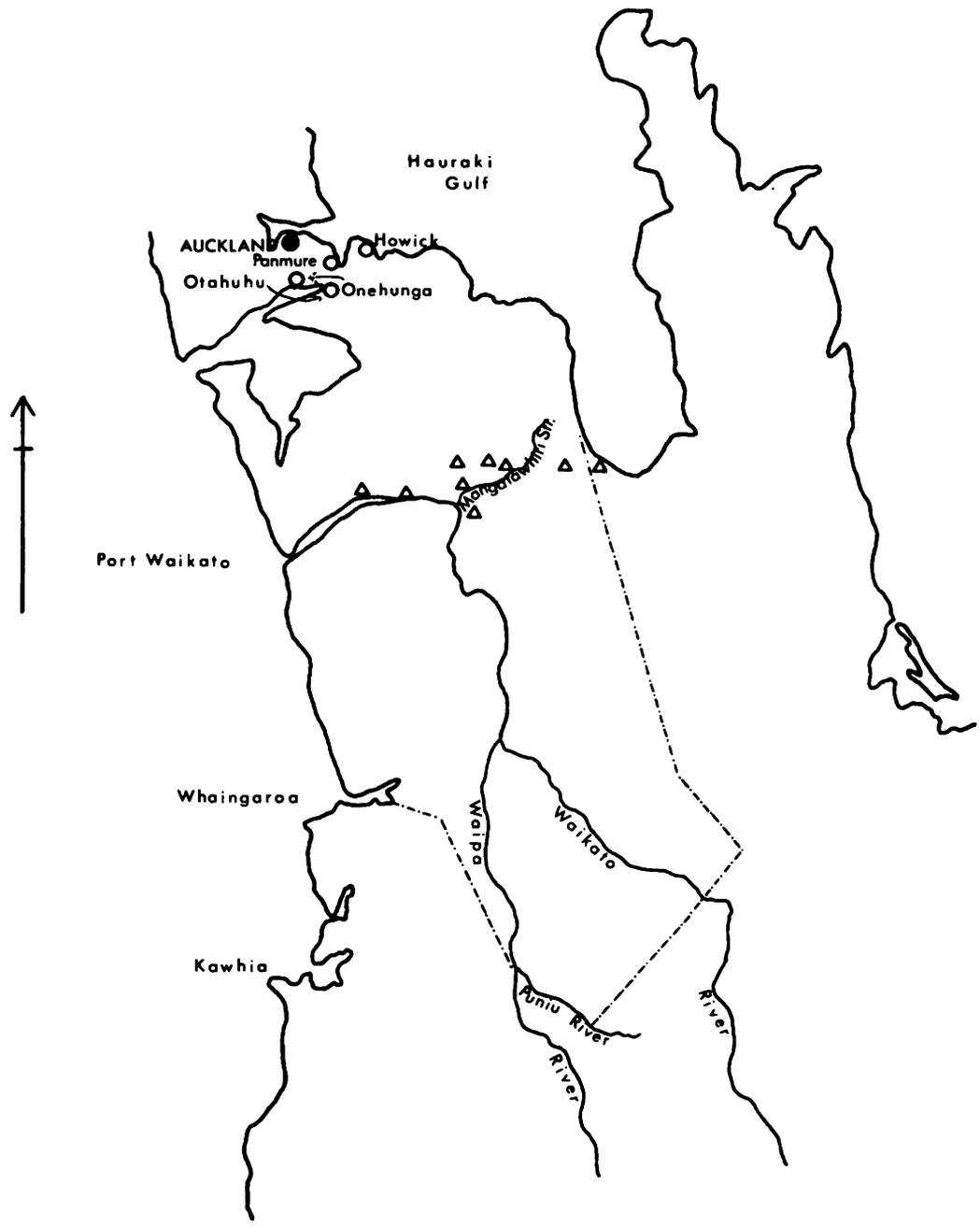
Figure III:2 Advance of the Military Frontier

REFERENCE

-  Fencible settlements established south of Auckland in 1848 - 1849
-  Frontier line of military posts established prior to the 1863-1864 War
-  Boundary of land confiscated from the Maoris in 1864 for military settlement

Source: AJHR 1863 E-7
N.Z. Gov. Gazette 17 December 1864

SHOWING THE SOUTHWARD ADVANCE
FROM AUCKLAND OF THE MILITARY
FRONTIER



fields for New Zealand-grown produce had a significant effect on the Auckland Province. Prices for the produce fell rapidly as a result and this economic recession had its greatest effect upon the Maori agriculturalists who began to lose interest in commercial agriculture when they ceased to get reasonable returns for their produce. Since the Waikato Maoris were the major suppliers of the Auckland market, they were affected the most by the slump. As a result, the Middle Waikato Basin suffered a considerable economic recession during the late 1850's.

The same economic changes prompted European settlers at Auckland to abandon the role of entrepreneurs and to turn to pastoralism for a livelihood. This change, together with the growth in the population of Auckland from 9,159 in 1852 to 24,420 in 1861, led to a greatly increased demand for land (10). Most of the new settlers possessed little capital for extensive land improvement and required large areas of land which required a minimum of expenditure in development for sheep and cattle grazing. /

The European invasion of the Middle Waikato Basin

Settlers looked south of Auckland for the land they required for farming. In the late 1850's the southward expansion of settlement from Auckland was rapid. A relaxation of land prices in 1853, a demand for larger holdings with the change to pastoralism, and considerable land speculation, resulted in much of the land as far south as the mouth of the Waikato River being appropriated by 1859. In 1859, in the Auckland Province, 18,000 Europeans owned nearly 600,000 acres, only 90,000 acres of which was fenced and only two-thirds of that either cultivated or in grass (11).

The demand for land continued and European settlers began to look south to the lands of the Middle Waikato Basin and the Hauraki Plains as potential areas for sheep and cattle farms.

The value of the lands in the Middle Waikato Basin to the settlers lay not in the lack of land to the north of the Waikato River but in their:

"want of artificial grass, or, in plain terms, want of capital to replace the indigenous fern with grass (an exotic in nearly the whole of this Province) ... there are lands in the south of this Province which the Natives are unwilling to alienate, where grass grows naturally and these are the lands so eagerly coveted." (12)

The Maoris sought to resist the encroachment of the Europeans south of the Waikato River by forming an anti-land sale league. This was formed in 1858 amongst the Waikato tribes and it became known as the Maori King Movement. One of the actions of the Movement was to ban the sale of land to Europeans south of the Waikato River (13). A main effect of the Maori King Movement was to stop the southward movement of European settlers from Auckland. This organised Maori resistance to what Europeans regarded as the legitimate progress of colonisation, led to a considerable increase in tension between the settlers and the Waikato tribes (14).

This increased tension was heightened by incidents between the settlers and Maoris visiting Auckland and outlying settlements. The fear of the settlers of an attack from the Waikato was increased by the aid given by the Waikato tribes to the Taranaki tribes during the Taranaki War of 1860 - 1861. The line of Fencible settlements no longer gave sufficient protection to Auckland and surrounding settlements against an attack from the Waikato. The defensive bulwark was pushed further south in 1861 and 1862 (15). A road from Auckland to the Waikato River was formed and military posts established along the Waikato River from the mouth of the river to its junction with the Mangatawhiri stream (Figure III: 2).

Tension between Maoris and settlers led eventually to open conflict with the invasion of the Waikato in July 1863. This was preceded by a statement by Governor Grey outlining the reasons for the invasion:

"Chiefs of Waikato -

Europeans quietly living on their own lands in Waikato have been driven away; their property has been taken from them You are now assembling in armed bands; you are constantly threatening to come down the river to ravage the settlement of Auckland, and to murder peaceable settlers

Those who wage war ... must understand that they will forfeit the right to possession of their lands ... which lands will be occupied by a population capable of protecting for the future the quiet and unoffending from the violence with which they are now so constantly threatened." (16)

When the invasion of the Middle Waikato Basin concluded in April 1864, Imperial troops had advanced as far south as the Puniu River, where it joined the Waipa River and Pukekura on the Waikato River, and they were instructed to hold this line (17).

The map, Figure III: 2, shows the three successive advances of the southern military frontier that was established to protect Auckland from the hostile Waikato Maoris. The final advance of this frontier by April 1864, pushed the hostile Waikato tribes over one hundred miles to the south of Auckland. It remained for the Government to devise a scheme for the defence and permanent settlement of this land.

The Scheme of Military Settlement

A scheme of military settlement was devised following the outbreak of war with the Waikato Maoris in 1863 (18). This scheme was initially intended to form the basis of European settlement of the Middle Waikato Basin following the defeat of the rebel Waikato Maoris. The principles upon which

the scheme was based were, however, intended to have a wider application. The paucity of the European, as compared with the Maori, population, was cited by the New Zealand Government as the main reason for the disturbances in the North Island which had brought the process of colonisation virtually to a halt in many regions. To prevent future Maori unrest it was intended to introduce into disturbed districts, large groups of armed settlers, who would both defend and permanently settle the regions to which they were sent. A sufficiently large force of armed settlers was to be sent south to the Middle Waikato Basin to act as a 'counter-balance' to the groups of rebel Maoris which had been pushed from the region by the Imperial troops but which were awaiting an opportunity to reoccupy their tribal lands.

The New Zealand Government intended that the men who would form the Waikato Military Settlers should come from the goldfields of Australia and Otago. The military settlers were to be recruited from these areas because the goldfields had attracted to Australia and New Zealand:

"a large number of men in every way fitted to supply the population required - men, hardy, self-reliant, accustomed to a bush life, expert in the use of fire-arms; and, as a body, fully impressed with the necessity of the maintenance of law and order. Many of these men, tired of a digger's life, are looking around to establish for themselves a permanent home, and only require the inducement of the offer of a suitable locality and liberal terms to select the Northern Island of New Zealand." (19)

Among the advantages of establishing such a scheme of settlement on lands in the Middle Waikato Basin, it was suggested that:

" - A frontier line to the south of Auckland might be taken up and permanently guarded by men capable, with little assistance, of resisting the attacks of troublesome natives beyond it.

- Security would be afforded within that frontier line to peaceable and well disposed settlers of both races." (20)

The land for the scheme would be taken from those Maoris in the Middle Waikato Basin involved in the fighting against the Government troops. The Government proposed to:

" settle such a population in the Waikato districts as will form a barrier against the future incursions of the tribes at present inhabiting them. The lands of the tribes now in arms against us will be sufficient for the establishment of several strong settlements which will effectually secure the quiet of that part of the country. To people this country we propose without delay to raise, if possible, at least 5,000 men fit for the work." (21)

The conditions and benefits of the scheme were contained in regulations gazetted on 5th August 1863. These regulations are listed in full in the Appendix. Military settlement was intended to lead to the permanent settlement of those regions to which military settlers were sent. Accordingly, sufficient inducements were to be offered to militiamen to become permanent settlers when discharged from service.

Each man was to receive one town allotment of one acre and one farm section, the size of which would depend upon his rank in the Militia. The security of the settlers was to be guaranteed by locating them in compact military settlements. Each settlement was to comprise of no less than 100 militiamen. The 'nodal point' of each settlement would be the township in which a stockade would be erected on the most suitable site available and around which the one-acre allotments of the settlers would be laid (22). This was to be the first phase of military

settlement. In the second phase, farms for the militiamen would be laid out around the township, as close as the nature of the land would permit (23).

The terms of service for the militiamen sought to encourage only those who wished to become permanent settlers to enlist and to discourage those attracted merely by the promise of a free land grant and who had no intention of remaining in the settlement once they completed their service. Militiamen were to be enrolled for a period of three years. Until they were placed in possession of their land they would receive pay and rations. As town allotments and farms became available they were to be allocated by lot. When the militiamen were placed in possession of their land they were to be struck off pay but they would remain on active service and could not leave their settlement for more than one month in each year without permission. Settlers were to receive free rations for the first twelve months to assist them during the period in which they were clearing their land and preparing it for cultivation.

The issue of free rations was to cease after twelve months by which time it was expected that the settler would be able to support himself and his family on his own land. On completion of three years' service, the militiaman was to receive a Crown Grant of his town allotment and farm. Failure, at any time, to meet the requirements of service would lead to forfeiture of the right to such a grant.

The scheme was intended to be a cheap means of defending those lands captured from the rebel Maoris and of establishing defensive barriers between the Maoris and the main European settlements, particularly Auckland. The scheme aimed to establish a large body of settlers permanently on captured land and to encourage them to become self-sufficient, thereby reducing the cost to the Government of defending the land.

It was realised that a year's free rations would not be sufficient assistance to the settlers in establishing them on the land. The Government would, therefore, undertake public works in the settlements which would provide settlers with employment and a source of capital and which would also provide access to the land from the townships (24).

The scheme was not put into action without criticism. The threat of attack by Maoris located just over the frontier was considered a major disincentive to most genuine settlers who might be interested in permanent settlement:

" .. do you suppose you are going to get new men, who do not care a rush about the colony .. to put their own lives and the lives of their children in danger simply to carry out your theory? ... These men who are going to the front will be soldiers and nothing else; they will carry no civilisation with them, no colonization with them; you will make them, for three years, soldiers, and for the rest of their lives absentee proprietors ..." (25)

Other warnings were given that the size of allotments for the lower ranks was too small and would not provide a settler with much of a living. It was suggested that the type of men that were to be recruited would prove poor farmers, lacking knowledge of the techniques of pioneer farming, and that they would be likely to be tempted away by high wages in other employment or by the lure of the gold fields. The ultimate result, it was warned, might be a series of scattered settlements incapable of self-defence, difficult and expensive for the Colony to defend, and impossible to abandon (26).

Enlistment of the Waikato Military Settlers

The enlistment of men into the Waikato Regiments began in August 1863. Initial approval was given for the enlistment of 2,000 settlers and this number was later increased to 5,000. The men were to be formed into four regiments of militia, termed the Waikato Regiments.

Recruitment of the men was concentrated on the Australian and Otago gold fields as had been proposed and the first recruits began to arrive in Auckland at the end of August 1863 (27). Some difficulty was experienced in procuring sufficient men and, in some cases, quality was sacrificed for quantity, particularly on the Otago gold fields where recruits were eventually sought amongst the "idlers" employed on public works (28).

While waiting to take up positions in the Waikato, the militiamen were to act as auxiliary troops, replacing the Auckland Town Militia in garrisons to the south of Auckland. The men of the Auckland Town Militia were offered the opportunity of providing substitutes, and thereby avoiding military service, by bringing military settlers from Australia at their own expense. Many settlers availed themselves of this opportunity and the substitutes were formed into the Fourth Waikato Regiment. About 1,000 men were also enlisted in the Regiments from the Auckland district (29).

Men were recruited on the goldfields and sent to Auckland in detachments of 100. By the end of December 1863, it was reported that there were 3,617 militiamen of the First, Second and Third Waikato Regiments in Auckland and that the Fourth Waikato Regiment was in the process of formation (30).

Confiscation of Maori lands for military settlement

The New Zealand Settlements Act of 1863 provided for the confiscation of Maori lands for the purposes of military settlement. Under the Act, the Government was able, in any district in which military settlers were located, to take any lands they considered necessary for the purposes of settlement whether they were the property of loyal or disloyal Maoris. Compensation, in the form of reserves, was to be provided for the Maoris from the land confiscated. The land remaining after sufficient had been set aside for military settlement, could be sold to defray the costs of settlement (31).

The confiscation of Maori lands was justified on the grounds that:

"the chief object of the Government is neither punishment nor retaliation, but simply to provide a material guarantee against the recurrence of these uprisings .. which are certain to occur if the rebel is allowed to retain his lands .." (32)

As the invasion of the Middle Waikato Basin drew to a close, the Government prepared plans for the confiscation of Maori lands in the region and the commencement of military settlement. In February 1864, all Waikato land was declared to be at the disposal of the Governor, although some land would be returned to those Maoris who surrendered (33). The Government was anxious to commence the settlement of the Waikato Regiments as soon as possible since the militiamen were all serving as auxiliary troops and were being paid by the Colony while they waited to move south.

The confiscation of Maori land for the purpose, was, however, delayed by a dispute between the Governor and the Government over the form that military settlement was to take and the extent of land that was to be confiscated. The Government proposed that a frontier line be established extending from Raglan to Tauranga, along the line held by the Imperial troops in the Middle Waikato Basin. All the land belonging to the Maoris within that line was to be confiscated, but reserves, varying in size from 10 to 2,000 acres, would be set aside for those wishing to surrender and return to the Waikato (34). The Governor would not agree to the confiscation of such large areas of land for military settlement and a dispute ensued that delayed land confiscation for the Waikato military settlements until December 1864 (35).

In spite of disagreement over the extent of land to be confiscated in the Middle Waikato Basin, a decision was made in June 1864, on the number and general location of the settlements to be established. The Government proposed that the First

Waikato Regiment be settled on the East Coast at Tauranga and that the Second, Third and Fourth Regiments be settled along the frontier line in the Middle Waikato Basin, taking the place of the Imperial troops. The settlers were to be located in a series of:

"six or seven posts at most, placed either on harbours or navigable rivers, or within such convenient distances as to avoid any serious difficulties of transport." (36)

The establishment of such posts on strategic sites within reasonable proximity to each other would prevent the re-occupation of tribal lands by rebel Maoris and would provide a defensive barrier between the Maoris and Auckland that would enable the resumption of settlement on lands to the south of Auckland without fear of attack from the Maoris. A decision having been made on the approximate number of military settlements that were to be established, the selection of sites for the military townships in the Middle Waikato Basin, could begin.

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- (18) AJHR 1863 A - 8; A. Domett.
- (19) Ibid., A - 8, p. 2.

- (20) Ibid., Enclosure No. 1, p. 3.
- (21) Ibid., p. 3.
- (22) 'nodal point' - the township is the nodal point of the military settlement from which settlers move out on to their farms and upon which they rely for protection and support. The term is used in this context throughout the thesis unless otherwise noted.
- (23) 'a military settlement' - this term refers to the township and the settlers' farms grouped around it and is used in this context throughout the thesis unless otherwise noted.
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IV. THE MILITARY TOWNSHIPS

In this chapter the first phase in the military settlement of the Middle Waikato Basin, the establishment of military townships, will be examined. Particular attention will be paid to the selection of sites for the military settlements, the lay-out of the townships, and the establishment of the military settlers in the region. In the scheme of military settlement, it was intended that the nucleus of each military settlement should be the township which would provide protection for the settlers and around which the farms for the settlers would be surveyed.

Selecting the Sites of the Townships: the Criteria

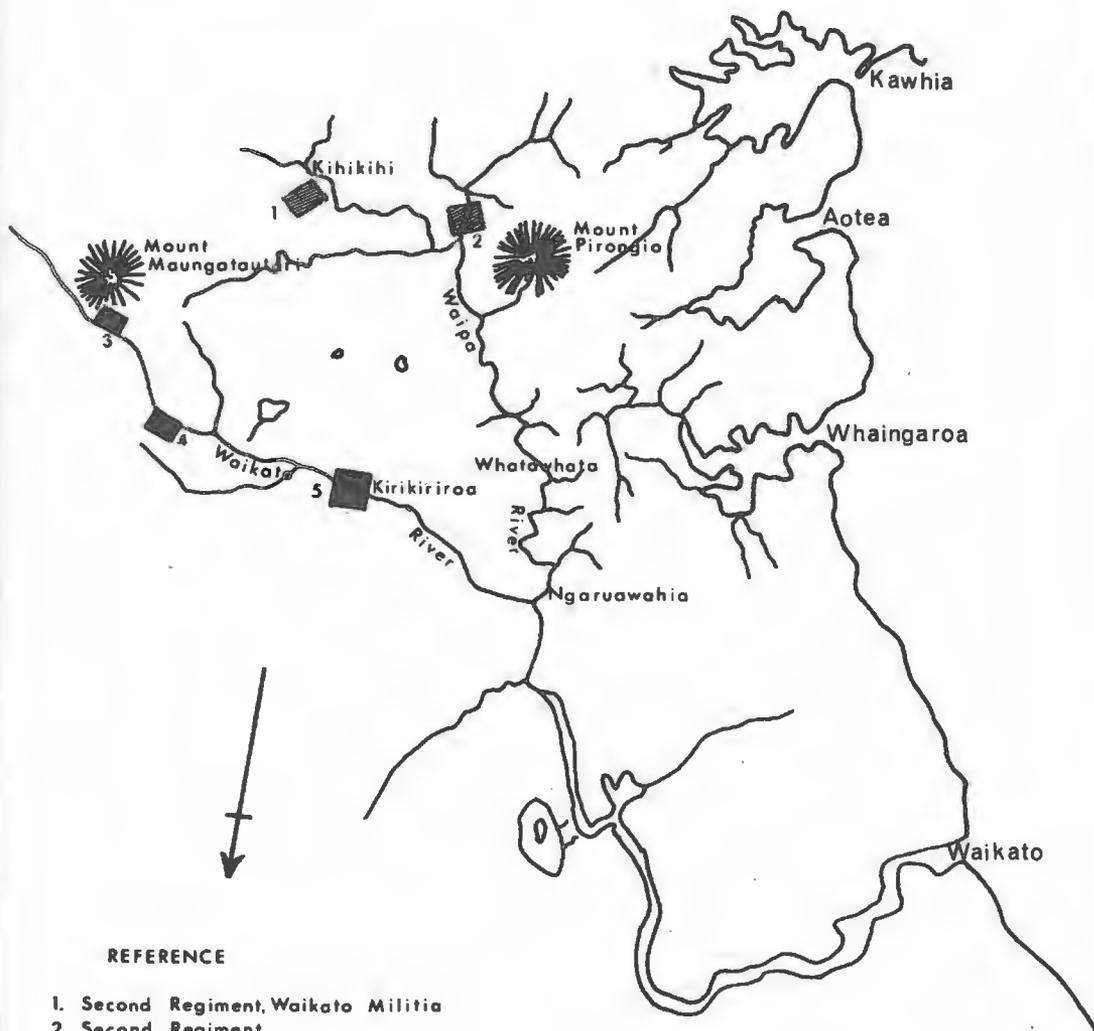
Following the invasion of the Middle Waikato Basin, the Imperial troops established redoubts at strategic points along the Waikato and Waipa Rivers. Along the Waikato River, military posts were established at the abandoned Maori village of Kirikiriroa and at Pukerimu, approximately eight miles further south. Redoubts were also established at Rewi Maniapoto's abandoned village of Kihikihi, on the Waipa River at Te Rore, and at the abandoned mission station of Te Awamutu.

Since the military authorities were familiar with the Middle Waikato Basin and with the main criteria that were to be considered in selecting the sites of military settlements, the Government delegated the task of selection to them. The Government indicated the approximate positions at which it considered military settlements should be established in the region. These positions coincided approximately with the positions at which the Imperial troops had established redoubts and they are shown on the map, Figure IV:1. Positions 1 and 2 shown on the map were to be occupied by the Second Waikato Regiment, positions 3 and 4 by the Third Waikato Regiment, with the Fourth Regiment being located further north on the Waikato River. A river transport station was to be established at Ngaruawahia (1).

Figure IV:1 Sketch showing proposed positions of Militia Townships as indicated by the Government on 6th June 1864.

Source: AJHR 1864 E - No.2; p. 64.

SKETCH SHOWING PROPOSED POSITIONS OF
MILITIA TOWNSHIPS AS INDICATED BY
THE GOVERNMENT ON 6 JUNE, 1864



REFERENCE

1. Second Regiment, Waikato Militia
2. Second Regiment
3. Third Regiment
4. Third Regiment
5. Fourth Regiment

NOT TO SCALE

Source: Appendices J.H.R. 1864 E-No. 2, p.64

The sites of the military townships were to be chosen in the general vicinity of the positions indicated on the map. An important criterion in selecting each site was that of defence. The close proximity of large groups of rebel Maoris demanded that each site chosen should be capable of being defended in the event of attack by the Maoris.

Defence was not, however, the only criterion to be considered in selecting sites. The success of the military settlement of the Middle Waikato Basin would depend upon the rapid creation of prosperous, self-supporting settlements, capable of protecting themselves without having to rely upon the Government. Consequently, the Government stressed that the main objects that the military authorities should have in view, in selecting each site, should be:

"a military settlement, on good land, and in a good natural position. The village sites on the Waipa, and those on the Horotiu [Waikato], rivers, are to be selected on the most eligible and convenient places, at the head of the navigable part of those rivers, so that the residents may have their supplies taken up by steamers. The object of the Government in selecting the sites at the head of river navigation being to encourage the speedy growth of settlements at points where, from their natural positions, it is certain towns must eventually spring up, where travellers to the interior of the country would leave the steamers and where the produce of the Upper Waikato districts would be shipped." (2)

The task of selecting the sites was given to two officers, Lieutenant-Colonel T.M. Haultain, officer commanding the Waikato Regiments, and Captain Cadell, officer in charge of the Waikato River Transport Service. Both officers were familiar with the Middle Waikato Basin and with the difficulties that would have to be faced in settling the region. Haultain was to evaluate potential sites with regard to their defensive position and the availability of land of sufficient quality and

quantity for farming by the military settlers. Captain Cadell was to evaluate the sites in terms of ease of access by water transport. The problem of access was recognised as being of particular importance since travel by land in the region was slow, and often dangerous. On the basis of the recommendations of these officers, the best sites for military settlements were then to be chosen.

The Sites of the Townships

The sites of four townships for the Waikato Regiments were selected during June 1864. Sites were chosen at Kihikihi and at the head of navigation on the Waipa River for the Second Regiment, one mile south of the Pukerimu redoubts on the Waikato River for the Third Regiment, and at the old Maori village of Kirikiriroa for the Fourth Regiment.

With the exception of the position indicated as a possible site for a settlement of the Third Regiment at Pukerimu, (position 3 on the map, Figure IV:1), the military authorities selected sites for townships in the general vicinity of the areas in which the Government had indicated that it wished to establish military settlements (Figure IV:1). Military townships at each of these sites would guard against possible incursions of rebel Maoris down the Waipa or Waikato Rivers and, thereby, provide a protective bulwark between the Maoris and those settlers wishing to establish farms in the Middle Waikato Basin.

Alexandra

A site for the township of Alexandra was selected on both banks of the Waipa River at a point just north of rapids where the Puniu River, which marked the frontier with the rebel Maoris, flows into the Waipa. The site was near the old Maori pa of Matakitaiki and three miles to the south of Te Rore. It fulfilled most of the requirements for the establishment of a military settlement. Good sites for the erection of redoubts

on both banks existed, protection being offered by the river and by deep gullies that bounded the site. There was sufficient good land upon which to lay out a township with farms around it:

"the land on the eastern bank is a flat about a mile deep, 80 or 100 feet above the bed of the river, and extending from the Puniu to Te Rore, intersected by the Mangapiko, which runs at the bottom of a steep gully, and falls into the Waipa just below Matakītaki; and it is generally of very good quality, dry, and well suited for settlement, and with a good supply of wood on the eastern bank, and an abundance, though less accessible, on Pirongia Mountain, the base of which reaches the left bank of the river."

The land was generally well-drained with little swamp. Tracks, developed by the Maoris, extending from the Waipa River to the old mission station at Te Awamutu, provided access to the land:

"The distance from Te Awamutu is between eight and nine miles, with an excellent line of road, presenting no difficulties in the shape of swamps or gullies and the greater part of the road is suitable for settlement. On the western bank there is also some flat land for the township, on which the rich slopes and spurs from Pirongia abut, and it is at this point that the Kiwiroa Road from Raglan will terminate .. some of the best land in the district will be found along the portion of this line that traverses the base of Pirongia." (3)

Although the site was selected at the head of navigation on the Waipa River, there was difficulty in navigating the Waipa beyond Te Rore during summer because of the low river level. It was suggested that supplies for Alexandra and for the other settlement of the Second Regiment to be established in the Upper Waipa district, would have to be conveyed by land from Te Rore during this period. Despite this disadvantage, the site at Alexandra was retained because of its good defensive

position and because the Waipa was navigable as far as the site during winter (4).

Kihikihi

The site selected for the second township of the Second Regiment was the old village of Rewi Maniapoto. Kihikihi was located nine miles to the east of Alexandra and two miles from the Puniu River. The site was strategically located on a high ridge which looked over most of the surrounding country to the Puniu River and north to the old mission station of Te Awamutu. The establishment of a military settlement in this area, based upon a township at Kihikihi, was intended to strengthen frontier defences in the Upper Waipa district and to prevent rebel Maoris from re-occupying the Rangiawhia district.

The success of the Maoris in cultivating the Rangia⁹whia district during the 1850's provided the military authorities with evidence that there would be sufficient good land in the area for militia farms. Although Kihikihi was not situated on a navigable waterway, drayroads suitable for horse and cart transport, had been formed by the Maoris during the 1850's linking Kihikihi with Te Awamutu and with the Waipa River at Alexandra. In this way Kihikihi would have satisfactory outlets for the produce from farms in the area, and could receive supplies by land from Alexandra or Te Rore via Te Awamutu.

Cambridge

Just as two settlements were to be established by the Second Waikato Regiment along the frontier in the Upper Waipa district, it was initially intended that the Third Waikato Regiment should form two military settlements on the Waikato River close to the frontier to defend the eastern part of the Middle Waikato Basin.

Initial reports on a site for a township on the Waikato River within half a mile of the frontier line were favorable:

"this site would be a preferable centre for location to any point lower down the river, the rising ground and slopes from Maungatautari being very superior to the sandy flats towards Pukerimu. The river runs at the bottom of a deep cleft 150 feet or more below the level of the surrounding country, but there would be no difficulty in cutting a road down to the landing place. The distance from Rangiawhia is about 12 miles and the land in that direction is reputed to be of very good quality. There is a considerable extent of flat country on the eastern side, which appears to be good." (5)

The site was, however, dependent upon the Waikato River being navigable to that point, since, unlike Kihikihi, a township established at the site recommended would not have other settlements in close support connected by roads or tracks. Deep gullies isolated the site by land from positions further north along the Waikato River and to the west extensive swamps blocked the way to Rangiawhia.

Subsequently it was discovered that the Waikato River ceased to be navigable five miles to the north of Pukekura. Because of this, a decision was made to establish only one settlement at the head of river navigation, one mile to the south of the redoubts at Pukerimu. (6)

The township was to be established on both sides of the Waikato River at a point where the river was entrenched 50 to 100 feet below the surface. The river flowed through a narrow cleft of rock at which point the Karapiro stream flowed into the river. At the junction of the Karapiro stream and Waikato River, a large area of backwater formed a natural harbour in which river steamers could turn around. On both banks of the river a series of sand and gravel terraces rose

from the river. On the east bank a small lake, Lake Te Koutu, was enclosed in a deep gully dammed with pumice materials. The site was covered with low manuka, and, especially on the west bank, lines of swamp resulting from poor drainage of the terraces.

Although the site was flanked by the Moanatuatua Swamp to the west and the Great Swamp to the east and there was little Kahikatea bush or other timber available on the site, there appeared to be sufficient good land for a township and farms and the site was of strategic importance, guarding as it did the head of navigation on the Waikato River (7).

Hamilton

The Fourth Waikato Regiment was to be settled north of the Third Regiment on some suitable site along the Waikato River between Pukerimu and the abandoned Maori village of Kirikiriroa. A military settlement at this point would be located almost midway between the settlement at Cambridge and the river station at Ngaruawahia. It would provide protection for river steamers carrying supplies up the river and prevent rebel Maoris from gaining access to the extensive cultivations and orchards along the river which they had abandoned (8).

Kirikiriroa was eventually selected as the site for the township of the Fourth Regiment. The site was considered favorable because:

"The landing places are good on both banks and there would be a sufficiency of good land for 500 to 600 men, but two or three miles further down the river. The soil on both sides is more sandy, and continues generally inferior as far as Ngaruawahia. There is plenty of wood on the left bank at Kirikiriroa." (9)

At Kirikiriroa village the Waikato River flowed 30 to 80 feet below the surface. From the river a series of terraces rose to a generally level surface broken by low ridges and hills.

On both banks deep gullies, up to 100 feet in depth with very steep banks, crossed the site from the Great Swamp on the east and the Rukuhia Swamp on the west. On the west a small lake, Lake Rotoroa, flanked the township site, as well as part of the Rukuhia swamp which extended across the delta between the Waikato and Waipa Rivers. On the eastern bank there were large areas of kahikatea bush. It was reported that:

"... the best land is about Kirikiriroa redoubt, on the slight rises; there, the land is stiffer and equally fertile in appearance .. a number of the town acres on the eastern side will be in a thick and high manuka scrub, where the soil is not only rich but is quite stiff enough for the cultivation of excellent wheat ..", (10)

Occupation of the Middle Waikato Basin by the Military Settlers

As the site of each military township was selected, militiamen of the Second, Third and Fourth Waikato Regiments were moved south from the garrisons they had been manning between Auckland and the mouth of the Waikato, to replace Imperial troops which were immediately withdrawn. (11)

The speed with which each Regiment was moved south to the Waikato was determined both by the problem of obtaining replacements for the garrisons from which they withdrew and by the number of dependents attached to each Regiment. Many militiamen preferred to leave their families in Auckland until the settlements in the Waikato became more established. In January 1865, there were still 113 women and 233 children, the families of Waikato military settlers, living in and around Auckland (12).

Advance parties of militiamen occupied the site chosen for their settlement, erecting temporary camps and defences. 400 militiamen of the Second Regiment were sent south to occupy the site of Alexandra in June 1864 and militiamen also occupied Kihikihi (13). Militiamen of the Third

Regiment established a temporary camp on the site of Cambridge during July and occupied redoubts at Pukerimu previously garrisoned by Imperial troops. Advance detachments of the Fourth Regiment occupied Kirikiriroa during August (14). Redoubts at Ohaupo, situated midway between Te Awamutu and Kirikiriroa, and at Pukekura, five miles south of Cambridge, were occupied by detachments of the Third Regiment (15).

With the occupation of the sites by advance parties of each Regiment, the first phase of the scheme of military settlement in the Middle Waikato Basin, the survey and establishment of the military townships, was commenced.

The Military Townships

In the scheme of military settlement, the townships were to be the nodes of settlement, from which settlers would move on to the land. The settlers would rely on the townships for protection and support and would send produce to the townships for local consumption or export to outside markets.

Criteria for township surveys

On the site selected for each township, a stockade was to be built on the most suitable position available and a town laid out around the stockade (16). No township was to be settled by less than one hundred militiamen. This was regarded as being the minimum number of settlers capable of defending a town under attack from the Maoris. The criterion of defence, therefore, required that no less than 100 one-acre allotments be surveyed in each township.

Three of the four sites selected for military townships were located on major rivers, the Waikato and the Waipa, which, because they were swift flowing and deeply entrenched, were difficult to cross. Since it was intended to settle both banks of the river on the sites chosen, it was decided to lay out, in effect, two townships on each site, one on either bank, so that:

"there will be more water frontage, and a greater scope of land within a reasonable distance of the township; and it is also desirable for defensive purposes." (17)

On each bank a stockade or redoubt was to be erected on the most suitable site and town allotments laid out around it. The stockade had to be readily accessible from all parts of the township in the event of attack and, consequently, the lay out of the township had to be kept compact. A rectangular or grid pattern of town lay out met this requirement and was to be followed as far as the configuration of each site would allow.

Since the rivers were to provide the main lines of communication and transport for the townships, consideration had also to be given to the provision of landing places at suitable points on both banks. In addition, sufficient land had to be set aside in the vicinity of each landing place for the erection of storage sheds and other buildings to house supplies brought by river steamer to the townships. Where the landing places were backed by steep river terraces, the surveyors had also to consider the best routes along which to lay out roadlines connecting the landings with the townships.

The townships were intended to be settled permanently and provision had to be made for the future needs and expansion of each township in the form of a town belt of permanent reserves around the margins of the township and reserves for defence, educational, religious and recreational purposes within the township (18).

Alexandra

The township of Alexandra was surveyed for the military settlers of the Second Regiment in July and August 1864. The centre of the township of Alexandra East and West, as shown on the maps, Figure IV:2 a and b, was the redoubts sited near the places chosen for landings on either bank of the Waipa River (19).

Figure IV:2a Alexandra West.

Source: SO 313 Alexandra
Department of Lands and Survey,
Hamilton.

ALEXANDRA WEST

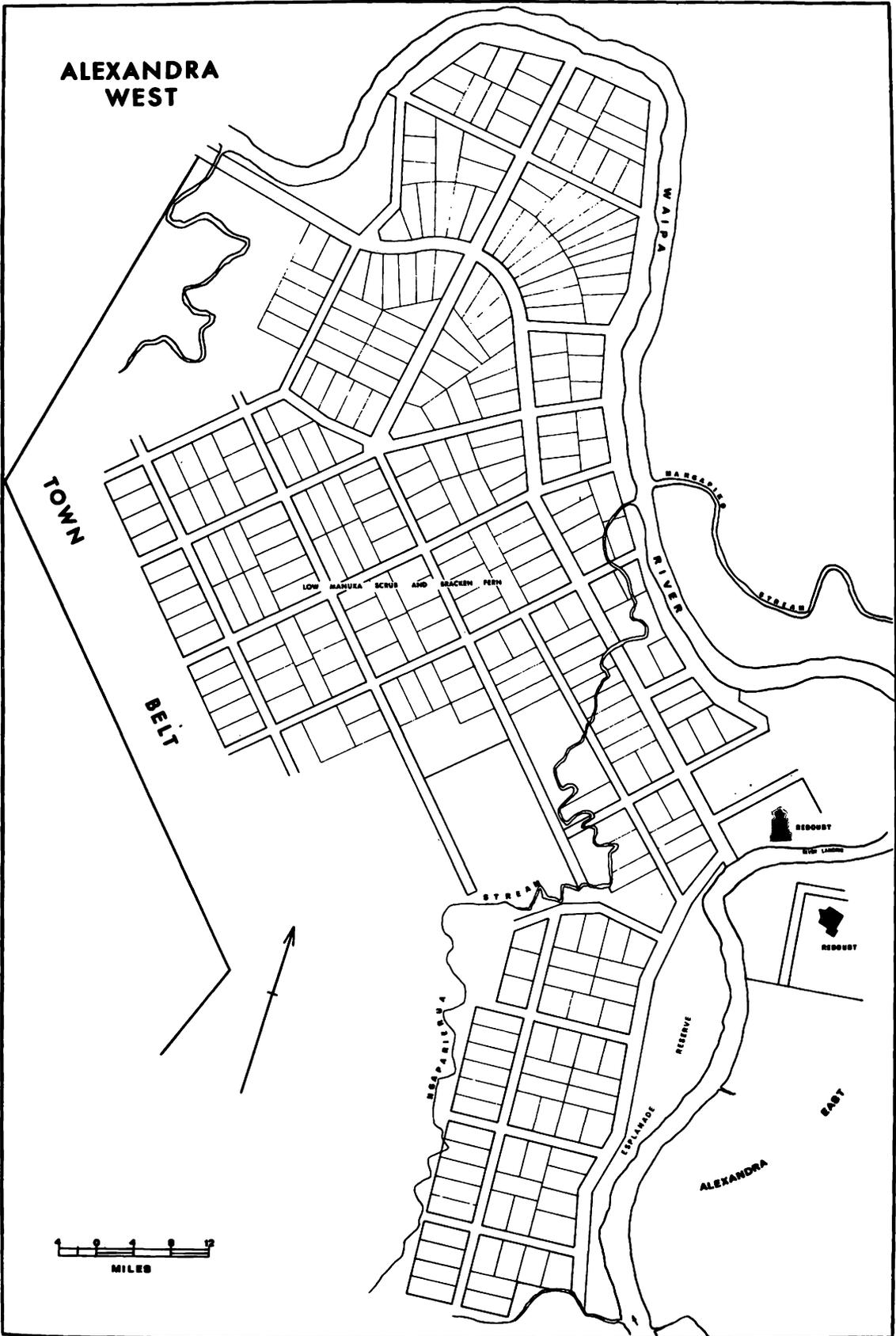
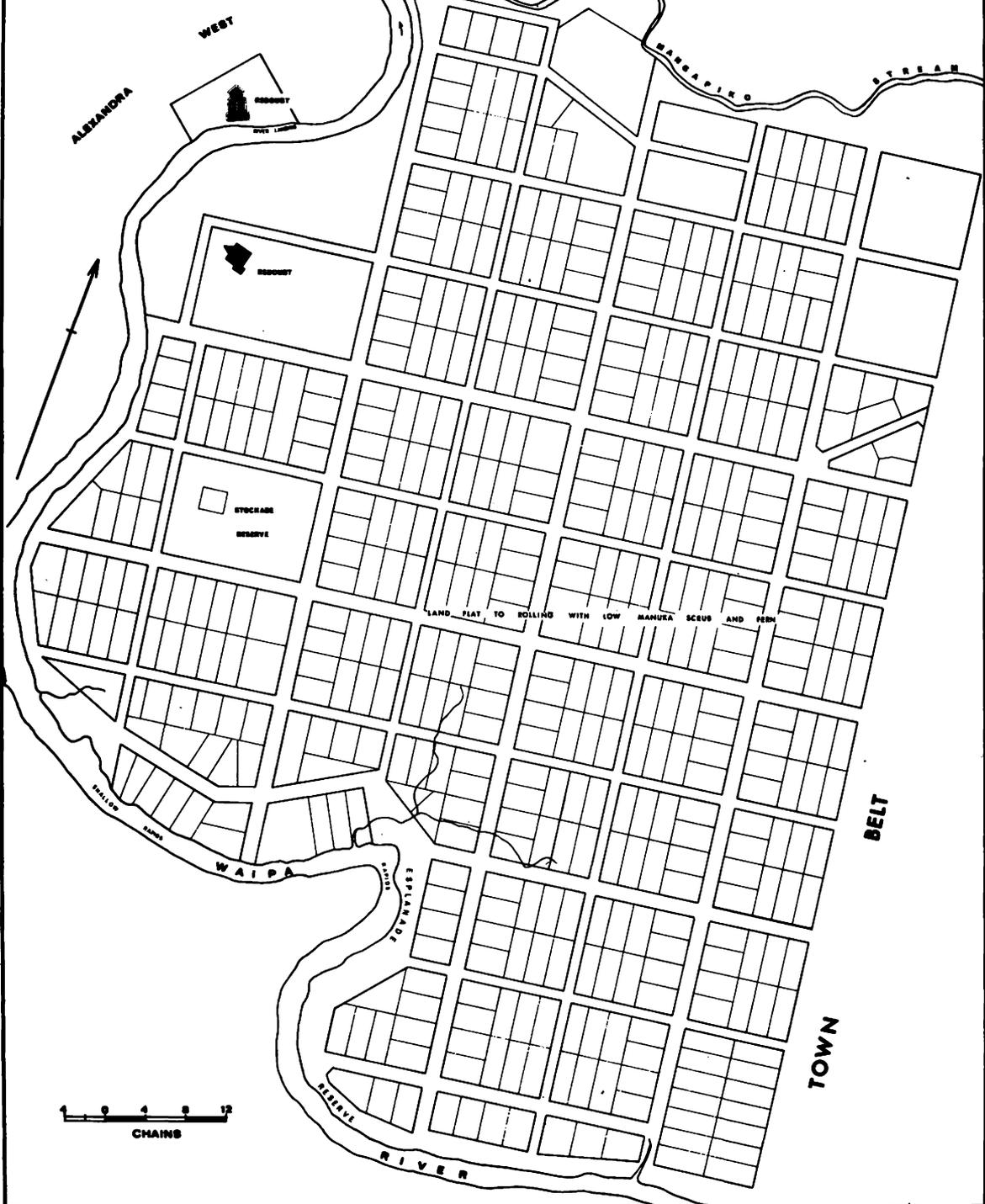


Figure IV: 2b Alexandra East.

Source: SO 313 Alexandra
Department of Lands and Survey,
Hamilton.

ALEXANDRA EAST



Around each redoubt one-acre allotments were laid out on a rectangular pattern of town blocks as far as the configuration of the site would permit. Each town block consisted of 10 one-acre allotments.

On the west bank, steep terraces and the sloping nature of the land toward the river, led to modifications in the lay out of town blocks, so that roadlines followed the terrace surfaces. Allotments were surveyed across a deep gully, containing the Ngaparierua Stream, which extended through the centre of Alexandra West to the Waipa River (Figure IV:2 a). Along the southern and western margins of Alexandra West a town belt of permanent reserves was surveyed in five-acre lots.

The level nature of the land on the eastern bank enabled a more rigid rectangular pattern of town blocks to be laid out. The northern margin of Alexandra East was bounded by the gully containing the Mangapiko Stream, while a town belt of permanent reserves bounded the eastern margin of the township (Figure IV:2 b).

Around the landing places which had been chosen for the township, sufficient land was set aside, in close proximity to the redoubts, for the erection of buildings in which to store the supplies brought up the Waipa River by steamer for the militiamen of the Second Regiment. These sheds were also to hold the stores intended for the village of Kihikihi.

Irrespective of the extensive reserves set aside in the town belt around the township, both Alexandra East and Alexandra West consisted of approximately 700 surveyed acres each. Of this total area, 1,272 acres were handed over to the Second Regiment for allocation to the military settlers and for the provision of reserves within the township (20).

Kihikihi

Kihikihi was termed a military village rather than a township since it formed a subsidiary settlement of the Second Regiment which was based at Alexandra (21). The map, Figure IV:3, shows the military village of Kihikihi as it was surveyed during June and July 1864.

Unlike the other townships, Kihikihi was not situated on a major navigable waterway and the problem of providing frontage on or access to such a waterway did not, therefore, effect the form of the village. The site of Kihikihi consisted of a series of low, manuka and fern-covered ridges with intervening swampy depressions running approximately in a north to south direction.

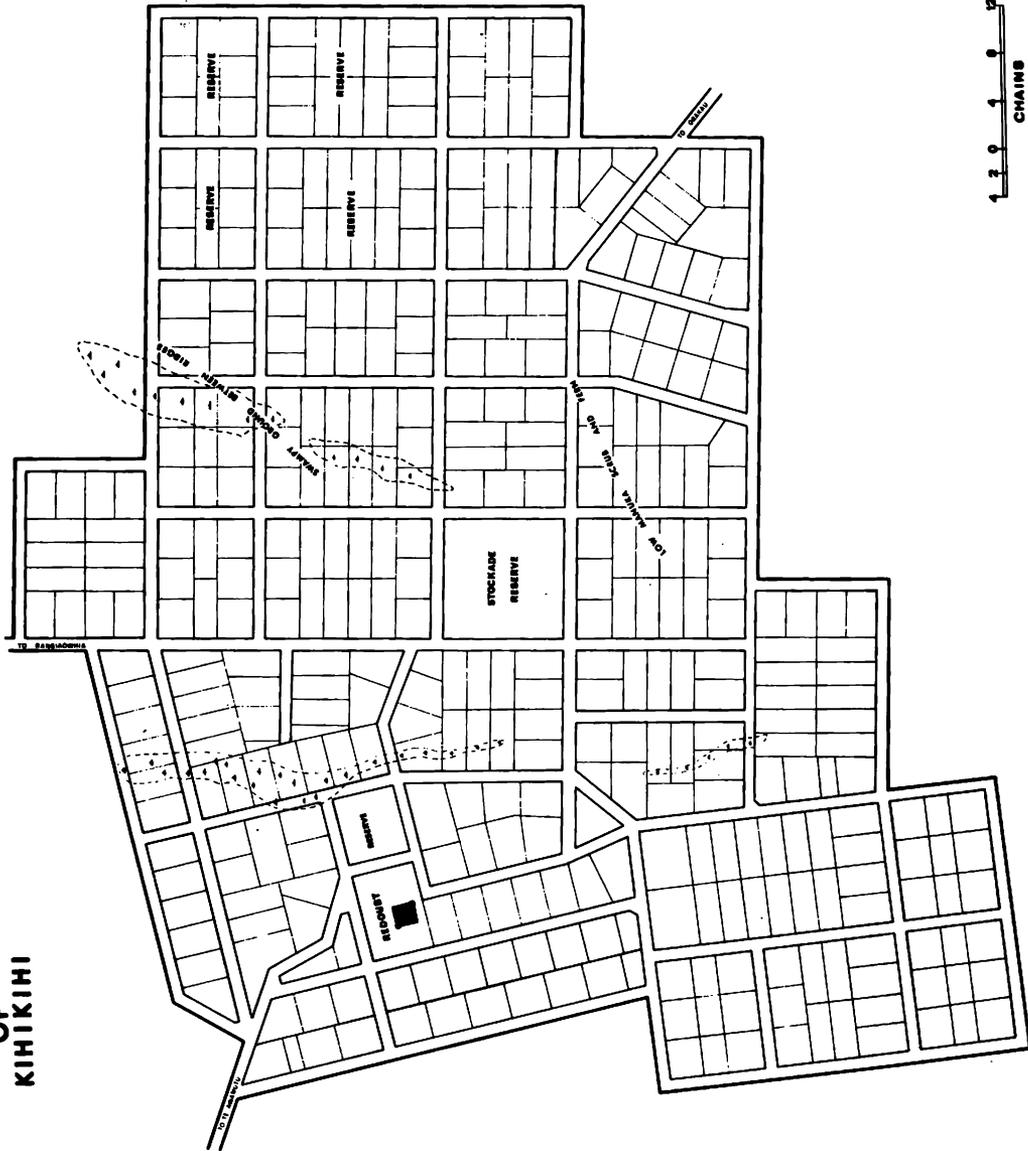
The lay out of the village was, to a certain extent, influenced by the nature of the site. A stockade reserve formed the centre of the settlement and to the east of this a redoubt was built. Since it was important that both should be sited on ground that commanded a good view of the surrounding countryside, both the stockade reserve and the redoubt were sited on ridges and were separated from each other by a swampy depression. The lines of swamp which crossed the village were not, however, sufficiently extensive to seriously impede movement from one part of the village to another. While laying out town allotments the surveyor endeavoured to lay out roadlines along the ridges and avoid the swampy depressions.

The village consisted of 37 town blocks each containing a varying number of one-acre lots. Four hundred and four one-acre sections were surveyed in the village, 10 of which were reserved for the future needs of the settlement. Instead of a town belt of reserves, 42 one-acre sections were set aside as reserves in the north-east corner of the village (22).

Figure IV:3 Kihikihi.

Source: SO 328 Kihikihi
Department of Lands and Survey,
Hamilton.

**THE MILITARY VILLAGE
OF
KIHIKIHI**



Cambridge

The township of Cambridge was surveyed for the Third Regiment during July 1864. The maps, Figure IV:4 a and b, show how the one-acre town allotments for the military settlers were laid out along both banks of the Waikato River.

The redoubt established on the east bank was located on a site surrounded by the natural defences of high, steep terraces facing toward the river and by a deep gully which contained a small lake, Lake Te Koutu. On the west bank, the redoubt was erected on high ground away from the river but overlooking most of the township site on the west bank.

Around these defences, the township of Cambridge was laid out in a rectangular pattern of town blocks, each consisting of approximately 8 one-acre sections. Altogether, irrespective of reserves and roads, the township comprised a total area of 1,100 acres, both Cambridge East and Cambridge West covering an area of approximately 550 acres each (23).

Steep river banks made the provision of access to the Waikato River difficult on both banks. However, the surveyors made provision for three landing places for the settlement, two landings on the west bank and the third on the east bank at the junction of the Karapiro Stream and the Waikato River. There was little flat land available around the landings in close proximity to the river but the surveyors endeavoured to set aside sufficient land for storage sheds.

The configuration of the site was such that the surveyors were able to lay out town allotments on a fairly rigid rectangular pattern around the redoubts on both banks. In Cambridge West, allotments were, however, surveyed over a deep gully which extended across the south-western edge of the township. Allotments were also surveyed over lines of swamp which had formed along the base of terrace slopes as a result of poor drainage (Figure IV:4 a).

Figure IV:4a Cambridge West

Source: SO 378 Cambridge West
Department of Lands and Survey,
Hamilton.

CAMBRIDGE WEST

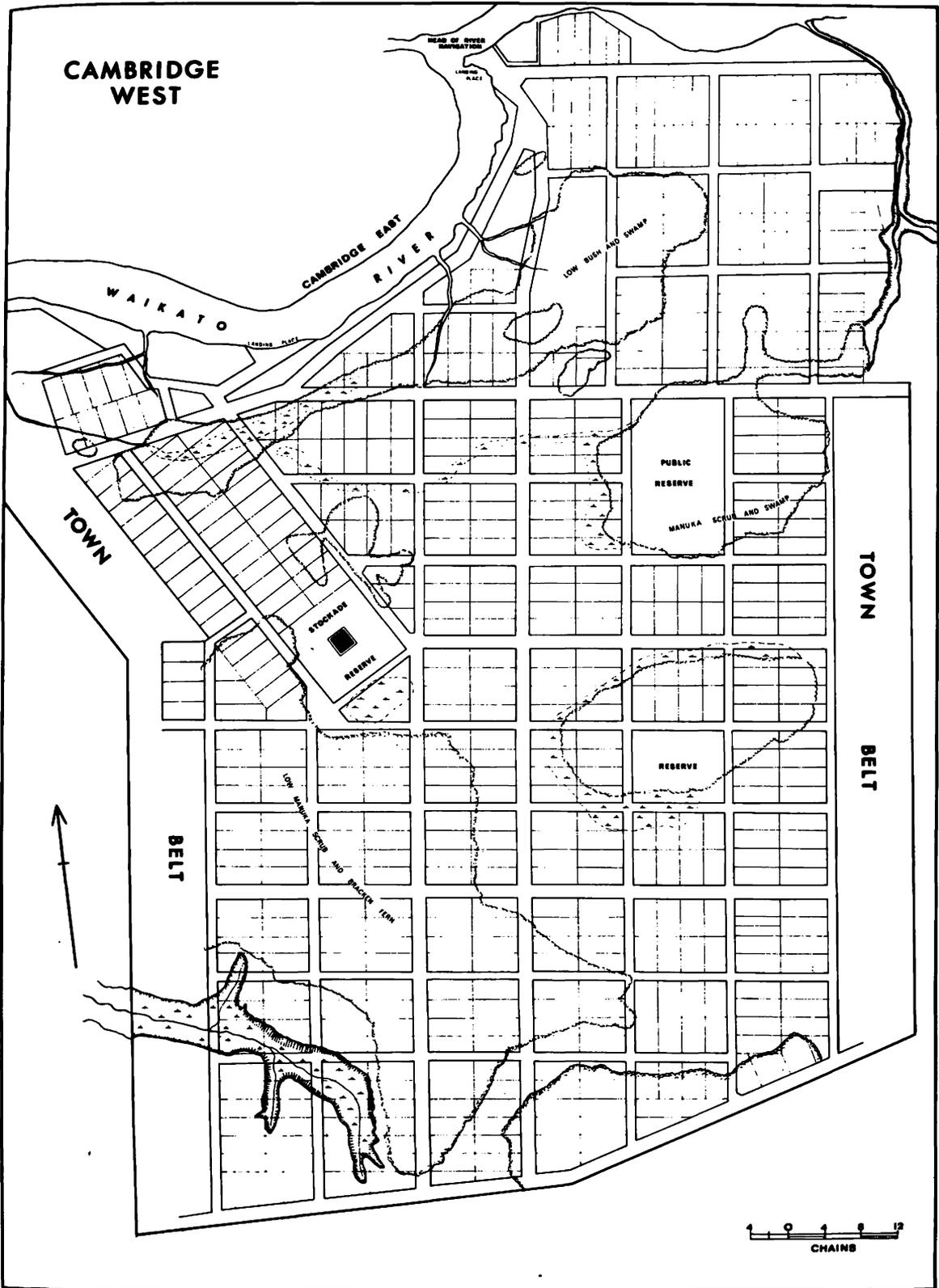


Figure IV:4b . Cambridge East

Source: SO 127 Cambridge East
Department of Lands and Survey,
Hamilton.

CAMBRIDGE EAST



Plate 3. An early sketch of the township of Cambridge. The west bank of the Waikato River is in the foreground and a cutting extends down the river bank to one of the river landings. The steep slopes of the river terraces is the main feature of the site of this township. At this point the Waikato River is entrenched to a depth of 70 to 90 feet and the settlers had difficulty in crossing the river. The photo shows some of the earliest buildings in the settlement which were of weather-board construction and roofed with raupo.

Photo : Cambridge Public Library.



Lambert

Lambert's Military Settlement, N.Y.

1861

In Cambridge East, town allotments were also laid out in a rigid rectangular pattern. Around Lake Te Koutu, an area of public reserves was laid out and provision was made for a public square on both the east and the west banks (Figure IV:4 b).

Cambridge West and Cambridge East were both bounded by a town belt of permanent reserves, laid out in five-acre lots which was intended to cater for the future recreational and other needs of the settlement.

Hamilton

The maps, Figure IV:5 a and b, show the township of Hamilton as it was surveyed for the military settlers of the Fourth Regiment during July 1864. The redoubts established on both the east and the west bank formed the centre of the township around which the town allotments were surveyed.

Although the redoubts were established on sites almost directly opposite across the Waikato River, some attempt was made to lay out town allotments along both banks having regard to the configuration of the site. Consequently, most of the one-acre sections in Hamilton East were surveyed to the south of the redoubt, while in Hamilton West, most of the one-acre sections were surveyed to the north of the redoubt.

On the west bank, allotments were laid out in a rectangular pattern which was modified to conform to the nature of the site. The land suitable for a township was confined to a narrow strip between the Waikato River on the east and the Rukuhia Swamp and Lake Rotoroa on the west. Three parallel roadlines were laid out running along the river between the Waitawhiriwhiri stream in the north and a gully extending from Lake Rotoroa to the river in the south. One-acre allotments, in town blocks of ten or twenty sections, were laid out along the roadlines.

259 one-acre lots were surveyed for allocation to the militiamen. The total area covered by Hamilton West was

557 acres, the additional surveyed area being taken up by reserves and roads (24). Around the western and southern margins of Hamilton West a town belt of permanent reserves was laid out and other reserves made within the township itself (Figure IV:5 a).

On the eastern bank, town allotments were surveyed between a gully in the north and the Waikato River in the south, and east as far as the margins of the Great Swamp. The land in this area was largely level although swampy in many places and permitted town allotments to be laid out in a rectangular pattern around a stockade reserve (Figure IV:5 b).

The total surveyed area of Hamilton East was approximately 500 acres, 387 one-acre sections being surveyed for allocation to militiamen (25). Around the margins of Hamilton East a town belt of permanent reserves was surveyed.

Isolated by swamps and deep gullies as it was, the need of the township for river landing places was recognised. Provision for landing places was made below each redoubt on the east and west banks. Suitable sites for landing places also existed, on the east bank at Gibbon's Gully and further up the river above the redoubt, and on the west bank, where the Waitawhiriwhiri Stream flowed into the Waikato River. /

Similarities in township form

The townships surveyed for the military settlers of the Second, Third, and Fourth Waikato Regiments at Alexandra, Kihikihi, Cambridge and Hamilton show basic similarities in form. The similarities are those of the central location in each township of the redoubt; the rectangular lay out of the one-acre allotments in town blocks; and the provision of town belts around the margin of the township. These features were duplicated on both banks where townships were located on the major rivers, the Waikato and the Waipa. In this way, advantage was taken of the water frontage offered and the problems of defence,

Figure IV:5a Hamilton West

Source: SO 378 Hamilton West
Department of Lands and Survey,
Hamilton.

←

HAMILTON WEST

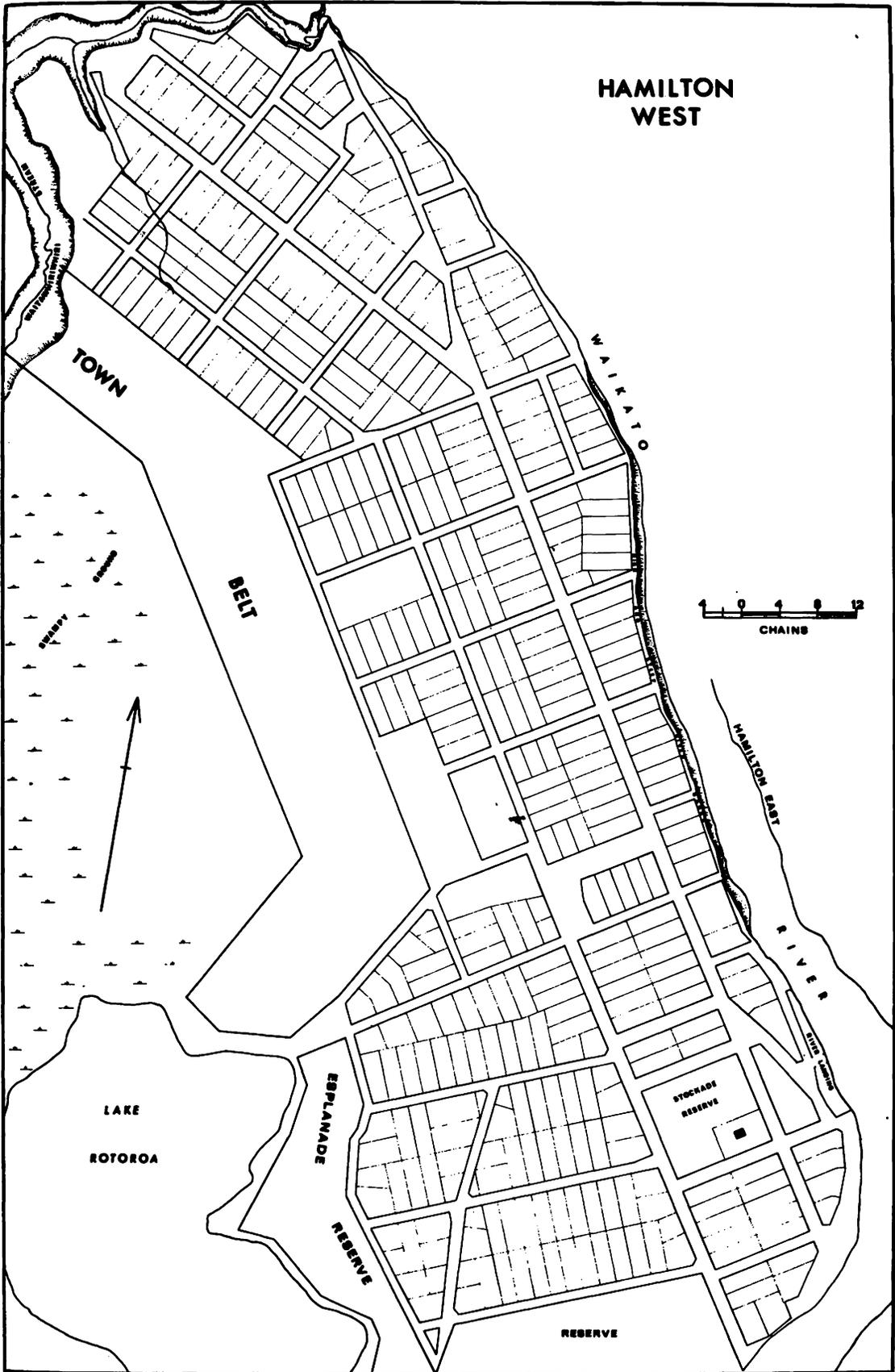
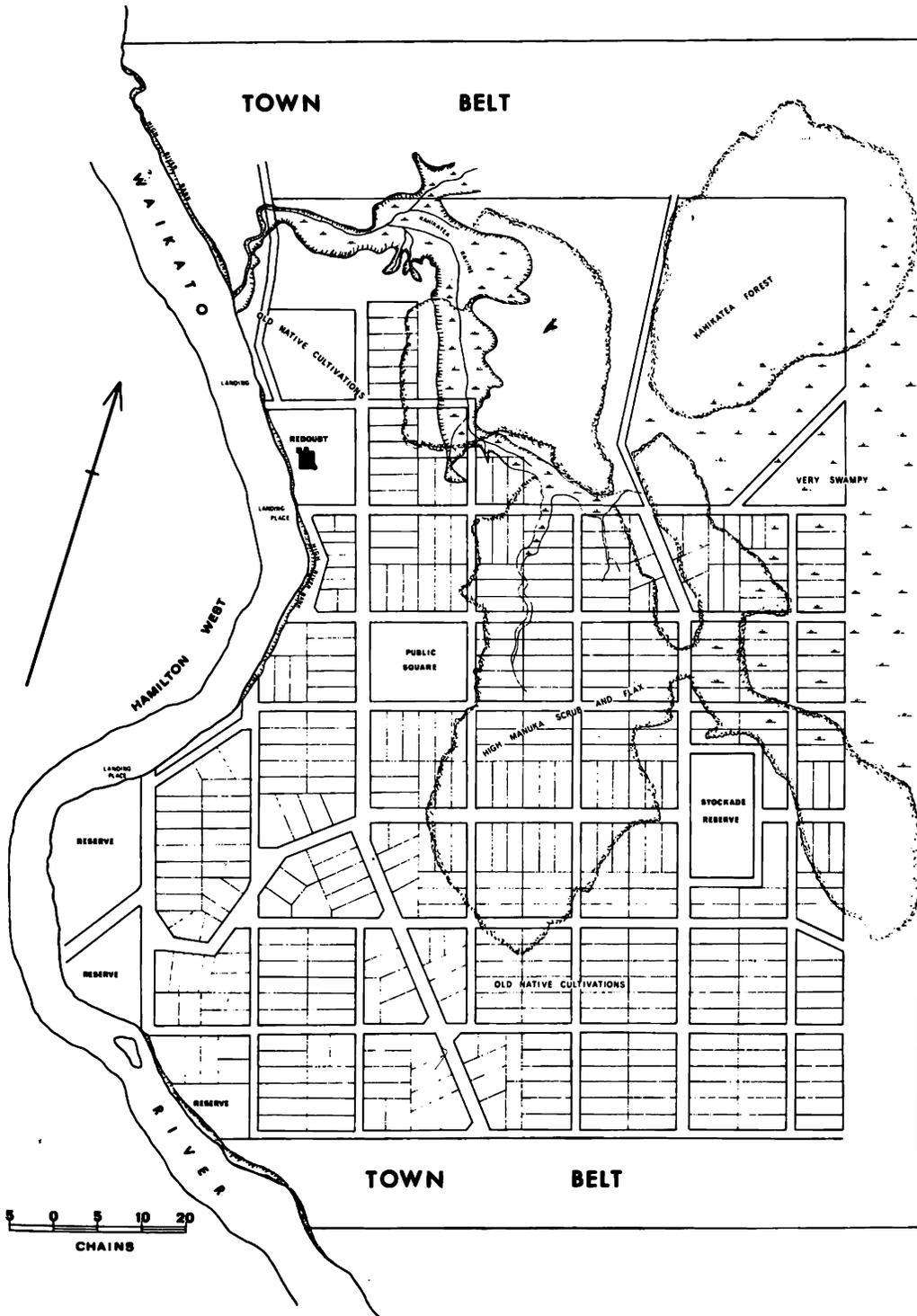


Figure IV:5b Hamilton East

←

Source: SO 201 East Hamilton
Department of Lands and Survey,
Hamilton.

HAMILTON EAST



raised by the difficulty of crossing the rivers, were minimised.

Differences which appear in the form of the townships were due largely to the configuration of the sites on which the townships were surveyed. An attempt was made to survey the townships in a compact, rectangular pattern. At the same time, surveyors had to allow for the special characteristics of each site - gullies, swamp, river terraces, and the degree to which access was available to suitable river landing places.

The unifying element in each of the townships was the concern of the surveyors to lay out town allotments in such a way that the settlers occupying them would be adequately protected.

Occupying the Townships

Allocation of town allotments

Surveys of the townships were completed by September 1864. Plans were made available to each Regiment for the allocation of town lots when a sufficient number of militiamen had arrived at the township at which their Regiment was to be based. The Third Regiment was the last to occupy the site of its township in strength and to be allocated their town allotments. This was because the greater number of single men in the Regiment resulted in men from the Regiment being sent to garrisons in the South Auckland district to replace married men of the Second and Fourth Regiments who were being moved south with their families (26).

Allocation of town sections to the settlers of each Regiment was in order of seniority of rank, the priority of choice within each rank being determined by lot (27).

Plans of the town lots available for allocation at Alexandra and Kihikihi were handed to the Second Regiment in July and August 1864. The Fourth Regiment received plans of Hamilton East and Hamilton West for selection in September and October and the Third Regiment were handed plans of Cambridge East and Cambridge West in December 1864.

The procedure for allocation was similar in each Regiment. The Commanding Officer of the Second Regiment divided the township plans of Alexandra and Kihikihi into blocks proportioned according to the number of settlers in each company. The captains of the companies then drew lots to decide the position of their companies in the township. Officers, non-commissioned officers and men were then allocated their land by lot.

At Hamilton companies were allocated town blocks by lot and the ranks in each company were then allocated their sections by lot. The names of the men were placed in one bag and the number of allotments in another and as the names were drawn the corresponding number showed the man's town lot.

The township of Cambridge was divided into four equal parts. The Regiment was formed into eight companies and these sub-divisions were then allocated to them by lot. Two series of papers were prepared, one series having the numbers of the companies, the other, the sub-divisions of the township. Staff officers selected their town section from any of the sections available in the town. Officers of companies selected in order of seniority in the sub-division allotted to the company and other ranks followed (28).

In this way each military settler received one town acre. The method of allocation adopted by each Regiment endeavoured to ensure that settlers were spread evenly throughout each township. Settlement by companies enabled each township to be more effectively defended.

Fear of the Maoris and of surprise attack was always present amongst the military settlers, especially during the first months of settlement in the Middle Waikato Basin. Alexandra, Kihikihi and Cambridge were located within five miles of the southern frontier. Hamilton, which lay to the north of the other three townships, was still within nine miles of the Maungakawa Hills to which the rebel Ngatihaua tribe had retreated

Plate 4. A station for the Waikato River Transport Service was established at the old Maori King settlement of Ngaruawahia where the Waikato River (left) and the Waipa River (right), joined. This photo shows an early view of the Ngaruawahia River Station and of part of the flat, monotonous landscape of the Middle Waikato Basin.

Much of the landscape was covered in the type of low fern which is shown in the foreground.

Photo : Auckland Public Library Photograph Collection.



and settled. False alarms and rumours about impending attacks by the Maoris were common in each township (29). Following the survey of the townships and the allocation of town allotments, therefore, it was natural that the settlers should concentrate on providing for the permanent and effective defence of each township by constructing redoubts, usually from the only building material readily available - earth.

Following the erection of redoubts in each of the townships, settlers turned to the provision of suitable shelter for themselves and their families. Temporary camps of tents around the redoubts were replaced by huts in each township. Two huts for the officers, eight huts of sixty by twenty feet and sixteen huts of thirty by twenty feet for the men, and a hospital, were erected at each township (30). The scarcity of timber resulted in pre-fabricated huts being shipped by river from Auckland. The huts were designed so that, with slight alterations, they could eventually be re-erected on farms to provide accommodation for settlers (31). Militiamen erected huts on their town allotments. Most huts were of a simple weather-board construction with a low roof of shingles, an earth floor and an external chimney of wood or sods (32).

Most of the timber for the townships had to be shipped from Auckland. During October 1864, however, sawmills were established at Ngaruawahia and Hamilton to exploit the small areas of kahikatea bush nearby, and to supply other townships (33). The shortage of timber in the townships led to an arrangement whereby the timber intended for the construction of stockades was used for settlers' huts. Each man was supplied with £10 worth of timber which he paid for in cash or by deduction from pay. Earth redoubts were built instead of timber stockades (34).

The sites of the townships were mostly covered by manuka scrub with occasional stands of kahikatea bush. The

manuka scrub and fern was cleared away by hand by burning and slashing. The formation of roads in the townships was also done by hand as were the extensive cuttings that were required to provide access down to the sites chosen for river landings (35). Some of the earliest buildings erected at each township were built next to the river landings. These buildings were storage sheds for the supplies brought to the settlements by river steamer.

Militiamen received pay and rations while the townships were being settled and established (36). The rations supplied by the Government did not meet the needs of a military settler and his family and many settlers sought to supplement their rations by cultivating food crops and vegetables in the townships, usually on the town belt. The Government encouraged settlers at advanced posts to cultivate portions of their settlements (37). The earlier success of the Maoris in cultivating the land along the Waikato and Waipa Rivers was obvious to the settlers:

"the cultivated lands of the Maoris are seen stretching inland and upward over a beautiful country lovely and dry. Their paddocks, enclosed with fences, show where their stores of potatoes, Indian corn, and wheat have been grown, and the potato pits, constructed in the style peculiar to the race, attest the abundant crops they have obtained." (38)

Around each of the townships the settlers grew potatoes, maize and oats and took advantage of the extensive orchards that had been abandoned by the Maoris at Kihikihi, Alexandra, and Hamilton. Small areas were also ploughed and sown in grass to provide grazing for limited numbers of cattle, sheep and horses that the settlers had succeeded in bringing south from Auckland (39).

The townships in December 1864

Table IV:1 shows the strength of each Waikato Regiment in December 1864 and gives information as to the extent to which the settlers had established themselves in their respective townships. The information for the Second Regiment refers only to the township of Alexandra, no figures being available for Kihikihi.

The figures for the population of each Regiment should not be read as the population of the township at which each Regiment was located. Although many of the settlers and their families, indicated in Table IV:1, were settled in the townships by December, a large number of women and children, the families in particular, of men of the Second and Third Regiment, were still accommodated in Auckland. Many of the militiamen were reluctant to expose their families to the dangers of settling townships which were located within five miles of rebel Maori positions (40). Table IV:2 is included to show the numbers of women and children remaining in Auckland and surrounding settlements by January 1865.

By December 1864, some 3,000 military settlers and their families were occupying the townships of Cambridge, Alexandra, Kihikihi and Hamilton. Each township had small areas of land under grass, oats, maize and potatoes. Gardens and orchards had been established, or were being maintained, by the settlers at Alexandra and Hamilton. The Third Regiment, the last to occupy the township surveyed for them, had the least area of crops of the three Regiments and relied heavily on the rations brought up the Waikato River from Ngaruawahia. At Hamilton and Alexandra crops were fenced, usually with manuka palings bound with flax, to provide protection against horses, sheep and cattle turned out to graze on the small areas of sown grasses (41).

Subsidiary Settlements

Prior to the commencement of the second phase of military settlement in the Middle Waikato Basin, subsidiary villages were established in the region, one of which was intended to strengthen frontier defences and the other to provide

TABLE IV:1Statistics of the Second, Third and Fourth Waikato Regiments,
December 1864(a. Population

	<u>Male</u>	<u>Female</u>	<u>Total</u>
Second Waikato Reg.	745	41	786
Third " "	961	145	1,106
Fourth " "	836	660	<u>1,496</u>
			<u>3,388</u>

(b. Cultivation and crops (acres)

	<u>Total fenced</u>	<u>oats</u>	<u>maize</u>	<u>potatoes</u>	<u>garden plus orchard</u>	<u>sown grass</u>	<u>Total[⊛] under crop</u>
2nd Waikato Reg.	58	1	7	11	25	1	45
3rd " "	-	14	-	5	-	-	19
4th " "	203	2	-	2	136	150	290

(c. Livestock

	<u>Horses</u>	<u>mules plus asses</u>	<u>cattle</u>	<u>sheep</u>	<u>goats</u>	<u>pigs</u>	<u>poultry</u>
2nd Waikato Reg.	62	2	48	-	4	40	175
3rd " "	48	-	23	-	3	26	183
4th " "	16	-	70	1	17	25	158

Source: N.Z. Government Gazette 1864; pp. 147 - 156

[⊛] Discrepancy between "totals under crop" and individual crop items is due to the omission of the "other crops" category from this table.

TABLE IV:2Families of Waikato military settlers in Auckland or surrounding settlements at 27 January 1865

<u>Place of residence</u>	<u>Women</u>	<u>Children</u>	<u>Total</u>
<u>Second Waikato Regiment</u>			
Auckland	24	51	
Onehunga	2	2	
Otahuhu	7	16	
Panmure	3	14	
Howick	6	23	
Papakura	2	5	
			155
<u>Third Waikato Regiment</u>			
Auckland	23	33	
Onehunga	5	3	
Howick	7	25	
Panmure	3	4	
Papakura	1	2	
Drury	1	-	
			107
<u>Fourth Waikato Regiment</u>			
Auckland	4	5	
Onehunga	2	4	
Wairoa	13	26	
			54
		Total:	316

Source: CD 65/141, National Archives.

a settlement node on the Waipa River, between the river station at Ngaruawahia and the military townships to the south. These villages were located on the frontier line to the west of Alexandra at Harapepe and to the north of Alexandra at Whatawhata.

Whatawhata

The village of Whatawhata was surveyed in January 1865. It was intended that the village be settled by detachments from the Second and Third Regiments and by civilian immigrants (42).

The village was sited eleven miles south of Ngaruawahia on the east bank of the Waipa River. The site consisted of rolling land with low ridges interspersed by deep gullies and lines of swamp extending from the Rukuhia Swamp in the east to the Waipa River. Unlike the other settlements, the site of the village was covered with large stands of kahikatea bush (43).

The lay out of the village, as shown on the map, Figure IV:6, followed closely that of the military townships. Eight hundred quarter-acre and one-acre allotments were surveyed in a rectangular pattern in blocks of 20 allotments each. The village was surveyed in two sections which were laid out on either side of reserves set aside for a market, for defence purposes and for a road. It was intended that the road should eventually be extended to link Whatawhata with Hamilton further to the east.

The village was laid out along the Waipa River between the Mangapikaka Stream in the north and the Koromatua Stream in the south. Provision for a public square was made in the centre of each of the two sections of the village and the town allotments were laid out around them. Around the village a town belt of permanent reserves provided for the future expansion of the settlement.

Harapepe

Two companies of Forest Rangers were settled in the Middle Waikato Basin on the same conditions as the Military Settlers. One company occupied the village of Kihikihi and

Figure IV:6 Whatawhata

Source: SO 375 Village of Whatawhata
Department of Lands and Survey,
Hamilton.

WHATAWHATA

RIVER

W A I P A

T O W N

B E L T

S Q U A R E

S Q U A R E

T O W N

B E L T

CHAINS

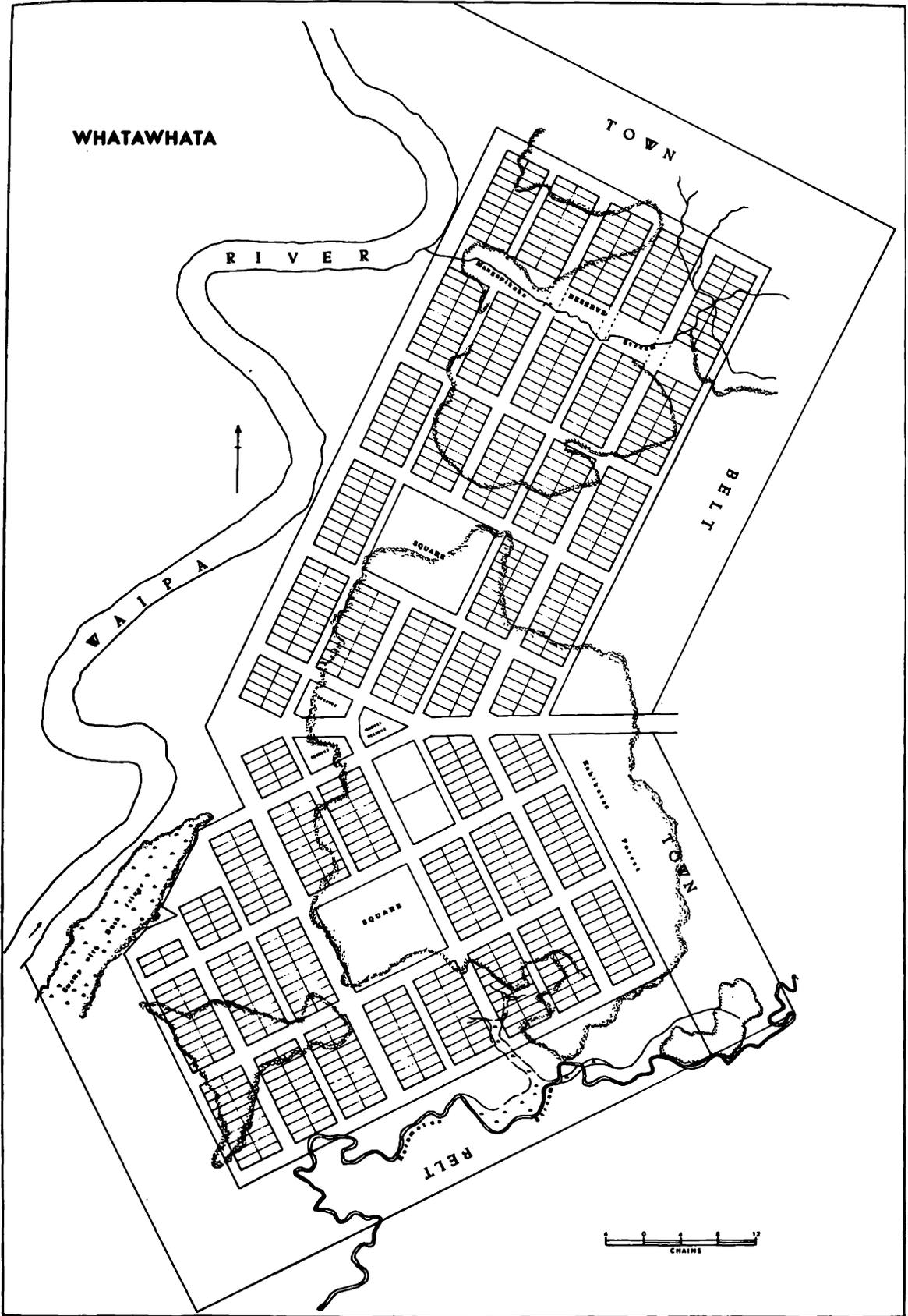
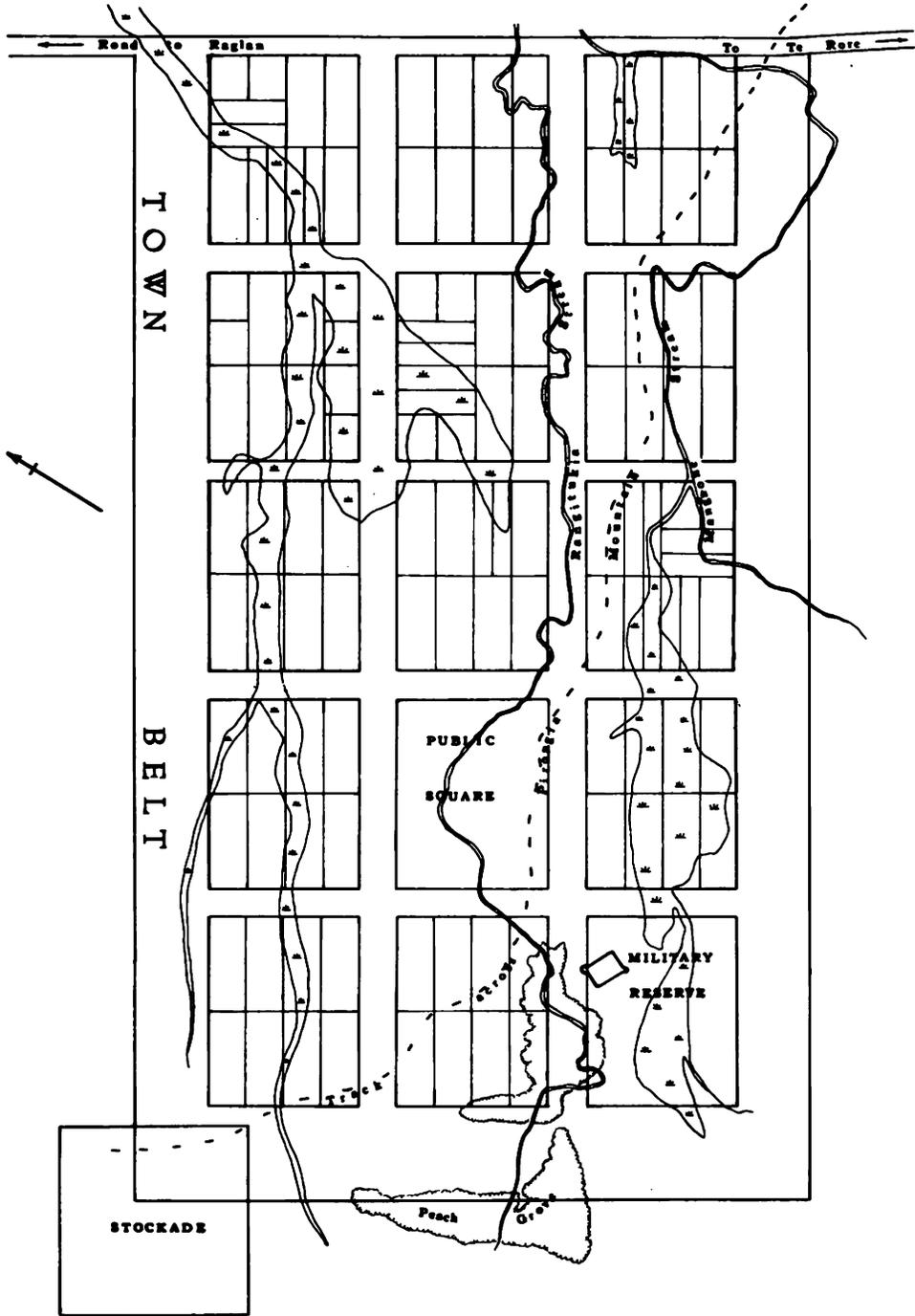


Figure IV:7 Harapepe

Source: SO 314 Harapepe
Department of Lands and Survey,
Hamilton.

HARAPEPE



the Rangiawhia district. To strengthen the defence of the frontier line to the west of Alexandra and the country along the west bank of the Waipa River, the second company of Forest Rangers established the military village of Harapepe on the slopes of Mount Pirongia in March 1865.

The village was sited on the Raglan-Te Rore road, providing protection for the road link between the Middle Waikato Basin and its nearest port, Raglan, on the west coast. The site consisted of long ridges intersected by lines of swamp in the depressions between. Manuka scrub and fern covered the ridges and there were two small orchards originally established by the Maoris.

The map, Figure IV:7, shows that the village had a similar form to the military townships. Fifteen town blocks, each consisting of 8 one-acre sections, were laid out in a rectangular pattern, the defence of the village being provided for by a stockade reserve and redoubt located on the boundary of the village nearest to the frontier. The village was bounded by a town belt of reserves (44).

By March 1865, with the establishment of the villages of Whatawhata and Harapepe, the Middle Waikato Basin was occupied by military settlers located in townships and villages along the southern frontier line (Figure IV:8). These settlements provided a forward bulwark of defence against the rebel Maoris. Other military settlers located at Hamilton, or stationed in redoubts along the Waikato and Waipa Rivers, defended the main lines of communication between the settlements to the south and the river station of Ngaruawahia in the north.

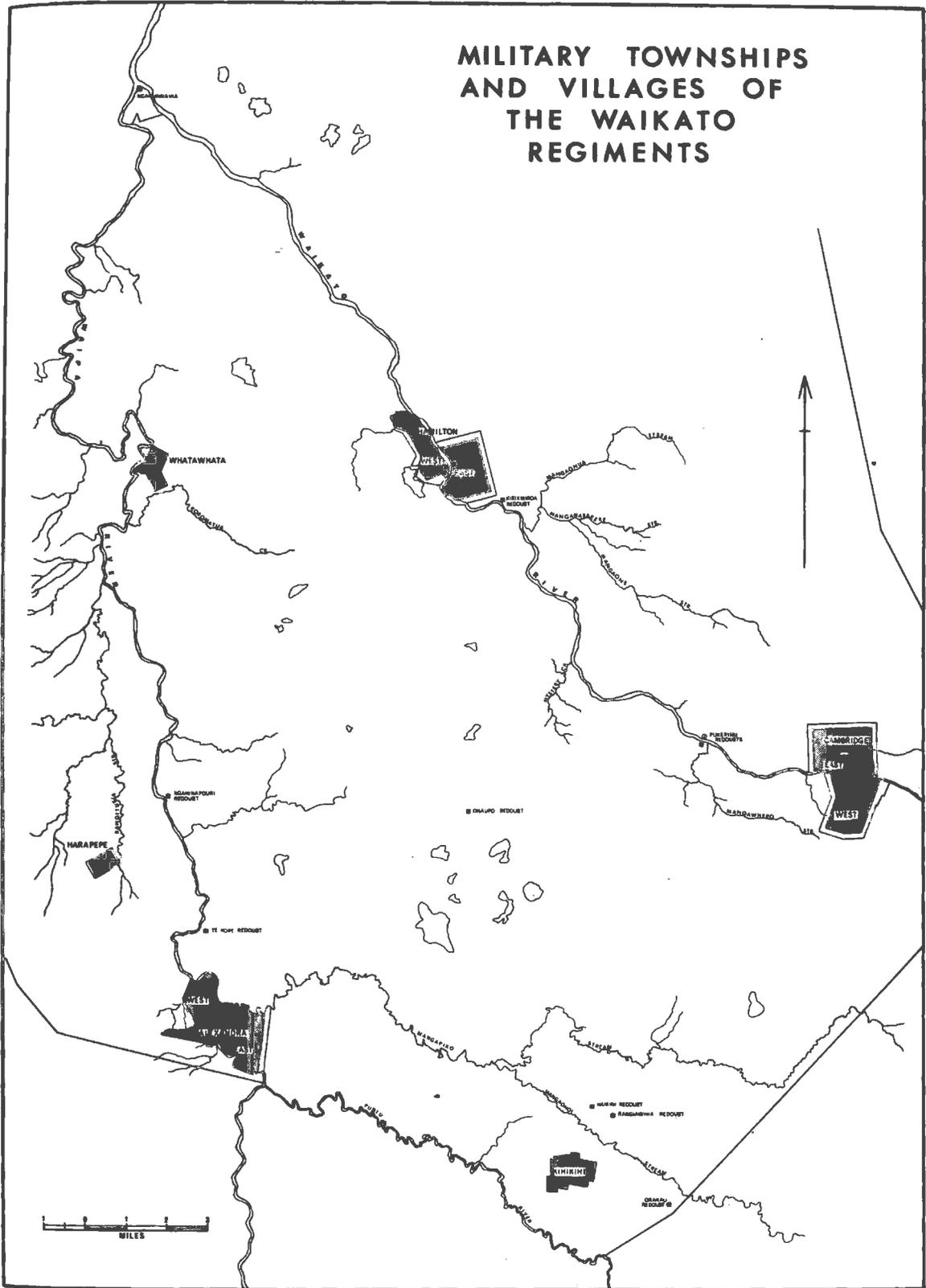
Forming the Patterns of Circulation

By Land

Extensive swamps and deep gullies in the Middle Waikato Basin made travel by land slow and tedious, if not dangerous. Extensive swamps on both sides of the Waikato River, flanked by

Figure IV:8 Showing the Military Townships and
villages established in the Middle
Waikato Basin for the military settlers.

MILITARY TOWNSHIPS AND VILLAGES OF THE WAIKATO REGIMENTS



steep hills north of Taupiri, made travel by land into the region from the north, very difficult (45).

In the region itself, extensive swamps on the delta between the Waikato and Waipa Rivers and to the east of the Waikato River, together with deep gullies extending from the swamps to the rivers, made communication by land between the military townships very slow and difficult.

A number of old Maori tracks did exist, however, which connected the Waikato and Waipa Rivers, either by following drier ground along low river levees across the delta, or by skirting around the margins of the swamps by following the hills that bounded the Basin to the south (Figure IV:9). Old tracks, originally used by the Maoris, extended along the banks of the Waikato and Waipa Rivers although these were frequently broken by deep gullies. There were also several routes that could be taken across the swamps, although these were usually knee-deep in mud. One route between the Waipa and Waikato Rivers had been developed by the Maoris during the 1850's to take horses. This route skirted the swamps to the south and followed the ridge lines of the Pukekura Hills to the Waikato River. Another track crossed the delta from Rangiawhia to Kirikiriroa (46).

Fear of ambush by the Maoris limited the use of over-land routes between the townships in the early stages of military settlement. Communication between the townships by land was usually limited to dispatch riders on horse-back.

The entrenched and swift flowing Waikato and Waipa Rivers provided problems of communication between banks in the townships of Cambridge, Alexandra, Hamilton and at the river station of Ngaruawahia. The bridging of the rivers in the townships was beyond the resources of the military settlers. A cheaper method using pontoons was developed. At Alexandra three barges strung together formed a floating bridge, while at Cambridge a barge was used as a pontoon in "the narrow gutway betwixt the south bank and the ledge of rock" up river from the point where

Figure IV:9 Showing the routes taken by old Maori
tracks which were later used by the
military settlers.

Source: Maps held in the Alexander Turnbull
Library, Wellington;
Sketch map of the country lying
between the Waipa and Waikato Basins,
showing the Maori positions of
Pah Te Rangi and Piko Piko.
(Original printed in the
Daily Southern Cross).

Sketch of Te Awamutu and Rangiawhia
By Capt. G.R. Greaves, 1864.

SHOWING THE TRACKS DEVELOPED
BY THE MAORIS AND LATER
USED BY MILITARY SETTLERS

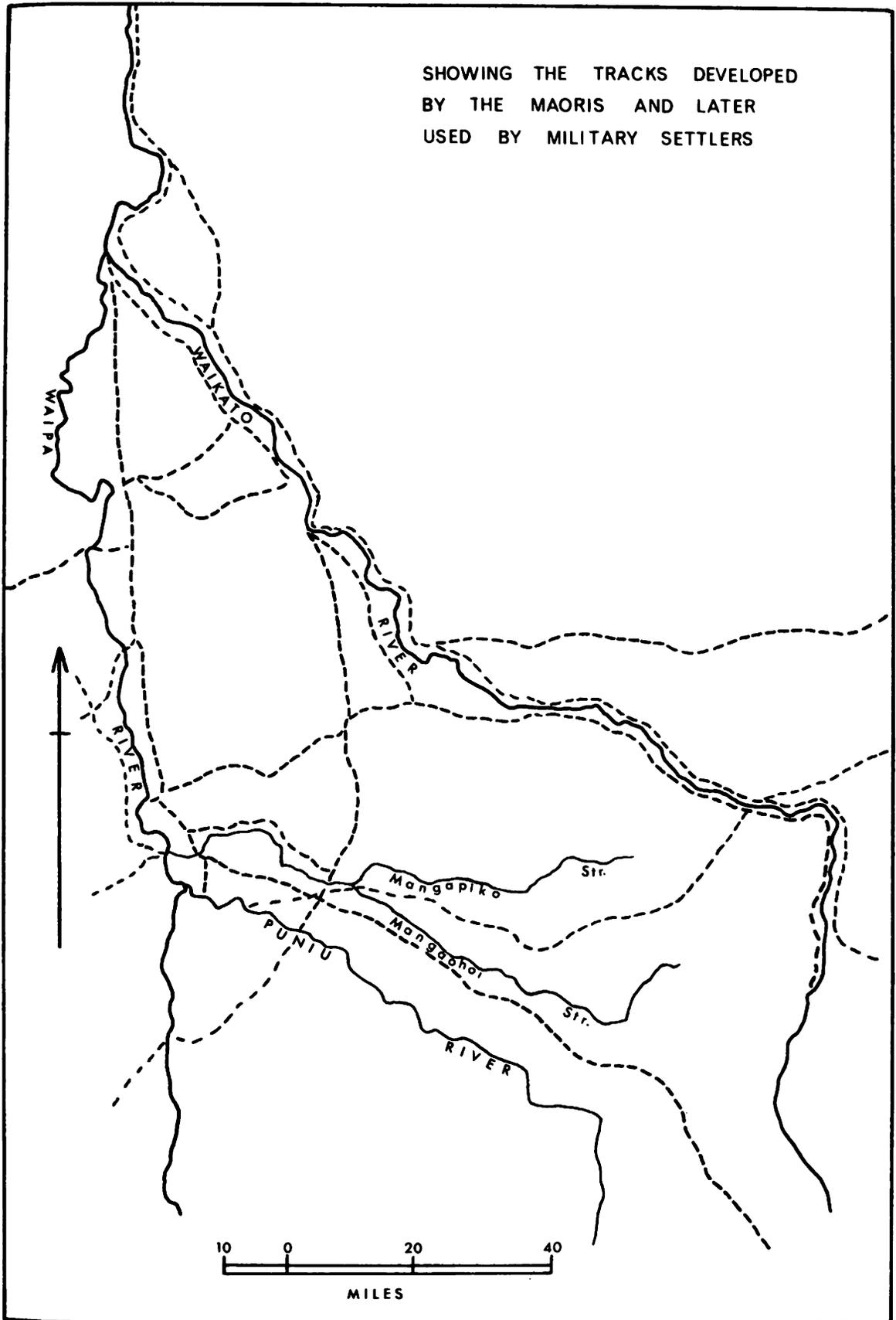


Plate 5. This photo, taken in approximately 1865, shows the early settlement of Hamilton West. The commercial centre of the settlement was situated on the river bank in close proximity to the river landing and a road was formed up the river bank to connect the landing with the houses of the settlers built on the higher terrace surfaces. The military settlers were unable to bridge the Waikato River and punts, such as the one shown in this photo, were relied upon for crossing the river.

Photo: Auckland Public Library Photograph Collection.



the river steamers turned around (47).

At Hamilton a floating bridge was constructed using canoes which were lashed together to form a pontoon (48). In this way the settlers established on opposite banks in the townships were able to cross the river. A similar form of pontoon bridge provided a means of crossing the river at Ngaruawahia (49).

By water

Travel between townships in the Waikato and between the Waikato and Auckland was almost exclusively by water, along the Waikato and Waipa Rivers.

A river steamer service for the military settlers was established at the conclusion of the Waikato War when the steamers that had been used by the army were formed into a River Transport Corps based at Port Waikato and at Ngaruawahia, at the junction of the Waikato and Waipa Rivers (50).

The slowness and difficulty of travelling by land in and to the Middle Waikato Basin made it necessary for all settlers and supplies to be transported by water from Auckland. In the initial phases of settlement military settlers were to be supplied with rations from Auckland by river until they were established upon their farms and able to support themselves and the townships. Consequently, an efficient, regular river service was essential for the survival of the settlements.

In establishing a river service, there were several problems to be met. These included the low level of the Waipa and Waikato Rivers during summer; only river steamers with a maximum draught of two feet could navigate the Waipa River and the upper Waikato River to Cambridge. Between Rangiriri and Ngaruawahia, it was possible for vessels of three-foot draught to navigate the Waikato River. Speed was also important since both rivers, particularly the Waikato, were swift flowing. Snags in the rivers were also a hazard.

For the purposes of the river service, the river was divided into three stages:

".. the first should be from the Waikato Heads to the Bluff, the second from the Bluff to Ngaruawahia, and the third from Ngaruawahia up the Waipa or Horotiu as far as the steamer can safely go."

The river service was to be made up of:

"Six vessels ... to ensure three trips a week; three to do the work of the first two stages and three to do the third." (51)

To keep the townships supplied with rations, a regular service between Port Waikato and Ngaruawahia, Ngaruawahia and Alexandra on the Waipa River, and Ngaruawahia, Hamilton and Cambridge on the Waikato River, was established. The nature of the service is shown in detail in Table IV:3. Although stock piles of supplies were built up at the townships, low river levels, shifting sand banks, fogs, the occasional sinking of steamers and an alternate glut and dearth of cargo at the river depots, frequently disrupted the service. At times, the townships at the heads of the rivers, Cambridge and Alexandra, were brought close to starvation by disruption of the river service (52).

The cost of the river service was a major factor in forcing up the cost of living in the townships and in making life difficult for the settlers. The freight rates charged by the river service were prohibitive to most settlers. Table IV:4 shows the scale of rates charged. Freight rates on goods transported from the Waikato Heads to Alexandra and Cambridge were £7 a ton. While the military settlers were supplied with rations by the Government, the settlements were not seriously affected.

Nevertheless, settlers protested at the rates which put a high price on additional supplies imported from Auckland by the settlers. A military settler with the rank of private receiving pay of 17/6d. a week was required to pay £3.3.0d. for a 200 pound bag of flour imported from Auckland (53). Protests led to a

TABLE IV:3The Steamer service on the Waikato and Waipa RiversBoats up the River

<u>FROM</u>	<u>TO</u>	<u>DAY</u>	<u>HOURL</u>
The Bluff	Ngaruawahia	Tuesdays Thursdays Saturdays	7 a.m.
Ngaruawahia	Alexandra	Mondays Wednesdays Fridays	Before sunrise
Ngaruawahia	Maungatautari (Cambridge)	Wednesdays	Before sunrise

Boats down the river

Ngaruawahia	Bluff	Mondays Wednesdays Fridays	7 a.m.
Cambridge	Ngaruawahia	Thursdays	Noon
Alexandra	Ngaruawahia	Tuesdays Thursdays Saturdays	11 a.m.

Source: CD 64/2463 National Archives, Wellington

TABLE IV:4Rates for the freight of goods on Government Steamers

Bluff to Ngaruawahia	£4 - 0 - 0	a ton
Port Waikato to Bluff	2 - 0 - 0	"
" " to Ngaruawahia	5 - 0 - 0	"
" " to Alexandra and Cambridge	7 - 0 - 0 [Ⓜ]	"

[Ⓜ] later reduced to £5 - 0 - 0.

Source: CD 64/2939 National Archives, Wellington

reduction in freight rates on goods transported from the Waikato Heads to Cambridge and Alexandra from £7 to £5 a ton (54).

With the establishment of the military townships and villages, a rudimentary pattern of circulation was formed based on a highly expensive river steamer service linking the townships with each other and with Auckland by the Waikato and Waipa Rivers. A pattern of circulation by land awaited formation in the second phase of military settlement, the survey of farms and movement of settlers out from the townships on to the land.

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V. SETTLING THE LAND

In this chapter, the second phase of military settlement in the Middle Waikato Basin, the process of settling the land, will be described. The criteria used by the military authorities in selecting land for militia farms, and in laying out farm districts for the three Waikato Regiments, will be discussed, as will the survey and allocation of farms to the military settlers. In developing the land, the military settlers were faced with many problems and these will be outlined in this chapter, together with the changes that took place in the landscape of the region.

Land for Militia Farms

The scheme of military settlement required that around each township and village in the Middle Waikato Basin there should be sufficient good land for farms for the military settlers. Prior to farm surveys being commenced, reports were made by surveyors and officers of the Regiments on the extent of good land available.

The land to the east of the Waikato River from the Maungakawa Hills to Hamilton and north to the junction of the Waikato and Waipa Rivers, was examined and a report made on its potential for agricultural settlement. Between the Maungakawa Hills and the Waikato River the land was:

" .. a mean level of a rich alluvial soil, drained by water channels, at a depth of 50 to 60 feet below the surface, that lead to the Waikato. The swamps on this plain do not appear to be of such great extent as those on the plain between the rivers, and most of them may easily be drained by cuttings being made into the adjacent water hollows."

Along the Waikato River between Cambridge and Hamilton, there was:

"white clover .. growing very well in places, with, here and there, some rye-grass, that also thrives. From the free nature of the soil and the very level character of the country the plain might be very easily brought into cultivation. The chief difficulty would be in procuring wood fit for fencing."

Beyond Hamilton, north along the east bank of the Waikato River towards Taupiri, the soil was:

"not so good as to the southward of the former place, the surface becoming more hilly and the hollows being swampy; the soil too, is more sandy. The whole district will, however, ... bear good grass if judiciously dealt with." (1)

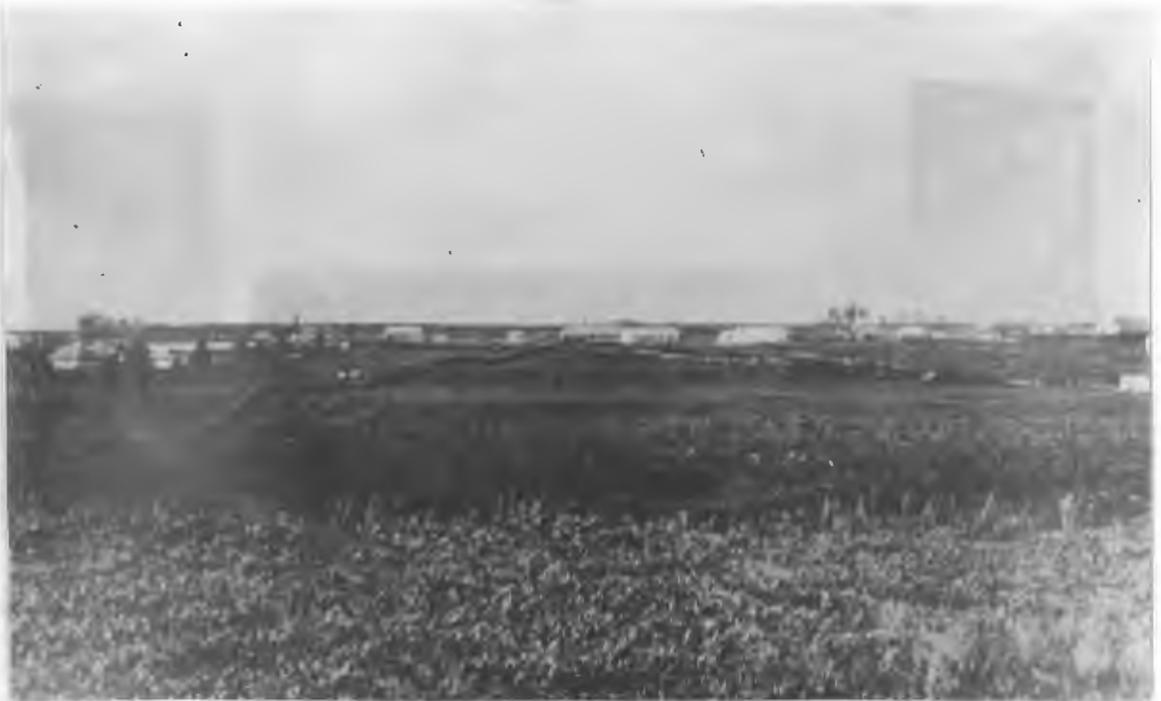
Another report commented upon the suitability of the land along the western bank of the Waikato River from Ngaruawahia to Cambridge:

" From Ngaruawahia .. as far as Hamilton on the western bank of the Waikato River the soil was of a light and very sandy nature, covered with light fern ... From Hamilton to Kirikiriroa [redoubt] and on to Cambridge there is no material difference in the appearance of the land .. it seems well adapted for the growth of potatoes and all kinds of root crops." (2)

Between the Waikato and Waipa Rivers, the extensive Moanatuatua and Rukuhia Swamps severely restricted the land that would be suitable for militia farms. Dry land along the banks of the Waikato and Waipa Rivers had been extensively cultivated by the Maoris and was judged suitable for militia farms. Deep gullies, similar to those to the east of the Waikato River, extended from the swamps to the rivers. Across the swamps, suitable land for farming was available on the low ridges which separated the swamps and impeded drainage on the delta (3). To the south there were large areas of land suitable for militia

Plate 6. This view of the settlement of Cambridge was taken about 1870. It serves to illustrate the flatness and monotony of the landscape of the region at this time.

Photo : Auckland Public Library Photograph Collection.



farms in the upper Waipa district. In particular, the success of the Maoris in cultivating the Rangiawhia district during the 1850's was well known (4).

Surveys were also made in the north of the Middle Waikato Basin to estimate the potential area of land available for settlement. In the area around Taupiri, along the Mangawara Creek and south to the Great Swamp, much of the land was swamp, intersected by dry patches of low fern. However, large areas of land were:

"Dry in summer and from the numerous creeks intersecting which empty themselves into the Mangawara and the Waikato River bounding its southern side - its drainage would repay itself. Supposing this country proves itself available for inexpensive drainage, no finer piece, either for soil extent or situation, would be acquired in the confiscations of the Waikato - it is close to Ngaruawahia and though timber is wanting, it has water carriage from both ends, both for wood and coal ..." (5)

The preliminary surveys of land available for agricultural settlement in the Middle Waikato Basin pointed out some of the problems that would face the settlers. Although there was sufficient land available for farms near the townships, much of it was swampy and would require drainage before it could be farmed. Furthermore, the numerous deep gullies would make access to some of the best farm land difficult. The absence of wood, except for the occasional kahikatea grove, was another problem that would face the settlers, although there was plenty of manuka scrub available. In spite of these problems, surveyors estimated that there was sufficient land near the townships for the laying out of farms and the establishment of prosperous agricultural settlements.

Farm Surveys for the Military Settlers

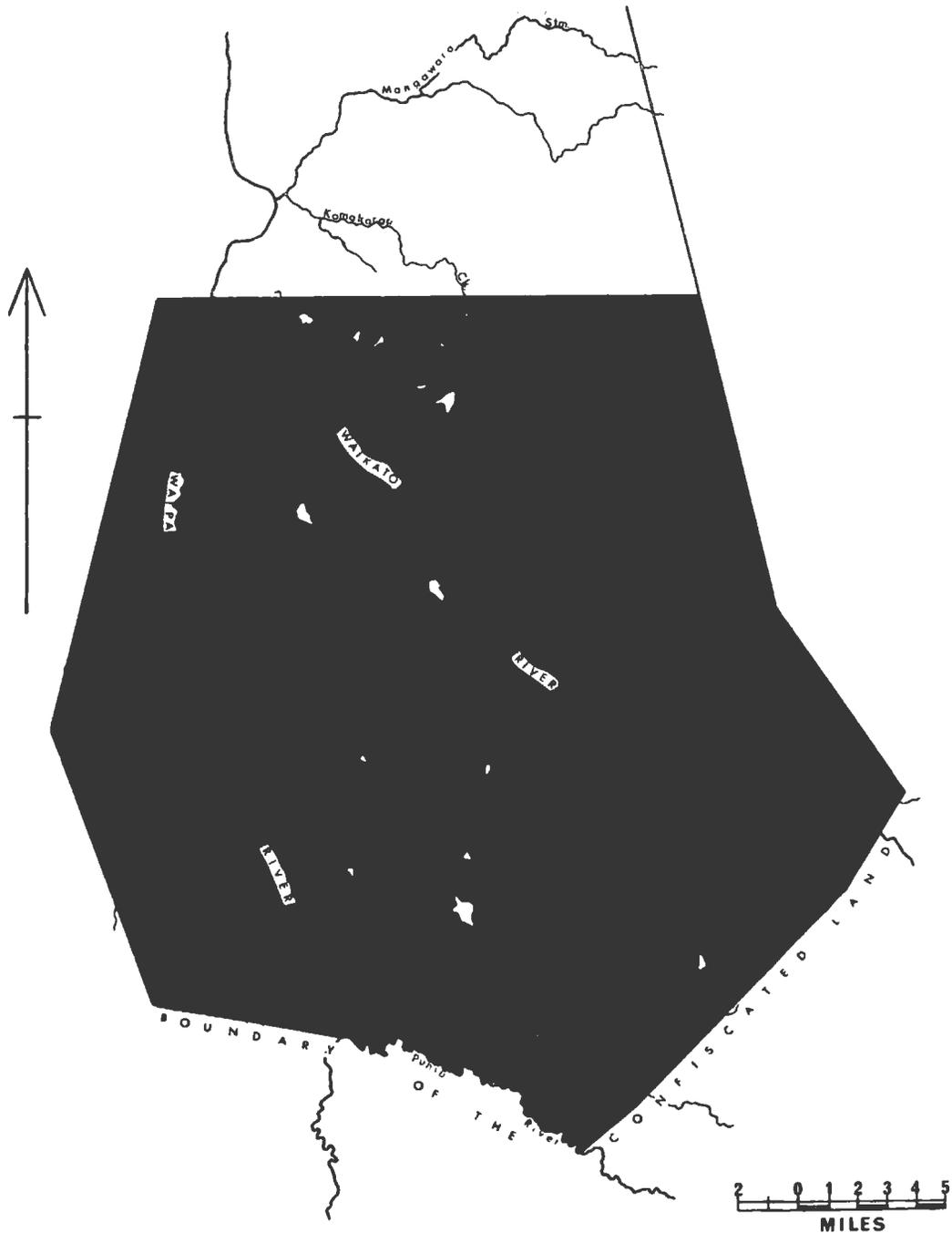
Confiscation

Land was confiscated from the Maoris in the Middle Waikato Basin for the purposes of military settlement in December 1864.

Figure V:1 Land confiscated in the Middle Waikato
Basin for military settlement in
December 1864.

Source: New Zealand Government Gazette,
17 December 1864.
AJHR 1865 D - 13.

**LAND CONFISCATED FOR
MILITARY SETTLEMENT
IN DECEMBER, 1864**



The area of land that was confiscated was based on the earlier estimates of the surveyors on the amount of land required to meet obligations to the Waikato military settlers (6). A total area of 316,000 acres was confiscated and, as Figure V:1 shows, this area extended from Ngaruawahia in the north of the region to the Puniu River and the Pukekura Hills in the south.

The confiscated block of 316,000 acres was estimated to contain sufficient good land to meet the requirements of the military settlers and still provide for other claims. 4,673 acres of this block had already been appropriated for military townships and villages and 162,948 acres were set aside for farms for the military settlers. Of the remaining land, 1,669 acres were reserved for the settlement of missionary and other old land claims from early European settlers; 3,240 acres were reserved for roads and river landing places; and 4,865 acres were reserved for sale. To compensate friendly Maoris whose land was included in the block and to provide for reserves for rebel Maoris who surrendered, 21,600 acres were set aside. The remaining 117,707 acres of the confiscated block remained unappropriated since most of it consisted of swamp land (7).

Farm Surveys: the criteria

The form of settlement and the nature of the region being settled imposed certain constraints upon surveyors laying out farms for the military settlers. On the basis of these constraints a number of criteria were laid down to be observed by every surveyor. The most fundamental criterion was that of defence. Because of the need to protect settlers on the land, the scheme of military settlement required that farms for the settlers should be located as close as possible to the townships. The distance that a settler would have to travel from the township to his farm should not be so great as to prevent the fulfilment of his military duties and place him in a position open to attack from the Maoris (8).

The scheme of military settlement specified the size of the farms to be surveyed for the settlers. The size of the farm to be allocated to each settler varied according to his rank and ranged from 400 acres for Field officers through 300 acres for Captains, 250 acres for Surgeons, 200 acres for Subalterns, 80 acres for Sergeants, to 60 acres for Corporals and 50 acres for Privates. The basic farm unit was the 50-acre farm and all farm sections were to be laid out in blocks of 50-acre units. It was intended that higher ranks would select sufficient 50-acre units to make up the farm to which they were entitled. In each block of farm sections 80-acre and 60-acre units were to be included for allocation to sergeants and corporals.

Fifty-acre farm units were laid out as far as possible in a rectangular pattern in order to keep the farms compact. However, the nature of the country imposed certain constraints upon the surveyors which had to be taken into consideration. Deep gullies and swamp made access to many areas difficult. Where possible, farm sections were surveyed along navigable rivers and streams to provide easier access to the land. In surveying farms along navigable waterways, surveyors followed the criterion that farms with frontage on such waterways were not to exceed the proportions of 1 frontage to 2 depth (9). Provision had also to be made for those sections that were not sited along such waterways. Farms were surveyed in blocks of approximately 10 units and were bounded by roadlines. These roadlines were to be allowed to follow their natural course where possible. Where gullies were encountered, roadlines were to be surveyed across them at the easiest points for bridge construction and road cutting (10).

Since many of the farms were to be only fifty acres in size, the quality of the land included in the farm sections was

important. Although farm surveys had to be compact they could include only that land which was of reasonable quality. Where possible the boundaries of farm sections were to be surveyed along the margins of swamps and gullies rather than through them, for this would have rendered large portions of the farms useless (11).

The surveyors were faced with the difficult task of finding sufficient good land within the 162,948 acres set aside for the purpose, to lay out farms for the military settlers following the criteria laid down in the scheme of military settlement and in their instructions./

The First Farm Surveys

Farm surveys began immediately the land required for militia farms was confiscated from the Maoris in December 1864. The Government was concerned to locate the settlers on their farms as quickly as possible so that they could begin to cultivate their land and become self-sufficient. Any delay would force the Government to support the military settlers with rations longer than originally anticipated (12).

The problems that confronted the surveyors in laying out militia farms, however, made it difficult for them to complete the survey of farm districts for each Regiment quickly. The surveyors pointed out that:

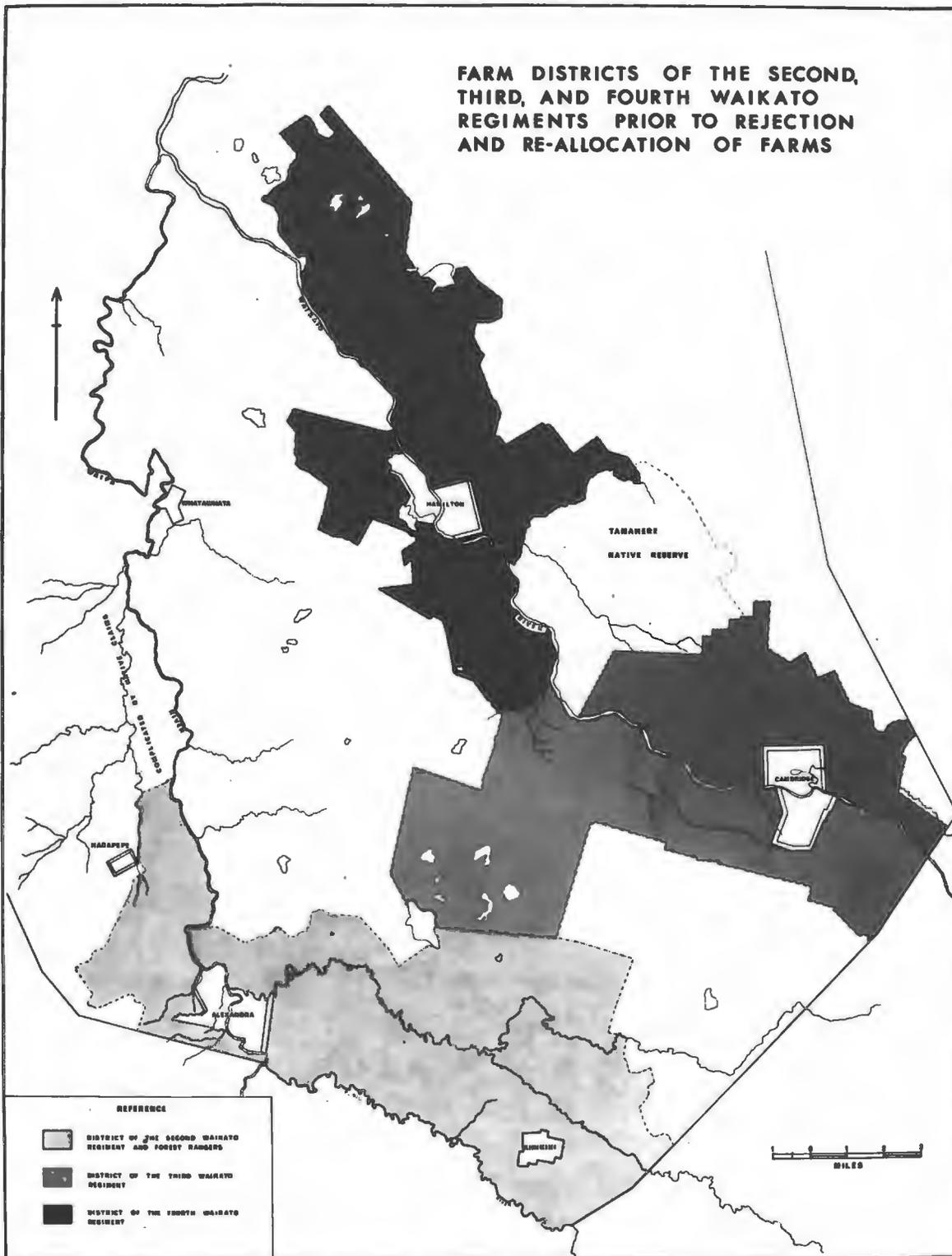
"private and native claims of an uncertain character and with vaguely indicated boundaries have impeded, and still do much impede, the survey of 50-acre lots. The great extent of swamp and impassable ravine has prevented surveys being carried on upon a rectangular system. Every road has been made to follow its natural course and every lot made conformable to such a road." (13)

In the first farm surveys, the land available for militia farms was divided into districts, as shown on the map, Figure V:2, which had as nodal points, the townships and villages at which the Second, Third and Fourth Waikato Regiments were based. The surveyors commenced surveying 50-acre farm units around the boundaries

Figure V:2 Farm districts of the Second, Third
and Fourth Waikato Regiments.

Source: Map in file AD 31/17 CD 65/896;
National Archives.

**FARM DISTRICTS OF THE SECOND,
THIRD, AND FOURTH WAIKATO
REGIMENTS PRIOR TO REJECTION
AND RE-ALLOCATION OF FARMS**



REFERENCE

- DISTRICT OF THE SECOND WAIKATO REGIMENT AND FOREST RANGERS
- DISTRICT OF THE THIRD WAIKATO REGIMENT
- DISTRICT OF THE FOURTH WAIKATO REGIMENT

0 1 2 3 4 5
MILES

of each township and worked outwards over the land suitable for militia farms. In this way, an attempt was made to keep the farm district of each Regiment as compact as possible. In many areas, however, surveyors were forced to lay farms over swampy land or between gullies to avoid breaking up the compact pattern of farm units around each township which they were instructed to lay out.

The first farm surveys were completed as quickly as possible by the surveyors who concentrated on laying out farms for the militiamen on:

"the very best land in their respective districts, no rural land in such localities having been reserved for future sale, or for any purposes of public use such as the endowment of schools and hospitals, for the reservation of timber, or for roads and landing places." (14)

As soon as blocks of farm sections were surveyed they were handed over to the Regiments for allocation to the settlers. Table V:1 shows the progress of farm surveys to August 1865 and the speed with which the land set aside for militia farms was surveyed into 50-acre units. By August 1865, 3,004 fifty-acre units had been handed over to the Second, Third and Fourth Waikato Regiments for allocation. These surveys covered an area of 158,286 acres out of the 162,948 acres set aside for the purpose in December 1864 (15).

The map, Figure V:2, shows the compact pattern of militia farms originally surveyed in districts around the townships at which the settlers were based. Within each Regiment district many areas, almost totally unsuitable for militia farms, were incorporated into farm surveys in an endeavour to preserve this compact pattern of military settlement.

The District of the Second Waikato Regiment and Forest Rangers
Farms for the military settlers of the Second Waikato Regiment and the Forest Rangers were surveyed around the township:

TABLE V:1

Fifty-acre farms handed over for selection by military settlers;
December 1864 to August 1865

Date	Locality	Country lots		Reserves		Totals (acres)
		lots	Area	lots	Area	
(a. December 1864	Land confiscated in Middle Waikato Basin					162,948
(b. March 13, 1865	All townships	1,619	82,469	-	-	82,469
March 31, 1865	All townships	2,079	111,029	-	-	111,029
(c. May 5, 1865	Alexandra	585	29,835	-	-	
	Cambridge	843	42,993	-	-	
	Hamilton	411	20,961	-	-	
	Rangiawhia-Kihikihi	133	6,783	-	-	
	Other localities	445	22,695	-	-	
						143,107
(d. August 22, 1865	Alexandra	951	47,550	172	10,921	58,471
	Cambridge	1,002	50,100	163	8,102	58,202
	Hamilton	541	27,050	122	9,433	36,483
	Rangiawhia-Harapepe-Kihikihi	40	2,000	13	3,130	5,130
<u>Totals to August 1865</u>						
Fifty-acre lots:						3,004
Total area (acres):						158,286

Sources:(a. N.Z. Government Gazette; 17 December 1864.(b. C.H. Heaphy; Survey Return, AD 31/17 CD 65/1129.

(c. Auditor-General; CD 65/1839

(d. IA 1/230 65/2265; August 22 1865.

Figure V:3 Farm district of the Second Waikato
Regiment and Forest Rangers.

Source: Map in file AD 31/17 CD 65/896,
National Archives.

of Alexandra and the villages of Kihikihi and Harapepe. The map, Figure V:3, shows the lay out of the 50-acre farm sections. Farm surveys were commenced around the margins of Alexandra, Kihikihi and Harapepe and worked outwards over the land considered suitable for farms. Much of the land in this district was well-drained and covered with low fern, and the problems of laying out a compact pattern of farm sections were not as great as those in the other Regiment districts.

Farms were surveyed along the east and west banks of the Waipa River to the north of Alexandra and between Harapepe and the Waipa River. The farm surveys extended as far north as the Ngahinapouri redoubt on the west bank beyond which farms could not be surveyed because of conflicting Maori claims to the land. On the east bank, farms were surveyed from the Mangapiko Stream to Te Rore Redoubt. To the north-east of Alexandra, farms were surveyed between the Mangapiko Stream and the southern margin of the Rukuhia Swamp. To the south of the Mangapiko Stream as far as the Puniu River, 50-acre sections were surveyed between Alexandra and the mission lands of Te Awamutu.

Around Kihikihi, farms were surveyed as far south as the Puniu River and the Orakau redoubt, east to the Moanatuatua Swamp and north to the Rangiawhia district around the Hairini and Rangiawhia redoubts. In the Rangiawhia district, large reserves were set aside to provide for European settlers who had resided in the area prior to the Waikato War. The largest reserves were those of the Church Missionary Society in the vicinity of the old mission station of Te Awamutu which is not shown on Figure V:3 but which was situated at the junction of the Mangapiko and Mangaohoi Streams. The farm district was bounded on the north, between Lake Ngaroto and the Moanatuatua Swamp, by the district of the Third Waikato Regiment.

Fifty-acre farm units were surveyed in blocks of 10 to 20 sections, each of which was bounded by roadlines providing

access to the sections. Where possible, farms were laid out along, or in close proximity to, navigable rivers or streams. Of these, the most important was the Waipa River and an endeavour was made to give as many sections as possible, frontage on the river (16).

Surveyors used gullies and swamp lines as the boundaries of farm sections and attempted to avoid laying 50-acre sections through gullies and over swampy ground. Along the Mangapiko Stream, for example, the edge of the gully was used as the boundary of farm sections. The pattern of farm surveys was influenced to a certain extent by the long, low ridges which extended across the district. Surveyors tended to lay out roadlines along the ridges to avoid the occasional patches of swampy ground which occurred around the ridges. The farm district of the Second Waikato Regiment was kept compact, the task of the surveyors being made easier by the large areas of good land available for farms, and most farms were located within two miles of a redoubt.

District of the Third Waikato Regiment

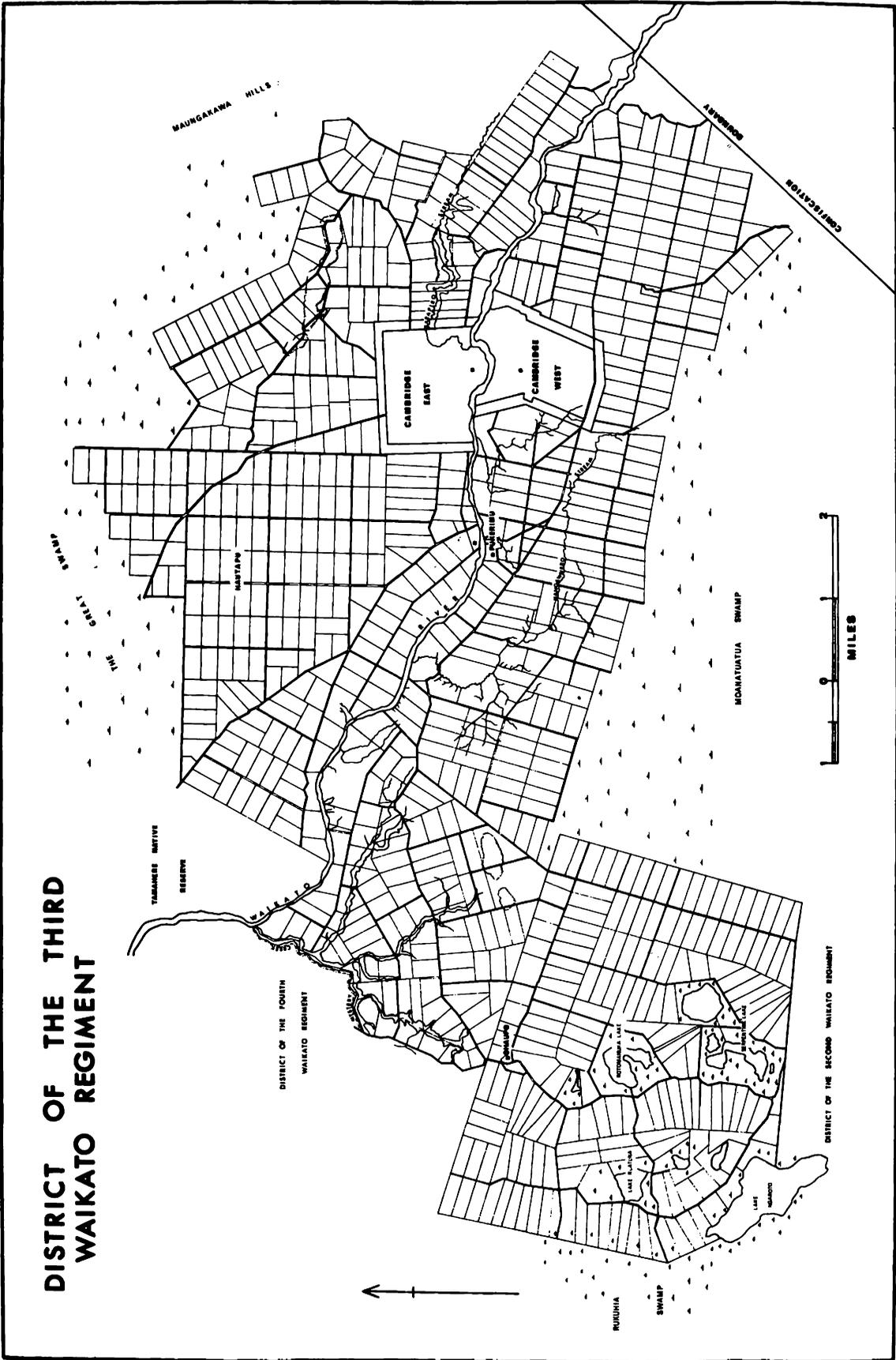
The land available for militia farms around Cambridge was limited by extensive swamps to the east and west of the Waikato River. On both sides of the river, farm surveys began around the margins of Cambridge township and were extended outwards as far as possible to the margins of the Moanatuatua Swamp to the west and the Great Swamp and the Maungakawa Hills to the east.

On the east bank of the Waikato River, as the map, Figure V:4, shows, a large area of level, unbroken land to the north of the township and extending to the Great Swamp, enabled 50-acre farm units to be surveyed in a rectangular pattern of blocks of ten sections each. Between this area, known as Hautapu, and the Waikato River, farms were surveyed along the river bank as far north as the Tamahere Native Reserve, which had been set aside for the rebel Ngatihaua tribe. To the south of the township,

Figure V:4 Farm district of the Third Waikato
Regiment.

Source: Map in file AD 31/17 CD 65/896,
National Archives.

DISTRICT OF THE THIRD WAIKATO REGIMENT



the survey was complicated by lines of swamp and by the deep gully of the Karapiro Stream. The swampy nature of the area left little good land available for farms and many sections contained some swamp.

On the west bank, 50-acre sections were laid out along the river south to the confiscation line and north to Mystery Creek which formed the boundary between the districts of the Third and Fourth Regiments. The land was broken up by several large gullies. The largest of these was Walker's Gully, which contained the Mangawhero Stream, and which extended from the Moanatuatua Swamp to the Waikato River. The boundaries of farm sections were surveyed along the edges of the gullies where possible, although some blocks of farm sections were considerably broken up by the gullies.

The district of the Third Waikato Regiment extended from the Waikato River south to the Ohaupo district and Lake Ngaroto. A redoubt was established for the settlers at Ohaupo and farms surveyed around it. Roadlines were surveyed along the low ridges in the area that separated the Rukuhia and the Moanatuatua Swamps and farm sections were laid out along them. Many sections were surveyed over swampy depressions between the ridges and around the swampy margins of Lakes Ngaroto, Roto Manuka, Ruatuna and other small lakes (Figure V:4).

Despite the difficulties of finding sufficient land for militia farms within close proximity to Cambridge township, no farm sections were surveyed more than three miles from redoubts at Cambridge, Pukerimu or Ohaupo. Compactness of farm lay out was achieved, however, at the expense of the quality of the land included in many 50-acre farm units.

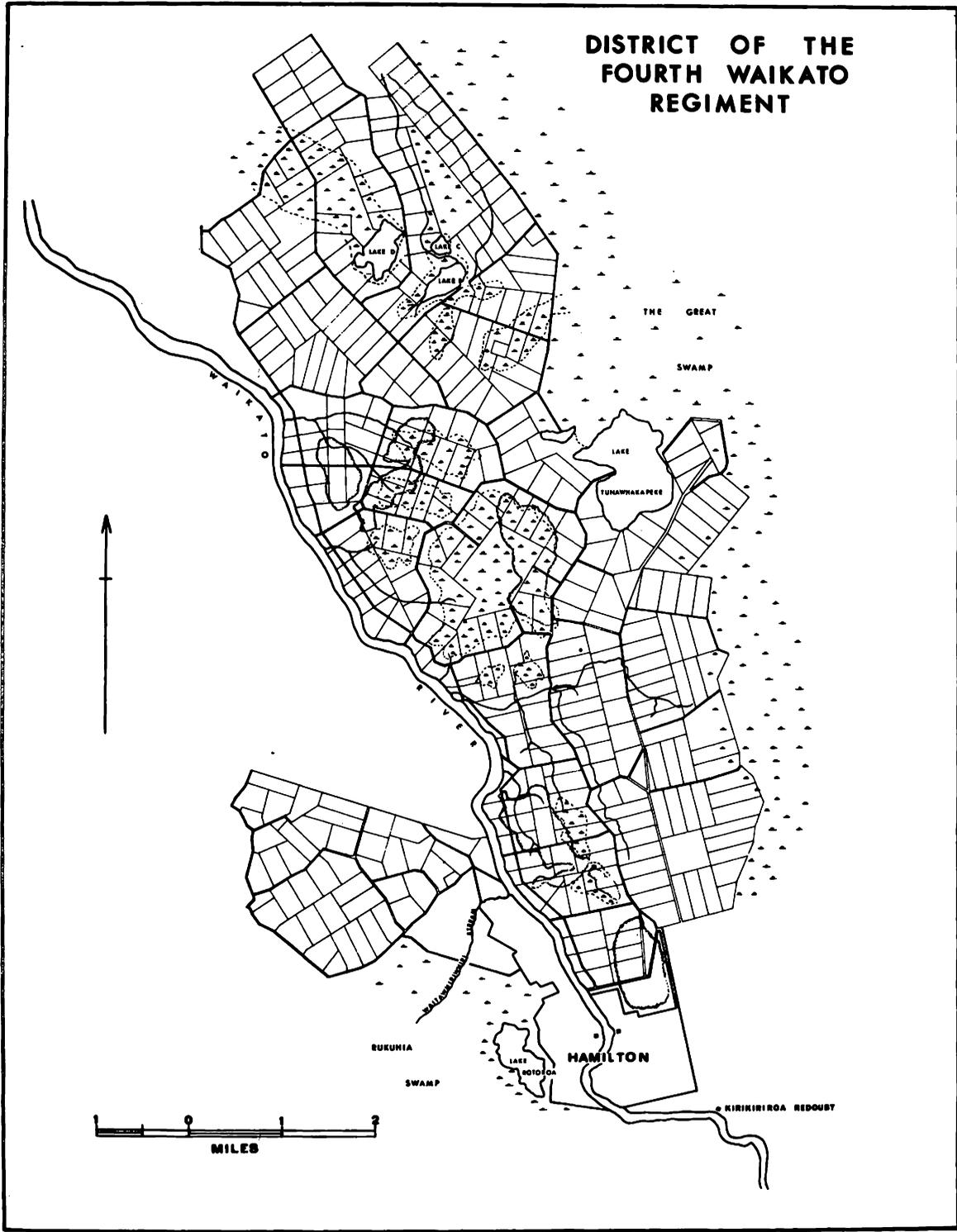
District of the Fourth Waikato Regiment

Swamps to the east and west of the Waikato River also limited the area of land which was suitable for farms for the Fourth Regiment settlers. The map, Figure V:5, shows the part of the

Figure V:5 Farm district of the Fourth Waikato
Regiment.

Source: Map in file AD 31/17 CD 65/896,
National Archives.

**DISTRICT OF THE
FOURTH WAIKATO
REGIMENT**



district of the Fourth Waikato Regiment that was surveyed first for militia farms. The amount of land available for militia farms in this area proved so limited that the Fourth Regiment district was later extended to include land to the south of Hamilton, along the Waikato River.

Along the east bank of the Waikato River, 50-acre farm sections were surveyed north of Hamilton East from the town belt along the river for a distance of six miles and east to the margins of the Great Swamp. The land in this area consisted of low ridges, swampy depressions, and level terrace surfaces along the river, broken by deep gullies. Surveyors found it impossible to keep farm sections compact in this area and, at the same time, avoid the numerous lines of swamp that crossed the area. As a result, many of the sections, particularly those around the small lakes and along the margins of the Great Swamp, were surveyed over poorly drained, swampy ground. Roadlines were surveyed along ridges to avoid swampy ground and this accounts for the irregular pattern of the farm sections in this area (17).

When the land to the north of Hamilton East proved insufficient to meet the requirements of the military settlers, further farms were surveyed around the town belt as far as the Great Swamp and along the river, south of the Kirikiriroa redoubt, to the Manganua Stream which marked the northern boundary of the Tamahere Native Reserve. Much of this land was also swampy.

Along the west bank, land suitable for farms was restricted to the level terrace surfaces along the river and to low fern-covered ridges. A small block of fifty-acre sections was first surveyed to the north-west of Hamilton West between the river and Lake Rotokauri. Access to these sections was made difficult by the deep gully of the Waitawhiriwhiri Stream which bounded the northern edge of Hamilton West. Other farms were surveyed to the south of Hamilton West along the river as far as Mystery Creek.

Of the three townships, Hamilton had the least area of land suitable for militia farms in close proximity to its boundaries. Because of this, most sections were surveyed along narrow strips of land on both banks of the Waikato River and the district was not as compact as those of the Second and Third Regiments. Some of the sections were located considerable distances from the nearest redoubt.

The first farm surveys were completed rapidly but, in many areas, they were little more than paper surveys, laid out with more concern for the compactness of the farm districts than for the quality of the land included in the farm units. The unsatisfactory nature of many sections became apparent when they were allocated to settlers and the process of locating the settlers on the land began.

Locating the Settlers on the Land

Allocation procedure

Farm sections were allocated by lot to the military settlers in order of seniority of rank as the blocks of farm sections were made available to the Regiments by the surveyors. Senior officers were able to select their farms anywhere in their particular district. Lower ranks were allocated their farms only within the survey block allotted to their company. This procedure was adopted to enable more efficient organisation of the military settlers when they were located on the land (18).

The procedure of allocating land for farms was weighted against those military settlers of low rank. Under the scheme of military settlement the lower ranks were entitled to receive 50-acre to 80-acre farms. Because of the small size of these sections it was important that the quality of land should be good in order that all the land in the section be available for farming. The procedure of farm allocation by seniority of rank, however, often meant that only the poorer land was available for allocation to the lower ranks among the military settlers (19).

The first blocks of farm sections were made available for allocation to the Third and Fourth Regiments in February 1865 and to the Second Regiment in March 1865. The Government intended that all those settlers not required to maintain essential services in the settlements were to be allocated their farms as quickly as possible in order that they could begin clearing the land. Some military settlers could not be allocated their land immediately since they were required for garrison duty in the townships or for the Commissariat Service which supplied the military settlements with the rations that enabled them to survive (20). Many of the farm sections handed over for allocation were, however, found to be unfit for occupation and were rejected by the settlers. The widespread rejection of farm sections in all three of the Regiment districts considerably delayed the process of locating the settlers on the land.

Rejection of farm sections

Rejection of farm sections began with the first farm surveys handed over to the Regiments for allocation and the practice of rejection grew as many settlers found it difficult, if not impossible, to settle and farm the sections allocated to them.

Many sections were rejected because they consisted of swamp or were poorly drained in winter. Frequently, it was possible to reclaim swampy sections by draining the land at a moderate expense. However, most of the sections rejected because of poor drainage, were 50-acre units allocated to privates who had little or no savings with which to pay expenses of reclamation. Military settlers of the Fourth Waikato Regiment at Hamilton complained that:

"more than one half of the 50-acre lots received and which the men have been put in possession of are nothing but bad swamp; .. In numerous cases the men could not get to their land, in other cases they could not find sufficient dry ground to stand upon their fifty acres." (21)

The difficulty of gaining access to many areas because of the deep gullies was another cause for the rejection of sections. Many sections were declared to be inaccessible and therefore unsuitable since the lines of road crossed:

"deep creeks with almost perpendicular banks, and innumerable swamps, on which it would be impossible for the military settlers to transport even the means of existence, irrespective of implements of husbandry and other aids necessary to establishing a farm" (22)

The officers commanding the Waikato Regiments would not accept land from the surveyors for allocation to the military settlers unless they were satisfied that a settler could occupy the land immediately. Before farm sections were accepted for allocation to the settlers they were examined as to their suitability for occupation. If unsuitable they were rejected. The extent to which farm sections handed over for allocation were rejected, is shown in the figures included in Table V:2 for the month of October 1865. During this month, 307 sections in the districts of the Second, Third and Fourth Regiments, totalling 15,657 acres, were rejected as unfit for occupation (23).

Surveyors had difficulty in finding sufficient suitable land in the districts set aside for militia farms to replace the rejected sections. Because of this, it became a rule that if a farm section was one-half swamp or less it had to be accepted, even though large areas of it might be under water during the winter (24). Surveyors also adopted the practice of 'clubbing-together' those portions of rejected lots that were not affected by swamp or by problems of access, to form additional sections acceptable to the military settlers. In this way, Table V:2 shows, surveyors recommended the formation of 77 fifty-acre sections from the 307 rejected by the settlers during October 1865.

Figure V:6 Areas of land in each Regiment district rejected by the military settlers as unsuitable for settlement.

Source: Information contained in file AD 31/17
GD 65/1494, 65/1290, 66/2157, 66/4434;
IA 1/231 65/213; National Archives.

Maps SO 143, 144, 333, 334, 335, 318,
319, 320, 96, 97, 347, 350, 380, 381,
388; Department of Lands and Survey,
Hamilton.

The original compact pattern of 50-acre units that had been surveyed and handed over for allocation was completely disrupted by the rejection of many of the units, as the map, Figure V:6, shows. By September - October 1865, as much as a third or a quarter of the original Regiment farm districts had been rejected by the settlers as unsuitable for occupation. Many of the sections rejected by the settlers of the Third and Fourth Regiments were those located along the margins of the Moanatuatua and Rukuhia Swamps and along the Great Swamp.

Around Cambridge, most of the sections surveyed in the immediate proximity of the township were accepted by the settlers. However, a number of sections on the east bank around the town belt and extending east to the Great Swamp were rejected because of their swampy nature. On the west bank of the Waikato River, most of the sections were rejected because of their swampy nature or because they were cut off from Cambridge West by Walker's Gully and access to them was difficult.

Around Hamilton, most of the sections rejected were located on swampy land on the east bank of the Waikato River around, and to the north of, Hamilton East. Beyond the town belt there was little land available that was not at least partly swampy (25).

In the district of the Second Regiment, most of the sections rejected by the settlers were concentrated in the area between the Mangapiko Stream and Te Rore and along the southern margins of the Rukuhia Swamp to Lake Ngaroto. The difficulty of access to land to the north of Alexandra across the deep gully of the Mangapiko Stream, together with the swampy character of many of the sections, were the main reasons for the rejection of farm sections in this district.

Extension of farm surveys

To replace those sections rejected as unsuitable by the military settlers, further blocks of 50-acre sections were surveyed

TABLE V:2

Showing the number of fifty-acre lots rejected by military authorities in October 1865 by Survey Blocks and the numbers of lots recommended for location, reconsideration or rejection by surveyors.

Survey Block	Surveyor reports						Remarks
	A	B	C	D	E	F	
Mangapiko and Te Rore	26	22	2	2	1	25	
Puniu	13	-	-	-	-	-	Not yet reported on
Kihikihi	11	-	-	-	-	-	Available but inaccessible until road is made through swamp.
Rangiawhia	3	-	-	-	-	-	Not yet reported on
East Hamilton No.1	57	4	1	46	9	14	
" " No.2	22	-	3	19	5	8	
" " No.3	2	-	-	2	-	-	
West Hamilton	13	-	-	13	3	3	
near	6	-	-	6	1	1	
near	11	4	6	1	1	11	
Ohaupo	39	-	-	-	-	-	Not yet reported on
..	5	1	-	4	-	1	
Pukerimu (West)	25	-	-	25	-	-	
Cambridge (West)	15	3	2	10	5	10	
" (East)	44	-	-	-	-	-	Not yet reported on
Pukerimu (East)	21	1	1	19	2	4	
TOTAL	307	35	15	147	27	77	

- A. Number of lots rejected by the military authorities
- B. Fit for location)
 C. Fit for reconsideration) Surveyors' reports on rejected
 D. Unfit for location) lots.
- E. Number of lots of average quality that may be formed by "clubbing" together parts of rejected lots.
- F. Number of available lots that may be formed from B, C, and E.

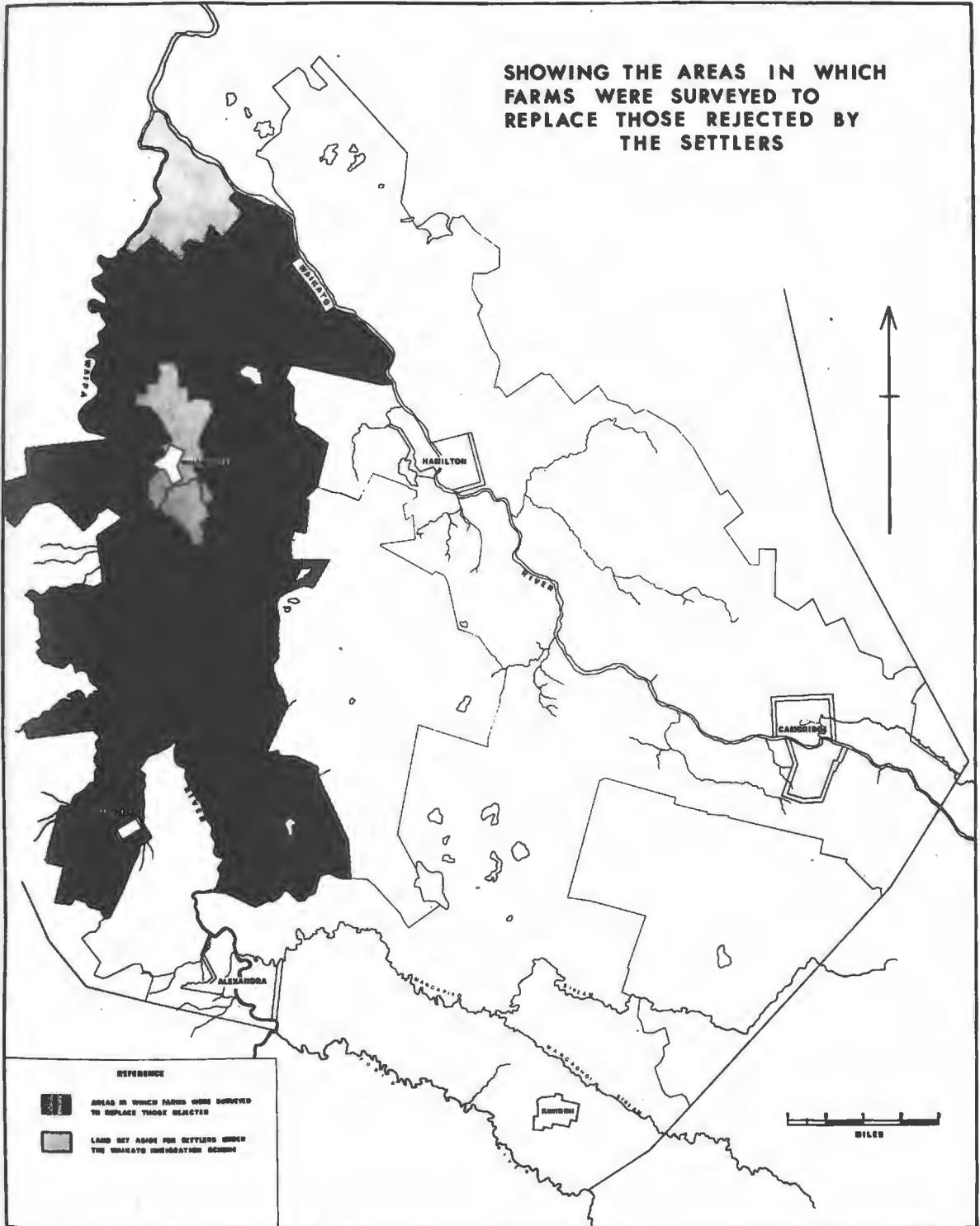
Source: IA 1/231 65/213

Figure V:7 Areas in which fifty-acre farm sections were surveyed to replace those rejected as unsuitable by the military settlers.

Source: IA 1/234 65/3379; AGG-A 65/319, National Archives.

Maps SO 321, 125, 317, 123, 390, 346, 177, 345, 386, 54, 55; Department of Lands and Survey, Hamilton.

SHOWING THE AREAS IN WHICH
FARMS WERE SURVEYED TO
REPLACE THOSE REJECTED BY
THE SETTLERS



outside the original Regiment farm districts, along the east bank of the Waipa River between Ngahinapouri and Whatawhata and between Whatawhata and Ngaruawahia. Farms were also laid out along the west bank of the Waipa River in areas where there were no conflicting Maori claims to the land. These areas were mainly located to the west of Harapepe village on the lower slopes of Pirongia Mountain and in the Kaniwhaniwha valley (26). The map, Figure V:7, shows that these blocks of farm sections extended over a considerable area outside the boundaries of the original Regiment districts. Because of this, an additional reason for rejecting many of the farm sections offered to the settlers, was that of isolation from the military townships and the danger of attack from the Maoris on outlying settlers in these areas. On the west bank of the Waipa River, sections were also rejected because of the steepness of the land on the slopes of Pirongia Mountain and because of the heavy timber cover over much of the area (27).

Continued rejection of many of the sections made available for allocation led to a shortage of land within the original confiscated block to meet obligations to the military settlers. The surveyors stated that:

" .. the whole of the land situated in the triangle between the rivers has been inspected, and but a very small extent of good land remains now unsurveyed. The militia authorities ... require, still, about 600 fifty-acre allotments. On the western side of the Waipa there is a considerable area of good land within the boundaries of the confiscated block but on this there are so many native claims and reserves that but little free scope is left for militia surveys the Block should be extended by varying the northern boundary, and making a line running east from the mouth of the Mangawhara river the northern boundary." (28)

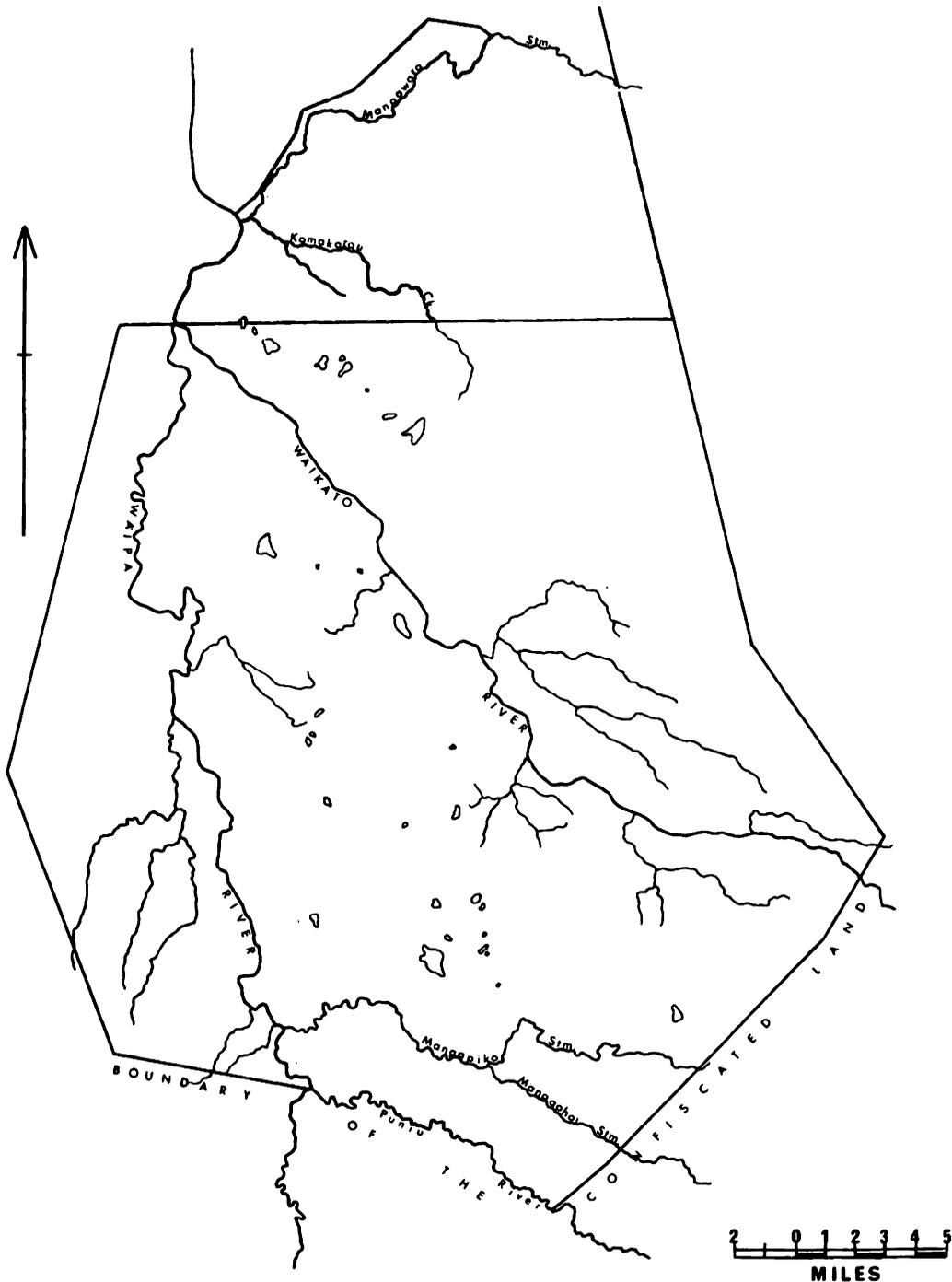
On this recommendation, a block of 577,590 acres was confiscated in September 1865, of which 4,502 acres were set aside for farms

Figure V:8 Land confiscated for military settlement
in September 1865.

Source: AJHR 1865 D - 13.

Map in IA 14/25 65/576,
National Archives.

**LAND CONFISCATED FOR
MILITARY SETTLEMENT
IN SEPTEMBER, 1865**



for military settlers (29). The map, Figure V:8, shows the location of this block of land, which included the area along the Waikato River between Ngaruawahia and Taupiri and extended east from Taupiri along the Mangawara Stream. Blocks of 50-acre farm sections were surveyed along the Mangawara Stream, to the north of the Komakorau Creek, and at Moerangi, near Taupiri. These farm sections were allocated to those settlers of the Third and Fourth Regiments whose original sections in the Regiment farm districts had been rejected as unsuitable for occupation (30).

Comparison of the maps, Figures V:2, V:6 and V:7, reveals the extent to which the original farm districts of the three Regiments were disrupted by the rejection of many of the sections in the districts. Compactness of the Regiment farm districts had been regarded as an essential pre-requisite to the success of military settlement in the Middle Waikato Basin. However, it eventually became necessary to locate many militia farms in areas considerable distances from the townships because of the shortage of land suitable for farms. The problem of the distance of their farm sections from the townships was not the only one that faced settlers in their task of settling the land. Many of the farm sections accepted by the settlers required considerable improvements, particularly in the form of clearing and draining the land, before they became fully productive.

Settling the Land

Taking possession of the land

The scheme of military settlement required that as soon as settlers were placed in possession of their farms, they were to be struck off pay. During the following twelve months, the settlers were to receive a supply of free rations from the Government which was intended to be a 'stop-gap' measure that would prevent the settlers from starving while they developed their land. The supply of rations was to cease after a year, by which time the settlers would have their land under crops and would be

Plate 7. This photo, taken in the early 1870's, shows the head of river navigation on the Waikato River at Cambridge. At this point the Karapiro Stream (foreground), joins the Waikato River. The large natural 'harbour' that was formed as a result was a convenient turning point for river steamers. The bridges shown in the photo were built by settlers who took the place of the militiamen at Cambridge.

Photo : Auckland Public Library Photograph Collection.



able to support and feed themselves and their families from their own land.

Many settlers, however, who were allocated land in the first surveys, had their land rejected as unsuitable for occupation. These settlers, who had had their pay stopped, were not reinstated while they were waiting for new farms to be allocated to them. Consequently, while they were receiving free rations they were unable to begin the development of their land. Many settlers, therefore, faced the prospect of having insufficient land under cultivation, when the year's supply of free rations ceased, to support themselves and their families (31).

The settlers who were fortunate enough to have been placed in possession of farm land that could be developed and cultivated, were faced with a number of problems which made the task of settling the land difficult. Chief among the problems facing the settlers were those of securing the necessary capital for land development, gaining access to the land, high transport costs levied by the river service and the restrictions of military service. Furthermore, the rejection of many farm sections had broken up the compact pattern of settlement which was intended as a guarantee of security to the settler on the land. Many settlers faced the prospect of living an isolated life in areas where the threat of surprise attacks from the Maoris was a reality.

Government Assistance

Most of the military settlers, particularly those in the lower ranks who had been recruited from the goldfields, had little capital of their own to pay for the expenses of developing and cultivating their land (32). What few savings the settlers had been able to accumulate, were usually spent in purchasing food, brought by river steamer from Auckland at very high cost, to supplement the rations received from the Government. Consequently, most of those settlers who had been placed in possession of their lands, depended upon the Government to undertake a programme of public works around the townships. These public works were intended

both to provide a source of employment for cash that would assist settlers to develop their farms, and to provide access from the townships to farm sections which were frequently isolated by deep, unbridged gullies.

The costs of prolonged Maori Wars, however, which had extended to the East Coast of the North Island and to Wanganui, had placed the Government in severe financial difficulties (33). As a result, the Government cut down expenditure on public works in the Middle Waikato Basin to a minimum at a time when it was most required to assist in the successful establishment of the military settlers on their farms (34). The situation that prevailed in the military settlements as a result of the lack of employment available on public works, was reflected in the plight of the settlers at Hamilton. They declared that the Government had assured the settlers:

" that when their active military duties ceased they should be employed upon Public works such as the making of roads and bridges in the settlement and for the want of which many portions of it are uninhabitable One third of your petitioners have been off militia pay this last five months and for the want of remunerative employment are unable to procure seed for their land for the ensuing year " (35)

Military settlers of the Second and Third Regiments were in a similar predicament to those of the Fourth Regiment based at Hamilton. The lack of public works in each settlement deprived the settlers of almost their sole source of employment for cash. Without this cash, they could not afford to buy the seed they needed to plant in preparation for the following year when they would be required to support themselves on the land, without Government assistance.

The most urgent priority of public works in the region was the construction of bridges over those gullies which made many farm areas almost inaccessible from the townships. The Government

permitted the construction of bridges over major gullies around each township and the formation of roads linking the townships. However, the public works that were undertaken did little to solve the problem of access, and the employment that was provided for the settlers as a result, was never adequate:

" ... not a stroke of work was done until the month of June and from that time .. there has never been above thirty men employed at any one time. Some eighteen were sent to a place called Taupiri, they were employed about 6 weeks, their average earnings were from 5 to 6 shillings per day at nine pence a cubic yard, the men were satisfied but did not receive their money until 5 weeks after the work was finished .. others were employed numbering about twelve near Hamilton at the ridiculous price of 4 pence per cubic yard.." (36)

Settlers, in search of employment, were also restricted by the conditions of service in the Military Settlers' Regiments. Although settlers were struck off pay when placed in possession of their land, they remained on active service until they completed their three-year term of duty in the Military Settlers. During that time, no settler could be absent from his settlement for more than one month every year without permission. Failure to comply with this regulation would lead to the forfeiture of the right to a Crown Grant of the town and country lands allocated to a settler. Since permission was not granted readily for prolonged absence from the military settlements, settlers could leave their settlement in search of alternative employment, only at the risk of forfeiting their right to the title of their land. ✓

The risks involved in investing in settlements so close to the frontier with rebel Maoris, discouraged those with capital, who might have provided some employment in the form of contract work, from settling in the Middle Waikato Basin. The only employment available to settlers was occasional work in the sawmills at Ngaruawahia and Hamilton or contract work from those military

settlers who could afford to employ labour to develop their land (37).

The high freight rates charged by the Government River Service were a further problem for those settlers struggling to establish themselves on the land. Rates were so high that most settlers could not afford to import seeds and equipment needed to develop and cultivate their land. The high freight rates were also a positive disincentive for settlers to undertake commercial cereal or food crop production for the Auckland market. Settlers were discouraged from exporting to Auckland what little surplus produce was available for sale, since freight rates usually exceeded the return that could be expected from such sales (38).

Most settlers were able to save some cash from employment on public works or from contract work. Most of this cash, however, was spent on supplementing the free rations received from the Government, since there was:

"no man with a family of 2 children, whose rations last them more than a fortnight out of the month's supply so that the greatest privations exist among many families." (39)

The freight charges of the Government River Service were so high as to make it almost impossible for settlers to obtain potatoes or other supplementary supplies in sufficient quantities from Auckland (40).

To these problems that faced the settlers in settling the land, was added the fear of the rebel Maoris living in close proximity to the military settlements.

Protection for the Settlers

The success of the scheme of military settlement was to be based upon the guarantee that it could give, to those settling the land, protection of life and property against attacks from rebel Maoris. This guarantee depended upon the settlement of a large number of armed settlers on farms in close proximity to each

Plate 8. This early photo of the Ngaruawahia River Station shows the type of river transport used on the Waikato River. Paddle steamers towed barges, loaded with supplies for the military settlements, from Port Waikato to Ngaruawahia and then up the Waikato River to Cambridge, or up the Waipa River to Alexandra. Occasional stands of kahikatea bush, such as the stand shown in the photo, broke up the monotony of the landscape.

Photo : Auckland Public Library Photograph Collection.



other and to military townships at which garrisons would be based.

When farms were eventually allocated to settlers, this guarantee of protection had been substantially modified as a result of extensive rejection of farms offered for allocation to the settlers, and the survey of 50-acre farms outside the boundaries of the original military settlements of the Second, Third and Fourth Waikato Regiments. Many of the farms allocated to the settlers were isolated from the military townships and redoubts by swamps and deep gullies, often at distances of up to five miles. Settlers, therefore, faced the prospect of establishing farms in areas removed from the immediate protection of the townships.

The feeling amongst the settlers, of isolation and vulnerability to attack was increased when, just as the first settlers were being located on their farms, early in 1865, the Government proceeded to reduce the garrisons stationed at the townships and to transfer militiamen to other regions of conflict with the Maoris. These reductions left the settlers in great alarm and fear of attack from the Maoris (41). Those settlers who were able to do so, were reluctant to occupy their farm sections. It was questioned whether it would be:

"safe and right for a man to work on his farm
six or nine miles distant from the Redoubt ?
Where would be his security for his life and
property ?" (42)

While the military settlements remained at full strength, such reductions in the garrisons did not directly threaten the security of the settlers. However, this action on the part of the Government did undermine confidence in the settlements and was partly responsible for a steady rate of desertion from the settlements. Discouraged by the slowness of the land surveys, the problems of land development, the lack of supplementary employment in the settlements, high freight rates and the reduction of town garrisons, many settlers deserted for other regions with

better prospects, in particular, the goldfields of the South Island (43). The figures included in Table V:3, indicate how rapidly the strength of the Second, Third and Fourth Waikato Regiments was reduced through desertion. From January 1865, when the strength of the Regiments stood at 2,736 officers and men, the numbers dropped to 1,018 officers and men by December 1865. The rate of desertion itself provided problems in that large areas of farm land were abandoned and this increased the difficulties of those who still remained and were attempting to farm the land. The costs of land development, such as those of swamp drainage, the formation of roads and the construction of bridges, had to be borne by an increasingly small number of settlers.

Other settlers arranged substitutes who took their place in the settlements, assuming their militia duties and taking over their land. The substitutes brought some capital and farming experience into the settlements but their arrival did not balance the numbers of settlers leaving the Middle Waikato Basin (44). Most of the original military settlers were unable to cope with the problems that faced them in settling and developing the land and they chose to leave, either when they were forced to do so with the cessation of free rations, or when they had completed three years' service in the Military Settlers and were able to sell their town and country lands for what they could obtain.

Cessation of rations and Crown grants

The issue of free rations to the settlers was suspended in March 1866, one year after most of the settlers had been placed in possession of their farm sections. Without funds to buy supplies when the free rations ceased and without employment, many settlers chose to leave. The problems facing the military settlers who remained, were further increased during 1866 by the action of the Government in reducing the garrisons stationed in the townships of Hamilton, Cambridge and Alexandra to a minimum, thereby increasing

TABLE V:3

Return showing the monthly strength of the Second, Third and Fourth Waikato Regiments and the Forest Rangers for 1865

Month	Field Officers	Captains	Subalterns	Staff	Sergeants	Rank and File
January	7	23	58	16	132	2,500
February	6	23	56	15	135	2,459
(a. March	8	22	59	15	137	2,509
(b. April	8	19	49	15	120	1,817
May	6	17	44	13	102	1,620
June	7	16	44	13	101	1,562
July	7	18	44	14	90	1,435
August	7	17	41	14	88	1,319
September	6	14	33	13	70	1,131
October	6	14	31	13	71	1,146
November	4	12	27	13	65	1,047
December	4	12	25	12	54	911

TABLE V:4

Return showing the monthly strength of the Second, Third and Fourth Regiments and the Forest Rangers from January to June, 1866

Month	Field Officers	Captains	Subalterns	Staff	Sergeants	Rank and File
January	4	11	24	12	55	794
February	2	9	18	10	54	695
March	1	8	17	8	49	660
April	1	5	16	8	40	523
May	1	4	13	8	24	370
June	1	5	11	8	11	273

Source: AJHR 1866; A - 14

(a. Forest Rangers included in military settlers

(b. First month of location of military settlers on the land

the isolation and vulnerability of the settlements. At the same time, an economic depression in Auckland, resulting from the withdrawal of Imperial troops and the transfer of the capital from Auckland to Wellington, led to a severe economic recession in the military settlements and to the virtual cessation of public works in the Middle Waikato Basin (45).

Table V:4 shows the rate of decrease in the numbers of military settlers of the Second, Third and Fourth Waikato Regiments during the first six months of 1866. Between January 1866 and June 1866 the strength of the three Regiments was reduced from 900 officers and men to 309 officers and men. As a result, the smaller settlements in the region, in particular, Kihikihi, Harapepe and Whatawhata, virtually ceased to exist.

The exodus of military settlers from the region continued when crown grants of town and country lands were given to those settlers who had remained to complete their term of service. The three years of service for most military settlers came to an end in August 1866 and many of the settlers who received the titles to their land chose to sell them for what they could obtain and leave the region. The military settlers were replaced by settlers with more capital at their disposal to develop the land and, frequently, more experience in the problems of developing the land for farming (46).

The Changing Landscape of the Middle Waikato Basin

Clearing and Farming the Land

Changes in the landscape of the Middle Waikato Basin took place as military settlers were allocated their farm sections and commenced the task of settling the land. In clearing and farming the land, many of the military settlers lacked experience in techniques of pioneer farming, for, most of them had been recruited from the goldfields of Australia and the South Island. This lack of experience was a major factor in inducing many settlers to leave the military settlements when faced with

Plate 9. Most of the early road formation in the Middle Waikato Basin was carried out by the military settlers. Road cuttings, such as the cutting shown in this photo, were excavated by hand and the soil removed by horse and cart. Small gullies were bridged and large depressions filled in with fascines or bundles of manuka stakes. Soil was then laid over the manuka stakes.

Photo: Alexander Turnbull Library, Wellington.



problems of land development which they had neither the financial resources nor the technical knowledge to solve.

Much of the early land development was concentrated on draining the swampy ground. In many areas the swamp was easily drained simply by digging drains from the swamp to the nearest gully:

"deep gullies intersect the dry land ... and extend not only towards, but actually into the swamps, but without actually draining them. This peculiar circumstance is owing .. to the existence of dams which the natives have put across the outlets of the swamps in order to preserve eels. In other cases the outlets are choked by an accumulation of decayed vegetation. Obstructions of this character could easily be removed by cutting main drains in continuation of the natural hollows or gullies .." (47)

To drain sections a method of ditching and banking was adopted. This became the common method of both fencing and draining allotments since timber was scarce and expensive in the region and prevented the erection of the post-and-rail fences common in other parts of the North Island during the 1860's. Ditches, about three feet deep, were dug through wet land and the earth banked up alongside to form a three to four foot high bank. To make the bank more effective as a fence, a hawthorn hedge was usually grown along the top. This method of fencing, although cheap, demanded large areas of land and constant maintenance (48).

Most of the land on which the sections were laid out was covered with thick manuka scrub and fern, intersected by lines of swamp. The manuka was usually cleared by burning and the ash provided natural fertiliser for the soil. Stumps were grubbed out and burned in preparation for ploughing the land. Militiamen usually lived initially in a tent on their farms but later erected a more permanent raupo whare for a home consisting of a manuka frame, lined with raupo and roofed with nikau palm or toe toe, with an earth floor. Around the whare, a garden for vegetables was usually established, potatoes being the main food of the settlers.

The garden was fenced with manuka stakes driven into the ground and bound at the top with flax or raupo (49).

Many military settlers were concerned only with growing sufficient food to meet the needs of themselves and their families. However, those settlers with sufficient capital and land, usually the militia officers, sowed their land in pasture grasses and grazed cattle and sheep for sale on the Auckland market (50). The land that was cleared and farmed was largely concentrated in small areas, close to the townships and villages, which were easily accessible. Around the townships, manuka was cleared away and burned, crops sown and pastures for cattle and sheep established. To relieve the monotony of the flat, fern-covered landscape, exotic trees were planted along river terraces in the townships and along farm boundaries to provide shelter and extra wood.

Adjusting the patterns of circulation

Despite the small expenditure on public works in each Regiment district, the beginnings of a pattern of circulation by land were formed by the military settlers, as shown on the map, Figure V:9.

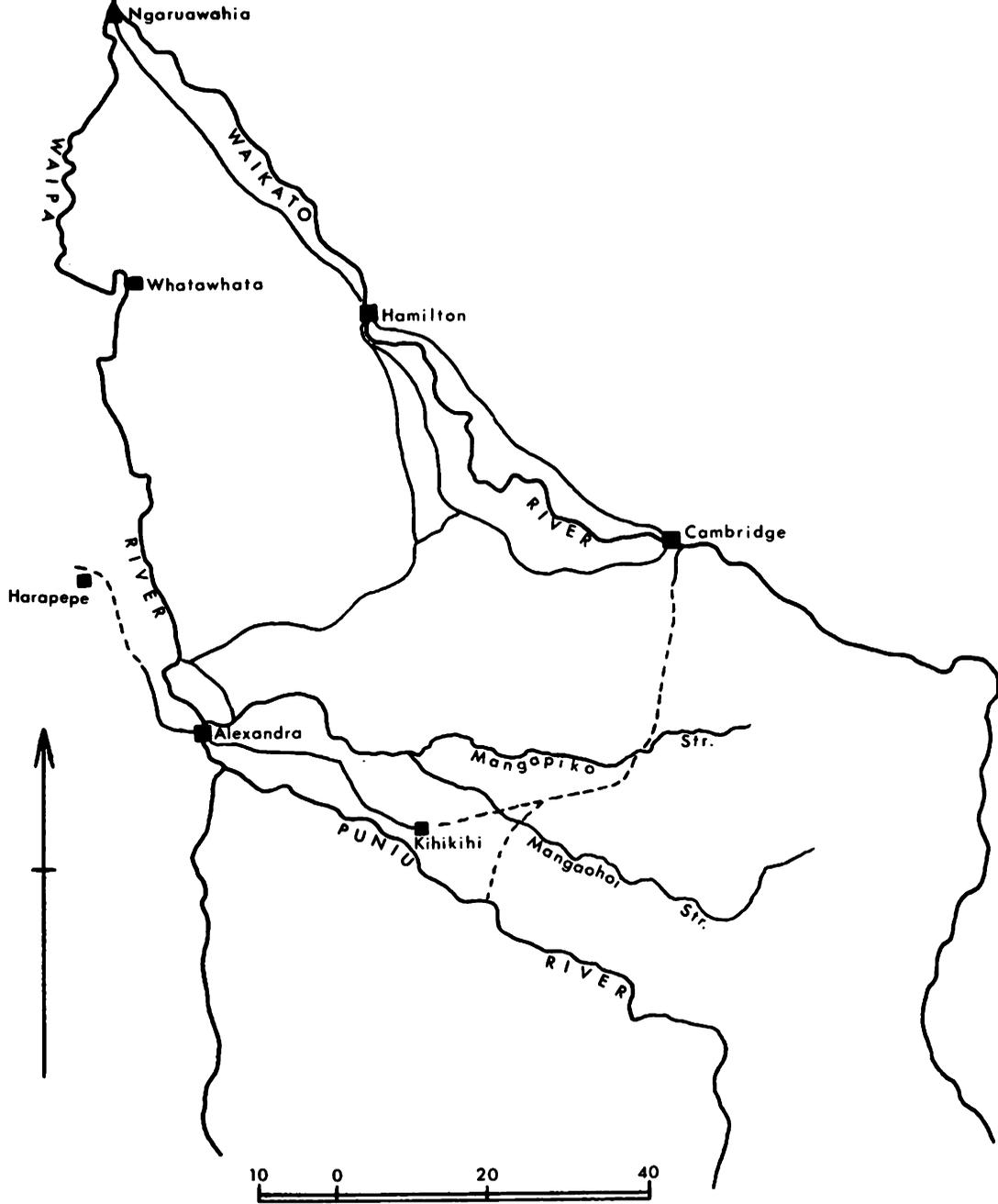
Gullies were the main barriers to easy travel by land along the rivers and across the delta and work was concentrated on building bridges over the main gullies around each township. A bridge was constructed over the gully of the Waitawhiriwhiri Stream to the north of Hamilton West and two other gullies between Hamilton and Ngaruawahia were also bridged. To the south of Hamilton, bridges were built over Walker's Gully on the west bank of the Waikato River and at Tamahere on the east bank. In the upper Waipa district, bridges were constructed over the Mangaohoi Stream at Te Awamutu and over the Mangapiko Stream at Alexandra (51). Bridge construction was not easy. The gullies were 50 to 100 feet in depth and with very steep sides. To enable horses and carts to cross the gullies, very large road cuttings in the gully banks had to be excavated by hand (52).

Figure V:9 Roads formed or partly formed by the
military settlers.

Source: AJHR 1871 D - No.1.

Sketch map of the Waikato District,
1870; held in Alexander Turnbull
Library, Wellington.

ROADS FORMED OR PARTIALLY
FORMED BY THE MILITARY
SETTLERS



The bridging of the two main rivers, the Waikato and the Waipa, was beyond the resources of the settlers and punts continued to be relied upon for river-crossings at Alexandra, Cambridge, Hamilton and Ngaruawahia.

Once bridges were constructed over the major gullies, roads were formed linking the townships of Hamilton and Cambridge along the east bank and Hamilton and Ngaruawahia along the west bank of the Waikato River. Hamilton and Cambridge were also linked with Alexandra and Te Awamutu by a road formed along low ridges separating the Rukuhia and Moanatuatua Swamps. The road from Cambridge was formed along the west bank of the Waikato River, crossing over Walker's Gully to Ohaupo where it joined the road from Hamilton. A road was also formed, linking Alexandra with Rangiawhia and Kihikihi.

Formation of the roads was not difficult in most areas, since the roadlines were formed along dry, sandy ridges. Where the roads passed over swamp, however, construction was slow and tedious. The road was 'corduroyed' with large logs, the cutting, hauling by bullock team and laying of which entailed considerable work. Fascines, or bundles of manuka stakes, were laid on top and were covered with gravel or earth dug out by hand. Earth for road construction was provided by digging ditches alongside the road which also helped to drain the adjacent swampy ground (53).

In the pattern of circulation in the Middle Waikato Basin, the river transport service remained the most important means of transport and communication providing links between the settlements and between the region and Auckland. Few improvements were, however, made in the service which was both extremely expensive and slow. The average journey of a steamer from Port Waikato to Ngaruawahia and then either up the Waikato River to Cambridge, or up the Waipa River to Alexandra, took between four and five days (54). The expense and inefficiency of the river

Plate 10. This photo of the Rangiawhia district taken during the 1880's is included to show the nature of the landscape changes that took place following the period of military settlement. The major change was in the construction of post-and-rail fences to replace the earlier ditch and bank fences. The hawthorn hedge, first used by the military settlers, remained popular. The monotony of the landscape was broken by planting exotic trees which also provided additional shelter and a source of wood.

Photo : Auckland Public Library Photograph Collection.



5455 - Camp S. W. of ...

service formed the basis of many of the difficulties faced by the military settlers in developing the land. /

The Failure of Military Settlement

The success of the scheme of military settlement in the Middle Waikato Basin depended on the establishment of viable, prosperous agricultural settlements which would require little support from the Government and which would, by virtue of their success, attract other settlers to the region. The Government intended that this would be achieved in the second phase of military settlement by the formation of compact farm districts around each township. Military settlers would be allocated farms within these districts and would supply produce to the townships and to Auckland. A number of factors, however, contributed to the failure of the settlers to establish themselves successfully on the farms allocated to them.

The nature of the land allocated to settlers for farms was an important factor. Much of the land was unsuitable for militia farms since it consisted largely of swamp or was difficult of access. Many of the problems of land development, in particular those of swamp and access, might have been overcome by settlers who had capital available and experience in pioneering the land. Most military settlers, however, had neither capital nor experience since they were recruited from the goldfields and had spent most of their savings in getting to the Middle Waikato Basin. Meagre pay, the high cost of living in the settlements and the lack of supplementary employment for cash, prevented settlers from accumulating sufficient savings with which to pay for seed and equipment necessary for land development.

Apart from the problems of land development, economic factors also contributed to the failure of many settlers to establish themselves successfully on their farms. Of particular importance, were the high freight rates charged by the River

Transport Service which both made it impossible for settlers to import supplies from Auckland and removed the incentive for settlers to export produce to the Auckland market. The farms allocated to the lower ranks in the Military Settlers were of an uneconomic size even at this time. It was originally envisaged that the settlers would concentrate on the cultivation of cereal crops for sale on the Auckland market, as the Maoris had done during the 1850's. However, prices paid for cereal crops fell during the 1860's and there was a switch in emphasis to sheep and cattle grazing. Fifty-acre to 80-acre holdings were too small for this type of farming.

Fear of the rebel Maoris, located in close proximity to the military settlements, was an important factor limiting the development of the settlements. Lack of sufficient land suitable for farming in the farm districts, led to many militia farms being located in isolated areas considerable distances from the townships. With continued reductions in the garrisons stationed at the townships, few settlers were prepared to accept the dangers of settling on isolated farms, far from the comparative safety of the townships.

Left to fend for themselves in a region surrounded by hostile Maori tribes and on land which was, at best, only marginally productive, and without the means to develop it, most military settlers chose to abandon their subsistence existence and leave the Middle Waikato Basin. The pattern of settlement, established during the military settlement of the region, survived the departure of the military settlers, however, and persisted as an integral part of the landscape of the Middle Waikato Basin.

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VI. MILITARY SETTLEMENT IN THE MIDDLE WAIKATO BASIN

To conclude, the scheme of military settlement will be considered in retrospect in terms of its failure as a method of organized colonization. Military settlement in the Middle Waikato Basin represented an important phase of transition in the landscape of the region, for the original pattern of Maori occupance was replaced by that of European military settlers. Although the scheme of military settlement as a method of colonization largely failed, the pattern of organization of the militiamen on the land persisted, and forms the basis of the present pattern of settlement in the Middle Waikato Basin.

Military settlement in retrospect

The colonization of new lands was a complex process and took many forms depending upon the nature of the obstacles facing the settlers in their task of colonization. The task of colonization was never easy in any region. The settler had to be skilled in the techniques of pioneer land development and had to be prepared to accept the hazards that went with a pioneer's life. Frequently, the task of pioneering in frontier districts was the task of the individual, working by himself and relying upon his own resources to develop the land.

During the 1860's however, the process of colonization in the North Island was brought to a halt along many fronts by the increasing hostility of the Maoris toward continued and growing European encroachment upon their tribal lands. Open conflict between the settlers and the Maoris greatly increased the hazards of pioneering. In regions located around the main areas of Maori population, the Middle Waikato Basin and Taranaki for example, the movement of settlers inland from the coast was actually reversed as settlers sought the protection of established coastal towns, such as Auckland. To maintain the progress of colonization in the North Island, the Government devised a scheme of military

settlement, by which means it was intended to settle large groups of armed settlers in regions troubled by Maori unrest. These settlers were to be organized into compact military settlements within which they would be allocated farms in recompense for three years' service in the militia.

The scheme of military settlement, as it was applied to the settlement of the Middle Waikato Basin following the 1863-1864 Waikato War, was distinctive in its method of organizing the settlers on the land. The militiamen were initially settled in military townships located strategically to form a bulwark of defence against the rebel Maoris to the south. Around each township, farms were surveyed and allocated to the militiamen. The military townships, themselves, were merely armed garrisons of militiamen, holding the land in the Middle Waikato Basin to prevent the rebel Maoris from re-occupying the region. The establishment of prosperous, self-sufficient settlements depended upon the success of the militiamen in establishing themselves upon the farms that they were allocated.

The success of military settlement in the Middle Waikato Basin largely depended upon the settlers being allocated the right kind of land, in the right amount, and in the right location. The requirements of the militiamen, then, did not differ greatly from those of settlers in other regions. However, the individual pioneer, colonizing the land on his own resources and initiative, was able to consider the problems he might face and select the land that could be most easily developed.

Schemes of organized colonization, frequently, did not allow the settlers who participated, similar flexibility in choice of land. The scheme of military settlement required that all militia farms be surveyed in close proximity to the military townships in order to avoid placing settlers in isolated areas that would invite attack from the Maoris. In the first surveys

of militia farms around the townships, the farm districts were kept compact and in close proximity to the townships. This, however, was achieved only at the expense of the quality of the farm land. Eventually, there was insufficient land of good quality around the townships and militia farms had to be surveyed in isolated areas, often at a considerable distance from the original military settlements. The scheme of military settlement was too rigid to be adaptable. It was not able to restrict settlement to the land immediately round the townships and when the surveys were extended beyond the original militia farm districts, it was not able to continue to provide protection for the settlers. This lack of flexibility in the scheme greatly added to the difficulties the militiamen faced in their task of establishing themselves on the land.

The second phase of military settlement in the Middle Waikato Basin failed largely because most militiamen were allocated land that was not suitable for development in terms of quality, quantity or location. Initially, settlers rejected many of the sections allocated to them as unsuitable for development, usually because of the swampy nature or because access to the land was difficult. The scheme's requirement that farm sections be kept as close together as possible, and the large number of farm sections needed for the settlers, eventually resulted in many settlers receiving farms that were entirely unsuitable. Many of the sections were at least part swamp and often difficult of access from the townships. Before the land could be farmed it often required drainage and the application of fertilisers. Most of the military settlers, however, lacked sufficient capital to finance the developments required. This problem was aggravated by the high cost of living in the military settlements which made it difficult for most settlers to save to pay for the costs of land development. Furthermore, most of the militiamen were recruited from the goldfields and lacked previous experience of

pioneering and its hardships. Few had any knowledge of the techniques of pioneer farming.

The quantity of the land allocated to the militiamen for farms was generally insufficient to enable a settler to support himself and his family on the land the year round, particularly when, in winter, at least half of a farm section might be under water. The lower ranks, who comprised the greater part of the Waikato military settlers, were allocated farm sections ranging in size from 50 acres to 80 acres. It was confidently expected that settlers would be capable of supporting themselves and their families from their sections and at the same time cultivate sufficient cereal grains for export to the Auckland market. Much of the land was not sufficiently fertile to support intensive cultivation without substantial inputs of fertiliser which most settlers could not afford. In addition, the settlers relied for transport upon a highly expensive river service. Prices offered for farm produce by the Auckland market were too low to balance the high freight rates charged settlers for the export of their produce to Auckland. The grazing of cattle and sheep proved to be the only profitable farming activity in the Middle Waikato Basin. However, farm sections of 50 to 80 acres were too small for the grazing of cattle and many militiamen did not possess the capital with which to buy cattle or to clear the land and establish pasture grasses.

The third and, possibly, the most important requirement for the successful establishment of the military settlers on the land, was the availability of land in the right location. Military settlement in the Middle Waikato Basin could only succeed if the settlers were kept together in compact settlements to provide self-protection and an effective bulwark of defensive settlements along the southern frontier of the region. During the second phase of military settlement, however, this compact pattern was not maintained. Surveyors found it impossible to provide sufficient farms of even reasonable quality for all militiamen in close proximity

to the townships. As a result, many militia farms were eventually surveyed many miles away from the townships where their Regiments were based. Access to the land was, furthermore, very difficult in many areas because few roads were formed by the military settlers and most of the deep gullies, that made travel so difficult by land within the region, remained unbridged. As a result, communication between settlements depended upon river transport. The expense of travel by river steamer considerably limited the pattern of circulation within the region.

Twelve months after being allocated their land, the military settlers had their rations cut off by the Government. Most were unable to find alternative employment in the settlements and were forced to leave or face starvation. The departure of large numbers of military settlers from the settlements, together with a reduction in the garrisons stationed at the townships, weakened the guarantee to the settlers of security for their life and property. Without this guarantee, few of the settlers who remained were prepared to leave the townships and settle on their farms, and few settlers were attracted to the region to take the place of those who left.

Military settlement in the Middle Waikato Basin did not succeed as a method of colonization. The scheme failed to foresee the problems that would be met in applying the theory of military settlement to the practical situation. It was impossible to maintain a compact pattern of military settlements. The scheme of military settlement did not provide sufficient support for the militiamen in their task of settling and developing the land. The settlers who took part in the military settlement of the region were not hardy pioneers used to the problems and hardships of living from the land. Few were willing or able to live a subsistence existence on small holdings that were often isolated and were always within close proximity to rebel Maoris known for their hostility toward the military settlements.

The Pattern of Military Settlement

Military settlement in the Middle Waikato Basin resulted in few radical changes in the natural setting of the region. Few of the military settlers moved far beyond the margins of the townships where their Regiments were based. The land they cleared and cultivated was, therefore, concentrated in close proximity to the townships, and only in these areas was the dominant vegetation cover of low manuka scrub and fern radically modified by cutting and burning. In planting their crops the settlers made few modifications to the soil. They tended to plant on areas of Maori-modified soils, which were known to be of reasonable fertility, and the ashes of the manuka scrub provided natural fertiliser. The planting of exotic trees around the townships was the only other major modification made by the military settlers to the natural setting of the Middle Waikato Basin.

Colonization implies more than changes in the natural setting. It also involves the spread of a new population over the land and the imposition of a new pattern of human occupation in the region. Following the 1863 - 1864 Waikato War, the original occupants of the Middle Waikato Basin, the Maoris, were replaced by armed European settlers who moved south from Auckland. A scheme of military settlement was devised and the armed settlers organised into compact military settlements in the region. Although the scheme failed to establish large groups of armed settlers on the land, it did form a distinctive pattern of settlement. The conditions which had initially made military settlement in the region necessary, eventually became unimportant; the fear of rebel Maoris no longer acted as a constraint upon the spread of settlement. The pattern of settlement established under the scheme, however, the townships and the farm districts of fifty-acre sections, have remained as an integral part of the present pattern of settlement. The persistence of this pattern of military

settlement is due, in part, to the original aim of the Government in devising the scheme, to establish permanent settlements which would meet not only the immediate problems but would also provide a basis for European settlement in the future.

The present pattern of settlement in the Middle Waikato Basin is shown on the four NZMS 177 Cadastral maps (N56, N65, N66 and N74), included in a pocket at the back of the thesis. These maps show the extent to which the pattern of organisation, established during the military settlement of the region, forms the basis of the present settlement pattern. The Cadastral maps show the importance in this pattern of the original military townships. They show too, the influence in the present rural pattern of settlement, of the 50-acre sub-divisions surveyed for the military settlers.

Aerial photographs are included in this chapter to show the present form of the four townships, Pirongia (Alexandra), Kihikihi, Cambridge and Hamilton, originally established as nodal points for the military settlements.

The settlement of Pirongia (Plate 14), occupies the site of the original township of Alexandra, that was intended as the major nodal point for the district of the Second Regiment, the upper Waipa district. Alexandra was established at the head of river navigation on the Waipa River, on what the military planners considered would be the logical site for the future development of an important settlement. It would act as a collecting centre for the produce from the surrounding farm district, and as a point of disembarkation for travellers heading south. However, changes in the pattern of circulation in the Middle Waikato Basin, with the construction of a railway from Auckland to Te Awamutu by the 1880's, resulted in Te Awamutu becoming the centre for the upper Waipa district. The settlement of Pirongia now occupies only a few town blocks of the original township, on the eastern bank of the Waipa River.

Plate 11. An aerial photograph of Pirongia (Alexandra).

Scale: 55 chains to the inch.

Photo : Department of Lands and Survey;
Aerial Photo 2621/14.



Plate 12. An aerial photograph of Kihikihi.

Scale: 55 chains to the inch.

Photo : Department of Lands and Survey;
Aerial Photo 2622/18.



The present township of Kihikihi, originally surveyed for the militiamen of the Second Regiment, remains largely unchanged in form. The similarities in form between the present township and the original plan of Kihikihi can be seen by comparing the aerial photograph, Plate 12, with the map, Figure IV:3.

Cambridge, also, remains closely similar in form to its original township, surveyed for the Third Regiment. The main features of the present township, which are obvious from the aerial photograph, Plate 13, are the rectangular pattern of town blocks and the town belt of permanent reserves, laid out in 5-acre sections around the margins of the township.

Of the four townships established for the military settlers of the Second, Third and Fourth Regiments, only Hamilton, the original nodal point for the military settlement of the Fourth Regiment, has grown beyond the limits of the original township. The belt of reserves that originally formed the boundary of Hamilton East and Hamilton West, now separates the original township from those areas of the city of more recent development. The rectangular pattern of town blocks of the original township is most apparent on the east bank of the Waikato River. On this bank, the configuration of the site permitted such a pattern to be laid out more readily than on the west bank, where the original township was confined to a narrow strip of land along the river. The planned, rectangular lay out of the original township of Hamilton East and Hamilton West contrasts with the pattern of those areas of more recent development in the city (Plate 14).

Only one of the main townships in the present pattern of settlement in the Middle Waikato Basin, Te Awamutu, was established after the military settlement of the region. Consequently, it exhibits differences in form to those townships laid out on the basic pattern required by the scheme of military settlement. Unlike the other townships, Te Awamutu has no well-defined boundaries or an established lay out within which growth of the

Plate 13. An aerial photograph of Cambridge.

Scale: 84 chains to the inch.

Photo : Department of Lands and Survey;
Aerial Photo 5057/16, N66/4/A.



Plate 14. An aerial photograph of Hamilton.

Scale: 84 chains to the inch.

Photo : Department of Lands and Survey;
Aerial Photo 5056/11, N65/2/C.



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town could take place. The town of Te Awamutu sprawls along the roads which lead into the town centre. The townships established as part of the scheme of military settlement, on the other hand, exhibit basic similarities in form which contrast with that of Te Awamutu. In particular, the basic similarity in form lies in the compact, rectangular pattern of each township and, with the exception of Kihikihi, the delimitation of the boundary of the township by a town belt of reserves (Plate 12; Cadastral maps N65 and N74).

While the townships of Pirongia, Kihikihi, Cambridge and Hamilton formed the major nodal points in the scheme of military settlement, the line of defensive settlements was supplemented by the establishment of subsidiary settlements. These were similar in form to the larger townships, and were located to the north of the settlements established for the Second Regiment in the upper Waipa district. In the present pattern of settlement, the village of Harapepe no longer exists, although its position is recorded on the Cadastral map N65. It was established in an isolated position on the slopes of Mount Pirongia to provide protection for settlers on land along, or in close proximity to, the west bank of the Waipa River. The need for such a settlement quickly passed and the village of Harapepe was abandoned. The other subsidiary village, Whatawhata, still exists. This is largely because of its location on the Waipa River and on the road linking Hamilton with Raglan Harbour on the West Coast.

In the present pattern of settlement in the Middle Waikato Basin, therefore, the townships and villages established as nodal points for the military settlements, remain significant. Their importance as present nodal points in the settlement pattern varies considerably, however, and this has effected the development of each township.

In the Middle Waikato Basin, particularly along both banks of the Waipa River and along the Waikato River between Hamilton and Cambridge, the present pattern of rural settlement is based upon the fifty-acre farm surveys carried out as part of the scheme of military settlement (Cadastral Map N65). In many areas close to the townships of Pirongia, Kihikihi, Cambridge and Hamilton, the rejection of many of the sections surveyed for the militiamen, resulted in the compact pattern of 50-acre sections being broken up by the 'clubbing-together' of those portions of sections suitable for occupation. As a result, as the Cadastral map N65 shows, in some areas that were included in the original farm districts of the military settlements, there are few remnants of the 50-acre sections. In the present pattern of rural settlement, the 50-acre subdivisions have remained intact in those areas, particularly along the Waipa River to the north of Pirongia, in which farms were surveyed to replace those rejected as unsuitable for occupation.

In the scheme of military settlement, the 50-acre section was used as the basic sub-division unit in surveying the land in order to keep the pattern of rural settlement as compact as possible and to make easier the provision of access to each farm. The 50-acre section by itself was an uneconomic unit for farming, as many of the military settlers discovered, and most present farms are amalgamations of the fifty-acre units.

The persistence of the compact pattern of 50-acre units in many areas of the Middle Waikato Basin is due largely to the concern of the early surveyors to provide, in the farm surveys, not only for the immediate requirements of the military settlers, but also for the settlement and development of the land in the future. The surveyors laid out 50-acre units in blocks of 10 to 20 units to ensure that relatively easy access was provided to all farms. The surveyors were also careful to lay out roadlines

where roads could most easily be formed and over gullies at points where bridges could most easily be constructed.

The scheme of military settlement failed in its application to successfully establish large groups of armed settlers on the land confiscated from the Maoris in the Middle Waikato Basin, following the 1863 - 1864 Waikato War. Discouraged by the conditions with which they were faced in the military settlements, many militiamen deserted the settlements. Others sold their town and farm lands for what they could obtain when they completed their three-year term of duty, and left the region for other parts of New Zealand where the prospects for settlement were more encouraging. As the earliest phase in the European occupation of the Middle Waikato Basin, however, military settlement does have significance in relation to the present pattern of settlement of the region. While the need for defensive military settlements eventually disappeared, the pattern of organisation imposed on the land during the military settlement of the region remained. It now forms the basis for the present pattern of settlement in the Middle Waikato Basin.

APPENDIX

Military Settlers

Conditions upon which land in the Northern Island of New Zealand will be granted to settlers willing to perform the after-mentioned military services.

(1) No man above the age of 40 years will be accepted, and every applicant will be subject to an examination by an officer appointed by the Governor, and must produce such certificates of good character, health, and general fitness for the service.

(2) Each accepted applicant, if not already in the Northern Island will be provided with a free passage to a port to be designated by an agent of the Governor. Before embarkation he will be required to sign a declaration and agreement to the effect that he understands and will be bound by and fulfil these conditions.

(3) On arrival the men will be enrolled in the Militia for service in the Northern Island of the Colony and formed into companies, constituted as nearly as follows:- 1 Captain, 1 subaltern, 5 sergeants, 5 corporals, and 100 privates.

(4) Each man, according to his rank, will be entitled to pay, rations, and allowances until he is authorised by the Government to take possession of his land, when he will be relieved from actual service.

(5) Settlements will be surveyed and marked out at the expense of the Government in such localities in the Northern Island as the Government may select for the purpose.

(6) Each settlement shall comprise of not less than 100 town allotments and 100 farm sections.

(7) A stockade on the most eligible site in each settlement will be erected at the expense of the Government.

(8) A town will be laid out around or as near as conveniently may be to a stockade in one-acre allotments.

(9) Farms will be laid out around or as near as conveniently may be to the town. The size of the farm section allotted to each will be according to his rank in the Militia:-

For a Field Officer	.....	400 acres
Captain	.....	300
Surgeon	.....	250
Subaltern	.....	200
Sergeant	.....	80
Corporal	.....	60
Private	.....	50

(10) Every settler, under these conditions, who, upon being relieved from actual service, receives a certificate of good conduct, will be entitled to one town allotment and one farm section.

(11) Priority of choice for each rank will be determined by lot.

(12) After taking possession he will be entitled to receive rations free of cost for twelve months, upon the same scale as supplied to Her Majesty's troops. He will be allowed to retain possession, as a Militiaman, of his arms and accoutrements, and he will be supplied with ammunition for use, according to Military regulations.

(13) No settler, after taking possession, will be permitted during the first three years after his enrolment in the Militia, to absent himself from his settlement for more than one calendar month in any one year without the leave of the Governor first obtained.

(14) During such three years he will be liable to be trained and exercised as other Militiamen; and whenever a portion only of the Militia shall be called out for actual service, each settler will be deemed a Volunteer Militiaman and will be required to serve as such anywhere that may be required in the Northern Island of the Colony. During such service he will be entitled to the same pay, rations and allowances as other Militiamen.

(15) On the expiration of three years from his enrolment, each settler having fulfilled the conditions, but not otherwise, will be entitled to a Crown Grant of the town allotment and farm section allotted to him, and will thenceforth be subject only to the same Militia service as other colonists.

(16) Any settler will be permitted to dispose of his land to any person approved of by the Government, and such person undertaking to be subject to the same liabilities will be entitled to the same privileges as the settler whose place he takes.

(17) In case of death of any settler before he shall have become entitled to his Crown Grant, the land to which he is entitled will be granted to his wife and children, or to such other person as he shall by writing appoint - or it may be taken for the location of another settler under these conditions, or for any other purpose; but the value thereof, in such latter case, will be determined by valuation, and the amount paid by the Government to the settler's widow or children, or other person appointed as aforesaid: The pay of the Militia and Volunteers serving in New Zealand, with rations and other allowances, is as follows:-

		s	d	
Captains	.....	11.	7.	a day
Lieutenants	.....	6.	6.	
Ensigns	.....	5.	3.	
Sergeants	.....	3.	6.	
Corporals	3.	0.	
Privates	2.	6.	

Source: New Zealand Government Gazette 5 August 1863

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G. Maps

The sources consulted in compiling the maps included in the thesis are listed on the facing pages of the maps. The maps and records consulted are located in:

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