

Newton Village Study

Lower Falls Survey Report

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THE NEWTON VILLAGE STUDY

LOWER FALLS SURVEY REPORT

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LOWER FALLS SURVEY REPORT

INTRODUCTION AND SUMMARY OF FINDINGS

2.2.0

INTRODUCTION

The Newton Village Study is a two year effort to examine and prepare a comprehensive plan for the future of the City's fifteen village centers. The study was begun in response to the growing community awareness and concern of the land development pressures that are being experienced throughout the City, particularly in the village commercial centers.

The study was designed to have four phases, each phase building on the next so that effective input of all citizens of Newton can be obtained.

- I. A kickoff phase, in which the study was announced and its design publically presented in meetings before the Board of Aldermen, the Economic Development Commission, and a land use forum conducted by the Newton Conservators and the League of Women Voters. In cooperation with the Economic Development Commission, a full scale citizen participation process was also designed in this phase.
- II. A survey phase, to examine and discuss the development issues and problems from a city-wide as well as village perspective. The problems of traffic, parking, urban design, zoning and the economy are examined and presented in survey reports for each village center.
- III. An alternative plans phase, to examine and discuss a number of alternatives for the future of the village centers, and the impacts of the alternative futures on the City's quality of life.
- IV. A final plan phase, to prepare consensus plans and the necessary zoning amendments and other public actions necessary to achieve it.

SUMMARY OF FINDINGS

- Lower Falls is not a village center, but contains primarily office and manufacturing uses oriented to the larger city-wide and regional market. There are practically no local convenience outlets in this area.
- Recent development on the north side of Washington Street is visually attractive, and provides a good transition to the low density residential neighborhoods beyond. The south side of Washington Street is not very attractive at present.
- There is a small surplus of parking over estimated demand at the present time.
- Residential areas do not appear to be affected by business parking, as most parking is accommodated in private off-street lots.
- Substantial growth in office space will most likely occur and is allowed by zoning; the strategic location of Lower Falls should generate additional development.
- Present zoning is no constraint to further development, which will increase in density with introduction of surface parking structures.
- Present zoning does not allow additional construction of dwellings as-of-right in the study area.

LOWER FALLS SURVEY REPORT

2.2.1 MARKET ORIENTATION

INTRODUCTION

Most of Newton's retail business and service economy is located in the City's 15 village centers. While there are substantial activities elsewhere (e.g. Needham Street), these centers function in varying degrees as the centers of the City's economy. Newton's commercial pattern is unusual for a city of its size. Most medium size cities are characterized by a substantial "downtown" where retail and business services and governmental activities tend to be concentrated, and perhaps a number of smaller neighborhood convenience centers or strips. In Newton, there is no one center that can be called the City's "downtown", although Newton Centre comes closest.

An important aspect of the village study is to determine the present role of each village center in the City's economy and to forge a consensus on what roles each should play in the future.

Therefore, the "market orientation" of the retail businesses in each center was examined and categorized into three orientations: neighborhood, community/city-wide, and city-wide/regional. These characterizations were made on the basis of the type of business and what is considered by market researchers to be its normal market area. For example, a small variety store or delicatessen normally serves a convenience business. An automobile dealer, large plumbing supply outlet or discount store normally serves a wider community or city-wide market. Large shopping malls or office complexes and employment centers tend to attract shoppers and business from throughout the metropolitan area. Although the Chestnut Hill Mall and shopping center may contain small shops, the area as a whole is a regional attraction.

There is a mix of businesses in all village centers, but some have a much wider range of goods and services than others. Most village centers also contain businesses whose market orientations vary, so that with the exception of Waban and Oak Hill, there are no centers which can be considered purely neighborhood, community-wide or regional in nature. However, it is possible and appropriate to estimate the amount of business floor area in each village center oriented in each of these ways.

FINDINGS

Table 1.1 shows that the businesses in Lower Falls have been classified as being exclusively city-wide in orientation. The office and industrial uses, the Pillar House restaurant, the automotive and a few other retail uses on Washington Street serve a wide area, and do not provide convenience shopping for local residents.

While Lower Falls is oriented to the employment and market of Route 128, development here is still not substantial enough to consider the area a "regional" center. Thus, it is classified as having a City-wide orientation.

TABLE 1.1

MARKET ORIENTATION OF BUSINESS ACTIVITY IN LOWER FALLS BY BLOCK AND FLOOR AREA

	<u>Block</u>	<u>Floor Area</u>	
2. Community/City	42001	14428	
Wide	42030	6080	
Business and	42031	37154	
Services	42032	121025	
		Sub Total	178687
		Total	178687

LOWER FALLS SURVEY REPORT

2.2.2 URBAN DESIGN AND ENVIRONMENT

INTRODUCTION

In the visual survey we have endeavored to discuss the general environment of the Village Center with special emphasis devoted to those areas which are "perceived" as the "central core", (usually the central commercial block.) Within this discussion, emphasis is further placed on the quality and clarity of entry (gateways), "spatial definition" (the quality and continuity of the commercial edge and the space formed by the building massing scheme) and the effect of these elements on the perception of the viewer. Other positive and negative aspects specific to the center are also discussed. Considerations such as areas of negative residential/commercial interface, the role and extent of vehicular/pedestrian participation in the space, as well as facade/signage problems, are examined to provide insight into the many seemingly unrelated elements within the center which contribute to our perceptions of it as an environmental whole.

FINDINGS

Figure 2.1 presents the findings of the visual survey.

Lower Falls is comprised of a number of commercial buildings on the south side of Washington Street (Route 16) just prior to entering the Town of Wellesley. This area serves functionally as a city-wide access point from the west, but visually it appears to be a poorly defined gateway to Wellesley. Vehicular participation in this area is transitory and short lived.

The commercial buildings that line the south side of Washington Street are placed in a seemingly random fashion so the area lacks a "hard edge" to define the space.

To the north the office complex provides an excellent example of what may be achieved at the residential/commercial interface to insure a positive integration of conflicting uses.

LOWER FALLS SURVEY REPORT

2.2.3 LAND USE

INTRODUCTION

Information on existing land uses in the village centers was obtained from the Newton Assessors. The information was aggregated into the categories shown in Table 3.1 and figure 3.1. The table shows for each use the amount of land area in acres, the amount of commercial, office and industrial floor area in square feet, the number of dwelling units located within the village study boundaries, and the Floor Area Ratio (FAR) of the non-residential buildings. (The concept of FAR is illustrated in Section 2.2.8.)

FINDINGS

The Lower Falls commercial area cannot be considered a "village center" in the traditional sense, as there are few convenience retail uses.

Office park and manufacturing uses predominate, taking advantage of its location on Route 128 and, in the past, the waters of the Charles River.

Single family homes are the predominant residential use within the area, but the apartment complex dominates the local scene on Washington Street. This development is a good example of how "higher density" housing can be integrated into an area and provide a transition between non-residential areas and single family neighborhoods.

TABLE 3.1

LOWER FALLS:

EXISTING LAND USE CHARACTERISTICS

<u>CATEGORY</u>	<u>LAND AREA IN ACRES</u>	<u>FLOOR AREA IN SQ. FT.</u>	<u>FAR%</u>	<u>DWELLING UNITS</u>
Residential:				
Single Family	17.92	--	--	71
2 and 3 Family	1.52	--	--	10
Apartments/Condos	0.53	--	--	19
Commercial	7.31	17,619	.055	
Office	6.87	138,612	.463	--
Industrial/Manufacturing	2.02	85,302	.968	--
Mixed Use - mostly Commercial	0	--	--	--
Mixed Use - mostly Residential	0	--	--	--
Transportation/Parking	NA	--	--	--
Institutional	NA	--	--	--
Open Space/Recreation	NA	--	--	--
Vacant Land	3.49	--	--	--

LOWER FALLS SURVEY REPORT

2.2.4 TRAFFIC

This report conveys the results of the manual and automatic traffic counting program initiated in October 1985, by the consultant and the City, together with pre-existing traffic count data from previous City counts and consultant studies made available to us by the Newton Planning and Public Works Departments.

The objective of assembling available information on traffic volumes, intersection geometrics, and existing traffic control was to create a "Base Case" traffic scenario against which alternative future scenarios can be compared in later phases of the study. Since the principal traffic impact of additional development in any center will be the generation of added volumes, it was important to have reasonable estimates of existing volumes on key streets.

In conducting the traffic surveys, we noted existing intersection geometry and traffic control, pointing out where these create or accommodate present-day bottlenecks. We also tried to identify parallel routes most likely to be used as bottleneck bypasses by drivers familiar with existing traffic conditions.

We used the Level of Service methodologies for analyzing signalized and unsignalized intersections to characterize existing operations, with one important caveat related to signalized intersections: signal phasing and timing patterns assumed at such intersections were not those in current operation. We deemed it more useful to analyze an optimal allocation of signal green time based on existing traffic volumes, in order to be able to compare operations given potential capacity and existing volumes, with future operations when these volumes can be assumed to increase with different development scenarios. This approach corresponds to the "planning" approach to traffic operations analysis, compared with the more fine-tuned "engineering" approach which is appropriate when one is actually involved in intersection design. Thus, the reported Levels of Service may not correspond with current daily experience at existing signalized intersections operating with less-than-ideal phasing and timing.

6. NEWTON LOWER FALLS

Traffic Conditions

The Newton Lower Falls area is a major traffic node, where Route 128 on- and off-ramps, and the frontage road to Grove Street, connect with Route 16 (Washington Street). Washington Street traffic at this location is moderate-to-heavy during most of the day, with peak-hour volumes approaching 3,000 vehicles per hour (both directions) on the bridge over Route 128. The intersection of Washington Street, the Route 128 frontage road/off-ramps, Wales St. and Quinobequin Road/Route 128 ramps is complicated and congested; the existing 3-phase signals at this location are due to be replaced within the next year.

Farther west along Washington Street, Concord and Grove Streets are used by some traffic to bypass the congestion at Route 128. Stop-and-go traffic on Washington Street at the Concord and Grove Street approaches blocks exiting traffic movements from Concord in both directions at peak hours.

An automatic 24-hour traffic count on Washington Street at this location, conducted in 1982, was obtained from an earlier consultant study.* The results of these volume counts, factored to represent 1985 Average Daily Traffic (ADT), were:

Eastbound	17,800
Westbound	16,730

Additional 24-hour counts may be obtained at a later stage in the study.

Peak hour turning movement counts at Washington Street/Wales/Route 128 ramps/Quinobequin Road were obtained from the consultants performing the current signal design study.** In addition, a new turning movement count was conducted at the intersection of Washington Street/Concord Street in November 1985. These counts were adjusted to represent average annual existing peak hour traffic volumes, as depicted in Figure 4.1. Peak hours observed from these counts were 8:00-9:00 AM and 4:45-5:45 PM.

Existing operations at the Route 128 ramps intersection and at Washington Street/Concord Road were analyzed using Level of Service analysis procedures for signalized intersections. The purpose of the analysis was to determine how well the intersections could function, given their present geometric design and ideal or desirable signal timing, and existing traffic volumes, as a measure of how much potential capacity at the intersection is presently utilized. At a later phase of the study, projected volumes can be compared against present volumes, assuming an optimal traffic throughput at the existing intersections.

Similarly, procedures for analyzing unsignalized intersection operations were applied to the intersection of Grove and Washington Street. Grove Street is one-way inbound, so no left-turn delays for outbound vehicles needed to be calculated.

The results of these analyses are illustrated on Figure 4.1. As can be seen, the main signalized intersection, at Route 128, functions at low Levels of Service in both AM and PM peak periods. This is because volumes on all legs of this intersection are high--a total of roughly 3,500 and 4,050 vehicles respectively in the morning and evening peak hours, occupying 10 formal inbound lanes and including substantial volumes of turning traffic.

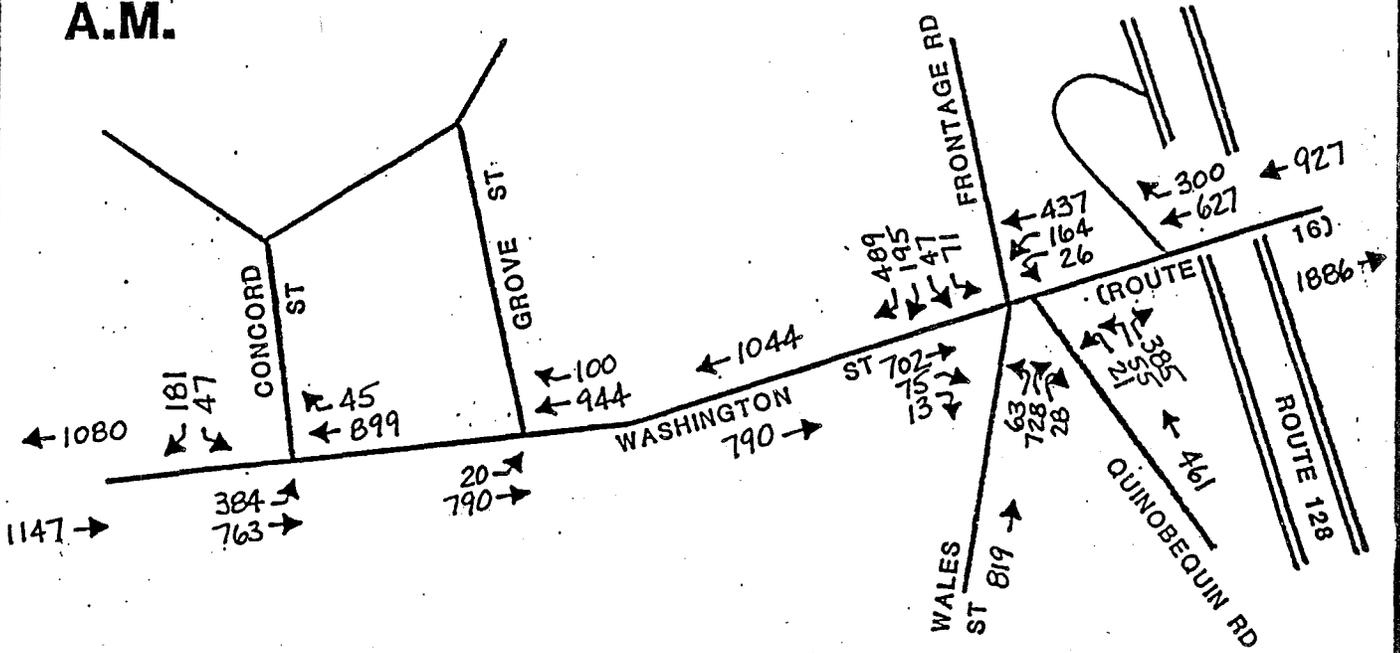
At Concord Road, the existing signal timing could be improved to permit service levels as high as "B" in the AM, and "C" in the evening, peak hours, given existing volumes. At Grove Street, little difficulty is experienced by left-turning traffic from Washington Street eastbound, principally because this volume is low. If exiting movements were permitted from Grove Street onto Washington Street, they would operate at LOS "E", and would be subject to long delays.

Given the existing roadway configuration, this area will probably remain congested for the foreseeable future. But the installation of the new signals will provide improved allocation of green time, particularly in off-peak hours when the actuation feature on all approaches will prove most useful.

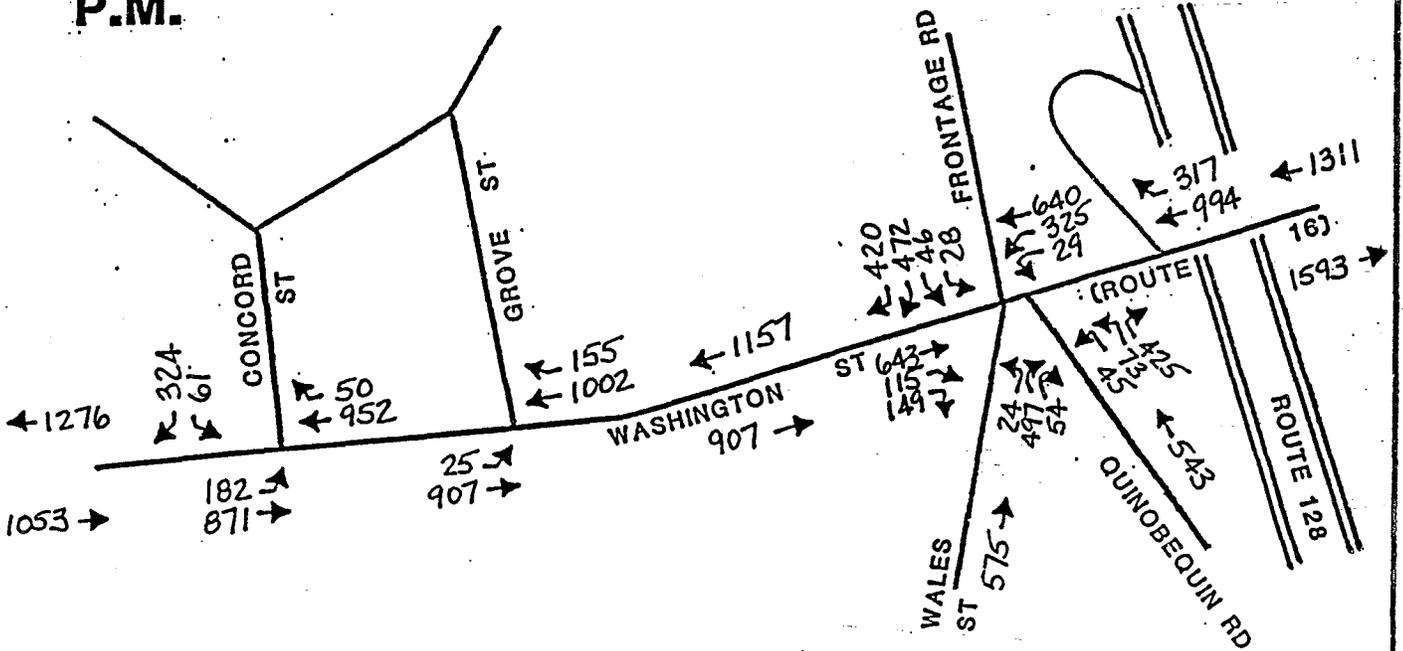
*Vanasse/Hangen, February 1982.

**Edwards & Kelcey, October 1984.

A.M.



P.M.



(NOT TO SCALE)

NEWTON VILLAGE STUDY

PEAK HOUR TRAFFIC VOLUMES - LOWER FALLS

FIGURE

4.1

LOWER FALLS SURVEY REPORT 2.2.5 PARKING

INTRODUCTION

This report presents the results of the following parking studies and analyses performed for Lower Falls.

- A parking inventory (figure 5.1)
- A parking supply/demand analysis (figure 5.2)
- A parking survey

The parking inventory was prepared from field survey and from information provided by the Newton Departments of Public Works and Planning and Development. The inventory identifies all available public and private, on-and-off-street, posted and metered, parking spaces in the study area.

The parking supply/demand analysis was performed using computerized land use data provided by the Newton Assessors, and the above parking data. This analysis provides a measure of the difference between an assumed business parking demand and actual supply.

The parking survey was conducted on Saturday, November 16, and Wednesday, November 20, 1985, between the hours of 12 noon and 2 p.m. The survey consisted primarily of counting and observing the number of cars parked on streets in relation to the amount of spaces available on those streets. The streets surveyed included Washington, Concord, Grove and Moulton Streets. The purpose of the survey was to observe the extent to which parking generated by commercial and office uses spilled over into the surrounding residential streets.

SUMMARY OF FINDINGS

a. Supply vs Demand

1. There is a small surplus of parking over estimated present demand in Lower Falls. However, 30 of these 95 surplus spaces are posted spaces on Concord Street, the use of which are not related to business demand.

b. Parking Use Survey

1. Most of the parking in Lower Falls is accommodated in private off-street parking lots. Thus, very little on-street parking was observed in the area.
2. Residential areas are not affected by business parking.
3. Washington Street and the parking ban on its north side form a perceived barrier which will tend to reduce business parking in the residential area north of Washington Street.

DEMAND VS SUPPLY

Table 5.1 presents the results of the supply/demand analysis for Lower Falls. As shown, a small surplus of 95 spaces is estimated. Fifty-nine (59) of the surplus spaces are located in block 42032, which contains the surface parking lots of newer office developments. The remaining 30 surplus spaces are those posted spaces on Concord Street in front of the church and cemetery. The demand analysis does not calculate institutional needs, so that those spaces do show as surplus. On normal weekdays, when there are no activities at the church, they can be included as part of the supply for business parking.

More intense development of block 42031 could produce a deficit in this area if the parking credit were not repealed.

PARKING CHARACTERISTICS -- ON-STREET

In general the area has little need for on-street commercial parking. The businesses and industries that do exist have significant off-street parking. While the nearby commercial area in Wellesley was very busy during the study period, there was little commercial activity within the study area. The south side of Washington Street towards the intersection with Route 128 has a capacity for 20 cars. Initial counts recorded eight parked cars throughout the two hour study period, with no turnover. Further counts on the following Wednesday found 13 cars in the area. The southerly portions of Concord Street had no more than two cars at any one time and the intersection of Grove Street and Moulton Street had one car parked.

It appeared that even when the nearby commercial area in Wellesley is very busy there is no discernible impact on Lower Falls.

The fact that there is no parking along the northern side of Washington Street, and that the adjoining area is primarily residential reduces commercial parking intrusions into the residential area.

On Wednesday, November 20, it was observed that the private off-street lots in this area were generally near capacity and that there was some on-street parking on Washington Street (13 cars). The northern side of Washington Street and the abutting residential streets were not used for business parking.

CORE AREA

The core area can be defined as the 1 hour posted parking

area along the south side of Washington Street. On the Saturday, only 8 of the 20 available spaces were used. On a Wednesday 13 of the 20 spaces were used.

PARKING IN RESIDENTIAL AREAS

The fact that there is no parking along the northern side of Washington Street, and that the area is residential in character reduces parking intrusions and our observations confirmed this.

PARKING MANAGEMENT

Posted one hour parking is the major management tool. Given the low parking demand, it appears that the present management system is sufficient.

TABLE 5.1 LOWER FALLS

PARKING SUPPLY AND DEMAND BY BLOCK

SEC/BL	DEMAND	PRIV	OFFST	ONST	PUBL	SPPLY	SURPLUS
42001	385	385	0	0	0	385	0
42030	20.0	12	0	38	38	50	30.0
42031	282.3	288	0	0	0	288	5.7
42032	310.4	370	0	0	0	370	59.6
TOTAL	711.6	1055	0	38	38	1093	95.3

- PRIV: Private off-street spaces
- OFFST: Public off-street spaces
- ONST: On-street metered and posted spaces
- PUBL: Total off- and on-street metered and posted spaces.
- SPPLY: Total public and private spaces.

LOWER FALLS SURVEY REPORT

2.2.8 ZONING/THE DEVELOPMENT ENVELOPE

INTRODUCTION

This report presents the results of the analysis of existing zoning in Lower Falls. The purpose of the analysis is to provide an understanding of the present and future development environment of the study area, or to answer several basic questions:

- 1) How much growth is allowed by present zoning?
- 2) How much of this growth could most likely occur in this village center?
- 3) What will this development most likely consist of and look like?

A fourth, and equally important question, (what will be the impact of this growth?) will be examined in the next phase of the study.

In order to answer these questions, the following analyses or estimations were performed:

The Zoning Envelope: This estimates the total amount of residential, commercial and office development that is presently allowed by the zoning ordinance on each parcel of land and for the study area as a whole. This represents the "as-of-right" capacity of zoning as if every parcel of land were developed to the fullest extent allowed by present zoning.

The Development Envelope: This is an estimate of the amount of development that could and is more likely to occur when existing and recent development is considered along with present zoning. This development envelope, or umbrella, combines the concept of zoning "right" and the realities of the marketplace to produce a more reasonable estimate of long term development that could occur "as-of-right" or without special permit.

A Development Model: This is a simple representation of the kind of development that exists, has been recently built, or proposed in the area, and is most likely to be built in the foreseeable future.

SUMMARY OF FINDINGS

Substantial growth in office space will most likely occur and is allowed in Lower Falls; a total of over 400,000 square feet of new non-residential development could occur.

Strategic location to Route 128 and the Town of Wellesley should generate continued growth pressure.

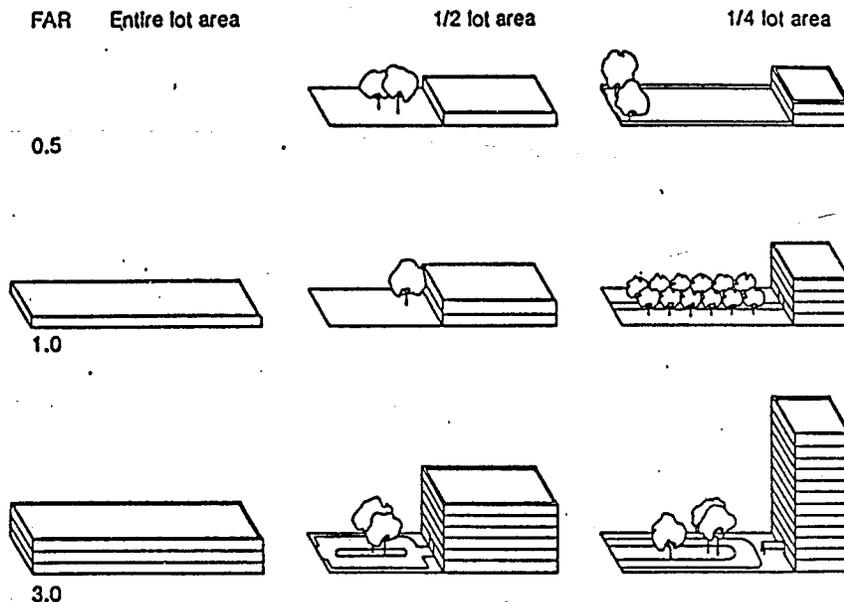
Present zoning should prove little constraint to further development which will increase in density with introduction of surface parking structures.

Present zoning does not allow additional construction of dwelling units as-of-right within the study area, so that as-of-right opportunities to add to the housing supply do not exist here.

WHAT IS FAR?

The Floor Area Ratio (FAR) is a simple measure of development intensity. It expresses the ratio of a building's total floor area to the size of its site. A one-story building covering its entire site or parcel has an FAR of 1.0. A three story building of 100% coverage has an FAR of 3.0. The same building covering 50% of a site has an FAR of $3 \times .50$, or 1.50.

FLOOR AREA RATIOS ILLUSTRATED



WHAT IS THE ZONING ENVELOPE?

The zoning envelope is a measure of the amount of development allowed by the provisions of the existing zoning ordinance. This allowable development is expressed as total non-residential floor area and number of dwelling units that can be developed on each parcel of land and for an area as a whole. The floor area is determined by translating the provisions of the zoning ordinance into effective maximum allowable FAR's, or number of dwelling units for typical development that might occur in each zoning district. The estimated FAR's are shown in Table 8.1.

TABLE 8.1

EFFECTIVE MAXIMUM AS-OF-RIGHT FLOOR AREA RATIOS ALLOWED BY THE EXISTING ZONING ORDINANCE

Typical Development	Zoning Districts/FARs				
	BAA	BA	BB	LM	M
1. Retail-surface prkg					
. 1 story	0.25	0.40	0.40	0.25	0.40
. 2 stories	0.50	0.62	0.62	0.44	0.62
. 3 stories	0.62	0.70	0.70	0.60	----
. 4 stories	----	----	----	0.70	0.81
2. Office-surface prkg.					
. 1 story	0.25	0.40	0.40	0.25	0.40
. 2 stories	0.50	0.59	0.59	0.41	0.59
. 3 stories	0.58	0.69	0.69	----	----
. 4 stories	0.61	----	----	0.60	----
3. Retail Ground floor, offices above-surface prkg.					
. 2 stories	----	0.59	0.59	0.44	0.59
. 3 stories	0.58	0.69	0.69	----	----
. 4 stories	0.60	----	----	0.58	----
4. Office-Ground floor prkg. or 1 prkg. level under building					
. 2 stories	0.50	0.98	0.98	0.50	0.98
. 3 stories	0.75	0.98	0.98	0.50	0.98
5. Retail Ground Floor office above - all prkg underground					
. 3 stories	0.75	2.70	2.70	0.75	2.70

. 4 stories	1.00	----	----	1.00	----
6. Retail Ground Floor above - surface parking garage					
. 3 stories	0.75	1.41	1.41	.75	1.41
7. Retail Ground Floor, offices above - 90% prkg. underground, 10% in surface garage					
. 3 stories	0.75	2.34	2.34	.75	2.34
. 4 stories	1.00	----	----	1.00	----
8. Storage Warehouse					
. 1 story	----	----	0.42	0.25	0.89
. 2 stories	----	----	1.67	0.50	1.61
9. Wholesale, manufacture, R&D labs - surface prkg.					
. 1 story	----	----	0.80	0.25	0.76
. 2 stories	----	----	1.27	0.50	1.25
. 3 stories	----	----	2.32	0.75	2.32
. 4 stories	----	----	----	1.00	----

Based upon analysis of the existing zoning ordinance and most recent non-residential development in Newton, the following FAR's were used to determine the total floor area of commercial/office development that can be built as-of-right in each zoning district. (The Zoning Envelope)

<u>ZONING DISTRICT</u>		<u>FAR ALLOWED</u>
Business	(BAA)	1.00
Limited Manu-		
facturing	(LM)	1.00
Business A	(BA)	2.70
Business B	(BB)	2.70
Manufacturing	(M)	2.70

Estimation of an allowable dwelling unit envelope for parcels in residential zoning districts is relatively straight-forward. The residential zoning districts control density either through lot size or lot square feet per unit controls.

Maximum allowable dwelling units for each zoning district are as follows:

<u>ZONE</u>		<u>DWELLING UNITS PER ACRE</u>
Residence A	(RA)	1.74
Residence B	(RB)	2.40
Residence C	(RC)	4.36
Private Residential	(PR)	8.72
Residence D	(RD)	8.72
Residence E	(RE)	27.20

The allowable floor area ratios and unit densities are now applied to the actual zoning in the study area as shown on Figure 8.1. The results, the zoning envelope are as follows:

The Zoning Envelope in LOWER FALLS

. TOTAL COMMERCIAL FLOOR AREA ALLOWED	121,000
. TOTAL NEW OFFICE FLOOR AREA ALLOWED	784,099
. TOTAL NEW DWELLING UNITS ALLOWED	0

PRESENT AND RECENT DEVELOPMENT

The above estimates assume that all properties will be redeveloped to the maximum allowable. Therefore, as estimates of actual possible development, the figures are very high and do not represent a realistic picture of the amount and type of development that could actually occur. Market forces and resulting rent levels, economic constraints, construction costs and site constraints must also be considered. These factors greatly temper the amount and density of development that does and will most likely occur in many of the village centers.

Therefore, allowable FAR's must be compared with those obtained from recent development, or development that has been proposed or is under construction.

Table 8.2 shows the FAR's of commercial projects most recently proposed or under construction that have been or may be permitted as-of-right under present zoning. Many of these projects include surface parking structures so that the resulting FAR's, or actual office building floor areas, are less than allowable. That is, despite the intensity of the 5 story office development under construction at 29 Crafts Street, Newtonville, (FAR 2.23) it would have been built to an even greater intensity had all parking been planned to be underground. Based on Newton's strong office and retail market and the resulting high land values, it is expected

that development of underground parking will become the rule rather than the exception in areas such as Newton Corner, Chestnut Hill and Newton Centre.

TABLE 8.2

FLOOR AREA RATIOS (FAR) FOR DEVELOPMENT PROPOSED OR UNDER CONSTRUCTION

<u>DEVELOPMENT</u>	<u>ADDRESS</u>	<u>FAR</u>	<u>ZONE</u>
AUBURNDALE			
1. 3 story offices, surface parking	11 Bennett St.	0.56	BB
2. 2 story offices, surface parking	73 Lexington St.	0.48	BB
CHESTNUT HILL			
1. 3 story offices, 1 story retail, underground prkg.	300 Boylston St.	2.38	BA
NEWTON CENTRE			
1. 4 story offices, parking garage	1320 Centre St.	2.59	BB
NEWTON CORNER			
1. 4 story offices, parking garage	1 Newton Pl.	2.12	BA
2. 3 story offices, parking garage	2 Newton Pl.	2.45	BA
3. 4 story offices, parking garage	313 Washington	2.67	BA
NONANTUM			
1. 5 story offices, surface parking	459 Watertown	0.55	MFG
NEWTONVILLE			
1. 5 story offices, parking garage	29 Crafts St.	2.23	MFG
UPPER FALLS			
1. 3 story offices, surface parking	75 Oak St.	0.34	BA
2. 5 story offices, surface parking	233 Needham	1.47	MFG
3. 4 story offices, surface parking	118 Needham	0.57	MFG

NEWTON HIGHLANDS

1. Offices 0.53 BA

Average FAR for Office Development with
parking in surface lots 0.54

Average FAR for Office Development with
parking in a mix of
underground and surface
garages 2.41

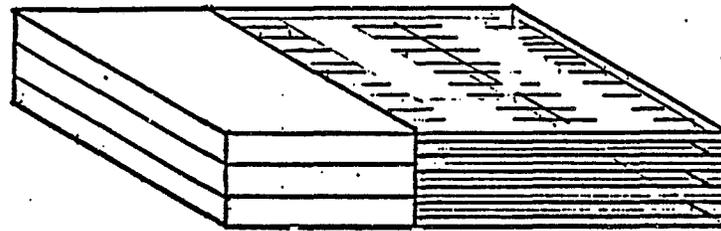
In other village centers, recent development has occurred at considerably less density. Surface parking lots are more the rule than the exception in these centers. Land values and marketable rents result in an economic environment in which the "suburban style" development is feasible and economically desirable.

It should also be noted that a number of these developments have had the benefit of the parking credit, so that the actual floor area ratio obtained was higher for the particular type of development that actually took place than would have been possible if the full parking requirements had been met. On the other hand, the popularity of areas such as Newton Centre and Newton Corner for office development may have justified the provision of the additional parking underground.

A MODEL OF RECENT DEVELOPMENT

The possibilities allowed by the zoning ordinance and a view of actual development resulting from market forces leads to an estimate of a type or model of development that may occur in a particular center. For Lower Falls, the following non-residential development type is expected to continue to be built for the foreseeable future:

Figure 8.2 A MODEL OF RECENT OR EXPECTED DEVELOPMENT



3 STORY BUILDING - SURFACE PARKING GARAGE

FAR = 1.41

This type of development is now matched with the requirement of the present zoning ordinance to obtain its allowable floor area ratio:

DEVELOPMENT TYPE	ZONES/ALLOWABLE FLOOR AREA RATIO				
	BA	BB	M	BAA	LM
3 story office/retail	1.41	1.41	1.41	----	----
4 story office/retail	----	----	----	1.00	1.00

THE DEVELOPMENT ENVELOPE

The estimate of total development allowable under present zoning (the Zoning Envelope) is now tempered with a more realistic view of the economic environment of the study area, and results in an estimated development envelope shown in Table 8.3 and Figure 8.3.

Present zoning does not allow additional construction of dwelling units as-of-right within the study area, so that as-of-right opportunities to add to housing supply do not exist here.

THE PATTERN OF POSSIBLE NEW DEVELOPMENT/REDEVELOPMENT

Figures 8.2 and 8.3 show the amount and probable pattern of possible new development or redevelopment.

Figure 8.2 indicates the present intensity of use in the

study areas, those parcels that are presently vacant, and those that are presently underused. The underused parcels are those whose present density is less than that allowed by existing zoning. While this map does not and cannot show which parcels will be developed to greater density, it provides a good indication of where new development activity might occur.

The density of present non-residential development in Lower Falls is relatively low and there are a number of vacant parcels, so that there is considerable opportunity for more densely developed office/research and development parks,

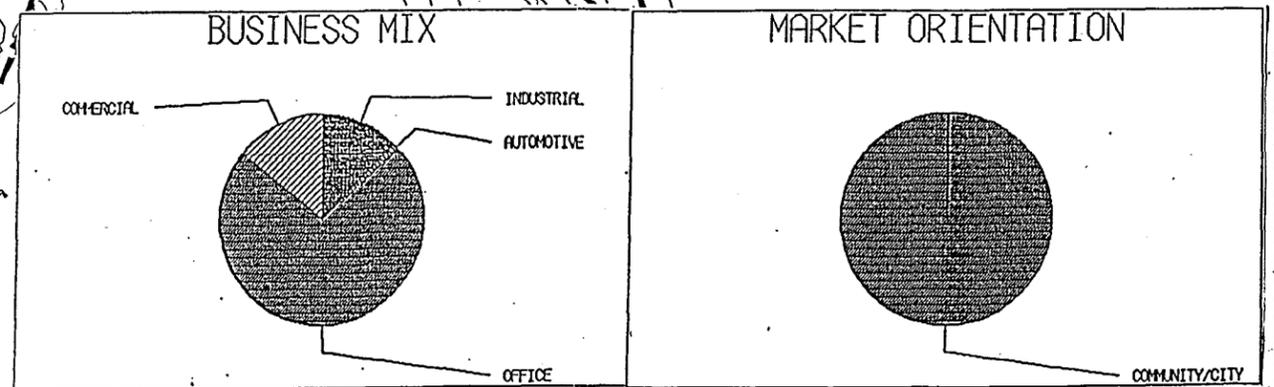
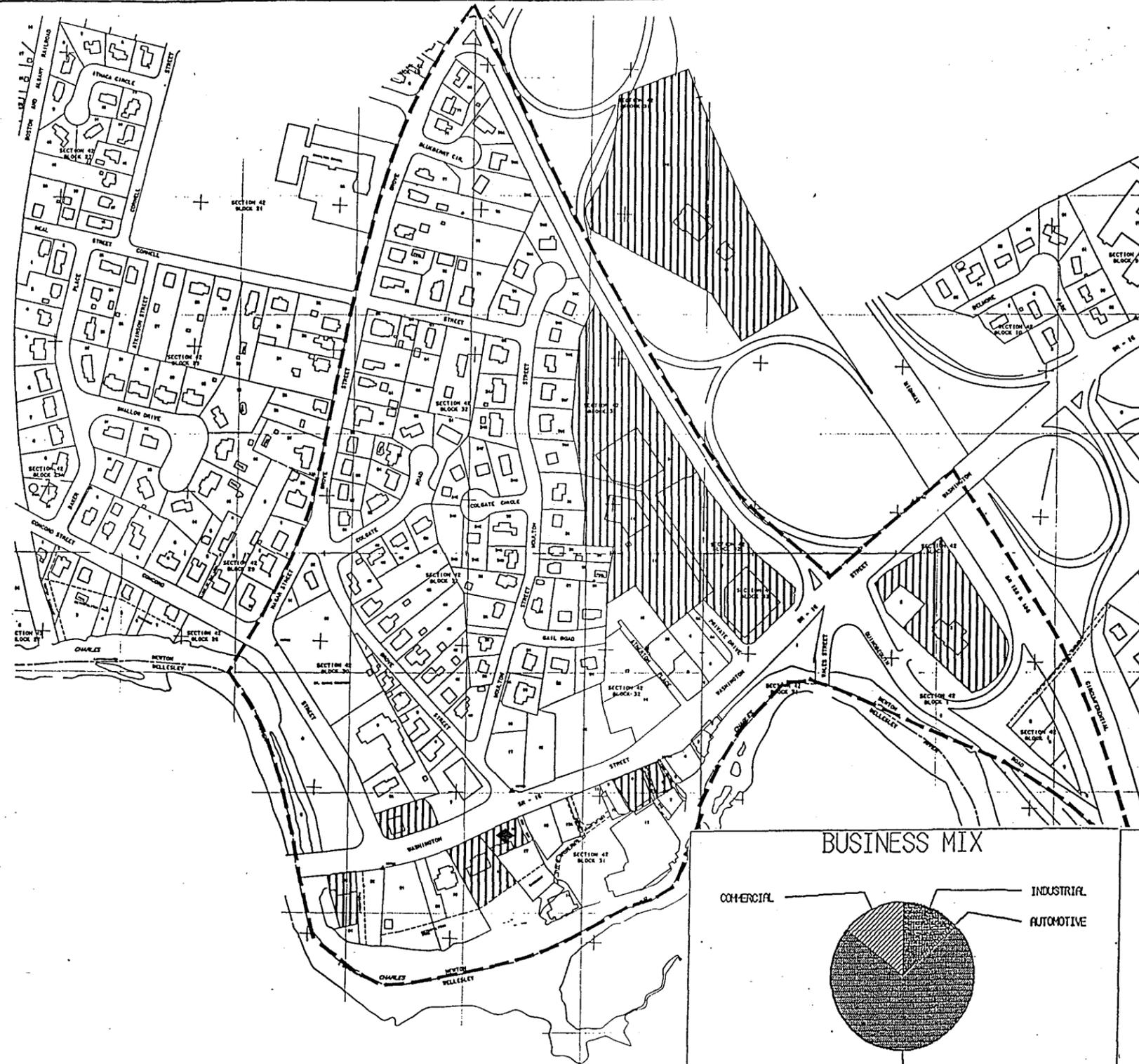
TABLE 8.3

THE PRESENT DEVELOPMENT ENVELOPE:

GROWTH THAT COULD OCCUR IN LOWER FALLS

- New Commercial/Retail Floor Area that could be added	81,445 s.f.
- Existing Commercial/Retail Floor Area	17,619
- Percent Added	462%
- New Office Floor Area that could be added	316,162
- Existing Office Floor Area	138,612
- Percent Added	228%
- New Dwelling Units that could be added	0
- Existing Dwelling Units	100
- Percent Added	0%
- Total New Commercial/Retail Floor Area that could be added	397,607
- Existing Commercial/Retail Floor Area	156,231
- Percent Added	254%
- Total New Dwelling Units	0
- Percent added	0

LOWER FALLS



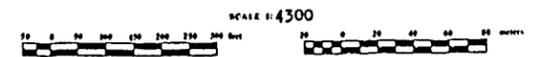
-  NEIGHBORHOOD CONVENIENCE BUSINESS AND SERVICES
-  COMMUNITY/CITY-WIDE BUSINESS AND OFFICES
-  REGIONAL/CITY-WIDE BUSINESS CENTERS AND OFFICES
-  AUTOMOTIVE SERVICES

FIGURE 1.1 MARKET ORIENTATION OF BUSINESS USES

NEWTON VILLAGE STUDY

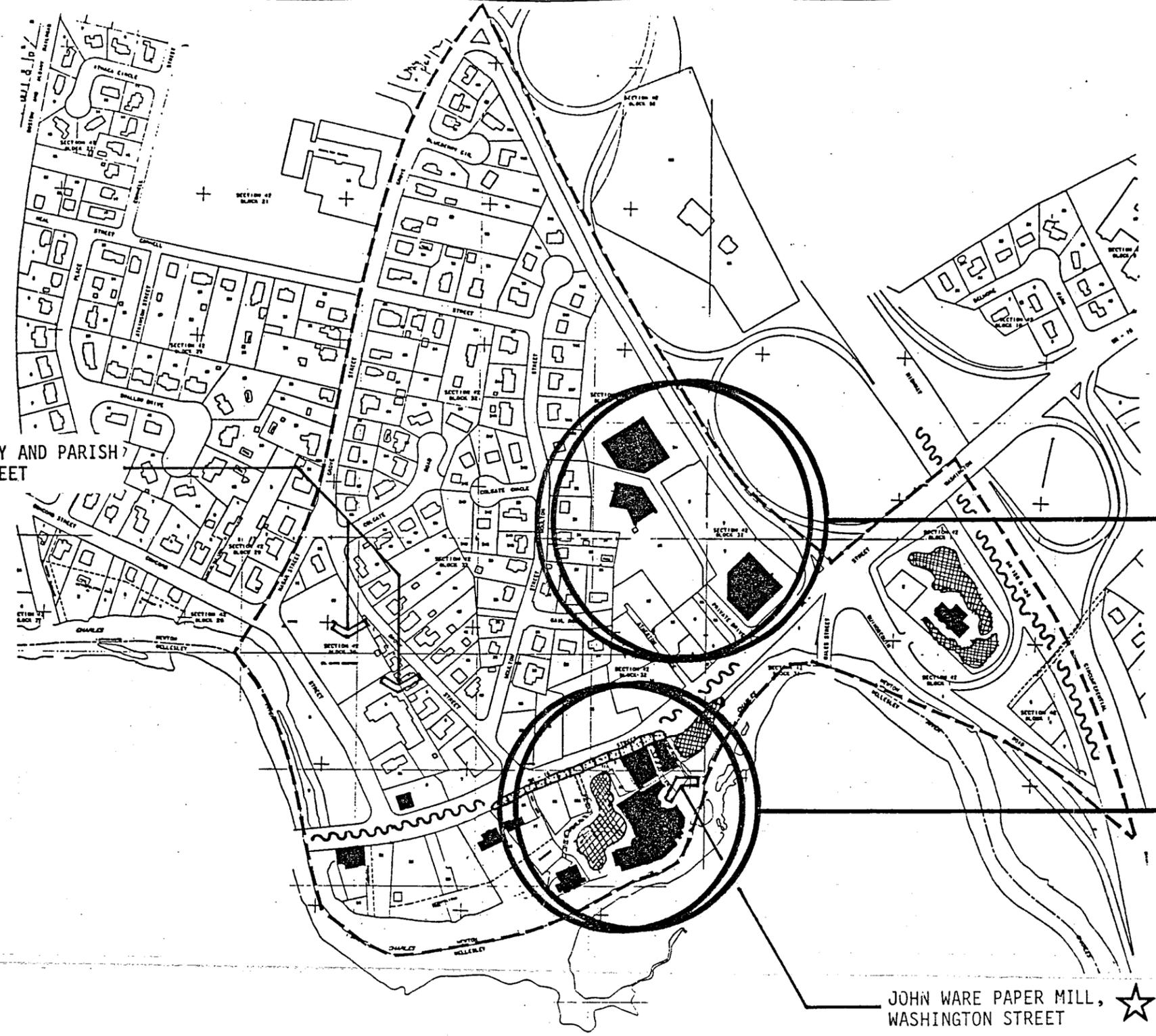
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Connery Associates
110 Washington Street, Boston, MA 02108 (617) 552-1000



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LOWER FALLS



★ ST. MARY'S CHURCH, CEMETERY AND PARISH RECTORY HOUSE, CONCORD STREET

POSITIVE CONTEXTUAL INTEGRATION

- EXEMPLARY EDGE AT COMMERCIAL/RESIDENTIAL INTERFACE

TRANSITORY IDENTITY

- THRU TRAFFIC
- VEHICULAR DOMINATION
- LACK OF SPATIAL DEFINITION
- PERCEIVED POINT OF ACCESS/EGRESS

★ JOHN WARE PAPER MILL, WASHINGTON STREET

LEGEND

- NON-COMMERCIAL STRUCTURE
- BUILDING AT COMMERCIAL CENTER OR COMMERCIAL BUILDING
- △ PERCEIVED POINT OF ENTRY (VISUALLY POSITIVE)
- △ PERCEIVED POINT OF ENTRY
- ▨ PARKING LOT REQUIRING IMPROVEMENTS
- ▨ AREA REQUIRING STREETScape IMPROVEMENTS
- ▨ AREA UNDER CONSTRUCTION
- ▨ NOISE
- ★ AREA OR STRUCTURE OF HISTORIC VALUE
- ▨ NEGATIVE AREA AT RESIDENTIAL/COMMERCIAL INTERFACE

FIGURE 2.1 URBAN DESIGN SURVEY

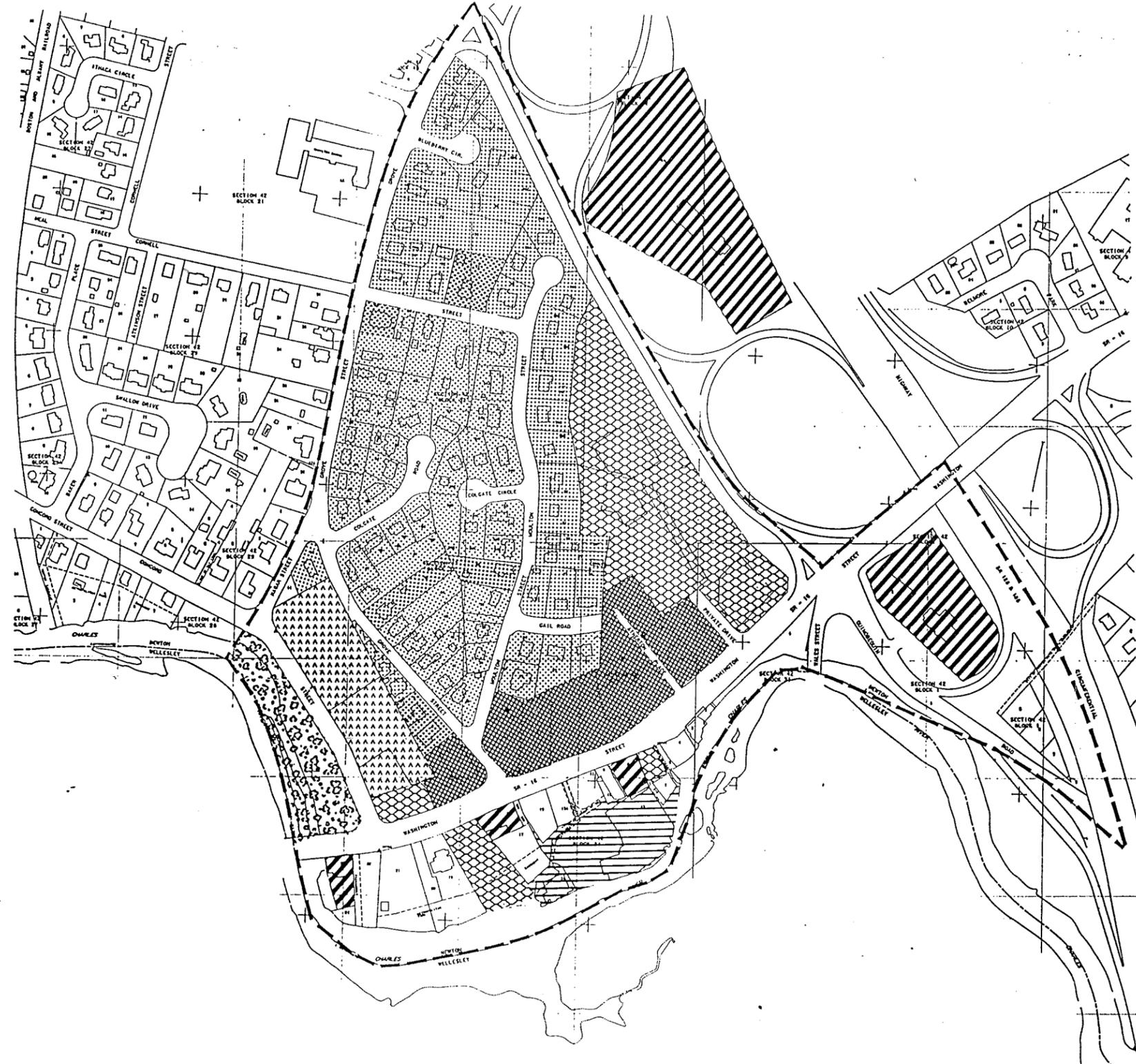
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LOWER FALLS

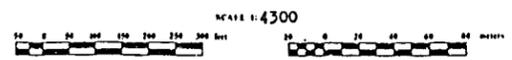


-  RESIDENTIAL—SINGLE FAMILY
-  RESIDENTIAL— 2 and 3 FAMILY
-  RESIDENTIAL—APARTMENTS/CONDOS
-  COMMERCIAL
-  OFFICE
-  INDUSTRIAL/MANUFACTURING
-  TRANSPORTATION/PARKING
-  MIXED USE—MOSTLY RESIDENTIAL
-  MIXED USE—MOSTLY COMMERCIAL
-  INSTITUTIONAL
-  OPEN SPACE/RECREATION
- ★ PROPOSED OR UNDER CONSTRUCTION

FIGURE 3.1 EXISTING LAND USES

NEWTON VILLAGE STUDY

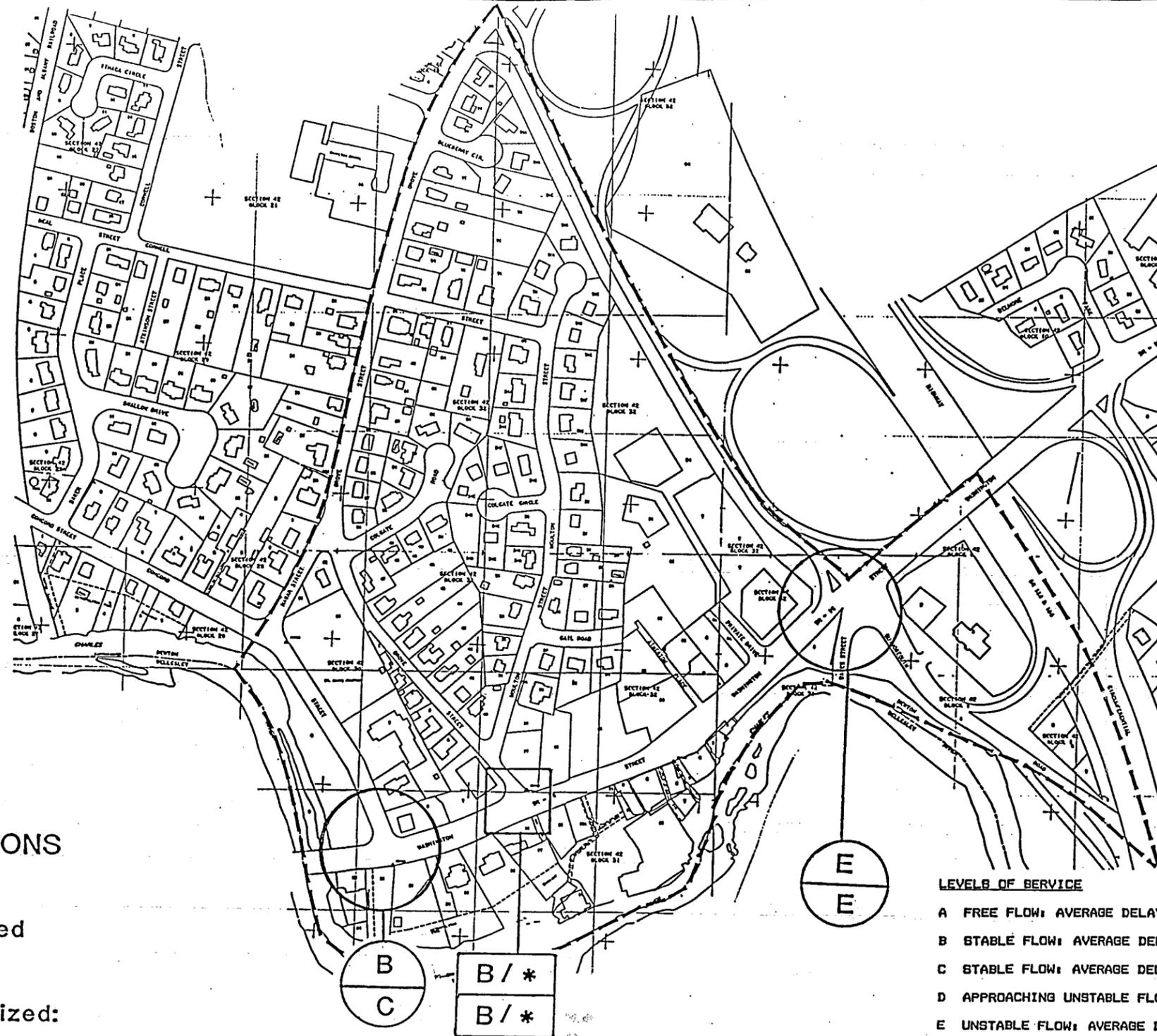
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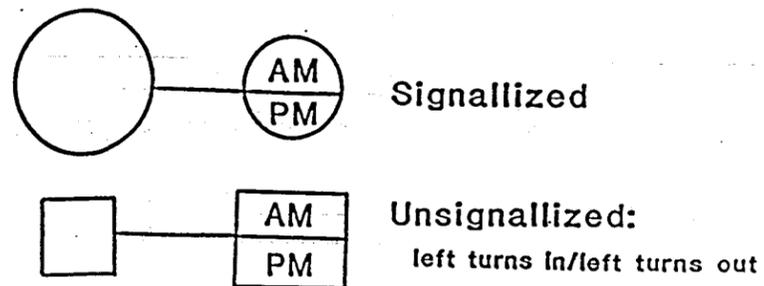
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LOWER FALLS



KEY TO INTERSECTIONS



LEVELS OF SERVICE

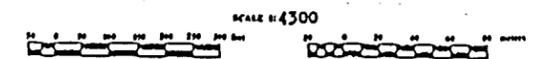
- A FREE FLOW; AVERAGE DELAY 10 SECONDS
- B STABLE FLOW; AVERAGE DELAY 15 SECONDS
- C STABLE FLOW; AVERAGE DELAY 20 SECONDS
- D APPROACHING UNSTABLE FLOW; AVERAGE DELAY 40-45 SECONDS
- E UNSTABLE FLOW; AVERAGE DELAY GREATER THAN 1-2 MINUTES
- F FORCED FLOW; AVERAGE DELAY INDETERMINATE

*no turns out **FIGURE 4.2 OPTIMAL INTERSECTION LEVEL OF SERVICE**

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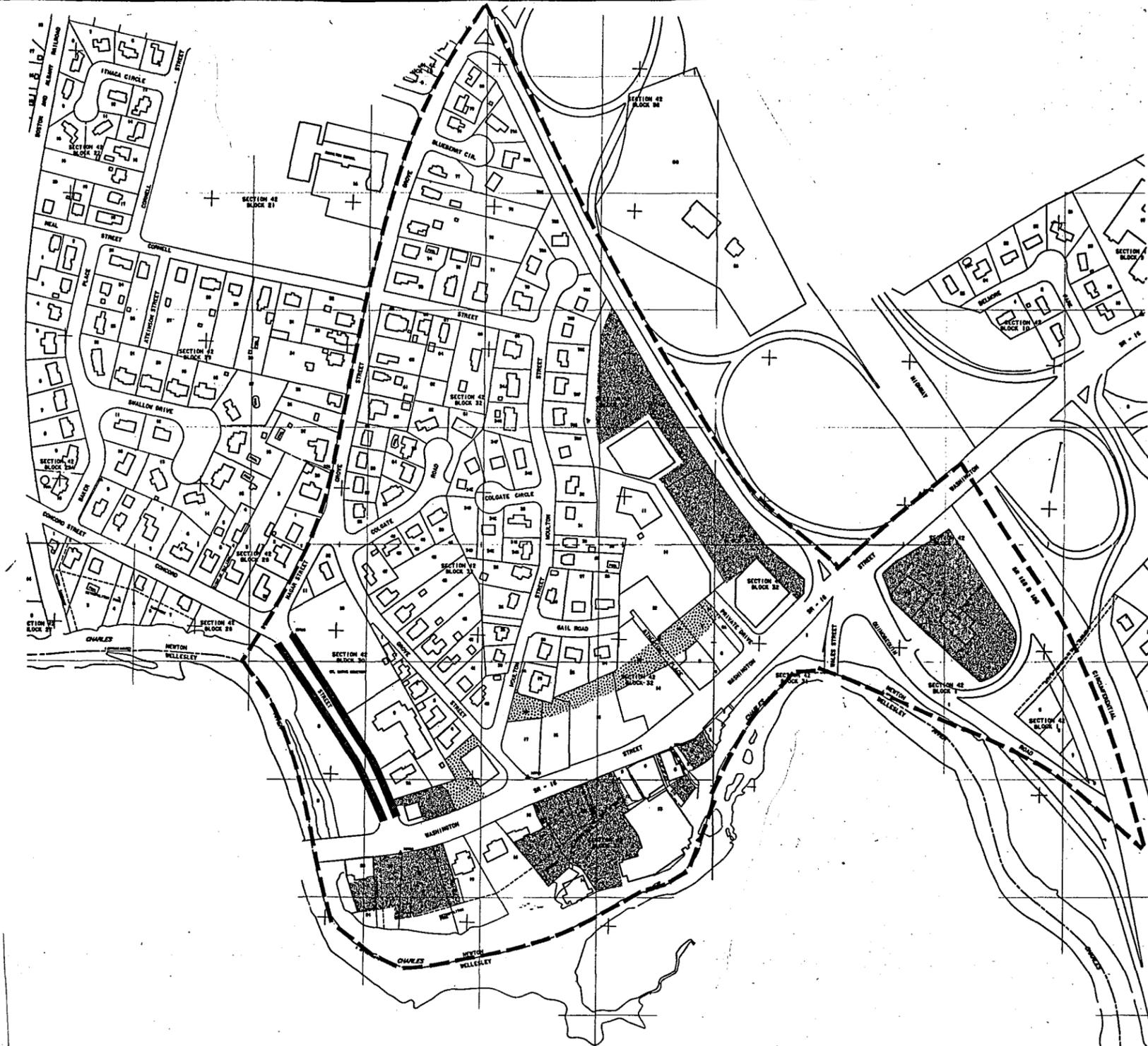
Connelly Associates
 24 Westwood Lane, Westwood, MA 02154 (617) 991-1000



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LOWER FALLS



- PRIVATE BUSINESS PARKING SPACES**
- IN SURFACE LOTS
- /○ IN PARKING GARAGES/PROPOSED
- PUBLIC PARKING SPACES**
- ▨ OFF-STREET METERED
- OFF-STREET NON-METERED
- ▬ ON-STREET METERED
- ▬ ON-STREET POSTED
- SPACES IN RESIDENTIAL LOTS
- SPACES IN INSTITUTIONAL LOTS

FIGURE 5.1 EXISTING PARKING INVENTORY

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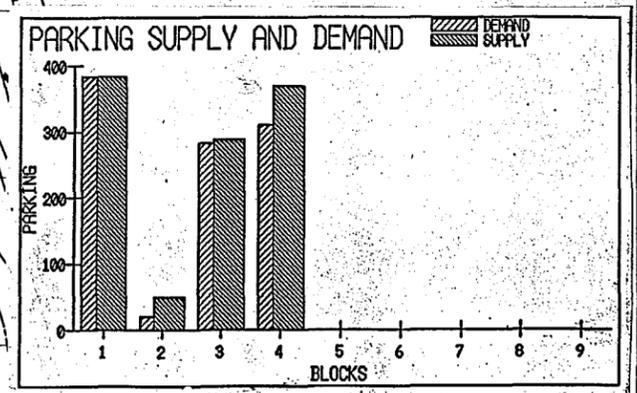
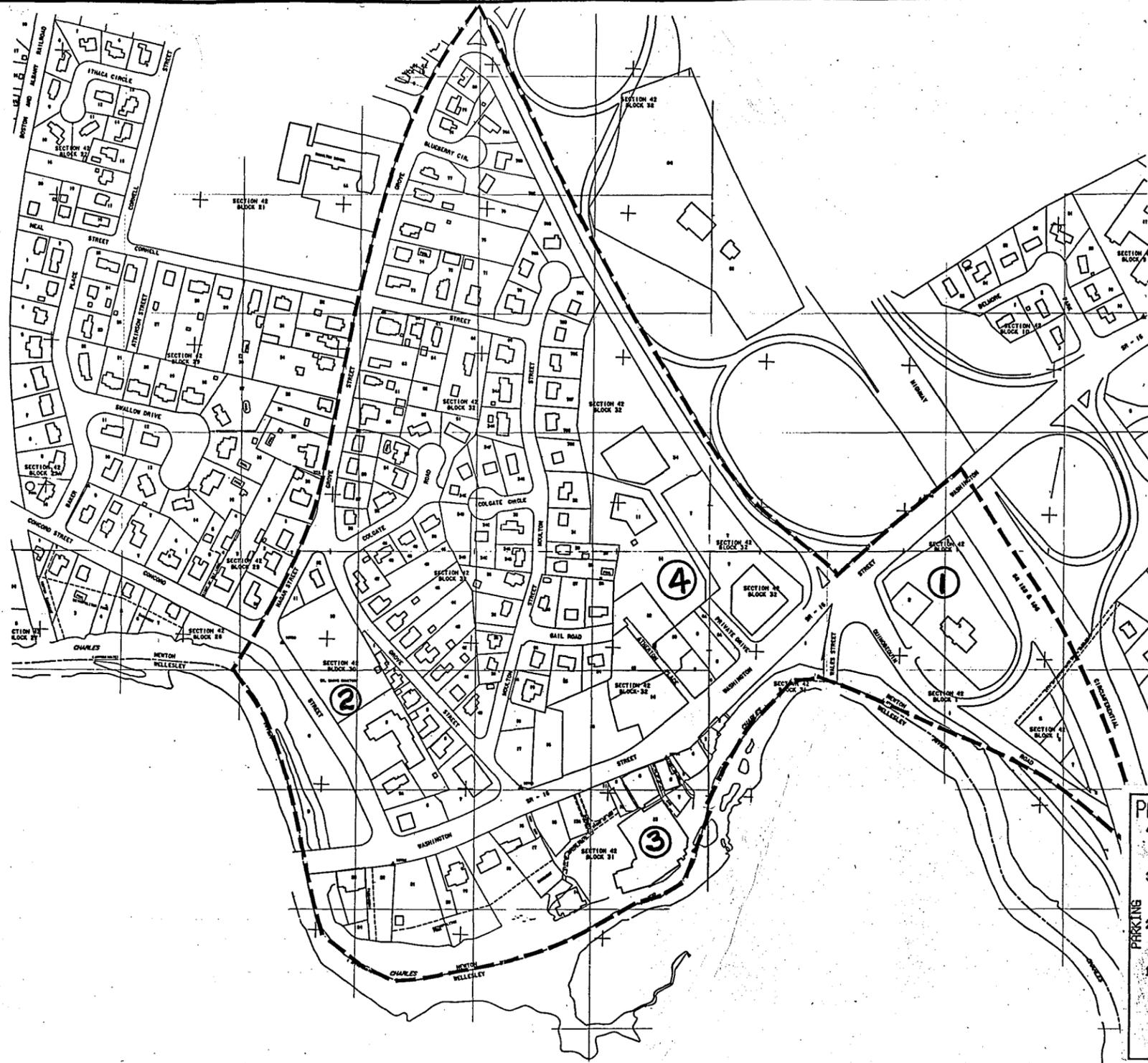


FIGURE 5.2 PARKING CHARACTERISTICS

NEWTON VILLAGE STUDY

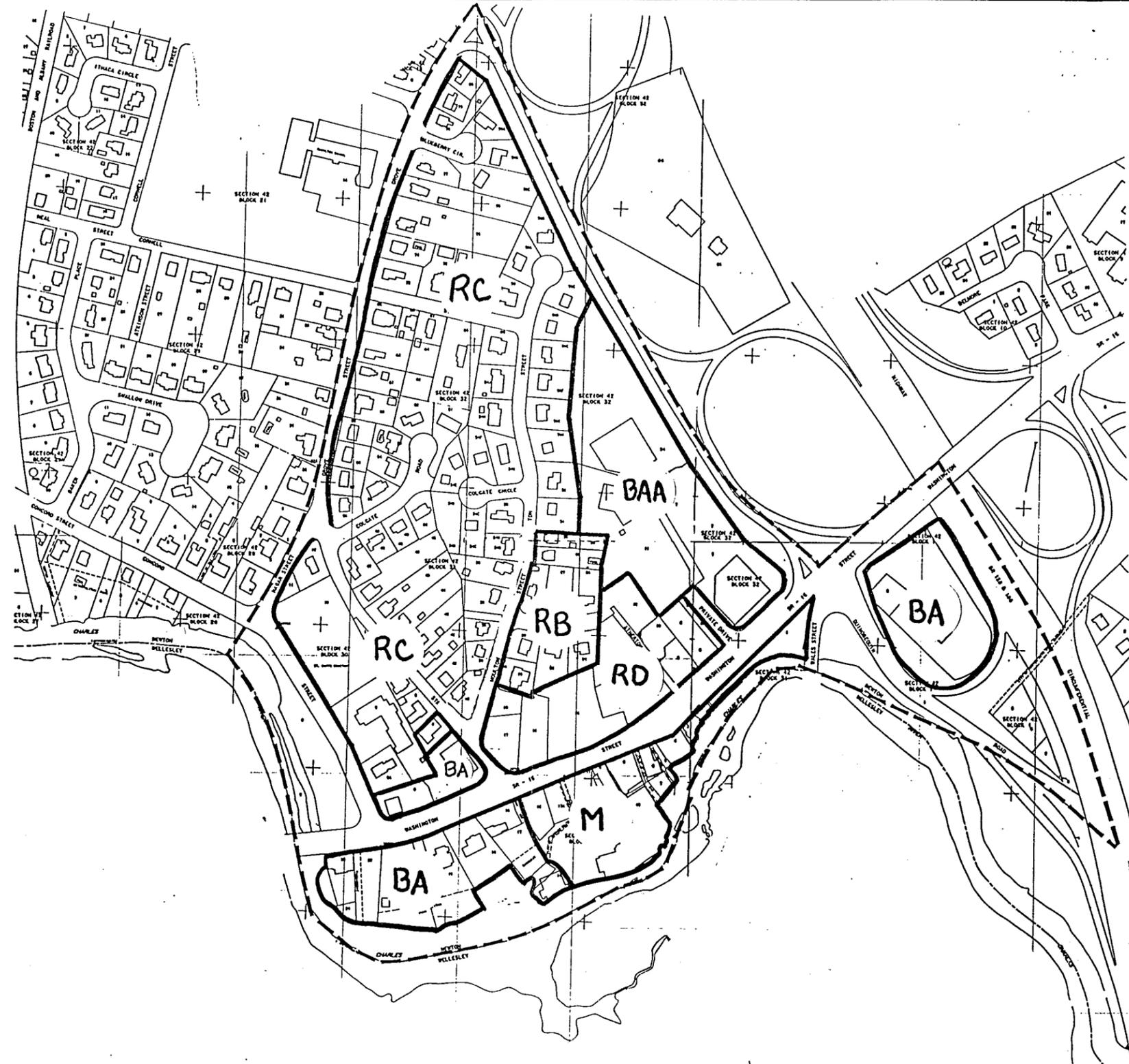
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- RA RESIDENCE A
- RB RESIDENCE B
- RC RESIDENCE C
- PR PRIVATE RESIDENCE
- RD RESIDENCE D
- RE RESIDENCE E
- RF RESIDENCE F
- BAA BUSINESS AA
- BA BUSINESS A
- BB BUSINESS B
- LM LIMITED MANUFACTURING
- M MANUFACTURING

FIGURE 8.1 EXISTING ZONING DISTRICTS

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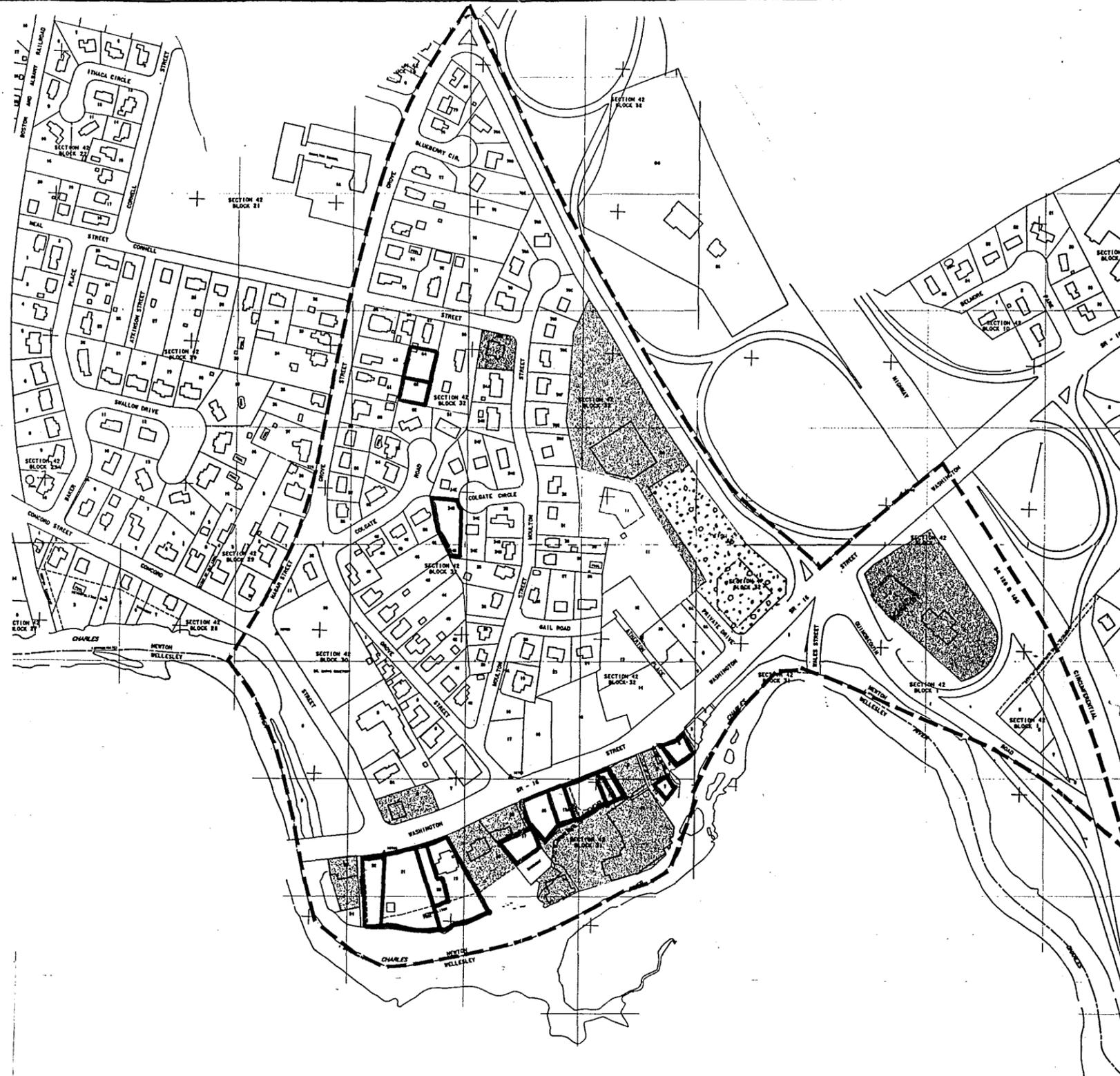
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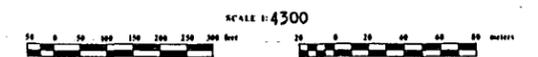
-  PRESENT DENSITY EXCEEDS THAT ALLOWED BY ZONING
-  PRESENT DENSITY IS 50% TO 90% OF THAT ALLOWED BY ZONING
-  PRESENT DENSITY IS LESS THAN 50% THAT ALLOWED BY ZONING
-  VACANT LAND

FIGURE 8.2 EXISTING INTENSITY OF DEVELOPMENT

NEWTON VILLAGE STUDY

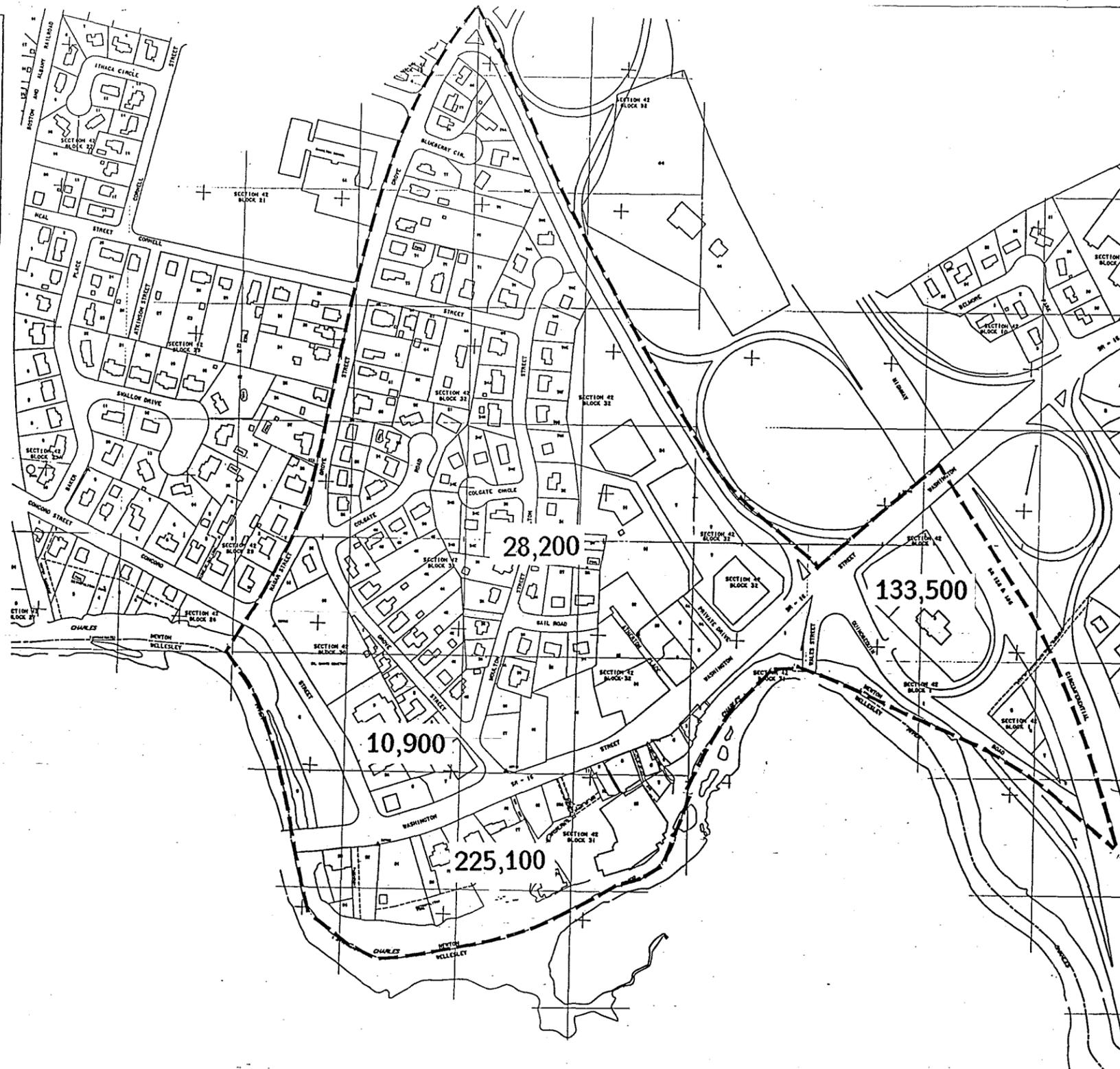
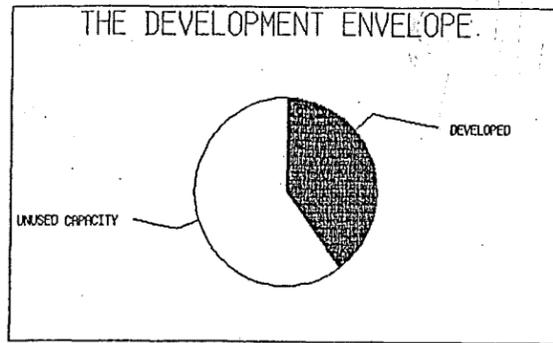
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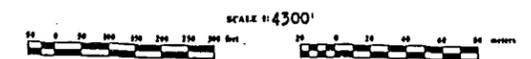
NEW COMMERCIAL/OFFICE
FLOOR AREA THAT
COULD BE BUILT
(IN SQUARE FEET)

FIGURE 8.3 THE DEVELOPMENT ENVELOPE

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