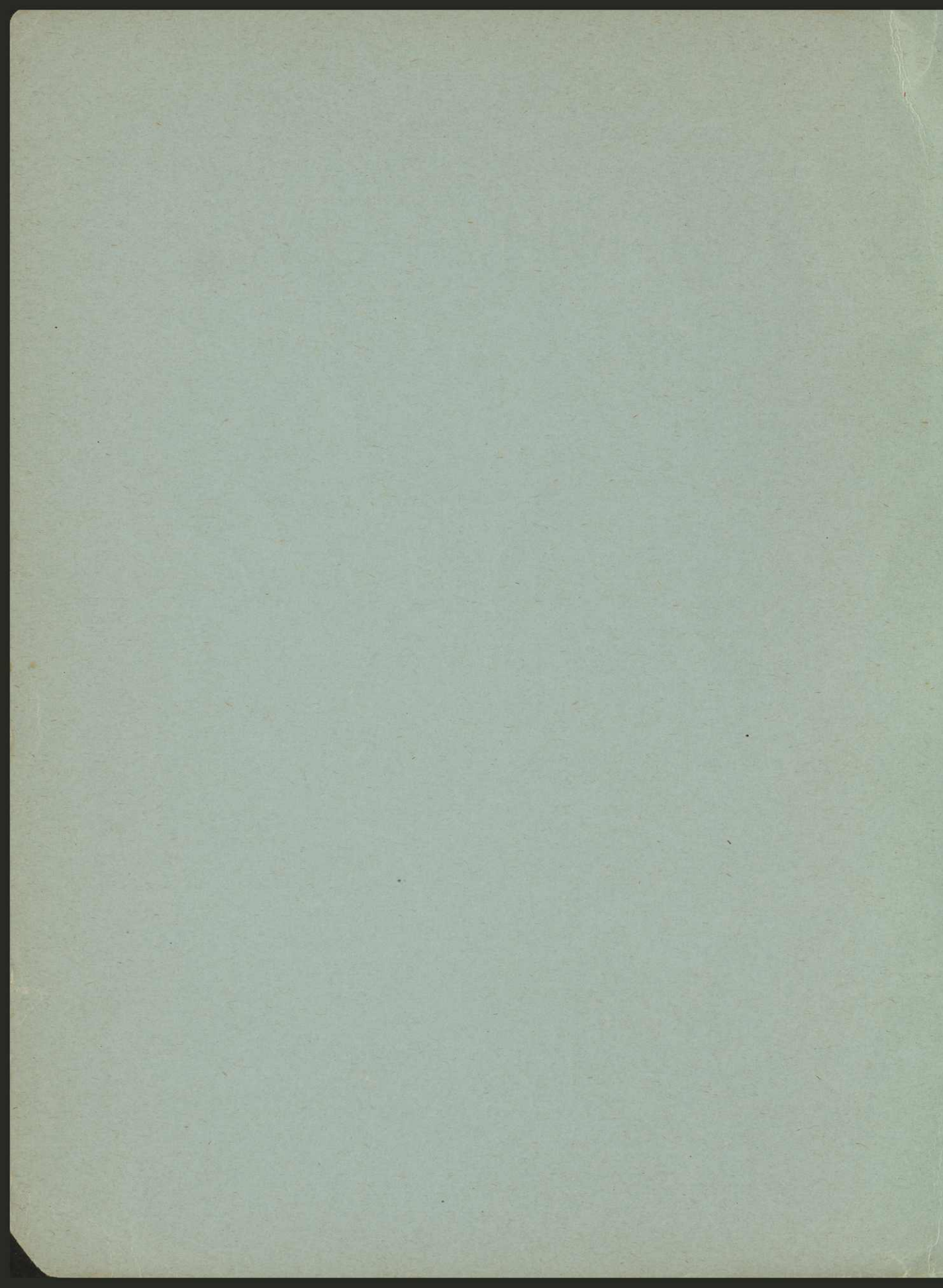


QUEENSTOWN

SINGAPORE

FINAL REPORT OF
THE NEW TOWNS WORKING PARTY
ON THE PLAN
FOR QUEENSTOWN

SINGAPORE IMPROVEMENT TRUST
ARCHITECTS DEPARTMENT



*With the Compliments of the
Chairman, New Towns
Working Party, Singapore.*

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OF THE I.A.N.

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SINGAPORE.

**CONSTITUTION OF THE NEW TOWNS WORKING PARTY
APPOINTED BY THE TRUSTEES,
SINGAPORE IMPROVEMENT TRUST.**

The following officers or their representatives from Government and Local Government Departments attended the meetings:—

Singapore Improvement Trust:	Manager, Improvement Trust (Chairman). Chief Architect. Chief Planner. Estates Manager. Surveyor-in-Charge. Planning Adviser. Lands Manager. Civil Engineer. Administrative Officer (Planning).
Singapore City Council:	City Engineer. City Health Officer. City Architect & Building Surveyor.
Government of Singapore:	Permanent Secretary, Ministry of Education. Permanent Secretary, Ministry of Health. Director of Public Works. Director of Social Welfare. Commissioner of Lands.
Co-opted Officers:	Permanent Secretary, Ministry of Commerce and Industry. City Water Engineer. City Electrical Engineer. City Gas Engineer. Chief Engineer (Sewerage) City Council. Chief Engineer (Roads). Chief Drainage Engineer, P.W.D. Architect (Q), S.I.T. Asst. Architect (Q), S.I.T.

Senior Architect, S.I.T. (Co-ordinator—Queenstown).

TERMS OF REFERENCE.

“To consider and recommend to the appropriate authority, principles and procedures to be followed in the planning and constructing of new settlements in the Colony of Singapore.”

“S.I.T.” throughout this report means The Singapore Improvement Trust.

CONSTITUTION OF THE WORKING MEN'S PARTY
 AS ADOPTED BY THE EXECUTIVE COMMITTEE
 MEETING AT NEW YORK, MAY 18, 1892

The following is the text of the Constitution of the Working Men's Party, as adopted by the Executive Committee at New York, May 18, 1892.

- 1. Name of the Party.
- 2. Objects of the Party.
- 3. Principles of the Party.
- 4. Membership.
- 5. Officers and Executive Committee.
- 6. Local Organizations.
- 7. Finance.
- 8. Disputes.
- 9. Amendments.

TERMS OF ADMISSION

To become a member of the Working Men's Party, a person must be a native-born American citizen, and must be of legal age, and must be recommended by two members of the Party.

NEW TOWNS WORKING PARTY
FINAL REPORT ON THE PLAN FOR QUEENSTOWN

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FOREWORD

Few town planners are privileged to see the fruits of their labours and occasionally an architect is allowed to erect a building from his original designs. Either someone else builds it or the finished article is modified or changed, sometimes out of recognition. This has happened with all great building projects. The great Basilica of St. Peter's in Rome took 120 years to build and a succession of architects had a hand in its completion. Queenstown is not St. Peter's and it should not take 120 years to build, but the original plans for this New Town will undoubtedly be modified as building progresses. The team which worked out the plan is having the satisfaction of seeing a large portion of it being completed, and it is hoped that some of them will see this experiment in community building finished.

It is important, however, that posterity should be aware of the original concept and purpose of the scheme as well as the difficulties and frustrations involved. The original target date for completion was 1960, but it now seems that this date will have to be extended by two to three years.

This account of the planning of Queenstown attempts to give the public of Singapore the story of the plan and the aims that lie behind it, so that in the years to come the finished product may be compared with the original conception. A town consists not only of buildings, roads, drains and streets, but of the people who live and work in it and the kind of life they live. A town is a living thing and the designers of Queenstown have sought to create a basis for a good and useful life which will be an example and credit to Singapore. I am proud to have been associated with this team of architects, engineers, builders and estates officers who have worked well and harmoniously and who have every reason to be proud of their efforts.

J. M. FRASER, C.B.E.,
CHAIRMAN,
SINGAPORE IMPROVEMENT TRUST.

P R E F A C E

A Working Party on Queenstown was set up in 1953 under the chairmanship of J. M. Fraser Esq., and the first meeting was held on October 19th 1953. The Party was composed of Officers of the S.I.T. It was stated by the Chairman that whilst considerable work had already been done on the planning of Queenstown, it was time that a properly constituted group of experts was brought together for consultation and to make recommendations on the pattern of development at Queenstown. The Queenstown Working Party met on three occasions.

In 1954 it was decided that the scope of the Working Party should be widened and consequently the Board of Trustees of the Singapore Improvement Trust approved the Formation of a New Towns Working Party under the chairmanship of the Manager, S.I.T. The Working Party was to make recommendations to the appropriate authorities on the principles of planning and execution of the Queenstown and Toa Payoh projects and any other new towns and settlements which the Trust might undertake. It was to co-ordinate the functions of the various departments of the Trust, of Local Government and of the Colony Government in so far as they were concerned directly or indirectly with the projects. A plan and report was to be produced by the technical officer responsible for the planning and co-ordination of any particular project and in the case of Queenstown, this was to be the Senior Architect, S.I.T.

The New Towns Working Party met for the first time on July 29th 1954 and thereafter three more meetings were held making four in all. Thus, seven meetings were held to consider the Queenstown project.

At all stages of the production of the plan there have been consultations, meetings and discussions with persons and authorities in any way affected by or concerned with the development at Queenstown. It is only in this way that it has been possible to produce a workable plan.

Anyone who has been concerned in the discussions on Queenstown has, in one way or another contributed towards the plan and therefore the members of the Working Party wish to record their thanks to officers of the Government, City Council and S.I.T. and various agencies and authorities whose advice has been sought and in particular to the Planning Officers of the S.I.T. for the assistance they have given.

This report is concerned specifically with the planning of the town. Further statements on implementation and on the development now proceeding will be made from time to time.

LINCOLN PAGE,
Senior Architect,
Singapore Improvement Trust
on behalf of The New Towns Working Party.
February, 1958.

FINAL REPORT

I GENERAL.

THE SITE:

The planning district of Queenstown (P.D.5) is the land bounded by Ridout Road, Peel Road, Kay Siang Road, Tanglin Road, the Outer Ring Road, the Malayan Railway, North Buona Vista Road and Holland Road. This area is approximately 1150 acres.

In 1926, Government acquired about 750 acres in the Alexandra Road area stretching from Delta Road to Telok Blangah Road for the purpose of town improvement and extension. In 1946, the War Department acquired the Pasir Panjang Rubber Estate for military purposes and the S.I.T. persuaded Government to purchase 350 acres of this land which lay to the east of the railway line and adjoining the land which was originally acquired in 1926. This latter acquisition compensated to some extent for an area of about 500 acres to the south of Alexandra Road which was taken over by the War Department in the early 1930's for the construction of barracks and a military stores depot.

The land which is to be developed by the S.I.T. now amounts to about 567 acres. Part of this land consisted of a large swampy valley with a drain running through it in a south-easterly direction. This drain is really the source of the Singapore River. On either side of the valley there are hills and the earth from these is being used to fill the valley. Before the war this land was covered by scrub, swamp vegetation and coconut and fruit trees and there were some hundreds of people living in attap huts in the area, cultivating vegetables, growing fruit and rearing pigs and chickens. After the Japanese occupation of 1942 to 1945, it was found that more agricultural squatters had settled on the land. Before any development could take place therefore these people had to be moved.

Just before the War, the Army requisitioned a further area of Queenstown known as Buller Camp and constructed vehicle parks and store buildings and after the War, they extended their temporary occupancy considerably. The temporary Army buildings were eventually cleared and in 1953 the S.I.T. constructed a small housing estate on the car park and this has now been incorporated into the first neighbourhood of Queenstown.

It will be seen therefore that the squatter problem had to be tackled before any development on a co-ordinated plan could proceed, and early development in Queenstown was seriously delayed by this problem. Recently, the S.I.T. has taken over the duties of squatter resettlement and a department has been set up for this purpose. Since then, the clearance of squatters in the area has proceeded satisfactorily and the preparation of sites is keeping well ahead of the development now proceeding.

TYPE OF TOWN:

The aim has been to plan a settlement for a self-contained and balanced community within the framework of the Master Plan for Singapore. There have been limitations to the realisation of this aim owing to the difficulties of establishing a new community within the sphere of influence of a large city like Singapore (Queenstown is within five miles of the centre of the City). We cherish the hope that Queenstown will eventually develop an identity of its own and a strong community existence but in the meantime it is inevitable that it must be regarded as a satellite, if not a suburb of Singapore.

The development of the new urban areas of Singapore has not yet reached a stage where, as a general policy people can be housed near their work and it may never be possible except in relation to future industrial development. It is therefore inevitable that the new communities such as Queenstown will have the character of a suburb. Whilst some degree of self-sufficiency has been achieved in the matter of communal amenities and requirements, there must be some dependency on the facilities which a big city can offer.

RELATION TO THE PLANNING DISTRICT AND TO THE CITY:

In assessing the requirements of the town, its relationship to the City and its position in the planning district of the Singapore Master Plan of which it is part, have been considered. There is considerable peripheral development at Queenstown and to integrate this with the plan, district needs have been taken into account. Thus, a junior technical school has been provided which will not only serve the needs of Queenstown but the district as well. Similarly, the proposed district hospital on the perimeter of Queenstown will serve both district and town.

In view of peoples preferences to go to places in Singapore for a particular type of entertainment, no attempt has been made to provide (for example) very specialised amenities like amusement parks as Singapore is already adequately served in these respects.

SIZE OF TOWN:

The limiting factor in deciding the size of the population has been the area of land available. This amounts to under 500 acres (excluding the industrial area adjoining neighbourhood I) and was purchased for housing purposes but not specifically as the site of a new town. Unlike the New Towns procedure in the United Kingdom where the appropriate size of a new town was decided upon first and then sufficient land secured for it, the Committee has had to calculate what population a given piece of land could reasonably contain. Before the population could be estimated therefore, standards and densities had to be decided in conjunction with the Master Plan so that the proper amount of land for communal facilities, recreation, schools etc., could be set aside leaving the balance of the land for housing. These standards and densities are discussed in some detail later in the report but a population of about 53,000 is recommended for this settlement.

LAYOUT AND GROUPING:

Problems of zoning, functions to be served, aesthetic considerations and location of communal buildings have to be met within the limitations of site and cost.

The layout of the principal traffic routes tends to group the various parts of the town into clearly defined areas and these areas must be thought of as neighbourhoods (see Appendix II). The application of the neighbourhood concept to a town is a convenient and natural one but the emphasis on a neighbourhood should not be so great as to detract from the conception of the whole town as the civic unit.

The layout of Queenstown has been considerably prejudiced by the siting of two major traffic routes running through the length and breadth of the town and intersecting in the middle of it. This was done before the preliminary planning of the town commenced. The Committee regards this as the worst possible pattern on which to plan a town as people are obliged to cross these major roads with consequent danger from fast moving traffic. It is recommended that pedestrian access be limited and controlled by barriers such as fences, walls and other protection.

The location of these principal traffic routes has arbitrarily divided the town into five areas which must be accepted as neighbourhoods of limited significance (see Appendix II). A market and shopping centre has been sited in each neighbourhood together with schools and recreational facilities. (See Appendix I for a complete schedule of what has been provided in each neighbourhood). The principal centre is in Neighbourhood Two which must be regarded as the centre of gravity of the settlement and here, in addition to the shopping centre are the main community buildings, main post office and a cinema.

It is therefore recommended that the town be divided into five neighbourhoods each with a centre, with the main centre in Neighbourhood Two.

The housing generally will be in the form of freestanding blocks, sited in turfed and planted areas and connected by paths.

SOCIAL STRUCTURE:

The housing in Queenstown will be built by the S.I.T. and it seems likely that for some time the occupants will be drawn from the register of people who urgently need housing and from the redevelopment clearance schemes. This will have the effect of bringing large numbers of people together from a limited range of income and therefore social groups. This may not produce the sociologically balanced society so essential to the character of a town. Contemporary planning methods aim to build up a society of people from various social strata and only in this way can a true township emerge. In creating urban development, the promoters of a new town incur the duty to see that people are living in a properly integrated society no less vital than the society from which they have been resettled. In many cases these people are at present living a vital social life, deplorable as the conditions under which they are housed may be.

It is recognised that housing from the register must continue at present but it is recommended that encouragement be given to professional and business people who are prepared to live and work in Queenstown and so contribute something to its life.

The social life of a new town has to be built up slowly and for some time it will lack the cohesion of a long established community. Institutions have to be created and character and stability have to be built up so that a man can feel that he can put his roots down there with a feeling of security. The absence of a sense of community in the early days of a new town may have the effect, however of throwing people together to organise their social life, elect their leaders and representatives and put forward their views on the administration of the town. This will lead them to a sense of responsibility and a feeling of belonging to the town.

It is recommended that a social study is conducted in S.I.T. estates to collect information on the effects of the re-housing process on social custom, attitudes and ways of life. This would throw light on the social structure and would give important information on the type of accommodation and communal facilities which should be provided. This study should be a joint study by the Social Welfare Department, the University of Malaya and the S.I.T.

STANDARDS:

In setting aside sites for various purposes and in calculating and estimating the sizes and positions of these sites, the guiding principles of the Master Plan for Singapore have been kept in view. In many cases it has been necessary to modify the method of applying these principles in view of the peculiar requirements of Queenstown. The officers of the Master Plan Team are interested to see how the application of these principles to Queenstown work out in practice as this may lead them to reconsider their methods of evaluating planning standards for other settlements.

ARCHITECTURAL CONTROL:

The siting, landscaping and design of the buildings of a new town should be the responsibility of Architects and the grouping and relating of these buildings to each other within the pattern of the town is a matter for the co-ordinator whose function it is to see that the town develops along the proposed lines.

Leases for sites to be disposed of by the Trust to other authorities and persons should contain covenants that the placing, design, elevation and external materials of buildings should be approved by the Agency.

FLEXIBILITY:

Where the construction of any part of the town has to proceed, lines and limits have to be laid down. But rigid planning should not precede implementation by too long a period. A new and growing town is a living thing and final shape cannot be predicted. Needs, requirements, standards and techniques change and these changes must be reflected in the plan. The major principles underlying the plan must not be lightly changed but each section of the town must be reviewed from time to time in the light of recent planning developments.

II DETAILED CONSIDERATIONS.

(see plans in folder and Appendix I)

DENSITY:

The expression "density" means different things to different people. It is expressed in different ways and it changes its meaning from time to time. Whatever its meaning it should only be used as a method of calculation. Some way has to be devised of expressing the number of people who have to be housed in terms of a given area. This is a ratio which indicates the "intensity" of people on the ground and is related to the space people need about them for healthy living conditions. Therefore the basic needs of a person are the amount of space he should have in a dwelling for privacy and healthy living and the amount of living space outside the building to which he is entitled. A balance has to be struck between these two factors to be able to say how many people can be housed in a given area.

Space per person within the dwelling, is the ratio of persons to the number of habitable rooms in a dwelling. This is the occupancy rate. In the United Kingdom it is 1.0 to 1.3 and an average taken of S.I.T. housing gives a figure of about 2.0. In practice it appears reasonable to apply this to Queenstown. However, housing policy in the future may affect this rate adversely. Any consideration of occupancy rate must take into account the sizes of rooms. Bye law requirements in Singapore are 140 sq. ft. and 120 sq. ft. as against 120 sq. ft. and 80 sq. ft. in the United Kingdom. The larger rooms in Singapore would appear to be in favour of a higher occupancy rate.

On the question of density of dwellings on the ground, factors like play areas for children, transmission of noise and minimum distance between buildings have to be taken into account as well as the most important factor of external living space.

In letting dwellings, the number of people in relation to the size of the dwelling is likely to be disregarded more and more in the future, and it is being argued that calculations should be in terms of dwellings per residential acre. But this is only to evade the issue of the number of people likely to be living in a dwelling. It is people who are being planned for and the basic density statements should be in terms of people. Any accepted density becomes meaningless if there is over-crowding within the dwellings.

The Working Party at a meeting in April 1955 decided that a figure of 6 persons per average size dwelling should be used at Queenstown and when housing people from the register where the size of a family tends to be above the average, this seems to be a sensible approach.

Taking the factors of space about buildings, occupancy rate and densities which are acceptable into account, an average net residential density of 200 persons per acre is recommended for Queenstown.* This density would allow for high densities (say up to 400 p.p.a.) in the form of tall blocks of flats on the good ground and low densities (say 150 p.p.a.) in low blocks and terrace houses on poor ground. This variation will produce variety in the massing of the buildings.

The Master Plan requires that Queenstown conforms to an average net residential density for the whole planning district (of which Queenstown is part) of 122 p.p.a.

The overall density for Queenstown works out at 109.5 people per acre. Overall density means the total number of people divided by the total area of the town.

The Working Party recommends that densities be regarded as flexible and that they be revised if necessary in the light of experience or of later information.

DWELLINGS:

It has already been stated that to build up a balanced society in a new town, people from all walks of life should be housed and therefore all classes of dwellings should be built. Normally, this would mean the construction of houses by private persons, building societies as well as local and central authorities. However, the intention of Government is that the dwellings in Queenstown shall be built with Government Funds by the housing authority; in this case the S.I.T., as this is the only agency which can build them at rents which people of the lower income groups can afford.

It is not within the scope of this report to discuss housing policy and housing subsidies but the Working Party does recognise that in view of the acute shortage of dwellings for the lower income groups, the present policy of rehousing from the housing register must be pursued for the time being. Although the needs of the higher income groups are being met by private developers, the Working Party considers that there should be a proportion of dwellings for these groups in Queenstown. This might be met by the construction of houses for sale by the Agency.

* Net residential density is the number of persons per acre of land in the residential areas. Residential area is the land to be actually developed for housing and includes the sites of the buildings and their curtilages, small open spaces within the housing area, half the width of the estate roads and 18 feet of the principal traffic routes, where the housing sites adjoin them.

The size of dwelling will depend on the type of family which it is proposed to rehouse. Estimates of the proportion of the various sizes of dwellings which should be provided have been made by the Estates Department of the S.I.T. and these have varied from 30% to 40% of two room flats, 40% to 55% of three room flats and 15% to 20% of one room and four room flats and terrace houses. There appears to be nothing conclusive about this especially in view of possible changes in housing policy. It has already been remarked in this report that if the occupancy rate is allowed to increase, any attempt to relate sizes of dwellings to sizes of family groups is going to be difficult if not impossible.

SHOPS:

Shops, as in the case of dwellings will generally be built and managed by the S.I.T. In the plan, they have been sited with easy access for customers and in busy centres which should commend them to shopkeepers. Some thought has been given to establishing a policy in regard to the number of shops which a new town should have. Consultation with the Estates Department of the S.I.T. shows that in their experience the S.I.T. has over-provided shops in their recent housing schemes. These have been provided in Queenstown at a standard of one shop for about 150 people as recommended by the Planning Adviser and by the New Towns Committee in the United Kingdom. It is pointed out that until the area is fully developed it is not possible to say whether shops are being over-provided at this rate. In course of time it may well be that more shops will be required and therefore an additional site in Neighbourhood II has been set aside for possible future shopping needs. Most of the shops (up to 80%) have been sited in the main and neighbourhood centres and the balance as "the shop around the corner" within the housing sites. It is recognised that there is a need for a small number of shops within a few yards of the dwellings for day to day needs.

MARKETS:

In each neighbourhood there will be a large covered market of a size agreed with the Singapore City Council who will run it. The market and shopping centre are planned around a pedestrian concourse to which there will be no access for vehicles.

COMMUNICATIONS:

Comment has already been made on the predetermined siting of Commonwealth Avenue and Queensway which intersect in the centre of Queenstown. These principal traffic routes determine the communication pattern of Queenstown. Buses serving Queenstown will use these routes which will also pick up the internal bus routes through Neighbourhoods I and II (Margaret Drive) and Neighbourhoods III and IV thus linking the neighbourhood centres. It is not thought that bus services will originate in Queenstown but that they will pass through to other destinations. No termini will therefore be needed. Suitable "pull-ins" are recommended at the bus stops.

Commonwealth Avenue and Queensway which are dual carriageways will have footpaths and separate cycle tracks.

Adequate car parks are sited in all housing areas and at the neighbourhood centres, and it is recommended that there shall be no parking on any of the roads.

Queenstown will be adequately connected to the Singapore bus system via Tiong Bahru, Alexandra, and Tanglin Roads.

EDUCATION:

The standards as applied to Queenstown in regard to size of schools and areas of school sites have been arrived at in consultation with the Education Authorities and the Master Plan Team. These standards which are aimed at giving each pupil one games period per week and are embodied in a report by the Planning Adviser of the S.I.T. dated 30th March 1954 entitled "Standards for Schools in Singapore" have been used in assessing school requirements.

PRIMARY SCHOOLS:

To assess the amount of land for primary schools, it is assumed that 0.63 acres will be required for every 1000 people. As there will be 53,000 people, this amounts to 33.4 acres. Each school requires 7.5 acres, which gives 4.45 school sites, or 9 school buildings with 2 buildings on each site.

In terms of number of pupils, it can be assumed that 1/5th of the population goes to primary schools, i.e. 10,600 pupils. Each school has 600 pupils, which works out at 17.66 or (say) 18 schools. As each school is a double school, and each with a morning and afternoon session, this amounts to four primary schools per site, and $4\frac{1}{2}$ (say 5) school sites.

School areas provided are as follows:—

Neighbourhood I	14.0 acres	4 schools
„ II	—	—
„ III	7.4 acres	2 „
„ IV	4.0 acres	1 school
„ V	7.24 „	2 schools
	<hr/>	<hr/>
	32.64 „	9 school buildings
	(5 sites)	= 18 schools of 2 sessions each.

SECONDARY SCHOOLS:

In calculating the number of secondary schools required, it is assumed that 20% of all primary school pupils proceed to secondary schools, i.e. 4% of the total population, or 40 pupils per 1000 people. Each secondary school has 700 pupils and requires 8 acres of land which gives a figure of 0.46 acres per 1000 people, which works out at 24.38 acres for a population of 53,000.

Alternatively, 4% of the total population (2120 pupils) go to secondary schools and as each school has 700 pupils, three schools will be required.

But district as well as Queenstown requirements have to be met and the following secondary schools have in fact been provided:—

Neighbourhood I	6.9 acres	(boys)
„ II	6.5 „	(girls)
„ III	7.72 „	(girls)
„ IV	8.3 „	(boys)
	<hr/>	
Total	<u>29.42 „</u>	= 4 schools.

JUNIOR TECHNICAL SCHOOL:

It has been stated that the intake of secondary schools from primary schools in one year is normally 20% (academic) and 10% (modern Technical) giving a total of 30% from primary schools. At the request of the Education Authorities a site for a Junior Technical School has been set aside in Neighbourhood I although it will serve a wider field than Queenstown.

In view of the great shortage of land in Singapore and Queenstown for community uses (playing fields, community centres, libraries etc.), the Working Party recommends that Government should give consideration to the possibility of constructing multi-purpose school buildings which would also have premises for a public library, clinic and community hall. It may even be possible to share school rooms for certain purposes. The economy in use of land (especially combined with the joint use of the school playing fields by school and public) would be considerable. There are sound sociological as well as economic reasons for such joint use. In human relationships the school is the link between the family unit and a wider society and it is at the school that community responsibility and community needs can be taught. It would seem therefore to be a natural step for children to leave school and move into an atmosphere of community activity and responsibility at the school itself.

It is important that the children whose homes are in Queenstown should find their family, school and adult social life in the town in which they live.

OPEN SPACE:

Apart from incidental open space i.e. open areas around buildings, the following types of open space have been provided at Queenstown.

(a) School playing fields	...	=	44.00	acres
(b) Public Park	... ..	=	15.00	..
(c) Public playing field	... ..	=	14.00	..
(d) Princess Estate	... ..	=	3.00	..
(e) Community Centre playing field	... ..	=	3.7	..
(f) Future town open space (old cemetery)	... ..	=	13.73	..
			<hr/>	
	Total	=	93.43	..

This represents about 1.76 acres per 1,000 population. However, in terms of open space, which can be freely used by the public, this may not be significant. The question of the use of the school playing fields by the public has been discussed under the heading of "Education". Opinions differ as to the feasibility of the joint use of school playing fields on the grounds of difficulty of control. However, as regards Queenstown, the Education Authorities have agreed that the playing fields can be used for organised games by the general public on specified days by application to the school authorities. This would particularly apply to the secondary schools where the pitches are likely to be full size. It is recommended that this principle of joint use be accepted.

The general open space position in Queenstown, however, has to be considered in relation to the overall provision under the Master Plan. This provision was considered in the light of the report of the Playing Fields Committee (1952) and it was found that it would be difficult to set aside the open space recommended in that report (4.5 acres per 1000 people) and impossible to achieve the standards set in the United Kingdom. After considerable research, the Master Plan has allowed for 2.67 acres per 1000 population excluding school playing fields and 3.23 acres per 1000 population including school playing fields on the basis of the 1972 estimated population. Owing to the limited area of Queenstown, it has not been possible to provide the total requirement of district and town open space represented in the above figures, but in relation to the Master Plan provision for the whole of Singapore, parity has been achieved. The open space position at Queenstown therefore has to be balanced against the overall Singapore provision.

There are several cemeteries on the periphery of the town which at some future date may be converted to town open space. In 1948 a Committee was set up to consider whether any of the burial grounds should be closed and made available for the development and expansion of Singapore. The possibility of using certain grounds (where burial has ceased for some time) for public parks, etc. has to be considered. In the case of the cemetery adjoining Stirling Road 13.73 acres have been set aside for town open space under the Master Plan.

HEALTH:

The hospital and medical services required for a new town depend on the size and distance from other settlements and medical services. No exact formula can therefore be given.

HOSPITALS:

Hospital requirements have been surveyed in relation to the Master Plan and the needs of Queenstown will be met in the overall district requirement. The health authorities state that for Queenstown, a hospital of about 325 beds would be required but if this hospital were to serve the district from Pasir Panjang to Bouna Vista as well as Queenstown, a hospital of 450 beds would be required. It is proposed, therefore, that a district hospital is sited on the Crown Land on the periphery of Queenstown at the junction of Kay Siang Road and Tanglin Road.

HEALTH CENTRES:

After consultation with the Ministry of Health it has been decided that two comprehensive health centres will be required at Neighbourhoods II and IV. These will provide mother and child, school health and tuberculosis services. A mid-wife centre only is required in Neighbourhoods I and III to serve as a base from which a mid-wife or mid-wives could work within that area. The Ministry of Health has said that this would only involve the use of one or two rooms once a week and this can be arranged by sharing premises with the Social Welfare Department. If, however, the S.I.T. could allocate appropriate quarters in the residential area for resident mid-wives it would be possible to do without special clinic premises in Neighbourhoods I and III altogether. The health authorities agree that health and community centre accommodation could be combined in one building to conserve site area and this is recommended by the Working Party.

PRIVATE CLINICS AND SURGERIES:

It is recommended that private doctors and dentists be allowed to operate in Queenstown in the normal way after agreement between the S.I.T. and the health authorities on specific applications.

COMMUNITY CENTRES:

The need to build up a sense of community in a new settlement has been emphasised in various places in this report. There is no better way of doing this than through a properly run community organisation and centre. The establishment of community centres in Queenstown is part of a large programme of building which is being implemented by the Department of Social Welfare. The main centre in Queenstown will be in Neighbourhood II and it will also have a playing field of nearly four acres. There will be smaller centres in the other neighbourhoods. It is recommended that the centres be organised and run by the community associations under the supervision and control of the Department of Social Welfare. The centres should cover a wide field of activities including lectures, meetings, indoor games, cinema shows, youth club activities, adult education and child welfare.

We stress again the need for a link between the community centres and the schools so that the transition from school life to a full adult social life shall be a natural and healthy one. The joint use of school and community premises would be an important step in this direction.

A church can be a focus for a number of social activities and sites should be leased to church authorities on condition that they provide social facilities for the residents of Queenstown.

INDUSTRY:

The limits of the area of land available for Queenstown and the population proposed for this area mean that it is not feasible to provide for employment of any specific proportion of the population within the area of Queenstown. Furthermore, it is considered that the close proximity of Queenstown to the main town area of Singapore make it unnecessary to provide internal employment on the same scale as would be the case where a new town was being developed many miles from any other main centre of population. For this reason the provision for industry in the planning area of Queenstown has been partly accidental and partly dictated by availability of land and communications.

Before Queenstown was envisaged a large area of land to the south held by Government on behalf of the S.I.T. had been zoned for industry. Part of this area along Alexandra Road was commenced in 1948. The area zoned for industry was subsequently reduced considerably by the need to utilise land which was already available for housing purposes and the S.I.T.'s industrial area was eventually reduced to some 60 acres situated along Alexandra Road. In this area it was possible to provide 16 large factories on lots varying between 1 and 5 acres and 39 small factories on lots varying between 10,000 and 20,000 sq. ft. The Working Party being aware of a general demand for small and medium size factory lots in Singapore also provided as part of the planned development of Queenstown itself an area of approximately 20 acres adjoining Tanglin Halt in the north-west corner of Queenstown which will have 38 factory lots varying between 16,000 and 40,000 square feet. These areas will be well served by road and rail.

The Master Plan for Singapore further provides for a large area further to the south of Queenstown which is bounded on one side by the projected extension of Queensway through Queenstown and on the other side by the main railway line from Singapore to the north. Approximately 90 acres of this land is held by the Crown and eventual development of this area may provide for some 40 large factories on lots varying in size between 1 and 2 acres and up to 40 small factories on lots varying in size between $\frac{1}{4}$ acre and 1 acre. These factories should give work to people living in Queenstown.

The policy of offering houses to those people in the greatest need would mean that in the early stages of the growth of Queenstown there would be people working in the industrial area who were not living in Queenstown. However, over a period of years this position should adjust itself and eventually a large number of those employed in the neighbouring industrial area would be housed there.

RELIGIOUS SITES:

In planning a new settlement, sites must be reserved for places of worship for all organisations. In the past, religious organisations have played an important part in forming the moral and ethical standards of the community and it is important that they should be given the opportunity to do so in Queenstown. It has already been commented on in this report that a church can be a focus for a number of social as well as religious activities and from this point of view the religious body should have its place in the community.

In a city like Singapore where creeds and religions are so diverse, there are problems in assessing religious needs which do not exist in western countries. In the United Kingdom there is an interdenominational body known as the Churches Planning Committee in each county created for the purpose of consulting with the planning authorities on sites for religious purposes. The possibility of forming such a body in Singapore has been investigated and apparently there does exist an inter-religious body without executive powers but its constitution is so tenuous as to make it useless as a negotiating body. Meetings have been held with various religious leaders and problems involved discussed. It was decided that there was no statistical method of assessing the religious needs of a community. One is faced for instance with the fact that probably 80% to 90% of the inhabitants of Queenstown will be Chinese of mixed dialect, a small number of whom will be Christians. But the great majority will be non-Christians with some kind of nominal adherence to the Muslim, Buddhist, Toaist or Confucianist creeds or faiths. It would be extremely difficult to find out what is likely to be the number of adherents within these groups. It was felt that it was not the agency's responsibility to assess religious needs nor to negotiate with any individual religious organisation. Eventually, it was decided that in order to find out what organisations would need sites in Queenstown and what their programmes and intentions were, an advertisement should be put in the local press asking organisations to apply for sites already set aside in the plan and to state their requirements. As a result of this, ten enquiries were received, four stating that they wished to provide kindergartens as well as religious buildings and three others wanted to provide for social and recreational activities. Of the ten applicants, four dropped out leaving six Christian churches interested. A ballot was held which resulted in the allocation of six sites. A seventh site has been reserved for possible allocation to one of the other religions and it is possible to make an eighth site available if necessary. It is unfortunate that active interest has so far been displayed only by the Christian religious bodies.

CINEMAS:

A survey of existing cinemas in Singapore and probable future expansion shows that cinema requirement in a new settlement should be about 60 seats per 1,000 population.

For a population of 53,000, 3180 seats will be required. Cinema sites have been provided in Neighbourhoods I, II and IV for three cinemas of 1060 seats each. If each cinema has 330 seats upstairs and 730 seats downstairs and if there is one car to every 4 persons upstairs and one car to every 10 persons downstairs, car parks for 156 cars at each cinema will be needed. If each car requires 220 square feet of parking area, the total area of the carpark for each cinema would be 34,320 square feet. Assuming that the area of the building is 30,000 square feet the total area of the site should be 64,320 square feet approximately.

Sites of 1.95 acres, 1.55 acres and 1.64 acres have been set aside in Neighbourhoods I, II and IV.

POLICE:

After full consultation with the Police a site has been set aside in Neighbourhood II near Queen's Circus. This site is about halfway between the police stations at Holland Village and Alexandra Road and from the point of view of distribution of police stations it is therefore satisfactory. Located near Queen's Circus, police vehicles will have rapid communication to all parts of the district via Queensway, Commonwealth Avenue, Alexandra Road, Holland Road, North Buona Vista Road etc.

Police housing is required near the police station and preferably within the compound for ease of mustering and accordingly it is recommended that either barracks be constructed on the site or the S.I.T. makes housing available for policemen. In any case, in order to conserve land the police buildings should be multi-storey so as to release as much ground as possible for police and vehicle movement. Any housing carried out by the police must be at the recommended Queenstown densities.

The police have agreed to give up the site at Princess Circus for Queenstown development when the new police station is in use.

POST OFFICE:

A site for a non-delivery post office with counter facilities has been set aside in the centre at Neighbourhood II. This site was agreed with the Director of Posts after a review of the postal district boundaries as envisaged in the Master Plan. The Director of Posts will require quarters for postmen in the building and this has been agreed to by the Working Party provided approval to the design is obtained from the S.I.T.

SERVICES:

There will be no difficulty about providing sewerage, water, electricity, gas, town cleansing and telephone services. Early discussions were held with the Public Works Department and City Council Departments about the location and extent of all services and where necessary reserves have been set aside.

Large sewage, rising mains and a gravity sewer will be constructed along the line of the canal in Queenstown between the pumping station in Neighbourhood I and the proposed Ulu Pandan sewage purification plant. This system will serve the Queenstown, Alexandra Road and Tiong Bahru area.

MAIN DRAINAGE:

Surface water drainage presents special problems at Queenstown which have to be related to the drainage scheme to the west of north Buona Vista Road where a pilot scheme has been completed. At present the whole area of Queenstown is drained by a channel which enters the area through culverts at Tanglin Halt, the water flowing east to Tanglin Road and thence through the Alexandra Canal to Singapore River. The flooding situation to the east of Tanglin Road is becoming serious and the development of Queenstown will increase the run-off still further. It is considered that housing development in Neighbourhoods III and IV cannot proceed (owing to the danger of flooding to the east) until the main drainage proposals are completed. As far as Queenstown is concerned this project involves the construction of three underground concrete box drains of considerable length in Neighbourhoods III and IV thus turning the flow to the west in the Upper Queenstown Valley. This will have the effect of creating a divide along the line of Queensway. It is recommended that this project be put in hand without delay.

RESERVE SITES:

The New Towns Working Party at its meeting of April 25th 1955 agreed that reserve sites should be set aside in each neighbourhood for possible uses like departmental stores, offices and for the adjustment of site boundaries on detailed development.

CITY COUNCIL BOUNDARY:

The line of the City Rural Board boundary wanders through Queenstown in a quite meaningless way. It is important that this line is amended so that health matters, town cleansing and services are brought under the control of one authority so as to avoid division of responsibility in one township. It is recommended therefore that immediate statutory action be taken to bring the whole of Queenstown within the City area and eventually within the appropriate local authority area.

CONCLUSION:

This report and plan are a summary of the New Towns Working Party's proposals for Singapore's first new settlement to be planned on comprehensive lines. The Working Party urges the early implementation of these proposals so that Queenstown can make its own contribution to the solution of the many social and human problems now facing the people of Singapore.

Large areas of land will be available for the construction of a new town in the area of the former town of ... The town will have the same layout as the former town and will be built on the same site.

CONCLUSION

The town of ... is a small town with a population of about 1000 people. It is situated in a beautiful area with a lot of greenery and a lot of water. The town is a very nice place to live and it is a very good place to visit. The town is a very nice place to live and it is a very good place to visit. The town is a very nice place to live and it is a very good place to visit.

REFERENCES

1. ...
2. ...
3. ...

CITY OF ...

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APPENDIX I

QUEENSTOWN
Town Schedule

Item	NEIGHBOURHOODS							Totals	NOTES	S.I.T. Ref.:		
		No. 1	No. 2	No. 3	No. 4	No. 5						
1.	Neighbourhood Areas	Area	125.0	103.0	89.38	116.3	50.0	484 a	Approx.	1018/50		
2.	Residential Areas	Area	66.0	50.75	43.76	62.5	33.0	256 a		1018/50		
3.	Dwellings	No.	2437	1838	1320	1886	996	8477		1018/50		
4.	Shops (In Housing Sites) ...	No.	*66	26	10	18	10	130	*46 of these shops have living accommodation. ‡127 of these shops have living accommodation. Plus 0.79 acres in Neighbourhood II for future shops.	1018/44/50		
5.	Shopping Centres	Shops	No.	34	40	56	54	34		‡218	1018/14/50	
		Markets with Booths	No.	1	1	1	1	1		5		
6.	Neighbourhood Centres ...	No.	1	1	1	1	1	5		1018/50		
		Area	2.9	11.15	6.14	8.9	3.66	32.75 a				
7.	SCHOOLS	PRIMARY	No. of Sites	1 and Part	—	1	Part	1	—	(18 schools of 2 sessions each)	1018/13/50	
			Area	14.0	—	7.4	4.0	7.24	32.64 a			
			No. of Sch. Bldgs.	4	—	2	1	2	9			
		SECONDARY	BOYS	No. of Sites	Part	—	—	Part	—			—
				Area	6.9	—	—	8.3	—			15.2 a
				No. of Schools	1	—	—	1	—			2
		SECONDARY	GIRLS	No. of Sites	—	1	1	—	—			2
				Area	—	6.5	7.72	—	—			14.22 a
No. of Schools	—			1	1	—	—	2				
8.	Junior Technical School ...	No.	1	—	—	—	—	1		185/9/54		
		Area	9.8	—	—	—	—	9.8 a				
9.	OPEN SPACE	SCHOOL PLAYING FIELDS	No.	3	1	2	1	1	8	Plus 13.73 acres of future Town Open Space. Total: 93.44 acres.	1018/13/50	
			Area	18.7	3.5	9.1	8.3	4.24	43.84 a		1018/43/50	
		PUBLIC PLAYING FIELDS AND PARKS	No.	1	2	1	—	—	4			
			Area	3.0	18.7	14.01	—	—	35.71 a			
10.	Health Centres	No.	—	1	—	1	—	2	‡in Princess House *3.7 acres of playing fields in Neighbourhood II.	1018/15/50		
		Community Centres	No.	‡1	*1	—	1	—		3	1018/30/50	
		Area	—	1.06	—	1.04	—	2.1 a				
11.	Sites for Religious Purposes	No.	2	1	1	2	1	7		1018/24/50		
		Area	1.8	0.97	0.94	2.2	0.5	6.41				
12.	Post Offices	No.	—	1	—	—	—	1	Non-delivery office in Neighbourhood II.	1018/16/50		
		Area	—	0.46	—	—	—	0.46 a				
13.	Police Stations	No.	—	1	—	—	—	1	(including quarters)	1018/20/50		
		Area	—	3.7	—	—	—	3.7 a				
14.	Filling-Service Stations ...	No.	1	—	2	1	—	4		1018/35/50		
		Area	0.7	—	1.34	0.7	—	2.74 a				
15.	Cinemas	No.	1	1	—	1	—	3		1018/39/50		
		Area	1.95	1.55	—	1.64	—	5.14 a				
16.	Swimming Pools	No.	1	—	—	—	—	1	Not finalised.	1018/38/50		
		Area	2.0	—	—	—	—	2.0 a				
17.	Office Block and/or Departmental Store	No.	1	1	—	—	—	2		1018/27/50		
		Area	0.8	0.4	—	—	—	1.2 a				
18.	Telephone Exchange	No.	1	—	—	—	—	1		1018/18/50		
		Area	0.78	—	—	—	—	0.78 a				
19.	Pumping Station (Sewerage)	No.	1	—	—	—	—	1		1018/5/50		
		Area	1.12	—	—	—	—	1.12 a				
20.	Electrical Sub-Stations	No.	4	4	1	1	1	11		1018/6/50		
		Area	0.29	—	—	—	—	0.29 a				
21.	Industrial Area	No.	—	—	—	1	—	1	*Also an area adjoining Neighbourhood I but to the South of Alexandra Road.	1018/48/50		
		Area	—	—	—	19.5	—	19.5 a				
22.	District Hospital	No.	1 (adjacent)	—	—	—	—	1		1018/17/50		
		Area	11.5	—	—	—	—	11.5 a				
23.		No.										
		Area										
24.		No.										
		Area										
25.		No.										
		Area										
26.	Reserve Sites	No.	‡1	*3	1	1	1	7	‡Swimming Pool? *including one site of 0.79 acres for future shops.	1018/27/50		
		Area	2.3	2.22	1.24	0.9	0.88	7.54 a				

Note: All areas approximate and in acres.

QUEENSBURY

1904

REVENUE

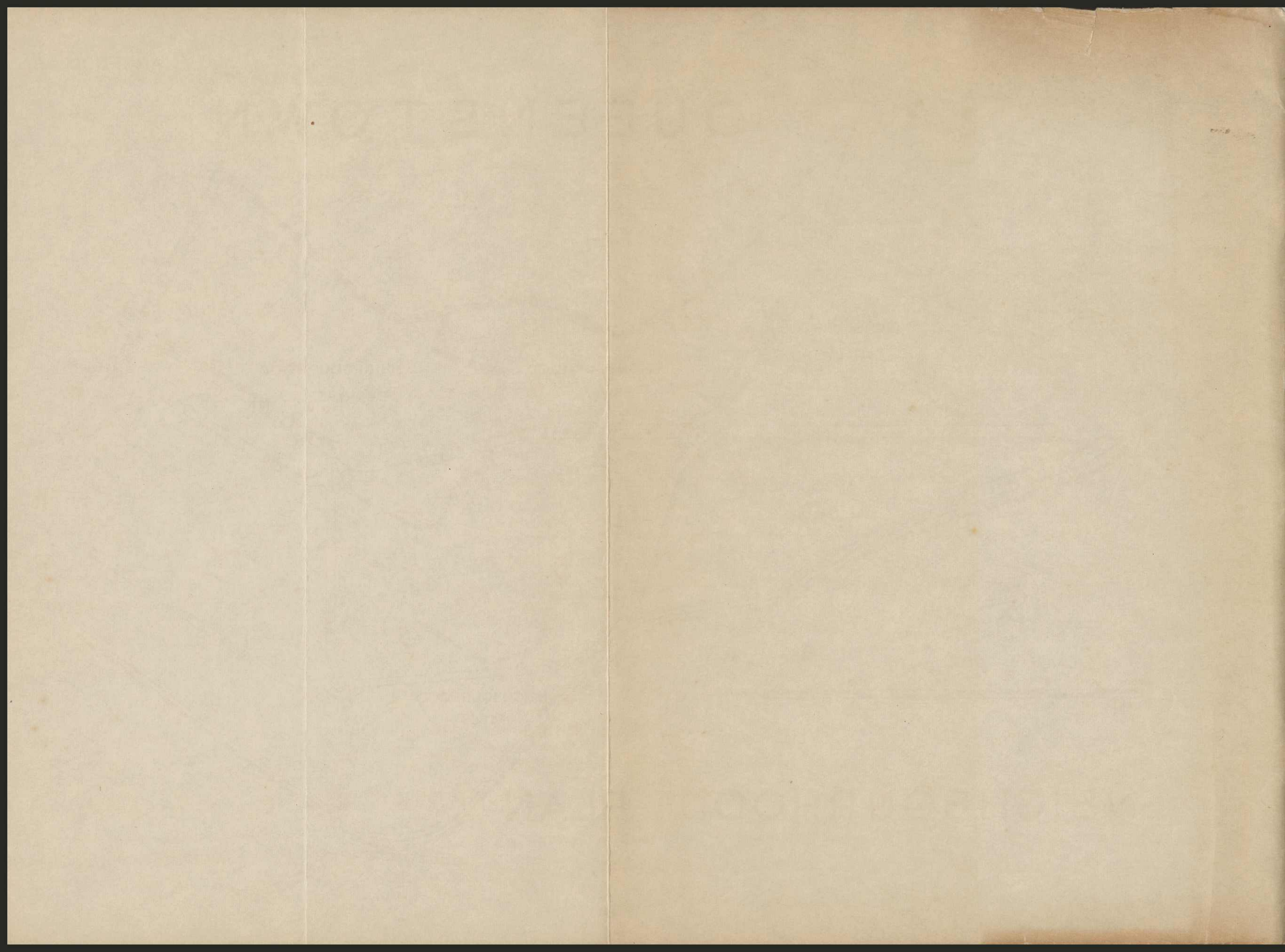
No.	Description	Amount	Balance	Total
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Note: All exact payments and in case

QUEENSTOWN

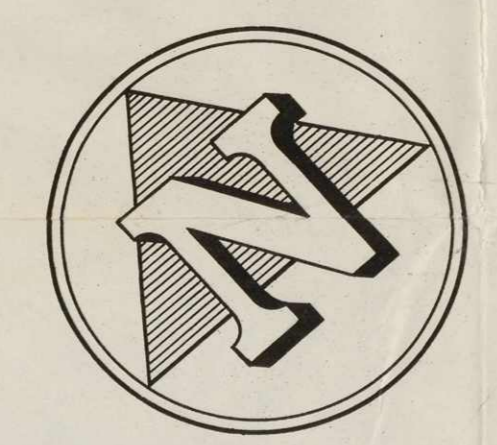
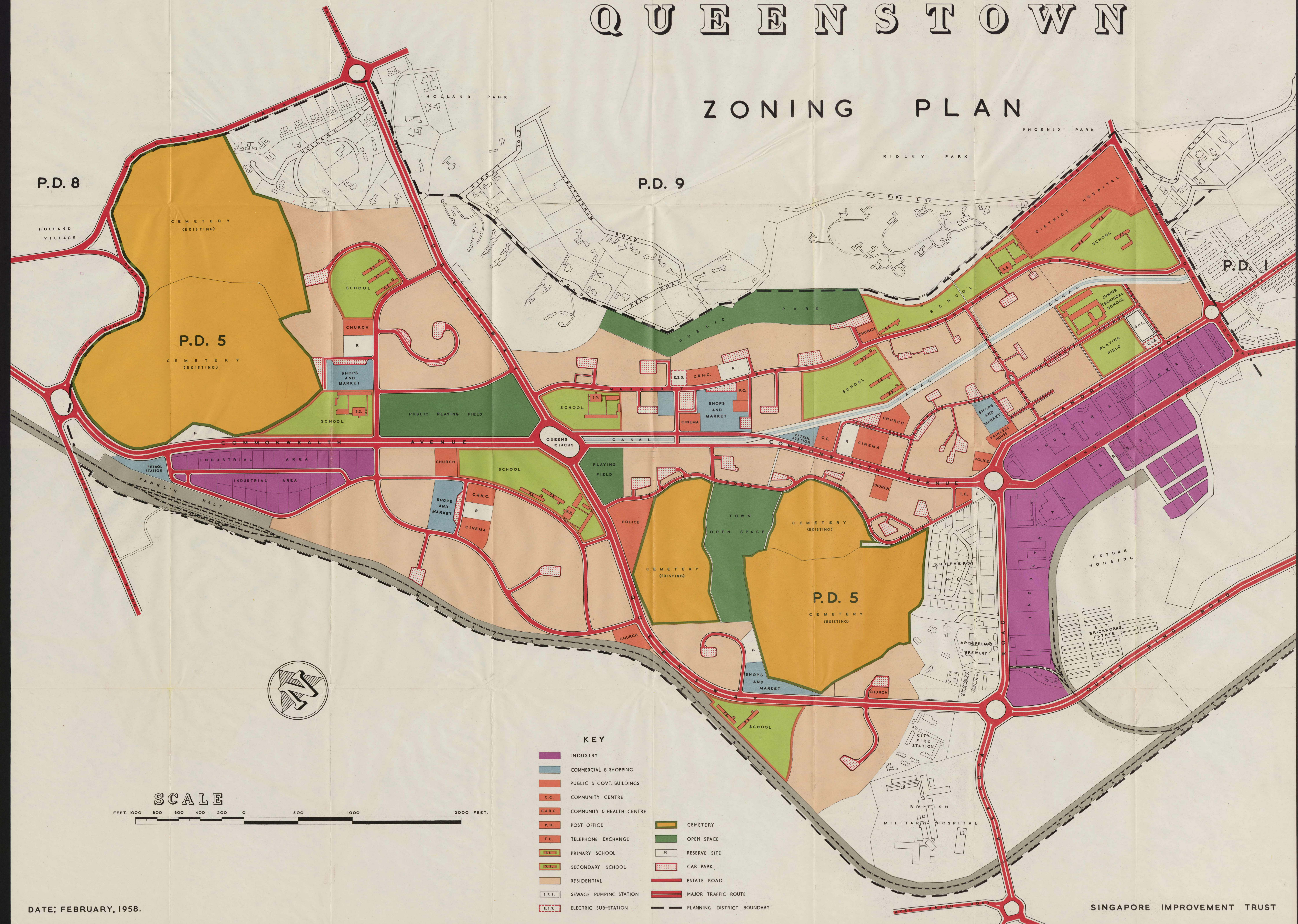


NEIGHBOURHOOD PLAN

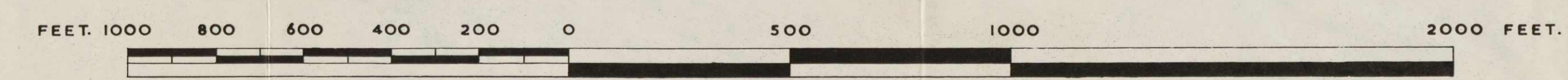


QUEENSTOWN

ZONING PLAN



SCALE



KEY

- | | |
|-----------------------------------|----------------------------|
| INDUSTRY | CEMETERY |
| COMMERCIAL & SHOPPING | OPEN SPACE |
| PUBLIC & GOVT. BUILDINGS | RESERVE SITE |
| C.C. COMMUNITY CENTRE | CAR PARK |
| C.&H.C. COMMUNITY & HEALTH CENTRE | ESTATE ROAD |
| P.O. POST OFFICE | MAJOR TRAFFIC ROUTE |
| T.E. TELEPHONE EXCHANGE | PLANNING DISTRICT BOUNDARY |
| P.S. PRIMARY SCHOOL | |
| S.S. SECONDARY SCHOOL | |
| RESIDENTIAL | |
| S.P.S. SEWAGE PUMPING STATION | |
| E.S.S. ELECTRIC SUB-STATION | |

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ZONING PLAN

ЗОНІТ СІЛЬСЬКОГО
 ПОВІТРЯ

