

MANHATTANVILLE NEIGHBORHOOD CONDITIONS STUDY

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Executive Summary

ES1 Introduction

In January 2008, Carter Ledyard and Milburn LLP, acting on behalf of the New York State Empire State Development Corporation (ESDC), requested Earth Tech, Inc. to perform an independent review or “audit” of the report *Manhattanville Neighborhood Conditions Study* (November 1, 2007) prepared by AKRF, Inc. The AKRF study was commissioned by the ESDC to evaluate conditions in a study area approximately coterminous with the area proposed for a new campus by Columbia University in the Manhattanville section of Manhattan. The area has since (12/19/07) been rezoned by the City from its former manufacturing zones (M1-2, M2-3 and M3-1) to a new Special Manhattanville Mixed Use District (with C6-1 and C6-2 zoning).

The study area covers approximately 17-acres in a six-block study area bounded by Twelfth Avenue to the west, Broadway and Old Broadway to the east, West 133rd Street and W.134th Street to the north, and West 125th Street to the south (see Figure ES-1 - Study Area).

The AKRF report’s major findings are that the study area is mainly characterized by aging, poorly maintained, and functionally obsolete industrial buildings, with little indication of recent reinvestment to reverse their generally deteriorated conditions, particularly in industrial properties.

During February to April 2008, Earth Tech has independently reviewed the *Manhattanville Neighborhood Conditions Study* prepared by AKRF, including its Appendix B incorporating the findings of the engineering firm Thornton Tomasetti, detailing the structural condition of buildings in the study area. As part of this review, Earth Tech inspected the 67 tax lots that comprise the study area, assessing each in terms of their structural and physical characteristics, and surveyed the study area, noting current land uses, vacancies, and the neighborhood’s visual conditions. In addition, Earth Tech conducted various searches of public data bases on environmental contamination, Building Code violations, and ownership records. Earth Tech has compared its own findings with those of AKRF and Thornton Tomasetti.

ES2 Findings

Earth Tech’s independently arrived at findings substantially confirm those of AKRF and Thornton Tomasetti, and although some features in the neighborhood have been stabilized in the interim (e.g., replaced sidewalks), Earth Tech has in several instances downgraded particular buildings that appear to have further deteriorated since the prior inspections. Earth Tech now rates 37 sites (or 55 percent) as in critical or poor condition (as shown in Figure 11 – Lot Conditions, and documented by individual lot in Chapter 3 of this report). The AKRF report had earlier defined 34 lots (51 percent) as in critical or poor condition.

Chapter 2 of this report reviews a variety of factors describing the conditions in the study area. Beginning with land use, Earth Tech documents the land uses in the neighborhood, noting the dominant uses as auto-transportation, light industry and warehouse, which together account for 72 percent of the occupied lots; a pattern reflective of its historic manufacturing zoning. There are no public open spaces, only two small religious institutions, and seven residential structures, two of which are presently vacant. There are also only a handful of retail businesses, located at the periphery of the study area on Broadway and Twelfth Avenue.

The dominant land uses, particularly the auto-repair shops, generate a severe wear-and-tear on the neighborhood's infrastructure, as well as on the individual lots at which they operate. The service and storage of vehicles and auto repair and painting has a prolonged history of careless maintenance, frequently creating health and safety concerns. One example is the common use of sidewalks as vehicle storage and sales space, adding to visual clutter, as well as creating safety hazards for pedestrians forced into the street. Particularly after dusk, the area is not conducive to pedestrians, thereby isolating it and the surrounding community from the West Harlem Piers Park along the Hudson River.

Other former industrial uses include manufactured gas, chemicals, electronics and other operations with hazardous components. This legacy of historic industrial use combines with over a century of indiscriminate urban-fill during the area's transportation and industrial dominance, presenting inherent concerns with the study area's environmental contamination. Severely contaminated lots require extensive capital investment in order to be redeveloped.

The long-standing lack of investor interest in the neighborhood is fundamentally reflected in the few buildings constructed since 1961, only three: the MTA's Manhattanville bus depot, a gas station, and a small UHaul truck rental structure (now vacant). A second indicator of demand - utilization of a site's potential zoning bulk - similarly exhibits low utilization rates, with only 43 percent of lots reaching 60 percent of the permitted floor area under the former manufacturing zoning. A third indicator of limited demand is the degree to which sites and buildings are vacant. Of the 67 lots, 13 lots have buildings that are entirely vacant; and a further 6 buildings are over 50 percent vacant. Thus 19 lots (28 percent) have total or major vacancies.

A related indicator of declining investment is the extended neglect of building maintenance, evidenced in the condition ratings of many buildings in the area and the numerous photographs in this report, but also by the surfeit of open Building Code violations on properties in the study area. As of July 2006, there were 410 open violations, applied to 51 (or 75 percent) of the 67 lots. Typical violations include: using upper floors for parking without permit; lack of building maintenance, applicable to walls, windows, ceilings and floors; blocked or non-existent fire exits; a lack of fire retardant building materials; failure to maintain boilers; and failure to maintain elevators. Many of these violations are seriously hazardous to the safety of employees and the public.

Study Area



 Study Area Boundary

Review of Manhattanville Neighborhood Conditions Study

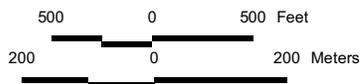


Figure ES-1

Source: NYC Department of City Planning, 2007.

Underutilization and a lack of investment are often associated with other factors, such as the size and configuration of lots, and a multiplicity of ownership. When parcels are too small for the demands of modern businesses, and assembly of appropriately sized properties is difficult for investors, they will look elsewhere. The study area has 26 lots (39 percent) with areas of less than 5,000 sq. ft. and only 18 lots (27 percent) with 10,000 sq. ft. or more. The area has been a jumble of small parcels in diverse ownership, inhibiting its effective redevelopment for more than 60 years.

The consequence of these converging problems has been a significant deterioration in the conditions of buildings and their lots. The earlier inspections by Thornton Tomasetti and AKRF had rated 12 sites (18 percent) in critical condition, and a further 22 sites (33 percent) in poor condition. They rated only six sites (9 percent) as good; and the remaining 27 sites (40 percent) as fair. Earth Tech generally found the same conditions and rated them similarly to the AKRF report in the great majority of cases. However, Earth Tech downgraded four of the lots: one from good to fair, and three from fair to poor, reflecting deteriorating conditions since the prior inspections. Earth Tech rates 12 sites (18 percent) in critical condition, 25 (37 percent) in poor condition, 25 (37 percent) in fair condition, and 5 (7 percent) in good condition. Thus, Earth Tech rates 37 sites (55 percent) in critical or poor condition.

The great majority of these buildings' structural distress and deficiencies is caused by the age of buildings, the heavy-use applied to them, and the chronic neglect of maintenance. The lack of proper maintenance has allowed water infiltration of building walls and interiors, particularly from poorly functioning roof and drain systems. Large cracks, missing or loose bricks, deteriorated lintels and window sills, deteriorated columns and beams, cracked and spalled floor slabs, deteriorated floors and ceilings are the frequent consequence of this neglect, as documented in Chapter 3 of this report.

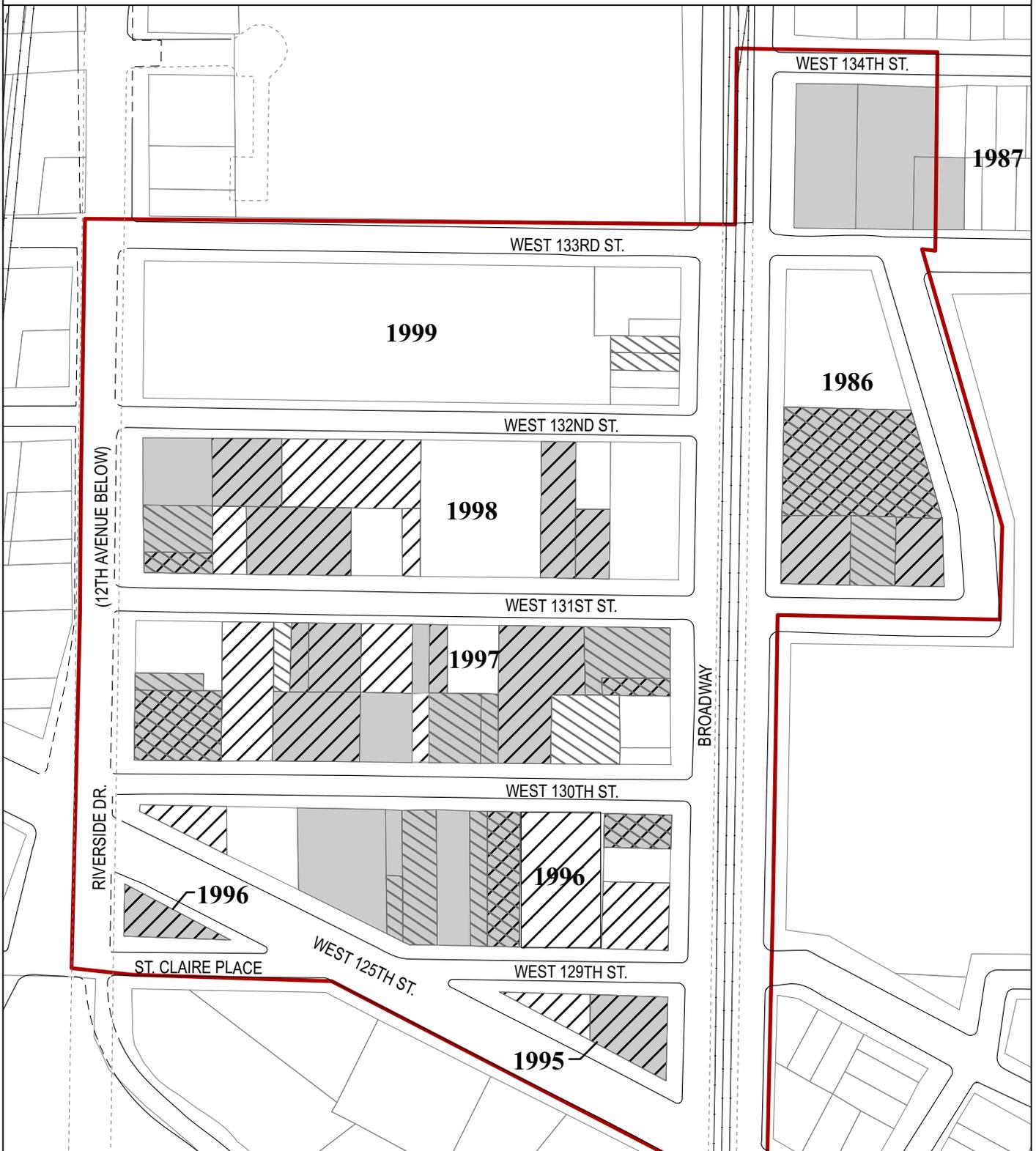
Many of these deficient structural conditions are intrinsically serious threats to the health and safety of building occupants and the public. However, they are frequently exacerbated by additional careless behavior, such as inadequate or inoperable fire exits, haphazardly installed electrical wiring, elevators and boilers with safety concerns, painting vehicles without proper ventilation, unsanitary conditions, and broken and deteriorated sidewalks. The surfeit of 410 open Building Code violations in the area represents only a portion of the problematic and unsafe conditions exhibited at many of the sites in the study area.

Figure ES-2 - Overview of Substandard Condition, combines Earth Tech's findings with respect to: site conditions' ratings (as poor or critical); sites' underutilization (60 percent utilization of less); and vacancies (50 percent or more). The figure shows the prevailing pattern and concentration of these problems throughout the study area, with the exception of Block 1999, between W.132nd and W.133rd Streets, where the MTA bus depot is located.

ES3 Summary

The Manhattanville study area has been examined by Earth Tech and shown to present a series of substandard and deteriorated conditions applicable to a majority of its buildings and lots. These individual lot conditions aggregate to a set of neighborhood conditions exhibiting a prolonged pattern of disinvestment and neglect. The visual conditions of the area present bleak streetscapes lacking windows and transparency, ubiquitous roll-down gates, frequent graffiti and garbage, and an almost complete lack of trees and vegetation. The former and existing activities dominant in the neighborhood have created a series of negative spillovers, presenting a blighted and discouraging impact on the surrounding community, and creating serious concerns for the health and safety of the area's employees, visitors, and the general public.

Overview of Substandard Conditions



Study Area Boundary

Site Utilization 60% or Less

Vacancy 25% or More

Poor or Critical Lot Condition

Block Number
1999

Review of Manhattanville Neighborhood Conditions Study

150 0 150 Feet
 50 0 50 Meters



Source: Based on evaluations by Earth Tech, April 2008.

Figure ES-2

1. INTRODUCTION

In January 2008, Carter Ledyard and Milburn LLP, acting on behalf of the New York State Empire State Development Corporation (ESDC), requested Earth Tech, Inc. to perform an independent review or “audit” of the report *Manhattanville Neighborhood Conditions Study* (November 1, 2007) prepared by AKRF, Inc. This AKRF study was commissioned by the ESDC to evaluate physical and other current conditions in a study area approximately coterminous with the area proposed for a new campus by Columbia University in the Manhattanville section of Manhattan (see Figure 1 Study Area).

AKRF is a major environmental planning firm based in New York City that also prepared, on behalf of the NYC Planning Commission, the Environmental Impact Statement (EIS) for the proposed Columbia University expansion: *Proposed Manhattanville in West Harlem Rezoning and Academic Mixed Use District*.¹

The AKRF *Manhattanville Neighborhood Conditions Study* addresses conditions in the approximately 17-acre, six-block study area bounded by Twelfth Avenue to the west, West 133rd Street to the north, Broadway and Old Broadway to the east, and West 125th Street to the south (see Figure 1). The AKRF report made major findings that the study area exhibited:

“Physical conditions in the study area are mainly characterized by aging, poorly maintained, and functionally obsolete industrial buildings, with little indication of recent reinvestment to reverse their generally deteriorated conditions, particularly in industrial properties.” (Executive Summary, p.i).

Earth Tech has carefully and independently reviewed the *Manhattanville Neighborhood Conditions Study* prepared by AKRF, including its Appendix B incorporating Thornton Tomasetti’s findings that detail the structural condition of buildings in the study area. As part of its review during February to April 2008, Earth Tech inspected the 67 tax lots that are the AKRF report’s focal subject². During this same period, Earth Tech surveyed the same study area and noted current land uses, vacancies, and the neighborhood’s visual conditions.

In addition, Earth Tech conducted various searches of data bases, including: the New York City Department of Finance *Automated City Register Information System* (ACRIS); NYC Department of Building *Building Information Systems*; US Environmental Protection Agency’s *Window To My Environment* (WME); NYS Department of Environmental Conservation’s (DEC) *Environmental Navigator*, and its Division of Environmental Remediation, *Environmental Site Database Search*; and NY Police

¹ The EIS may be found at: http://www.nyc.gov/html/dcp/html/env_review/manhattanville.shtml

² Thornton Tomasetti omitted Block 1999 Lot 1, the NYC Transit Manhattanville Bus Depot. Earth Tech, examined the exteriors of all 67 lots/buildings, and was allowed access to examine the interiors of 49 of these buildings.

Department, Office of Management, Analysis, and Planning (OMAP), Crime Analysis Program Planning Section for the relevant precincts and sectors.

In the year plus since the Thornton Tomasetti and AKRF surveys, certain conditions in the study area have changed. The City has adopted the proposed C6-1 Special Manhattanville Mixed Use District zoning for the neighborhood (12/19/07). Columbia University continues to purchase additional properties³, and to stabilize recently purchased buildings/lots in critical condition. Some owners, e.g., Tuck-it-Away, Inc. have recently painted their buildings, and some sidewalks have been replaced. On the other hand, conditions at several properties continue to deteriorate for lack of maintenance, posing health and safety concerns to the public and employees; while new and necessary safety features, e.g., sidewalk sheds to protect pedestrians from falling masonry, add to the clutter, gloom and overall substandard neighborhood conditions. Building Code violations continue to accumulate in the study area, the Fire Department has closed additional buildings, and many properties continue to suffer from extensive vacancies. As a result of the recent rezoning and on-going property acquisition by Columbia, there appears to be concern with change in the neighborhood, as evidenced by large-scale billboards placed by a few owners resistant to the use of public eminent domain powers in the redevelopment of the neighborhood.

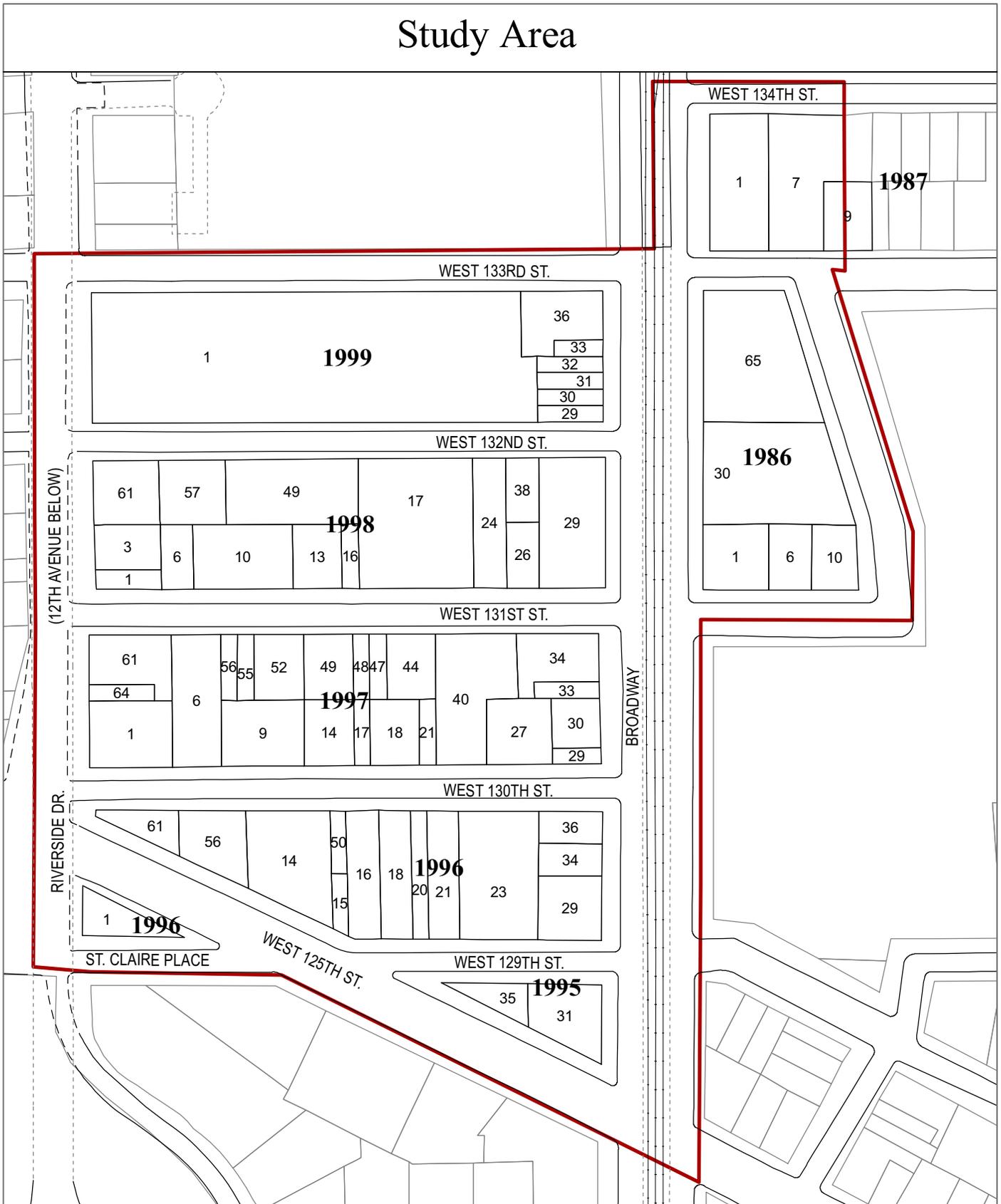
Earth Tech has surveyed the neighborhood and presents its findings with a focus on the neighborhood's existing conditions. The AKRF report provided an extensive section and research on the *Historic Context* of the neighborhood, including a review of recent planning and policy initiatives. Earth Tech, however, has not replicated AKRF's research on these historic elements, accepting the validity of AKRF's findings.

Earth Tech's findings are presented under two broad subject headings: first, a review of general current Neighborhood Conditions, and second, a detailed review of current Building Conditions.

The Building Conditions section provides an evaluation of each individual parcel's structural, and health and safety conditions, supplemented by documentary photographs. Site evaluations include the exterior assessment of all lots in the study area and of the interior of the 49 lots where Earth Tech was granted permission to inspect them. The individual properties are further assessed in terms of building code violations, environmental concerns, and general land use and ownership characteristics.

³ As of February 2008, Columbia University owns 39 tax lots and has a further 11 under contract.

Study Area



 Study Area Boundary

1997 Block

1 Lot

Review of Manhattanville Neighborhood Conditions Study

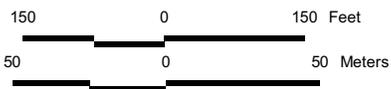


Figure 1

Source: NYC Department of City Planning MapPluto, 2007.

2. NEIGHBORHOOD CONDITIONS

This section of the report presents a review of neighborhood conditions in Manhattanville, as defined by the study area shown in Figure 1. The various subsections address the related topics of:

- Zoning and land use;
- Neighborhood isolation and visual conditions;
- Underutilization and vacancies;
- Building Code violations;
- Environmental contamination; and
- Overview of neighborhood conditions.

2.1 Zoning and Land Use

2.1.1 Manufacturing Zoning

When AKRF wrote its report, the zoning in the study area was split among three manufacturing districts: M1-2, M2-3 and M3-1. The permitted building bulk or floor area ratio (FAR) for all three districts is 2.0 (or twice the area of the lot). The largest portion of the study area was zoned M1-2 (see Figure 2 - Former Manufacturing Zoning). Industrial uses were permitted in each of the districts, with performance standards for noise, air pollution and traffic greater in M1 districts, and much less so in M3 districts. M1 districts are typically buffer zones between residential districts and M2 and M3 industrial districts.

Permitted uses in M1 districts include: light industry such as woodworking, auto storage and repair, and wholesale storage. Offices, houses of worship, and most retail uses are also permitted (except that food stores require a special permit from the City Planning Commission). Ordinarily, residences are not permitted in manufacturing districts.⁴ M1-1 districts also require off-street parking for employees/customers. M2 districts are a middle-ground between high and low industrial performance standards, and are often located adjacent to waterfronts. The same list of uses is permitted in M2 as in M1 districts, again with required parking. M3 districts permit heavy industrial uses, such as power plants, waste transfer stations and fuel supply depots; off-street parking is also required for M3-1 districts.

2.1.2 Special Manhattanville Mixed Use District

Since the AKRF report, the City has rezoned the entire study area to C6-1 as part of the Special Manhattanville Mixed Use District (MMU). The study area is coterminous with the rezoned area designated as Subdistrict A – the Academic Mixed Use Area (see Figure 3 - Special Manhattanville Mixed Use District). Other subdistricts in the MMU are: Subdistrict B - the Waterfront Area, west of 12th Avenue to the waterfront; and

⁴ Certain new mixed-use districts, e.g., an M1-5M district, now permit residences

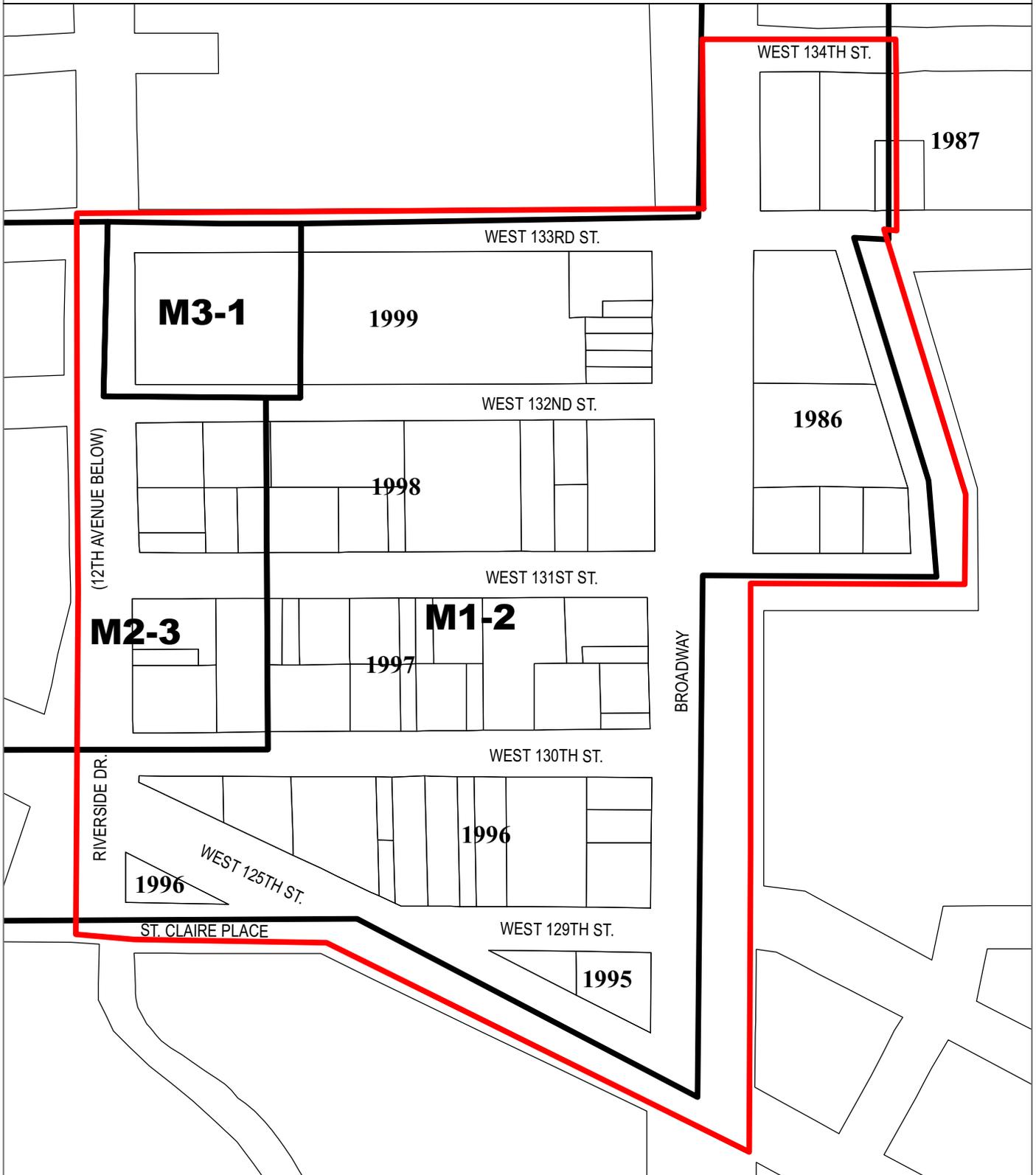
Subdistrict C – the Mixed Use Development Area along the eastern blockface of 12th Avenue between W. 133rd Street and W. 134th Street. Two “Other Area” designations apply to the waterfront park area west of Subdistrict B, and the eastern blockface of Broadway between W.134th Street and W. 135th Street. The goals of the new zoning are cited as:

1. encourage the development of a mixed use neighborhood that complements a revitalized community-oriented waterfront;
2. support a variety of community facility, commercial and manufacturing uses;
3. provide opportunities for the expansion of large academic, scientific and mixed use facilities in a manner that benefits the surrounding community;
4. strengthen the retail and service character and economic vitality of the neighborhood by encouraging ground floor uses along Broadway, W. 125th Street, and 12th Avenue;
5. facilitate the maximum amount of design flexibility while fulfilling the goals of the mixed use district;
6. improve the physical appearance of the streetscape by providing and coordinating harmonious open space, sidewalk amenities and landscaping within a consistent urban design;
7. strengthen the visual corridors along W. 125th Street and other east-west corridors that connect the community to the waterfront;
8. expand local employment opportunities;
9. recognize, preserve and promote the existing historic transportation infrastructure of the neighborhood; promote the most desirable use of the land in this area and thus conserve the value of land and buildings, and thereby protect the City’s tax revenues.

(New York City Planning Commission, *Zoning Resolution, Article X, Chapter 4* 12/19/07)

The new MMU district applies to all developments, enlargements, changes of use within the district, and seeks, among other elements, to mandate widened sidewalks, specify street wall types, ground floor uses, designate building heights, and provide for open areas. Student dormitories are permitted (although only when certified by an architect or engineer when they share a common wall with a use listed as Use Group 16, 17, or 18 - as specified under MMU Section 104-12). Normal C6 bulk requirements are modified, including: a maximum FAR of 6.0 for community facility and for commercial uses, except for Use Groups 16, 17 and 18, which are FAR 2.0; permitted industrial uses are also kept at FAR 2.0; residential uses in Subdistrict A are limited to an FAR of 3.44.

Former Manufacturing Zoning



-  Study Area Boundary
-  Pre-Approved Zoning Boundary

M1-2 Zoning Designation

Review of Manhattanville Neighborhood Conditions Study

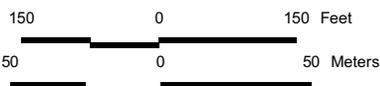
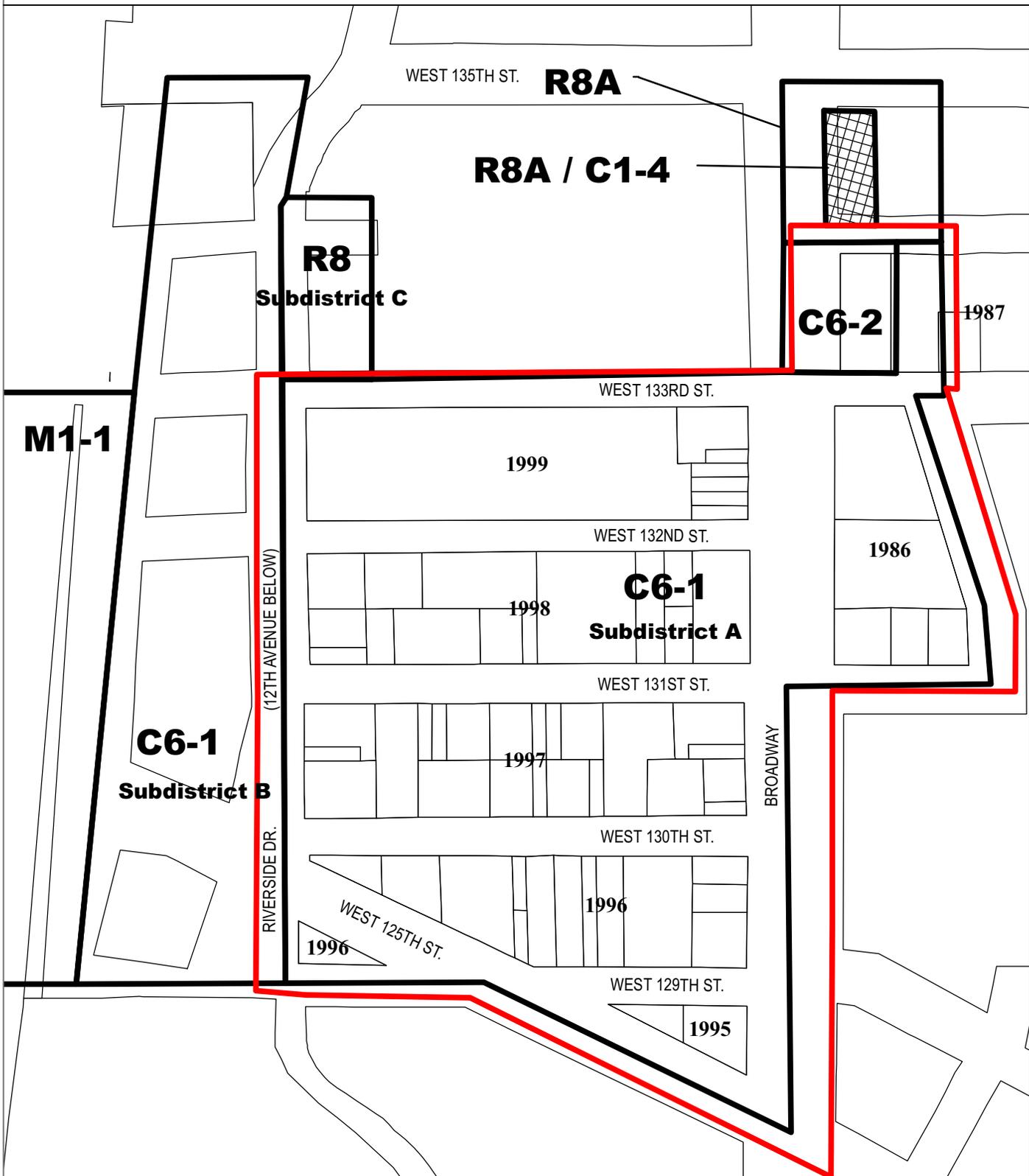


Figure 2

Source: NYC Department of City Planning Zoning Resolution.

Current Zoning



-  Study Area Boundary
-  Approved Zoning Boundary
-  C1-4 Overlay

M1-2 Zoning Designation

Review of Manhattanville Neighborhood Conditions Study

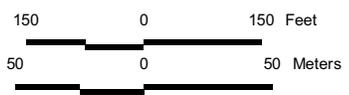


Figure 3

Source: NYC Department of City Planning Zoning Resolution.

Article X, Chapter 4 of the Zoning Resolution details the purposes and rules applicable to this new special district.

2.1.3 Existing Land Use

While the new MUU zoning will shape the study area in years to come, its existing pattern is the result of its past zoning, initially as an “Unrestricted” area in the City’s original 1916 zoning, and subsequently as various manufacturing zones. Beginning as a commercial waterfront village, Manhattanville developed into a thriving industrial district in the late 19th Century. Its excellent transportation access, located on the Hudson River rail line and with a ferry service to New Jersey, led its commercial activities to focus on perishable foods, especially dairy and meat packing. Additional transportation elements further enhanced the area: with the IRT subway on Broadway in the early 20th century; the George Washington Bridge opening in 1931; and the Henry Hudson Parkway in the 1930s.

After World War I, a series of emerging auto manufacturers concentrated in the area with their showrooms, sales and service operations, including Chevrolet, Buick, Studebaker, and Nash, developing the area’s reputation as “automobile row”. Garages and gas stations gradually replaced the neighborhood’s earlier stables, other warehouse, and industrial activities. The area’s high point was in the 1940’s, after which the new dealers were increasingly replaced by used-car dealers and small auto repair shops. Other small industrial uses moved in. Meanwhile the ferry service became obsolete and trucking took over much of the rail-based activity. By the 1960’s industrial activity was on the wane throughout New York City. In Manhattanville, the dairy and meat-packing were slowly replaced by other uses, including the moving and storage businesses, wholesale supply firms, parking lots and garages, and gas stations prevalent in the area today.

The Department of City Planning’s MapPluto geographic information system is the basis of the map shown as Figure 4 - Land Use. When the study area (insert in Figure 4) is compared to the surrounding land uses in Harlem, Morningside Heights and Hamilton Heights, it shows up as a distinct pocket with its industrial (purple) and transportation-related uses (grey), uses which are otherwise relatively scarce in the surrounding residential, commercial and institutional areas.

The City’s MapPluto land use classification is relatively broad for certain categories, e.g., it does not differentiate between retail and office commercial. In order to provide greater clarification, Table 1 classifies land uses in more detail based on Earth Tech’s recent field surveys. In particular, the table identifies auto-related uses and warehouses as separate categories. These more detailed, and more current, data are also presented as an additional figure for the study area (see Figure 5 - Existing Land Use in Study Area). The figure shows a variety of land uses in the study area, but with a predominance of light industrial and auto-related uses.

There are thirteen vacant buildings in the study area (19 percent), therefore there are 54 occupied lots or 81 percent of the total

Table 1
Existing Land Uses in Study Area

No.	Block	Lot	Ground Floor	Upper Floors
1	1986	30	Vacant Building, Vacant Lot	N/A
2	1986	1	Gas Station, Auto Related	N/A
3	1986	10	Auto Repair	N/A
4	1986	6	Auto Storage	Vacant Office (2nd-4th floors)
5	1986	65	Parking	Office (2nd-7th floors)
6	1987	1	Retail	Parking Garage (roof)
7	1987	7	Parking Garage, Retail, Auto Repair	Auto Related (2nd floor)
8	1987	part 9	Auto Repair	Auto Related (2nd floor)
9	1995	31	Retail, Restaurant/Bar/Bakery	N/A
10	1995	35	Gas Station	N/A
11	1996	18	Parking Garage, Auto Repair	Parking Garage (2nd-3rd floor)
12	1996	20	Vacant, (former dry cleaner)	Commercial Art Studios (3rd floor)
13	1996	36	Vacant Building, Auto Storage in remaining lot area	N/A
14	1996	1	Night Club	Night Club (2nd floor)
15	1996	16	Vacant	Parking Garage (2nd floor)
16	1996	21	Vacant Building (former Auto Repair)	N/A
17	1996	50	Industrial (Building Contractor)	Industrial (2nd floor)
18	1996	14	Office	Office (2nd-4th floors)
19	1996	15	Vacant Building	Vacant (2nd floor)
20	1996	23	Open Parking	N/A
21	1996	29	Gas Station, Auto Repair, retail	N/A
22	1996	34	Self Storage	Storage (2nd-6th floor)
23	1996	56	Self Storage	Storage (2nd-3rd floor)
24	1996	61	Gas Station, Car Wash	N/A
25	1997	1	Vacant Building and Auto Repair	N/A
26	1997	18	Vacant Buildings	Vacant (2nd-4th floors)
27	1997	34	Auto Repair, Auto-related	Vacant (2nd-5th floors)
28	1997	48	South Building: Church; North Building: Residential	South and North Buildings: Residential (2nd-3rd floors)
29	1997	64	Vacant Building (former meat packing)	Vacant (2nd floor)
30	1997	33	Vacant Building (former Auto Related)	N/A
31	1997	40	Industrial (Building and Contractor Supplies)	Industrial (2nd floor)
32	1997	47	Auto Repair	N/A
33	1997	52	Auto Repair and storage	N/A
34	1997	55	Auto Repair	N/A
35	1997	9	Parking/Storage area, Industrial	N/A
36	1997	14	Industrial (Building Contractors)	Industrial (2nd-3rd floor)
37	1997	21	Vacant Building	Vacant (2nd-3rd floor)
38	1997	6	Transportation (NYC Transit Building Maintenance)	Transportation (NYC Transit) (2nd floor)
39	1997	17	Parking Lot	N/A
40	1997	27	Vacant Building (former Verizon vehicle maintenance)	Vacant (2nd floor)
41	1997	29	Church	Church (2nd floor)
42	1997	30	Self Storage	Storage (2nd-10th floors)

Table 1 (con't)
Existing Land Uses in Study Area

No.	Block	Lot	Ground Floor	Upper Floors
43	1997	44	Self Storage	Storage (2nd-10th floors)
44	1997	49	Industrial (Building Contractors)	N/A
45	1997	56	Industrial (Building Contractors)	Vacant (2nd-4th floors)
46	1997	61	Restaurant/Bar	Office (2nd-3rd floors)
47	1998	3	Vacant Building	Vacant
48	1998	1	Vacant Building	N/A
49	1998	10	Transportation (Verizon vehicle maintenance, parking)	Possible Office (2nd floor)
50	1998	24	Industrial (Ashland Chemical)	N/A
51	1998	26	Industrial (Ashland Chemical)	N/A
52	1998	57	Transportation (Verizon service vehicle parking)	N/A
53	1998	61	Auto Repair, Vehicle Storage	Parking Garage (2nd floor)
54	1998	6	Transportation (Verizon vehicle maintenance, parking)	N/A
55	1998	13	Parking Garage	Parking Garage (2nd floor)
56	1998	16	Loading Dock, Vehicle Storage	N/A
57	1998	17	Office	Office (2nd-6th floors)
58	1998	29	Self Storage	Storage (2nd-5th floors)
59	1998	38	Residential (Multi-Family)	Multi-Family (2nd-6th floors)
60	1998	49	Utility (Con Edison Gas Cooling)	N/A
61	1999	1	Transportation (MTA Manhattanville Bus Depot)	Bus Depot 2nd floor/ roof employee parking)
62	1999	29	Residential (Multi-Family)/ vacant retail	Multi-Family (2nd-5th floors)
63	1999	30	Residential (Multi-Family)	Multi-Family (2nd-4th floors)
64	1999	31	Vacant Residential	Vacant Residential
65	1999	32	Vacant Residential	Vacant Residential
66	1999	33	Residential (Multi-Family)	Multi-Family (2nd-4th floors)
67	1999	36	Retail with Vacancies	Multi-Family (2nd-6th floors)

Source: Earth Tech field survey, April 2008.

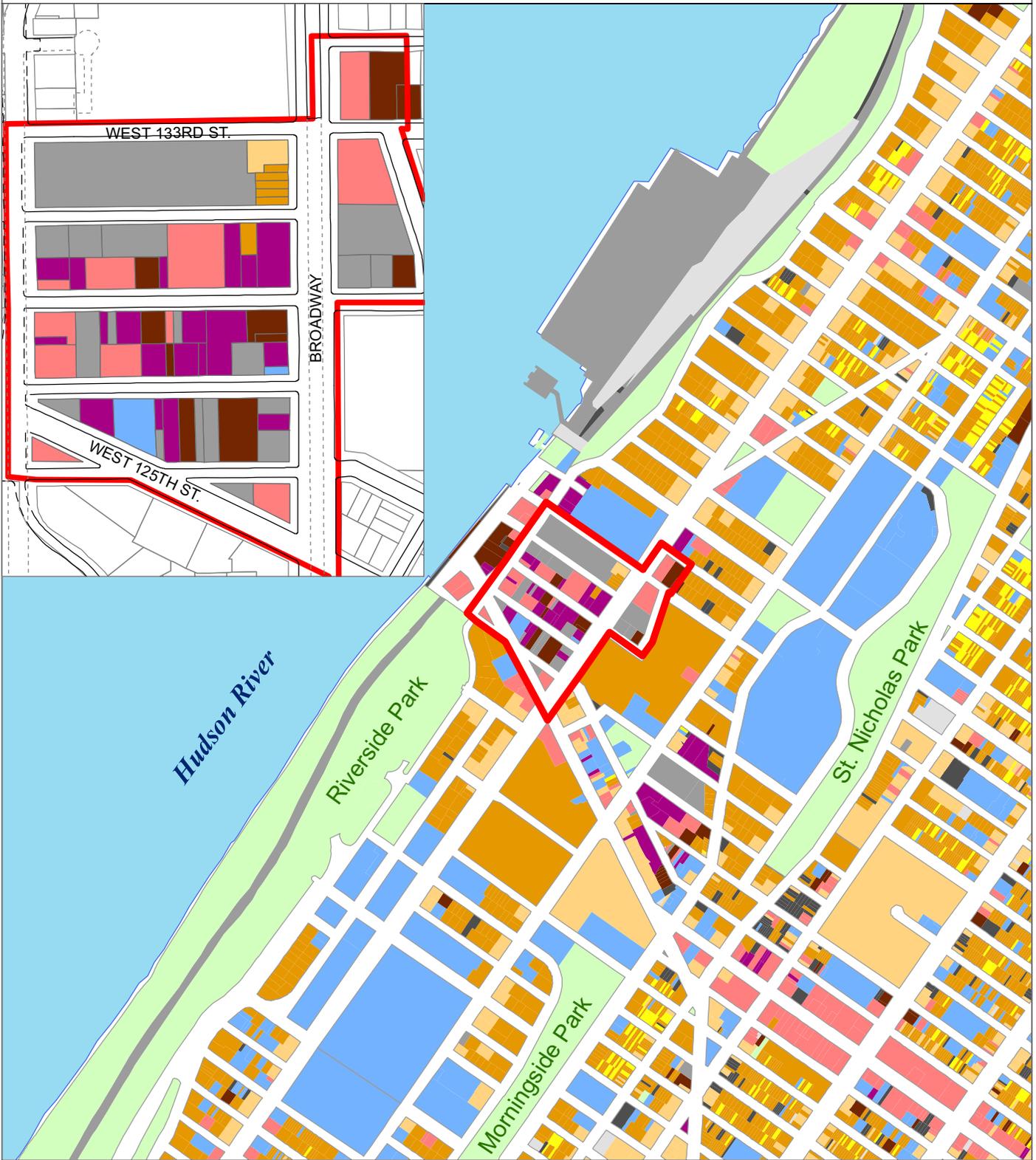
The study area includes few institutional uses, only two small Pentecostal churches (one on Broadway at W. 130th Street and the other on W. 131st Street). Residential uses (nonconforming in the former M1-2 manufacturing district) are also relatively limited, with six older (circa 1901) multi-family buildings clustered together on Broadway between W. 132nd Street and W. 133rd Street and one nearby on W. 132nd Street.

The residential uses are adjacent to the MTA's NYC Transit bus depot between W. 132nd Street and W. 133rd Street. The bus depot has the largest building footprint in the study area (taking up the entire block except for the residences on Broadway) and is also the newest in the study area, built in 1991. Three additional transportation/utilities uses are identified: a one-story NYC Transit Building Services Maintenance building between W. 130th Street and W. 131st Street; a Verizon vehicle maintenance facility that occupies three lots (and an adjacent upper floor) between W. 131st Street and W. 132nd Street which Verizon now leases from Columbia; and a gas cooling station facility operated by Consolidated Edison Company, with its equipment on an open lot on W. 132nd Street.

Retail uses are rare and are limited to a few locations on Broadway (at W. 125th Street and at W.133rd Street) and on 12th Avenue (Dinosaur restaurant and bar with offices on the second floor at W. 131st Street, and the Cotton Club at W. 125th Street). Office uses are located in three buildings: Reality House on W. 125th Street; the former Studebaker Building between W. 131st and W. 132nd Street; and the former Nash Building on Broadway at W. 133rd Street. There are no public open space areas in the study area. Vacant lots and/or entirely vacant buildings account for 14 of the 67 lots.

The remaining and dominant uses are light industrial, warehouse/self storage, and auto-related (repair/storage, parking, gas station), scattered throughout the study area. Transportation and auto-related uses account for 26 lots or 48 percent of the 54 occupied lots. Warehouse and storage uses account for 5 or 9 percent of occupied lots; and industrial uses account for 7 lots or 13 percent (if the Con Edison gas cooling facility is considered industrial, these numbers would be 8 industrial lots or 15 percent). Together, these three land use categories of auto/transportation-related, industrial, and warehouse account for 72 percent of the uses located on occupied lots.

Existing Land Use MapPluto



- | | |
|--|--|
|  Study Area Boundary |  Transportation / Utility |
|  One & Two Family Residences |  Public Facilities and Institutions |
|  Multi-Family Residences |  Open Space and Recreation |
|  Mixed Residential and Commercial |  Parking |
|  Commercial Uses |  Vacant Land |
|  Industrial / Manufacturing |  Not Identified |

Review of Manhattanville Neighborhood Conditions Study



Figure 4

Source: NYC Department of City Planning MapPluto, 2007.

Land Use Field Survey

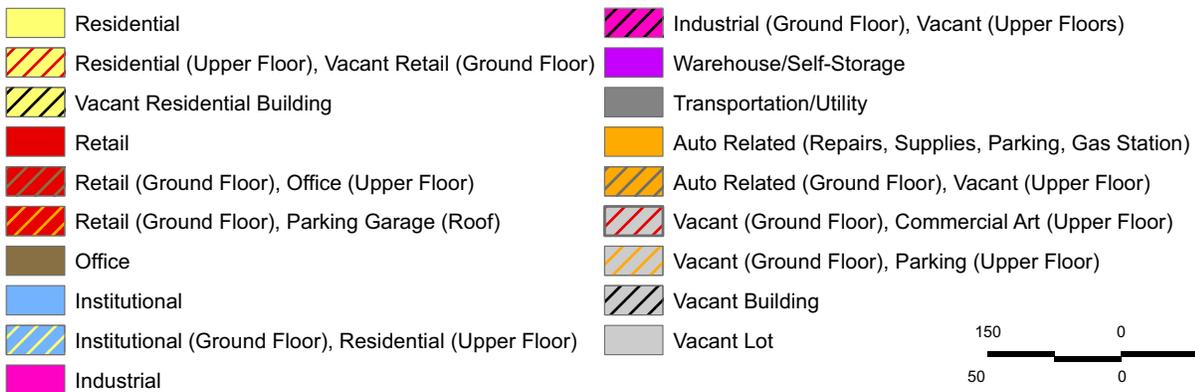


Figure 5

2.2 Neighborhood Isolation and Visual Conditions

2.2.1 Visual Boundaries

The prior section on Land Use and Zoning noted how the historical zoning of the study area had resulted in its development as a distinct pocket of largely non-residential uses surrounded by more intensive residential, commercial and institutional uses. The study area is further strongly defined by visual barriers on all sides.

To the south, W. 125th Street is a major arterial roadway that alters its usual east-west street alignment two blocks east of the study area, angling to the northwest in order to follow the natural topography and avoid the higher elevations of Morningside Heights to the south.



Photo 1: Morningside Park

The Morningside Heights neighborhood presents a distinctly different character than the study area, first with Riverside Park to the southwest (Photo 1), and then by a dense residential section (Columbia residences) with 20-25 story high-rise towers that present a strong wall-like effect at this southern boundary of the study area (Photo 2).

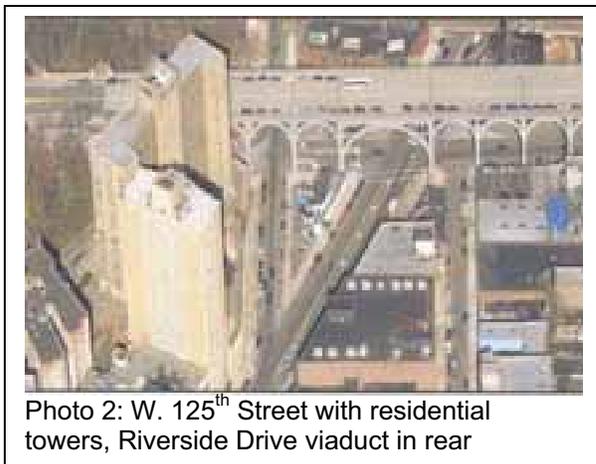


Photo 2: W. 125th Street with residential towers, Riverside Drive viaduct in rear

A similar effect is created by the Riverside Park Community Apartments to the north of the study area on W. 133rd Street, with its unusual concave footprint (Photo 3). While east of Broadway, six 20-story towers of the Manhattanville Houses present a strong edge, compounded by the IRT viaduct.



Photo 3: Riverside Community Apartments

To the east and west of the study area, transportation infrastructure creates strong visual boundaries along both Broadway and along 12th Avenue. Because of the low elevations in the valley occupied by W. 125th Street, these transportation facilities are carried on viaduct, connecting the higher ground of Morningside Heights to the south with that of Hamilton Heights to the north.



Photo 4: Broadway at W 125th Street



Photo 5: IRT on viaduct above Broadway

The result is massive structural features that create major visual barriers to the study area, isolating it from the high-density residential communities to the east and obstructing much of the Hudson River waterfront to the west.

The eastern boundary viaduct, running above Broadway carries the IRT subway on a series of tall arches and columns, approximately 50 ft. tall at

the W. 125th Street station, descending to a 20 ft. stone and brick abutment at W. 133rd Street, and continues as a barrier along Broadway to W. 135th Street. (Photos 4-6).



Photo 6: Abutment of IRT viaduct on Broadway between W. 133rd and W. 135th Sts.

The viaduct and abutment are in poor physical condition, with damaged stone and brick on the abutment and peeling paint and rust on the trussed steel arches, girders and columns, frequently accompanied by a surfeit of graffiti (photos 7-9).



At the western boundary of the study area, three separate viaducts present a formidable visual edge. From the east, Riverside Drive is carried on viaduct above 12th Avenue by massive steel trussed arches approximately 80 ft. tall (Photo 10).



Farther west, the Amtrak Empire Corridor rail line runs on a plain girder and column viaduct only about 25 ft. above grade; this viaduct is in relatively poor condition with spalling concrete, rusting steel and graffiti (Photo 11).



Slightly farther west is the Henry Hudson Parkway (Route 9A), also on a plain girder and column viaduct approximately 25 ft. above grade (Photo 12).



Photo 12: Henry Hudson Parkway viaduct. Amtrak viaduct to rear

Together, these three viaducts present an uninviting tunnel effect for pedestrians and obscure much of the potentially outstanding view of the river and the Palisades escarpment on the New Jersey shore.



Photo 13: IRT viaduct above Broadway

As a result of these physical and visual barriers, the study area is substantially separated from the surrounding community.

The sense of isolation is compounded by the dissimilar set of land uses occupying the area. There are few amenities in the study area that attract residents from adjacent neighborhoods, constraining more pedestrian traffic. Patrons of most businesses in the area appear to be from a wider region, taking advantage of the auto repair and storage facilities located there.

2.2.2 Visual Character of Study Area

Within the study area, visual conditions are very distinct from those of the surrounding communities. As noted, the historical evolution of the area as a commercial and industrial district occurred prior to the

adoption of zoning but was reinforced by the 1916 zoning, allowing “unrestricted” development. Residences were formally prohibited in the 1961 zoning, leaving only a handful of non-conforming older residential buildings at the northern edge of the study area. The 1961 zoning also limited the building bulk to an FAR of 2.0. Only three buildings have been built in the area since (the two-story MTA bus depot in 1991, and a less than 2,000 sq. ft. industrial building in 1965 and a gas station in 1975). Consequently, existing building heights largely reflect the earlier, less restricted period of the neighborhood’s development. Although there are several taller structures, originating mostly from the 1920’s, e.g., the Studebaker Building (six stories) and the Nash Building (seven stories), the majority of lots (62 percent) have two-stories or less. Although the majority of buildings are low-rise, building heights vary, creating a discordant skyline and limit any perception of coherent design. Building heights (floors) are shown as Figure 6 - Building Heights, as reported by NYCDOP in the MapPluto database.

The utilitarian function of most remaining structures has contributed little in the way of quality building design. Typical older industrial structures in the study area reflect decades of neglect and a casual attitude towards appearance as an unnecessary business expense (Photos 14 & 15).

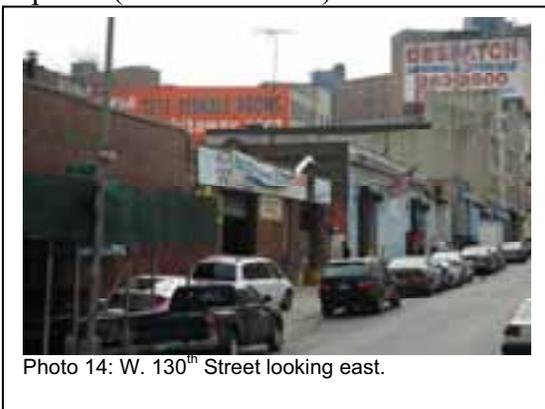


Photo 14: W. 130th Street looking east.



Photo 15: Twelfth Avenue at W. 131st Street

Many businesses appear to be marginal enterprises that place little emphasis on appearance, other than advertising to speeding vehicles. Auto-related businesses especially contribute to streetscape clutter by parking vehicles on sidewalks, double-parking cars, and leaving damaged vehicles around their shops (Photos 16-19).



Photo 16: W. 131st Street with sidewalk parking and double parking forcing pedestrians into street.



Photo 17: Sidewalk parking



Photo 18: Sidewalk parking

This commonly accepted practice by auto repair shops appears to have had a contagious effect for other businesses, so that trucks are seen unloading from the sidewalk, and customers/owners routinely park cars on the sidewalk at storage warehouses.(Photos 19 & 20)



Photo 19: Sidewalk parking on Broadway



Photo 20: Sidewalk unloading on Broadway

One of the few retailers in the study area (El Mundo on Broadway between W. 133rd Street and W. 134th Street) appears to operate much of its business from the sidewalk in front of its store (including a wooden structures for employees to watch over the stock), with concomitant clutter and obstruction to pedestrian movement on the sidewalk. (Photos 21 & 22)



Photo 21: Sidewalk clutter on Broadway



Photo 22: Visual clutter at El Mundo store on Broadway

Building Heights (Floors)



Number of Floors

0	4
1	5
2	6
3	7
	10

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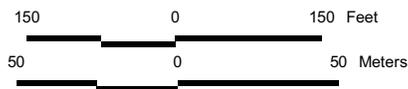


Figure 6 Source: NYC Department of City Planning MapPluto, 2007.

Particularly as a result of this practice of sidewalk parking, many sidewalks in the study area have suffered substantial deterioration, with extensive cracks and spalling of the concrete, and broken or absent curbs (Photos 23 & 24). In several cases, sidewalk vault covers have been damaged by vehicles. Not only are these sidewalk conditions safety hazards for pedestrians, they also create a visual impression of neighborhood neglect and unsightliness.



Photo 23: Damaged sidewalk at W.125th Street



Photo 24: Damaged sidewalk at W.130th Street

Typically bleak streetscapes further suffer from the almost total absence of any vegetation and street trees (Photo 25). Although the block with the MTA bus depot (W. 132nd Street) has relatively new tree plantings, many of them appear to have already died, limiting the positive effect of this exception.



Photo 25: View west on W. 132nd St, MTA bus depot to right

Buildings' street walls contribute negatively to the streetscape's visual quality. Numerous buildings have had former windows blocked off, presenting little transparency, light, or "eyes-on-the-street," offering a grim alternative (Photos 26 & 27).



Photo 26: Note absence of windows and transparency at this self storage warehouse



Photo 27: Typical streetwall without windows (W. 133rd Street)

Building walls often display structural deterioration, with cracks in masonry and other deteriorated features, reflecting years of neglect. Several buildings have been “sealed” by the Fire Department because of their unsafe condition and numerous properties now have sidewalk sheds to protect pedestrians from falling masonry (Photos 28-37). These sheds inevitably add to the gloom and clutter along several streets.



Photo 28: Sidewalk shed on Broadway



Photo 29: Sidewalk shed on W. 132nd Street

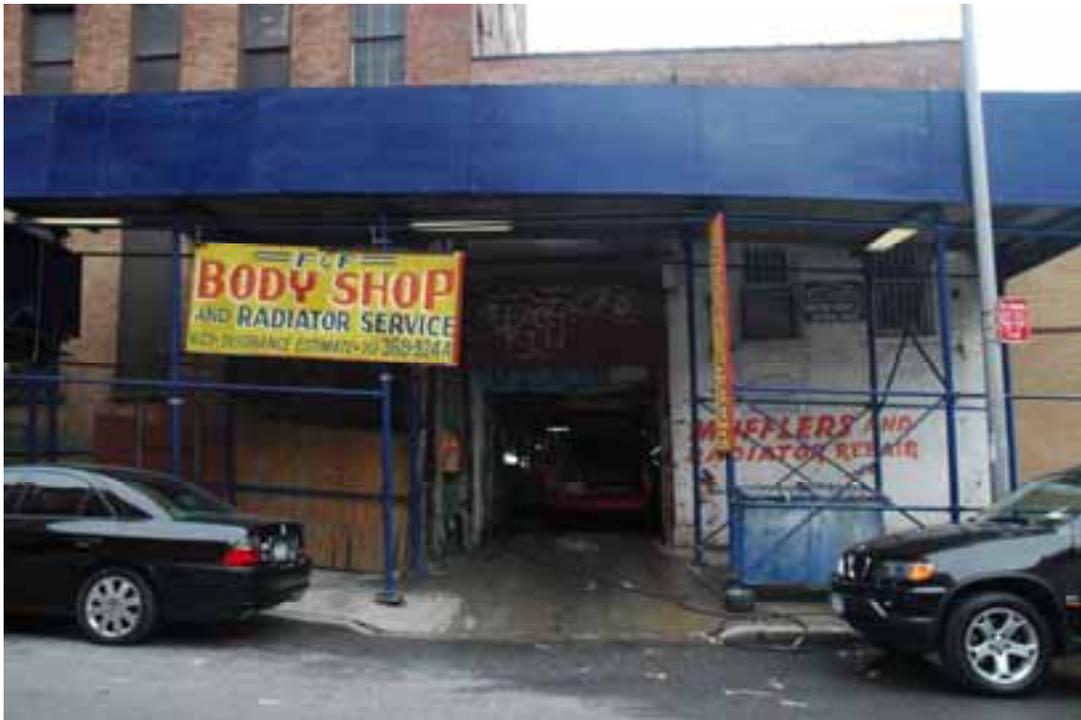


Photo 30: Sidewalk shed on W. 131st Street



Photos 31-37: Examples of deteriorated facades in the study area

Painted walls are often chipped and peeling, presenting a careless and unsightly element to viewers. (Photos 38 & 39).



Photo 38: Recently painted masonry already peeling off at a self-storage warehouse



Photo 39: Paint covered deficiencies at a self-storage warehouse

Roll up metal doors, common throughout the study area, are often in damaged and poor condition; again limiting transparency and contributing to the uninviting and unsafe perception of the area (Photos 40-42).



Photo 40: W. 130th Street



Photo 41: W. 130th Street



Photo 42: Broadway between W. 129th & W. 130th Sts.

Walls and other visible surfaces are common targets of graffiti, which unless quickly removed tends to accumulate rapidly, substantially contributing to visual blight (Photos 43-45). The AKRF report noted from interviews with Police Department officials that graffiti is one of the more prevalent crimes in the study area.



Photo 43: beneath the IRT viaduct



Photo 44: Walls as frequent graffiti targets

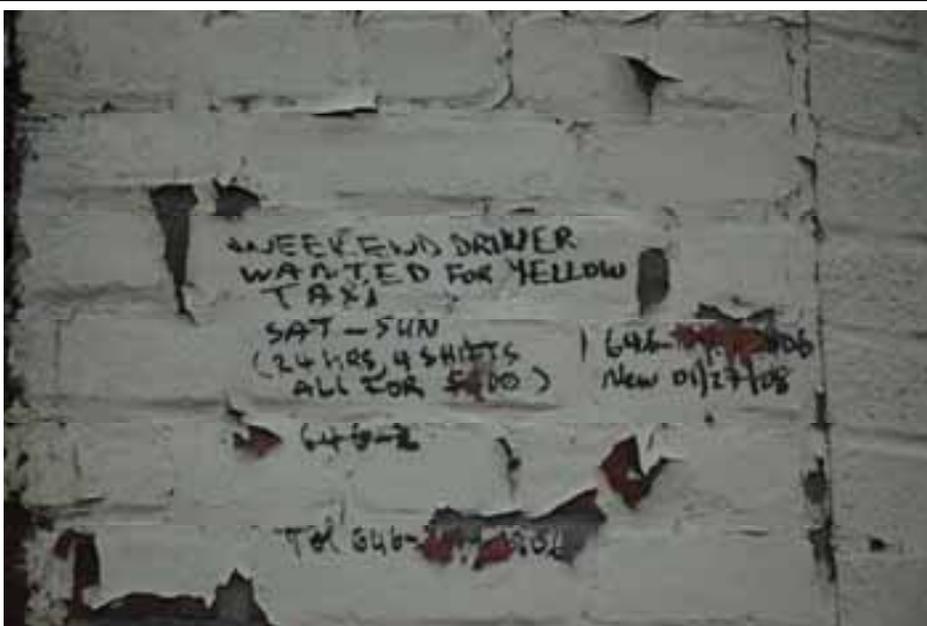


Photo 45: Graffiti "advertising"

Another eyesore to note is the frequent evidence of vermin, including rats (Photo 46).



Photo 46: Dead rat on sidewalk of Broadway

In summary, the visual conditions of the study area present an unattractive, substandard environment, that is not conducive to integrating this area to the rest of West Harlem. After dusk, it is particularly foreboding and does not promote pedestrian traffic. The industrial and auto-related character of most land uses, together with the chronic neglect of building maintenance are the primary contributors to this negative visual quality. The neighborhood is visually isolated from its surrounding community, offering few attractions to local residents, and creating an unappealing traverse for pedestrians oriented to the new waterfront piers and park (under construction) at the terminus of W. 125th Street, or the popular Fairway supermarket west of 12th Avenue.

2.3 Underutilization and Vacancies

2.3.1 Underutilization

The degree to which owners take advantage of permitted building bulk is a basic indicator of demand and property values. If owners do not take advantage of permitted bulk this is considered to be site underutilization, a condition that can signify disinterest and disinvestment in a neighborhood if underutilization is widespread.

Earth Tech examined the City's Bytes of the Big Apple/MapPluto GIS database to identify the lot and building areas of all lots in the study area. Earth Tech compared these property data with the old manufacturing zoning (as the AKRF report did), as well as with the new C6-1 zoning⁵. While there were three different manufacturing zones in the study area (M1-2, M2-3, and M3-1), they were all subject to a maximum FAR of 2.0. The new zoning under the special MUU district is more complicated, with different FAR limits for different uses and various lot coverage requirements, however, it permits a maximum FAR of 6.0. Table 2 shows the site utilization by lot under both the old and the new zoning.

⁵ A small portion of Block 1987, its blockface on Broadway, is zoned C6-2, with 6.0 FAR for commercial uses and 4.0 FAR for residences.

Table 2
Site Utilization in the Study Area under Former and Current Zoning

Block	Lot	Lot Area	Existing Gross Building Area (GSF)	Year Built	Former Zoning (M1-2, M2-3, M3-1)			Current Zoning (C6-1, C6-2)		
					Max FAR	Maximum Allowable Floor Area (ZSF)	Utilization Rate	Max FAR	Maximum Allowable Floor Area (ZSF)	Utilization Rate
1996	23	24,979	0	N/A	2	49,958	0%	6	149,874	0%
1997	17	2,498	0	N/A	2	4,996	0%	6	14,988	0%
1998**	49	19,984	3,068	N/A	2	39,968	8%	6	119,904	3%
1996	29	9,992	1,845	1975	2	19,984	9%	6	59,952	3%
1986	30	33,542	6,400	1965	2	67,084	10%	6	201,252	3%
1986	1	9,985	1,950	1966	2	19,970	10%	6	59,910	3%
1995	35	5,175	1,320	1920	2	10,350	13%	6	31,050	4%
1996	61	5,025	1,350	1960	2	10,050	13%	6	30,150	4%
1998	1	3,000	1,110	1960	2	6,000	19%	6	18,000	6%
1998	16	2,498	1,000	1930	2	4,996	20%	6	14,988	7%
1996	36	5008	2,500	1910	2	10,016	25%	6	30,048	8%
1997	52	7,494	5,196	1948	2	14,988	35%	6	44,964	12%
1996	1	6,300	4,500	1920	2	12,600	36%	6	37,800	12%
1998	57	9,992	7,500	1910	2	19,984	38%	6	59,952	13%
1997	55	2,498	2,373	1920	2	4,996	47%	6	14,988	16%
1995	31	12,623	12,623	1940	2	25,246	50%	6	75,738	17%
1996	21	9,992	9,992	1926	2	19,984	50%	6	59,952	17%
1997	1	12490	12,490	1926	2	24,980	50%	6	74,940	17%
1997	33	2,500	2,500	1930	2	5,000	50%	6	15,000	17%
1997	47	2,498	2,498	1920	2	4,996	50%	6	14,988	17%
1997	49	7,494	7,494	1951	2	14,988	50%	6	44,964	17%
1998	24	9,992	9,992	1910	2	19,984	50%	6	59,952	17%
1998	26	4,996	4,996	1910	2	9,992	50%	6	29,976	17%
1998	6	4,996	4,996	1930	2	9,992	50%	6	29,976	17%
1986	10	7,524	7,800	1925	2	15,048	52%	6	45,144	17%
1997	6	14,988	16,187	1940	2	29,976	54%	6	89,928	18%
1997	9	12,490	13,956	1930	2	24,980	56%	6	74,940	19%
1997	40	19,984	22,465	1940	2	39,968	56%	6	119,904	19%
1998	10	14,988	17,800	1926	2	29,976	59%	6	89,928	20%
1998	3	6,992	8,588	1940	2	13,984	61%	6	41,952	20%
1997	64	2,500	3,425	1927	2	5,000	69%	6	15,000	23%
1987	7	20,183	28,676	1926	2	40,366	71%	6	121,098	24%
1996	50	2,498	3,690	1915	2	4,996	74%	6	14,988	25%
1997	29	1,869	3,475	1920	2	3,738	93%	6	11,214	31%
1996	15	2,200	4,400	1920	2	4,400	100%	6	13,200	33%
1997*	27	9,992	19,984	N/A	2	19,984	100%	6	59,952	33%
1998	61	9,992	19,984	1912	2	19,984	100%	6	59,952	33%
1996	16	9,950	20,000	1926	2	19,900	101%	6	59,700	34%

Table 2 (con't)
 Site Utilization in the Study Area under Former and Current Zoning

Block	Lot	Lot Area	Existing Gross Building Area (GSF)	Year Built	Former Zoning (M1-2, M2-3, M3-1)			Current Zoning (C6-1, C6-2)		
					Max FAR	Maximum Allowable Floor Area (ZSF)	Utilization Rate	Max FAR	Maximum Allowable Floor Area (ZSF)	Utilization Rate
1987	9 pt.	3,272	6,584	1970	2	6,544	101%	6	19,632	34%
1996	56	13,492	28,000	1920	2	26,984	104%	6	80,952	35%
1998	13	7,494	16,000	1940	2	14,988	107%	6	44,964	36%
1997	61	9,975	22,100	1925	2	19,950	111%	6	59,850	37%
1999	1	134,844	318,000	1989	2	269,688	118%	6	809,064	39%
1996	20	4,996	12,648	1926	2	9,992	127%	6	29,976	42%
1997	48	2,498	6,744	1910	2	4,996	135%	6	14,988	45%
1997	14	7,494	21,437	1920	2	14,988	143%	6	44,964	48%
1996	18	9,991	29,757	1920	2	19,982	149%	6	59,946	50%
1999	33	1,875	5,648	1920	2	3,750	151%	6	11,250	50%
1987	1	17,984	54,905	1918	2	35,968	153%	6	107,904	51%
1999	30	2,500	7,650	1901	2	5,000	153%	6	15,000	51%
1999	31	2,500	7,650	1901	2	5,000	153%	6	15,000	51%
1999	32	2,500	7,650	1901	2	5,000	153%	6	15,000	51%
1999	29	2,492	8,680	1901	2	4,984	174%	6	14,952	58%
1997	18	7494	27,500	1920	2	14,988	183%	6	44,964	61%
1997	56	2,498	9,499	1920	2	4,996	190%	6	14,988	63%
1998	29	19,983	79,708	1920	2	39,966	199%	6	119,898	66%
1996	14	18,850	77,408	1908	2	37,700	205%	6	113,100	68%
1986	6	6,811	28,000	1917	2	13,622	206%	6	40,866	69%
1998	38	4,996	21,786	1905	2	9,992	218%	6	29,976	73%
1997	34	9975	43,600	1910	2	19,950	219%	6	59,850	73%
1997	44	7,494	35,595	1930	2	14,988	237%	6	44,964	79%
1997	21	2,498	12,400	1920	2	4,996	248%	6	14,988	83%
1999	36	10,625	53,340	1905	2	21,250	251%	6	63,750	84%
1986	65	30,675	184,044	1927	2	61,350	300%	6	184,050	100%
1998	17	34,970	210,000	1924	2	69,940	300%	6	209,820	100%
1996	34	4,983	30,000	1943	2	9,966	301%	6	29,898	100%
1997	30	5,625	62,200	1930	2	11,250	553%	6	33,750	184%

*New York City Department of Finance records indicate that the existing building area for Block 1997 Lot 27 is 0 gross square feet (gsf). However, a two-story parking garage is located on the site. Based on the lot area and the number of stories, the building is approximately 19,984 gsf.

** New York City Department of Finance records indicate that the existing building area for Block 1998 Lot 49 is 0 gsf. However, the lot hosts several structures for the Con Ed cooling station that are approximately one-story. Based on the lot area and the number of stories, the estimated amount of building area on the site is 3,068-gsf. AKRF reported a building area of 19,984-gsf.

Given that the new C6 zoning was not applicable when AKRF reviewed this subject, it is more appropriate to focus on the recent past in order to assess the degree to which underutilization has been a characteristic of the neighborhood. To the extent that sites were underutilized under the old FAR 2.0, this situation would only be compounded threefold under the new zoning, (i.e., if the site utilization was 50 percent under the old zoning it would be only 17 percent under the new).

The AKRF report adopted a reasonable threshold of classifying sites with less than 60 percent of their permitted bulk as “underutilized”. There are 29 lots, or 43 percent, with utilization rates of 60 percent or less under the former manufacturing zoning (Table 2). If the underutilization threshold were to be set at the lot’s full potential, there would be 34 lots below it, or 51 percent. Figure 7 – Utilization, locates both the 29 sites with 60 percent or less utilization, as well as those between 99 percent and 61 percent. Of those lots with less than 60 percent utilization, two are parking lots with no structures and 13 have structures covering less than the full lot. Nine lots have one-story buildings that cover the lot and, thus, utilized 50 percent of their potential bulk. Five additional lots have utilization rates between 50 percent and 60 percent.

Under the new C6 zoning applicable in the study area, there are 53 lots that fall below 60 percent utilization, or 79 percent (Table 2). Under the new zoning, three lots are at 100 percent utilization and one exceeds the permitted bulk by an additional 84 percent (the ten-story Tuck-it-Away building - Block 1997/Lot 30).

As noted, underutilization of permitted bulk is often a symptom of investor disinterest, if this is so, a substantial portion of the study area has exhibited this phenomenon. This is further evidenced by the fact that only two new buildings have been constructed in the study area since 1975: the MTA Manhattanville Bus Depot (1991); and a small gas station on Broadway at W. 129th Street (1975). Indeed, City ACRIS records reveal that only six buildings have been constructed in the study area since 1948 (Table 2 shows year building constructed).

Underutilization and a lack of investment are often associated with other factors, such as the size and configuration of lots, and a multiplicity of ownership. If parcels are too small for the demands of active businesses, and the assemblage of appropriately sized properties is difficult for investors, they will look elsewhere. The study area has 26 lots (39 percent) with areas of less than 5,000 square feet (sf) and only 18 lots (27 percent) with 10,000 sf or more. The large number of small lots and their locations may be seen in Figure 1. Throughout the past century, the area was a jumble of small parcels in diverse ownership. There can be little doubt that the small scale of many of the lots and difficulty in assembling adequately sized parcels has contributed to the minimal private investment and redevelopment in the area over the past 60 years.

2.3.2 Vacancies

Another indicator of declining demand and disinvestment is the number of vacancies in the study area. Of the 67 lots, 13 have entirely vacant buildings, 6 buildings are 50

percent or more vacant (two additional lots are unbuilt and used for vehicle storage). Thus 19 lots (28 percent) have total or major vacancies. Figure 8 – Vacancies, shows the vacant lots and buildings⁶ and Table 3 records the Block and Lot identification.

Table 3
Vacancies by Block and Lot

Block	Lot	Percent Vacant
1986	30	100
1996	36	100
1996	21	100
1996	15	100
1997	18	100
1997	64	100
1997	33	100
1997	21	100
1997	27	100
1998	1	100
1998	3	100
1999	31	100
1999	32	100
1997	34	80
1997	56	75
1986	6	75
1996	20	66
1996	16	50
1997	1	50
1999	29	5
1999	36	5
Source: Earth Tech, April 2008		

The combination of old and deteriorated buildings, often with obsolete floorplates for modern businesses, and significant underutilization of permitted building bulk, have contributed to the lack of investment in the area, further evidenced by the high rate of building and lot vacancies in the area.

2.4 Building Code Violations

Earth Tech examined the Department of Buildings (DOB) Property Search database, which records Building Code violations by both DOB and the Environmental Control Board (ECB), for all 67 lots in the study area. When AKRF reported its findings on recorded code violations as of July 2006, there were 410 open violations in the study area, applied to 51 of the 67 lots, or 75 percent of lots had open code violations.

When Earth Tech reviewed the DOB database for the study area, there were 458 open violations recorded, as of February, 2008, an increase of 11.7 percent. These violations

⁶ The figure and table do not show Block 1996 Lot 23, and Block 1997 Lot 17 as vacant because of their occupancy as vehicle storage.

Site Utilization



Utilization Rate (%)



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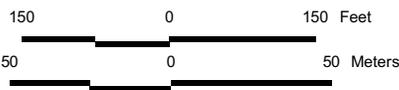
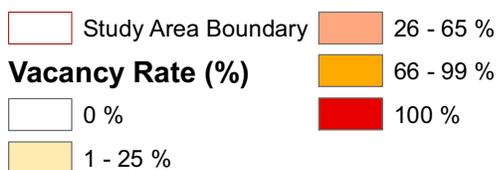
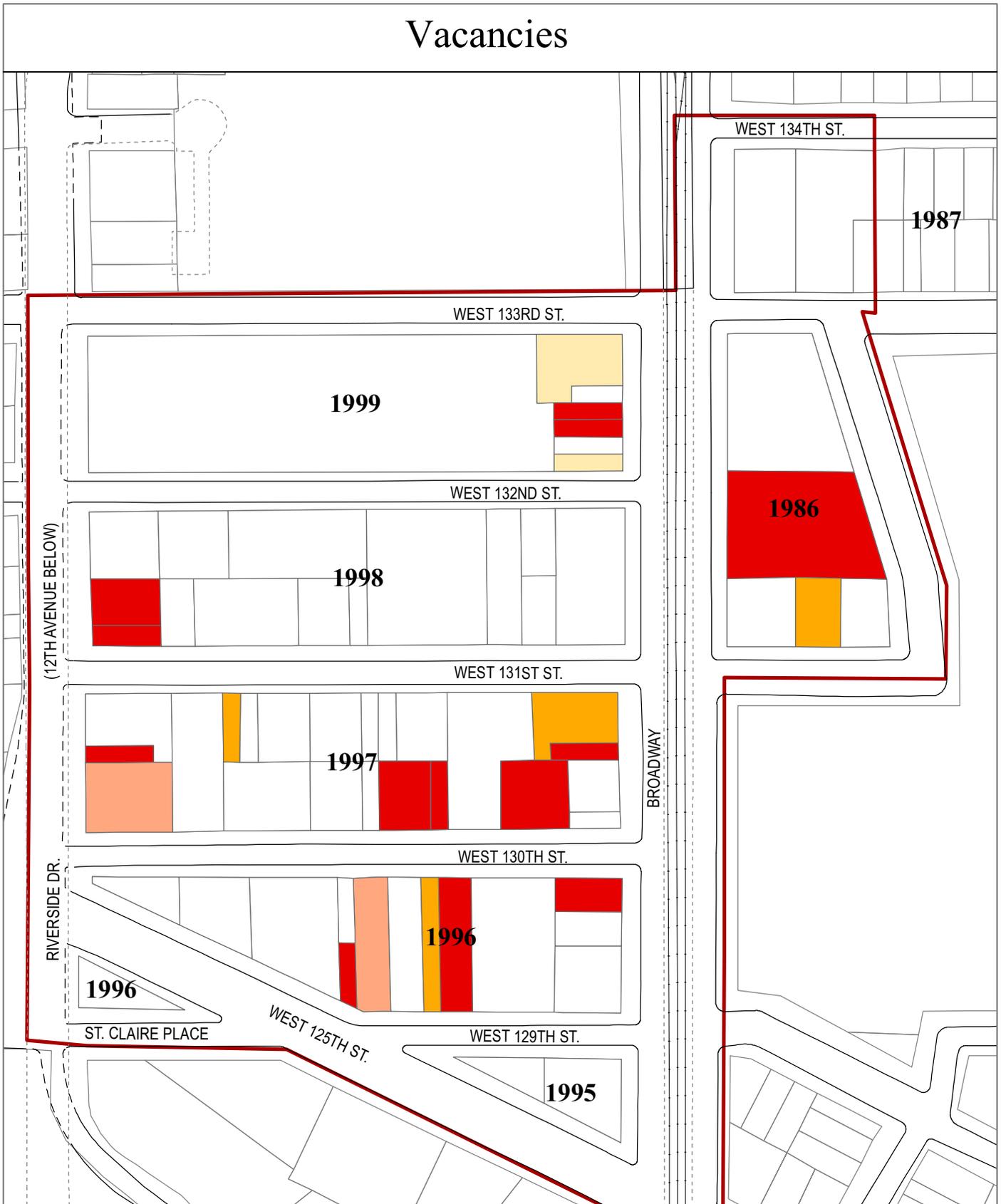


Figure 7

Source: Earth Tech, 2008; MapPluto, 2007 & NYC Dept. Buildings.

Vacancies



Review of Manhattanville Neighborhood Conditions Study

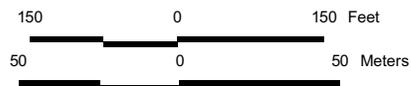


Figure 8

Source: Earth Tech, April 2008

were applied to 51 lots (75 percent), but a slightly different building population than the AKRF report. The type of violation and accumulation of these violations by individual properties varies substantially. Violations are noted by type, date and severity for each lot in Appendix Table A1. (Chapter 3, Building Conditions, also provides an evaluation of each lot's structural, and health and safety conditions, including a review of open building code violations).

Typical open violations recorded relate to the following: occupancy not permitted by certificate of occupancy, e.g., using upper floors for parking, operating a department store, etc.; lack of building maintenance, applicable to walls, windows, ceilings and floors, etc.; blocked or non-existent fire exits; a lack of fire retardant building materials; failure to maintain boilers; and failure to maintain elevators. Many of these violations are seriously hazardous to the safety of employees and the public. DOB recorded violations, the great majority, do not formally identify the severity of the violations but ECB does, with 22 violations defined as of "high" severity, and 29 defined as "moderate".

Some buildings have much larger numbers of violations than others and these are shown in Figure 9 - Building Code Violations. In particular: Block 1996 Lot 14 has accumulated 36 open violations; Block 1997 Lot 34 has 25 violations; and Block 1997 Lot 1 has 21 violations. Of all the 67 lots, 19 (or 28 percent) have ten or more open violations. The volume, long-standing nature, and distribution of buildings throughout the study area with Building Code violations, are clear evidence of the area's chronic problems of under-maintained and deteriorated buildings.

2.5 Environmental Contamination

The AKRF report notes that a series of environmental investigations and assessments were undertaken as part of the *Manhattanville in West Harlem Rezoning and Academic Mixed-Use Development Environmental Impact Statement* (Manhattanville EIS). Preliminary Environmental Site Assessments (PESAs) were conducted for each lot in the Manhattanville EIS study area. The PESA reviews were based on existing environmental studies, site observations, historic maps, and regulatory databases, and examined whether current, historical, known or potential hazardous conditions may have affected the site's soil and/or groundwater.

Additional Phase I Environmental Assessments (ESA) investigations were conducted for 38 locations where site access was available from property owners. Moreover, Phase II ESAs involving drilling and sampling of soil and water were performed at 22 accessible locations where the PESA identified concerns. The key findings of these environmental investigations were included in the AKRF Manhattanville Neighborhood Conditions report's lot profiles.

Earth Tech reviewed the Manhattanville EIS, and its Appendix F.1 detailing these environmental conditions, and confirms that AKRF reported the key findings of these studies in their report's lot profiles. Earth Tech has additionally reviewed the US Environmental Protection Agency's (EPA) web-based records (Window to My

Environment), which provides federal, state, and local information about environmental conditions and features in the study area, but found no additional records to change the findings reported by AKRF. Chapter 3 of this report includes a summation of environmental concerns on a lot-by-lot basis.

The Manhattanville EIS, Appendix F, Table F-1 summarizes environmental issues in the study area⁷ (this is reproduced here as Appendix Table A-2). Within the study area's 67 lots, 53 (or 79 percent) have present or historical uses that pose potential environmental concerns. Such uses include those associated with: automobile repair, service and storage; former manufactured gas plants; coal yards; chemical manufacturing; electronics manufacturing; dry cleaning; painting; and a junk yard, reflecting long history of the study area as a concentration of transportation and manufacturing. Figure 10 – Environmental Issues, identifies the lots with these types of present and/or historical uses that generate concerns of hazardous environmental contamination. The figure shows the pervasive coverage of the study area by lots with these past and/or present uses.

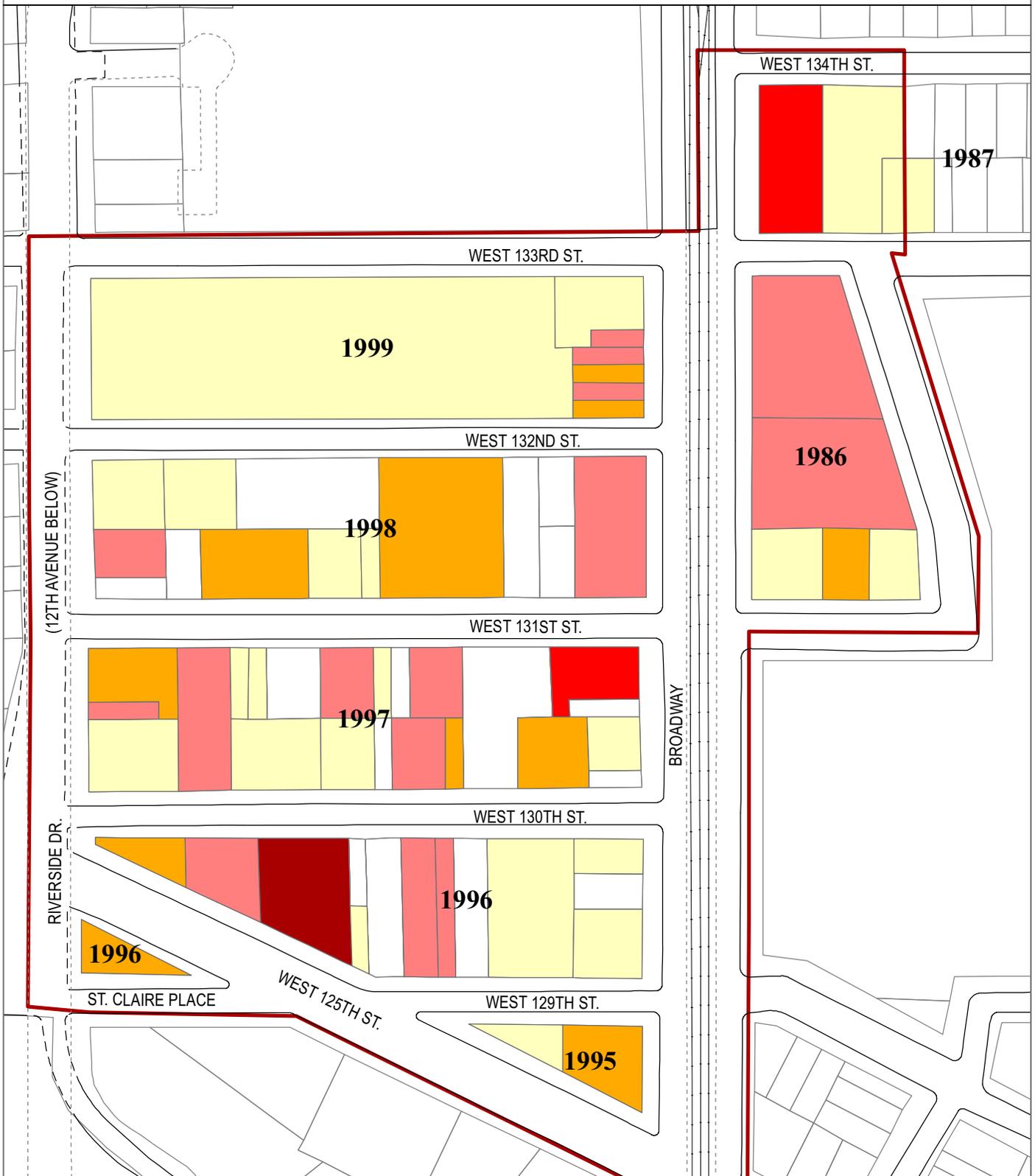
Concerns of hazardous environmental contamination in the study area from these past and/or present uses derive from their association with specific chemicals. These chemicals include:

- *Volatile organic compounds* (VOCs), of which two principal types are aromatic and chlorinated compounds. Aromatic compounds are typically found in petroleum products, whereas chlorinated compounds are found in cleansers, solvents and degreasers. VOCs are of particular concern because they generate vapors, can contaminate soil and groundwater, and can therefore migrate from their source of origin.
- *Semivolatile organic compounds* (SVOCs) include polycyclic aromatic hydrocarbons, constituents of partially combusted coal or petroleum products. These are commonly found in urban fill material, which likely underlies much of the study area.
- *Polychlorinated biphenyls* (PCBs) were commonly used in transformers, hydraulic lifts and other manufacturing applications (e.g., plastics).
- *Metals*, including lead, arsenic, cadmium, chromium, and mercury are associated with metalworks, and found in paint, ink, petroleum, and coal ash. They are also likely to be found in historic urban fill materials.

Such chemicals have a long presence in the study area, associated with: fuel oil and gasoline tanks, including above storage tanks (ASTs) and underground storage tanks (USTs); manufactured gas plants; and fill materials using coal and incinerator ash, demolition debris, and industrial wastes. Other sources of historic contamination include the widespread use of asbestos in building materials, and lead based paint. The

⁷ In addition to the study area, the table also inventories 24 adjacent lots.

Building Code Violations



Lots In Study Area

Number of Building Code Violations



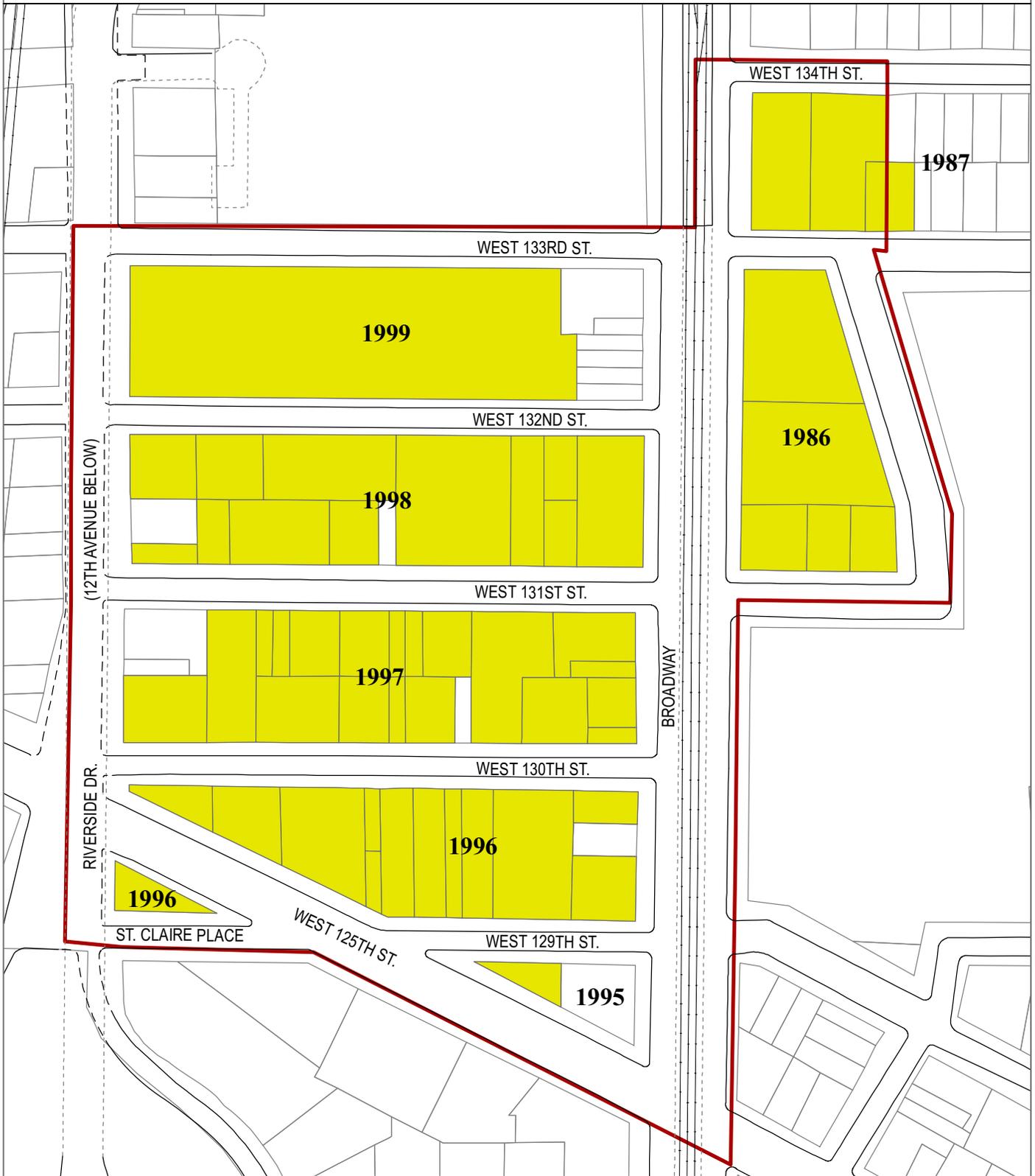
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Figure 9

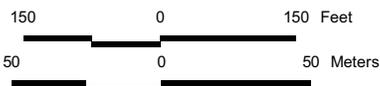
Source: NYC Department of Buildings, February, 2008.

Environmental Issues



 Historic and Present Uses of Environmental Concern

Review of Manhattanville Neighborhood Conditions Study



Source: FEIS, Proposed Manhattanville in West Harlem Rezoning and Academic Mixed-Use Development, AKRF, November 16, 2007.

Figure 10

Manhattanville Bus Depot, the location of a former manufactured gas plant (MGP), has a history of leaks and site contamination with plumes of underground petroleum products migrating beyond it, necessitating substantial remediation in 2001-2002.

AKRF conducted further representative sampling of the study area in its Phase II investigations, conducting 22 borings for soil samples, with 19 of these retrofitted for groundwater monitoring. The soil samples were compared to NYS Department of Environmental Conservation (NYSDEC) Recommended Soil Cleanup Objectives (RSCOs) and the groundwater samples with NYSDEC Class GA Ambient Water Quality Standards.

Findings from the soil samples indicated: VOCs detected were below the RSCOs, and SVOCs were also mostly below RSCOs, although three samples exceeded standards - these were considered as likely associated with urban fill materials. Metals concentrations were also found within standards for most samples, but exceedances were also likely associated with urban fill materials, except for high levels of chromium collected at a site on 12th Avenue (Block 1998/Lot 61), likely associated with past automotive repair.

AKRF's findings from groundwater samples indicated the presence of VOCs in 15 of 19 samples, mostly at low levels likely associated with urban fill materials, however, elevated levels were detected down-gradient of the gas station on Broadway at W. 129th Street, and from the former MGP at W. 131st Street, although these could be from the generalized use of solvents and petroleum products in the area. SVOCs were detected in all the groundwater samples, generally below RSCOs but exceedances were found in eight samples (42 percent) but this is typical of industrial areas in New York City and is often associated with urban fill. Total metals exceeding standards were found in 18 of the 19 samples, including barium, chromium, iron, lead, magnesium, manganese, and sodium, again AKRF considered these as more likely to be associated with urban fill than specific industrial operations

In summary, the PESAs identified past and present uses in the study area that gave rise to environmental concerns, particularly the frequency of automobile garages, repair shops, and gas stations, and industrial uses, together with numerous USTs and ASTs. The Phase II soil sampling, however, indicated that the relatively few exceedances of standards were most likely caused by the presence of urban fill, rather than specific past or current uses. Groundwater samples did not reveal widespread contamination, although localized areas had some trace petroleum contamination. Because these contaminants are isolated, they do not pose a threat to human health unless they are disturbed. Remediation of any identified contaminants would be required as part of any redevelopment of sites within the study area.

2.6 Overall Neighborhood Conditions

This section of the report integrates Earth Tech's findings from its review of the AKRF report together with its own surveys of the Manhattanville study area. It reviews and synthesizes the prior discussions of: zoning and land use, neighborhood isolation and

visual conditions, underutilization and vacancies, Building Code violations, environmental contamination, and provides a brief summary of the findings of the next section (Chapter 3) on Building Conditions, which provides a review of the physical conditions of each of the properties in the study area.

2.6.1 Land Use

The approximately 17-acre study area has experienced a long history as a transportation and industrial center, beginning in the late nineteenth century with a station on the Hudson rail line and a ferry to New Jersey, especially serving the meat and dairy industries, and later evolving into an automobile sales and service center in the 1920s. The area was initially designated as an “unrestricted” zone in the City’s first 1916 zoning ordinance, allowing a variety of industrial uses to operate there. Consequently, the food industries operated side-by-side with auto-related and other industrial uses, including two manufactured gas plants, ink makers, chemical manufacturers, and electronics manufacturing. A handful of residential buildings from the turn of the twentieth century are also located in the north of the study area on Broadway.

The City’s 1961 zoning reforms formally designated the area as manufacturing, with M1, M2 and M3 zones within the study area (Figure 2). Although these districts permit a wide variety of uses, only four buildings have been built in the study area since 1961: two small gas stations, a now vacant UHaul truck rental center (Block 1986 Lot 30), and the MTA’s Manhattanville Bus Depot (Block 1999 Lot 1). Buildings built during or before 1940 account for 88 percent of the buildings in the study area and, of these, 79 percent were constructed over 90 years ago.

The area is clearly best defined in land use terms as an older, mostly light industrial mixed-use district, with transportation, utility and industrial activities representing the dominant activities. Thirteen of the 67 lots (19 percent) have vacant buildings. Transportation and auto-related uses account for 26 lots or 48 percent of the 54 occupied lots. Warehouse and storage uses account for 5 lots or 9 percent of occupied lots; and industrial uses account for 8 lots or 15 percent. Together, these three land use categories of auto/transportation-related, industrial, and warehouse account for 72 percent of the uses located on occupied lots. Other uses, such as retail, office, institutional, and residential uses account for the remaining occupied lots.

These types of industrial uses, operating in old and obsolete buildings in a concentrated area, are a common prescription for generating deteriorating structures in a deficient neighborhood. Such older and heavily-used buildings tend to require more upkeep and maintenance, to the contrary however, the marginal economic nature of many operations (auto-repair, auto parking, etc.), has resulted in the opposite, with inadequate maintenance creating chronic problems of water infiltration and unsafe building conditions in a large proportion of properties in the study area.

2.6.2 Visual Character

The evolution of Manhattanville as a distinct transportation and industrial district began prior to the adoption of zoning but was institutionalized in both the City's 1916 and 1961 zoning. The result is a distinct pocket of industrial uses, isolated from the surrounding high density residential, commercial, and institutional neighborhoods of West Harlem, Morningside Heights and Hamilton Heights.

Such separation by predominant land use is reinforced by a series of strong visual edges to the study area. To the north, east and south, high-rise residential towers overlook the study area and create strong visual borders. These visual boundaries are further defined by massive infrastructure elements to the east and west, as viaducts above Broadway and 12th Avenue. The IRT subway above Broadway is carried by a series of tall arches and columns (approximately 50 ft. tall at the W. 125th Street station), descending to a two-block long stone and brick abutment between W. 133rd and W. 135th Streets. The endemic graffiti, damaged stone and brick on the abutment, and peeling paint and rust on the viaduct present an unappealing eastern border to the study area. Similarly to the west, a series of three viaducts (Riverside Drive, the Amtrak rail line and the Henry Hudson Parkway) run parallel above and to the west of 12th Avenue. The resulting effect is to create a massive visual barrier and tunnel effect between the study area and the Hudson River waterfront. (See photos 1-13).

Within the study area, conditions are almost devoid of any visual quality. The landscape attributes of vividness, intactness, and unity are typical criteria for defining visual quality. Vividness or distinctiveness refers to the memorability of the visual impression received from contrasting landscape elements as they combine to form a striking and distinctive visual pattern. In this instance, the vividness is generally negative. Only a few buildings (e.g., the former Studebaker Building, and the MTA bus depot) exhibit any architectural interest or coherent design. Building heights and styles are very diverse and with numerous vacant and substandard buildings throughout the study area, it is clearly lacking in intactness and unity.

Auto-related businesses particularly create a perception of streetscape clutter by parking vehicles on sidewalks, double-parking cars in the street, and leaving damaged vehicles around their shops. Other businesses, particularly the storage warehouses contribute to this problem, with the result of frequently deteriorated sidewalks and vault covers, presenting safety hazards for pedestrians and a visual impression of neighborhood neglect and unsightliness. (See photos 14-24).

Street walls in the study area present a generally grim appearance because of the ubiquitous roll-down gates, blocked-off windows, frequent structural deterioration, sidewalk sheds to protect pedestrians from falling masonry, chipped and peeling painted walls, and graffiti. These bleak streetscapes suffer further from the general absence of street trees. (See photos 25-46). There are few amenities to attract residents into the area (only a few restaurants at the study area's edges on Broadway and 12th Avenue), so there is little pedestrian traffic. In summary, the visual conditions of the study area are

unattractive, substandard and particularly foreboding after dark; all conditions that promote its isolation from the rest of West Harlem.

2.6.3 Underutilization and Vacancies

Underutilization of the permitted building bulk and lot and building vacancies are indicators of weak demand and property values and, if widespread, signify disinterest and disinvestment in a neighborhood. Earth Tech examined the City's GIS database to compare the lot and building areas in order to assess the degree of property underutilization of lots in the study area. Earth Tech also conducted surveys of the study area to inventory vacant parcels and buildings.

Underutilization was compared to permitted bulk for both the old manufacturing zoning, as well as with the new C6 zoning. To the extent sites were underutilized under the manufacturing FAR 2.0, this would be compounded threefold under the new FAR 6.0 zoning. Earth Tech confirmed AKRF's finding that 29 lots, or 43 percent, had utilization rates of 60 percent or less under the former manufacturing zoning. Of those lots with less than 60 percent utilization, two are vacant lots with no structures and 13 have structures covering less than the full lot. Nine lots have one-story buildings that cover the lot and, thus, utilized 50 percent of their potential bulk. Five additional lots have utilization rates between 50 percent and 60 percent. Under the new C6 zoning, 53 lots (or 79 percent) fall below 60 percent utilization, three lots are at 100 percent utilization and one exceeds the permitted bulk by an additional 84 percent (Block 1997/Lot 30).

Underutilization of permitted bulk is a symptom of investor disinterest, further evidenced by the fact that only two new buildings have been constructed in the study area since 1975; and only six buildings have been constructed in the study area since 1948. This lack of investment is also indicated by the high rate of vacancies in the area. Of the 67 lots, 13 lots have buildings that are vacant; and a further six buildings are 50 percent vacant or more. Thus 28 percent of lots have complete or major vacancies.

Other key factors contributing to this lack of investment are the small size and configuration of most lots, together with the frequently obsolete layout of many existing buildings. Of the 67 study area lots, 39 percent have areas of less than 5,000 sq. ft., and only 27 percent have 10,000 sq. ft. or more. For over a century, the area has experienced a multiplicity of small lots under diverse, fragmented ownership, inhibiting the effective assembly of adequately sized parcels for modern business uses. The result has been a clear lack of continuing investment in what is otherwise an area with many locational advantages.

2.6.4 Building Code Violations

AKRF reported there were 410 open code violations in the study area, as of July 2006, applied to 51 of the 67 lots, or 75 percent. Earth Tech examined the DOB database covering both DOB and ECB violations, as of February, 2008, and identified 458 open

violations, an increase of 11.7 percent. These violations were applied to 51 lots (75 percent), but a slightly different building population than the AKRF report.

Typical violations relate to: unapproved occupancies; lack of building maintenance; inadequate fire exits; lack of fire retardant materials; failure to maintain boilers; and failure to maintain elevators. Many of these violations are considered seriously hazardous to the safety of employees and the public. Some buildings have major concentrations of violations but, of all 67 lots, 19 (or 28 percent) have ten or more open violations.

The volume, persistence, and distribution of buildings throughout the study area with code violations, are strong evidence of the area's chronic problems of under-maintained and deteriorated buildings.

2.6.5 Environmental Concerns

Earth Tech reviewed the Manhattanville EIS and its Appendix F.1, detailing environmental conditions in the study area, and confirms that AKRF's *Neighborhood Conditions Report* identified the key findings of these studies. Earth Tech additionally reviewed the US EPA database on federal, state, and local environmental conditions in the study area, but found no additional records to change the findings reported by AKRF.

AKRF conducted PESAs for each lot in the Manhattanville EIS study area, additional Phase I ESA investigations were conducted for 38 locations, Phase II ESAs of soil samples were performed at 22 accessible locations, of which 19 were retrofitted for groundwater monitoring. The PESA reviews examined whether current, historical, known or potential hazardous conditions may have affected the site's soil and/or groundwater.

Hazardous chemicals have a long history in the study area, associated with: fuel oil and gasoline tanks, including above storage tanks (ASTs) and underground storage tanks (USTs); manufactured gas plants; and fill materials using coal and incinerator ash, demolition debris, and industrial wastes. The Manhattanville Bus Depot, the location of a former manufactured gas plant (MGP), has a history of leaks and site contamination with plumes of underground petroleum products migrating beyond it, necessitating substantial remediation.

In summary, the PESAs identified past and present uses in the study area that give rise to serious environmental concerns, particularly the frequency of automobile garages, repair shops, and gas stations, and industrial uses, together with numerous USTs and ASTs. However, the Phase II soil sampling indicated relatively few exceedances of standards, and these were most likely caused by the presence of urban fill, rather than specific past or current uses. Groundwater samples also did not reveal widespread contamination, although localized areas had some trace petroleum contamination. Because the potential and identified contaminants are buried and groundwater is not used for potable water, they do not pose a threat to human health unless they are disturbed. Consequently, remediation of any identified contaminants would be required as part of any redevelopment of sites within the study area.

2.6.6 Building Conditions

Earth Tech conducted site investigations of all 67 lots in the study area over the period February to April, 2008. Site evaluations included the exterior assessment of all lots in the study area and of the interior of 49 lots/buildings, where Earth Tech was granted permission to survey them. Earth Tech's professional engineers and architects conducted visual structural, and health and safety evaluations of the 67 lots; these are detailed in Chapter 3 of this report. The individual properties' reports are further assessed in terms of building code violations, environmental concerns, and general land use and ownership characteristics. The combination of structural conditions, health and safety concerns, applicable code violations, and environmental concerns is the basis for assigning a condition rating to the site as being: Good, Fair, Poor, or Critical. This four-class rating system was used by Thornton Tomasetti for the AKRF report and is adopted here by Earth Tech as a reasonable and logical ranking system.

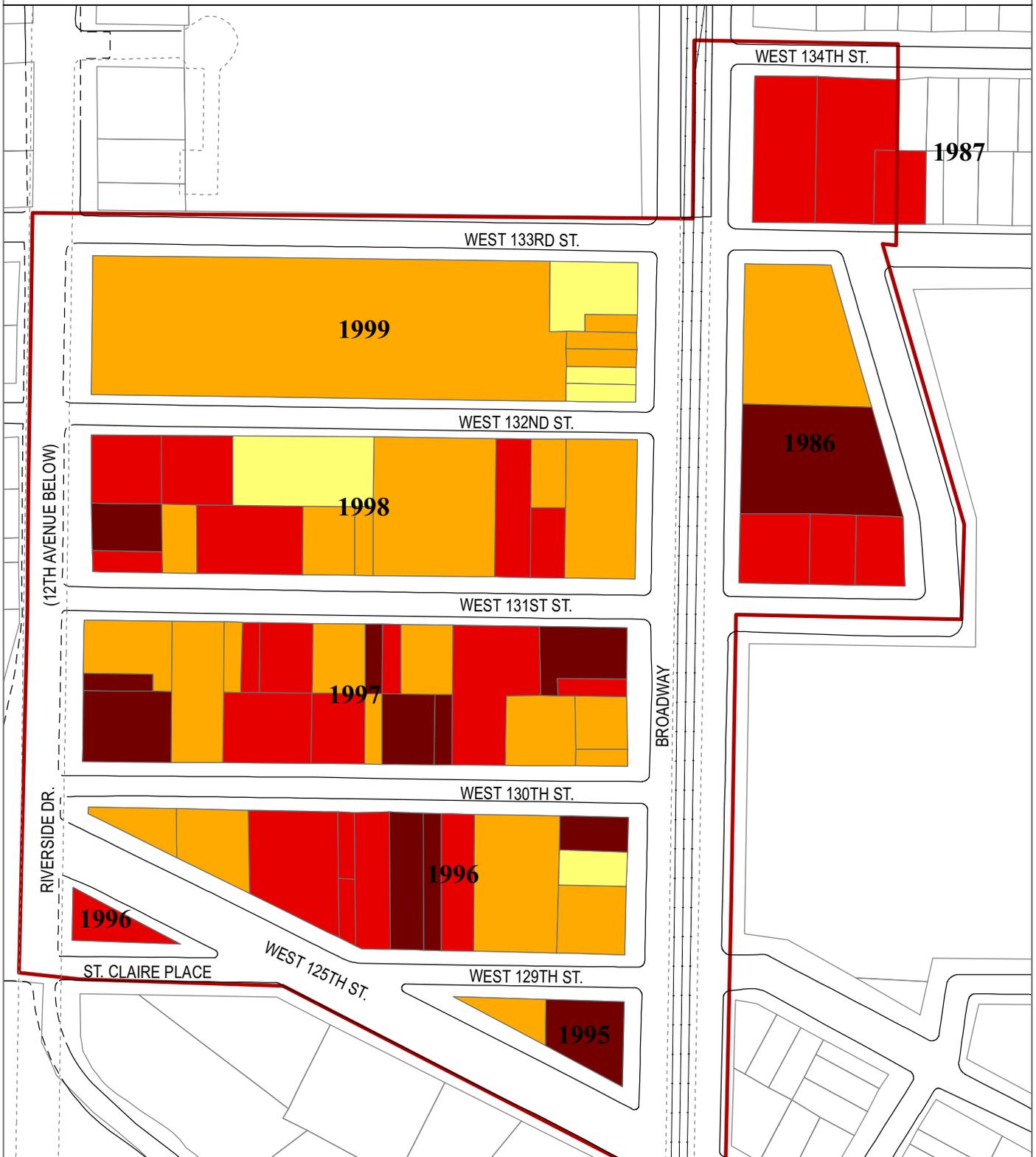
Earth Tech's engineers and architects used a checklist of conditions criteria assessing the building's structural systems (i.e., columns, foundation walls, floor beams, floor slabs, stairs), exterior building conditions (walls, doors, windows, roofing, fire escape, graffiti), health and safety items (electrical hazards, elevators, emergency exit, debris, stairs, vermin), interior conditions (walls, ceiling floors, windows), and site conditions (sidewalk, exterior steps, curb cuts). As noted, an overall site condition rating was developed based on these criteria, plus reported code violations, and environmental concerns, for all 67 lots. Detailed site ratings are provided by lot in Chapter 3, including documentary photographs.

Thornton Tomasetti and AKRF had rated these sites approximately a year ago, finding that there were 12 sites (18 percent) in critical condition, and a further 22 sites (33 percent) in poor condition. They rated only six sites (9 percent) as good; and the remaining 27 sites (40 percent) as fair.

Earth Tech maintained the previous conditions rating given in the AKRF report in the great majority of cases, but downgraded four of the lots: one from good to fair, and three from fair to poor. These changes reflect deteriorating conditions over the period since the prior inspections. Thus, the overall rating of sites by Earth Tech is: 12 sites (18 percent) in critical condition; 25 (37 percent) in poor condition; 25 (37 percent) in fair condition; and 5 (7 percent) in good condition. Figure 11 (Lot Conditions) shows the location of these conditions in the study area.

Earth tech rated 37 sites (55 percent) in critical or poor condition. These sites are scattered among almost all the blocks but concentrate on those blocks in the study area east of Broadway (Blocks 1986 and 1987) and the central and southern parts of the study area (Blocks 1995, 1996, 1997 and 1998). The distribution of those sites rated as good is limited to several residential buildings on Broadway in the northern part of the study area, the Con Edison gas cooling facility on W. 132nd Street, and a moving and storage building (Hudson Moving and Storage) on Broadway. With the exception of Block 1999, the sites rated as fair are intermingled with those in poor or critical condition.

Lot Conditions



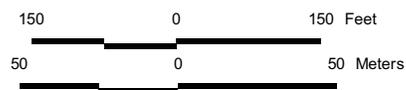
Lot Conditions

- Good
- Fair
- Poor
- Critical

Block Number

1999

Review of Manhattanville Neighborhood Conditions Study



Source: Based on evaluations by Earth Tech, 2008.

Figure 11

Figure 11 illustrates the widespread distribution of lots rated as in poor or critical condition in the study area. Most of the deficient conditions derive from a lack of proper building maintenance and a lack of attention to employee or public health and safety. The age of most structures, together with the lack of attention to chronic problems of water infiltration, are the primary contributing source of distress to buildings' structural elements, thereby creating unsafe conditions.

For a lot to be rated by Earth Tech as in critical condition, a building's structural system would exhibit a significant number of conditions that compromise the structural integrity of areas within the building and/or site conditions present significant health and safety concerns. Examples of the deficient conditions include the following.

Damage to Building Exteriors – structural deficiencies were noted on buildings in many parts of the study area, including large cracks, missing or loose bricks, deteriorated lintels and window sills. Photos 47-50 show examples of these conditions.



Photo 47: Block 1996 Lot 14



Photo 48: Block 1986 Lot 30



Photo 49: Block 1998 Lot 1



Photo 50: Block 1997 Lot 48

Deteriorated columns and beams – chronic water intrusion, ad hoc repairs and damage to encasements have affected beams and columns, leading to severe rusting, spalling and other structural problems (see photos 51-54).



Photo 51: Block 1996 Lot 36



Photo 52: Block 1997 Lot 48



Photo 53: Block 1997 Lot 64



Photo 54: Block 1997 Lot 18

Chronic neglect of roof maintenance – Deteriorated roof membranes; damaged parapets, coping, flashing or waterproofing; blocked drains, and debris; and poorly sloped roofs, are typical causes of water infiltration to the interior of buildings and the source of much structural damage (see photos 55-58).



Photo 55: Block 1997 Lot 64



Photo 56: Block 1986 Lot 30

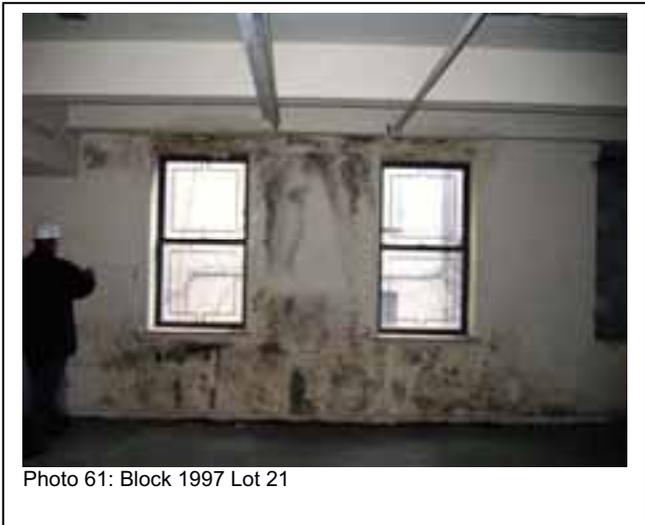
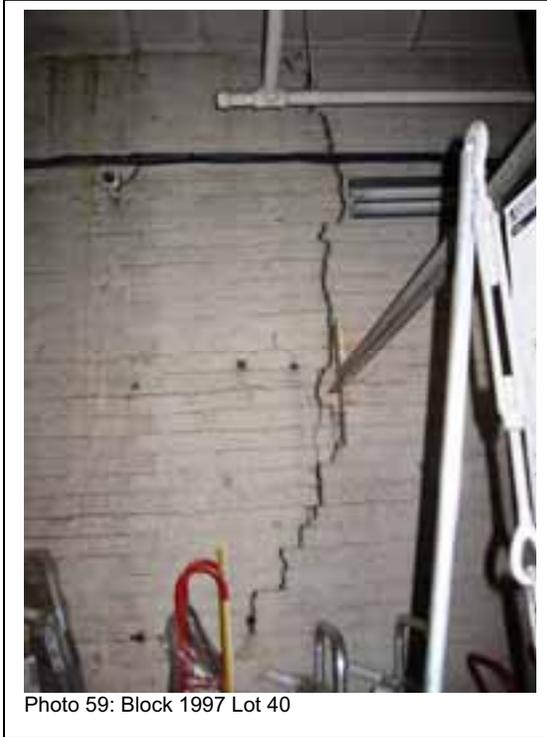


Photo 57: Block 1996 Lot 21



Photo 58: Block 1997 Lot 48

Deterioration of interior walls and floor slabs - Cracks, spalling, efflorescence and mold on interior walls and floor slabs are examples of deficiencies caused by chronic water infiltration, as well as wear and tear associated with the nature of occupants (e.g., auto parking) (see photos 59-62).



Large holes or missing ceiling - Numerous properties have problems of broken, damaged and deteriorated ceilings, mostly caused by chronic water infiltration (see photos 63-66).



Photo 63: Block 1996 Lot 18



Photo 64: Block 1997 Lot 18



Photo 65: Block 1997 Lot 55



Photo 66: Block 1995 Lot 31

Damaged or cracked interior flooring – interior finishes are often damaged from water infiltration, causing buckling, delamination, other dangerous conditions for building occupants (see photos 67-69).



Photo 67: Block 1997 Lot 18



Photo 68: Block 1996 Lot 36



Photo 69: Block 1996 Lot 15

Broken or missing windows and skylights - Improperly sealed windows, broken or missing window panes or window frames are another common source of water infiltration that causes further structural damage (see photos 70 and 71).



Photo 70: Block 1996 Lot 16



Photo 71: Block 1998 Lot 3

Structurally unsound stairs – Corrosion, spalling, of supports, landings, and stair treads, missing hand railings are examples of safety issues for building occupants (see photos 72 and 73).

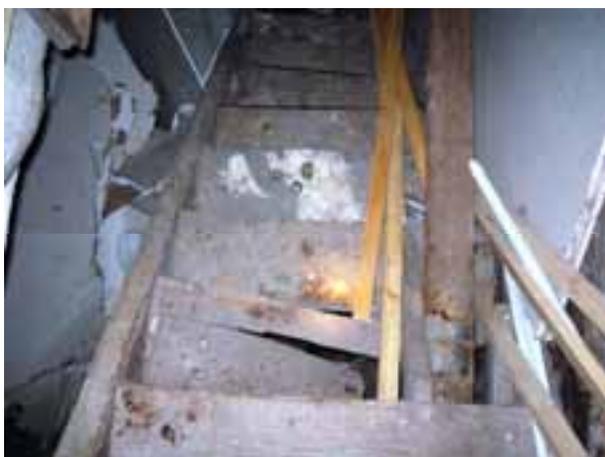


Photo 72: Block 1997 Lot 48



Photo 73: Block 1996 Lot 50

Elevators that are inoperable or with hazardous building code violations – Elevator shafts with damaged walls, floor plates, and other inadequate safety features present dangers to employees and others in the building (see photos 74 and 75).



Photo 74: Block 1996 Lot 18



Photo 75: Block 1997 Lot 34

Inadequate or blocked emergency exits - Emergency exits with blocked or inoperable doors, or corroded metal or damaged wooden stairs, missing handrails or other deficient features are found in several buildings, posing safety hazards to building occupants (see photos 76 and 77)



Photo 76: Block 1997 Lot 34



Photo 77: Block 1996 Lot 15

Exposed and haphazardly installed electrical wiring – Poorly installed and/or maintained wiring was identified in several buildings, sometimes near water leaks or areas prone to flooding, creating safety concerns (see photos 78 and 79)



Photo 78: Block 1996 Lot 18



Photo 79: Block 1996 Lot 15

Open spray painting of automobiles – Several properties used for auto repairs operate paint spraying within their interior spaces without adequate ventilation systems, which is hazardous to employees and other building occupants. Auto repair shops also are noted with car washing activity without adequate drainage, thereby aggravating water infiltration problems (see photos 80 and 81).



Photo 80: Block 1997 Lot 34



Photo 81: Block 1987 Lot 7

Broken and deteriorated sidewalks and curbs – Sidewalks with cracks, broken and spalled concrete slabs, and broken curbs are common in the study area and pose tripping hazards to pedestrians. Sidewalk parking and unloading by many businesses in the area contribute to these problems and create addition hazards to pedestrians (see photos 82 and 83).



Photo 82: Block 1998 Lot 16



Photo 83: Block 1996 Lot 61

Unsanitary conditions – Conditions in several buildings present health hazards to occupants from severe mold, standing water, leaking chemicals, excessive garbage and debris and poor pest control (birds, rats, roaches, etc.) (see photos 84-87).



Photo 84: Block 1996 Lot 20



Photo 85: Block 1986 Lot 6



Photo 86: Block 1996 Lot 18



Photo 87: Block 1997 Lot 48

Other poor exterior conditions – Many buildings suffer from deficient finishes, peeling paint, rusted fences, gates and equipment. Graffiti and litter is also a common eyesore in the study area (see photos 88 and 89).



Photo 88: Block 1997 Lot 6



Photo 89: Block 1996 Lot 56

2.7 Conclusion

The Manhattanville study area has been intensively examined by Earth Tech, auditing the work of AKRF and Thornton Tomasetti by conducting its own building and neighborhood surveys and comparing them. Earth Tech's findings confirm, in large degree, those of AKRF and Thornton Tomasetti, and although some features in the neighborhood have been upgraded in the interim (e.g., replaced sidewalks), Earth Tech has in several instances downgraded particular buildings that appear to have deteriorated further. Earth Tech now rates 37 sites (of the 67 total or 55 percent) as in critical or poor condition, as shown in Figure 11 – Lot Conditions, and documented by individual lot in Chapter 3.

Section 2 of this report has reviewed a variety of factors describing the conditions in the study area. Beginning with land use, Earth Tech documents the land uses in the neighborhood, noting the dominant uses as auto-transportation, light industry and warehouse, which together account for 72 percent of the occupied lots, patterns that are reflected in its historic manufacturing zoning. There are no public open spaces, only two small religious institutions, and seven residential structures, two of which are presently vacant. There are also only a handful of retail businesses, located at the periphery of the study area on Broadway and Twelfth Avenue.

The dominant land uses, particularly the auto-repair shops, generate a particular wear-and-tear on the neighborhood's infrastructure, as well as on the individual lots at which they operate. The service and storage of vehicles and auto repair and painting has a history of careless maintenance, frequently creating health and safety issues. A common ambience of casual use of sidewalks as storage and sales spaces adds to visual clutter, as well as creating safety hazards for pedestrians.

Other former industrial uses include manufactured gas, chemicals, electronics and other operations with hazardous components. These legacies of historic industrial use combine with a substantial amount of indiscriminate urban-fill, added over a century of the area's transportation and industrial dominance.

The lack of more recent investor interest in the neighborhood is fundamentally reflected in the few buildings constructed since 1961, only three. A second indicator of demand - utilization of a site's potential zoning bulk - similarly exhibits a low utilization rate, with only 43 percent of lots reaching 60 percent of the permitted floor area under the former manufacturing zoning. A third indicator of limited demand is the proportion that sites and buildings are vacant. Of the 67 lots, 13 lots have buildings that are vacant; and a further 6 buildings are over 50 percent vacant. Thus 19 lots (28 percent) have total or major vacancies.

A related indicator of declining investment is the neglect of building maintenance, evidenced in the field surveys of many buildings in the area but also by the surfeit of open Building Code violations on properties in the study area. As of July 2006, there were 410 open violations, applied to 51 (or 75 percent) of the 67 lots. Typical violations

include: using upper floors for parking without permit; lack of building maintenance, applicable to walls, windows, ceilings and floors; blocked or non-existent fire exits; a lack of fire retardant building materials; failure to maintain boilers; and failure to maintain elevators. Many of these violations are seriously hazardous to the safety of employees and the public.

Underutilization and a lack of investment are often associated with other factors, such as the size and configuration of lots, and a multiplicity of ownership. When parcels are too small for the demands of modern businesses, and assembly of appropriately sized properties is difficult for investors, they will look elsewhere. The study area has 26 lots (39 percent) with areas of less than 5,000 sq. ft. and only 18 lots (27 percent) with 10,000 sq. ft. or more. The area has been a jumble of small parcels in diverse ownership, inhibiting its effective redevelopment for more than the past 60 years.

The consequence of these converging problems has been a significant deterioration in the conditions of buildings and their lots. The earlier inspections by Thornton Tomasetti and AKRF had rated 12 sites (18 percent) in critical condition, and a further 22 sites (33 percent) in poor condition. They rated only six sites (9 percent) as good; and the remaining 27 sites (40 percent) as fair. Earth Tech generally found the same conditions and rated them similarly to the AKRF report in the great majority of cases. However, it downgraded four of the lots: one from good to fair, and three from fair to poor, reflecting deteriorating conditions since the prior inspections. Earth Tech rates 12 sites (18 percent) in critical condition, 25 (37 percent) in poor condition, 25 (37 percent) in fair condition, and 5 (7 percent) in good condition. Thus, Earth Tech rates 37 sites (55 percent) in critical or poor condition.

The great majority of these buildings' structural distress and deficiencies is caused by the age of buildings, the heavy-use applied to them, and the chronic neglect of maintenance. The lack of proper maintenance has allowed water infiltration of building walls and interiors, particularly from poorly functioning roof and drain systems. Large cracks, missing or loose bricks, deteriorated lintels and window sills, deteriorated columns and beams, cracked and spalled floor slabs, deteriorated floors and ceilings are the frequent consequence of this neglect, as documented in Chapter 3 of this report. Many of these conditions are intrinsic threats to the health and safety of building occupants and the public, exacerbated by further careless behavior, such as inadequate or inoperable fire exits, haphazardly installed wiring, elevators and boilers with safety concerns, painting vehicles without proper ventilation, unsanitary conditions, and broken and deteriorated sidewalks.

In summary, the Manhattanville study area has been examined by Earth Tech and found to present a series of substandard conditions applicable to a majority of its buildings and lots. These individual conditions aggregate to a set of neighborhood conditions exhibiting a historic pattern of disinvestment and neglect. The former and existing activities dominant in the neighborhood have created a series of negative spillovers, presenting a blighted and discouraging appearance for the surrounding community, and serious concerns for the health and safety of employees and the public.

3. BUILDING CONDITIONS

3.1 INTRODUCTION

This section of the report provides a detailed profile of each property in the study area, organized by tax block and lot.

Each lot's profile provides an introductory description of the property's location, zoning classification, present use, and recorded ownership, as of April, 2008. This is followed by a description of the lot in terms of the following characteristics:

- Physical and structural concerns;
- Health and safety concerns;
- Building Code violations;
- Underutilization; and
- Environmental issues

A summary section of each lot's profile integrates the applicable conditions and confirms the site's overall condition rating applied by Earth Tech. Photographs documenting the conditions at each lot are included at the end of each lot profile.

Earth Tech assessed the exterior conditions of all 67 lots and conducted interior examinations of 49 buildings where it was granted access. These inspections occurred over the period February to April 2008.

3.2 Methodology

Earth Tech provided a team of architects, structural engineers, and urban planners to research and to survey the conditions in the study area. A field team consisting of at least one architect, and two engineers conducted visual surveys of each site and building in the study area, documenting each site with photographs and applying a site condition rating check sheet. This four-class rating system (good, fair, poor and critical) was used by Thornton Tomasetti for the AKRF report and was adopted by Earth Tech as a reasonable ranking system..

Earth Tech's checklist of conditions criteria assessed the building's structural systems, (columns, foundation walls, floor beams, floor slabs, stairs), exterior building conditions (walls, doors, windows, roofing, fire escape, graffiti), health and safety items (electrical hazards, elevators, emergency exit, debris, stairs, vermin), interior conditions (walls, ceiling floors, windows), and site conditions (sidewalk, exterior steps, curb cuts).

Earth Tech developed an overall site condition rating for each of the 67 lots based on these criteria, plus reported code violations, and environmental concerns. The Overall Condition Rating checklist (reproduced on the following pages), provides a guide for permitting a lot's cumulative ranking based on a variety of building systems and site conditions. It should be noted, for example, that for a site to be rated as "poor" that a "*Building's structural system, exterior, and interior; health and safety items; and site are in fair to poor condition.*" This approach is typical for engineers evaluating buildings' conditions, providing an inherently cautious approach to rating a building's structural safety.

In addition to the site evaluations by Earth Tech engineers and architects, Earth Tech urban planners reviewed a variety of databases, including: ownership information from NYC Department of Finance *Automated City Register Information System*; Building Code violations and building age data from NYC Department of Building *Building Information Systems*; land use, building height and zoning information from the NYC Department of City Planning's *MapPluto* geographic information system; environmental issues from US Environmental Protection Agency's *Window To My Environment*, and NYS Department of Environmental Conservation's *Environmental Navigator*, and its *Environmental Site Database Search*.

In considering the environmental issues in the study area, Earth Tech also reviewed the NYC City Planning Commission's EIS for the *Proposed Manhattanville in West Harlem Rezoning and Academic Mixed Use District* (November 16, 2007). The EIS and its Appendix F.1 detail past environmental conditions, and the environmental investigations performed as part of the EIS. The EIS Appendix F, Table F-1 summarizes environmental issues in the study area, and is reproduced here as Appendix Table A-2.

The checklist on the following pages present the general framework used by Earth Tech to assess the structural, exterior, interior, and site conditions at each lot. The extent and severity of conditions at each property were considered in conjunction with buildings' age, construction type and size, as well as available data on environmental issues and open Building Code violations. The overall site condition ratings (good, fair, poor or critical) applied by Earth Tech represent its professional opinion of each property's conditions, as of the dates of inspections during the period February to April 2008. The individual lot profiles follow the rating checklist.

Overall Condition

Good	Fair	Poor	Critical
Building's structural system, exterior, and interior in good condition site in good to fair condition; and no health and safety concerns.	Building's structural system, exterior, and interior in good to fair condition; site in fair to poor condition; and minor health and safety concerns.	Building's structural system, exterior, and interior; health and safety items; and site in fair to poor condition.	Building's structural system, exterior, and interior; health and safety items; and site in poor to critical condition. Significant number of conditions observed that may compromise the structural integrity of areas within the building.

Building's Structural System Conditions

	Good	Fair	Poor	Critical
Columns	No damage	Minor cracks (hairline) or minor local spalling, corrosion stains on steel columns or local signs of corrosion	Significant concrete cracking (greater than 1/8") or spalling in several locations, signs of corrosion on several locations	Several wide cracks, widespread signs of corrosion, bowing or any other signs indicating structural instability of the column
Foundation Walls	No damage	Minor cracks (hairline) or spalling	Significant cracking (greater than 1/8" or spalling in several sections	Significant number of wide cracks with signs of water infiltration and bowing
Floor Beams	No damage	Minor cracks (hairline) or minor local spalling, corrosion stains on steel beams or local signs of corrosion and discoloration indicating minor water damage on timber joists	Significant concrete cracking (greater than 1/8" or spalling in several locations or exposed reinforcement, or signs of corrosion on steel beams and signs of significant deterioration on timber joists	Significant number of wide cracks with corrosion on exposed reinforcement, widespread signs of corrosion on steel members and widespread signs of significant deterioration of timber joists or any signs indicating structural instability
Floor Slabs	No damage	Minor cracks (hairline) or minor local spalling	Significant cracking (greater than 1/8") or spalling in several sections	Significant number of wide cracks with signs of water infiltration including signs of corrosion on exposed reinforcement
Stair	No damage	Minor cracks (hairline) or local cracking on concrete members or corrosion stains on steel. Members or discoloration indicating minor water damage on timber members	Significant cracking (greater than 1/8") at several locations or spalling in several locations on concrete members, or signs of corrosion on steel members at several locations, or signs of significant deterioration on timber members at several locations	Significant number of wide cracks or spalling on concrete members, widespread signs of corrosion on steel members, or widespread deterioration of timber members

Exterior Building Conditions

	Good	Fair	Poor	Critical
Walls	No damage	Minor cracks (hairline), spalling peeling paint	Several wide cracks(greater than 1/8")	Bulges, wide cracks, or cracks through full thickness of the wall
Doors	No damage	Minor corrosion or minor damage from local impact	Severely corroded metal door or significant damage	Missing, severely damaged, or inoperable door; or obstructed egress
Windows	No damage	Local minor damage, such as cracked caulking, peeling paint, or minor cracks in sill	Number of windows with damaged frames, minor cracked glass, and/or cracked sills	Missing, cracked, broken, or inoperable windows
Roofing	No damage	Minor cracks or minor local ponding	Significant. damage to roofing, uneven surface causing ponding, clogged drains	Widespread and significant drainage to roofing, such as delamination, deterioration and/or missing membrane; ponding; and/or clogged drains
Fire Escape	No damage	Minor local damage	Damage at more than one location	Missing or inoperable components. such as door locks or other hardware
Graffiti	No graffiti	Graffiti in one location	More than one but less than six locations of graffiti	Graffiti in more than six locations

Health and Safety Items

	Good	Fair	Poor	Critical
Electrical Hazards	No hazard	Minor damage to electrical system	Significant damage to electrical system or water infiltration above or near electrical panels	Exposed wires or open panels
Elevators	No damage and operational	Operating with minor damage to finishes or fixtures, minor litter in the elevator	Impact or similar problems while in operation, significantly damaged finishes, or excessive litter in the elevator	Inoperable or operable with significant cracks or other damage to elevator shaft walls and other unsafe elevator conditions
Emergency Fire Exit	No physical damage or obstructed exit routes	Minor damage such as cracked masonry (hairline)	Structural damage, access blocked by stored objects	Exits nailed shut or otherwise inoperable; no egress to a public way; broken hardware
Garbage and Debris (Building Interior)	None observed	Minor garbage and debris	Moderate amounts of garbage and debris evident throughout the building	Excessive amounts of debris in areas of the building causing unsanitary conditions
Stairs	No Issues	-	-	Missing or broken treads or uneven treads, missing handrails
Vermin Infestation	None observed	Minor evidence of vermin present at one location	Minor evidence of vermin present at more than one location	Widespread evidence of vermin infestation

Site Conditions

	Good	Fair	Poor	Critical
Sidewalk	No damage	Minor cracks (hairline) or spalling	Widespread cracking (greater than 1/8") and/or spalling, or critical condition of sidewalk in localized area	Large portion of the sidewalk's concrete is cracked, crumbling, or spalling
Exterior Steps	No damage	Minor cracks (hairline) or spalling	Widespread cracking (greater than 1/8") and/or spalling	Severely cracked, corroded, or broken steps
Curb Cuts	No damage	Minor cracks (hairline) or spalling	Significant concrete cracking (greater than 1/8") or spalling in several sections	No concrete curb cut provided
Litter	No litter	Minor litter	Some litter	Excessive litter

Interior Building Conditions

	Good	Fair	Poor	Critical
Interior Wall Surface of Exterior Walls	No damage	Minor cracks (hairline)	Widespread cracking (greater than 1/8") and/or spalling	Spalling and exposed reinforcement bars
Ceiling	No damage	Minor cracks (hairline)	Widespread cracking (greater than 1/8") or damaged ceiling tiles	Local ceiling collapse with broken or missing sections of ceiling
Floors	No damage	Minor cracks (hairline)	Several cracks (greater than 1/8"), spalled concrete floor, or damaged floor tiles	Broken or missing sections of tiles, wood, planks, or plywood flooring
Walls	No damage	Minor cracks (hairline)	Widespread cracking (greater than 1/8") and/or spalling	Bowed, buckling, sagging, or serious lack of alignment
Windows/Glass	No damage	Minor cracks (hairline) or cracked caulking	Several minor cracks	Extensively cracked or missing panes of glass

SITE CONDITION: POOR

Block 1986 Lot 1



Source: MapPluto copyrighted by the New York City Department of City Planning, 2007

LOCATION, USE, ZONING, AND OWNERSHIP

Lot 1 is located at 3260 Broadway at the northeast corner of Broadway and West 131st Street. The 9,985-sf site consists of a one-story 1,950-gsf structure and, according to the Department of Finance RPAD Master File, was built in 1966 with no subsequent recorded alterations. Earth Tech surveyed the site (February 2008) and confirms the AKRF findings that the lot contains a gas station, convenience store, auto service center (see photo A), and an accessory parking lot on the north side (see photo B) of the building. According to the NYC Department of Finance Automated City Register Information System (ACRIS), Lot 1 was acquired by The Trustees of

Columbia University from 3260 Broadway Service Center Inc., on April 10, 2006 (date of deed transfer). At the time of the AKRF report, Lot 1 was zoned M1-2; however it has since been designated C6-1 as part of the Special Manhattanville Mixed Use District (MMU) rezoning (effective December 19, 2007).

PHYSICAL AND STRUCTURAL CONCERNS

The building was evaluated by Thornton Tomasetti, and was later reported by AKRF, as being in poor condition owing to a combination of structural distress, especially the exterior concrete masonry unit (CMU) bearing walls (see photo C), other deficient interior and exterior (see photo D) building conditions, and hazardous site conditions.

At the time this site was inspected by Earth Tech, on February 25, 2008, the observed instances of structural damage that could be directly observed appeared consistent with the findings reported by AKRF and Thornton Tomasetti. It should be noted that the roof deck structure and its supports were and remain covered with finish materials (see photos E and F), and are not accessible to direct evaluation. The Thornton Tomasetti and AKRF reports refer to a condition rating system established by Thornton Tomasetti. With reference to this system, most of the primary and secondary structural elements, and other physical features, e.g., interior slabs on grade (see photo G), steel roof framing (see photo H), roofing, canopy structure (see photo I) are rated as fair, and could be repaired or rehabilitated.

The sidewalk at the southwest corner of the property was rated as poor and was described as a tripping hazard. Subsequent to the inspections by Thornton Tomasetti the sidewalks along Broadway and West 131st have been replaced with new concrete and are now in fair to good condition, however, the asphalt paving to the north of the site is in poor condition (see photo J)

Earth Tech confirms the findings of AKRF and Thornton Tomasetti of significant damage (wide cracks, spalling) to the exterior CMU bearing walls and long-term water damage to both structural and non-structural elements, although most of the exterior wall cracks are probably caused by foundation settlement or volumetric changes (see photo K) and restraint, rather than water infiltration. One long horizontal crack adjacent to the corroded steel lintels of two north wall windows was, however, probably initiated by water infiltration (see photo L).

The currently known and observable structural deficiencies, taken alone, could warrant a condition rating of fair, although several exterior and interior walls exhibit multiple major cracks. There are also concerns with respect to the roof. If rehabilitation is contemplated at some future time, an in-depth inspection should be conducted that should include exposure of the hidden roof structure to enable hands-on inspection and, if indicated by that inspection, material sampling and testing, and analysis to estimate the residual strength of the roof and its supports. The Thornton and Tomasetti condition rating system differentiates between *Structural Systems Conditions* and *Overall Condition*. Under *Overall Condition*, a poor rating is defined as when a “Building’s structural system, exterior and interior, health and safety items, and site are in fair to poor condition. The structural conditions range from fair to poor but the building’s overall condition is affected by the health and safety issues discussed next.

HEALTH AND SAFETY CONCERNS

Earth Tech concurs with the safety concerns previously identified in the AKRF report, namely: the emergency exit from the gas station that leads to a paved parking area north of the lot is locked up at night with an overhead roll-up gate blocking egress (see photo K). The exit corridor still has a ladder stored on the path of travel, which is a tripping hazard in emergency situations; and there is no panic hardware (actually, there is no lock at all) on the exit door. The emergency exit sign, although present above the exit corridor’s door, was not lit at the time of the Earth Tech visit (see photo L). Additionally, the adjacent automotive repair shop has an exit door without proper exit hardware, no exit sign above it, and a slide bolt on the outside, potentially allowing anyone to lock it from the outside (see photo M).

BUILDING CODE VIOLATIONS

Earth Tech reviewed DOB Building Information System files and confirms the AKRF report findings of three open building code violations for Lot 1. Earth Tech found no additional violations issued subsequent to the release of the AKRF report.

The AKRF report found that Lot 1 has three open building code violations. One violation was issued by ECB in 2002 for having an illuminated sign without a permit and installing a sign without a permit. Another violation, dated 1976, was issued by DOB for an electric sign. No additional information is available in the DOB Building Information System for the above violations or the remaining violation.

UNDERUTILIZATION

Subsequent to the release of the AKRF report, Lot 1 was rezoned from an M1-2 (FAR 2.0) to C6-1 (FAR 6.0) district (effective December 19, 2007). Earth Tech confirms the AKRF utilization findings under the prior M1-2 including lot area (9,985 sf), maximum allowable floor area (19,970 zsf), and a 10 percent site utilization with the existing 1,950-gsf building.

Under the new C6-1 designation (FAR 6.0) there is now a maximum allowable floor area potential of 59,910 zsf. Therefore, with an existing 1,950-gsf total building area, Lot 1 utilizes only three percent of its development potential under C6-1.

ENVIRONMENTAL ISSUES

The AKRF report indicated that no Phase I or Phase II investigations were conducted for this site; however, on closer inspection of the FEIS Appendix F.1, Earth Tech found that a Phase I had been conducted for the property. Earth Tech reviewed Appendix F.1 and confirms that most environmental issues documented in the appendix were reported in the AKRF report.

The following environmental issues were identified for the property:

- Current and former use as a gas station and auto repair;
- Several documented petroleum spills;
- Gasoline USTs closed and removed;
- Three in-service gasoline USTs; and
- Potential additional USTs or ASTs.

The site is also listed as a large-quantity generator of hazardous waste. The regulatory database indicated ongoing groundwater monitoring as part of the spill investigation, and four monitoring wells were observed on Lot 1. Two additional issues were not mentioned in the AKRF report: The FEIS Appendix F.1 states clearly that the site has known soil and groundwater contamination; and the site is also listed in the RCRA Info database.

Site reconnaissance notes indicate that there was one gasoline vent pipe and three other vent pipes observed; as well as four monitoring wells. It also states that there is a waste oil UST located in front of the building. No Phase II investigation has been performed for this lot.

SUMMARY EVALUATION

Both Earth Tech and Thornton Tomasetti consider some of this building's structural elements to be in fair condition, reflecting its relatively recent construction; however, numerous cracks in the exterior and interior walls, and the unknown but suspect condition of the roof modify that assessment to an overall building condition of poor, when considered together with the site's safety and hazardous materials conditions. The safety issues associated with fire exits would merit a rating of poor to critical in the Thornton Tomasetti rating system, while the historic and continued use of the property as a gas station has left a legacy of ground contamination. Earth Tech concurs that the overall site condition is poor.
