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Synthesis: Middle ground in New York City housing

Butler, Edward Rhett, M.Arch.

Rice University, 1992
RICE UNIVERSITY

SYNTHESIS:
MIDDLE GROUND IN NEW YORK CITY HOUSING

by

EDWARD RHETT BUTLER

A THESIS SUBMITTED
IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE DEGREE
MASTER OF ARCHITECTURE

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Houston, Texas
April, 1992
ABSTRACT

SYNTHESIS:
MIDDLE GROUND IN NEW YORK CITY HOUSING

by

EDWARD RHETT BUTLER

Traditional urban moderate income multi-family housing in the City of New York has failed to provide its inhabitants with an acceptable living environment. That environment being defined as an adequate condition of middle ground, or shared space, that space between the house and the street, both internal and external to the community at large, as well as space supportive of the individual in today's society.

The objective of this thesis is threefold. The first, to evaluate the historical and existing precedents of middle ground in moderate income multi-family housing located within the City of New York, the second, to analyze the successes and failures of these housing typologies, and the third, to focus on the challenge of finding appropriate design principles for its making. In short, this thesis is on the history, design and making of an urban middle ground in moderate income multi-family housing.
SYNTHESIS:
MIDDLE GROUND IN NEW YORK CITY HOUSING

EDWARD RHETT BUTLER
SYNTHESIS

Syn.the.sis n., pl. -ses (sez'). 1. The combining of separate elements or substances to form a coherent whole. Compare analysis. 2. The whole so formed. 3. Chemistry. Formation of a compound from its constituents. 4. Philosophy. a. Reasoning from the general to the particular; logical deduction. b. The combination of thesis and antithesis in the dialectical process, producing a new and higher form of being. [Latin, from Greek, a putting together, from suntithenai, to put together: sun-, together + tithenai, to put, place...]

syn'the.sist n.

-The American Heritage Dictionary of the English Language.
ACKNOWLEDGMENTS

The idea for this thesis germinated very early on during my graduate studies at Rice University, and it becomes necessary to acknowledge those whose direct and indirect involvement fortuitously guided this project into being. It cannot be overstated the invaluable influence of professor Anderson Todd, my first contact at Rice, interviewer, first semester studio critic, mentor, friend, and appropriately, director of the thesis demonstration. It is Andy's constant questioning and demand for clarity that has guided me through my years at Rice, always reminding me of the greater cause. I am particularly reminded of the fun and game sessions conducted during our first semester, when we were given an antique Venetian oar lock for a gondola and questioned as to its use and origin, after many attempts to guess its intrinsic use, we had, as a group failed to derive the correct result. The lesson taught many of us the value and respect to stop and listen, for we certainly do not know all of the answers. It also coincidentally, reminded me of my college motto: "to be in the process of knowing thyself." To that end, I feel Andy has more than fulfilled in my eyes the role of educator, guardian and administrator of knowledge. I am very grateful to have had Andy as my professor, and fortunate, for this is his last year at Rice.

I must also acknowledge the encouragement and support of my teacher and friend O. Jack Mitchell, whose Urban Design Studies course at Rice was my introduction to urban issues and the importance of an infinitely larger view than
that offered by others. It was Jack's "both-and" attitude and logic that would be the source of many decisions where it had become an "either-or" issue for myself. Jack's methodological yet relaxed position would afford a stability to an otherwise stressful situation. After one semester of Introduction to Urban Design and two semesters of design studio, Jack and I had become good friends. I shall always remember one evening Jack came to my apartment for dinner, with Cliff Hampton and myself as chefs for the evening. Jack maintained a discourse on the urban issues of the greater Houston metropolitan area and alternately, gave very specific instructions to Cliff and I on the proper way to prepare the Veal Marsala planned for the evening meal. All the while, the three of us consumed large quantities of fine red wine and our merriment lasted until the early hours of the morning. Jack was as open and close as a professor could be with a student, and was always forthright when asked of his opinion. I will never forget the sense of deep personal loss I felt when Shisha van Horn informed me of Jack's sudden death in late February. I should like to thank professor William T. Cannady, who assumed O. Jack Mitchell's advisory position following his untimely death.

I will always be thankful and indebted to the close friendship and bond I have with Elysabeth Yates Burns McKee, who taught me to appreciate architecture from a linguistics point of view. I had previously considered architecture and theory as separate issues when approaching the disciple, yet over the course of one semester, Elysabeth would successfully demonstrate that a multiplicity of views is academically inseparable from the disciple. I found her intelligence and insight to various architectural and personal matters to be superior to many I
have encountered before and shall look to her for guidance and a challenge as I continue my quest for knowledge.

I should also like to thank Columbia professor Richard Plunz, author of "A History of Housing in New York City - Dwelling type and social change in the American Metropolis", who took the time during several meetings to explain and listen to a very inquisitive and perhaps demanding student. I consider his recently published book to be the main source of information and inspiration for my thesis and continued research and study to follow.

Many thanks to the following for their lasting support and friendship during my stay at Rice: Doris Anderson, Cliff Hampton, John Herrera, Shisha van Horn, Halliday Meisburger, and Kathleen Roberts.

Finally, I wish to express my affection and devotion to my fiancee, Elizabeth Cooper for her understanding and encouragement throughout its entire evolution.
DEDICATION

In Memory of O. Jack Mitchell
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PREFACE

As a resident of the City of New York, it is painfully obvious, even to the casual observer, that the housing stock in low to moderate income neighborhoods is being replaced with inferior and low cost housing. This transition, under the auspices and indirect management of the Department of Housing and Urban Development (HUD), is incapable of amortizing the cost of such a project over its limited life span, and in fact, is damaging to the city as a whole. Incapable of maintaining previous and or required density levels sufficient for self sustenance, or city infrastructure such as mass transit and other services, this type of development is setting urban renewal and development in reverse motion. It is also painful to realize the vast quantity of city resources that are being expended into such an ineffective system. A drastic change to this system is both necessary and ominously essential.

An example of this transition would the Charlotte Gardens project; a part of the South Bronx Churches Nehemiah Program. Its concept is to revitalize and rehabilitate blighted neighborhoods with the construction of two- and three bedroom single family houses. While one cannot argue the need for urban renewal and rehabilitation, nor the heroic undertaking which the committee for South Bronx Churches has assumed, one has to analyze the motives and the results.
A report exhibited in Appendix D outlines the Nehemiah Concept. It states that "the focus is not on numbers, but on lower density". It goes on to say that "high density has been proven to be favorable to communities of high income persons, but it increases social isolation and is devastating for the poor". The report states its case in no unclear terms, and has the backing of member churches, City Council, HUD and other housing committees, and petitions containing hundreds of thousands of signatures. The South Bronx Churches Sponsoring Committee has more applications from interested buyers than it has houses to sell. For some it is a dream come true; the chance of a lifetime; the first opportunity to purchase equity in the American dream. But is it right? At what cost to the City is this project? A second reading, or a third might raise some if not many questions. Non-profit, non-taxed committee of tax-free organizations raising tax-free, interest-free loans (currently four million dollars) to construct extremely low density sub-standard housing on land purchased (in many cases the land is outright granted by the City of New York) far below fair market value. Under UDAAP provisions, Nehemiah Homes are exempt from property taxes for ten years. After ten years, a progressive scale of taxation will occur, until there is full taxation after twenty years (relationship of scaled taxation to the life expectancy of the investment?). The City of New York is also responsible for providing site clearance and all utilities, not limited to, but including gas, electric, water and sewage. In many cases, the neighborhoods will also require several months, if not years of additional police services to maintain neighborhood stability in an otherwise unstable environment.

The Nehemiah Program is typical of the type of housing "investment" being made in the City of New York. It is a rather limited view. Perhaps it is a
reaction to the high rise towers; cruciform, slab, and others; common to public housing for the working poor, rather than high density, which has created this sense of "social isolation and devastation for the working poor." Perhaps there is a housing typology which may mediate between the high densities required to maintain the city's infrastructure while also employing some of the benefits and amenities to be found in the low density garden apartments found in the outlying suburbs of the city. The creation of such a typology combined with the needs and interests of the South Bronx Churches Sponsoring Committee and similar organizations, as well as government housing programs might well be the salvation for the long term needs of both the city and its residents.
From urban despair to urban repair.

One house at a time, one block at a time, community groups are working to turn urban despair in the South Bronx into urban repair. Charlotte Gardens, above, is the work of one such group: The Mid-Bronx Desperadoes, a coalition of civic and church organizations. Working alongside the MBD and other neighborhood groups, Chemical Bank has developed some innovative programs to help.

Our Housing Opportunities Program offers general purpose grants and seminars to familiarize groups with development issues. The program also introduced recoverable grants: a Chemical innovation that helps groups pay upfront costs before their approved public grants are received. To date these zero interest loans have helped local groups build 5,000 units of affordable housing.

While we know that no single group can solve the shortage of affordable housing, we believe the business community, neighborhood groups and government working together can help people help themselves.

Chemical Bank
Here is no water but only rock
Rock and no water and the sandy road
The road winding above among the mountains
Which are mountains of rock without water
If there were water we should stop and drink
Amongst the rock one cannot stop or think
Sweat is dry and feet are in the sand
If there were only water amongst the rock
Dead mountain mouth of carious teeth that cannot spit
Here one can neither stand nor lie nor sit
There is not even silence in the mountains
But dry sterile thunder without rain
There is not even solitude in the mountains
But red sullen faces sneer and snarl
From doors of mudcracked houses
If there were water
And no rock
If there were rock
And also water
And water
A spring
A pool among the rock
If there were the sound of water only
Not the cicada
And dry grass singing
But sound of water over a rock
Where the hermit-thrush sings in the pine trees
Drip drop drip drop drop drop drop
But there is no water
...

HISTORICAL PRECEDENTS

Prior to the mid-eighteenth century, New York City housing consisted mainly of small frame single family dwellings, many of which were built of wood. It was not until 1849, and after the great fire of 1835, in which almost every building south of Wall street was destroyed, that the city really begin any comprehensive fireproofing legislation. It that year, the Common Council upgraded the laws to reasonable standards, founding what would eventually become a continuing series of housing and social reforms.

Seventeenth-century Dutch Colonial Period Dwellings
Another major source of early housing reform and legislation was the overwhelming health hazards brought on by overcrowding and unsanitary conditions. It was not until the early eighteen hundreds that New York had a Board of Health which would eventually oversee the construction of sewage removal systems and the implementation of running water within small areas of the city. Epidemics were commonplace throughout the city during all of the nineteenth century, with much of the water supply polluted and undrinkable. It was the concern for the public safety from such epidemic oriented health hazards that led to the first housing density laws, as well as to laws governing
the proper amounts of fresh air and sunlight required for multifamily housing projects.

Concurrent with the issues of health and public safety was the incredible influx of immigration to the city with the advent of steamship navigation across the Atlantic. This migration brought an average of one million immigrants through a city of under 200,000 people every ten years, multiplying the population tenfold by the end of the century. This sudden population increase, compounding existing problems, would force the city to ever greater housing reforms and convert New York from a city of houses to a city of housing.
Light and ventilation shaft within a dumbell typological configuration
Backyard of a dumbell typological configuration
GENERAL PLANNING HISTORY

Map of Manhattan showing the Commissioner's
Plan of 1811 and Central Park of 1853

The Manhattan gridiron was established in 1811 under pressure to provide a plan for the inevitable future growth of the city. Also known as the Commissioner's Plan of 1811, this plan organized all available land on the island of Manhattan into 200 by 800 foot rectangular blocks with an east-west orientation. The effect was to create over two thousand blocks of real estate further subdivided into 25 by 100 foot lots maximizing negotiable or saleable land. This resulted in a grid of city blocks with over one hundred and fifty east-west streets and twelve north-south avenues, with the majority of housing receiving either sunlight all day or none at all. However, with all of its inherent
flaws, the gridiron has not been altered to any major extent with the exception of Central Park set aside in 1853, and recently with the government-subsidized housing in upper Manhattan and the South Bronx.
ALPHABET CITY

Row House development of gridiron lots

As tenement house plans evolved, and became literally shaped by law, reform, and legislation, certain recurring patterns in plan began to emerge. Typical for the early rowhouse or tenement design was a straight shaft predominantly defined by the shape and size of the lot. These plans usually assumed 60-70 percent of the lot, with the remaining space allocated to privies and other backyard functions. As issues of space, light and fresh air began to have their effect on the planning of the tenement, other plan types began to dominate the typical lot. Foremost was the dumbbell type. This plan attempts to create light wells and ventilation shafts in the center of the lot with the anticipation of adjacent tenements to follow the same pattern. Between these two light wells is located the primary circulation for the building. This plan attempts, and admirably succeeded at the time, to break the otherwise windowless distance between front and rear portion of the plan.
Following the dumbbell type is the Hour-Glass Type, an extension of the
dumbbell to further extract light from the center light shafts by reducing their
widths and increasing their lengths over the distance of the lot. This extrusion of
the light shaft increased the expanse of windows allowing more natural light to
enter an otherwise dingy apartment.

As the interest for expanding the plan types of the tenement house continued,
types emerged which would increase the actual size of the lot for horizontal
expansion. The "T" type would continue to address the street frontage with
continuous coverage, as did the dumbbell and the Hour Glass, however the
horizontal increase in lot size would allow the "T" type a greater flexibility in
terms of space, light and ventilation. Early "T" plans are found on two lots,
with doubled "T" plans on three lots not uncommon.
Tenement House Plans published in 1887
Technological innovations such as the elevator would allow the plan types of the tenement to be extruded in overall height. Concurrently, as with the "T" type horizontal expansion of the lot size, the original lot divisions would be combined to form larger, denser developments. The "I" type is generally larger than the "T" type, usually requiring three contiguous lots for its form.

New Law development of gridiron lot

Early "I" types contained four apartments per floor, and extruded forms would be equipped with an elevator. These letter-like extrusions of the earlier plan types would increase in height disproportionately to the availability of light and fresh air available to lower stories accessing the light and ventilation shafts. Eventually, these extrusions would be limited in height, responding to their need for light penetration inside as well as outside the building. Future availability of light to the street was the primary objective to the 1916 zoning law of New York City, which required building setbacks.
New Law lot configurations

The simple plan types above rely and depend upon one another to create a system of internal light wells and ventilation shafts as well as external courts usually located in the rear portion of the lots. As these plan types increase in size and complexity, types form that incorporate a courtyard in the plan. The New Law, governing tenement house construction enforced a maximum lot coverage of 70 percent. Only plans using multiple lot configurations produce efficient overall plan organization. These plan types include "U", "O", "H", "E", "B" configurations, and combinations of the above.

Indigenous to the plan typology incorporating external courtyards is the obvious choice of whether to externalize or internalize the courtyard to the street. In all of the plan types many examples exist of both.
The "U" plan type is the most common denominator to this subset of plan types incorporating an external courtyard, the majority of cases being either open or closed to the street. In a few instances, there are examples of two closed "U" types adjoining one another, doubling the size of the internal courtyard. One example of this condition would be Aster Court in lower Manhattan.

Astor Court
"H", and "E" plan types are basically abstractions of the "U" plan. "H" plans are usually found to occupy an entire block.

A diagram from an early document stating laws for lot coverage. Every building defines the street. An alphabet begins to form.
PERIMETER BLOCKS
The Apthorp
The Apthorp

The Belnord
Amalgamated Clothing Workers Union Building
DESIGN PRECEDENTS
TENEMENT HOUSING LEGISLATION

"In 1866 and 1867 the pressure for serious government legislation yielded the first initiatives toward change. In 1866 the state legislature approved a comprehensive law defining standards for building construction in New York City. The following year the legislature passed its first comprehensive housing law, the Tenement Hous Act of 1867, which marked the beginning of its long involvement with raising standards for low cost housing design. The "Tenement" was at last legally defined: "Any house, building, or portion thereof, which is rented, leased, let or hired out to be occupied or is occupied, as the home or residence of more than three families living independently of one another and doing their own cooking upon the premises, or by more than two families upon a floor, so living and cooking and having a common right in the halls, stairways, yards, waterclosets, or privies, or some of them.

The purpose of the Tenement House Act was to supplement the new building construction regulations in relation to the special problems of tenements. Both documents required additional construction as an increased precaution against fire, including mandatory provisions of fire escapes for nonfireproof buildings. In relation to hygiene, the Tenement House Act specified that there had to be at least one water closet for every twenty tenants. Tenement house spatial standards were only slightly improved, with minor attention paid to distances between buildings. The cellar dwelling was prohibited, unless the ceiling was
one foot above the street level." (RP p.22)
Backyard of typical tenement housing
Play area of tenement housing adjacent to site
GARDEN CITIES

The outlying suburbs and garden communities, with their immediate access to vast quantities sunlight, fresh air and natural surroundings, had a major impact on the design of housing structures for the inner city. Perimeter block designs would be expanded to incorporate large courtyards and new designs utilizing block recombinations and extended "U", "L" and "T" configurations would create additional inner city typologies.

In 1922 Andrew Thomas "had publicized numerous proposals incorporating his ideas about reduced coverage. In 1919 he submitted a proposal to the Housing Committee of the New York State Reconstruction Commission for fourteen U-shaped buildings placed around the perimeter of a 200-by-650-foot block with a large interior garden. The U form was derived from a careful analysis of the ideal relationship between building mass and constructional configuration in order to minimize cost while maximizing light and air. In his report, Thomas argued that this configuration, with a coverage of only 67.7 percent, could provide a 7.5 percent return, while the normal 70 percent coverage schemes would return only 6.9 percent. Thomas' economic arguments represented a turning point in housing design in New York City. Not only was prooof given that reduced building coverage schemes had an economic imperative, but the argument could be extended to monolithic planning for entire blocks. Larger-
scale developments could permit efficiencies in design and insure even greater construction savings. With this type of block configuration, the upper-class palazzo of the late nineteenth century was evolving toward a more loosely assembled "perimeter" massing, with lower height and coverage, and lower-income tenantry". (RP p.137)

"The garden apartment would not have emerged unless it was profitable. In this aspect the garden apartment represented a major change in developers' perceptions of profitability in relation to the issue of coverage for moderate-income housing. Prior to the 1920's, it was always assumed that the reduction of coverage would increase costs and reduce profits. The arguments for reduced coverage remained exclusively within the realm of the social good, or of marketing, in the belief that apartments associated with better conditions for light and air could be expected to demand higher rents. This common wisdom changed, especially with the new accessibility to cheap outer borough land. It became apparent that reduced coverage on low cost land might reduce costs enough to increase profits, in spite of the lower number of apartments. Thus, the financial imperative in New York City for moderate-income housing evolved from the 25-by-100-foot lot mandated by the Tenement House Act of 1879 to the 100-by-100-foot lot of the Tenement House Act of 1901, to the perimeter block of the 1920's. A key to these larger-scale developments was the use of a unified open space, which simplified construction detailing and reduced investment costs per room while raising rental rates. Higher tenement densities with less open space were less desirable because they required more complex and expensive spatial organization in order to provide adequate light and ventilation. The economic formulas applied especially to housing for the
arriving middle class, whose space standards were far less stringent than for tenement design. In the developing outer urban areas, open land and reduced values permitted reduced site coverages." (RP p.135)
"Housing is the pride and joy, status and sanctuary for some; it is shame and fear, stigma and prison for others. Home ownership is the cherished goal of all "true" Americans; but less and less it differs from tenancy in cost, in security, in restrictions on use, in location, in amenities. Efficiency in production and cost savings in management are hallmarks of our compulsively energetic private market; yet we are more wasteful of land and the natural environment than any other advanced private-market society." (Peter Marcuse. The Contradictions of Housing, in Housing, Symbol, Structure, Site. Lisa Taylor, ed., 1990.) (Writing about Pruitt-Igot, 1972-77.)

The Tower in the Park typology is the brainchild of the Modern Movement. Its achievements in terms of light and air are tremendous when compared to the past achievements over time. The typology however, requires increasingly larger parcels of land than available under the gridiron plan of New York's Commissioner's Plan of 1811. Other disruptive and eventually damaging features of the type include a complete disregard of the street fabric, commercial zoning, and the notion of exclusive use or total site clearance, with total disregard for possible rehabilitation or salvage of "community" property. Stuyvesant Town is one community breaking the mold and can offer many clues to a promising compromise despite other inherent design problems.
Stuyvesant Town fountain
Stuyvesant Town center
Alfred Smith Housing, lower Manhattan
MAKING A MIDDLE GROUND

One of the primary issues concerning the construction of a new typology is of course the formulation of a middle ground. That space being defined as the space between the street (public) and the house (private). This space, common ground, mediating condition, or middle ground exists in many forms. It is more successful in some than others. It exists as only the street for many urban residents and can be extremely generous for those residents of the suburban and rural communities. Each middle ground is unique to its location and condition. Although this "community space" may be very different when the extremes are compared, they each contain the necessary social coding indigenous to its environment. Over time, it has been the development of this middle ground which has generated the most obvious architectural changes to the typology of housing within the City of New York. From light and air well constructions, to the formulation of alphabet typologies, to the development of perimeter housing to maximize light and air, so well demonstrated in many garden apartments, the middle ground has been continuously improved to allow for greater open space ratios and less building footprint. The tower in the park typology was very successful in regard to light and air, however the element of street and canyon inherent to street was lost. The more successful of the tower in the park typologies are those that also maintained some sense of street within the project.
DESIGN REVIEW

The following twelve basic principles are outlined in the International Building Exhibition's (IBA) 1987 Berlin Modern Architecture catalogue:

Twelve basic principles

Town planning started to move in new directions as a result of growing public resistance to destructive urban renewal practices in the seventies. Twelve basic principles for caring treatment of our cities (appended here in abbreviated form) were worked out under the auspices of the IBA and adopted in 1982/83 by Kreuzberg district councillors, the building Senator and the Berlin Parliament.

1 Renewal must address the needs of present residents, who must be involved in the planning process. Existing housing stock is to be preserved wherever possible.

2 The basis of urban renewal must be broad agreement between users and those responsible for renewal.

3
Residents in urban redevelopment areas are prone to insecurity and anxiety. It is important to re-establish trust and confidence: this principle must be built into every tenancy agreement as quickly as possible. Emergency action must be taken against potential damage to the housing stock with every possible speed.

4,5,6

It is vital that any redevelopment attempted can be achieved in carefully timed phases. It must also be possible to maintain technical standards established in the first phase in all subsequent phases. Any experiments with new life styles initiated in a housing project must be developed with care. Inner-city housing must be improved by minimum demolition, by planting greenery in courtyards and imaginative use of facades and end walls.

7

Public facilities are to be renewed and expanded to accommodate the needs of the community.

8

Urban renewal requires a structure of social planning measures. These must control the rights of involvement and material rights of those affected.

9

Controlled urban renewal requires open decision-making, strong representation for those immediately involved, and ad hoc committees able to meet on the spot.
10
If urban renewal is to inspire trust it must be based on reliably committed finance.

11
Any opportunity of developing new sources of finance should be taken.

12
All measures must ensure realization of urban renewal in accordance with this concept after 1984.
PERIMETER HOUSING

Writing on Alfred Treadway White's philanthropic projects, Richard Plunz notes the problems and challenges when trying to meld the qualities of both the perimeter block typology with the garden apartment and the notion of block coverage with the realities of cost and equity return issues:

"By the turn of the century, the perimeter block had been applied to philanthropic housing as well as to high-rise luxury housing like the Apton and Belnord. For privately developed housing, the low coverage of the perimeter approach had been limited to high-rise applications in order to maintain the high densities dictated by economics. But for low-rise philanthropic housing, as the reduction in coverage began to approach 50 percent, the perimeter form could be given serious consideration as well.

Alfred Treadway White's last philanthropic project, the Riverside Buildings, was a six-story perimeter block completed in 1890. It covered most of a Brooklyn block bounded by Joralemon and Furman streets and Columbia Place. Designed by William Field and Son, Riverside Buildings used the same Waterlow plan type as in the earlier Tower Buildings. According to White, the plans were not modified because "twelve years experience with the earlier constructions failed to develop any important suggestions for improvement." The six-story buildings housed 280 apartments and nineteen stores. The project
faithfully produced a dividend of about 5 percent for many years. The Riverside Buildings covered only 49 percent of the land - an equivalent of twelve gridiron lots were devoted to the internal park for the use of the tenants. A White brochure described the character of this semipublic space as "laid out with grass, trees, fountain, and walks... At the South end space of 50 by 80 feet is provided with swings, sand heaps, etc. In the center of the park is a large shelter and music pavilion, where every Sunday from May to November, from 4 to 6 p.m., a band furnishes music at the expense of the company."

Semipublic space on the scale of the Riverside buildings was unprecedented for all types of housing in New York City in 1890 - even for upper income projects. Only a few private squares, such as Gramercy Park, built a half century earlier, were comparable. For high-rise housing built with private capital, the size of perimeter block courtyards was restricted by economic constraints, rarely permitting lower coverages than the 67 percent used at the Belnord. Around 1890 a perimeter block proposal developed by Hubert, Pirsson, and Company attempted to circumvent the coverage constraint by covering the entire ground level of the block with a one story commercial space. Its roof became the open space for the twelve-story housing above, with a coverage of 65 percent. Presumably the large rental income generated by the excessive building height and large commercial area would pay the cost of the generous roof area. The scheme was planned for an entire block between Madison and Park avenues and East 26th and 27th streets. It was never built. The architects attributed the difficulties to the ambiguities of the Tenement Housing Law, which sometimes hampered the construction of high apartment buildings.
White's projects were the only pre-World War I philanthropic housing where semipublic space covered almost 50 percent of the site. Even private philanthropy could not provide such amenities. When private initiatives could go no further, public discussion began to focus on government provision of semipublic space in housing. In 1901, as part of the report of the Tenement Housing Commission, I. N. Phelps Stokes described his plan for a perimeter plan block development in which the fourty-foot-wide perimeter was to be developed as six-story housing, with the internal courtyard retained by the city as a park. Housing coverage was only 33 percent. The project was proposed as a slum clearance strategy, which would serve to renew housing, as well as to provide parkland. Phelps Stokes estimated that approximately two-thirds of a 200-by400-foot tenement block could be rehoused with no increase in the cost per room, if the city bought the internal land. This was the first detailed economic argument for direct government intervention in housing production in New York City - an intention which would not be realized until the federal initiatives of the 1930's. The Phelps Stokes argument was prophetic in linking open space with economic arguments for public intervention. (RP p. 110-112)
RESTRUCTURED GRIDS

"Perimeter schemes used unusually small blocks, less than 400 feet in length. For normal 600- or 800-foot gridiron blocks, the form tended to be unwieldy, especially the long and narrow internal courtyard. By the turn of the century, as interest in the high-rise perimeter increased, proposals for the reorganization of the gridiron using perimeter forms appeared. These were descendants of earlier reorganization proposals which advocated the introduction of new north-south streets for improving the pattern of housing in relation to light and air. For example, in 1898 the architect Julius F. Harder published a perimeter proposal which introduced "secondary avenues" through the middle of the blocks, and reduced the number of east-west streets by one-third. He argued that this new organization would introduce a hierarchy of principle and service avenues, as well as preferable solar orientation for buildings, with "cooler houses in summer and warmer in winter," and "50 percent more light and 33 1/3 percent less shadow in the streets." (RP p. 111)
RESEARCH AND ANALYSIS CONCLUSIONS

As one begins to formulate an opinion concerning the material presented as historical fact and its course of evolution, or progress through time, one begins to note that it is perhaps more of the architecture between that is defined and refined, not the actual "architecture", or floor plan itself. The middle ground which lies between the house and street. The zone of transition, between the private and the public. It is perhaps this element of architecture which poses the greatest challenge to all architects. In 1927, Ludwig Hilberseimer wrote, "the architecture of the large city depends essentially on the solution of two factors: the elementary cell and the urban organism as a whole." Note Hilberseimer's postulation more clearly..."the solution of". It is evident he is speaking of this transition between the house and the street. The space, semi-private, semi-public which should act as cement, binding architectural elements together.
DESIGN DEMONSTRATION PROGRAM

The thesis program shall contain all the elements necessary to successfully incorporate those elements deemed as positive attributes from the research and analysis. The program shall also contain those elements found in support of this thesis.

It is proposed that a subdivision of the existing site into two or more multi-family housing plans. The multiple nature of this initial concept shall be to demonstrate difference of applicable site conditions. In any case, there shall be one plan in a pure or unaltered ideal, and another demonstrating the incorporation of non-destructable obstacles or those properties deemed essential to the existing infrastructure of the community (i.e. churches, schools, etc.).

The thesis program shall contain those spaces essential for mixed-use, multi-family housing incorporating difference to accommodate the following conditions:

- Housing for young individuals.
- Housing for young and/or small families.
- Housing for large families.
- Housing for aging individuals.
- Interior recreational spaces.
Exterior recreational spaces.
Community spaces.
Commercial spaces for large retail businesses.
Commercial spaces for small retail businesses.
Commercial spaces for light manufacturing.
Parking facilities for residential and commercial spaces.

This thesis program shall also attempt to retain an acceptable if not the actual, living density necessary for self-sustainment and support of city services.
DESIGN DEMONSTRATION ANALYSIS

The thesis site is located between Adam Clayton Powell Jr. Boulevard and Frederick Douglas Boulevard, 127th and 131st streets. The site neighborhood was chosen for its inexpensive land values, and for the fact that existing housing stock has reached or extended its life expectancy. Many lots in the area are currently vacant and require no demolition. In addition, the site was also chosen because it would provide a perfect example for the thesis demonstration. The site currently contains eight cruciform towers which challenge the thesis for density levels. The site also contains an existing church which tests the thesis for adaptability. Any thesis proposition should be capable of accepting existing structures which would not be demolished.
SITE INFORMATION

The proposed "site" is an ideal and could be located in a multitude of places within the City of New York. For the purpose of this thesis, however, it shall be located in the northern part of Manhattan, where there is relatively lower land cost, and the life expectancy for most buildings is reaching its decline. This area is otherwise known as Harlem. The site is bound between 127th street and 131st street, Adam Clayton Powell Jr. Boulevard and Frederick Douglas Boulevard. Although the site is presently a single entity, it originally comprised of four gridiron blocks from the Commissioner's plan of 1811. Surrounding the site are many fine examples of most plan typologies discussed in the research and analysis: tenements, alphabet type extrusions, single perimeter block, and particularly on this site, tower-in-the-park type housing. Co-existing and adjacent to the site are several churches, two schools, high rise and low rise office as well as residential buildings. While this site already contains a housing project, it is evident from its use and condition that it is a modern housing project which has failed in its attempt to satisfy both the needs of the individual, the community, and the "urban organism" with an acceptable living environment.
Map of upper Manhattan displaying site
Sanborn map of existing site exhibiting cruciform towers
Aerial photograph of site.
Aerial photograph of upper Manhattan and The Bronx.
PHOTO ANALYSIS

The following photographs of the site and adjacent neighborhoods were taken in the early morning, January 2, 1992. It should be noted that later hours of the day and most hours during the summer see a very active street life.
Site with church in foreground
View of site east looking north
View of site one block east looking west
View of site east looking west
View of site east looking west
View of site southeast looking northwest
"The cheap sprawl and crowded conditions of the modern Japanese city reduce to a mere dream the liberation of space by Modern Architectural means and the resulting close connection between interior and exterior. Today, the major task is building walls that cut the interior off entirely from the exterior. In this process, the ambiguity of the wall, which is simultaneously interior on the inner side and exterior on the outer side, is of the greatest significance. I employ the wall to delineate a space that is physically and psychologically isolated from the outside world".

-Tadao Ando
Site map showing street, block and lot configurations as they existed before the current recombination required by the tower typological housing.
Site map showing street, block and lot configurations as they currently exist, exhibiting the block recombination required to successfully diagram tower typological housing.
Site map showing street, block and lot configurations as proposed. Note the recombination of two blocks rather than four, and the interior street's use as a service corridor and entrance to parking facilities.
Site diagram exhibiting overall grid and structure modulation, based on past zoning divisions of 25 x 100 foot lots to accommodate the acceptance of non-removable and/or historic structures.
Site map showing street, block and lot configurations as well as exhibiting commercially zoned areas within the adjacent neighborhood. Note the lack of commercial zoning within the thesis site as a result of existing tower typological housing. This type of zoning discrimination is typical of this typology.
Site map showing street, block and lot configurations as well as commercially zoned areas to be "re-invested" into the community.
Site map showing street, block and lot configurations as well as commercial zoning areas as completed by the thesis proposition. Note that the break in commercial activity associated with the tower typology has been "re-invested" to form a more cohesive and fluid diagram.
Site map showing street, block and lot configurations as well as the ground floor massing of the proposed project. Note full use of the ground floor to accommodate for medium to large scale commercial and or light industrial use to facilitate neighborhood employment and labor reinforcement ideology.
Site map showing street, block and lot configurations as well as ground floor massing of the proposed project demonstrating expanded service facilities to provide for large scale trucking and dock requirements of commercial and retail establishments.
Site map showing street, block and lot configurations as well as mezzanine floor massing of the proposed project maximizing primeter block housing typology as well as maximizing open space ratios to accommodate an interior garden. Note the end openings address the exterior and adjacent streets to the project.
Site map showing street, block and lot configurations as well as diagramatic massing demonstrating adjacent and expanded conditions of the project ideal expressed as an extreme condition.
North - South Elevation

North - South Section
Perspectives drawn by the Hudson School, a committee of architects associated with Columbia University, showing a typology similar in nature to the proposed project demonstrative of facadial treatments which articulate a sense of permanence and acquired security.
DESIGN DEMONSTRATION CRITICISM

The thesis oral examination took place on April 17, 1992, 1:15 PM in the Farrish Gallery of the Rice School of Architecture, Rice University, Houston, Texas. RSA professors present in the jury consisted of William T. Cannady, Richard Ingersol, Elysabeth Yates Burns McKee, Anderson Todd, and Mark Wamble. Visiting critics included Steven Harris of Yale University's School of Architecture and Ellen Whittemore; Chair of the Architecture Department at Harvard University. Pointed criticism was aimed at the following:

Richard Ingersol questioned handicap accessibility and the parking factor of 100 percent of the dwelling units. He surmised that restricted parking would reduce overall cost and reinforce the reliance on mass transportation. It was pointed out that handicap facilities had indeed been accounted for. His parking observations are accepted as noted.

Steven Harris questioned the feasibility of the project as a whole, and postulated that the expense of the project would exceed current standards. It was noted that the cost of current government subsidized housing within the City of New York already meets or exceeds the cost of privatized luxury high-rise apartments in other areas of the city. It was also noted that the aim of this project also rests on the case of permanence in its defense for both economic amortization and psychological importance.
Ellen Whittemore questioned the scale of the interior garden, and suggested that in fact it may be too large. It was noted that the scale of the interior court was indeed a critical factor to the success or failure of the project. Stated in defense of the current size, it was suggested that the interior court corresponded to the number of dwelling units. Also in defense was the suggestion that an additional bar building could be placed centered in a north-south axis to achieve two separate and smaller scaled interior courts.

Steven Harris commenting on the above stated that such a concept would be effective and compared it to the arrangement found at Rockefeller Center.

Steven Harris questioned the elevation of the interior court to the mezzanine level "twenty feet above the street level" and stated that to his recollection such a condition has not been found to be successful.

Elizabeth Yates Burns McKee questioned the use of The Hudson School's perspectives in the final presentation. It was agreed that original perspectives would indeed make for a stronger thesis, however there was insufficient time to render the perspectives before the oral examination. It should be noted that the jury was informed as to the nature of the perspectives before, during and after the final review.
DESIGN DEMONSTRATION - CRITICAL ANALYSIS

"Housing in the United States is contradiction. Private enterprise has created a tremendously productive, tremendously unequal housing system. Some live in a post-shelter society; others can no longer find even minimal shelter. Ingrained racism and sexism shape housing opportunities; housing shapes racist and sexist patterns. Our best architects build some of the finest and most luxurious housing in the world. Other architects (some also prizewinning) build massive minimal-standard housing projects that are dynamited to destroy their evils twenty years after they are built." (Peter Marcuse, The Contradictions of Housing, in Housing, Symbol, Structure, Site. Lisa Taylor., ed. 1990.

Although the majority of the criticism was aimed at an architectural level, concerns are raised almost immediately toward the cost of the project. It seems a contradiction, in today's society to be concerned almost exclusively to the cost of the project. It would seem that such typical shortsightedness may not take into account the long term aspects of any public housing project whose success invariably hinges on its accomplishment at social engineering. Unlike the results created at Pruitt-Igoe in St. Louis, Missouri above, the major issues should concern the projects calculated social acceptance, ability to manage a community, the issues of community as well as architectural permanence, and finally the cost. We must all remember the fragility of all public housing concerns and the importance of retaining renewal above short term cost.
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APPENDIX A

STATEMENT OF DISTRICT NEEDS / FY 1992

Community Board No. 10 - Manhattan
City of New York
215 West 125th Street - 3rd Floor
New York, N.Y. 10027
212 666-6130

Ruth Messinger, President
Borough of Manhattan

Noreen Clark-Smith
Chairperson
Manhattan Community District No. 10 is located in north central Manhattan; its boundaries encompass the community of Harlem. The boundaries of the district are largely defined by natural barriers - Central Park on the south and the Harlem River on the north. A chain of three (3) large linear parks - Morningside, St. Nicholas and Jackie Robinson (formerly Colonial), situated on steeply rising banks, form most of our district's western boundary. On the east, Fifth Avenue and Marcus Garvey Park (formerly Mount Morris Park) separate this area from the East Harlem Community.

Harlem is a largely African-American residential community with other ethnic groups comprising thirty-five percent of the population. Harlem's evolution as a Black community began at the start of the century when most of New York city's Black population was concentrated in the "Tenderloin District" located west of Herald Square. Extensive redevelopment of that area was just the beginning and the construction of Penn Station, several large department stores, hotels and office buildings began forcing Blacks from their homes. This led to a gradual movement of Blacks to Harlem. During the World Wars, there were large influxes of Blacks into this area. Migrants from the south and West Indies, faced with discrimination in housing opportunities in other areas of the city moved to Harlem. Thus Harlem became a well-known ethnic community-"The Capital of Black America" and one of the most densely populated areas of the city.

In 1981, a residential/commercial development strategy was developed by members of Community Board #10 and members from the local development
corporations. The Plan was submitted to the city. This proposal recognized a growing private sector interest in Harlem and addressed the need to develop a framework within which the community benefits of specific project proposals could be evaluated including a strategy for directing limited public sector funds towards the area's revitalization. Public sector investment continues to be needed in Community District 10. Area residents are very much interested in Harlem's redevelopment and the maintenance of its integrity as one of the city's best known ethnic communities. Residents are eager to take advantage of home ownership opportunities through the purchase of city-owned properties; community organizations and churches are engaged in cooperative development, senior citizen and other housing ventures through block associations, churches and vacant lot gardening.

Once again, we will be called upon to develop a concrete plan which is consistent with the interests of long-term, as well as new residents of this community who have purchased Brownstone buildings and condominium apartments, under the impression that Harlem was being restored to its former "glory". Key to any redevelopment strategy, will be a new disposition policy for city-owned properties.
HOMELESS SHELTERS / HOUSING

Harlem is faced with a phenomena which is now threatening the investment interests of small property owners as well as developers. The city's inventory of partially occupied residential properties in Harlem have been targeted as permanent housing for the city's many "homeless" families. Since 1984 more than 4500 families have been relocated from the city's hotel shelter system into Harlem, and it has not stopped! As these families move into the area, they bring with them a host of non-housing related problems and ills which ultimately become the problems of the buildings themselves and the surrounding neighborhoods. The existing social service agencies of the Harlem Community must expand their services to meet the needs of the new residents.

Moreover, many of the buildings which have been targeted as relocation resources for homeless families are located on relatively stable brownstone blocks and Historic Landmark Districts where new owners are making substantial investments as well as on the major avenues of the district which have sites slated for residential development, thereby destroying all planning efforts for the community's revitalization. Currently, sites for homeless housing are being designated without community consultation and seemingly without the coordination and review which considers the compatibility of these sites with overall development plans, the environmental impact, or community revitalization objective.
It is the opinion of Community Board 10 that what appears to be the haphazard and unstructured establishment of homeless housing sites, actually constitutes a form of planned destabilization. When you research the professional credentials of those persons in city government making these decisions, you realize that the siting of this "homeless" population is not an accident. Community Board 10 has consistently asked that a "Fair share Formula" be applied to all community districts in the city so that no one district becomes the "dumping ground" for persons with serious entrenched social problems. This request has been made for the last five(5) years! Having been ignored, the signal was sent out that Harlem was the ideal place to relocate any program that is not wanted in the other 58 Community Districts!
NEIGHBORHOOD PRESERVATION OFFICE

When the City Planning Commission designated Harlem as a Neighborhood Preservation Area, HPD opened its office with the following goals and objectives as set forth by their agency:

1. To encourage, coordinate and concentrate maintenance efforts.
2. To prevent deterioration and abandonment of housing in transitional neighborhoods;
3. To promote private investment
4. To coordinate governmental and community activities for neighborhood preservation and provide public investment to support coordinated improvement programs.
5. To promote community involvement in all such activities.

Presently, the Neighborhood Preservation Office has lost the authority that it had originally. Our concern is that the office should represent a legitimate, valid, an functioning entity with the capability of fulfilling the aforementioned objectives-in consultation with the Community Board. Planning decisions emanating from this office cannot be usurped by Property Management; Homeless Housing; relocation; Community & Neighborhood Services, or Demolition, and remain a "Neighborhood Preservation Office." Planning decisions made by the community Board must be honored and implemented.
SOCIAL SERVICES

The social service needs of the Harlem community are tremendous. A large percentage of the population is unemployed, more than twice the borough rate and almost twice the city rate. Among youth between 16-19, the rate of unemployment is greater than 50%. Currently one of every three persons in the district is receiving some form of public assistance, and Harlem ranks 11th among Community Districts in the size of its income support population, while ranking only 33rd in the size of its overall population. In 1989, 34,984 individuals in Harlem were receiving some form of income support, as compared to 39,002 in 1985—a significant increase indicating the growing social service needs of the district.

The extraordinary number of families relocated to Harlem from the city's hotel shelter system has created a pressing need for additional social support services in the area. Most of these families continue to face many of the same problems which led to their homelessness-anti-social behavior, substance abuse; inadequate incomes, new over-crowdedness, battered wives syndrome. Simple re-housing these families does not resolve their complex problems. In order to attempt to meet the needs of these families, additional resources must be committed to the HRA/Family & Children's Services Agency, local office.
Another segment of the Harlem population which has serious needs is the growing number of teenage mothers. More than 20% of the total 2103 births in Central Harlem during 1989 were to mothers 20 years or younger. These young mothers experience a high incidence of low birth weight babies, a high incidence of infant deaths, interruption of their education, and often a lifetime of public assistance dependency. In addition, an increasing number of adolescent mothers, upon giving birth, do not have human resources for their newborns. An alarming number of infants are reportedly spending the first three to six months of their lives in the Harlem hospital Center. Unfortunately, these infants face placement in foster care homes. As a result, Harlem is facing an increased demand for foster beds for infants. It is necessary to immediately increase the number of foster care resources in the district. Additional resources must be made available for programs which have as their aim, the education and prevention of early pregnancy. Other states have excellent programs which can be replicated, which allows for them to complete their education and become self-sufficient.
THE ELDERLY

Elderly persons, age 65 and older, comprise a little over 20% of the population of Harlem. More than a third of this population (8087 persons) has income below the poverty line. There is a need to increase the total spectrum of services delivered to this population through the Department of the Aging and the Human Resources Administration, including homecare, housekeeping and means programs. A pilot program for a seventh day hot meal delivery on Sundays for seniors in Harlem, through the Meals on Wheels Program, is requested. This expansion of service is requested in an effort to meet the total nutritional needs of the elderly homebound client population of this program.

Improved outreach efforts to identify senior citizens who are living in relative isolation and without their basic needs being met, such as adequate shelter, nutrition and utilities, are necessary. According to reports from senior service providers, there remains a significant number of elderly persons in Central Harlem who are eligible for available services but do not take advantage of them. Identification of this "at-risk" population is of critical importance.
POLICE

Harlem continues to be plagued by an entrenched and endemic narcotics trafficking problem. As a result, the overall quality of life in this community is very negatively impacted. In 1989, the 32nd precinct ranked high among all precincts in the city - no.2 for incidence of homicides which were largely drug related. The 28th precinct experienced a decline in homicides and ranked twelfth. The narcotic problem also contributes to a high rate of other violent crimes including robberies, burglaries, and assaults. The decline in crime statistics was directly attributable to Operation Pressure Point which resulted in very visible improvements in street conditions. The 28th precinct also focused on "in-door" sales of drugs through a program of vertical patrols in buildings identified as problem locations. While the 28th precinct and the 30th precinct (in CB 12) had the services of Operation Pressure Point- this program was never implemented in the 32nd precinct. With the emergency of the "CRACK" epidemic, TNT and the CPOP programs are the beginning to resolving this problem. The 28th and 32nd precincts need additional manpower to provide the community with adequate police services. Presently both precincts are understaffed. With the increased population caused by the recent renovation of numerous city-owned buildings, additional manpower must be allocated.
HEALTH AND HOSPITALS

Since 1984, Community Board-10 has requested the construction of a new Ambulatory Care Facility for Harlem Hospital which can consolidate the many scattered-site out-patient clinics and programs, with some in-patient facilities and laboratories. This consolidation is needed to address major problems which involve the transport of patients and the transfer of laboratory equipment. Sydenham Dental Services are heavily utilized and crowded into inadequate space. A dental expansion from 8 to 11 operators (12 chairs) is required to meet patient demand. Space is required to better accommodate pediatric and geriatric patients who can not be seen on a timely basis. The current facility exterior signs do not reflect the current nomenclature and licensure for the Sydenham NFCC. In addition, the signs should reflect the merger of Sydenham NFCC, the four Primary Care Network (PCN) sites, and linkage to Harlem Hospital Center.

Another issue which is of prime importance to us, is the need for all methadone programs in Board 10 to institute/implement a drug-free component that works toward making clients drug-free. The component must have referrals to Narcotics Anonymous. The city, in conjunction with the state, need to up-grade and improve the existing programs in order to provide clinical health care on a daily basis.
SANITATION

The average percentage of streets rated acceptably clean in Community District 10 for FY 1989 was 46.9%, well below the borough average of 73.5%. There is a need for the concentration of further street cleaning resources in Harlem. An additional mechanical broom route is needed to decrease the size of each of the existing four routes and to enable the completion of broom routes on a daily basis—a feat which is currently, not regularly accomplished.

Many of the complaints received by the Community Board concern the condition of the district's streets during the week-ends. Area residents, churches and other community organizations continue to complain about the excessive street litter and overflowing baskets, which they witness on Sundays. If the trash baskets are emptied on Sunday, especially along 125th street Commercial corridor, they are not emptied again until Tuesday!

Other problems which the district experiences relative to sanitation revolve around the many vacant buildings and lots which serve as dumping grounds for the accumulation of garbage and other debris. While the Sanitation Department's Vacant Lot Cleaning Unit, and the Bureau of Pest Control Are doing a credible job in addressing this problem, there is a need for a better coordinated effort by the Office of Property Management.
As Pest Control workers clean out abandoned buildings, often trash/debris is allowed to sit on curbsides for days at a time until a truck becomes available for its removal. There is a need for the assignment of one special truck and man to the Sanitation District for the sole purpose of supporting Pest Control Efforts. When Vacant buildings are exterminated and emptied of debris by Pest Control, the buildings should be immediately sealed in order to prevent the re-accumulation of debris. Once a vacant lot is cleaned by the Sanitation Department of General Services, the Lot Cleaning Unit will certainly have to direct its efforts towards recleaning the lot again. There is a need for an intensive and coordinated fencing program for the treatment of vacant lots.
PARKS AND RECREATION

An abundance of park land is available to residents of Harlem, including four relatively large linear parks at the periphery of the district- St. Nicholas, Morningside, Marcus Garvey (formerly Mount Morris) and Jackie Robinson (formerly Colonial)- as well as Central Park and a host of small neighborhood parks.

However, parks in the district continue to suffer from a lack of regular maintenance. The District Parks Office is neither staffed nor equipped to provide the ongoing maintenance which is needed for area parks. The City continues to invest a considerable sum of capital funds towards the rehabilitation of several parks in this district, the Community Board 10 certainly supports this needed investment. However, if there is not a comparable investment in the routine maintenance of these parks- to provide tree care, fight soil erosion, repair comfort stations and playground equipment, and routinely clean the parks- that capital investment will go unprotected and will once again witness the rapid deterioration of our parks and playgrounds. There is a dire need to up-grade the level of maintenance which the district office can provide by the assignment of additional personnel resources and the provision of adequate tools and equipment to expedite the work which must be undertaken.
One very important requirement to encourage the usage of local parks as recreational resources by area residents is to increase the number of recreational personnel assigned to parks- staff which can help develop and supervise structured program activities for our youth and elderly populations. Such supervises programs and activities will attract people back to a revitalized local park system and discourage the vandalism and criminal activity to which many of our parks have fallen victim.

Still supported by Community Board 10 are priority capital projects for the following parks: Marcus Garvey (formerly Mount Morris); Morningside; Fred Samuel (formerly reader's Digest); Harlem Lane; Bill Robinson Playground, as well as the installation of elevators in the Hansborough Recreation Center. New lights for Holcome Rucker; security lighting for Colonel Charles Young Park; and renovation of Jackie Robinson Park including the existing wading pool. Also, the start-up and complete rehabilitation of shower and locker room facilities in Colonel Charles Young Park. The lack of movement to complete the renovation of St. Nicholas Park should be investigated. Contractors removed the wrought iron railings and cobble stones; there are continuous problems which remain unresolved from year to year and the park has been left in a deplorable and unusable condition.

In assessing the Parks Program for Community Board 10 we have determined that playground injury prevention is a priority area. A survey of the district revealed the following needs:

1. Fencing repairs to secure areas in off hours

2. Safety mats properly placed for all equipment
3. defective equipment should be removed

4. Rubber swings to replace wood and metal ones

5. Improve sanitary conditions, i.e. proper trash removal including the cleaning of glass, needles and crack vials

6. differential color paintings of climbers for depth perception

7. Remove all pickets on the iron fences
TRANSPORTATION

Harlem is located at the center of a very vital transportation network and has the basic facilities and infrastructure for an efficient transportation system. However, many of the elements of the transportation system in this district continue to suffer from lack of maintenance and show signs of deterioration which now warrant the investment of capital funds for their improvement.

Harlem is well serviced by subway transportation- the IND 6th and 8th Avenue lines, the IRT Lenox/Broadway lines and the IRT Lexington Avenue line offer easily accessible service to the area residents and workers. Renovation of the IND subway station at 125th street and St. Nicholas Avenue has been completed. Still outstanding is the request for funding the completion of this station's modernization to include the most northern portion of the station (between 126th and 127th streets) which was excluded from the scope of the work for this project. The station, in its entirety, is utilized on a daily basis by thousands of passengers. It is located in the heart of the district, in close proximity to the major commercial strip, as well as a thriving residential community. The completion of its renovation is a top priority.

Renovation of the Lenox Avenue IRT Subway Stations at 110th, 116th and 135th street are not funded projects, but remain priority items, in addition to the IND stations at 110th, 116th and 135th street. All of these stations are in close
proximity to planned housing and/or commercial revitalization projects. Station renovations are needed to support and complement these development efforts. Bus shelters are needed throughout this heavily traveled community.
SCHOOLS

Community school District #3: plans are currently underway for the renovation and revitalization of the Wadleigh Junior High School. Although the physical structure of the school is in dire need of repairs the revitalization of this school must go further. An intense evaluation of the level and quality of education that will be offered at Wadleigh must be done along with a feasibility study of the NYC Board of Education's long range plans to develop a school curriculum that makes mass communication its prime focus. The effectiveness of the school's curriculum and educational program will eventually have a tremendous impact on the schools' standing in the Harlem community as a prestigious school. However, the elementary schools which fall within our boundaries must improve their academic performance. The reading and math scores are low. Programs must be developed and made available to the youth who attend these schools.

Community School District #5: the vast majority of Community Board 10 schools are included in this school district. Among the capital needs of schools in Central Harlem are the replacement of perimeter fencing around school yards P.S. 194. Relative to program needs, Board 10 supports the efforts of the local school district to obtain funding for 4 additional computer rooms. We also support the district's goal for the initiation of meaningful programs with trained and experienced staff at after-school centers in all districts schools. Such
resources are needed to supplement the regular school curriculum and to provide a constructive and safe after-school environment for youngsters. Additionally, Board 10 recognizes the need for increased pre-kindergarten programming in the district and supports the implementation of such programs at P.S. 36 and P. S. 123.
LIBRARIES

The long awaited formal reopening of the Regional Library for Central Harlem, Countee Cullen Regional Branch, located 104 West 136th Street occurred in August 1990. It was the culmination of a five year renovation project. Our top priority at Community Board 10 is to have this newly renovated facility, complete with air-conditioning, handicapped access/elevator, and new furnishings accessible to the people of Central Harlem. This means that there is a need for sufficient hours of public service-more morning and evening hours-weekend hours-adequate levels of staffing, a safe and clean library environment and security for library materials and facilities at all times. At present the regional library has 5 partial days of service, we wish to see those partial days expanded to 7 days of service to provide the maximum opportunity for use of the newly renovated library during weekends and evenings by working adults, parents, and children as well as students.

Likewise, we also request that the three other libraries: Harlem 115th street and Macombs Bridge branches have expanded service hours from 4 days of service to a minimum of 5 days of service, adequate staffing, a safe and clean library environment and security for library materials at all times. We need adequate funding for our Central Harlem libraries to be able to purchase sufficient books and materials for use during these public service hours.
In the Capital Budget, The Harlem Branch Library and the 115th street branch library are slated for HVAC work with construction on these projects to begin in 1992 and 1993 respectively. Now that the Regional Branch has reopened, we support the acceleration of these projects and their implementation, as well as the 115th street branch library request for renovation design funding, a new capital budget item.

Finally, we support the Integrated Library Technology System of the New York Public Library Branch Libraries, a capital budget item. We understand that this system will provide a completely automated public catalog in every branch and will automate and speed the process of book acquisition. Also, we understand that this system will enable any reader in any branch to track the location and status of any book. we ardently support this system's use in our Harlem libraries.

Board 10 continues to recognize its branch libraries as important educational, informational and cultural resources in the district.
APPENDIX B

ZONING HANDBOOK

A Guide to New York City's Zoning Resolution

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INTRODUCTION

Zoning shapes the city. Through zoning, a city controls building size, population density, and the way land is used. Along with the city's power to budget, tax, and condemn property, it is a key tool for carrying out planning policy. New York City has been a leader in zoning policy in the United States; the city enacted the nation's first comprehensive zoning resolution in 1916 and continues to be a pioneer in the field.

The first zoning resolution was created in response to inappropriate development in Lower Manhattan. By 1900, New York had become the major focus of private investment capital. Expanding businesses needed office space. New retail shopping areas were spring up. Technical restraints which had traditionally limited building height vanished with the introduction of steel beam construction techniques and improved elevators.

In 1915, the 42-story Equitable Building was constructed, covering the corner of Pine Street and lower Broadway. It cast a seven-acre shadow and deprived neighboring properties of light and air. Meanwhile, warehouses and factories were intruding into the clusters of fashionable stores on lower Fifth Avenue. The Manhattan skyline was beginning to assume its distinctive form. The time had come for the city to regulate its surging commercial growth.

The concept of enacting a set of laws to govern land use was revolutionary. The pioneering 1916 Zoning Resolution, though a relatively simple document,
was consequently, the product of extensive community debate. It established height and setback controls and separated what were seen as functionally incompatible uses - such as factories - from residential neighborhoods. The 1916 ordinance became a model for urban communities throughout the United States as other growing cities found that New York's problems were not unique. But, while other cities were adopting the New York model, the model itself refused to stand still.

New York City changed rapidly as its population grew during the first half of the twentieth century. In 1916, the city's population was slightly more than 5,000,000; by 1960 it had grown to almost 8,000,000. The influx of immigrants from Europe, the southern United States, Latin America, and Asia caused housing shortages and created a market for tenements built to maximum bulk - and minimum standards. Transportation systems changed the way the land was used. New development followed transit routes. The automobile also changed land use patterns and created traffic and parking problems never dreamed of in 1916.

The resolution was constantly amended. It had to be responsive to new technology, major shifts in land use, new government programs and population migrations. The amended resolution also had to meet New York State requirement that it be in accordance with a "well-considered plan." A comparable legal requirement was enunciated in the historic case that established the constitutionality of zoning. In 1926, the United States Supreme Court, in Village of Euclid v. Ambler, validated the zoning ordinance of Euclid, Ohio, finding that it rested on a comprehensive plan for maintaining, protecting
and upgrading the community. The court recognized that zoning is an appropriate extension of the community's authority to pass laws related to protecting the public health, safety, morals and general welfare.

The 1926 landmark decision provides a measure which zoning regulations have been tested. The opinion also contains a far-seeing passage suggesting that zoning must evolve to meet changing needs of changing times:

"Until recent years, urban life was comparatively simple; but with the great increase and concentration of population, problems have developed, and constantly are developing, which require, and will continue to require, additional restrictions in respect of the use and occupation of private lands in urban communities. Regulations, the wisdom, necessity and validity of which as applied to existing conditions, are so apparent that they are now uniformly sustained, a century ago, or even half a century ago, probably would have been rejected as arbitrary and oppressive...[While] the meaning of constitutional guarantees never varies, the scope of their application must expand or contract to meet the new and different conditions which are constantly coming within the field of their operation."

The scope of the 1916 Zoning Resolution did expand greatly "to meet...the new and different conditions..." The expansion and changes, however, were ultimately more than the original framework could sustain. The need for a new document was clear.
Though the need was obvious, the course of devising and approving a new ordinance was complex. After lengthy discussion and public debate, the current resolution was enacted and took effect in 1961. This 1961 Zoning Resolution coordinated use and bulk regulations and incorporated parking requirements. It introduced the concept of "incentive zoning" by offering a bonus of extra floor space to encourage developers in office buildings and apartment towers to include plazas in their projects. The resolution emphasized the creation of open space. A flexible document, it was a product of the best planning, economic and architectural skills of its time.

However, it also had some shortcomings which surfaced with the experience of the passing years. Its emphasis on open space has sometimes resulted in tall buildings out of scale with their neighborhoods. And the open space provided has not always been particularly useful or attractive. New approaches have been developed since passage of the 1961 ordinance to deal with some of the problems that have emerged, and a host of incentive zoning, contextual zoning, special district, air-rights transfer and restrictive covenant techniques have been used to make zoning a more responsive and sensitive planning tool. Currently, several new concepts and reforms are under discussion.

Cities never stand still, nor should zoning.

ZONING TODAY
The Zoning Resolution is divided into two parts: zoning text and zoning maps. The text establishes zoning districts and sets forth the regulations governing land use and development. The maps show the locations of the zoning districts. The city is divided into three basic zoning districts: residential (R), commercial (C), and manufacturing (M). (Residential, commercial and industrial activities are major users of the land; at present they occupy about 67 percent of the city's net land area, exclusive of streets. Streets compromise about 25 percent of the city's gross area. The remaining 33 percent of the city's net area consists of parks and recreational uses; schools, hospitals and other public and private institutions and community facilities; and major airports. Zoning laws do not usually apply to public streets and public parks. The three basic categories are further subdivided into lower, medium and higher density residential, commercial and manufacturing districts.

Development within these districts is regulated by use, bulk and parking regulations. Each zoning district regulates:

* permitted uses;
* the size (bulk) of the building permitted in relation to the size of the lot;
* the required open space for residential uses on the lot, or the maximum amount of building coverage allowed on the lot;
* the number of dwelling units other zoning rooms permitted on the lot;
* the distance between the building and the street;
* the distance between the building and the lot line;
* the amount of parking required; and

* other requirements applicable to specific residential, commercial or manufacturing activities.

**USE GROUPS**

The uses permitted in each of these districts are found in one or more of eighteen use groups set forth in the resolution. The uses listed in each use group have common functional or nuisance characteristics. The use groups start with residential and institutional uses (Use Groups 1-4) and work their way up the nuisance scale from local retail and service uses (Use Groups 5-9) to regional shopping centers (Use Groups 10-12), waterfront/recreation uses (Use Groups 13-15), heavy automotive service (Use Group 16) and industrial uses (Use Groups 17 and 18). The text identifies which use groups are permitted in each zoning district.

**BUILDING SIZE**

The maximum size (or bulk) of a building on a lot is determined by the floor area ratio (FAR) assigned in the resolution of each zoning district. It is the principal bulk regulation in the resolution, controlling the physical volume of buildings. The floor area ratio expresses the relationship between the amount of usable floor are permitted in a building and the area of the lot on which the building stands.
A building can contain floor area equal to the lot area multiplied by the floor area ratio (FAR) of the district in which the lot is located. For example, a building to be constructed on a 10,000-square-foot lot in a district with a FAR of 10 could contain 100,000 square feet (10 x 10,000 square feet) of floor area. Similarly, a building on a 6,000-square-foot lot in a zoning district with a FAR of 6 could contain 36,000 square feet (6 x 6,000 square feet) of floor area. The lowest FAR in any district is 0.5; the highest basic FAR is 15 in the highest density office districts. In certain districts, the basic floor area ratio permitted on a lot can be increased if public amenities such as arcades or plazas are provided.

OPEN SPACE / OPEN SPACE RATIO

In certain residence districts, residential development must provide open space on the zoning lot. In some districts the amount of open space required is determined by the open space ratio (OSR), which expresses the percentage of total floor area of a building that must be provided as open space on a development parcel. For example, in a district with an open space ratio of 19, the amount of open space required on the lot would be 19 percent of the total floor area of the building. In other residence districts, open space is determined by yard regulations or by limiting development to maximum lot coverage.

LOT COVERAGE
Lot coverage is that portion of a zoning lot which, when viewed directly from above, is or would be covered by a building or any part of a building.

DENSITY

Another basic provision which applies only to residential developments related to population density. Density means the number of people living in a certain area, generally expressed in terms of the number of families, households or housing units per acre. Density controls, one of the several ways used to control the intensity of development, permit the city to plan in an orderly way for new schools, utilities and transit expansion.

Population density is controlled by the requirement (which varies by district) that a specified number of square feet of lot area be provided per dwelling unit or room. The number of dwelling units or rooms allowed on a lot is a measure of the number of people who are likely to reside in each building.

OTHER CONTROLS AFFECTING BUILDING SPACING AND HEIGHT

Floor area, open space or lot coverage, and density controls seek to prevent an area from being overdeveloped and overcrowded. However, these controls by themselves cannot prevent structures from depriving people in other buildings and on the street of adequate light and air. To ensure the provision of adequate
light and air, there are yard regulations, height and setback regulations, building spacing regulations, and court regulations, among others. These regulations help determine the height, length, and bulk of a building, and its placement on the lot.

YARDS

Yard regulations separate structures and provide space between them. Generally, a 30-foot rear yard is required for each residential building. Therefore, the space between the rear of two residential structures built opposite each other on the same block would be 60 feet - providing the same access for light and air as for buildings fronting on typical 60-foot streets.

HEIGHT AND SETBACK

Height and setback provisions also provide for light and a sense of openness in the streets and yards.

In most medium and higher density districts, the height of a building's front wall at the street line is generally limited to a specified height or number of stories. Above that height, a building is required to set back behind a theoretical inclined plane - the sky exposure plane - which cannot be penetrated by the building wall. In certain districts, a rear sky exposure plane provides greater light and air to the rear yards. However, a tower rising without setback
which covers only 40 percent of its lot is permitted to penetrate the sky
exposure plane because its compensating slender profile provides more open
space at the street level.

In most lower density districts, there are specific maximum perimeter wall
heights above which the building usually must have pitched roof or be set back
before rising to the permitted building height. Typically, building height is
determined by the interplay of zoning regulations with a developer’s design and
economic concerns.

In general, space must be provided between certain types of residential buildings
on the same zoning lot according to a special formula. In order to provide
adequate light and air to windows on courts, minimum court sizes are
established. In addition, there are also requirements for the amount of space
which must be provided in front of legally required windows.

**PARKING**

Zoning laws also require the provision of off-street parking for most new
developments. Parking on the site of a new development helps eliminate
congestion on nearby streets. In areas where additional parking would generate
more traffic than desirable, and where mass transit is available, the requirement
for on-site parking is reduced or eliminated. Off-street loading berths for
commercial and manufacturing uses may be required.
SIGNS

The size and placement of signs are also regulated in each zone.

PERFORMANCE STANDARDS

Manufacturing uses and certain intense commercial uses are subject to performance standards which limit noise, air pollution and other nuisance-creating activity. These zoning controls provide minimum acceptable standards, and are designed to provide building occupants and the general public with light, air, ventilation, and a safer, more livable environment.

THE RESOLUTION IS NOT RETROACTIVE

Regulations generally do not affect existing land uses or buildings which were legal when built under former codes or different classifications. Such uses are known as legal non-conforming uses. Buildings that conform with use regulations but do not comply with subsequently enacted bulk regulations (non-complying buildings) are subject to controls limiting their enlargement or conversion. In addition, they may not be reconstructed if substantially damaged. Otherwise, such bulk non-compliance may continue.
AS-OF-RIGHT DEVELOPMENT

Most development or use of unimproved land need meet only the provisions of the Zoning Resolution to be granted a building permit as a matter of right. This means that a developer may build a structure as-of-right if the Department of Buildings is satisfied that the structure complies with the Zoning Resolution and the Building Code. No action is required by the City Planning Commission under such circumstances. The developer simply files architectural plans with the Department of Buildings and can begin construction upon issuance of a building permit.

SPECIAL PERMITS

Other development is allowed only by special permit granted either by the City Planning Commission with City Council review upon request by the Borough President or by call-up by the City Council by majority vote, or by the Board of Standards and Appeals. Special permits are granted after public hearings and pursuant to specific conditions set forth in the Zoning Resolution. There are two types of special permits: modifications of the use regulations and modifications of the bulk or parking regulations. For example, uses such as riding academies, heliports, electric substations, large parking garages and sewage disposal plants require careful siting and design treatment to ensure that they do not adversely affect surrounding neighborhoods. There are special review procedures for considering these facilities. Each of these uses has certain characteristics which make such special consideration essential - those involving significant planning
issues are under the jurisdiction of the City Planning Commission. Other permits are referred to the Board of Standards and Appeals.

AUTHORIZATIONS

At its discretion, the City Planning Commission or, in some instances the Chairperson of the City Planning Commission may, by resolution at a public meeting, modify certain zoning requirements provided that specific findings set forth in the Zoning Resolution have been satisfied. Unlike the procedure for special permits, a public hearing is not required.

CERTIFICATIONS

For some as-of-right development, the City Planning Commission or the Chairperson of the City Planning Commission is required to administratively certify to the Department of Buildings that certain specified conditions set forth in the Zoning Resolution have been satisfied before a building permit may be issued.

The City Planning Commission also must certify that an application is complete in order to commence public review under the Uniform Land Use Review Procedure (ULURP) of the New York City Charter.
ZONING AMENDMENTS

There are two types of zoning amendments: amendments to the zoning text and amendments to the zoning map. A change to the zoning text and amendments to the zoning map. A change to the zoning text or map may be reasonable in a situation where the zoning regulations would result in an awkward site plan or prevent useful development of an area. In other cases, a change to the text or map may be necessary to preserve an area from unwarranted or destructive change.

Amendments are generally initiated by the department of City Planning, although the City Council Committee on Land Use, the Borough President, or any taxpayer, community board, or borough board may apply to the City Planning Commission for a change to the text or maps. Pursuant to ULURP provisions, amendments may be approved only after consultation with affected community and borough boards, the Borough President, public hearing by the COMmission and subsequent approval by the City Council. All zoning amendments must satisfy various legal requirements, including those discussed in the final section of this chapter.

VARIANCES

Sometimes the peculiar shape or unusual topography of a parcel would cause unnecessary hardship were the owner required to comply with all the applicable regulations of the Zoning Resolution. In such cases, the Board of Standards and
Appeals may grant variances from the use and bulk provisions of the resolution to the extent necessary to permit a reasonable use of the parcel.

LEGAL CONSTRAINTS IN FRAMING OR AMENDING A ZONING RESOLUTION

The courts have laid down general guidelines to ensure that individual owners do not reap undue windfalls or suffer serious privation because of zoning actions.

A zoning change which would enrich one or more property owners in the absence of a direct relationship to public policy and objectives could be challenged. Such inappropriate actions, particularly when benefit to one owner is coupled with injury to surrounding owners, are often found by the courts to be "spot zoning" and illegal.

At the other extreme, zoning may not totally deprive owners of the use of their property. Such an action could be declared unconstitutional by the courts and set aside as confiscation without due process. However, zoning which reduces the value of land through use or bulk restrictions is not necessarily invalid. The law requires that owners be compensated if their property is taken for a public purpose.
RESIDENCE DISTRICTS

Residence districts are designated by the prefix R in the Zoning Resolution. There are ten standard residence districts in New York City - R1 through R10. The numbers refer to the permitted density (R1 having the lowest density; R10 the highest) and certain other controls such as required parking. A second letter or number signifies additional controls in certain districts. Unless otherwise stated, the regulations for each of the ten residence districts pertain to all subcategories within that district. The R4 district, for example, encompasses R4-1, R4A and R4B.

STANDARD DISTRICTS

R1 and R2 districts allow only detached single family residences and certain community facilities. The R3-2 through R10 districts accept all types of dwelling units and community facilities and are distinguished by differing bulk and density, height and setback, parking, and lot coverage or open space requirements.

R3-2 districts permit detached and semi-detached houses, garden apartments, rowhouse developments and a broader range of community facilities. R4 and R5 zones are primarily districts of rowhouses and small multiple dwellings. The R6 through R9 districts without a letter suffix (R8 rather than R8A, for example) encourage onsite open space and on-site parking. These objectives are
addressed by a complex formula involving three variable controls: floor area ratio (FAR), height factor (HF), and open space ratio (OSR). The Zoning Resolution assigns a range of floor area ratios in these districts. The maximum floor area ratio in each district is reached for a building with a specific height factor in combination with a specific open space ratio often resulting in a tall, low-coverage building set-back from the surrounding streets. Although there is no range of floor area ratios in R10 districts, the tower provisions and the 20 percent floor area bonus for plaza encourage high-rise, low-coverage buildings set back from the streets. This open space emphasis in R6 through R10 districts sometimes leads to the construction of buildings that are out-of-scale with the surrounding neighborhood, breaking the existing street wall continuity which characterizes many New York neighborhoods.

CONTEXTUAL DISTRICT

In 1984, 1987 and again in 1989, the Zoning Resolution was amended to establish a number of new and revised residential districts. These districts, generally identified with the suffix A, B,X OR 1 (except R7), are termed contextual because they maintain the familiar built form and character of the existing community while providing appropriate development opportunities.

LOWER DENSITY CONTEXTUAL DISTRICTS
In recent years, out-of-scale construction in low-rise neighborhoods had blurred the distinctions between residence districts. Sound one- and two-family houses were often demolished and replaced by larger, multifamily buildings. There was a need to determine regulations for appropriate new development in low-rise neighborhoods and to preserve existing housing. In 1989, New York City enacted the first comprehensive revision of lower-density zoning since 1961. Lower density contextual zoning reaffirms the bulk distinctions, building configurations and narrower lot sizes of many older residential neighborhoods. By controlling curb cuts, it also provides more on-street parking and discourages excessive paving of front yards. It is applicable to low-rise neighborhoods in the Bronx, Brooklyn, Queens and Staten Island.

Six new contextual residence districts were created (R2X,R3A, R4-1,R4A,R4B,R5B) to recognize the particular characteristics of detached and semi-detached residence and rowhouse neighborhoods. One existing residence district (R3-1) was reconfigured as a contextual district and three other general residence districts (R3-2,R4,R5) were modified to incorporate elements of lower density contextual zoning.

New requirements were established to maintain the contextual cohesion of these new and amended districts. All usable living space, including most enclosed garage and attic space, must now be counted in floor area calculations. However, in R2X, R3, R4, R4-1 and R4A districts, a new attic allowance permits an increase in FAR for floor area under a pitched roof with headroom between five and eight feet. A new zoning envelope sets overall building heights for each district as well as a maximum perimeter wall height, above which pitched roofs or setbacks are required, to minimize the visual impact of
new buildings on the street. Typically, R3, R4, R4-1 and R4A districts promote houses with pitched roofs while R4B and R5B zones are primarily rowhouse districts. Driveways that run parallel to the side lot line encourage traditional landscaped front yards and side yard parking in detached and semi-detached residence districts. Limitations on the width, number and location of curb cuts maximize on-street parking and lessen neighborhood parking problems.

MEDIUM AND HIGHER DENSITY CONTEXTUAL DISTRICT

A major emphasis of the 1961 Zoning Resolution was the construction of tall, slender buildings surrounded by large, open spaces. However, new residential development was often incompatible with the character and configuration of the older neighborhoods. The cost and inefficiencies associated with construction of these buildings contributed to a slowdown in housing production. In 1984 and 1987, the Zoning Resolution was amended to establish a number of contextual districts in medium and higher density residential areas (R6A, R6B, R7A, R7B, R7X, R8A, R8B, R8X, R9A, R9X, R10A).

Medium and higher density contextual districts combine maximum lot coverage with a requirement that buildings be placed on or near the street line and attain at least a certain minimum height within the street wall setback distance. In addition, front and rear sky exposure planes control the overall height of the building. Instead of a range of floor area ratios to be used in a combination with various height factors and space ratios, each medium and higher density contextual district allows the maximum floor area ratio on a zoning lot
irrespective of heightfactor or open space ratio. The interaction of the floor area ratio, lot coverage and street wall requirements results in lower, bulkier buildings closer to the sidewalk that are in keeping with the scale and character of the existing neighborhood and which maintain the traditional streetscape. Because the tower provisions and plaza bonuses available in R10 districts are not permitted in R10A districts, new residential development will be similar in style to buildings in older, built-up neighborhoods.

Contextual districts also differ from most non-contextual districts in the way they control the density of residential development. In the non-contextual R6 through R10 districts, density is measured in zoning rooms. This number is determined by dividing the area of the zoning lot by the minimum number of square feet of lot area required zoning room. The minimum square feet of lot area required for each zoning room varies from district to district; it also depends upon the floor area ratio, height factor and open space ratio used in the development. In the contextual districts, density is measured in dwelling units. There is only one lot area requirement in each of these zoning districts. Each zoning lot is restricted to a maximum number of dwelling units, a number arrived at by dividing the area of the zoning lot by the minimum number of square feet of lot area required per dwelling unit. This allows more flexibility in laying out the interior of the dwelling units.

QUALITY HOUSING
As part of the 1987 amendments to the zoning Resolution, the medium and higher density contextual district bulk regulations were made optional in corresponding non-contextual districts, and the Quality Housing Program was established as a mandatory requirement for all residential buildings developed under the medium and higher density contextual bulk regulations. The purpose of these amendments is to encourage development of multifamily housing in a way that recognizes the relationship between building design and the quality of life in a dense urban environment.

Under contextual lot coverage, the maximum floor area may be reached in a building with fewer stories than would be permitted under non-contextual zoning. For example, in an R7 district, under standard zoning, the maximum FAR of 3.44 is achieved only in a 14-story building. A six-story building would have an FAR of 2.88. However, under the contextual regulations, a six-story building could reach the full 3.44 FAR. In addition, in R6, R7 and R8 districts, on wide streets outside Manhattan Core, Buildings developed under the Quality Housing Program may achieve higher FARs.

The Quality Housing Program requires that all developments built under the medium and higher density contextual bulk regulations also comply with the four major elements of the Quality Housing Program: Neighborhood Impact, Recreation Space, Safety and Security, and Building Interior. Neighborhood Impact is controlled primarily by the contextual bulk regulations outlined above, and by street tree planting and ground floor window requirements. Each of the other three program elements - Recreation Space, Safety and Security, and Building Interior - have several mandatory
components and some of the components have a two-tier system of standards (minimum and preferred).

The Recreation Space element establishes minimum and preferred standards for the amount of equipped indoor and outdoor space, mandatory regulations for landscaping as a percentage of the open lot area, and on-site tree planting. If a development meets only minimum standards for recreational space, instead of the preferred standard, it would have to meet the preferred level of compliance for the size of the averagedwelling unit, a component of the Building Interior program.

Other Building Interior requirements include windows larger than those required by the Building Code, laundry facilities and trash storage.

The Safety and Security element includes minimum and preferred standards for the number of apartments per corridor. Other requirements include: building entrances visible from the street, and elevators and stairs visible from both the building entrance and individual apartments.

**OTHER ZONING DISTRICTS**

Certain historic parts of the city are designated with the letters LH to indicate a limited height district. These limited height districts ensure that the height of new buildings is in scale with existing buildings in the area.
R10-H allows transient hotels, by special permit, in addition to residential and community facility uses. This district is mapped primarily on Central Park South in Manhattan.
R7

R7 is a medium density apartment house district found in much of the Bronx as well as Harlem and Washington Heights in Manhattan. Other typical areas include sections of Jackson Heights in Queens. Density is between 208 and 226 dwelling units per acre; FAR ranges from 0.87 to 3.44. The higher FAR typically produces 14-story buildings with low lot coverage that are set back from the street. Parking requirements reflect the fact that, in general, most of these districts have good access to public transportation. Parking is required for 60 percent of the new dwelling units in R7-1 districts and for 50 percent of the new units in R7-2 districts. The Quality Housing Program is optional in R7 districts; on wide streets, buildings would be similar to development in R7A districts and, on narrow streets similar to development R7B districts.
Typical R-7 development
APPENDIX C

ZONING CALCULATIONS FOR ThESIS SITE

The following calculations are based on a two block reconfiguration, and are meant to demonstrate maximum, typical, existing, and proposed densities:

MAXIMUM DEVELOPMENT
representing the maximum allowable density by currently mandated zoning regulations.

TYPICAL DEVELOPMENT
representing typical density indigenous to the surrounding blocks and community associated with the site, zoning type, and district.

EXISTING DEVELOPMENT
representing the density of the existing structures currently occupying the site.

PROPOSED DEVELOPMENT
representing the projected and/or desired density of the proposed project.
R7: GENERAL RESIDENCE DISTRICT

MAXIMUM DEVELOPMENT:

TOTAL BLOCK/LOT AREA 356,500 SQ. FT.
MAXIMUM FLOOR AREA RATIO (FAR) 3.44
MAXIMUM FLOOR AREA 1,226,360 SQ. FT.
MINIMUM OPEN SPACE RATIO (OSR) 15.5%
MINIMUM OPEN SPACE AREA 55,257.50 SQ. FT.
MINIMUM LOT AREA PER ROOM 77.00 SQ. FT.
MAXIMUM ROOMS PER ACRE 565
TOTAL BLOCK/LOT AREA IN ACRES 8.19 ACRES
MAXIMUM NUMBER OF ROOMS 4,629.88
MAXIMUM DENSITY PER ACRE 226

(Dwelling units per acre based on average 2.5 zoning rooms per dwelling unit)

BLOCK/LOT MAXIMUM DENSITY 1,850.94 DU
MINIMUM PARKING PER DWELLING UNIT 50%
QUALITY HOUSING PROGRAM OPTIONAL
MAXIMUM LOTS PER BLOCK NA
MAXIMUM STORIES PER LOT NA
R7: GENERAL RESIDENCE DISTRICT

TYPICAL DEVELOPMENT:

TOTAL BLOCK/LOT AREA 356,500 SQ. FT.
TYPICAL FLOOR AREA RATIO (FAR) 4.25
TYPICAL FLOOR AREA 1,515,125 SQ. FT.
TYPICAL OPEN SPACE RATIO (OSR) 15%
TYPICAL MINIMUM OPEN SPACE AREA 53,475.00 SQ. FT.
TYPICAL LOT AREA PER ROOM 71.30 SQ. FT.
TYPICAL ROOMS PER ACRE 610.51
TOTAL BLOCK/LOT AREA IN ACRES 8.19 ACRES
TYPICAL NUMBER OF ROOMS 5000
TYPICAL DENSITY PER ACRE 244.21
BLOCK/LOT TYPICAL DENSITY 2000 DU
TYPICAL PARKING PER DWELLING UNIT NONE
(Curb-side parking only)
QUALITY HOUSING PROGRAM NONE
TYPICAL LOTS PER BLOCK 100
TYPICAL STORIES PER LOT 4-6
R7: GENERAL RESIDENCE DISTRICT

EXISTING DEVELOPMENT:

TOTAL BLOCK/LOT AREA 356,500 SQ. FT.
EXISTING FLOOR AREA RATIO (FAR) 3.15
EXISTING FLOOR AREA 1,120,000 SQ. FT.
EXISTING OPEN SPACE RATIO (OSR) 78%
(majority of open space exists as parking)
EXISTING OPEN SPACE AREA 276,500 SQ. FT.
EXISTING LOT AREA PER ROOM 142.60 SQ. FT.
EXISTING ROOMS PER ACRE 305.28
TOTAL BLOCK/LOT AREA IN ACRES 8.19 ACRES
EXISTING NUMBER OF ROOMS 2500
EXISTING DENSITY PER ACRE 122.11
BLOCK/LOT EXISTING DENSITY 1000 DU
EXISTING PARKING PER DWELLING UNIT 50%
QUALITY HOUSING PROGRAM NO
EXISTING LOTS PER BLOCK 8
EXISTING STORIES PER LOT 14
**R7: GENERAL RESIDENCE DISTRICT**

**PROPOSED DEVELOPMENT:**

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL BLOCK/LOT AREA</td>
<td>356,500 SQ. FT.</td>
</tr>
<tr>
<td>PROPOSED FLOOR AREA RATIO (FAR)</td>
<td>3.15</td>
</tr>
<tr>
<td>PROPOSED FLOOR AREA</td>
<td>1,120,000 SQ. FT.</td>
</tr>
<tr>
<td>PROPOSED OPEN SPACE RATIO (OSR)</td>
<td>37%</td>
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<td>PROPOSED OPEN SPACE AREA</td>
<td>131,250 SQ. FT.</td>
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<td>PROPOSED LOT AREA PER ROOM</td>
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<tr>
<td>PROPOSED ROOMS PER ACRE</td>
<td>305.28</td>
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<tr>
<td>TOTAL BLOCK/LOT AREA IN ACRES</td>
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</tr>
<tr>
<td>PROPOSED NUMBER OF ROOMS</td>
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<tr>
<td>BLOCK/LOT PROPOSED DENSITY</td>
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<tr>
<td>PROPOSED PARKING PER DWELLING UNIT</td>
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<tr>
<td>QUALITY HOUSING PROGRAM</td>
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<td>PROPOSED LOTS PER BLOCK</td>
<td>10</td>
</tr>
<tr>
<td>PROPOSED STORIES PER LOT</td>
<td>6-8</td>
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APPENDIX D

SOUTH BRONX CHURCHES
*NEHEMIAH PROGRAM

* The Nehemiah Program is named after the Biblical prophet who rebuilt the walls of Jerusalem during the Restoration after the Babylonian exile.
PROJECT SUMMARY FACT SHEET

Number of Units: 900
Gross Project Replacement Costs: $85,500,000; Per Unit: $65,000

Sponsor/Developer: South Bronx Churches Sponsoring Committee, Inc.
230 Alexander Avenue
Bronx, New York 10454
212 402-3676

Community Advisory Group: South Bronx Churches Sponsoring Committee, Inc.

Housing Company/Grantee: South Bronx Churches Sponsoring Committee, Inc.

General Contractor: Morris Reme, MRLS Construction Co.
Midland Park, NJ
201 447-3377
(Mr. Reme was also the contractor for Brooklyn Nehemiah)

Architect: James T. Martino, RA
Hickville, NY
516 933-7550
Consultant: I. D. Robbins
Nehemiah Homes
285 Lott Avenue
Brooklyn, NY 11212
718 346-2929

Development Plan: The development will consist of groups of eight two- and three-bedroom, two story, single family houses. There will be no more than 40 houses to the acre on landscaped sites, each site separated and laid out by the architect to emphasize "garden" quality. One parking space will be provided for each unit. Except where geological conditions prohibit it, all houses will have a full basement.

Financing Plan: Permanent financing will be provided by the state of New York Mortgage Agency (SONYMA) at below market rates. Construction financing will be provided without interest by a consortium of individuals and church judicatories who participate in a four million dollar Nehemiah Trust established for this purpose.

A second mortgage of $15,000 per house will be provided by the City of New York. A UDAAP will provide tax exemption on the homes for 10 years. After 10 years, a progressive scale of taxation will occur, until there is full taxation after 20 years.
NEHEMIAH PROJECT NARRATIVE SUMMARY

The purpose of the South Bronx Churches Nehemiah Program is to rebuild the South Bronx through enabling working families to become homeowners. The first phase of the project involves the construction of 540 single-family homes and condominiums over the next two to three years. To date 750 applications have been submitted through member congregations of South Bronx Churches. Over two thirds of the applicants now live in public housing. When these families move into their own homes, a significant number of public housing units will be made available for homeless families.

The South Bronx Nehemiah Project will be modeled on a similar successful project in Brownsville and East New York (Brooklyn) in which 2,300 homes have been built, and whole neighborhoods brought back to life. South Bronx Nehemiah Homes will be built on lots in the South Bronx which have been rubble for twenty years. The homes will be approximately 1200 square feet, have two or three bedrooms, a basement, and a small yard.

South Bronx Nehemiah Homes will be affordable to the ordinary working families of the South Bronx. The minimum annual income is $18,000; the maximum is $56,000, in accordance with SONYMA requirements. The homes will be built at a cost of $65,000, but this will be reduced by a $15,000 second mortgage from the City of New York. Thus, the homes will have a purchase
price of $50,000. Monthly payments for Nehemiah homes will be between $400 and $500.

Construction financing for South Bronx Nehemiah Homes will come from a $4 million trust fund loaned at no interest by the denominations active in the South Bronx Churches and individuals. Present members of the Trust now include: St. James Episcopal Church, Trinity Wall Street Episcopal Church, the Evangelical Lutheran Church in America (ELCA), and individual lenders who wish to remain anonymous. The two Episcopal churches have each loaned $1 million at no interest; the ELCA has given South Bronx Churches a grant of $500,000 to be used to pay interest on a commercial loan of $1 million over several years; the individual contributions to the Trust now total $300,000.

The South Bronx Nehemiah Trust, made up of participating lenders, controls all construction financing, and all construction costs are paid from the Trust. When the homes are sold, the Trust is replenished. The Trust will cycle approximately 7 times during the two to three year course of the project. All principle will be returned to the lenders at the completion of the project.
THE NEHEMIAH CONCEPT

During the past six years, 2,300 homes have been built in East New York and Brownsville, Brooklyn utilizing the "Nehemiah Concept." This concept includes the following:

1. Ownership by families: By keeping the cost of homes within the reach of the "working poor" families (the minimum combined income required is $18,000) approximately 8000 men, women and children have developed equity in East Brooklyn. To prevent speculation, buyers must certify that the house will be the family's only residence and the house may not be rented to others.

2. Scale: The rebuilt neighborhoods are designed to bring together enough families in a nearly contiguous area to rebuild the concept of community. In East Brooklyn, bringing families together around home ownership has promoted drug and crime-free communities.

3. Space and livability: The Nehemiah Concept stresses that what is affordable must also be livable. Thus in Brooklyn and in the Bronx, the focus is not on numbers but on lower density. High density has been proven to be favorable to communities of high income persons, but it increases social isolation and is devastating to the poor.
4. No interest Nehemiah Construction Trust: Construction financing is provided on a revolving basis by a Trust Fund of four to seven million dollars. The Trust moneys come from church judicatories and private individuals committed to rebuilding New York City. The Trust is replenished at the time of sale and all principle is returned to lenders at the conclusion of the project. The Brooklyn Nehemiah Project is currently in the repayment phase. There have been no defaults among Nehemiah Home buyers.

5. Block construction and sales: Nehemiah Homes are built, sold and occupied on a block-by-block basis (30 to 70 units). When a block is completed, the next purchasers on the list are contacted sequentially, and each selects the preferred house among those available. Construction on a subsequent block begins when the prior block is nearing the completion of the selling phase. Money from sales replenishes the construction financing trust.

6. Post-construction support: The broad-based community support required to initiate Nehemiah Projects continues after the families have moved into their new homes. For all purchasers, their Nehemiah Home is their first experience of home ownership. To make the transition from tenant to owner requires sustained training and hard work. A powerful Homeowners Association is formed and trained by the sponsoring agencies (East Brooklyn Congregations and South Bronx Churches). The continuing active involvement of homeowners in public life is essential to maintain and strengthen the new Nehemiah neighborhood.
DEVELOPMENT PLAN

The South Bronx Nehemiah Project will consist of groups of eight two- and three-bedroom, two story family houses and three-story twelve-unit condominiums. Each unit will have a separate entrance and there is no shared public space. One parking place will be provided per unit. Density will be no more than 40 homes per acre.

The South Bronx Churches Nehemiah Plan will be built in two phases, both of which have been successfully negotiated between South Bronx Churches and the New York City Department of Preservation and Development. The first, designated St. Mary's North, involves the construction of 540 homes and condominiums on nineteen non-contiguous sites between 161st Street on the north, St. Mary's Park on the south, Brook Avenue on the west and Prospect Avenue on the east. No relocation is required and all St. Mary's North sites are pre-zoned to meet the requirements of Nehemiah Homes. The St. Mary's North Plan was passed by the City Council in early 1991. Construction is scheduled to begin in July or August 1991, and the duration of the project will be approximately 30 months.

The second phase, St. Mary's South, involves the construction of at least 400 Nehemiah Homes on site south of St. Mary's Park. No relocation is required, but some of these parcels require zoning changes, a process which was begun
when the first phase was approved by the City Council. Construction on St. Mary's South will commence as construction on St. Mary's North nears completion.

All sites are cleared to grade by the City of New York. Utilities, including gas, electric, sewers and water are immediately available adjacent to the sites. No changes in street mapping are required.
MARKETING

The South Bronx Nehemiah Plan was generated by the cooperative action of over thirty congregations of various denominations in the South Bronx. For many of the working poor, the Church is the only institution of affiliation. It took nearly two years for the groundwork to be prepared for Nehemiah. Countless organizational meetings in homes and churches were required, and over 100,000 signatures were acquired on petitions circulated by church members in support of Nehemiah housing. Long negotiations with two city administrations, Community Boards and the Bronx Borough President involved hundreds of South Bronx residents. The eventual approval of the Nehemiah Plan by the City Council in 1991 was a tremendous community success and it is from this community that most of the owners of Nehemiah Homes will come.

Because of the community involvement in creating Nehemiah Homes and the extreme need for affordable housing in the South Bronx, the Nehemiah Homes are essentially pre-sold.

Applications for Nehemiah Homes were first available on January 27, 1991. Applications were distributed through member churches of the South Bronx and through the South Bronx Churches office. Public announcement of the availability of applications was made in El Diario, The New York Times, Newsday and the Amsterdam News.
The first deadline for applications closed on February 6 with 471 applications submitted. A drawing to determine order of application review and loan processing was held on February 8. Applications submitted after February 6 are being reviewed on a first-come first-served basis after the initial 471 applicants. Currently there are over 740 applications at the South Bronx Nehemiah Office. The application process is still open because inevitably some applicants will fail to qualify and because of the likelihood that phase two of the project, St. Mary's South and 400 additional homes, will soon be approved.
PURCHASING FINANCING

The construction cost of each Nehemiah Home is $65,000. Subject to credit qualifications, buyers of Nehemiah Homes receive a mortgage through the State of New York Mortgage Agency (SONYMA). In addition, each buyer receives a second mortgage of $15,000 from the City of New York. This provision is quite different from other construction projects in the Bronx in which the developer receives City and State subsidies. With Nehemiah, the buyer receives direct support.

The second mortgage from the City of New York brings the purchase price to $50,000. A minimum down payment of $5,000 is required. With the minimum down payment and a thirty-year mortgage, the average monthly payments will be between $400 and $500.

Purchasers of condominiums will pay an additional $3000 one-time fee to establish a perpetual maintenance fund. This fee may be extended over the term of the mortgage.

Under UDAAP provisions, Nehemiah Homes will be exempt from property taxes for ten years. After ten years, a progressive scale of taxation will occur, until there is full taxation after 20 years.
CONSTRUCTION FINANCING: THE SOUTH BRONX NEHEMIAH TRUST

The purpose of the Nehemiah Trust is to establish a financial resource of at least four million dollars for construction costs of Nehemiah Homes in the South Bronx. The Trust is made up of grantors who agree to loan funds at no interest to provide construction financing for South Bronx Nehemiah Homes. Currently the members of the Trust are: Trinity Church (Wall Street), St. James Episcopal Church, the Evangelical Lutheran Church in America, and two individual lenders who wish to remain publicly anonymous. St. James Church and Trinity Church have each provided $1 million; the Evangelical Lutheran Church has provided a grant of $500,000 to be used for interest payments over several years on a commercial loan of $1 million and the individual donors together have provided $300,000. Additional individuals and organizations may join the Nehemiah Trust.

Chase Manhattan Bank has agreed to provide a loan of $1 million and an additional line of credit for $1 million, if needed during the course of construction. Both the loan and the line of credit are at Chase Prime Floating interest rate.

Each grantor of $1 million appoints one Trustee. Grantors of less than $1 million are considered advisory members of the Trust and may participate on
Trust Committees. The Trustees have the full responsibility for the management, receipt and disbursement of all moneys received by the Trust. The initial Trustees are: Ms. Mildred M. Berg (ELCA), Mr. E. Thomas Williams (Trinity Church) and Mr. George A. Fowlkes (St. James Episcopal Church).

The Nehemiah Trust is solely for the purpose of interim construction financing and not for long or short-term owner purchase money financing. Funds are disbursed by the Trust subject to review of expense and construction completion vouchers on a weekly basis. Professor Eric Walther of Brooklyn Polytechnic Institute is the inspector for the Trust, and Chase Manhattan Bank has also indicated that they will have an independent inspector. The Trust is replenished at the time of sale of each house, insuring adequate funding for the block-by-block construction of the Nehemiah Homes.

At the completion of the Nehemiah Project, each grantor will receive in full the original and any other subsequent contribution to the Trust. Church bodies now in the Trust have agreed to a maximum five-year term for the Trust; individual donors have agreed to an annual review of their participation for up to three years.
"INVESTMENT" OPPORTUNITIES IN THE SOUTH BRONX NEHEMIAH PROJECT

The South Bronx Nehemiah Trust currently has a balance of $3.3 million, and a $1 million line of credit with Chase Manhattan Bank. In order to minimize drawing on the Chase line of credit and incurring associated interest costs, the South Bronx Churches Sponsoring Committee is seeking at least $700,000 in additional no-interest loans to the Trust.

Individuals, Corporations and religious organizations are invited to participate in the South Bronx Nehemiah Trust by loaning at no interest at least $100,000 to the Trust for construction financing of Nehemiah Homes in the South Bronx. The loan will be repaid in full at a date agreed upon between the South Bronx Churches Sponsoring Committee and the lender. Currently the terms range from one-year with an option to renew to a maximum of five-years. Loans of $1 million will allow the lender to name a voting Trustee to the Nehemiah Trust. Lenders of less than $1 million will serve as advisors to the Trust, and may serve on Trust Committees.

While not a profit-making investment, participation in the South Bronx Nehemiah Trust can provide the satisfaction of being an integral part of rebuilding the South Bronx for the working poor. Certainly interest in the form
of a revitalized South Bronx with hundreds of houses for South Bronx families is more valuable in the long term than traditional interest payments in cash.

If you wish to participate in the South Bronx Nehemiah Trust, if you have further questions, or if you want to visit the Brooklyn Nehemiah Project, please call Mr. Jim Drake at South Bronx Churches: 212 402-3676.
SOUTH BRONX CHURCHES

South Bronx Churches, a 501(c)(3) organization affiliated with the Industrial Areas Foundation, is a broad-based community organization made up of 37 congregations of varying denominations. Current members represent Catholic, Episcopal, Lutheran, Baptist, Methodist, Pentecostal, Evangelical and Moslem congregations. The focus of the South Bronx Churches is leadership training for active participation in public life: issues which impact the quality of life for families and individuals living, worshipping and working in the South Bronx. Since its inception in 1986, South Bronx Churches has been involved in public actions related to improving health care, education, accountability of elected officials, public housing, community policing and housing rehabilitation and construction in the South Bronx.