

A DEVELOPMENT PLAN
FOR A PART OF THE
TOWN OF TRANSCONA

A Thesis Presented in Partial
Fulfillment of the Requirements
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ABSTRACT

In general, a development plan is concerned with the determination of land uses and traffic circulation for a particular area. Traffic circulation mainly involves the selection of major traffic thoroughfares based on local conditions. Determination of land uses involves the designation of areas by the major land use categories of industrial, residential, commercial, public and semi-public buildings, and public open space. In this report, with regard to the Town of Transcona as a whole, general recommendations have been made concerning both the traffic circulation system and the various land uses. In addition, for a part of the Town, the recommendations concerning land uses have been presented in detail. Finally, a particular site has been subdivided according to the principles of good subdivision design and the neighborhood concept. In conclusion the purpose of this report may be summarized as follows: to state the principles which are involved in the determination of a traffic circulation system and land uses; to illustrate planning principles which are applicable to the design of a residential subdivision.

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envelope at back of thesis.

CHAPTER I

THE TOWN OF TRANSCONA

GENERAL DESCRIPTION

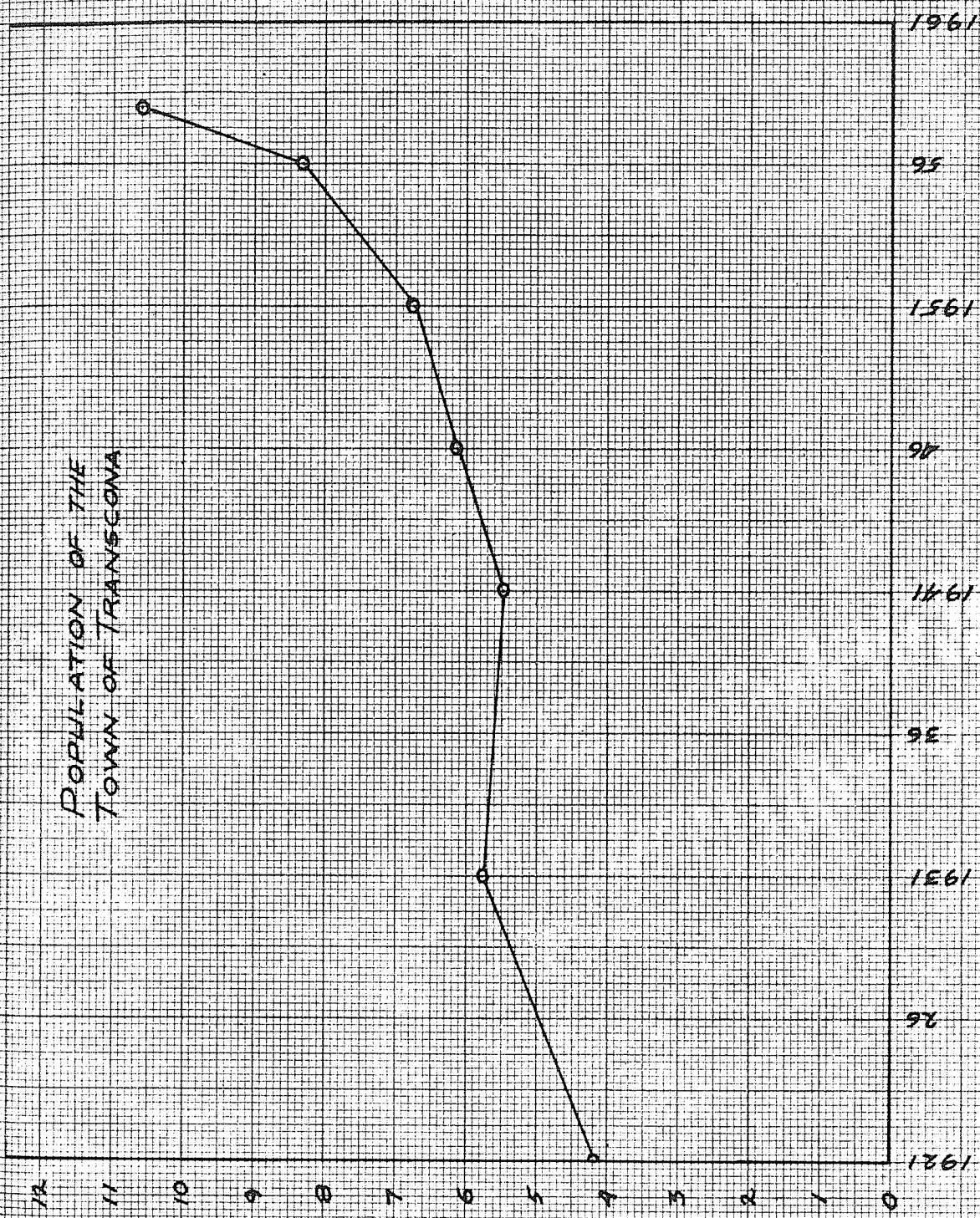
Introduction. The purpose of this chapter is to present a picture of the existing conditions related to planning in the Town of Transcona, Manitoba. Some of the more important topics discussed are present population, existing services and utilities, industrial policy, and housing. The chapter also attempts to indicate the factors which have influenced the Town in the past and the factors which are likely to influence the Town in the future. It is necessary to have an understanding of these existing conditions and influencing factors to determine, from a planning point of view, not only what improvements are absolutely necessary but also what improvements are desirable in order to realize the full potential of the Town as a place in which to work, live and play.

Location and general description. The Town of Transcona, Manitoba, is located approximately six miles east of Winnipeg on highway number fifteen. The total area of the Town comprises 5503 acres, most of which is typical flat, treeless prairie land. The Town is divided into two major sections, the north and the south, by the Canadian National Railway property. This railway property is bounded by Pandora Avenue, Ravenhurst Street, Dugald Road and King Street. The majority of people live in the north section; the rest are either in the south section or scattered about elsewhere in the Town.

Population. An examination of the population figures obtained from the Dominion Bureau of Statistics reveals that the population has increased very steadily, except for the depression years, since the first census was taken. However, a more careful examination shows that the population has increased by a significant 57 per cent since the 1951 census, a period of only seven years. Figure I and the following table illustrate the population increase.

POPULATION OF THE
TOWN OF TRANSONA

POPULATION
(1,000'S)



YEAR

FIGURE 2

Year	Population
1921	4,185
1931	5,747
1941	5,495
1946	6,132
1951	6,752
1956	8,312
1958	10,600 ^a

a Estimated by the town of Transcona

The table on labour force, Table I, indicates that at the time of the 1951 census, there were 2,576 people in the labour force; this figure represents approximately 38 per cent of the Town's population. Of those comprising the labour force, almost 33 per cent are engaged in manufacturing and mechanical occupations; this compares with a figure of 18 per cent for the metropolitan area. Also, higher percentages of the labour force are employed in the construction, transportation and communication, and labourer categories in Transcona than in the metropolitan area. From these observations it may readily be concluded that Transcona is essentially a worker's community.

Peculiarities. There are two principal reasons why Transcona is unlike most of the areas outlying Winnipeg. The first reason is that Transcona, although possessing adequate residential areas, is primarily an industrial

TABLE I

Labour Force by Occupation Groups in Transcona

Occupation	Labour Force			% of Labour Force	
	Total	Men	Women	Transcona	Metropolitan Winnipeg
Proprietary and Managerial	70	65	5	2.72	8.98
Professional	78	42	36	3.03	7.70
Clerical	333	150	183	12.93	19.13
Primary	39	34	5	1.51	1.54
Manufacturing and Mechanical	826	762	64	32.06	18.18
Construction	206	205	1	8.00	5.98
Transportation and Communication	306	297	9	11.88	8.82
Commercial and Financial	132	60	72	5.12	9.35
Service	152	77	75	5.90	12.04
Personal	116	41	75	4.50	9.54
Labourers	396	391	5	15.37	7.63
Not Stated	38	30	8	1.48	0.65
Total	<u>2,576</u>	<u>2,113</u>	<u>463</u>	<u>100.00</u>	<u>100.00</u>

centre while most of the other outlying districts are residential in nature. The second reason is that people residing in the metropolitan area are employed in Transcona; this is contrary to the usual situation in which people residing in the suburbs are employed in Winnipeg.

Municipal affairs. Transcona was incorporated as a town in 1912. Its municipal administration consists of a mayor and four councillors, all of whom are elected for a two year term of office. In addition to these officials, there is a secretary-treasurer who is appointed by the administrators and occupies a permanent position with the Town.

Transcona's fire and police departments are small but adequate. The fire department has nine permanent men and thirty volunteers on its staff. Vehicular equipment consists of: one ladder truck equipped with a pump and a hose, and one pumper truck with a pump, hose and three hundred gallon tank. The Town has an agreement with the City of Winnipeg which calls on the City to furnish fire fighting service in extreme emergencies. Transcona's police force consists of nine men with the services of

two radio equipped patrol cars.

Financial condition. On January 1, 1928, Transcona came under the jurisdiction of the Municipal and Public Utility Board.

The municipal and school district debt was consolidated and refunded by the issue of thirty year, 4 per cent debentures. Interest was defaulted in the 1930's. In 1937, a five year plan was put into effect varying the interest with the consent of the bond holders. In 1942, a new five year plan set interest at $1\frac{1}{2}$ per cent. After 1946 the interest was adjusted annually by Board Orders for three years. In 1949, the debt was refunded by the issue of \$900,000, thirty-five year, $1\frac{1}{2}$ per cent debentures. On December 31, 1953, the refunded debt was \$790,199.25. This is 61.6 per cent of the debt in 1936. (1, p.98).

Assessment. Transcona's assessment values are based on prewar building costs. The assessed value of buildings is approximately 40 per cent of the market value while the current mill rate is 54.5. Transcona has taken advantage of the Municipal Act to fix assessment on land and buildings for a period of years; the purpose of this policy is to encourage industries to locate within the Town. Although controversial, it is likely that this policy will be continued in the future.

Education facilities. The two school districts in Transcona, School District 39 and School District 1569,

both teach courses approved by the Manitoba Department of Education. Although there are two school districts, nearly 86 per cent of the assessable property is located in School District 39.

Transcona has four elementary schools, one high school and one separate Roman Catholic school. One of the elementary schools serves the south side of town, that is, the part of town south of the Canadian National Railway property. The others are located as follows: Radisson School, on Winona Street between Harold Avenue and Horton Avenue; Central School, on Oxford Street between Yale Avenue and Harvard Avenue; Westview School, on Hoka Street between Rosseau Avenue and Ravelston Avenue. The separate church school is located on Rosseau Avenue, just west of Leola Street. The high school, Transcona Collegiate, is on Oxford Street between Yale Avenue and Harvard Avenue.

Recreation facilities. Transcona has a fair variety of recreational facilities. For those who are inclined to relax and watch others perform, there are: the summer concerts held in Kern Park, a three acre park in the heart of town; the conventional

moving picture theatre; the "drive-in" theatre; and the 1100 seat baseball stadium. The more active of population may visit: any one of the four community clubs, with skating rinks during the winter; any one of the seven playgrounds; the bowling alley, the curling rink or the nine-hole golf course.

INDUSTRY

Industrial policy. Transcona is anxious to encourage industrial establishments to locate within the Town. To accomplish this, as already mentioned, Transcona has taken advantage of the provisions of the Municipal Act which allow the fixing of assessments on the land and buildings for a specified period of years. An example will illustrate this practice. A certain company agreed to finance the cost of installing a trunk sewer up to its property at a cost of approximately thirty thousand dollars. This investment was to be repaid by the tax credits over a ten year period. This arrangement would have been difficult without the fixed rates of assessment. Further encouragement to industry is provided by an organization known as the Transcona Industrial

Development Board, established in 1954. This board participated in the discussions which precede the final agreement in the case just mentioned and also played a prominent role in the negotiations with the International Harvester Corporation which eventually resulted in the firm's locating their plant in Transcona.

Existing industries. The main industrial firms with establishments in Transcona are: the Canadian National Railway, the International Harvester Corporation, the Griffin Steel Foundries Limited, the Canada Creosoting Company Limited and the Dominion Malting Company Limited.

The Canadian National Railway owns over one square mile of land within the Town; this property is located immediately south of Pandora Avenue, not more than two blocks from the Town's central business district. The shops which are located on this property are Transcona's most important industry: it may be stated that they are the principal reason for its existence. This statement is substantiated by the fact that many of the approximately twenty-three hundred people

employed in the shops are residents of Transcona.

The two most recent and most important additions to Transcona's industrial establishments are the plants owned by the International Harvester Corporation and Griffin Steel Foundries Limited. The former is located on Regent Avenue at Bradley Street and represents the first section of a warehousing, assembly and forwarding plant. The total estimated investment is four million dollars. The Griffin Steel Foundries Limited plant is located on the east side of Oxford Street, immediately north of the Canadian National Railway line. This plant specializes in railway equipment and represents an estimated investment of five million dollars. The plant is expected to commence operations early in 1959.

Other important industrial establishments and their locations: the Dominion Malting Company Limited, on highway number fifteen; the Canada Creosoting Company Limited, north of the Canadian National Railway Victoria Beach Subdivision at Winona Street; and the Winnipeg Light Aggregate Company, on Winona Street just north of Thompson Avenue.

SERVICES and UTILITIES

Water supply. Transcona is a member of the Greater Winnipeg Water District and draws its supply of water directly from their aqueduct. The Town has its own pumping station at Dugald Road and King Street, where three electric pumps, each rated at 1,125 gallons per minute, deliver water to the Town's distribution system.

The distribution system itself has approximately sixteen miles of pipe, both cast iron and asbestos cement, varying in diameter from four to twenty inches. In addition, there are approximately fifteen hundred domestic and commercial services and five industrial services; all of the industrial and the majority of the domestic and commercial services are metered. All of these services provide for a daily average consumption of one million gallons. The pressure of the water is maintained at seventy pounds per square inch and is fairly constant throughout the year. It can be increased to one hundred and thirty pounds per square inch for fire fighting purposes. The Town's reservoir has a capacity of three hundred thousand gallons.

The sewer system. As well as being a member of the Greater Winnipeg Water District, Transcona is also a member of the Greater Winnipeg Sanitary District. The most important fact regarding the Town's sewer system is that the sewers are designed to handle domestic sewage only. Another important fact is that a pumping station is required as part of the system. This pumping station is located on King Street, just south of Kildare Avenue.

The main trunk sewer of the system starts at Kildare Avenue and Wayoata Street. It runs west along Kildare Avenue to the pumping station on King Street; from the pumping station it runs south along King Street to the Greater Winnipeg Sanitary District's collection system. This trunk sewer is twenty-four inches in diameter at its origin on Wayoata Street, and increases in size until it is thirty-six inches in diameter at the pumping station. From the pumping station to the Sanitary District's collector system it is an egg-shaped sewer, 2 feet 10 inches by 4 feet 3 inches, with a capacity of eleven million gallons per day.

Paving and drainage. Only a small percentage of

Transcona's streets are paved, and none of these is paved for its entire length. The streets which are paved are the main thoroughfares of the Town, namely: Regent Avenue, from the western limit of the Town to Kanata Street; Oxford Street, from Victoria Avenue to Horton Avenue. In addition, there are several streets which are paved for only a short portion of their total length. For example, Whittier Avenue is paved from Leola Street to Wayoata Street, and Harvard Avenue, also from Leola Street to Wayoata Street.

Storm sewers are related to street paving: as there is little paving in Transcona, it follows that there are few storm sewers. This is indeed the situation, with surface drainage and runoff being handled by the cheaper, but less efficient method of ditches.

Utilities. Transcona has an abundant supply of electricity, oil and gas to offer prospective customers. With regard to electricity, the Manitoba Hydro-Electric Board has a terminal station located on Oxford Street, just north of the Dundee Branch. The transmission lines which serve this terminal station traverse the whole Town from the

western boundary to the eastern boundary. Specifically, these lines are located as follows: from the western boundary to the terminal station, they are parallel to the Canadian National Railway line for most of the distance; from the terminal station to the eastern boundary, they are parallel to the Dundee Branch. With regard to oil, there is a pipeline which crosses the whole Town in a north-south direction. This pipeline is just east of the King Street east property line, and its projections, for its entire length in Transcona. In 1958, natural gas was introduced by the Winnipeg and Central Gas Company. Because electricity, oil and gas are readily available in abundant amounts, Transcona has hopes of becoming more important as an industrial centre.

HOUSING

The situation. In 1951, there were 1,881 occupied dwellings in Transcona. With regard to this figure, two features are noteworthy: over 72 per cent of these dwellings were owned by the people living in them, and only 18 per cent of the homeowners carried a mortgage. This compares with a figure of 43 per cent in Greater Winnipeg.

By the end of 1958, Transcona had approximately 3,050 dwellings. See Table II. In connection with this figure, it should be noted that the number of dwellings has increased by almost 50 per cent since 1954, a period of only four years. Most of this new housing construction has been carried on in the west side of town, particularly between Madeline and King Streets and Pandora and Kildare Avenues. Other areas of the Town which have experienced growth are the Kern Park area, and the area bounded by Kildare Avenue, Wabasha Street, Newman Avenue and Winona Street. This expansion has merely filled out the existing grid pattern of streets with little or no attempt being made to incorporate principles of good subdivision design into the projects. Fortunately there is one prominent exception, an area known as Regent Park. One half of this project has been essentially completed, that is, the part bounded by Rosseau Avenue, Hoka Street, Kildare Avenue and King Street; construction is scheduled to start this year on the remaining portion, that is, the area bounded by Kildare Avenue, Hoka Street, McMeans Avenue and King Street.

The demand. Although there is a strong demand for new houses, in the opinion of a local civic

TABLE II
BUILDING PERMITS ISSUED FOR DWELLINGS
1947 - 1958

Year	Number of Permits	Value	Average Value
1947	110	399,400	3,631
1948	28	110,550	3,948
1949	44	184,500	4,193
1950	45	207,100	4,602
1951	50	266,300	5,326
1952	35	223,700	6,391
1953	53	424,800	8,015
1954 ^a	85	667,700	7,855
1955	207	-	-
1956	262	-	-
1957	152	-	-
1958 ^b	388	-	-

a Information for 1947 to 1954 from, "Industrial Survey of Metropolitan Winnipeg", Department of Industry and Commerce, Province of Manitoba.

b Information for 1955 to 1958 from the Town of Transcona.

official, Transcona has no acute housing shortage. This may be verified by an approximate calculation. Multiplying the approximate number of dwellings (3,050) by the national figure of 3.6 people per dwelling unit, a total population of 10,980 is obtained. Thus, as the estimated town population at the end of 1958 was only 10,600, according to statistics, there is apparently room for 380 more people. However, there certainly is a strong demand for new housing. This may be verified by the fact that a certain construction company wanted to build four hundred houses, rather than the two hundred houses which the Town would permit.

CHAPTER II

THE DEVELOPMENT PLAN

Introduction. Having considered the situation in Transcona in general terms, attention will now be focused on recommendations which may improve the situation. It is through these recommendations and the proposed subdivision plan that the main purpose of the chapter and of the whole report will be presented. First of all, recommendations will be made with regard to Transcona's traffic circulation system. Next, a discussion of two of the major land use categories will be presented in some detail: firstly, industrial, because the Town of Transcona emphasizes its industrial potential; secondly, residential, because the proposed subdivision plan is a part of this general category. Finally, the principles of good residential subdivision design will be illustrated.

THE TRAFFIC CIRCULATION SYSTEM

Current circulation system. The main thoroughfares in Transcona are Nairn Road, Oxford Street and Regent Avenue. Almost all of the traffic between Transcona and Winnipeg travels over Nairn Road; the alternate route between Transcona and Winnipeg is via highway fifteen. Oxford Street carries local traffic almost exclusively, being the Town's main north-south street. Regent Avenue handles both Transcona-Winnipeg traffic and local traffic. It is the Town's main east-west route and also connects Oxford Street with Nairn Road.

Nairn Road is asphalt surfaced from its origin in the City of Winnipeg to its intersection with Regent Avenue in Transcona. Regent Avenue is asphalt surfaced from Nairn Road to Kanata Street. Both Nairn Road and Regent Avenue are capable of carrying only two lanes of moving traffic. Oxford Street has concrete paving from its intersection with Victoria Avenue to its intersection with Horton Avenue. It is capable of handling two lanes of moving traffic and one lane of parking; it has been designed in such a way that it can be widened without any difficulty.

TOWN OF TRANSCONA EXISTING CIRCULATION SYSTEM

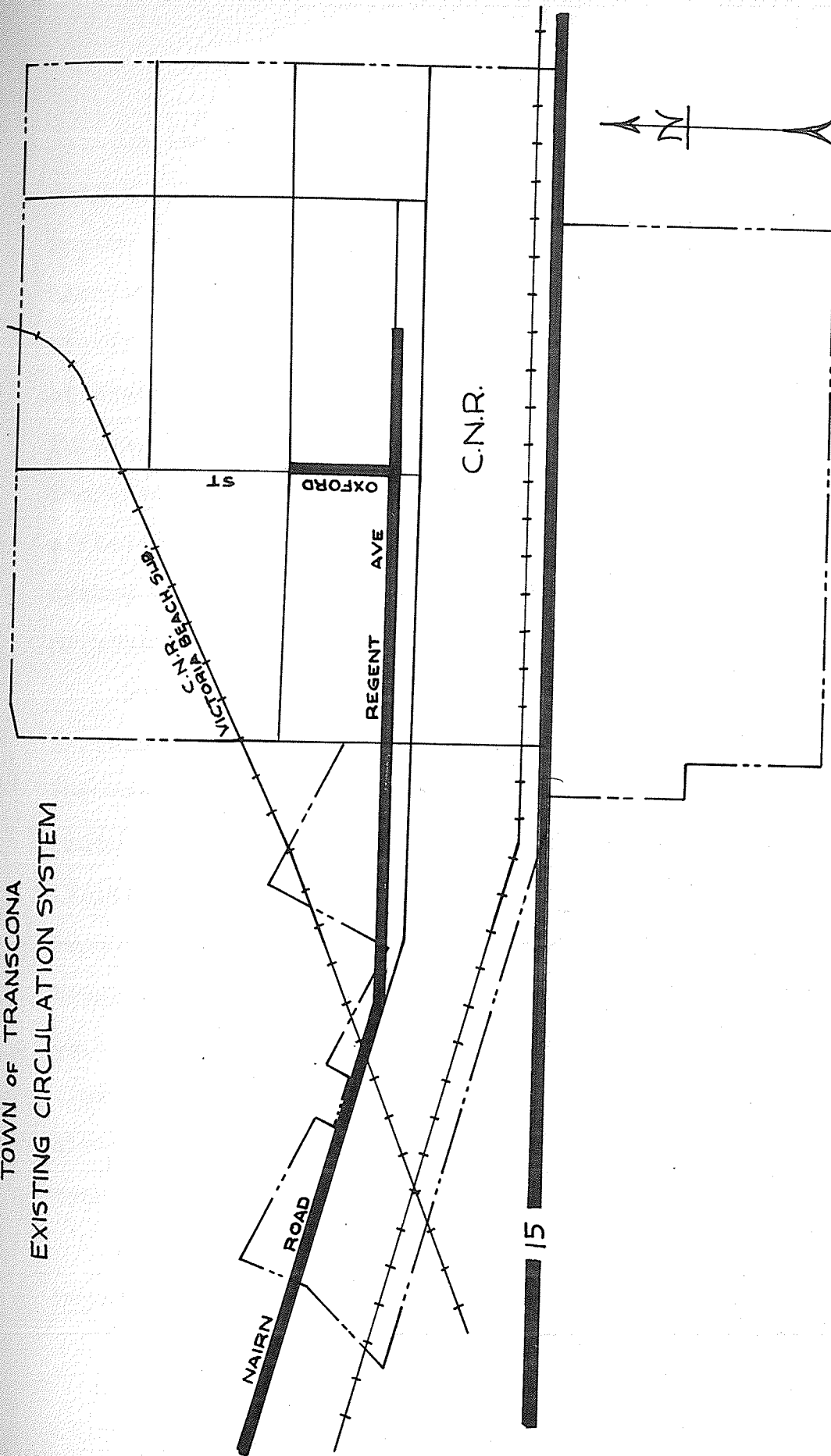


FIGURE 3

On the basis of observation and experience it is judged that these main thoroughfares, Mairn Road, Regent Avenue and Oxford Street, are capable of handling efficiently the present volume of vehicular traffic. However, it is anticipated that the volume of traffic will increase considerably in the near future, the main reason being the expected substantial increase in population. Therefore, to handle efficiently this expected increase and to improve the system as a whole, certain recommendations will be presented.

Before proceeding with the recommendations, certain definitions and standards will be set out. For the purpose of this report, a major traffic route is defined as a roadway with ample width, a limited number of intersections, and a considerable amount of vehicular traffic. More specifically, this means that the roadway width should be forty feet and that the intersections with the roadway should be no closer than eight hundred feet. (2, p.58). A main street is considered as a street with a minimum roadway width of thirty-six feet.

Recommended circulation system. The main recommendation with regard to traffic circulation is

TRAFFIC ROUTE CROSS-SECTIONS

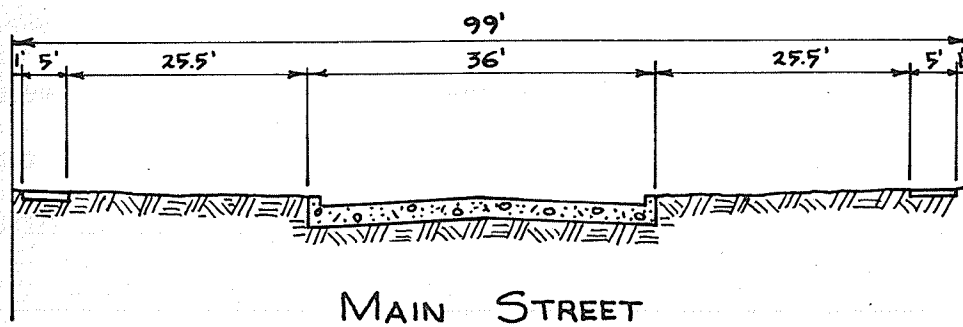
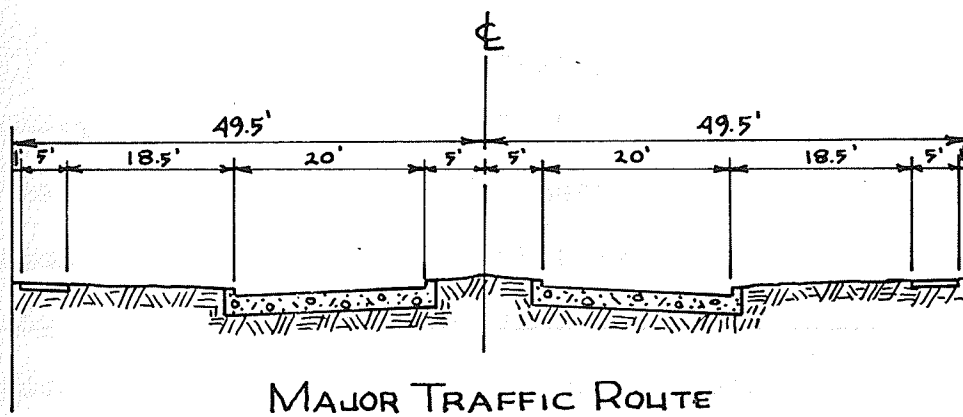
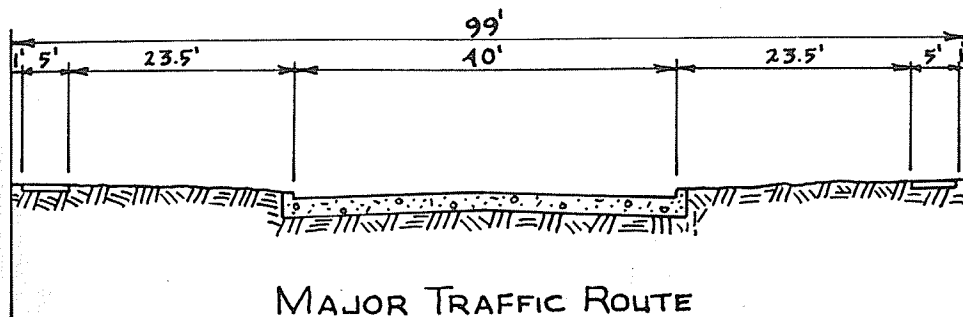


FIGURE 4A

that the following route be made a major traffic route:

Nairn Road- Regent Avenue to King Street

Pandora Avenue- King Street to Redonda Street

Redonda Street- Pandora Avenue to Dundee Branch

Dundee Branch- Redonda Street to the Canadian

National Railway Victoria Beach

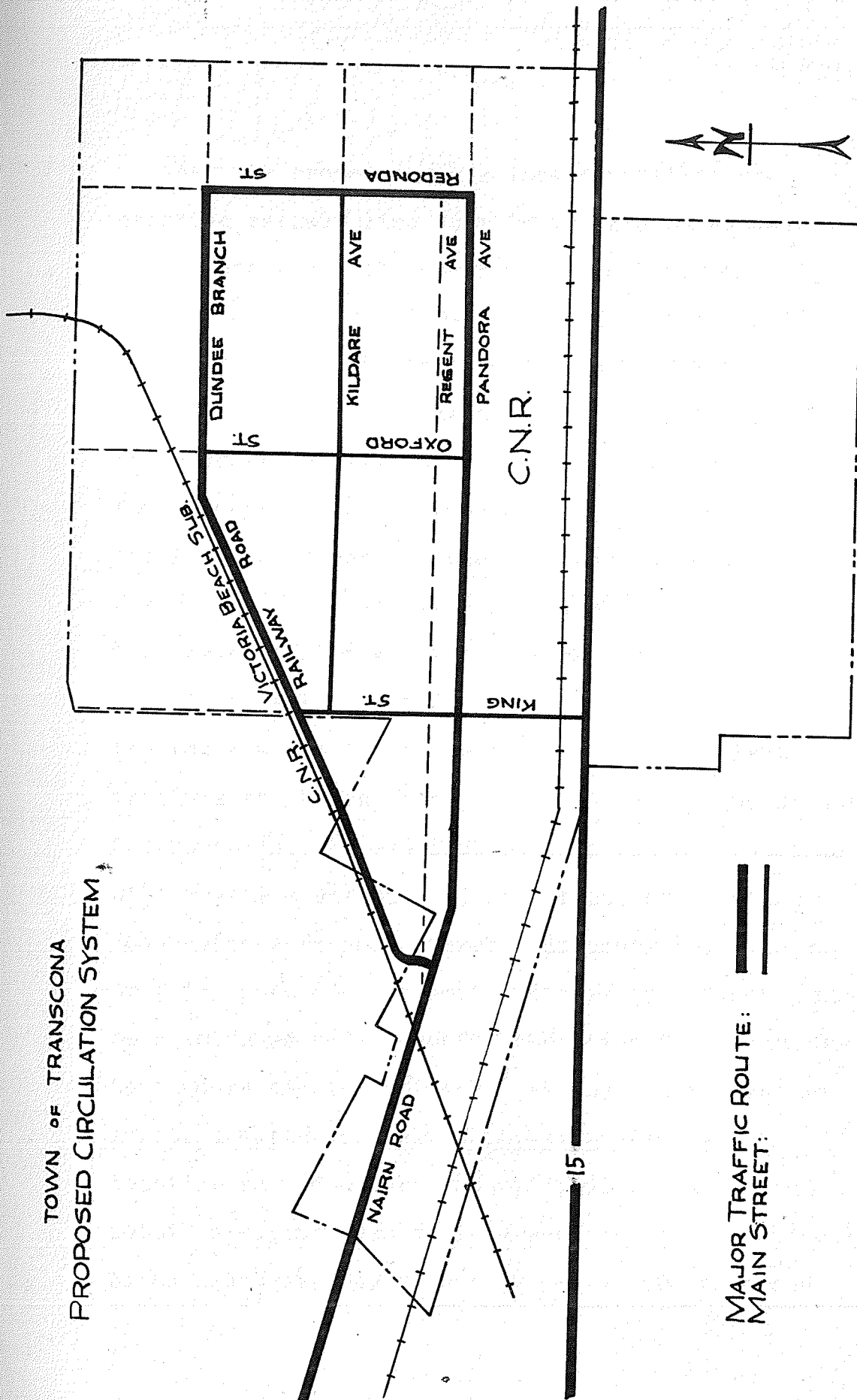
Subdivision

Railway Road(proposed new road adjacent to above
railway line)- Dundee Branch to Regent
Avenue

A prominent feature of this proposal is the emphasis of Pandora Avenue, rather than Regent Avenue, as part of the major traffic route. One of the reasons for this shift is that a major traffic street along Pandora Avenue serves as a desirable boundary between the residential area north of Pandora and the industrial area south of Pandora. Secondly, the shift will permit through traffic to avoid the Town's central business district which is located on Regent Avenue. Finally, the shift will provide both convenient and speedy access to the expanding Canadian National Railway industrial facilities south of Pandora Avenue.

Another notable feature of this recommendation

TOWN OF TRANSCONA PROPOSED CIRCULATION SYSTEM





MAJOR TRAFFIC ROUTE: 
MAIN STREET: 

FIGURE 4

is that the proposed route should parallel the existing railway line from Dundee Branch to Regent Avenue, that is, the section called Railway Road. As in the Pandora Avenue recommendation, this location will serve to emphasize the distinction between the proposed industrial area north of the railway and the proposed residential area south of the railway. Furthermore, this location will allow industrial traffic good access to the proposed industrial area north of the railway without having to pass through the residential area east of King Street.

At this stage, there are two details regarding the route which should be mentioned. The first involves the Nairn Road, Pandora Avenue, King Street intersection. An examination of a map of Transcona will reveal a slight jog, or offset, where Nairn Road becomes Pandora Avenue. In order that the major traffic route operate most efficiently, this jog must be eliminated and a smooth transition from Nairn Road to Pandora Avenue achieved. As the jog is not too great, a matter of only forty-eight feet the solution should not be too difficult. The second detail also involves an intersection; the intersection of Railway Road and Regent Avenue. More than one

5

solution of this intersection problem is possible. A simple ninety degree intersection may be constructed or an elaborate intersection featuring left and right turn lanes may be built. Also, the possibility of continuing the route south to intersect Nairn Road may also be considered. As with the first intersection, little difficulty should be encountered in effecting a solution.

Considering the traffic route as a whole again, it is unlikely that much difficulty will be encountered in building the route to desirable width and intersection standards, under present conditions. The reason for this is that most of the land adjacent to the route is still undeveloped. The exception to this is Pandora Avenue, which is flanked for a considerable portion of its length by industrial and residential areas. However, from the viewpoint of intersections, this is not a serious objection. This is because the Canadian National Railway property has few intersections with Pandora Avenue, and the residential area, although having more intersections, has them well spaced. It should be emphasized that existing conditions are well suited for easy implementation of the proposed major traffic

route. However, this may not always be the situation. Therefore, if the route is not to be built in the near future, it is recommended that steps be taken to control development adjacent to the proposed major traffic route so that it may be built according to the desirable width and intersection standards.

The second recommendation with regard to overall traffic circulation is to make Nairn Road capable of handling four lanes of moving traffic from highway fifty-nine to its intersection with King Street. If the population of Transcona continues to grow as expected, the need for four lanes of moving traffic, instead of the present two, will be evident.

The third recommendation is to continue Oxford Street as a main street and to establish King Street and Kildare Avenue as main streets. A main street has been defined as a street with a minimum roadway width of thirty-six feet.

Oxford Street, as previously mentioned, is Transcona's main north-south thoroughfare. In its existing condition, it will provide an excellent connection between the north and south segments of the proposed major traffic route; therefore, there is no need to consider an alternate street for this

same purpose. However, one point should be mentioned, and that is, its paving should be extended both on the north and on the south in order to connect up with the proposed major traffic route.

An examination of the map which indicates the proposed circulation system will show why Kildare Avenue has been recommended as a main street. First of all, for a considerable distance Kildare Avenue is equidistant from the north and south segments of the proposed major traffic route. It is not merely equidistant, but equidistant at a desirable spacing, that is, one half mile. Secondly, it is the only through street between King Street and Pandora Street with the aforementioned qualifications. Finally, it has sufficient right-of-way width for a main street, that is ninety-nine feet.

The third thoroughfare proposed as a main street is King Street, from Railway Road to highway number fifteen. This street will serve to separate the proposed industrial area on its west side from the existing residential area on its east side between Railway Road and Pandora Avenue. In addition, it will provide a good connecting link between Railway Road, Pandora Avenue and highway

fifteen. This latter portion, that is, between Pandora Avenue and highway fifteen, is very important because it is the main connection between the north and south sides of Transcona. Like Kildare Avenue and Oxford Street, King Street is wide enough, ninety-nine feet, so that the proposed improvements will not be difficult to achieve.

LAND USES

INDUSTRIAL USE

Characteristics. Good industrial sites have all or most of the following characteristics:

They are reasonably level and capable of economic grading.

They have good access to transportation facilities such as railroads, major traffic roads, airports, and so on.

They are well served by electricity and water and sewerage facilities.

They are located towards the perimeter of town.

They are reasonably close to residential areas housing the labour force.

They tie in well with the surrounding land uses.

In connection with the last point, the site should be examined considering the prevailing winds, the desirability of buffer strips and the possibility of developing "industrial parks".

Proposed industrial areas. The first area

proposed as industrial is the area bounded on the east by King Street, on the south by highway fifteen and on the south, west, and north by the town limits. This whole area is recommended for industrial use except for one part; the part bounded by King Street, Nairn Road and Regent Avenue. Nevertheless, the remaining area is quite extensive, as it is almost one square mile in area. For convenience, the total area will be discussed in two parts, sections one and two; section one being that part of the area bounded by Regent Avenue, King Street, and the town limits; section two being the remaining part of the area.

The whole area possesses most of the characteristics of a good industrial site. First of all, the land is level. Secondly, the area has good access to transportation facilities: The Canadian National Railway Victoria Beach Subdivision traverses the whole area in a north-east direction, while the same railway's main line runs through the whole area from its western boundary to its eastern boundary; Nairn Road and Regent Avenue, both major traffic routes, run through the area. Two other advantages are that transmission lines parallel the Victoria

TOWN OF TRANSCONA
INDUSTRIAL AREAS

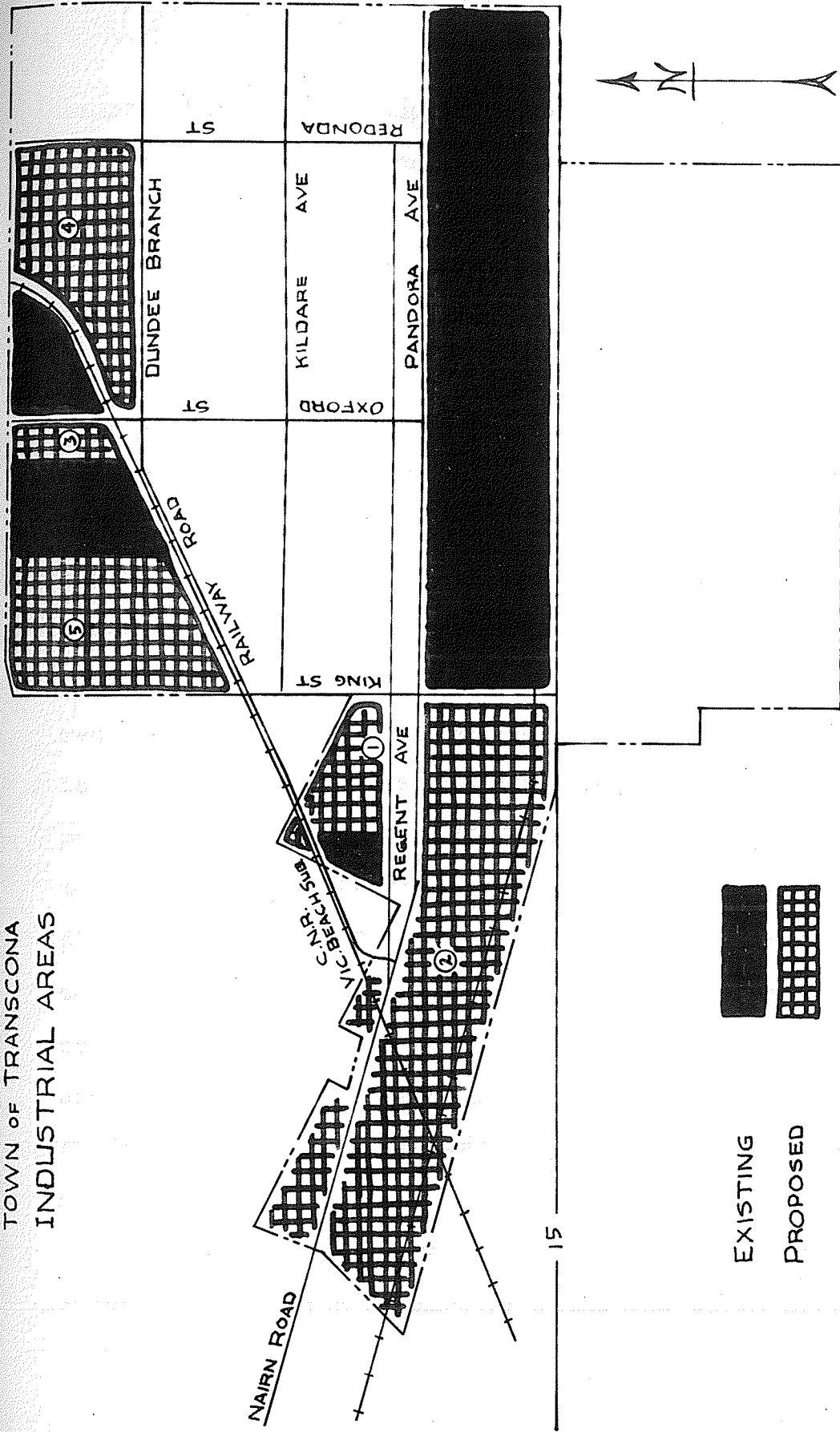


FIGURE 5

Beach Subdivision through the whole area and that the area is on the outskirts of town. The western boundary of the area is also the eastern boundary of the City of Winnipeg, that is, the Elmwood District. Being in this position the area will be able to draw on Winnipeg as well as Transcona for its labour supply.

However, this area does have certain disadvantages. Although section one is well serviced by the existing sewer and water facilities on Regent Avenue, section two has little servicing of any kind. Therefore, in order to make section two available for industrial use, considerable extension of existing services is required. Another disadvantage of the area is that it is located west of town, therefore, in the summer, the prevailing westerly winds will subject the Town to any noxious characteristics emanating from the industrial plants. One other drawback is the fact that the area contains some recently constructed houses, particularly along Nairn Road. It is doubtful if they can be economically removed. However, if the proposal to develop this area industrially is acceptable, no new house construction in the area should be permitted.

It is not recommended that the Town immediately embark on a program of service extension which will

completely service the whole area. What is recommended though, is that the whole area be considered as industrial, and reserved for such a use in the future. Any industry which desires a location in the area in the near future should be encouraged to settle in section one. This section is already partially developed and should be fully developed before section two is utilized to any extent at all. The development of section two should not be in a haphazard manner, rather, a general industrial development plan should be formulated for the area and any development proceeded with should be in accordance with the plan.

The second main area recommended for industrial use is bounded by King Street on the west, Redonda Street on the east, the town limit on the north and the Victoria Beach Subdivision and Dundee Branch on the south. Part of this area is already devoted to industrial use. The Canada Creosoting Company Limited has its plant and yard on an extensive site of approximately one hundred acres west of Oxford Street, while the Griffin Steel Foundries Limited has an extensive site on the east side of Oxford Street. The areas not in industrial use are either agricultural or vacant. These remaining areas are in three

distinct parts and for convenience are designated as sections three, four and five.

All three sections are considered good industrial sites. First of all, they are all very level, just about as level as prairies can be. Secondly, they have good access to transportation facilities: the Canadian National Railway Victoria Beach Subdivision is the southern boundary for about half the whole area; the Canadian Pacific Railway Keewatin Subdivision, while it does not pass through Transcona, is very close (it is less than one half mile away at its greatest distance) to the northern limit of the whole area. In fact, the Canadian Pacific Railway has yards located no more than one half mile from the northern limit of the entire area. Furthermore, the three sections are also well located with respect to major traffic routes as Railway Road runs along the entire southern limit of the area and Oxford Street runs right through the middle of the whole area. All sections are towards the periphery of the Town and at the same time are within easy distance of any residential area within the Town. Still another feature which would appeal to future industrial prospects is the fact that the Manitoba Hydro-Electric Board transmission lines parallel the

entire southern limit of the whole area. It might be added at this point that the transmission lines, together with the railway line and proposed major traffic route form an ideal separator strip between this industrial area and the residential area located immediately to the south. One more factor which favors an industrial classification for the whole area is the fact that as an industrial area it will be compatible with surrounding land uses. On the north, there are the Canadian Pacific Railway yards, on the west, the land is vacant. On the south there is the aforementioned well separated residential area. On the east there is a proposed residential area; however, with good planning it could be properly related to the industrial area.

Not many areas are without some disadvantages and this one is no exception. The chief drawback is the lack of complete sewer and water services. Although most of section three and the west part of section four require only plant connections to the existing services on Oxford Street, the remaining portion of section four and all of section five require considerable extension of existing facilities in order to become completely serviced.

Another disadvantage of the area is its location with respect to prevailing winds. As the area is at the north and west limits of the Town, the prevailing northerly and westerly winds would carry noxious characteristics to the Town. Therefore, only industries which do not produce these undesirable characteristics should be allowed to locate in this industrial area.

The first recommendation, of course, is that the whole area be considered industrial. Secondly, the recommended order of development is: section three and the west part of section four, to take advantage of the existing services on Oxford Street; then the remainder of section four and all of section five. Finally, the possibility of developing section five as an "industrial park" should be thoroughly investigated. Considering the two main areas proposed as industrial, the following order of development is recommended: first of all, section one, secondly section two, then either three, four or five depending upon particular circumstances.

In concluding this discussion on proposed industrial areas, the total amount of land recommended for such a use will be considered. Some

may feel that too much land has been proposed for industrial usage. However, before accepting this statement there are several factors which should be mentioned. First of all, the areas serve not only Transcona but also other parts of the Metropolitan area, including Winnipeg City; this is especially true of the first main area discussed, that is, the one on the west side of town. Secondly, these areas have most of the characteristics of good industrial areas; any other land use could almost be considered wasteful. Since the area is best suited for industrial purposes, it should be used for such. Finally, the amount of land which a single industrial plant can take up is quite extensive; for example, the Canada Creosoting Company yard uses a little more than one hundred acres. Utilizing land at this rate, or close to it, would soon dispose of all the areas designated for industry. Therefore, in the light of these considerations, it is felt that the amount of proposed industrial land is not unduly excessive.

RESIDENTIAL USE

Population forecast. Estimating accurately the population of an area is a difficult task. The reason for this, of course, is the number and

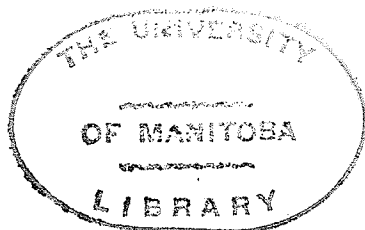
complexity of the variable factors such as economics, politics, war, natural catastrophe and so on. Even more difficult is the task of accurately predicting the population of a small area, where it takes but one factor to completely alter the situation. Using Transcona as an example, if the Canadian National Railway for some reason decided to move their holdings to a new location, Transcona would suffer a great blow, from the standpoint of population as well as from other factors. Regardless of the difficulties involved in achieving an accurate population estimate, a population figure will be offered. It should be remembered, however, that the figure, like most population estimates, will at best be a guess, but a guess with some foundation.

Before presenting a population forecast, Transcona's population trend will be briefly reviewed. Between 1941 and 1951 Transcona grew steadily, increasing from a population of 5,495 in 1941 to 6,752 in 1951, an increase of 23 per cent. Between 1951 and 1958 it grew much more rapidly, increasing from 6,752 in 1951 to an estimated 10,600 at the end of 1958, a substantial increase of 57 per cent.

There are several reasons why Transcona is

likely to continue to grow at a rate similar to its rate in recent years. As mentioned previously, the Canadian National Railway shops are the dominant element in Transcona's economy; as they are presently expanding their facilities in the Town, this should have a favourable influence on its economy as a whole, and the more favourable the economy of a particular area, the more people are attracted to that area. Since the expansion, is to continue for the next couple of years or so, it is expected that a considerable number of people will be attracted to the area. As this expansion of facilities in Transcona is in reality a shift of one of the railway's Winnipeg locations, some may claim that the affect on Transcona will be negligible. However, this shift has been underway for the last couple of years or so and is offered as one reason for the rapid increase in population between 1956 and 1958. People like to be, or should like to be, fairly close to their place of employment; therefore it is conceivable that some of the people who are working at the Winnipeg yard and living in Winnipeg have moved, or will be moving, to Transcona.

Another reason why Transcona is expected to



to continue its rapid rate of growth is that since Transcona is considered part of Metropolitan Winnipeg, and Metropolitan Winnipeg is expected to grow rapidly, therefore Transcona will grow with it. Upon a closer examination of the situation, Winnipeg, along with Brooklands, St. James, East Kildonan and West Kildonan, is almost completely developed. In fact, total development is expected in Winnipeg and Brooklands by 1960 or 1961, in St. James by 1971, in East Kildonan and West Kildonan between 1961 and 1971. Considering the situation in this light, much of the anticipated growth has to occur in the other metropolitan areas, namely: Tuxedo, Fort Garry, St. Boniface and Transcona. Also, the percentage of growth allotted to these particular areas will increase with time. The remaining metropolitan areas of North Kildonan, Old Kildonan, Charleswood and Assiniboia will naturally share this growth. However, due to such factors as the lack of readily available services and the comparatively low rate of recent residential development, their share in the immediate future will not be as great as it will be eventually. (3, pp. 15, 16, 18, 19).

On the basis of these two factors, Transcona is

expected to grow at a rate similar to its rate of the past few years. Therefore, in accordance with this expectation, the 1951-1958 rate of growth is extended for a ten year period, that is to 1968. See Figure 5, page 45. In order to take care of any "leveling-off" which may occur, and to be in keeping with a longer term trend, the 1946-1958 rate of growth is also extended for a ten year period. It is expected that the two figures obtained from these projections, that is 20,000 and 16,700 respectively, will define the upper and lower limits of the population. Therefore, a figure of 18,000 is selected as the 1968 population. The 1946-1956 rate of growth projection is included for comparison purposes.

Amount of land for residential and related uses.

Before proceeding to outline the approximate land requirements, certain estimates and assumptions will be made.

1. The population of Transcona will be approximately 18,000 in ten years, that is, in 1968.
2. The average family size is assumed to be 3.5 people. This is the figure used by the Town to estimate the 1958 population.
3. It will be assumed that the number of dwelling

TOWN OF TRANSCONA POPULATION FORECAST

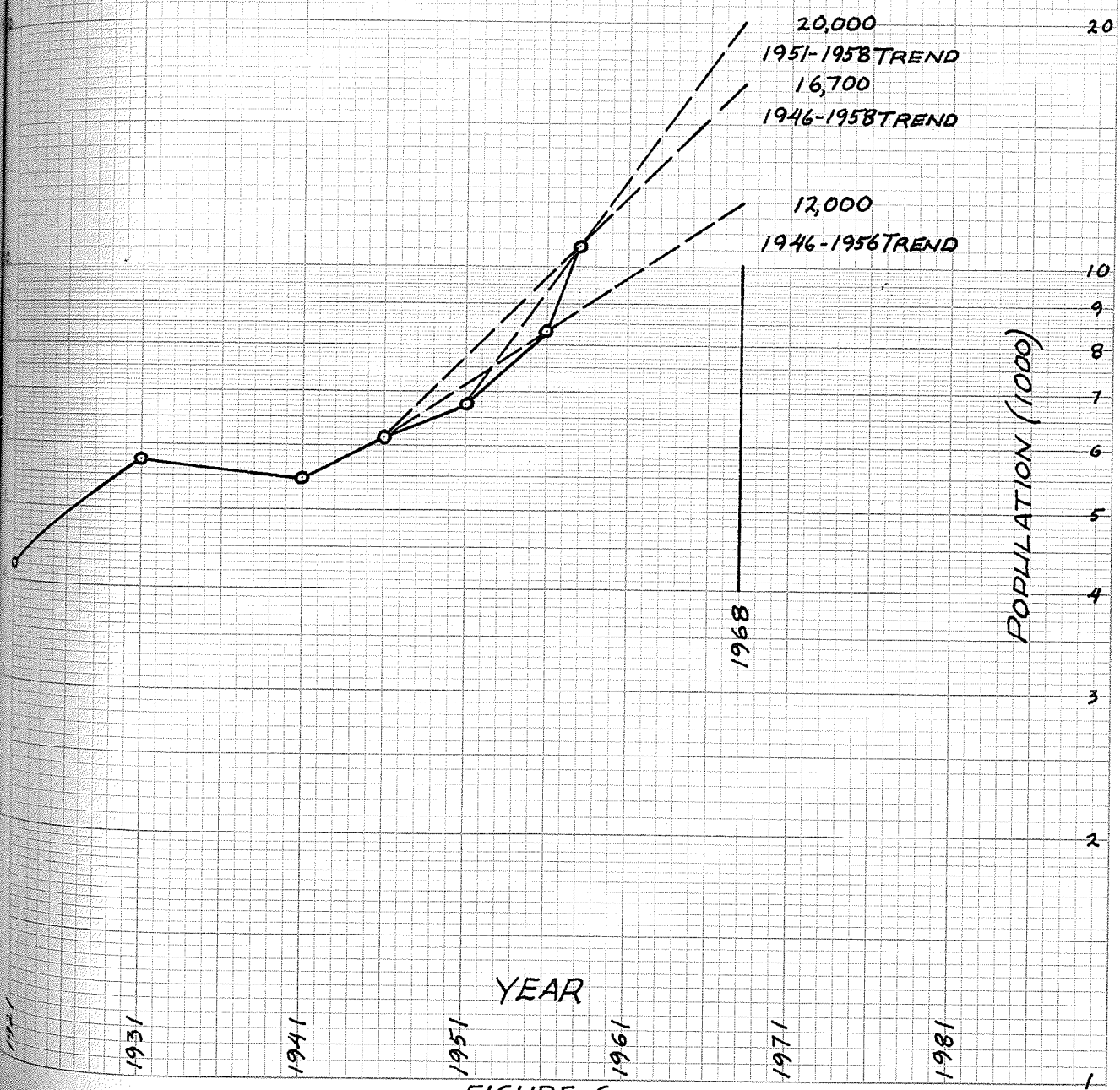


FIGURE 6

units, and therefore the number of lots, correspond to the number of families. In other words, each family will be housed in a single-family dwelling unit. This assumption will provide for maximum expansion.

4. The typical lot size is assumed to be sixty by one hundred feet. The typical lot size of the recently constructed houses in Transcona is fifty-five by one hundred feet.
5. The amount of land required for streets per lot is eighteen hundred square feet. This assumes both a lot width and a street width of sixty feet.
6. The amount of land required for community facilities is based on the following rates:

School site	0.45 acres per 1000 population
Playground	1.25 acres per 1000 population
Park	0.75 acres per 1000 population
Shopping Centre	0.65 acres per 1000 population
General community facilities	0.38 acres per 1000 population

These rates apply specifically to neighborhoods of five thousand people; however, when the other assumptions are considered, it is felt that the use of these rates is justified. (2, p. 53).

Accepting these assumptions, an estimate of the amount of land required by 1968 for residential and related uses can be made.

Forecast population 1968	18,000
Estimated population 1958	<u>10,600</u>
Increase	7,400
Number of lots required:	$\frac{7400}{3.5}$ 2115
Land for residential use:	$\frac{2115 \times 6000}{43560}$ 291.0 acres
Land for Streets:	$\frac{2115 \times 1800}{43560}$ 87.0 acres
Land for community facilities:	
School sites	0.45 X 7.4 3.3 acres
Playgrounds	1.25 X 7.4 9.2 acres
Parks	0.75 X 7.4 5.5 acres
Shopping centre	0.65 X 7.4 4.8 acres
General community facilities	0.38 X 7.4 <u>2.8 acres</u>
Total land required:	403.6 acres

It is realized that the land devoted to community facilities as a whole is only a small percentage of the total area and that in a rough estimate such as this, an estimate of their requirements could be omitted. However, they are included for illustrative purposes.

An estimate of the amount of land required for residential and related uses in 1981 can be obtained

by using the population estimate of the Metropolitan Planning Commission for that year. This figure indicates that Transcona's population will be three to four times as large as it was in 1956. Assuming that the population will be 3.5 times as large, a figure of twenty-nine thousand for 1981 is obtained (3, p. 28). Utilizing the same assumptions of the previous land estimate, the following acreage is computed.

Forecast population 1981		29000
Estimated population 1958		<u>10600</u>
Increase		18400
Number of lots required:	$\frac{18,400}{3.5}$	5250
Land for residences:	$\frac{5250 \times 6000}{43,560}$	723 acres
Land for streets and community facilities:	30%	309 acres
Total		<u>1032 acres</u>

In summary of this discussion, it may be said that space requirements for residential and related uses are based on assumptions concerning: population, average family size, type of dwelling, density, land for streets and community facilities. Several other assumptions could have been included in the discussion,

namely: changes in family size by the end of the planning period; losses of existing dwelling units due to use invasion, public renewal, and catastrophe. However, due to the limitations of time and to the approximate character of the estimate, these rather special assumptions were not included.

Existing residential areas. The majority of Transcona's population resides in an area bounded by: Pandora Avenue on the south, Kildare Avenue on the north, King Street on the west and Leola Street on the east. For convenience in discussion, this area will be considered in two sections, the part west of Oxford Street and the part east of Oxford Street. Most of the remaining population is located in the area between Kildare and McMeans Avenues and Winona Leola Streets. There are also some people living in the area south of the Canadian National Railway property.

The approximate net residential density of the two main residential areas mentioned in the previous paragraph is thirty people per acre. Net residential density is defined as the number of persons per acre of net residential land. "Net residential land is land devoted to residential buildings and accessory

uses such as informal open spaces, drives and service areas, but excluding land for streets, public parking, playgrounds and non-residential buildings". (4, p. 26) To obtain an accurate net residential density figure, an accurate estimate of the net residential land is required; however, this is a very time-consuming task. As time is limited, the amount of net residential land is approximated. In spite of this limitation, the approximate net residential density figure is considered more valuable than a gross residential density figure.

In the western section of the main residential area there are very few vacant lots: almost all of the land is taken up for residential and related uses, such as schools, playgrounds and recreation areas. Approximately one half the area contains "older" houses, while the remaining half contains new, or at least very recent houses. The older houses range in type from one storey to two and a half storey structures and occupy the eastern half of the section. The new houses are mainly bungalows and occupy the western half of the section.

In the eastern section of the main residential area there are many vacant lots and empty spaces, especially towards the eastern periphery of the

section. In general, the distribution of old and new houses is the same as that found in the western section: that is, the older blocks of houses adjacent to Oxford Street and the newer blocks of houses right next to the older ones. And, as might be expected, the same range in types, both old and new, is found in this section as in the western section.

Proposed residential areas. The following areas are recommended as residential and are listed according to the proposed order of development:

Area 1: The area bounded by Kildare Avenue, Oxford Street, Dundee Branch and the Victoria Beach Subdivision, and King Street.

Area 2: The area bounded by Pandora Avenue, Redonda Street, Dundee Branch, Wabasha Street, Kildare Avenue and Wayoata Street.

Area 3: The area bounded by Pandora Avenue, the eastern town limit, Gunn Avenue and Redonda Street.

Area one comprises some 235 acres, (for location of proposed residential areas, see Figure 7).

TOWN OF TRANSCONA RESIDENTIAL AREAS

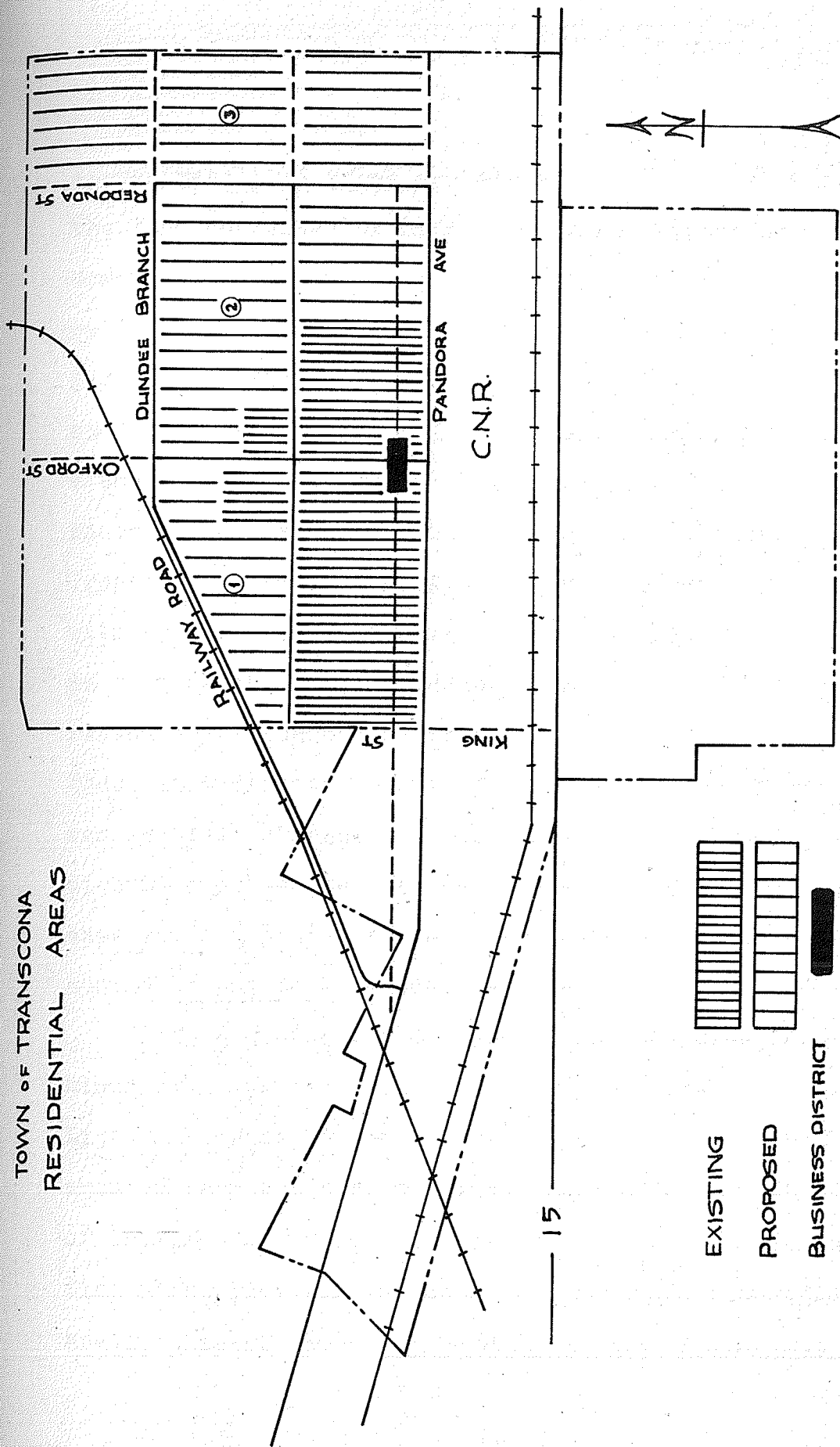


FIGURE 7

Approximately 45 acres are already built up; that is, the land contained by Oxford, Kildare, Winona and McMeans. In addition, a residential subdivision, called Regent Park (north half), has been designed for the extreme western part, between King Street and Hoka Street. At present the area has one elementary school, the Radisson School, located on Winona Street between Harold and Horton Avenues. Transcona is tending to grow in this direction, as witnessed by recent construction, and as there is no serious objection evident, there is little reason why it should be prevented from doing so. Thus, as a certain amount of land is required for residential purposes, and as this area is in the direction of growth, can be serviced at no undue expense, and has no evident serious drawbacks, it should be put to a residential use.

Before ending the discussion on this area, one minor disadvantage should be mentioned; the Winnipeg Light Aggregate Company has a plant located in the area on the east side of Winona Street just north of Thompson Avenue. It is recommended that the plant find a new location in one of the proposed industrial areas, this of course to be done at some convenient

time in the near future.

Area two comprises some 385 acres. Although there are few existing services actually within the area, some of the streets which form the boundaries of the area are well serviced. This is particularly true of Kildare Avenue which is part of the southern limit of the area and is the street on which the trunk sewer is located. And as the farthest water main feeder is only a block away the problem of connecting up with the existing services is not difficult. Since the site which is to be subdivided makes up most of area two, nothing more will be mentioned about area two at this stage.

Area three comprises approximately 480 acres, that is, three quarter sections of land. At present , most of this acreage is either used for agricultural purposes or is vacant. Since it is agricultural or vacant, and at the periphery of Town, it has no existing services. Thus, because of these limitations and because the amount of land required for residential purposes, as derived from the population forecast, will be more than adequately provided by areas one and two, (the amount required is 400 acres, the amount provided is 575) this area is not required .

immediately for residential use. However, it is recommended that it be reserved for such a use in order to provide adequately for requirements after 1968. Once development of the area is contemplated, it should be along the lines of the neighborhood concept or a suitable modification thereof; at the least, it should be developed one full quarter section at a time.

Community facilities. In each of these three residential areas a certain amount of land should be provided for community facilities. Community facilities include the following: school site, playground, park, shopping centre, church and general community building. According to the section on population forecast, the estimated amount of land required for community facilities is twenty-five acres. The exact amount and location of the land are matters for a detailed design. What is important is that adequate space be allotted for those facilities which are not already available or provided for.

In summary, of this discussion on residential land use, it may be stated area one and most of area two should be developed as residential land, with their corresponding community facilities, in order to

provide satisfactorily for the 1968 estimated land requirements. The remainder of area two and all of area three should be reserved for requirements after 1968. The order of development of these areas should be: first of all, area one; secondly, area two; thirdly, area three.

OTHER LAND USES

Commercial. To estimate with any accuracy the amount of land required for commercial use involves a detailed, time-consuming study. Mainly because of this, and also because this report is mainly concerned with planning principles applicable to residential land use, the extent of the area representing the Town's commercial district is essentially a "guesstimate". See Figure 10. The only statement about the commercial area which may be expressed with any confidence is that it will probably grow, and grow mainly in a westerly and southerly direction. The reason that it is likely to grow in a southerly direction is that, in this particular situation, there is a residential area located between a commercial area and an industrial area, and in a situation such as this, the residential area is usually displaced.

Public open space. An examination of Figure 10 will reveal that no part of the total area is allotted to open space. This is because it is hoped that the development of the residential areas will proceed along the recommended lines of the neighborhood concept; and open space, being an essential part of the concept, will not have to be provided for separately.

The land use map. A land use map depicts the various land uses to which an area has been subjected. These various land uses, of course, include the major categories of industrial, commercial, residential, public and semi-public buildings, and public open spaces; and also any particular land use which might be existing. There are various types of land use maps, the variation being in the detail in which they are presented. They may vary from the type which indicates the exact use to which each lot has been subjected, to the type which indicates in a general manner which areas are residential, industrial, and so on. The land use map has many uses, three of the more important are: it is a basis for the preparation of a land use plan; it indicates the location of traffic generators in a community, thereby providing a clue to the location of future major traffic thoroughfares; and, it indicates, with regard to utilities, the extent of service areas and the

demands on these areas. (8, p. 204).

The land use map, Figure 8, presented in this report, is only for a part of the Town; the part bounded by Pandora Avenue, Ravenhurst Street, Gunn Avenue, and Oxford Street. The information on the map has been obtained by the so-called "windshield-survey" method. Although the information does not indicate the use of every single lot, it does give more than a very general impression of the land uses. For example, with regard to residential use, the land use map indicates to what extent built-up lots out-number vacant lots, and vice versa.

The land use plan. In general, a land use plan designates which land use is best for a particular area. There is often confusion between the terms "land use map" and "land use plan"; however, this confusion need not exist as the land use map merely presents a picture of existing land uses, while the land use plan presents a picture of proposed land uses. The land use plan may be used for many different purposes, some of the more important are: it is a guide for zoning, subdivision control and urban renewal studies; it indicates to public and private agencies where new demands are likely to be made on

utilities and services and where transportation facilities might best be located; it is a guide to large developers of residential communities, shopping centres, industrial districts and so on. (8, p. 280).

The land use plan, Figure 9, corresponds to the land use map, Figure 8. In essence, it is a more detailed presentation, for a part of the Town, of the information contained in Figure 10. Thus, although it basically presents the same information as Figure 10, it also includes a detail which deserves some discussion. This detail is concerned with the proposed shift of the Town's stadium from its present location on Kildare Avenue, just east of Oxford Street, to a new location between Dundee Branch and McMeans Avenue, just east of Wabasha Street. The main reason for this proposed shift is that in its present location, the stadium is partially surrounded, and will soon be completely surrounded, by new houses. Two other reasons are: the stadium will front on the proposed major traffic route (Dundee Branch), and will only be approximately fifteen hundred feet from a main street (Oxford Street); and, the stadium will be bounded on one side by a non-residential use instead of being completely surrounded by residential

structures. In its new location, it is true that the stadium will likely be surrounded by houses on its three remaining sides; however, by providing a suitable buffer around the periphery of the stadium, the characteristic disadvantages of a stadium will be kept to a minimum.

In concluding this discussion on traffic circulation and land use, the reader is referred to Figure 10, where all recommendations with regard to traffic circulation and land use have been set out. There are, however, two areas on this plan which have not been mentioned previously. The first area is the two square miles approximately, south of the Canadian National Railway property: this area already has a few houses on it, however, it is strongly recommended that any further development be according to a plan based on a thorough examination of the whole area. The second area not previously discussed is the area between Regent Avenue, Nairn Road and King Street. This area could possibly be used for commercial purposes, for example, it is a good site for such drive-in services as gasoline service stations and refreshment and dairy bars. Alternatively, it could be used for wholesale and related uses, siting such

structures as warehouses, and trucking terminals and service buildings. In any event, this area should also be studied carefully before any further development is undertaken.

SITE DESIGN

Location and size. The site for the proposed residential subdivision is generally east and north-east of the Town's central business district. Bounding the whole site are the following streets: Pandora Avenue, Redonda Street, McMeans Avenue, Wabasha Street, Kildare Avenue and Wayoata Street. The whole site is actually divided into two distinct sections, the section north of Kildare Avenue and the section south of Kildare Avenue. Of the 284 acres which comprise the whole site area, 159 acres are in the northern section, the remaining 125 acres in the southern section. An outline of the site boundary and a partial topographical map are found in Figure 11.

Description. The site does not differ from the description of the Town as a whole; it is typical flat treeless prairie land. The areas which surround the site are of three distinct types: an industrial area, the Canadian National Railway property, is south of the site; a sparsely built-up residential area is west of the site; a vacant area, partly agricultural, is both north and east of the site.

There are existing structures in both the northern and southern sections. For an approximate location of these see Figure 8. In the northern section there is one half a block (depth) of existing houses between Wabasha Street and Leola Street on Kildare Avenue. As these houses are of very recent construction, they will be incorporated into the design exactly as they are. In addition to these new houses, there are thirteen old houses and one small church scattered about the section. The southern section has a total of eleven houses; ten of these are located on Melrose Avenue and the eleventh on Regent Avenue. Although these houses are quite old, they could probably be included in the subdivision layout with a minimum of inconvenience. However, these eleven houses, plus the thirteen in the northern section, are of such age and quality that their inclusion in the proposed layout is judged not desirable. Therefore, it is recommended that they be removed; this removal and subsequent re-location of the inhabitants should be accomplished in a manner which will be satisfactory to all concerned. In addition to these existing houses, there are several pole lines located on the site. These pole lines could

be removed, although at some cost, it is true. However, since the accent of this report is not necessarily on the most economical solutions, the influence of these pole lines on the subdivision layout will be kept to a minimum.

Existing and available services. There are no existing sewer or water lines within the site itself; however, several of the boundary streets do have existing services. On Kildare Avenue, as mentioned previously, there is the twenty-four inch trunk sanitary sewer and a six inch water main; both of these services terminate at Wayoata Street. On Wayoata Street itself, there is a water main for the two blocks between Harvard Avenue and Kildare Avenue. The design of the extensions necessary to serve the site as well as the design of the services within the site itself is an engineering problem. The engineering aspect of residential subdivision is just as important as the architectural and the community planning aspects. However, due to the limitations of time and to the fact that the community planning aspect is being stressed in this report, no detail design of sewer and water services is presented for either the site itself or the necessary extensions. Nevertheless some general

observations regarding the extension of services will be offered: firstly, the existing trunk sewer is in a good location to service the whole site, it need only be extended approximately 2100 feet; secondly, as the nearest watermain feeder line is located on Harvard Avenue and Regent Avenue west of Leola Street, any extension would probably necessitate watermain feeders down Harvard Avenue and Regent Avenue east of Leola Street. The existing services and the possible extensions, together with the proposed pole line locations are shown on Figure 12.

Land ownership and option. The Town of Transcona owns all of the land comprising the site except for those lots which contain the aforementioned existing houses. Although the Town itself owns most of the site, there are three development companies with options to develop various parts of the site. The Transcona Development Company has the option on the entire southern section. Model Homes Limited has the option on an area bounded by McMeans Avenue, Redonda Street, Kildare Avenue and Leola Street; while a third development company, Metropolitan Construction Limited, has the option for the area contained by McMeans Avenue, Leola Street, Kildare Avenue and

Wabasha Street.

The neighborhood concept. The neighborhood has been defined as:...an urban unit with a functional arrangement of its environmental elements, those elements being the circulation system, the built-up and the open spaces, the building sites, and the recreational, educational, and social welfare facilities. This unit is planned for the population of a school district and the community is broken down into a number of such units. The smallest unit population that can support its nucleus, the elementary school, is considered to be approximately 4,000 people. One authority considers the neighborhood in the following light: "...the neighborhood is a physical concept: it is the area within which residents may all share the common services, social activities and facilities required in the vicinity of the dwelling". (2, p. 1).

The neighborhood concept is based on the population required to support an elementary school. This population may vary between 2,000 and 8,000 people, with a figure of 5,000 considered most desirable. Furthermore, the neighborhood is designed so that it is self-sufficient with respect

to the provision of most of the day-to-day necessities of life. These necessities are considered to be composed of the following facilities: educational, recreational, social, cultural and shopping with their corresponding physical structures in the school, the playground and park, the church, the library, the community building and the shopping centre. Another feature of the neighborhood is that, in order to consolidate and unite the area, the boundaries of a neighborhood should be well defined. Suitable boundaries can be natural or otherwise: rivers, creeks, prominent topographical features, traffic arteries, railroads, industrial areas, commercial areas, parks are all considered suitable. One final point regarding the neighborhood is that the aforementioned community facilities should be grouped together in a single large area and located at the centre of gravity of the neighborhood area. In this discussion it has been assumed that the other elements constituting the neighborhood have been provided for adequately, these elements being residential facilities, utilities and services, and circulation.

Subdivision design. In designing a residential

development, a designer is, or should be, guided by the following principle: develop the character of the site. This means that the designer should recognize all the natural amenities of the site, such as topography, groups of trees, clumps of bushes, creeks, and so on, and then incorporate these amenities in the design. Frederick Gibberd, eminent British designer, states, "... the structure of the town must be decided from existing landscape: it is to the valleys and the hills, trees and other natural features, that we must turn to help us obtain visual distinction between one neighborhood and another". (5, p. 206). Design based on the character of the site, sometimes referred as creative design, is to be preferred to the method which chooses a particular "layout system" and attempts to adapt it to a site regardless of topographic features. The layout systems referred to are those known as: loops, culs-de-sac, gridiron, long blocks and internally developed blocks. This is not to imply that these elements should not be used in the design at all; rather, they should be incorporated where they provide the best development of a portion of the site or where they might add some variety to the street system.

Unfortunately, the basic principle of residential design cannot be put into practise in the particular site which is to be developed. The reason for this is that the site has no distinct character to develop; it is flat and treeless; it has no bushes or creeks or any natural amenities whatsoever. It is indeed one of the "few sites" referred to by Frederick Gibberd in his statement that, "... there are few sites so flat and featureless that their exploitation as an integral part of the design will not give the town character and individuality". (5, p. 26). The same may be said of almost any site in Transcona; indeed, the statement may be extended to include almost all land in the prairies. Acknowledging these shortcomings, the site will still be built-upon, the reasons being that land is required for residential purposes and there are no alternative sites which would be any better. This lack of character means that interest must be created by emphasizing such elements of design as the street layout system and the architectural arrangement of houses fronting on these streets.

Neighborhood street pattern. Before proceeding with a discussion of the principles embodied in the

design of the neighborhood street pattern, several definitions will be presented. For the purpose of this report the following types of streets are recognized:

Minor Residential Street: this street has a right-of-way width of fifty feet, a roadway width of twenty-six feet, and provides direct access to residential structures.

Major Residential Street: this street has a right-of-way width of sixty to sixty-six feet, a roadway width of thirty-six feet, provides access to abutting property and leads residential traffic to the major collector street.

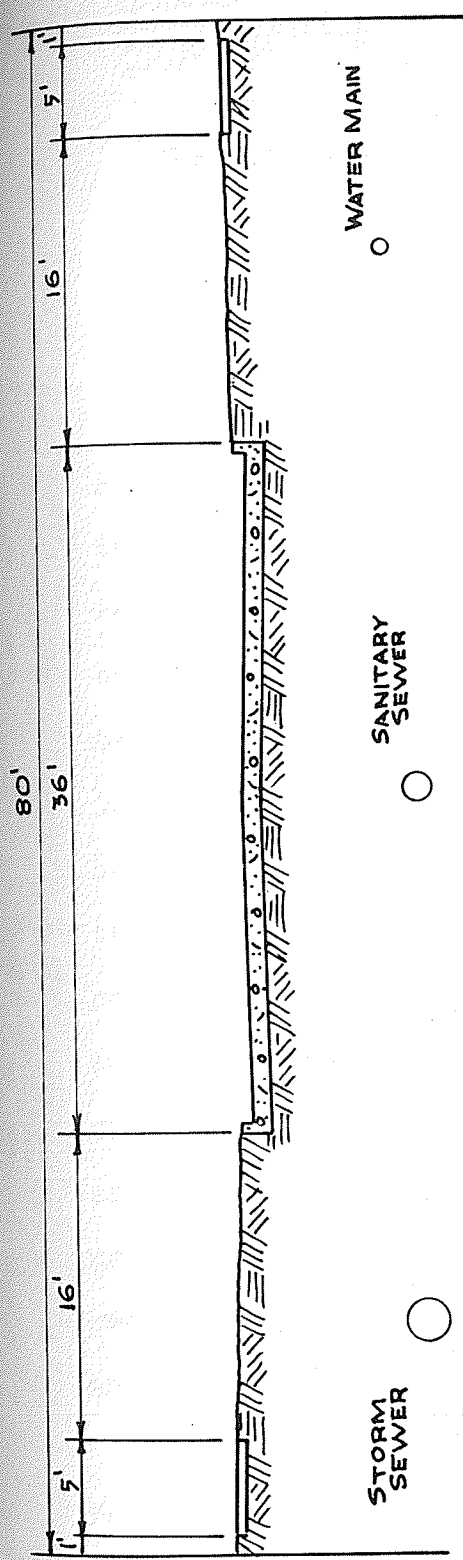
Major Collector Street: this street has a right-of-way width of eighty feet, a roadway width of thirty-six feet, provides access to abutting property, and collects and channels traffic to both the neighborhood community facilities and the surrounding main traffic thoroughfares.

The following principles are incorporated in the design of the neighborhood street pattern:

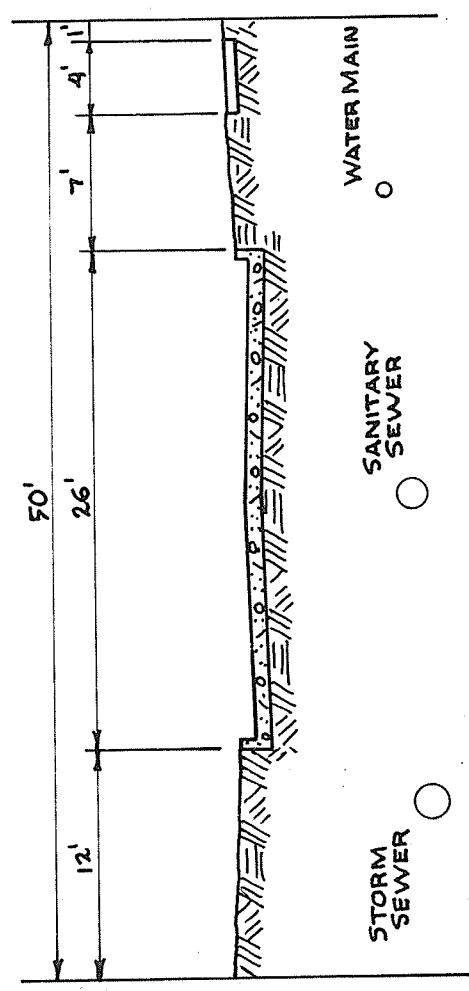
Make the width of the street proportional to the expected traffic volume.

Discourage through traffic.

RESIDENTIAL STREET CROSS-SECTIONS



MAJOR COLLECTOR STREET



MINOR RESIDENTIAL STREET

FIGURE 14

Channel traffic towards the neighborhood centre.

Eliminate cross-intersections and make all intersections ninety degrees or nearly so.

The desired relationship between street width and traffic volume is accomplished by including the three different street types in the layout design, these three types being the aforementioned minor and major residential, and major collector streets. Through traffic is discouraged from travelling over the neighborhood streets by three methods: the use of looped streets, the use of moderately curved streets, or the use of "L-shaped" streets. How neighborhood traffic "flow" is channeled directly to, or near, the neighborhood centre can best be pictured by referring to the proposed subdivision plan, Figure 13. Finally, cross-intersections are almost completely eliminated and T-intersections are used as much as possible. The majority of intersections are at ninety degrees; the remaining intersections are close to ninety degrees and do not constitute a traffic hazard.

Lots and blocks. The width of the lots varies from fifty-five feet to eighty feet while the depth of the lots is usually either 115 or 120 feet; the typical lot size is 60 by 120 feet. The width of the lots

fronting the housing group open spaces is 70 feet; this extra lot width is offered in order to make the lots even more attractive than they already are. It is expected that the increased value of these lots, due to their location around the open space and their extra width, will more than offset the loss (that is, loss from the developer's view) of land dedicated to open space. Another characteristic of the lotting is that corner lots are often from five to ten feet wider than the interior lots; this, of course, is to permit a greater side yard setback from the side street. The problem of whether or not to include "butt lots", or how many to include, is a contentious point. From the engineering point of view, quite often the exclusion of these butt lots will result in a saving due to the fact that services will not have to be installed for a full block width. From a planning point of view, the inclusion of butt lots will often break the monotony of a long view along the street and will also remove a bad view along rear lot lines. In this design, another factor was considered; should the dwelling front on a minor residential street rather than a major residential or collector street?

The width of the blocks varies between 230 and

240 feet, while the length varies between 570 feet and 2020 feet. These figures for block lengths represent the short side or the interior side of L-shaped blocks. These block lengths are in accord with the generally accepted standards of a 600 feet minimum length and a 2000 feet maximum length. As evidenced by the plans for good new subdivisions, the provision of a back lane is no longer considered either desirable or necessary. Therefore, in accordance with this general view, no back lanes were provided in the proposed subdivision plan. However, the inclusion of back lanes is still a controversial point in some cities, as the City of Edmonton, one of the most progressive cities in Canada with respect to neighborhood planning, still includes lanes in subdivision designs.

As mentioned, the majority of blocks in the proposed subdivision design are L-shaped. If these blocks are eliminated and straight blocks substituted, traffic flow will definitely be eased. However, the author believes that the use of L-shaped blocks is justified on the following basis: firstly, desirable privacy will result from the elimination of through traffic; secondly, although the traffic flow is somewhat impeded, it is not seriously impeded.

The problem of the houses fronting on the proposed major traffic route along Pandora Avenue and Redonda Street deserves special attention. This problem may be handled in one of three ways: by provision of service streets, by provision of a planing strip, or by provision of extra deep lots. A service street is generally considered the best solution; but because of the excessive cost and because it is judged that traffic, although expected to be heavy, will not be heavy enough to justify a service road, it would not be the best solution here. The provision of a planting strip is also considered a good solution; but due to maintenance difficulties, such as who is to keep the strip in good condition, and who is to pay for this maintenance, this proposal is discarded in favour of the third. Thus, from the practical considerations of cheaper cost and no maintenance difficulties, the provision of extra deep lots, about twenty to thirty feet extra, along the major traffic route is considered the best solution.

Houses. The location of houses both on the lot and within the block is a detail, but a significant one; the very purpose of subdividing a section of

land is to provide lots on which houses may be built. Now, as house location is important, it necessarily follows that it be done well, and it can be done well by following the principles of architectural composition. It is the architects who are mainly concerned with this part of design, not the planners; nevertheless a few applicable principles of architectural composition will at least be mentioned.

One relevant architectural principle is that the location of houses should follow an orderly scheme. This means that with regard to roof lines: do not place a flat roofed house adjacent to one with a conventional roof; with regard to height: do not place a two story house next to a bungalow. However, a common complaint of the average citizen is that houses in a housing development "all look the same". Therefore it appears that "order" has already been achieved, perhaps in too forcible a manner, and that "variety" should be given greater emphasis. This leads us to the second principle: variety should be established between groups of houses rather than between individual houses which make up the group. Thus group appearance is considered more important than individual house appearance, that is, assuming

houses of average cost. The final principle is concerned with colour: there should be no violent colour contrasts between neighboring houses. "A colour scheme should spring from the employment of refreshing contrasts between 'cold' and 'warm' colours, and should shun the restless confusion of garish hues, the result of competition of bright primary colours". (4,p.88). The application of these principles to house design is important to all houses in the subdivision, but it is especially important to the houses fronting the open space in each housing group.

How might these architectural principles be put into practise? They may be put into practise by the device known as protective covenants; protective covenants being measures which protect the home owner by binding him to certain restrictions. For best results, protective covenants in an area should be drawn up by a single qualified architect rather than a group of architects. Thus, in summary it may be said that the houses within a block should be integrated with respect to the principles of architectural composition and the means by which this composition is achieved is

through protective covenants.

Public open space. The public open space is a single area which meets the space requirements of the school site, the park, the playground and the general community facilities, in a centrally located position. Whether or not provision is made for a park area within the public open space is a matter which depends upon particular conditions; in this design, space has not been allotted to the park within the public open space mainly because of the open spaces provided for each housing group. Be that as it may, for a neighborhood of 4000 people the acreage requirements are as follows: for the school site, 1.8 acres; for the playground, 5.0 acres; for general community facilities, 1.5 acres; giving a total 8.3 acres. As the expected population for this designed neighborhood is a bit under 4000, the area provided for the public open space, that is, 8.4 acres, is sufficient. It is desirable that the public open space be located approximately at the centre of gravity of the site area; the main reason for this is that no particular group of families should be required to travel much greater distances to reach the public open space than any other. The

generally accepted maximum walking distance between the farthest dwelling and the school (located in the public open space) is one half mile; although this distance is acceptable a distance of one quarter mile is preferred. It is of course impossible for all dwellings to be exactly equidistant from the public open space, but a definite effort should be made to minimize the discrepancies.

With regard to playground and general community facilities, the following suggestions are offered. The playground should include facilities for all age groups. For the young children these facilities could include: swings, wading pools, sand-boxes, small slides, a miniature carousel, plus any other conventional or non-conventional facilities. The teen-agers and young adults could be offered: baseball diamonds, a soccer or rugby field, outdoor basketball and volleyball courts, skating and hockey rinks for the winter season. The older age group might be interested in pursuing such activities as horse-shoe pitching and lawn bowling if appropriate facilities were provided. General community facilities refer to indoor social, cultural and

recreational facilities; they include the following services and organizations: social services, religion, literature and the arts, and recreation. These various activities have different space and building requirements. These may be provided for in a separate community building, the church or the school. Whether the school should be used to provide after-hour facilities or whether a separate community building should be constructed is a matter well worth the study of the interested parties.

In concluding this discussion on the public open space two more observations will be made. First of all, when considering the location of the public open space within the site area and attempting to channel traffic towards the open space, it is important to remember that while the major traffic streets should be very near the open space, they should not actually border the open space. Secondly, in some cases it may be desirable to include a buffer strip around part of the public open space. This should not only protect the dwellings fronting the open space but also confine the activities of the open space to that area. In this particular design a buffer strip should be provided along the

eastern and southern edges of the public open space.

The neighborhood shopping centre. In the design of this neighborhood, 4.3 acres are allotted to the shopping centre. This area is larger than the amount normally recommended for a shopping centre serving a neighborhood of 4000 people, that is 2.6 acres. The main reason for this is that there are existing houses on the opposite side of the street from the shopping centre; therefore a substantial buffer strip should be provided for their protection, (part of this buffer could be designed as a play area for the young children of the shopping mother). Except for the nearness of the existing houses, the south east corner of Kildare Avenue and Wayoata Street is considered a good location for the shopping centre, this is mainly because the shopping centre fronts on a main thoroughfare, that is, Kildare Avenue.

In essence, the neighborhood shopping centre is a retail establishment; it is built as a unit, operated on a rental basis, and is expected to draw its volume of sales from within the neighborhood only. In more detail, the type of shops usually found in the building are: a food market, a drugstore, a barber shop, a beauty parlor, a laundry and dry cleaning pick-up service, and a shoe repair shop. The shopping

centre site is often broken down in to its component parts according to the following percentages: parking, 50 per cent; driveways, servicing spaces, buffer strips, et cetera, 25 per cent; and ground area of the building, 25 per cent. In concluding this discussion it may be mentioned that some authorities have stated that the shopping centre is more qualified to serve as a neighborhood focal point than the elementary school.

Offices. A total of 3 acres, on the north east corner of Kildare Avenue and Wayoata Street, is set aside for an office building and off-street parking facilities. This location for the office building was chosen because it is central with respect to the neighborhood and because it is easily accessible by way of the neighborhood street system. It is suggested that the office space be used by such professional people as engineers, land surveyors, architects, doctors, lawyers, and so on. However, this is not absolutely essential, and almost any firm or individual desiring office space should be allowed use of the facilities. As far as the community is concerned, it is desirable that at least a doctor and a dentist occupy part of the available office space.

Housing groups. The key feature of the proposed subdivision plan is the deliberate subdivision of the entire neighborhood into "housing groups" or sub-neighborhoods, each with its own open space or park. A housing group is merely a distinguishable group of houses; it should be emphasized that the houses themselves are usually not different from other houses in the neighborhood, but they do form a definite noticeable group. The number of houses comprising a group varies; it may run as high as 200. This separation of the neighborhood into housing groups has been brought about by the design of the neighborhood street system; that is, the streets are designed in such a manner that a major thoroughfare surrounds a certain number of houses. Within these major thoroughfares and serving the houses are, of course, the minor residential streets. In order to achieve a clearer concept of the housing group the reader is referred to Figure 13.

The arrangement of houses in a housing group is strictly a physical arrangement; nevertheless, a physical arrangement which it is hoped will have sociological advantages. Thus, the most important feature about the housing group is that the occupants

of the houses have the opportunity to develop a feeling of "togetherness" or "community-spirit"; this opportunity being made available because of the particular location of their houses. It is probably generally agreed that a worthwhile community-spirit amongst neighbours is a goal worth striving for; therefore, every opportunity should be provided in order to allow this spirit to come about, and the use of housing groups is one means toward this end. Perhaps the word opportunity should be stressed, for just because people have the opportunity to develop a real, worthwhile community-spirit does not necessarily mean that they will take advantage of the opportunity. This, of course, depends entirely on the people themselves. But the important thing, as far as this particular design is concerned, is that the people have been presented with the opportunity.

This idea of housing groups is not new in the field of planning; however, the author believes that it should be emphasized to a greater degree than it is at present. He is in full agreement with the concept that a true community-spirit is much more likely to be developed amongst the relatively few people of a housing group than amongst the many people of a full neighborhood,

some 5,000 people or so. This is not meant in any way to detract from the objectives of the neighborhood concept; it is meant merely to indicate that it is more reasonable to expect face-to-face relationships to develop in the smaller unit, the housing group.

As shown on the proposed subdivision plan, there are nine housing groups, provided the houses about the public open space can properly be designated as a housing group. The number of houses in each group varies from fifty-nine in the smallest, to one hundred and ninety-one in the largest. Assuming a figure of 3.5 people per dwelling unit, this means that the approximate number of people in a group will vary between 200 and 700. Those who consider a population of 5,000 too large in which to develop a true community-spirit may also object to a figure of 700 on the same grounds. The author is inclined to agree with this view, if the locality in which these 700 people live is typical of past and many present day housing developments. However, if these people are in houses which are part of a housing group, and if the housing group has some central feature of attraction, or focal point, then the author would definitely disagree with this view.

A method of promoting a community-spirit amongst larger numbers of people is through sports. Although the value of sports in this respect is largely overrated, it still is one of the best methods available. Egon E. Bergel has this to say about sports:

Daily experience shows that nothing cements unity more, or is more effective in erasing group prejudices and lessening group tensions, than 'our' team. Football, baseball, and basketball probably create more solidarity than any other community activity. Whether we deplore this as a symptom of immaturity or approve it as an expression of mental health, the social organizer cannot afford to ignore so effective a means. (6, p. 496).

Just one example of organizing community-spirit through sport is for each housing group to organize a softball team and compete against the other housing groups in the public open space.

Open spaces. An examination of the proposed subdivision plan will reveal that there is a single open space located within each housing group. These open spaces vary in size from 1.8 acres to 4.4 acres, providing a total area of 21.4 acres. This figure, together with the amount (8.4 acres) of land dedicated to the public open space, represents 10 per cent of the gross area of the whole site. To some observers, land developers in particular, this amount may appear somewhat large in comparison to the amount of open space

that is normally provided in developments. It is generally acknowledged that a developer can dedicate no more than 5 per cent (The Manitoba Comptroller of Town Planning uses this figure.) of the gross area of a site for open space if he is to enjoy a reasonable return on his investment. In spite of this general acceptance of a 5 per cent figure, the author does not feel that too much land has been dedicated to open space. The main reason is that this report essentially represents a qualitative approach; therefore, at times practical considerations may be somewhat subordinated. Also, as the question of whether 5 per cent or 10 per cent is preferable has not been resolved satisfactorily to all concerned, he feels that he is merely supporting those who favour the larger amount. With regard to location, the typical open space is located approximately at the centre of gravity of the housing group area. This central location is considered essential if the open space is to carry out its purpose most satisfactorily.

Although size and location are aspects of the open space which are worth considering, they are not the most important. Just as the housing group is regarded as the key feature of the neighborhood, so the open

space is regarded as the key feature of the housing group; and, as such, is the focal point for both physical and sociological considerations within the housing group. The whole purpose of the open space is to attract the occupants of the particular housing group to the open space. This is accomplished by making the open space physically attractive: firstly by means of a fine overall appearance; secondly, by means of the facilities which are to be provided. If this plan is successful, people will be drawn to the open space; it is hoped that once brought together, they will be able to form the friendships which can contribute so richly to a full life.

There are numerous ways in which these open spaces may be developed in order to achieve physical attractiveness and corresponding sociological benefits. Indeed, the application of imagination and creative design to the development of the open spaces should yield dividends of the highest value, that is, dividends in the field of human relations. The actual detailed development of the open spaces may include the following ideas: they may be covered with a green "carpet", that is, covered with a lawn; they may be completely landscaped; they may be partly utilized as

play areas for pre-school children; they may be partly devoted to lawn-bowling greens for older people; they may include a central water fountain or a small pavilion. One highly imaginative example along these lines is found in the parks which Sweden provides for its children. "There are protected areas for the very young; old street cars, buses and airplanes for their brothers and sisters; streams to dam, houses to build for the older,....miniature ball fields for the teenagers". (7, p. 232). In any event, almost any treatment which adds to a living environment should be not merely permitted but strongly encouraged.

It is well known that many people suffer from incurable inertia, especially with regard to community affairs, and are particularly apathetic towards projects which involve community action and organization. To counteract this, and to create interest amongst the residents of the housing groups in the open space, the author suggests that a vote be held to determine which particular treatment or treatments should be applied to the open spaces. If a vote is not feasible, it is suggested that at least a survey of public opinion be taken. This survey should suggest the previously mentioned ideas, should welcome

criticism of the same, and should be open to entirely new suggestions. If neither the vote nor the survey is practicable, some other method of creating interest in the open space should definitely be sought.

It has been stated that the main feature of the proposed layout is the subdivision of the site into various housing groups with their corresponding open spaces, this being done in the belief that a community spirit is more likely to develop within the smaller unit. Although this idea is the most important feature of the proposed subdivision plan, it should not be emphasized to such a degree that the original neighborhood concept would be completely neglected. On the contrary, if the hoped for benefits of the housing group be realized, this should substantially assist the neighborhood in achieving its purpose, that is, the extension of the benefits of the housing group to the whole neighborhood. Thus, a successful housing group should help rather than hinder the development of the neighborhood concept.

Summary. In summary of this section on site design, some of the more prominent features of the design will be mentioned. The whole site is subdivided according to both principles of good subdivision design, and

the neighborhood concept. A particular aspect of the neighborhood concept, that is, the housing group, has been selected and emphasized as the key feature of the subdivision design. With regard to the neighborhood street pattern, the author has followed a middle-course; that is, no relatively radical layout like the superblock has been proposed, yet, at the same time, the original grid layout has been completely discarded. The subdivision of the 284 acres which comprise the site produces a total of 1,073 lots. Assuming single-family dwelling units and 3.5 people per dwelling unit, the lots provide for a population of 3,755 people. These people will reside in a neighborhood which has a net residential density of 20 people per acre; this figure compares favourably with a common maximum figure of 25 people per acre for single-family dwellings.

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5. Gibberd, F., "Town Design", The Architectural Press, London, 1953.
6. Bergel, E.E., "Urban Sociology", McGraw-Hill Book Company, Inc., Toronto, 1955.
7. Smith, G.E.K., "Sweden Builds", Reinhold Publishing Corporation, New York, 1957.
8. Chapin, F.S., "Urban Land Use Planning", Harper and Brothers, New York, 1957.

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7. Smith, G.E.K., "Sweden Builds", Reinhold Publishing Corporation, New York, 1957.
8. Chapin, F.S., "Urban Land Use Planning", Harper and Brothers, New York, 1957.

STREET

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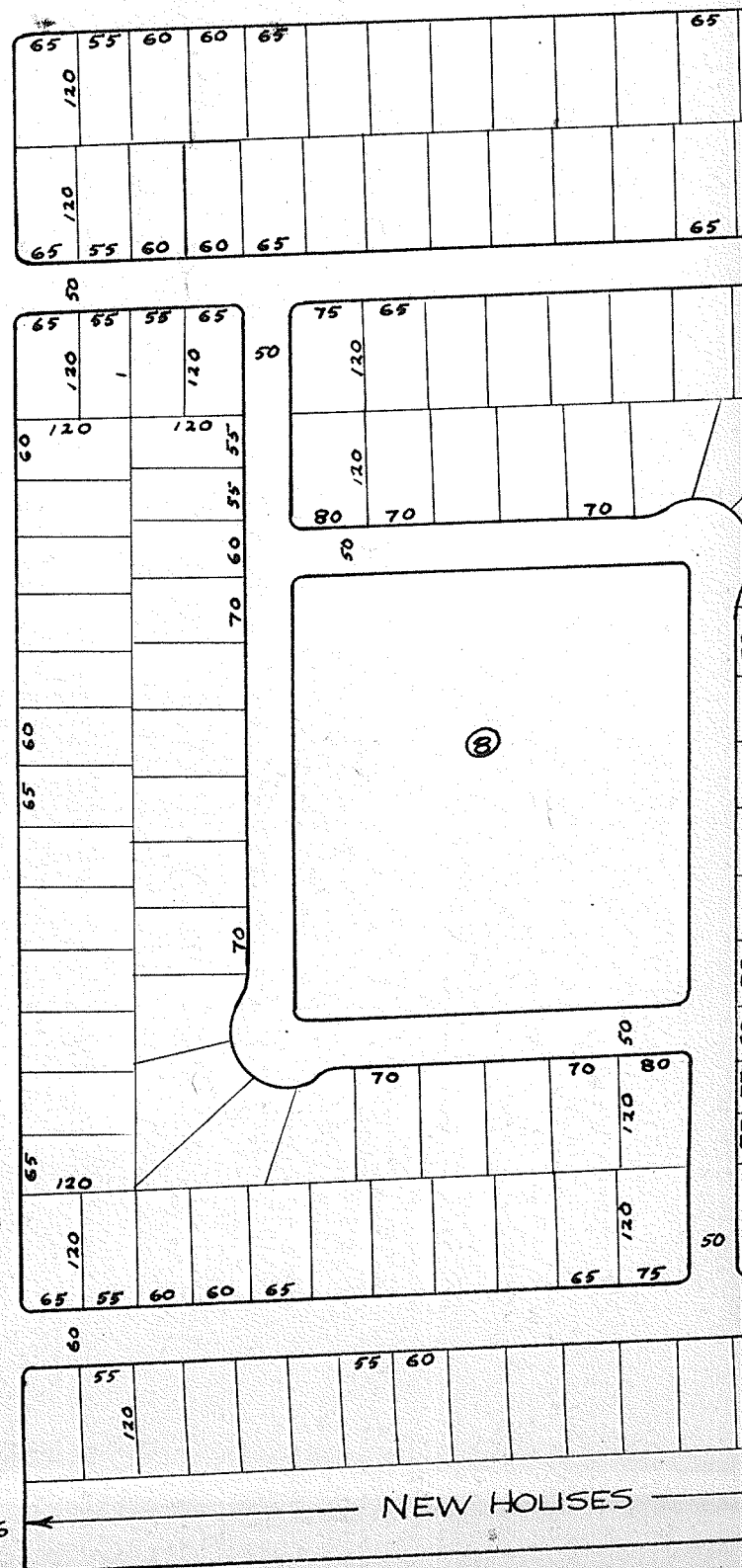
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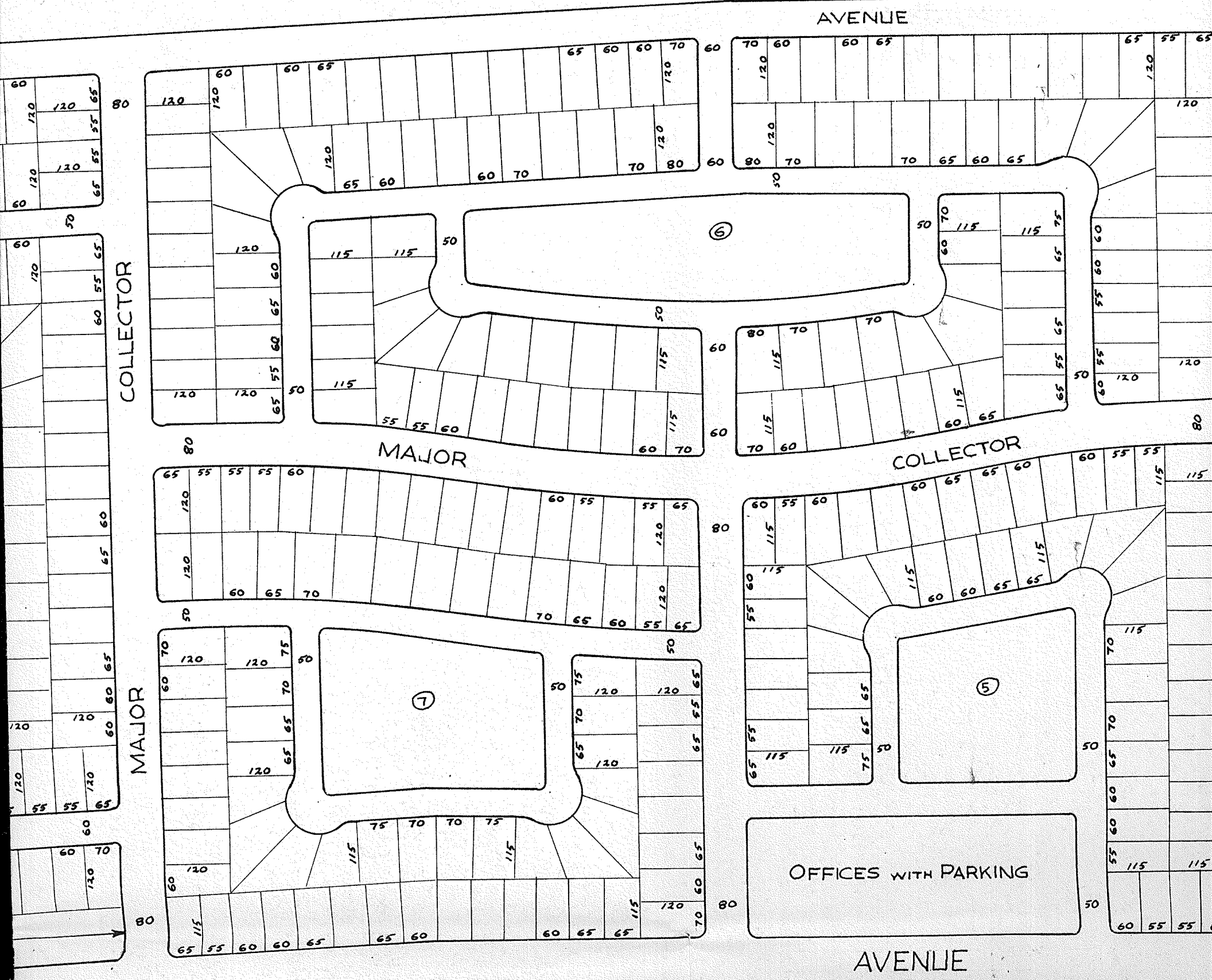
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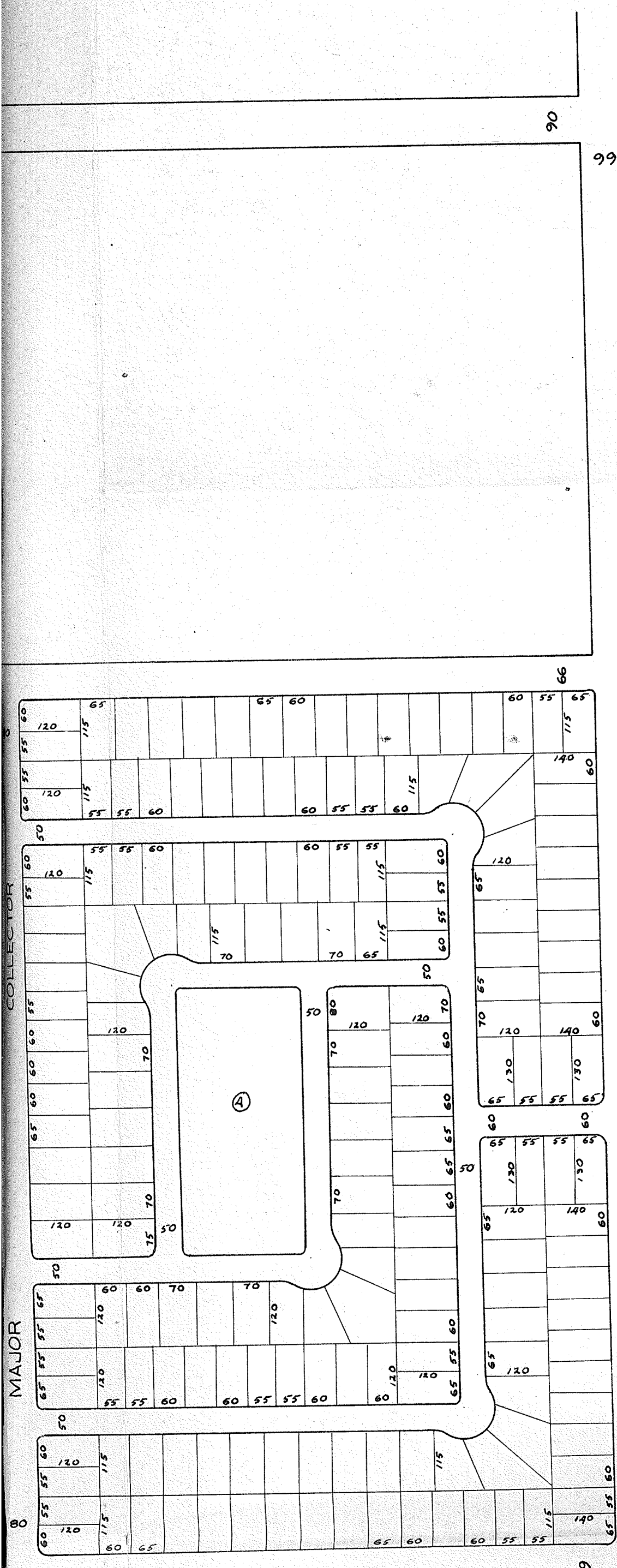
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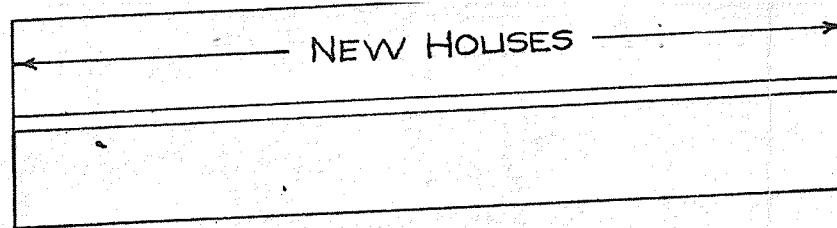
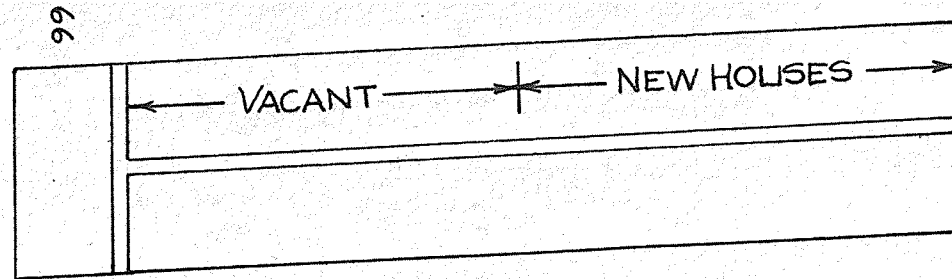


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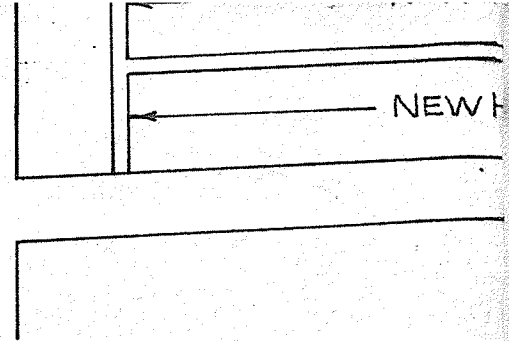
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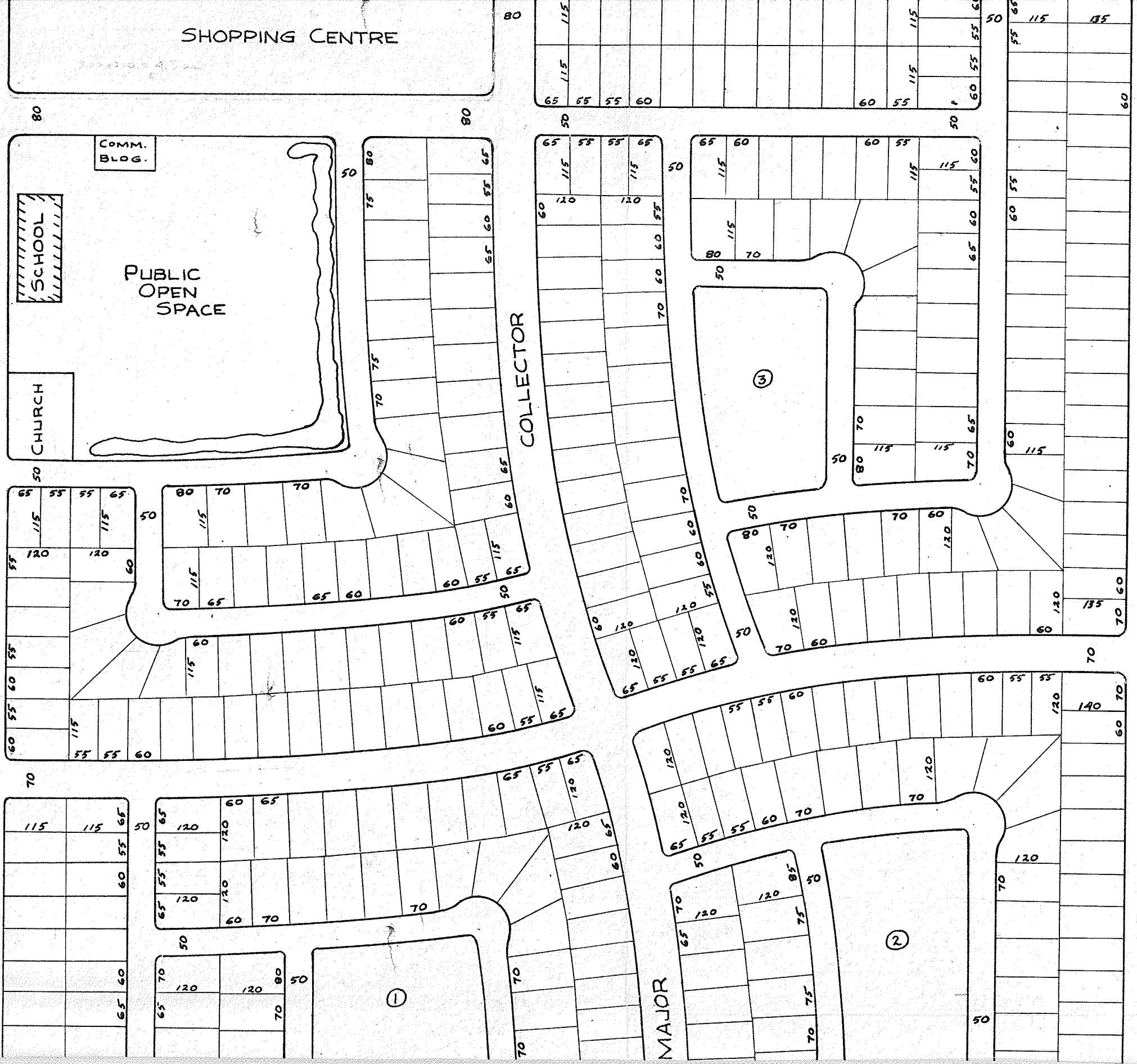


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PROPOSED RESIDENTIAL

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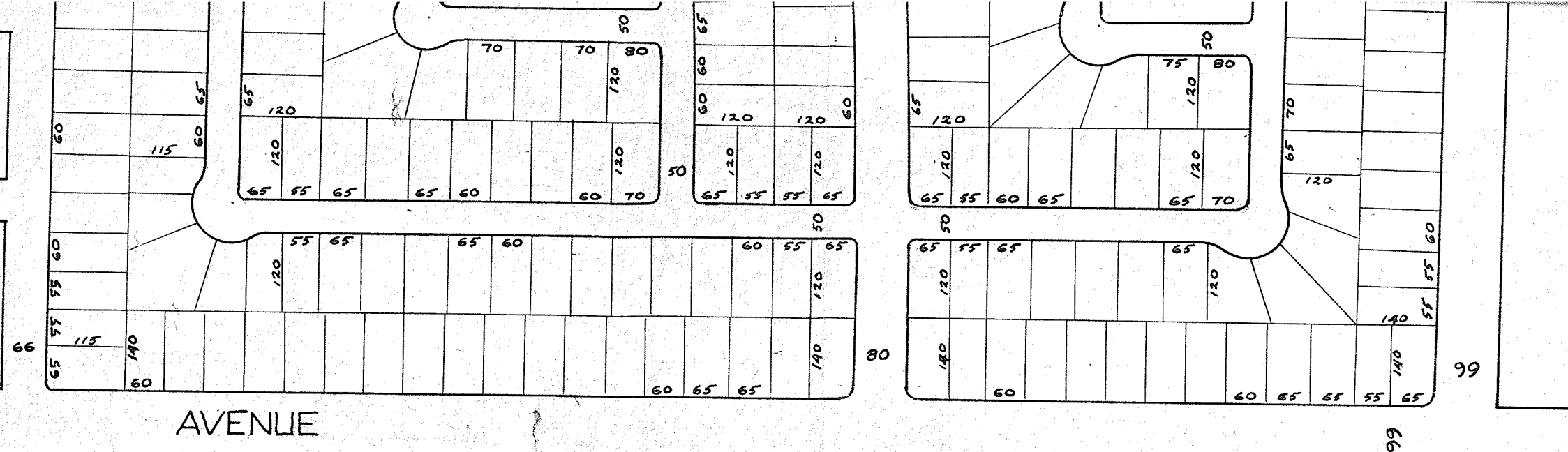
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AVENUE



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UNIVERSITY OF MANITOBA		
DRAWN BY: J. M.	DATE: MARCH 1959	PLAN NO. 13
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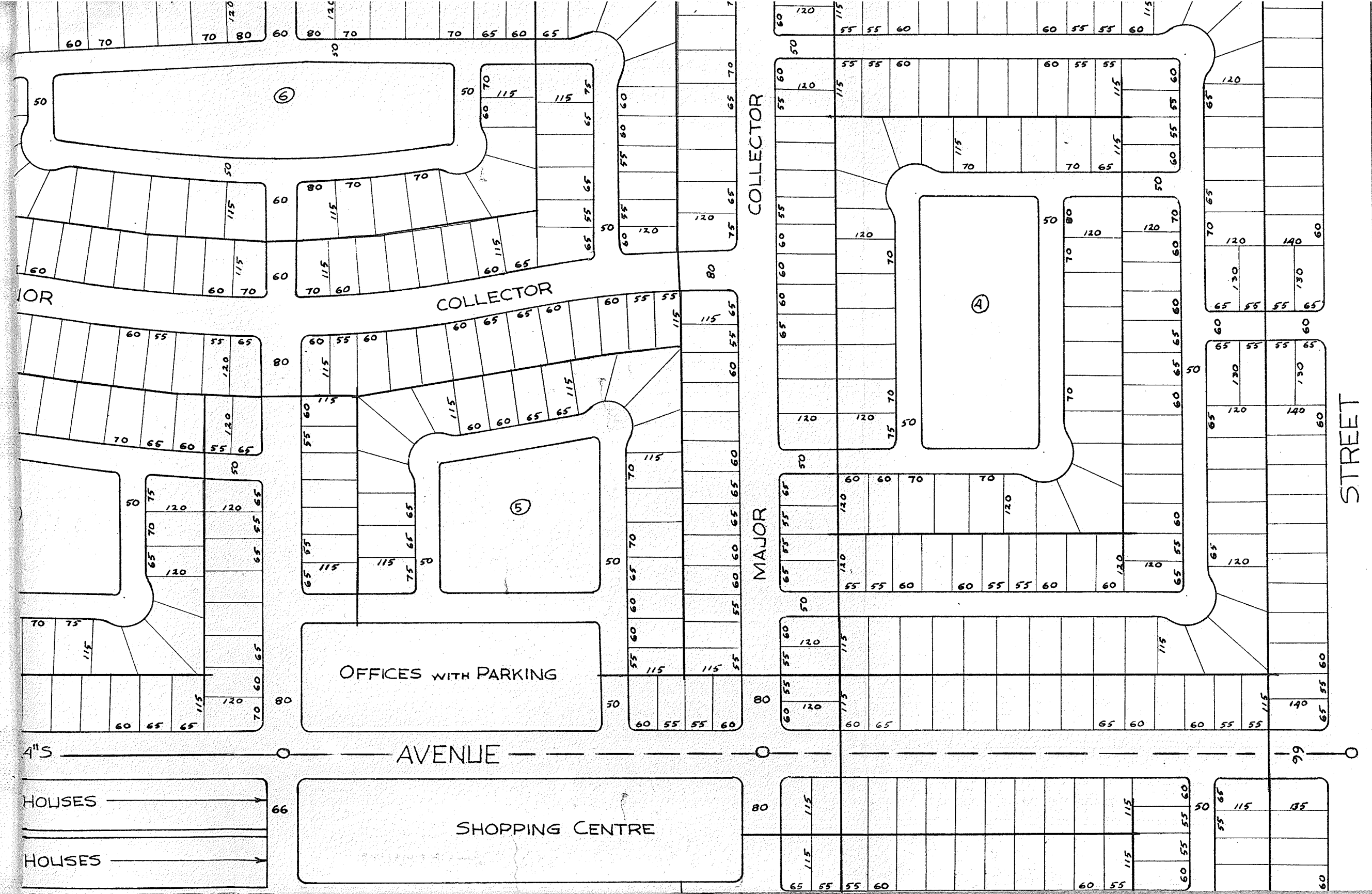
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REGENT AVENUE

WAYOATA

STREET

WHITTIER AVENUE

CHURCH

SCHOOL

COMM. BLDG.

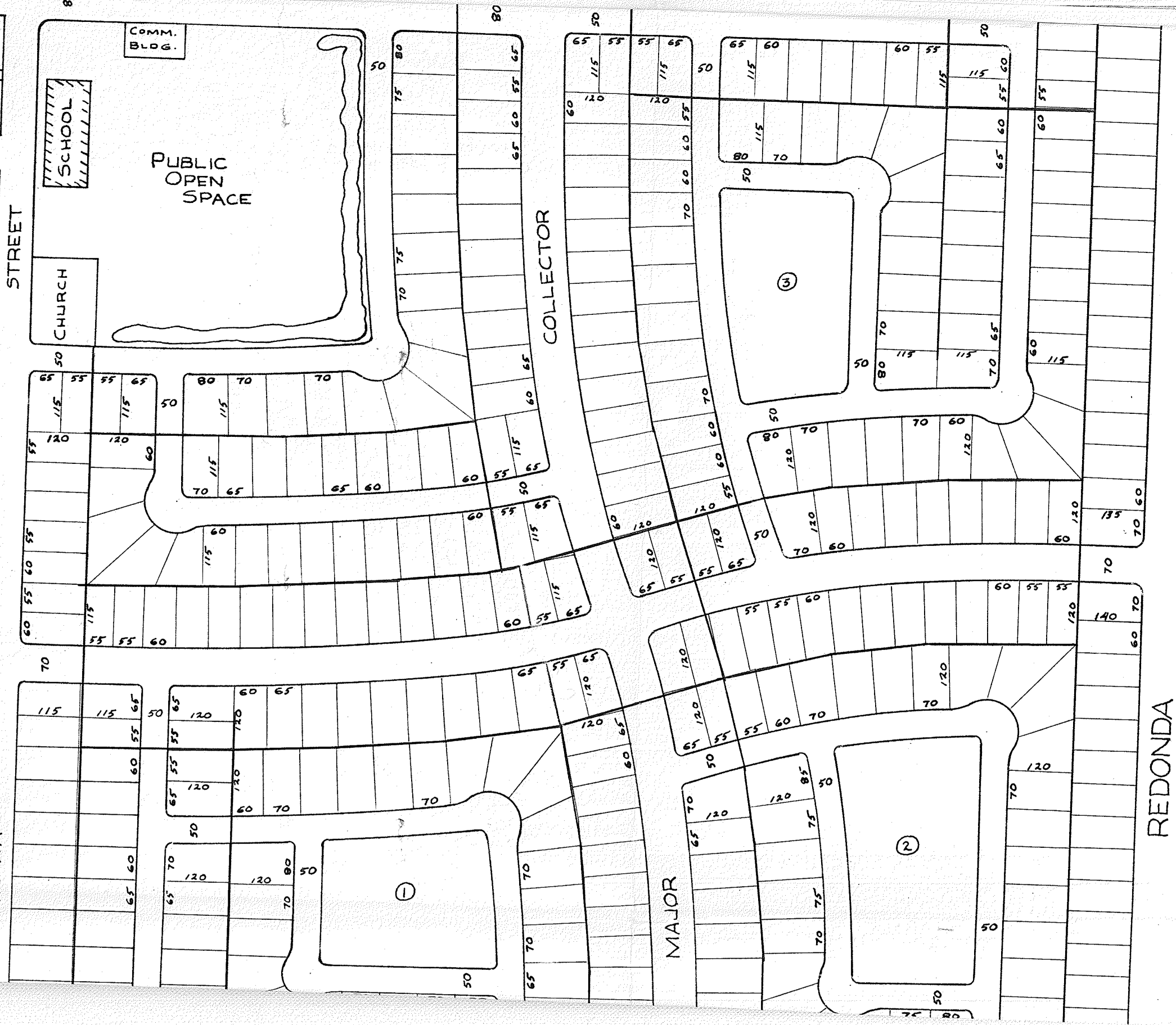
PUBLIC OPEN SPACE

COLLECTOR

MAJOR

REDONDA

PROPOSED RESIDENTIAL



OXFORD

RESIDENTIAL

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12" W

12" W

WHITTIER AVENUE

STREET

WAYOATA

REGENT AVENUE

SCHOOL

CHURCH

COMM. BLOC.

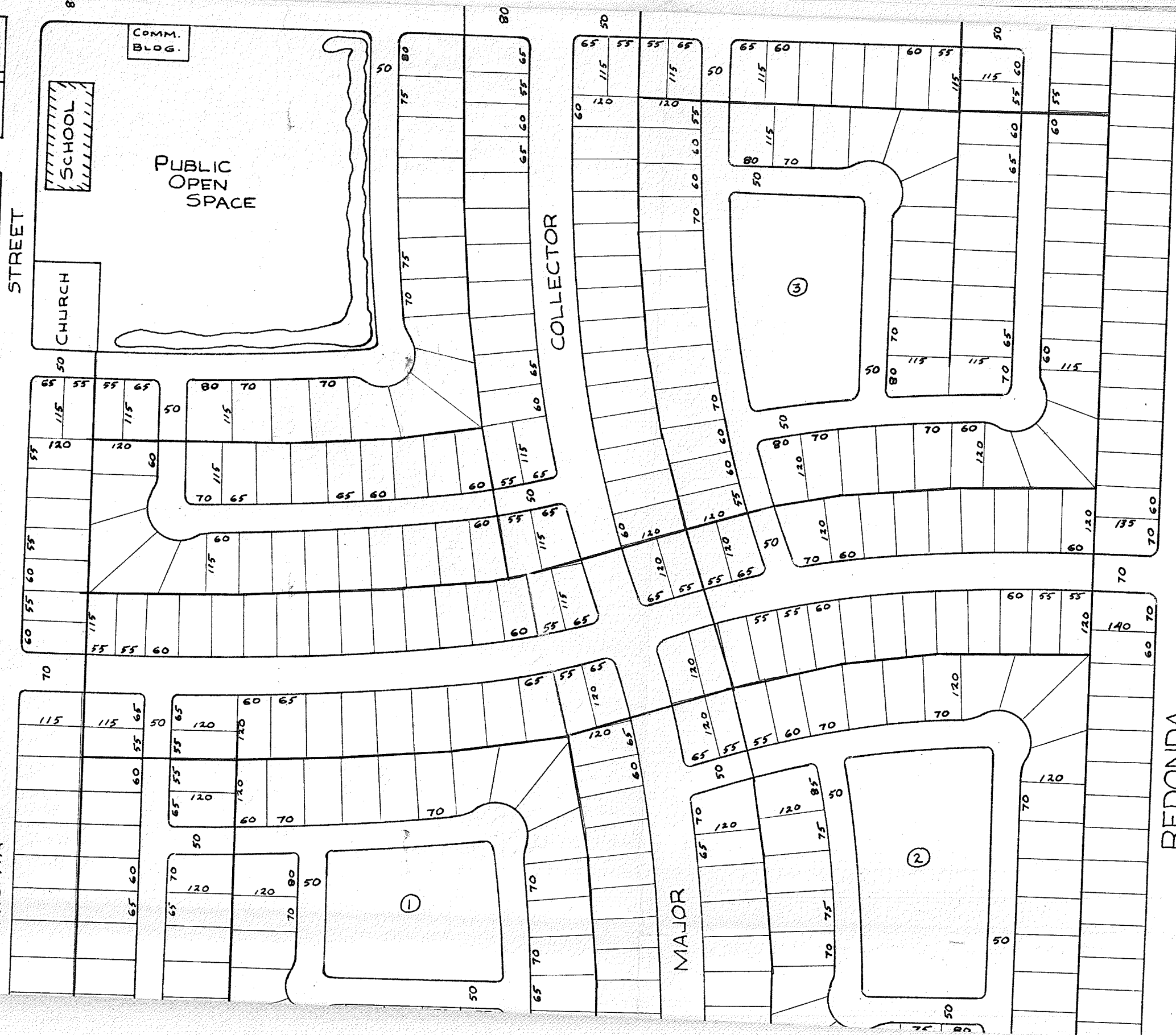
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COLLECTOR

MAJOR

REDONDA

PROPOSED RESIDENTIAL



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PANDORA

LEGEND

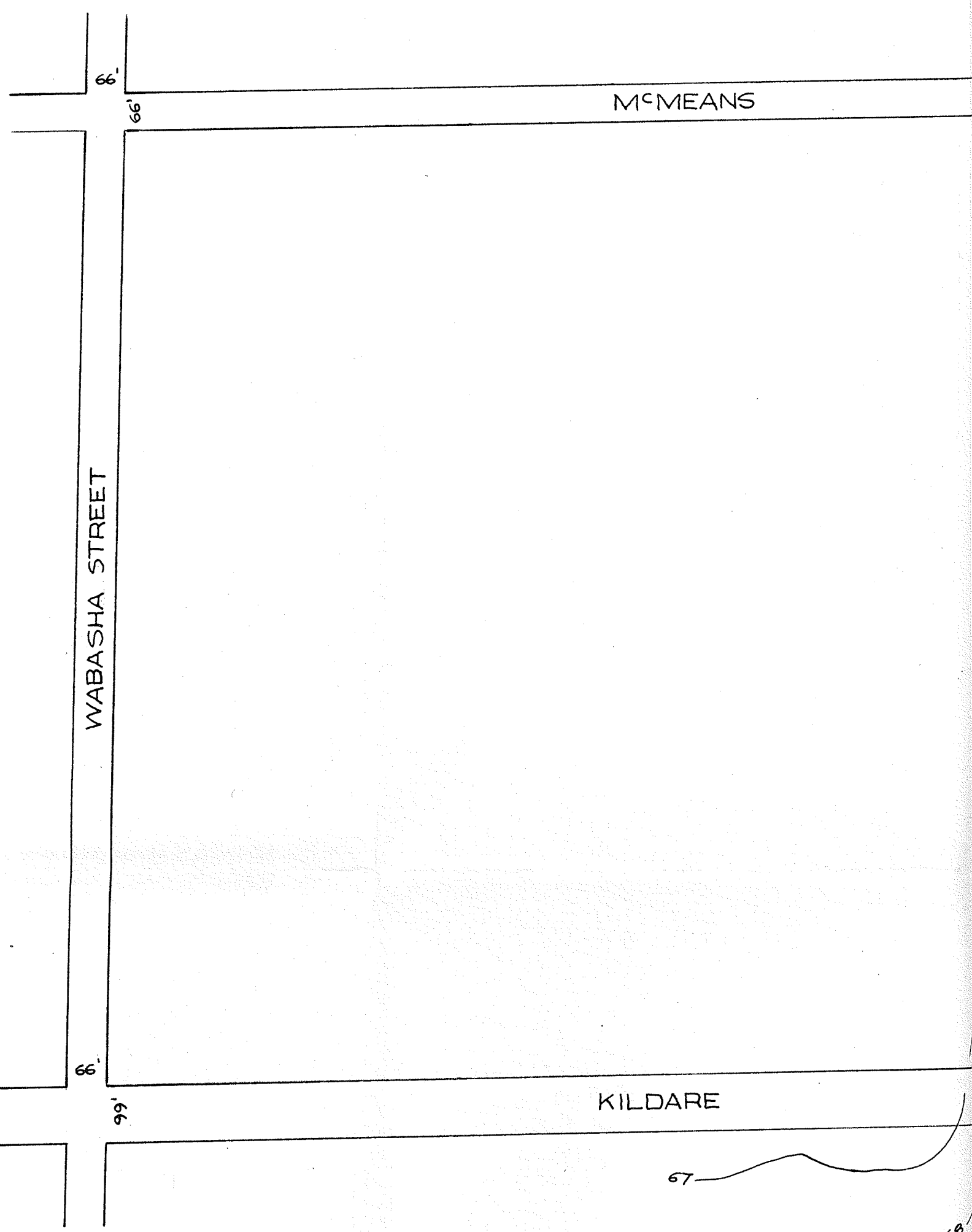
POLE LINES	=====
SEWER LINES	=====
WATER LINES	=====

INDL
(CANADIAN



APPROVED BY:

12



WABASHA STREET

McMEANS

KILDARE

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AVENUE

AVENUE

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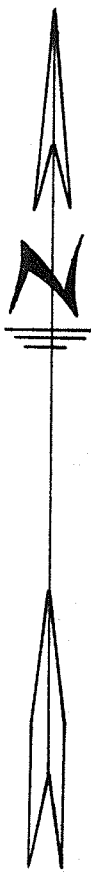
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66

67

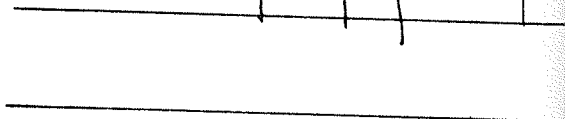
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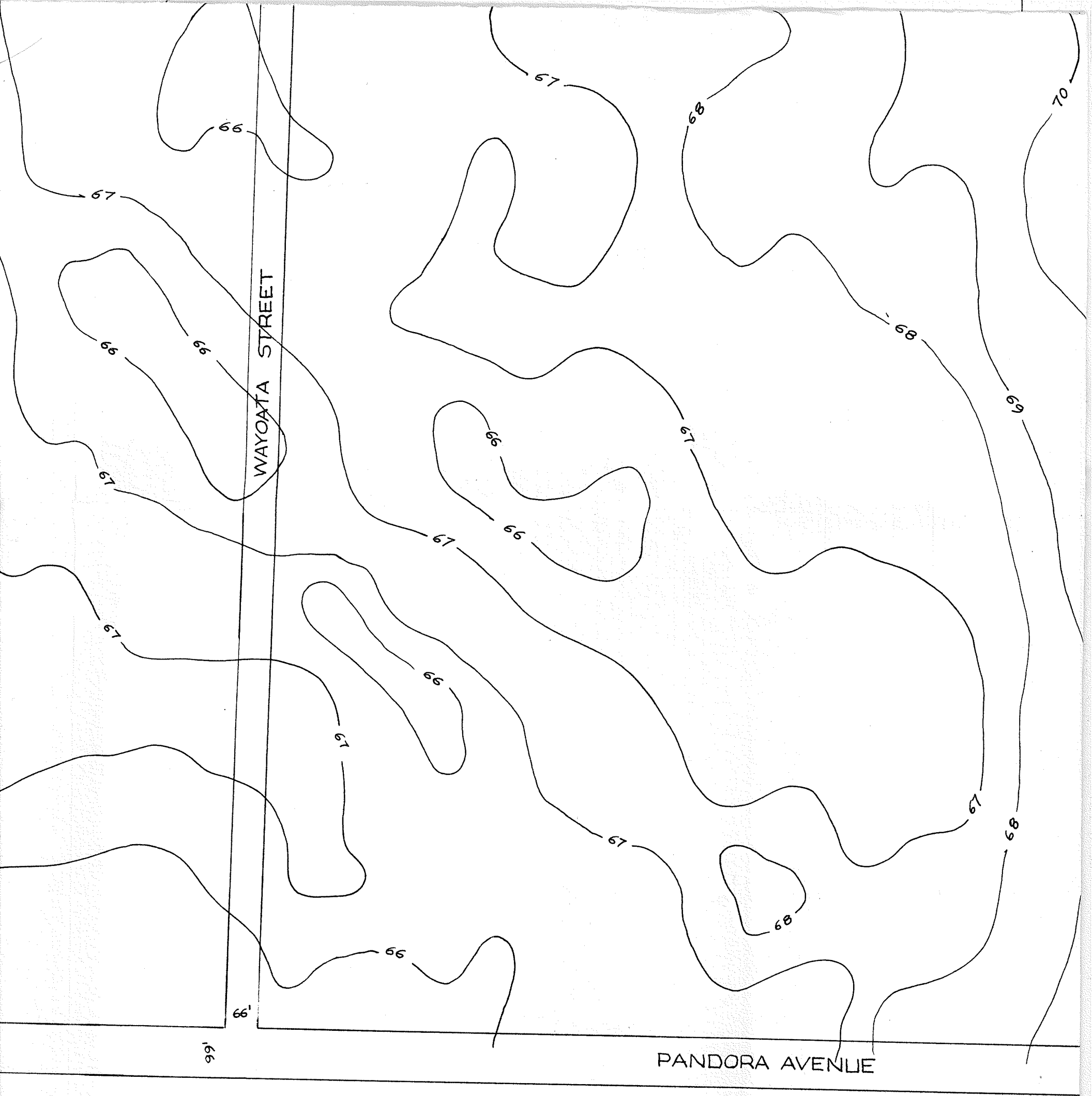
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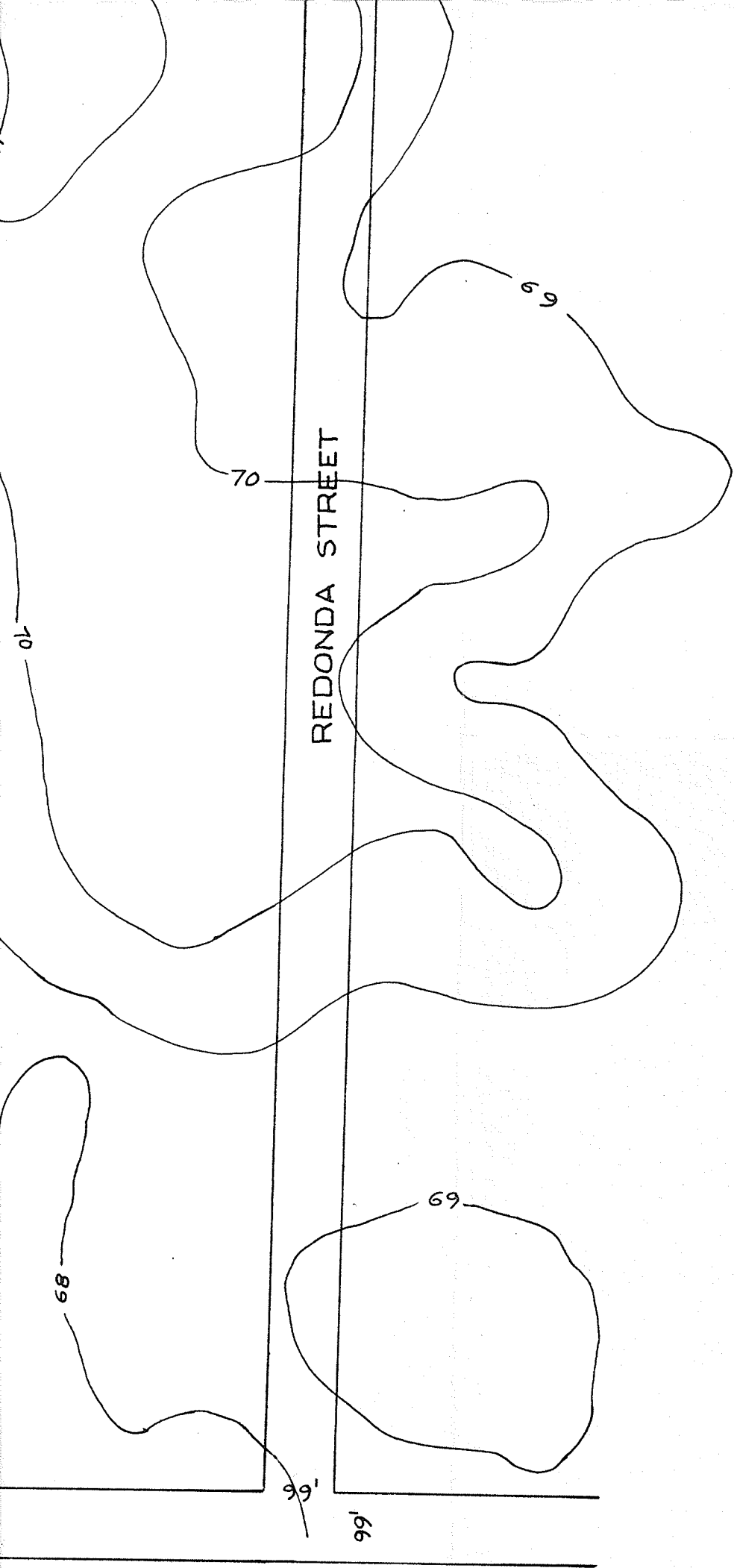
67

68

69







TOWN OF TRANSCONA

CONTOUR MAP

UNIVERSITY OF MANITOBA

DRAWN BY: J.M.

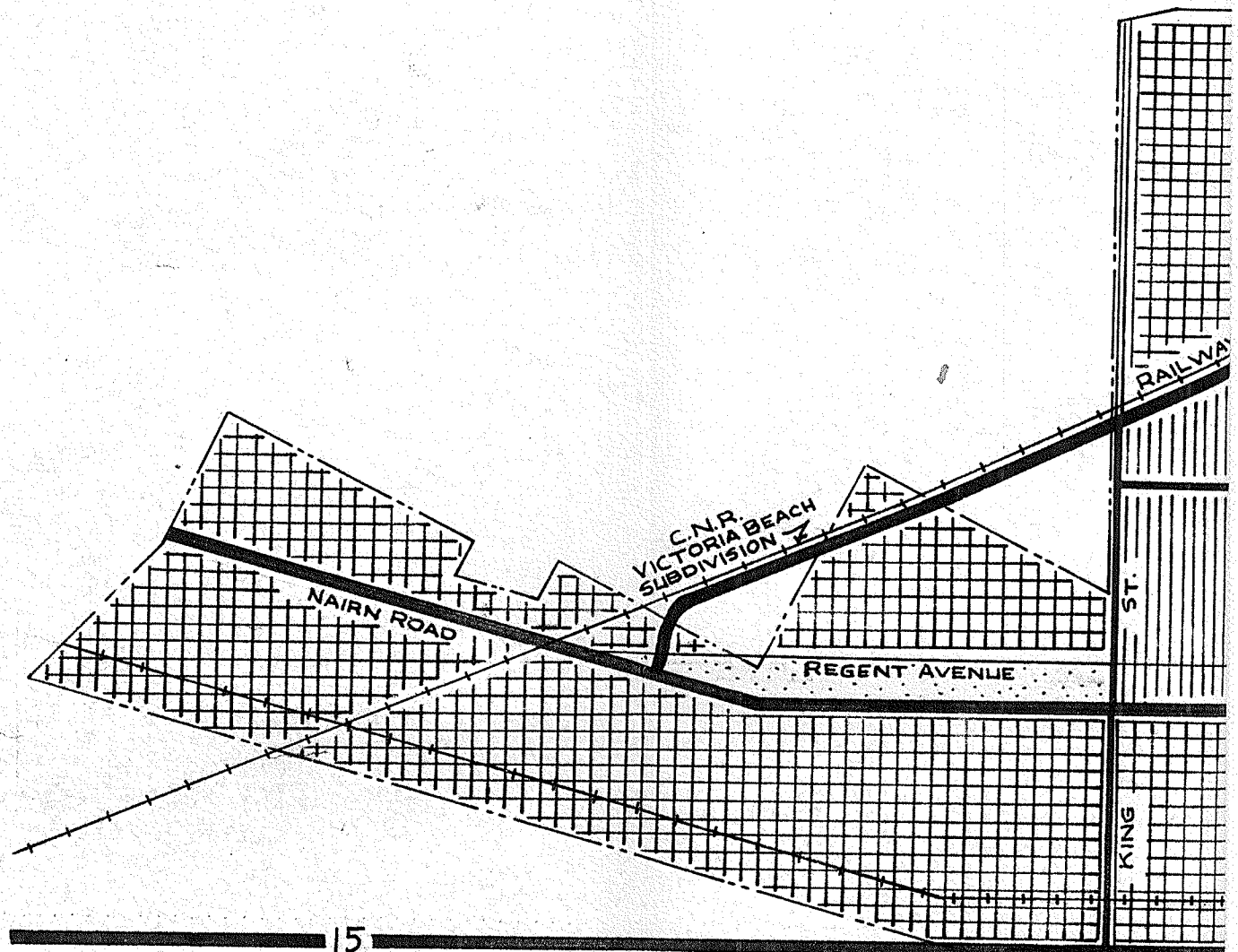
DATE: APRIL, 1959

CHECKED BY:

SCALE: 1" = 200'

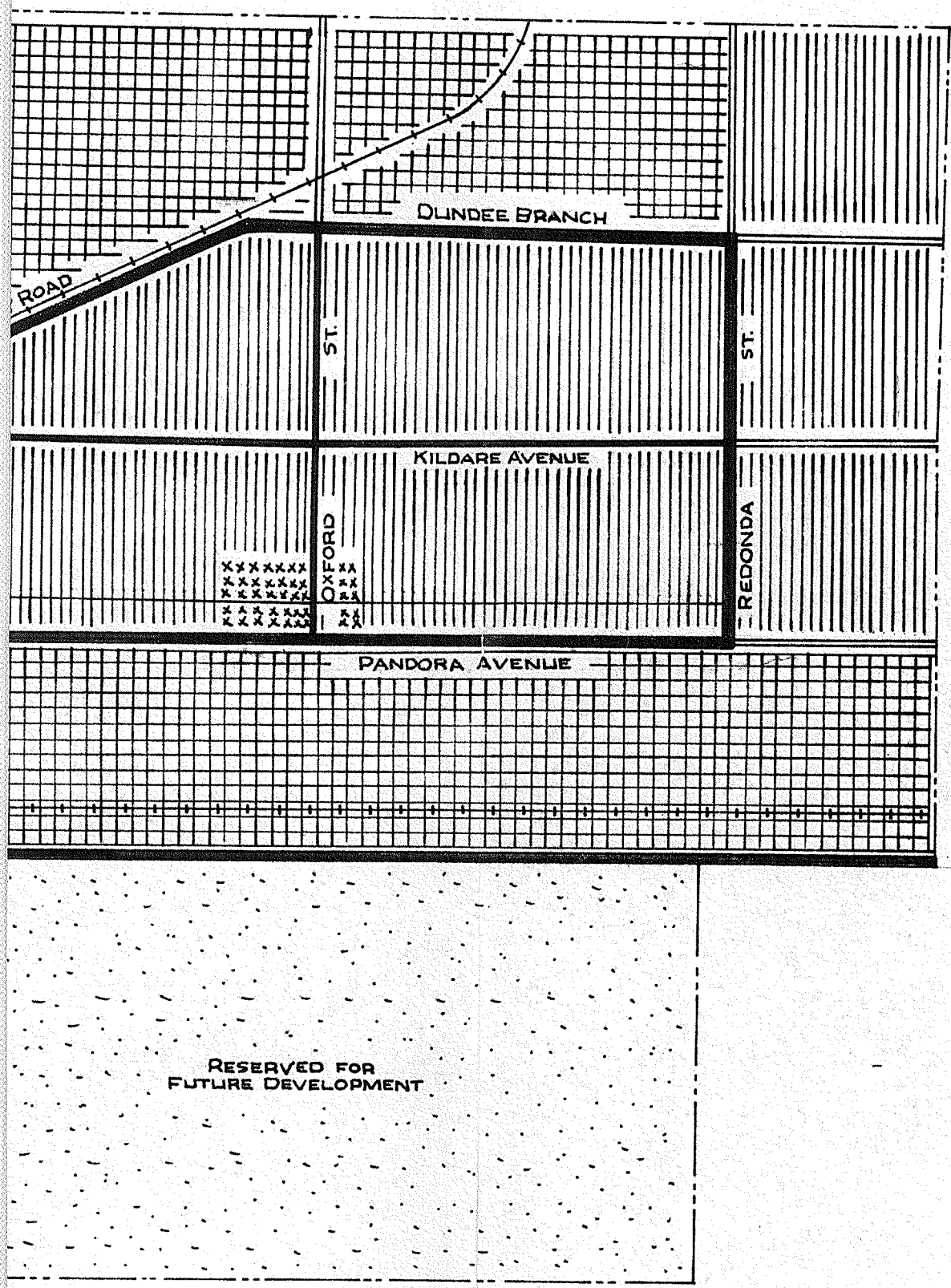
APPROVED BY:

PLAN
11



LEGEND

INDUSTRIAL	
RESIDENTIAL	
COMMERCIAL	
RESERVED	
MAJOR TRAFFIC ROUTE	
MAIN STREET	



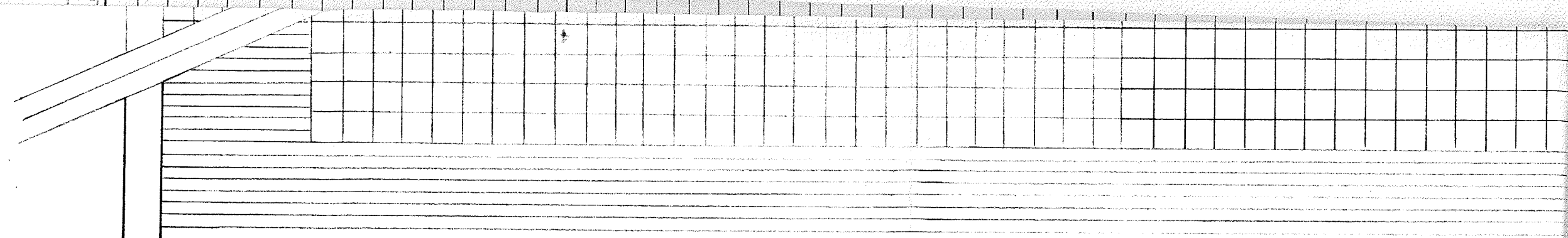
TOWN OF TRANSCONA
LAND USE
AND
TRAFFIC CIRCULATION SYSTEM
SCALE: 1"=2000' APRIL, 1959.



AVENUE

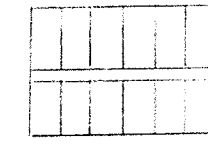
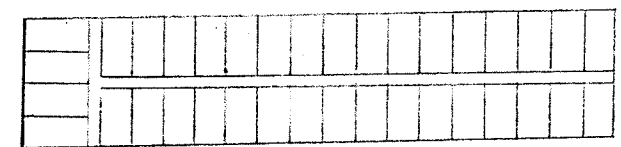
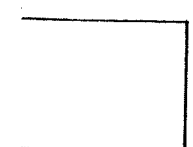
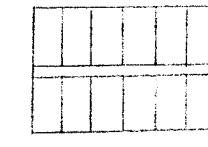
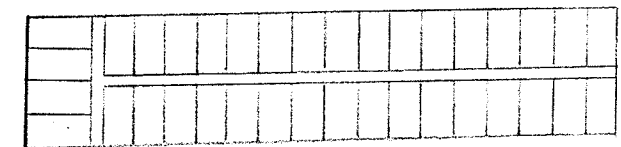
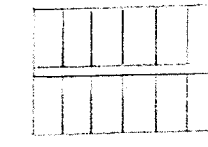
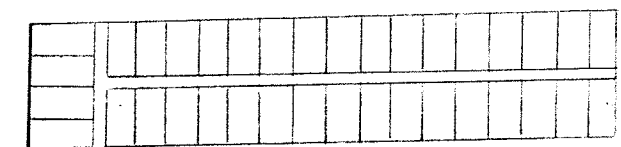
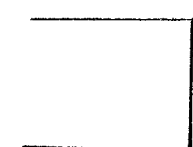
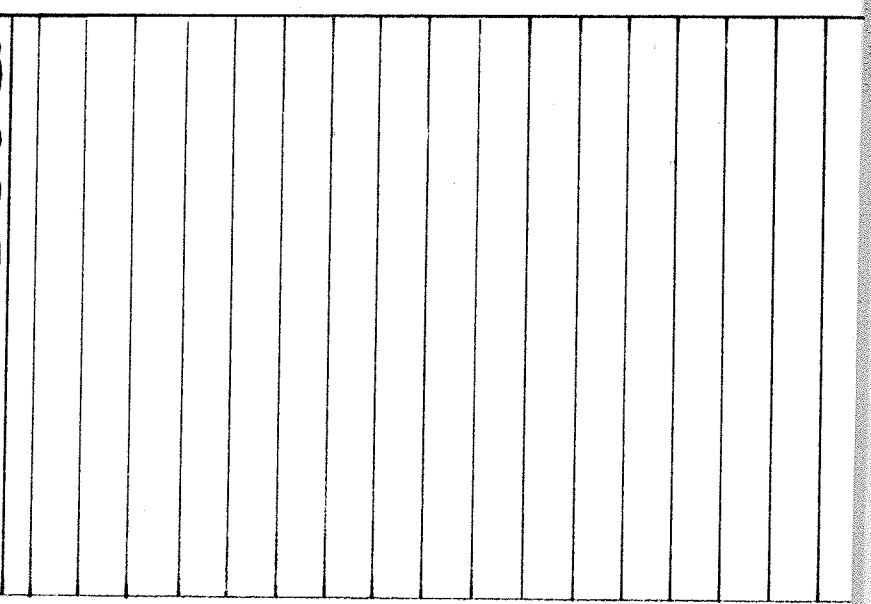
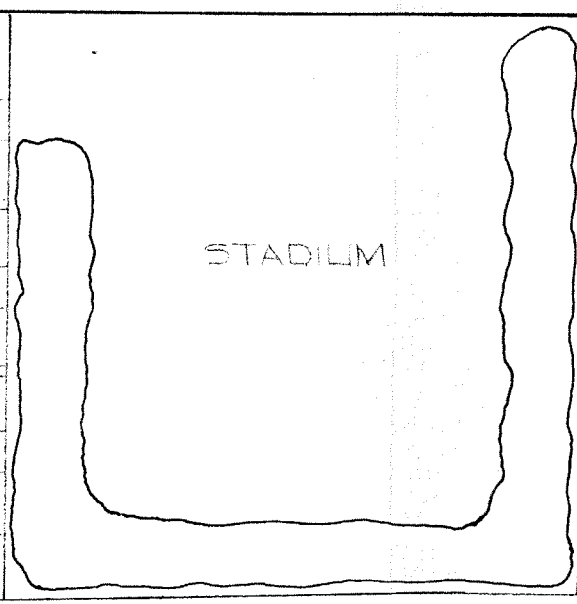
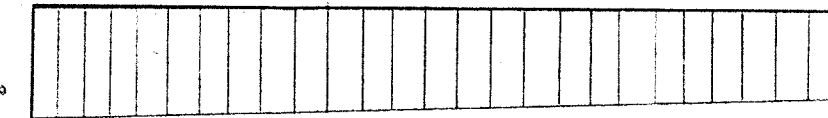
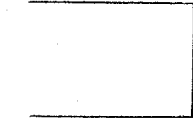
← TOWN LIMIT

MIT

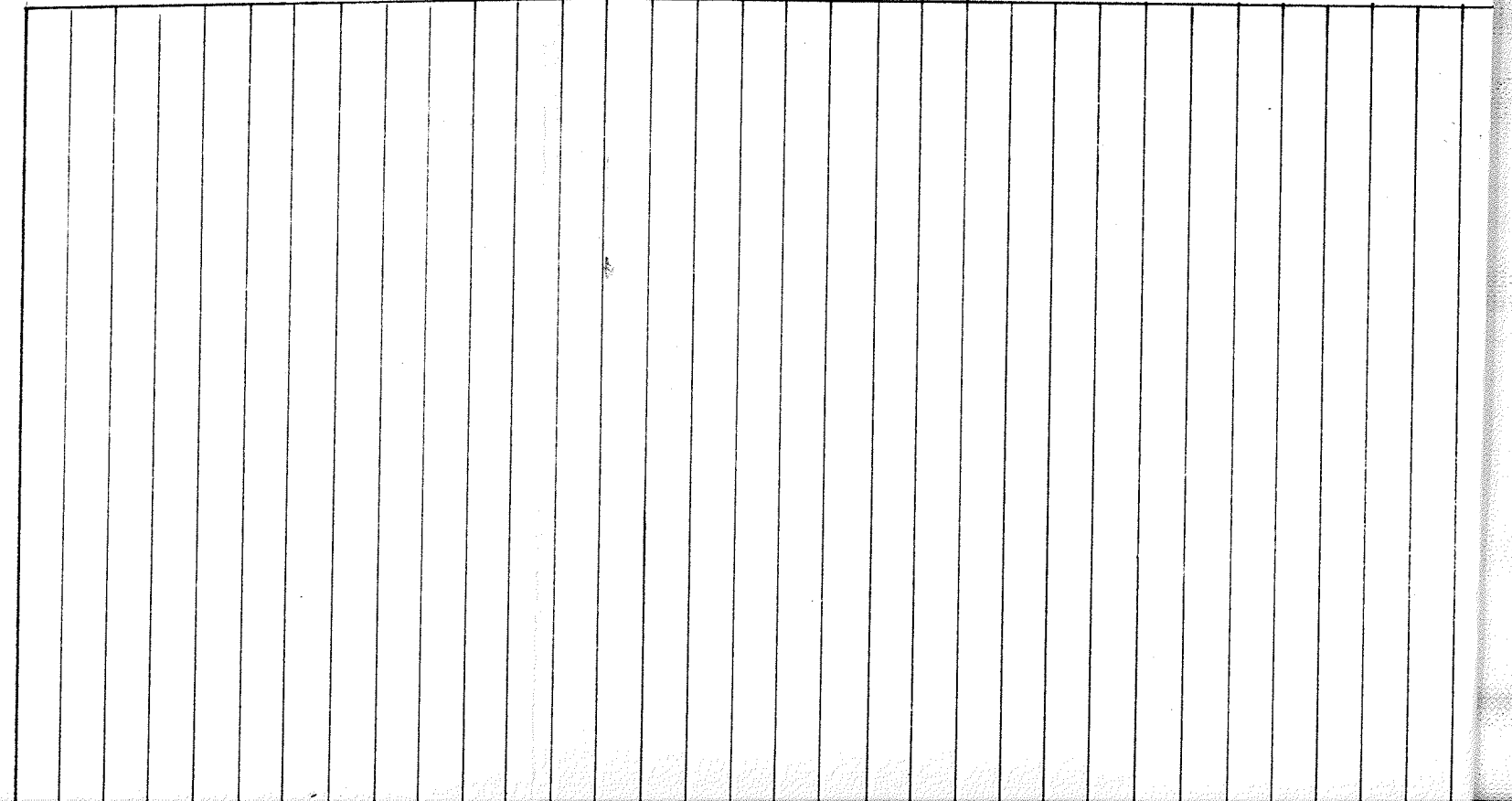
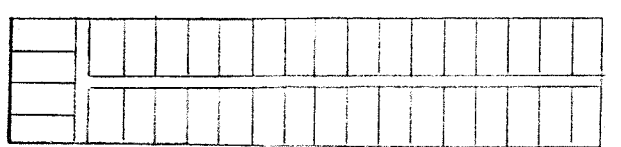
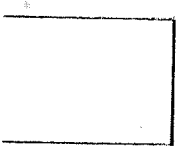
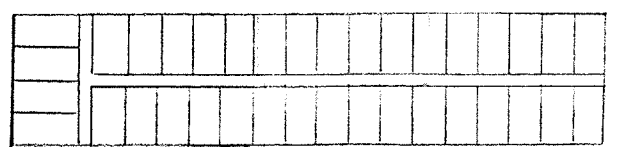
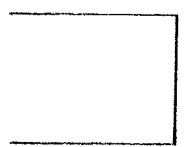
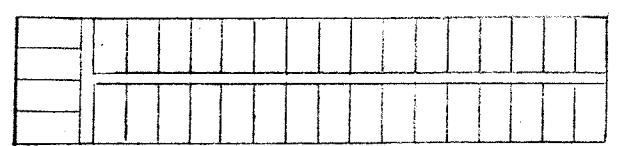
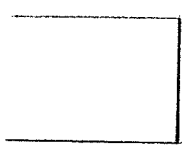
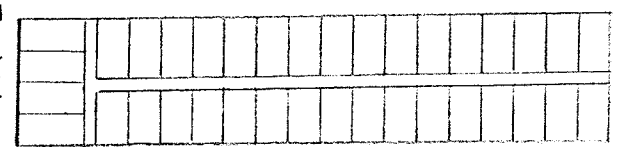
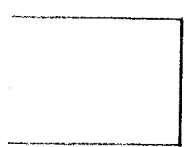
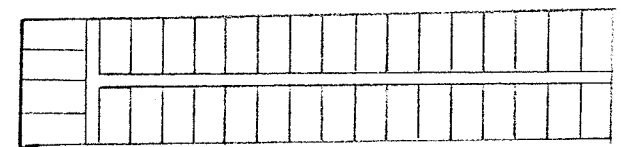
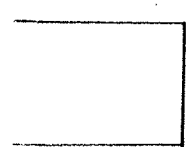


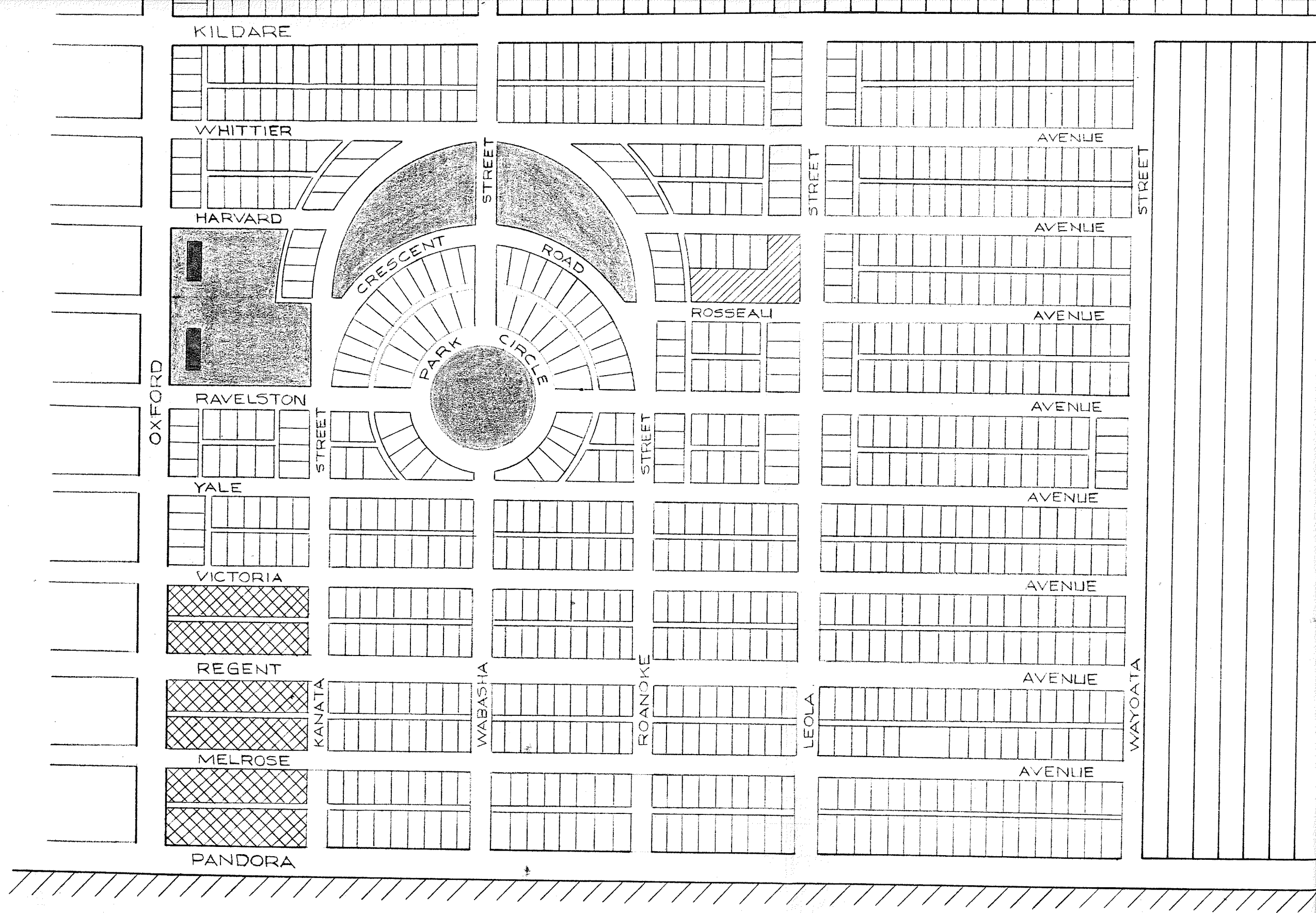
DUNDEE

BRANCH



STREET





AVENUE

REDONDA

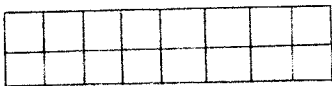
AVENUE

TOWN LIMIT

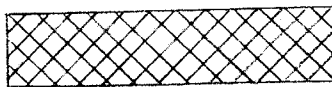
RAVENHURST

LEGEND

INDUSTRIAL



COMMERCIAL



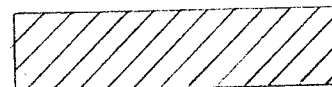
UTILITIES



RECREATION



INSTITUTIONAL BUILDINGS



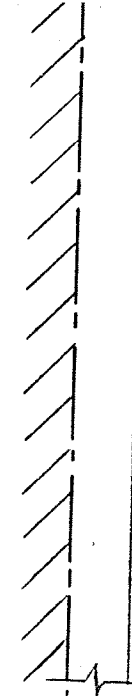
PUBLIC BUILDINGS AND
OPEN SPACES



RESIDENTIAL



AY



TOWN OF TRANSCONA

LAND USE PLAN

UNIVERSITY OF MANITOBA

DRAWN BY: J. M.

DATE:

MARCH, 1959

CHECKED BY: J. M.

PLAN NO.

9

APPROVED BY:

SCALE:

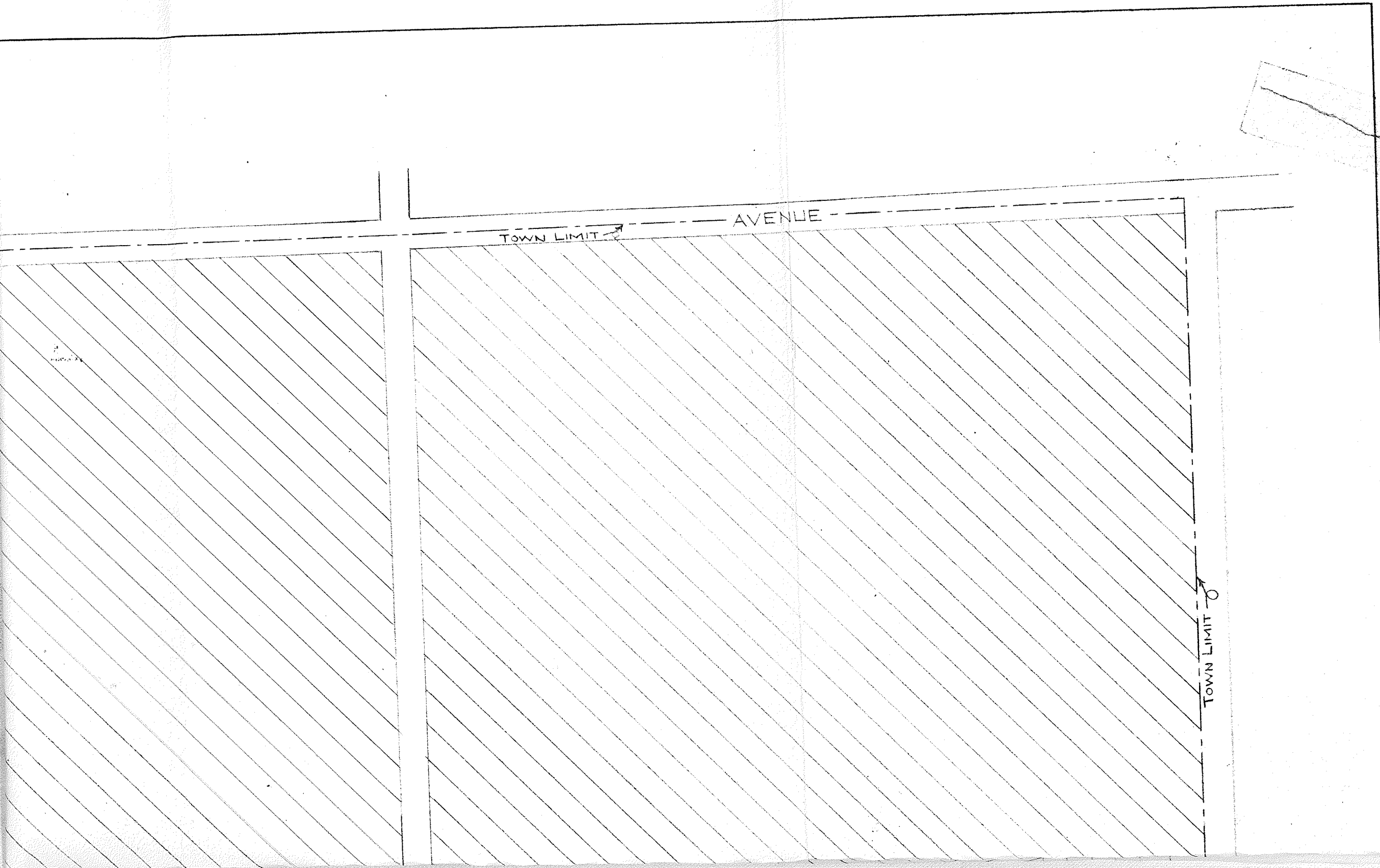
1" = 320'

C.P.R. SPUR LINE

TOWN LIMIT

GUNN

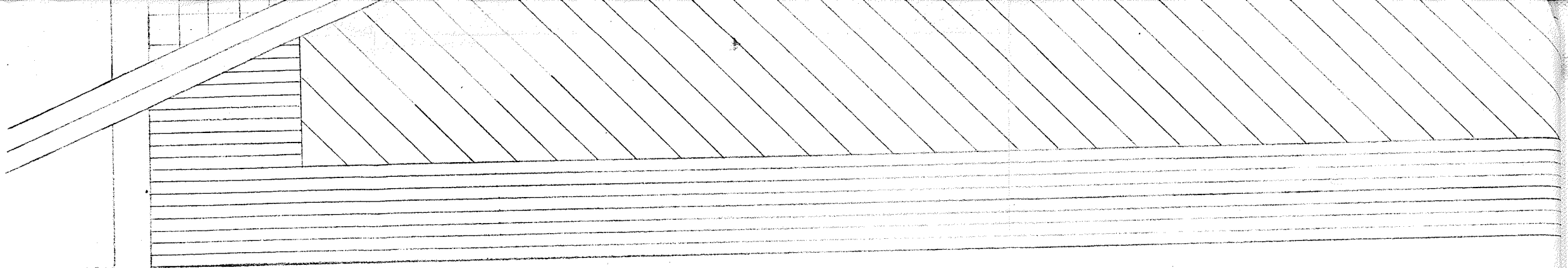
CANADIAN NATIONAL RAILWAY
VICTORIA BEACH SUBDIVISION



TOWN LIMIT →

AVENUE

→ TOWN LIMIT



DUNDEE

BRANCH

STAFFORD

AVENUE

THOMPSON

AVENUE

DOWLING

AVENUE

MC MEANS

AVENUE

EDWARD

AVENUE

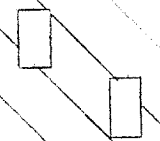
NEWMAN AVE

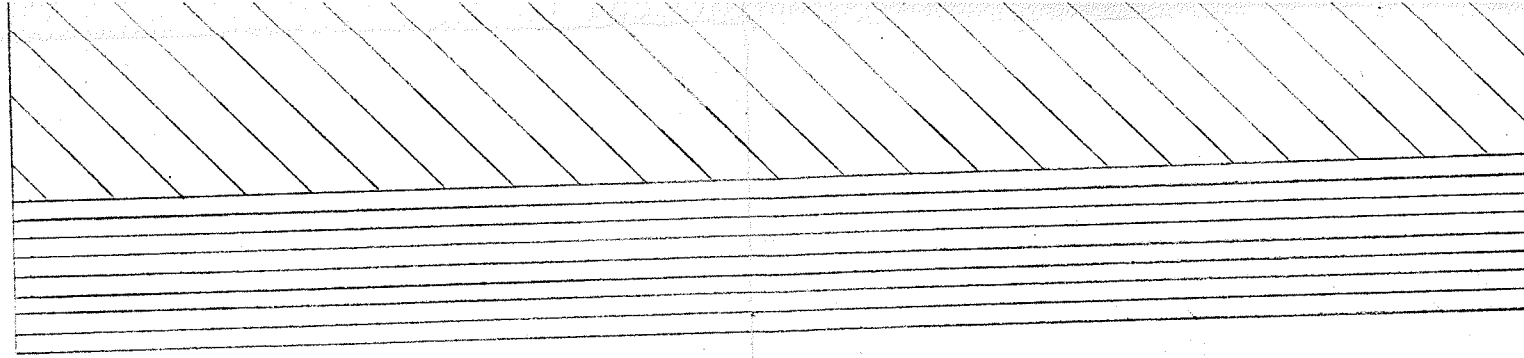
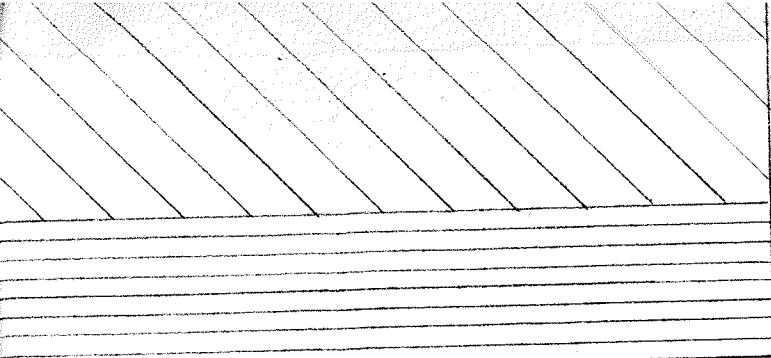
HORTON AVE

RALPH AVE

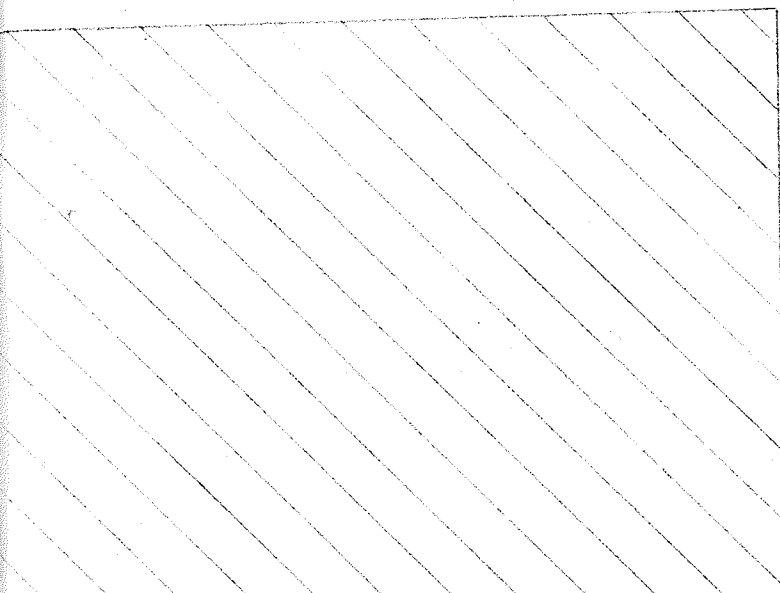
HAROLD AVE

TREET

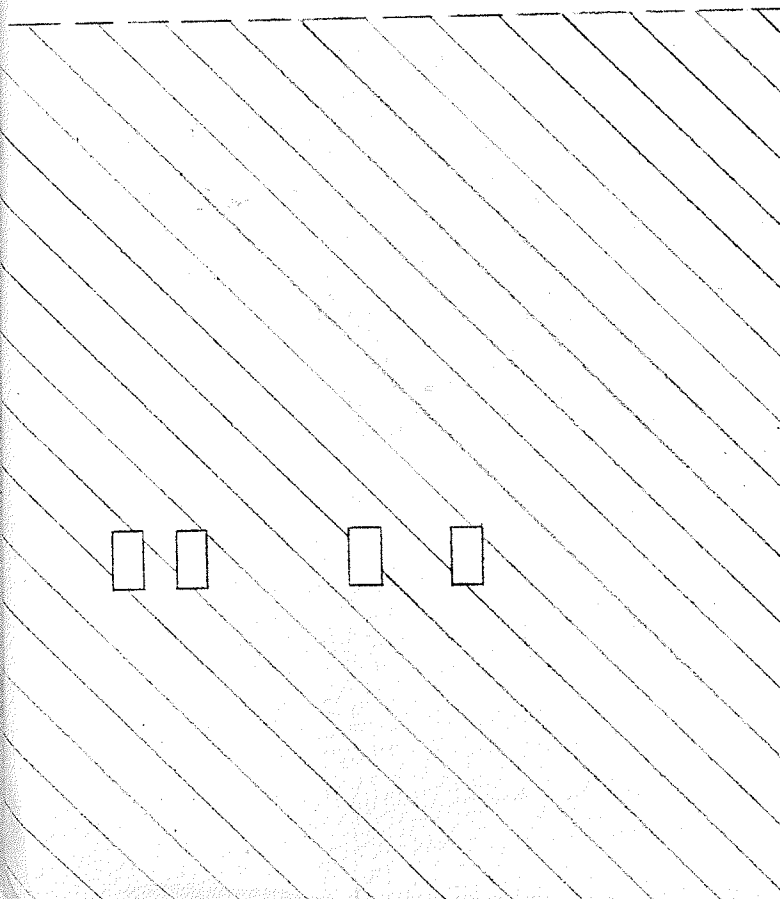
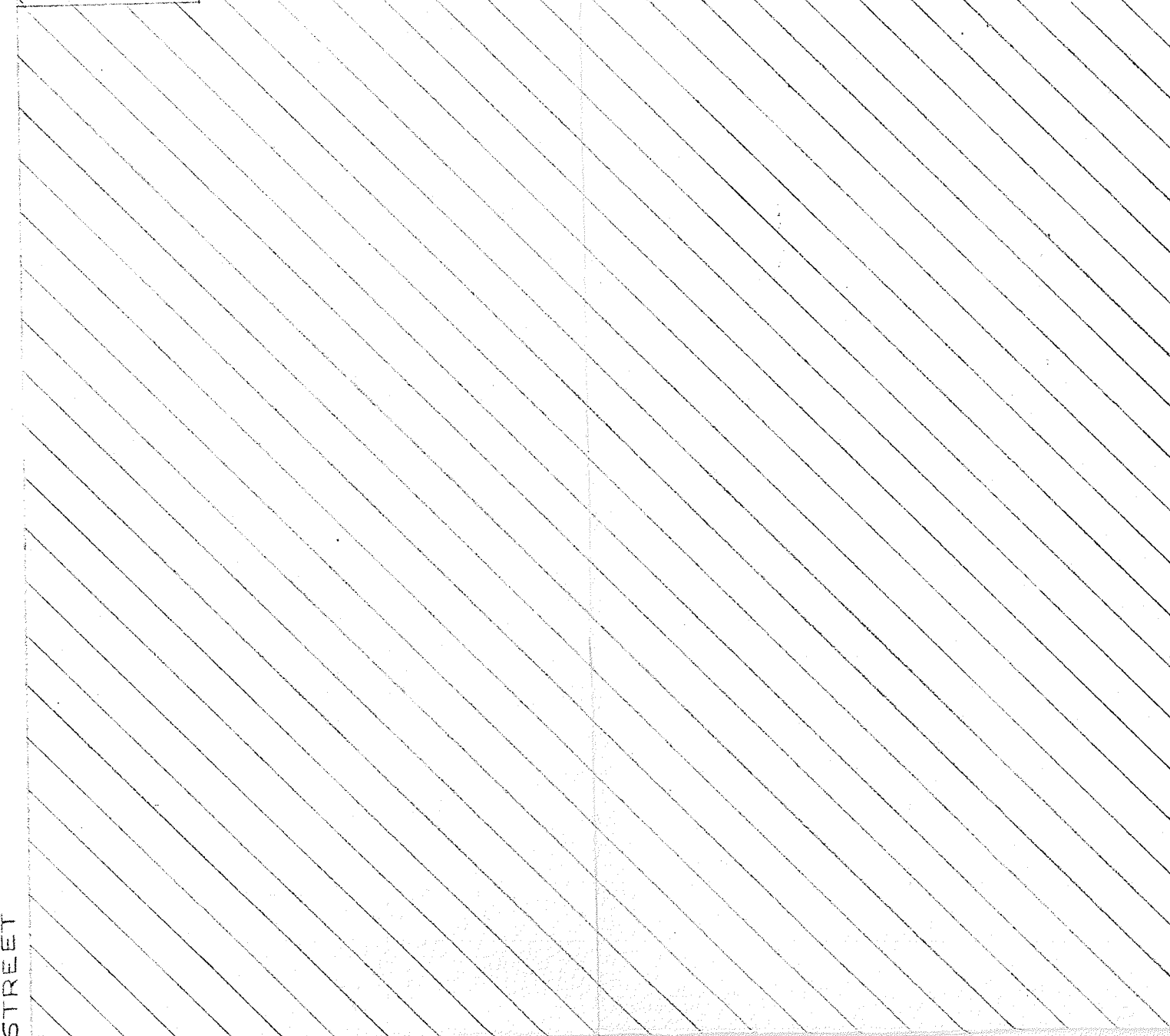




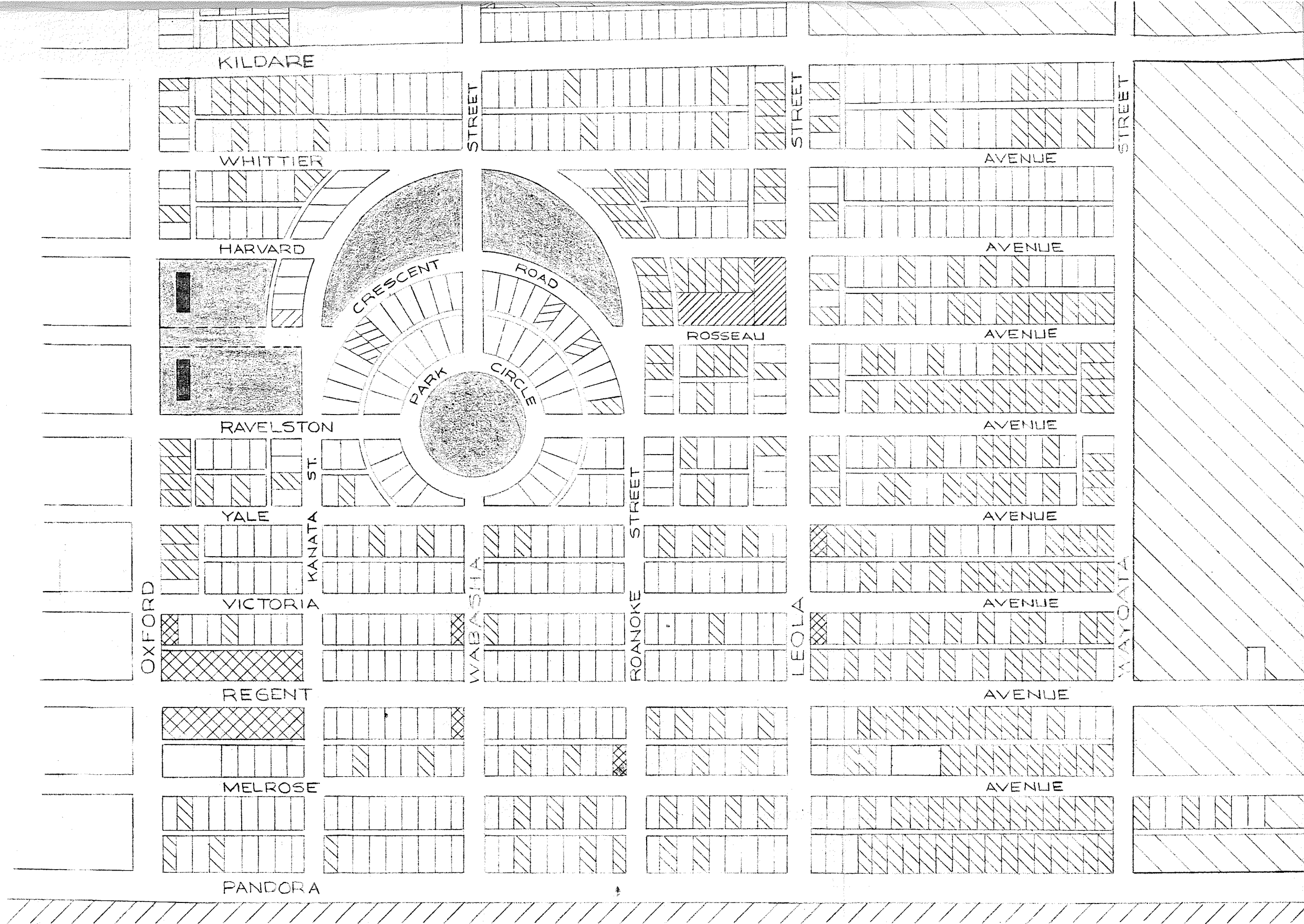
STREET



TOWN DUMP



STREET



KILDARE

STREET

STREET

STREET

WHITTIER

AVENUE

HARVARD

AVENUE

CRESCENT

ROAD

ROSSEAU

AVENUE

PARK

CIRCLE

AVENUE

RAVELSTON

ST.

STREET

AVENUE

YALE

KANATA

WABASHA

ROANOKE

LEOLA

WAYOATA

OXFORD

VICTORIA

AVENUE

REGENT

AVENUE

MELROSE

AVENUE

PANDORA

AVENUE

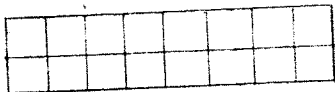
REDONDA

AVENUE

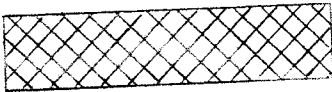
TOWN LIMIT

LEGEND

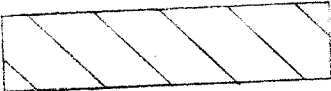
INDUSTRIAL



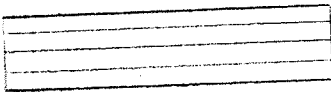
COMMERCIAL



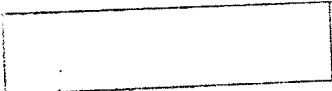
VACANT OR NON-URBAN



UTILITIES



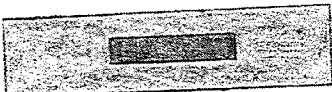
RECREATION



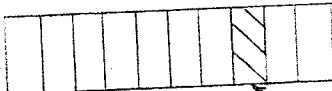
INSTITUTIONAL BUILDINGS



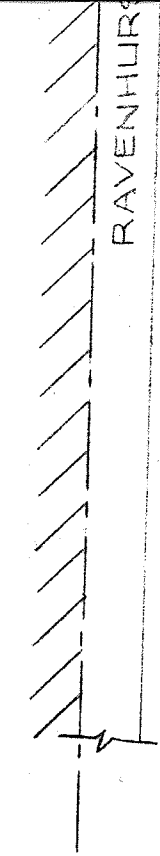
PUBLIC BUILDINGS AND
OPEN SPACES



RESIDENTIAL



VACANT LOTS



TOWN OF TRANSCONA

LAND USE MAP

UNIVERSITY OF MANITOBA

DRAWN BY: J. M.	DATE: JANUARY 1959	PLAN NO. 8
CHECKED BY: J. M.	SCALE: 1" = 320'	
APPROVED BY:		





59

NORTH KILDONAN

ST. BONIFACE

ELDORADO
GOLF
COURSE

C.C.

CNR
MAIN
LINE

PIPELINE ROW
CNR MC ARTHUR CUT-OFF

GOLF COURSE

C.P.R. YARDS

SUBDIVISION

SUBDIVISION

LAC DU BONNET SUBDIVISION

CITY HYDRO POWER TRANS LINES

C.P.R. KEEWATIN

CNR VICTORIA

BEACH

BRUNSWICK AVE

SPRINGFIELD RD

GRASSIE BLVD

KEEWATIN

SUBDIVISION

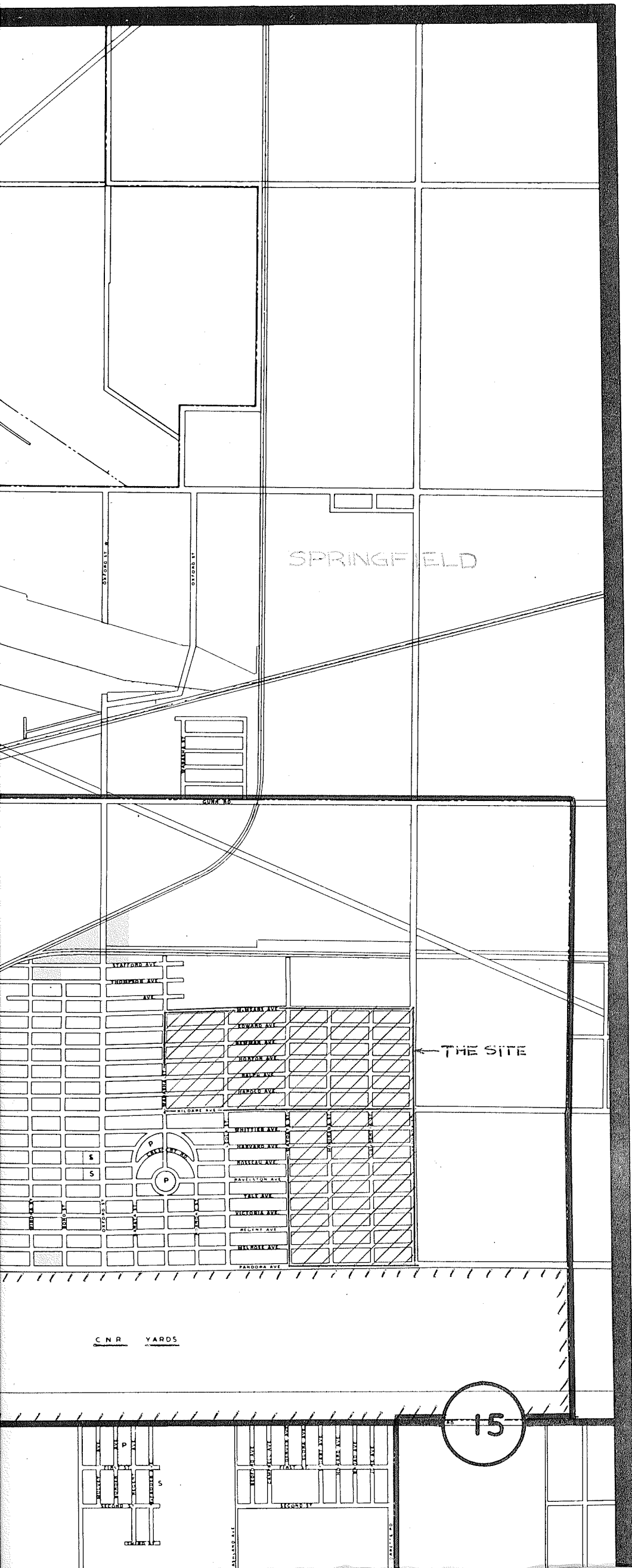
BEACH

REGENCY AVE

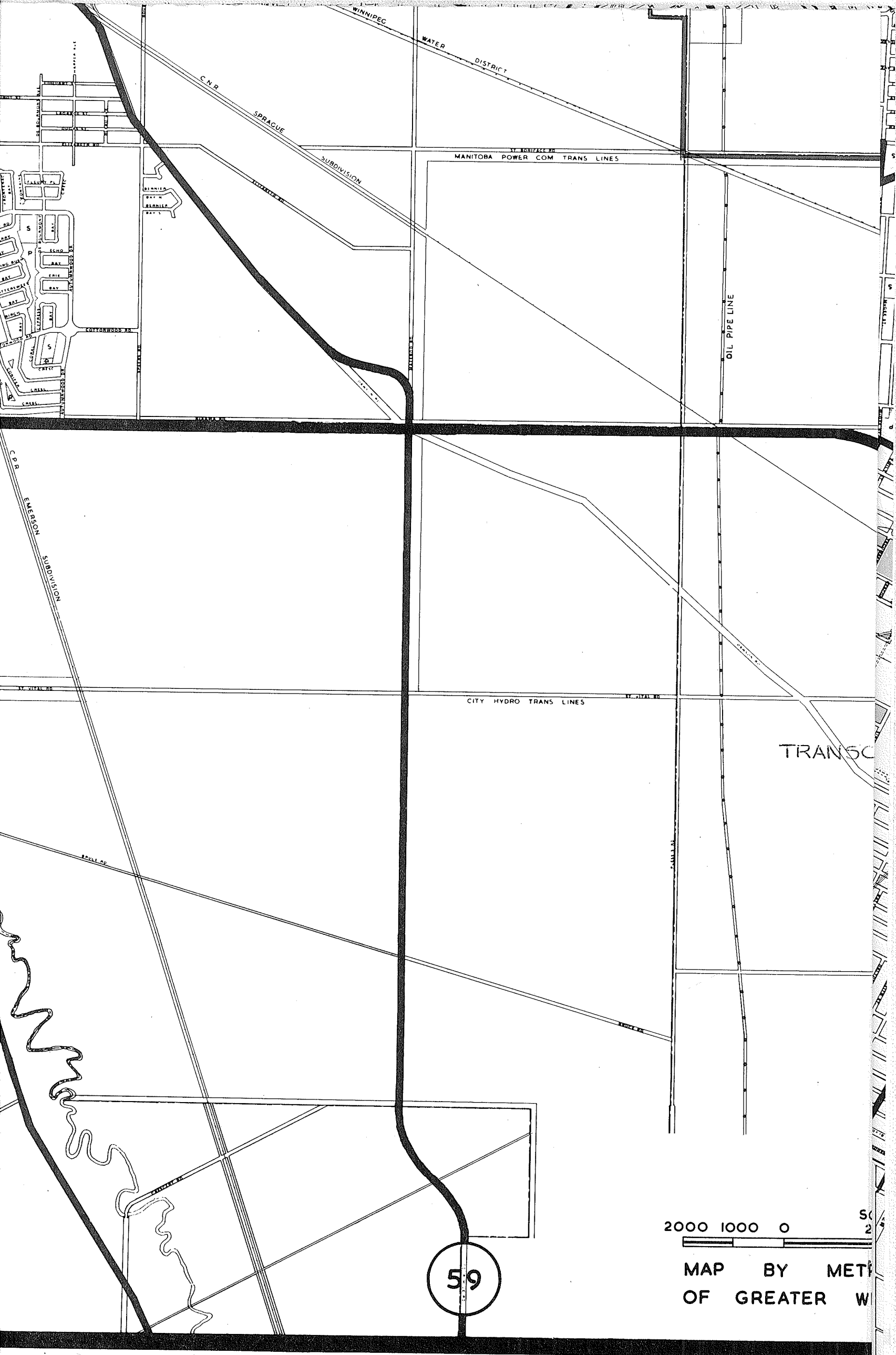
MAIN RD

WATSON AVE
BERRY AVE
WATSON AVE

GREATER

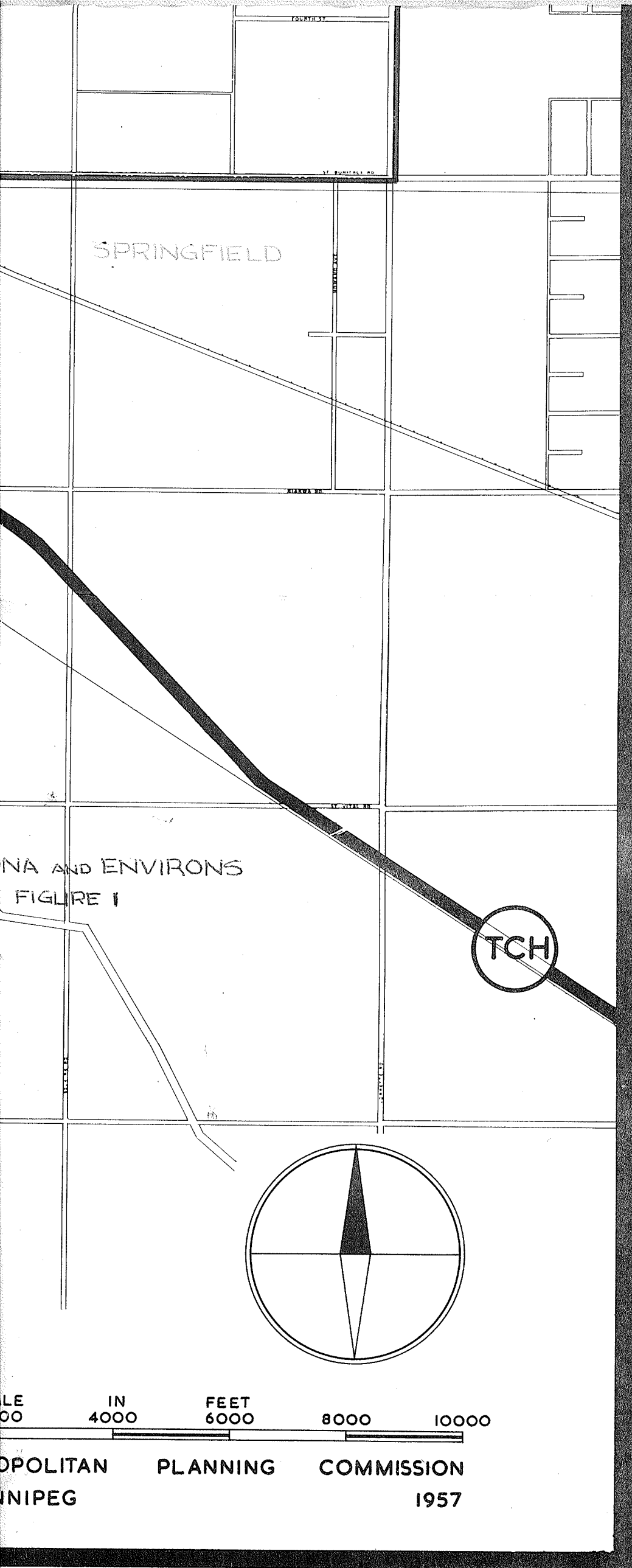






59

2000 1000 0
MAP BY MET
OF GREATER W



SPRINGFIELD

NA AND ENVIRONS
FIGURE 1

TCH

0 4000 6000 8000 10000
FEET

METROPOLITAN PLANNING COMMISSION
WINNIPEG 1957