

REPORT  
Regular Council Meeting  
1983 January 04

THE CORPORATION OF THE DISTRICT OF BURNABY

HOUSING COMMITTEE

HIS WORSHIP, THE MAYOR  
AND MEMBERS OF COUNCIL

Madam/Gentlemen:

REPORT OF THE HOUSING COMMITTEE

RE: COMPUTER DATA BASE FOR THE HOUSING COMPACTION STUDY

RECOMMENDATIONS:

1. THAT the Housing Committee approve and recommend to Council the expenditure of \$124,000 to create the graphic computer data base for the housing compaction study utilizing Municipal Incentive Grant Reserve funds.
2. THAT the Housing Committee approve and recommend to council the preparation of a by-law to appropriate the necessary funds from the Municipal Incentive Grant Reserve account.
3. THAT the Housing Committee approve and recommend to Council retaining the services of a co-ordinator/analyst, a programmer, and two Mapping Technicians as outlined in this report.

A. SUMMARY

The proposed data base for the Housing Compaction Study has been analysed in detail, refined and tested for a pilot area. A program of how each data item should be laid out and structured for entry into the graphics computer has been prepared along with staff requirements, costs and timing for the remainder of the project. This report reviews the work which has been completed and proposes a program to create the data base.

Members of the Management Committee have reviewed this report and concur with its recommendations.

B. BACKGROUND

Council on 1982 June 14 approved the recommendations:

- (a) "THAT Council approve in principle the concept of establishing a graphic computer data base for a housing compaction study utilizing Municipal Incentive Grant funds up to a maximum of one hundred thousand dollars (\$100,000).
- (b) THAT Council request the Management Committee to review this proposal and provide their comments to Council.

As a result of the Management Committee's comments Council on 1982 July 26 approved the recommendation

THAT Council authorize the expenditure of up to \$7,500 from the Budget Contingency Fund for the purpose of engaging a consultant programmer/analyst for the pilot area phase of the Housing Compaction Study.

The pilot area phase was aimed at determining what could definitely be done, how it could be done and what impact the project would have on the capacity and operation of the graphics computer. Specifically the pilot phase was intended to:

- i) assess each data item and desired use to determine whether it is feasible to undertake,
- ii) outline how each data item or use should be laid out and structured for entry into the graphics computer,

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- iii) refine staff requirements, costs and timing for the remainder of the project,
- iv) write any programs required to enter and test the data for the pilot area.

The consultant firm of Compuplan Computer Systems Corporation was retained to carry out the pilot area phase of this project.

C. SUMMARY OF PILOT AREA PHASE CONSULTANT REPORT

The consultant has completed the pilot area phase of the work and submitted a report to the Planning & Building Inspection Department. Following is a summary of the consultant's conclusions.

1. The Synercom Graphics System (INFORMAP) is an excellent system for storing, manipulating and displaying graphical information and is well suited to most uses envisioned in the housing compaction study.
2. The PDP 11/70 computer used to operate the Synercom INFORMAP system is capable of supporting additional data base management systems and display routines required for storing multiple occurrences and historical records on a property. The few tasks required by the compaction study which are not appropriate for storage in the Synercom operating system can readily be stored in a different operating system on the PDP 11/70. The introduction of another operating system on the PDP 11/70 would complement the Synercom capabilities and further utilize the overall potential of the mapping facility.
3. In conjunction with the creation of the housing compaction data base there is a series of actions which should be undertaken in order to prepare the Municipal composite base map and the property centroid file for the data base. These actions include:
  - a) assuring that all properties are included in the mapping base and identified by a valid property centroid,
  - b) obtaining a record for record match with the B.C. Assessment Authority property file,
  - c) refining updated procedures to assure appropriate changes are made to the mapping base and related data files,
  - d) establishing a secure system of file protection,
  - e) creating log records of all changes or deletions of permanent storage files,
  - f) improving the procedure for removing obsolete files from the disk,
  - g) optimizing system operation through a program of regular disk-reorganization.
4. There appears to be adequate space on the mapping computer system disk to accommodate the proposed housing scheme. It is unlikely that the number of jobs submitted to the Synercom system at one time will impede the performance of the system for quite some time.

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5. The data entry procedures and resource requirements to create the housing data base have been outlined and tested for the pilot area, and are contained in the consultant report.

D. PILOT AREA DATA TEST

The implementation of select portions of the proposed data base on a test area basis has successfully established that the Data Base can be created on the graphics computer.

A smaller pilot area than initially envisioned was used to test the data in order to expedite this phase of the work. The area did contain a sufficient range of land-use, zoning and other data to demonstrate the typical graphic form the data can be recalled in.

A sample of the data plots accompanies this report. (Appendix I)

E. REVISED DATA BASE PROPOSAL

It is feasible to obtain, enter and manipulate all of the proposed data. At the same time there is an opportunity to collect data for other Municipal studies from the sources being contacted. For example, the B.C. Assessment Authority files contain much more information on buildings than is required for this study. Much of this additional information would be valuable to other municipal work, and requires little, if any, extra effort to obtain and enter onto the graphics computer. This approach to data collection will broaden the utility of the housing data base without imposing delay or expense on the project.

The revised data base contains all of the data listed in an earlier report to the Housing Committee. It is divided into three phases for implementation. The proposed strategy will result in Phase I data being available for use while Phases II and III are being entered.

The data proposed for entry includes:

Phase I

- Frontage
- Flankage
- Width
- Depth
- Area
- Zoning

Phase II

- Ownership
- Tenure
- Assessed value
- Structural type
- Structural use
- School data
- Commercial/Industrial floor space
- Census population data
- Resident opinion survey

Phase III

- Land use
- Property sales
- Single family age/condition/appearance
- Single family basements
- Building permit data
- Transit/Bus data
- Transportation network
- Parks & Recreation data
- Resident concerns

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The establishment of the data base will enable the preparation of tabulations, cross-tabulations and plots of all data. The data will be capable of recall and plot by Planning Study Area, Municipal total or any polygon (sub-area) of interest.

Requests for zoning designations or property areas in relation to assessment, land-use or building type would be possible. The number and distribution of properties which have the potential for subdivision to smaller lots (R-9 guidelines) could be obtained.

Sample plots of zoning, absentee owners and potential R-9 properties within the test area are attached in Appendix I. Larger scale plots for presentation also accompany this report.

F. STAFFING & COSTS FOR CREATION OF THE HOUSING DATA BASE

1. STAFFING

The creation of the data base in a reasonable time (6 months) requires considerable commitment from three types of staff resources.

a) Co-ordinator/analyst

This is the overall project management including

- task scheduling
- defining procedures for data collection
- supervising the quantity and quality of data collected
- supervision of consultant work.

The co-ordinator/analyst should be familiar with the Municipal structure and have a working knowledge of mapping computers and programming. There are no existing staff members in the Planning & Building Inspection or the Engineering Department who have the computer/programmer knowledge to do this work.

It would be appropriate to enlist the services of the co-ordinator/analyst prior to initiating the implementation phase of this project in order to use the analyst's knowledge of programming when selecting consultants to carry out the work.

To this end the consultant firm (Compuplan, with Mr. Peter George) who completed the pilot area phase of the work possesses the necessary skills and would be the most appropriate to participate in the second phase.

Need for the co-ordinator/analyst is estimated at two days a week for 6 months or a ballpark of 50 days.

b) Programmer

The needs for a qualified programmer stem from the considerable number of programs required to create the data base (as outlined in Section E of this report).

It is estimated that 115 days of programmer time are required for this project. The Municipality is in the position of requiring consultants to program on the graphics computer as there are no staff members who possess such an ability.

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c) Technician/Planning Assistant

The technicians and Planning Assistants are required to collect, code and in some cases enter the data.

The technician/planning assistant work can be carried out most effectively using staff who are familiar with the graphics computer and the Municipality in general. Select staff of both the Planning & Building Inspection and Engineering Department would be appropriate to carry out this work, however this would involve pre-empting the work they are presently performing. There exists the opportunity to retain two mapping technicians, each of whom has experience working directly with Burnaby's Mapping Computer and both of whom would be available for this project. The use of these two trained mapping technicians appears to be the most effective way of securing adequate staff to assure completion of the project within the proposed 6 month time frame.

The need for additional technician/planning assistant manpower can be drawn from existing staff without major disruption to ongoing projects or work programs.

It is estimated that 285 days of technician/planning assistant time will be required to carry out the work.

2. Costs

Costs for the second phase of the work are outlined in the following chart.

ITEM	NO. OF DAYS REQUIRED	COST PER DAY	ESTIMATED COST
1. Co-ordinator/Analyst	50	\$400	\$20,000
2. Programmer	115	250	28,750
3. Technician/Planning Assistant	285+	125	35,625
4. Software Acquisitions	-	-	3,000
5. Computer Time	150	210	31,500 *
6. Other Costs/Contingency	-	-	5,125
			<u>\$124,000</u>

\* Computer time was not included in the initial estimate for this project.

In addition to the costs of creating the data base there are considerable ongoing costs involved in maintaining that information. It is intended that the costs of and responsibilities for maintaining files can be shared between departments and absorbed into the ongoing operation of the various departments utilizing existing staff. Therefore, maintenance costs have not been included in the costs presented in this report.

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G. IMPLEMENTATION STRATEGY FOR THE PROJECT

The basic approach to creating the data base is one of entering small groups of data, testing them and making them available for use before commencing entry of another group of data items.

The strategy for creating the housing data base would be as follows:

1. The Housing Committee approves and recommends to Council the implementation of the proposed data base, and the priorities and phasing for data entry.
2. The Housing Committee recommends to Council that a by-law be prepared to appropriate the necessary funds from the Municipal Incentive Grant Reserve fund.
3. Approval of the by-law to remove the monies from the reserve fund as specified in Section 378 of the Municipal Act be obtained from the Minister of Municipal Affairs.
4. After By-law approval the necessary staff (as outlined in Section F) be retained to carry out the project.
5. Implementation of the project proceeds to
  - a) create the housing data base schema
  - b) verify and update the data in the existing planning schema and from other sources.
  - c) move the data to the housing file.
  - d) update and maintain the data.

A detailed process for creating the data base has been prepared by the Stage I Consultant. A listing of required programs is part of this outline. A copy of the consultant report containing this work is available for viewing in the Planning & Building Inspection Department.

H. TIMING

Once the necessary approvals are given to proceed with the implementation of the proposed program, it will take approximately one month to request consultant proposals and to hire a firm to carry out the work.

Completion of the entire data base will involve approximately six (6) months. Portions of the data base will be entered and operational in two (2) or three (3) months.

A tentative timetable would be as follows:

- |  |               |
|--|---------------|
| 1. Approval to implement and start up time | 1983 Jan/Feb  |
| 2. Phase I                                 | 1983 Mar/Apr  |
| 3. Phase II                                | 1983 May Jun  |
| 4. Phase III                               | 1983 July/Aug |

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I. CONCLUSIONS

Completion of the pilot phase of this project has demonstrated that the creation of the housing data base is feasible and practical.

Creation of the proposed Data Base will provide the Municipality with the ability to obtain tabulations, cross-tabulations and plots for all of the data items included in the data base. These reports could be produced for the entire Municipality or for any pre-defined sub-area.

In order to achieve the desired results it will be necessary to secure project co-ordination/analyst and programmer skills from external sources. In addition it would be most expedient and least disruptive to ongoing Municipal work programs to retain the services of two Mapping Technicians (as discussed in Section F.1.c) to perform the bulk of the technician/planning assistant work.

With regard to the co-ordinator/analyst it is concluded that it would be to the Municipality's benefit to retain the services of Mr. Peter George of Compuplan Consultants on a per diem basis to assist Municipal staff throughout the implementation phase of the project.

Having completed the pilot phase of this project Mr. George is in a very good position to assist Municipal staff in preparing specifications for retaining consultant programmers, as well as for completing the work program he has helped lay out.

The cost of creating the housing data base as outlined in this report is estimated at \$124,000. This is a \$24,000 increase from the initial estimate and is due to the inclusion of charges for computer time in the revised budget.

The ongoing costs and responsibilities for maintaining this data base should be shared between departments and absorbed into the ongoing operation of the various departments. Maintenance will be dealt with in detail when more is known about the costs of such work.

In conclusion it is recommended that the Municipality proceed with the creation of the data base and that the necessary actions be initiated and approvals sought.

Respectfully submitted,

Alderman V.V. Stusiak  
Chairman

Alderman D.P. Drummond  
Member

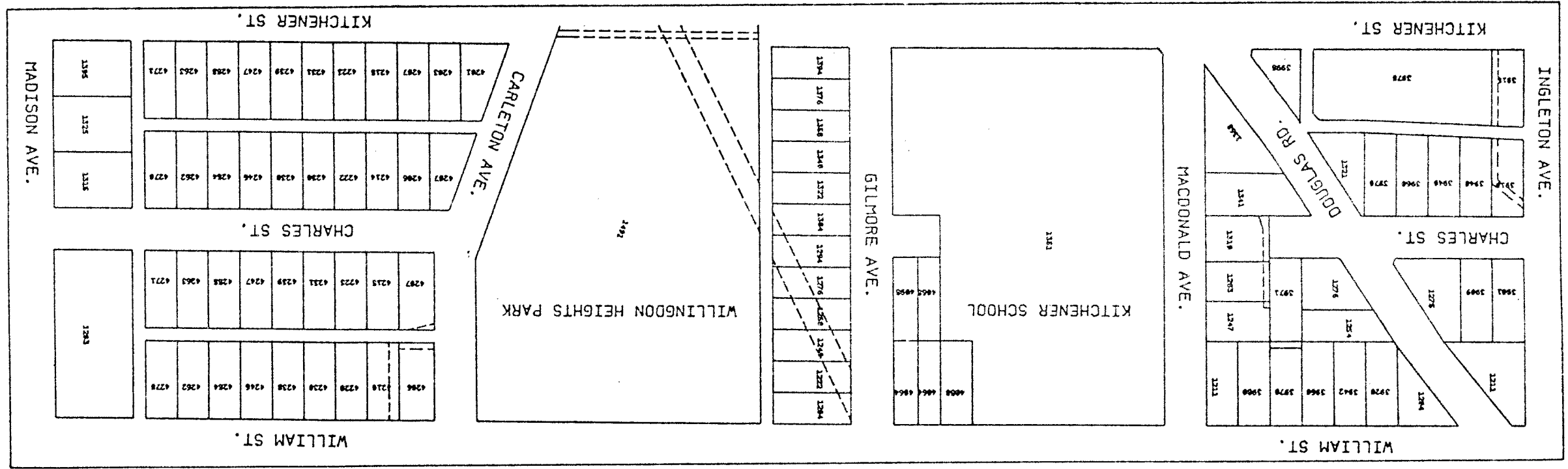
Alderman A.H. Emmott  
Member

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THE CORPORATION OF THE DISTRICT OF BURBARY

HOUSING COMPACTON TEST AREA - BASE MAP

PLANNING & BUILDING INSPECTION DEPARTMENT  
SCALE: 1:2400 DATE: 82 06 12



APPENDIX

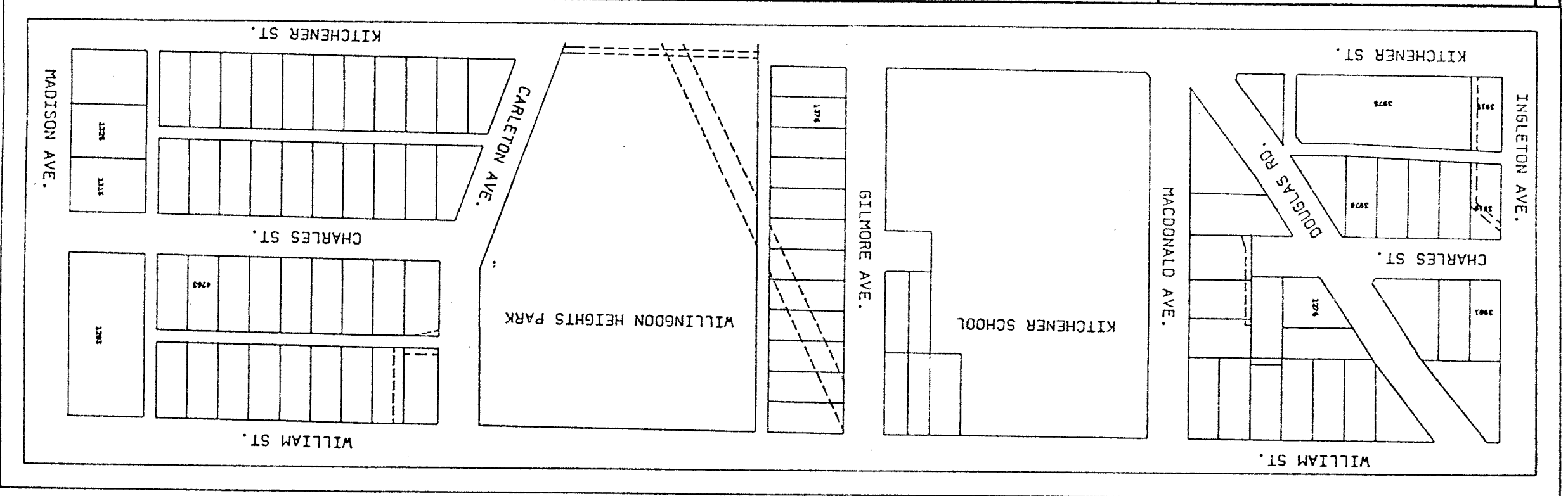




THE CORPORATION OF THE DISTRICT  
OF BURNABY

HOUSING COMPACTION TEST AREA-ABSENTEE OWNERS

PLANNING & BUILDING INSPECTION  
DEPARTMENT  
SCALE: 1:2400 DATE: 82 06 12

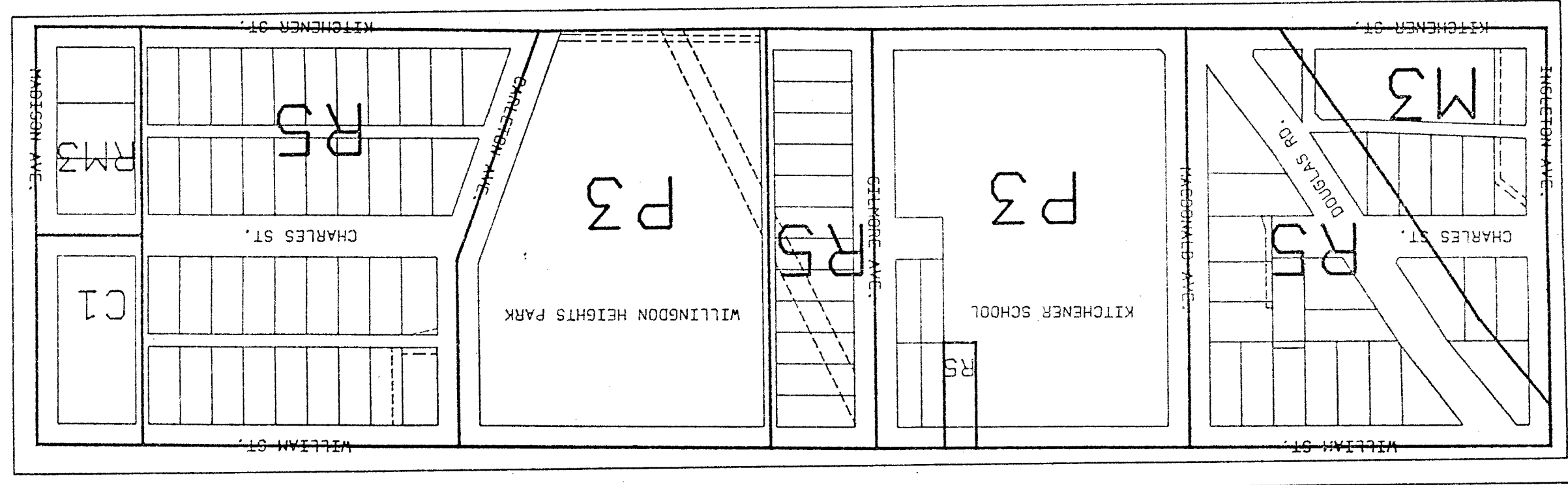




THE CORPORATION OF THE DISTRICT  
OF BURBARY

# HOUSING COMPACTON TEST AREA - ZONING

PLANNING & BUILDING INSPECTION  
DEPARTMENT  
SCALE: 1:2400 DATE: 82 06 12



THE CORPORATION OF THE DISTRICT OF BURBARY

HOUSING COMPACTIOIN TEST AREA - R9 POTENTIAL

PLANNING & BUILDING INSPECTION DEPARTMENT  
SCALE: 1:2400 DATE: 82 06 12

