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HARLEM RIVER YARD INTERMODAL TRANSPORTATION AND DISTRIBUTION CENTER BRONX, NEW YORK

FINAL ENVIRONMENTAL IMPACT STATEMENT

Submitted to:

New York State Department of Transportation
Commercial Transport Division
1220 Washington Avenue, Building 7A
Albany, New York 12232

Prepared for:

Harlem River Yard Ventures, Inc.
110 East 59th Street
New York, New York 10022

Prepared by:

TAMS Consultants, Inc.
655 Third Avenue
New York, New York 10017

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EXECUTIVE SUMMARY

The proposed 96-acre Harlem River Yard Transportation and Distribution Center located in the south Bronx section of New York City will be a totally secured "State of the Art" multimodal park providing warehousing, distribution and rail transportation services to businesses serving the New York City metropolitan region. The proposed project is a joint venture of the Galesi Group, a major New York State developer and manager of industrial parks, and the Hunts Point Terminal Produce Cooperative, New York City's largest distributor of both refrigerated and non-refrigerated foods. The project will be developed over the next five-year period.

On October 21, 1992 the NYS Department of Transportation published its determination that the proposed development was subject to the requirements of the State Environmental Quality Review Act (SEQRA) and was classified as a Type I action; the department directed that an Environmental Impact Statement (EIS) be prepared pursuant to the requirements of Article 8, Section 8-0101 et. seq. of the Environmental Conservation Law and Title 6 of the New York State Code of Rules and Regulations, Part 617. The purpose of the Draft Environmental Impact Statement (DEIS) was to satisfy that requirement. A public hearing on the DEIS was held on June 30, 1993 and the public comment period was open until July 12, 1993, in accordance with SEQRA regulations.

New or modified text in this Final Environmental Impact Statement (FEIS) is shown highlighted; new or modified tables are indicated by highlighting of the table number and title only, so as to assist in legibility of the table. In addition, Chapter 10 and Appendices G and H are entirely new, while Appendices C, D, and F have changed significantly given the modifications to the proposed action since the DEIS.

S.1 Background

In 1978, Harlem River Yard was chosen as the site for a regional intermodal facility to better accommodate the New York City's metropolitan area's existing intermodal business and allow for the development of new intermodal services. In 1982, the US Coast Guard and the NYSDOT issued a Final Environmental Impact Statement (FEIS) on the South Bronx-Oak Point Link Project pursuant to the National Environmental Policy Act (NEPA).

Construction of the Oak Point Link began in 1982. In the spring of 1988, technical problems were encountered in the construction of the Link, which was stopped. Construction was recommenced in 1992 and is estimated to be complete in 1996. Construction of the intermodal terminal at the Harlem River Yard was commenced in 1986. Portions of the work were completed but work was stopped in 1988 when problems were encountered with the Link construction and the economic viability of the yard (without the link) came into question.

Consequently, in 1988, NYSDOT commissioned Temple, Barker & Sloane, Inc. (TBS) to study the potential for privatizing the Harlem River Yard. The study found a number of attractive roles for the yard, though none of a size large enough to warrant a stand-alone operation. The study concluded that the development of the yard as a multi-purpose transportation terminal would maximize the potential for privatizing the Harlem River Yard.

In 1989, NYSDOT solicited proposals from the private sector to finance, construct and manage the operation of intermodal transportation facilities at the Harlem River Yard. The stated policy in the RFP was that the Harlem River Yard be developed and operated as an intermodal transportation facility having a significant rail component to provide innovative, more efficient, and greater capacity freight transportation for the NYC/Long Island area. Priority markets to be served included refrigerated food and municipal solid waste.

Following an evaluation of competing proposals submitted in response to the request for proposals, Harlem River Yard Ventures, Inc. was selected to develop the yard.

The lease entered into between Harlem River Yard Ventures, Inc. and the NYSDOT provided that the developers were to prepare a land use plan that is subject to the approval of the NYSDOT. The requirement imposed on the developers to conform the future development of the rail yard to the approved land use plan is in addition to any other regulatory approvals that may apply to the proposed development.

The plan recognizes that the elements of the proposed development are likely to advance independently and in accordance with schedules that cannot be determined with a high degree of precision. Moreover, the design of any particular element may change or, in some cases, the particular land use may prove infeasible and an alternative land use would therefore be contemplated.

As an example, one of the components of the plan is a solid waste transfer station. However, at the present time, there is no immediate demand for such a facility and no developer has been identified for this element of the plan. For that reason, the FEIS, in addition to considering the impacts of the waste management facility, considered the impacts of an alternative use, viz warehousing, should a waste management facility prove to be infeasible.

Similarly, the proposed wastepaper recycling facility has an identified developer, but involves several possible design configurations, relating to the following:

* generation of process steam;
* wastewater treatment;
* process water.

The FEIS identifies the environmental factors and potential impacts associated with each of the design options.

The SEQR procedures recognize that after preparation of an FEIS, changes related to the project, changed conditions (e.g., air quality and wastewater related to the wastepaper recycling facility), or the availability of new information will require that a supplemental EIS be prepared unless it can be demonstrated that such changes do not result in significant adverse environmental effects.

S.1.1 Purpose and Need

The purpose of the development of the Harlem River Yard contemplated by the proposed land use plan is to implement the policy determination made in connection with the 1982 FEIS that the Harlem River Yard be developed to:

- Enhance the competitiveness of rail freight service in the New York City metropolitan area by developing an intermodal rail terminal in the Harlem River Yard along with associated warehousing and infrastructure;
- Reduce truck traffic on Hudson River bridges;
- Reduce the cost of transporting materials into and out of New York City;
- Create jobs and act as an incentive to economic development.

From the perspective of the residents of the South Bronx, the project will represent a major infusion of capital, active businesses, and a wide variety of job opportunities. From the larger perspective of consumers and businesses in the New York region, the project promises major savings in transportation costs, consequent reductions in the final prices of numerous critical products which, in turn, will make many New York businesses more competitive and able to expand their market performance.

The project also has the added benefit of reducing regional air pollutant emissions due to major decreases in truck vehicle miles of travel and reducing congestion and related air pollution in midtown Manhattan due to the relocation of the flower market.

S.1.2 Potential for Intermodal Service

The proposed action has relied heavily on earlier projections of demand for TOFC at HRY: those in the 1982 Oak Point EIS and a 1989 study by Temple, Barker & Sloane, Inc. (TBS). (An earlier study of TOFC at 60th Street in Manhattan by Harbridge House, Inc. for the NYS Urban Development Corporation (1981) was also reviewed but considered of little relevance to forecasting TOFC at HRY.) Of the three studies, the most current and comprehensive analysis was that by TBS, which focussed more on realistic line haul costs and user modal preferences. The Oak Point EIS "Likely Scenario" projected an annual movement of 170,000 trailers per year by year 2000 and 95,000 trailers per year in the initial phases. Key among the operating assumptions to achieve these projected volumes is that all regional traffic (including that originating in New Jersey) headed for points north and west - Buffalo, Cleveland and Detroit - would be served from the Bronx terminal. The Oak Point EIS also based its "likely scenario" at HRY on an assumed 10 percent reduction in line haul cost. The study does not acknowledge the high proportion of empty cars that would move outbound from HRY because of the nature of freight shipping in NYC. The Oak Point EIS projections, therefore, appear to be highly optimistic of the ability of a TOFC at HRY to divert TOFC from the NJ terminals and from other freight modes.

The TBS study is a screening study of various options for the HRY and recommends the concept of a privately operated Intermodal Park as a reasonable and feasible use of the property. Under this scenario, the study projects 45,000 trailer loads per year (15,000 of which would be refrigerated) as a reasonable projection for the third year of TOFC operations at HRY. The study does not project beyond this because of the uncertainty inherent in long-range transportation forecasting.

The TBS study describes the characteristics of the East of Hudson Market with only 562,000 freight container equivalents (FCE's) moving into East of Hudson from prime long haul intermodal regions (Upper-Midwest, Mid-South, Mountains and West). Of these, only 12 percent or 65,000 FCE's moves via intermodal (TOFC). Potential to capture more of this exists for HRY. However, one basic problem is the balance of inbound to outbound intermodal flow of 3.3 to 1, whereas the NJ intermodal terminals maintain a balance of 1.15 to 1. Another problem with line haul economics for HRY vs NJ terminals is their technical ability to use Road Railers and Double Stack TOFC. While HRY would appear to offer some savings on local drayage costs, TBS presents overall cost ratios of HRY compared to NJ terminals that never show an advantage to HRY, let alone the 10 percent savings assumed by the Oak Point EIS.

The TBS study also conducted detailed surveys of shipper perceptions of intermodal vs truck and noted the time sensitivity of shippers and found a small fraction willing to switch from trucks if cost savings were large. The survey of potential diversions from trucks and existing intermodal concluded there was a market potential of 70,000 FCE's. These projections are optimistic, however, because TBS found HRY to be more expensive than NJ terminals at the projected inbound/outbound ratio and extremely difficult to improve.

The TBS study of Refrigerated TOFC, despite being almost entirely inbound, indicated a potential market niche because of the concentrated market at nearby Hunts Point, maximum drayage savings, and the competitive market shifts that gave new entrants a potential advantage. The TBS survey on potential diversions of refrigerated movements projects 30,000 FCE's. In conclusion, TBS projected estimates of HRY volume in year 3 of 45,000 trailer loads per year, 15,000 of which would be refrigerated, and a total of 16,500 carloads of bulk users.

Accounting for the different projections of TOFC demand by the two studies may focus on both the internal validity of the studies and on the changes in the external aspects of the economic environment over the intervening time period. The TBS study, in addition to being

more current, makes a more comprehensive market assessment; fully incorporating line haul costs, including the level of vacant outbound returns; the potential costs/savings of local drayage; as well as the market perceptions of local shippers of a TOFC at HRY.

External economic variables also altered substantially over the near decade that separated the two studies. Principal among these changes are:

- the structure of the NYC economy, particularly the decline of its Manufacturing and Wholesale sectors which represent the potential freight users;
- the further changes of the structure and technology of the freight shipping industry, with movement to Double Stack TOFC available at NJ terminals but precluded at HRY, and increasing gains to trucks in the region because of their door-to-door flexibility; and
- the changing economics of fuel, with a substantial decline in the real costs of petroleum over the past decade.

The shifts among rail freight modes have permitted NJ terminals to gain an enormous lead in establishing ancillary distribution networks in coordination with the TOFC terminals. To improve the competitive position of a Bronx TOFC terminal, the Oak Point Link must be expanded to increase clearances sufficient to accommodate double stacked trailers. If the State and City accomplish this expanded access, the projected demand for TOFC in NYC would also expand.

In conclusion, the rail program as proposed for HRY Intermodal Park is broadly in conformity with the TBS study and provides a capacity to handle 70,000 trailer lifts per year, plus an additional 30,000 through trailers to Hunts Point. Additional bulk transfer and team track are provided with capacity to handle 2,500 carloads in bulk commodities. The proposed solid waste transfer station is designed to handle 10,000 rail cars per year. Altogether, the proposed action is a very ambitious rail plan but one that appears to be closely grounded on the real potential demand for rail freight and TOFC in New York.

S.2 Description of the Proposed Action

The proposed land use at the yard will include a number of facilities, the centerpiece of which is the intermodal rail terminal (Figure S-1). Approximate acreage of the above facilities are presented in Table S-1. Personnel loadings for these options are summarized in Table S-2. Two options exist for development at the eastern end of the yard:

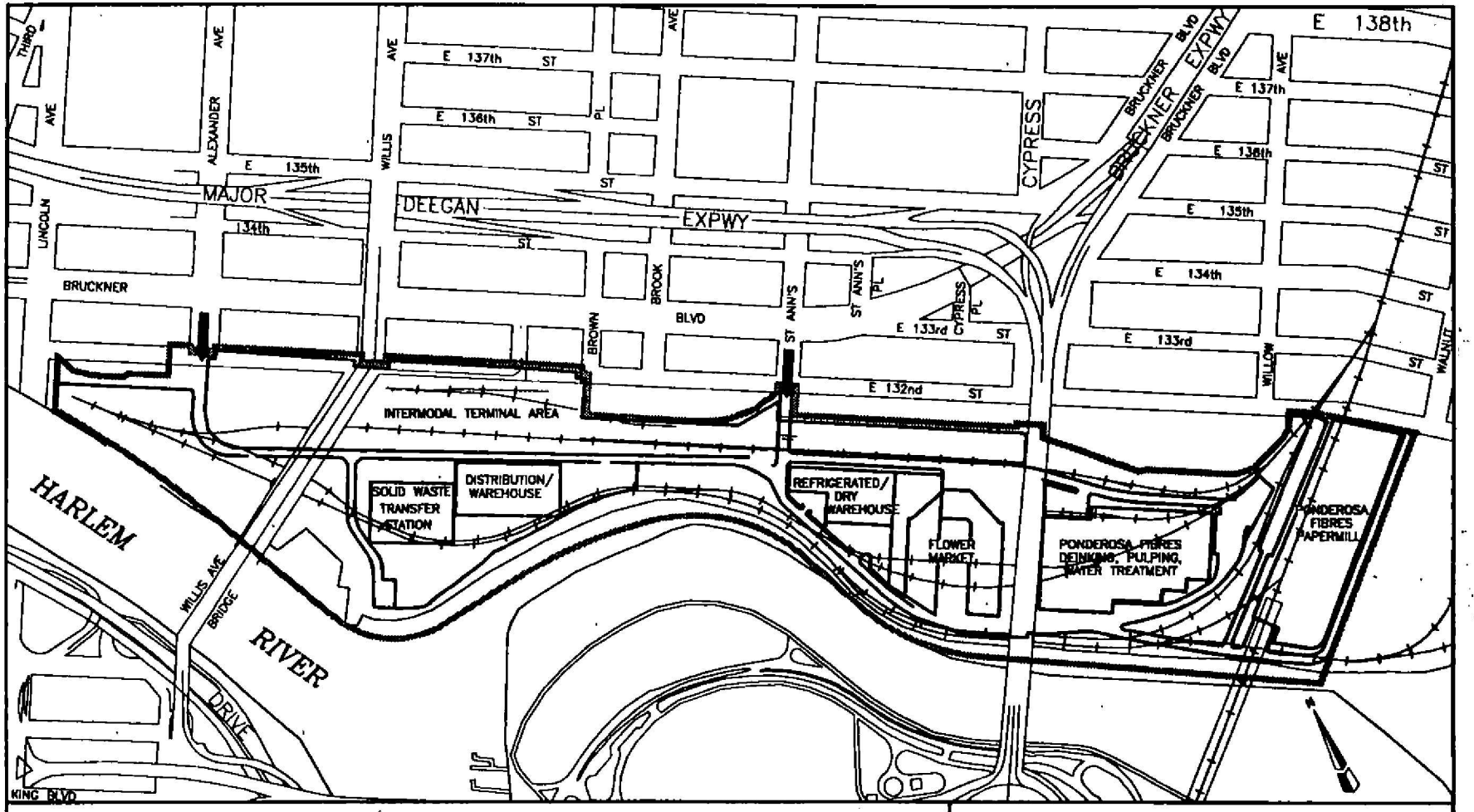
- Wastepaper Recycling Option - a land use plan that includes the development of a 375 ton per day (tpd) newsprint deinking facility and paper mill;
- Warehouse Option - the development of additional warehousing in place of the wastepaper recycling facility.

The site is readily accessible by truck, rail and water. The site serves as the southern landfall of the Oak Point Link "water route" which is being constructed to modernize and improve rail freight access to markets east of the Hudson River (Figure S-2). Adjacent to the site are two major highways (Major Deegan and Bruckner Expressways) and three bridges that connect the site to New York City and Long Island (Triboro, Willis Avenue and Little Hell Gate). The site has an existing docking area at the southwestern portion of the site along the Harlem River.

A portion of the site is located within the 100-year floodplain. No wetlands exist on-site. The site is zoned M3-1 and M2-1. Topography is generally flat.

S.2.1 Intermodal Rail Terminal

The centerpiece of development of the Harlem River Yard is the intermodal rail terminal. It will occupy the largest acreage on the site (approximately 28 acres along the northern portion of the site). The terminal is designed to function as either a container on flatcar



Legend

Property Boundary

Access Gate

0 200 400 800 1600
FEET

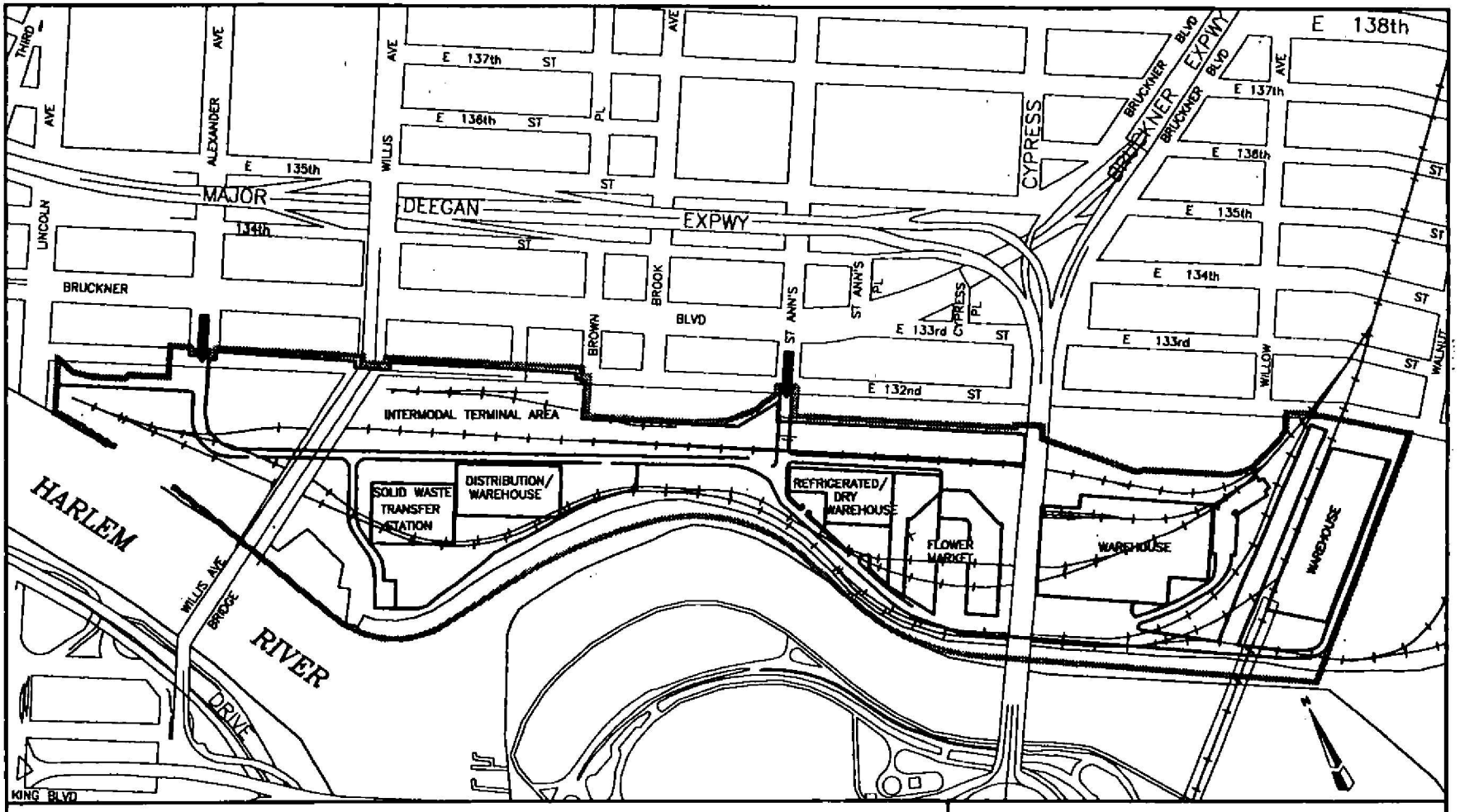
HARLEM RIVER YARD VENTURES INC.
INTERMODAL TRANSPORTATION AND DISTRIBUTION CENTER

SCHEMATIC LAND USE PLAN
WASTE PAPER RECYCLING OPTION

DATE: AUG 28, 1993

TAMS CONSULTANTS, Inc.

Figure S-1



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Property Boundary

Access Gate

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HARLEM RIVER YARD VENTURES INC.
INTERMODAL TRANSPORTATION AND DISTRIBUTION CENTER

SCHEMATIC LAND USE PLAN
WAREHOUSE OPTION

DATE: AUG 26, 1993

TAMS CONSULTANTS, Inc.

Figure S-1 (continued)

TABLE S-1

SITE ACREAGE

Wastepaper Recycling Option

Facility	Acreage
Intermodal Terminal	28
Wastepaper Recycling	18
Flower Market	5-7
Warehouses	8
Transfer Station	5
Team Track	5

Note: Remaining acreage is occupied by through track, common service roads, open space and land under water.

Warehouse Option

Facility	Acreage
Intermodal Terminal	28
Flower Market	5-7
Warehouses	27
Transfer Station	6
Team Track	5

Note: Remaining acreage is occupied by through track, common service roads, open space and land under water.

TABLE S-2

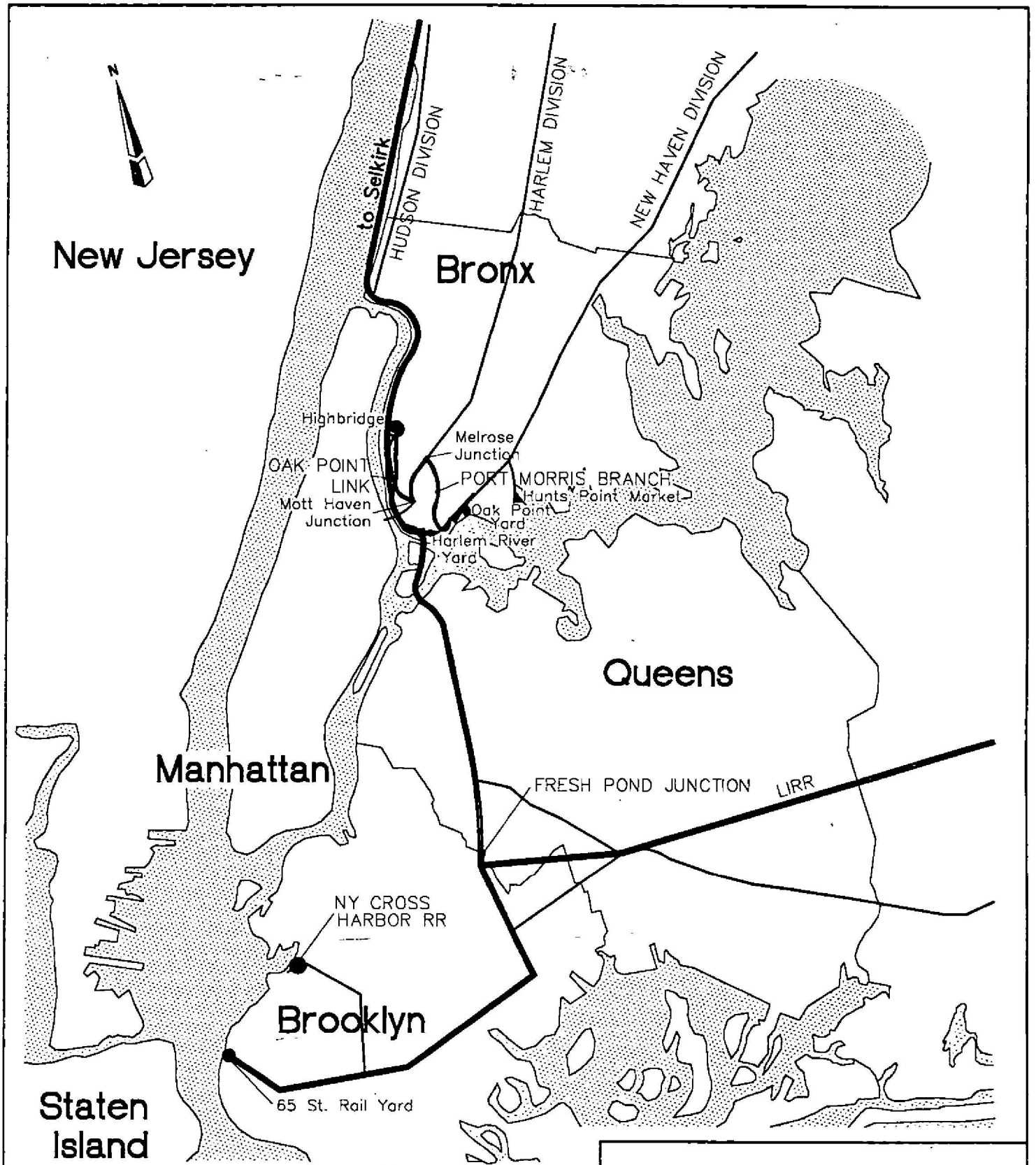
PERSONNEL

Wastepaper Recycling Option

Facility	Total Number	Maximum Shift	Other Shifts	Number of Shifts
Intermodal Terminal	69	25	22,22	3
Wastepaper Recycling	149	65	42,42	3
Flower Market	349	349	0	1
Warehouse	137	137	0	1
Transfer Station	46	20	16,10	3
Security and Maintenance	20	8	6,6	3
Total	770	—	—	—

Warehouse Option

Facility	Total Number	Maximum Shift	Other Shifts	Number of Shifts
Intermodal Terminal	69	25	22,22	3
Flower Market	349	349	0	1
Warehouse	319	319	0	1
Transfer Station	46	20	16,10	3
Security and Maintenance	20	8	6,6	3
Total	803	—	—	—



HARLEM RIVER YARD VENTURES INC.
INTERMODAL TRANSPORTATION AND DISTRIBUTION CENTER

REGIONAL RAIL SYSTEM

DATE: DEC 10, 1993

TAMS CONSULTANTS, Inc.

Figure S-2

(COFC) or trailer on flatcar (TOFC) facility. Goods arriving via rail will be transferred to trucks for distribution in the New York City area; goods arriving via truck will be transferred to rail cars for transport to regional end-users. The facility is anticipated to be ready for full operation at the completion of the Oak Point Link project (approximately last quarter, 1995). The facility is designed to handle 70,000 units per year on-site and to receive another 30,000 units (of produce), which would then be forwarded to the Hunts Point Market.

The volume of rail traffic generated by the proposed activity at the Harlem River Yard will enhance the competitiveness of freight service to New York City and Long Island. This is because the fixed costs of maintaining freight service and trackage in the Selkirk-New York City corridor will be spread over a substantially larger number of revenue carloads than at present.

Similarly, the increased rail traffic volume between Selkirk and the Bronx will enhance the economic viability of freight service to Long Island. The Galesi Group and its associates in this venture intend to develop the Harlem River Yard in such a way as to complement existing Long Island Rail Road (LIRR) and New York Cross Harbor Railroad freight service.

S.2.2 Other Facilities

Other proposed facilities include:

- Bulk Transfer/Team Track Rail Facilities - A bulk transfer and team track will be provided at the western end of the site. The facility could serve as a loading/unloading area for rail-transferred commodities such as plastic pellets, aggregates or other bulk products. The area could also be used as a team track area for loading/unloading various commodities depending upon market demand. A through-track for the Oak Point Link will also be provided. It will pass through the yard just south of the intermodal terminal in the central

portion of the yard and along its originally-designed water route from east of St. Ann's Avenue.

- New York City Wholesale Flower Market - The facility will serve as a wholesale distribution center for fresh flowers to dealers in the New York City area and will replace the one presently located in Manhattan. The facility will be rail-served for the arrival of wholesale flowers. Access to the facility will be from St. Ann's Avenue.

- Refrigerated/Dry Warehouse - The warehouse will serve as a distribution center for rail to truck movement of various commodities. Access to the facility will be from St. Ann's Avenue.

- Solid Waste Transfer Station - The facility will serve as a truck to rail transfer station for municipal and/or commercial solid waste. All transfer station activities will be in a completely enclosed facility to control air, noise and visual impacts. Transfer of solid waste will occur between collection trucks to rail containers (or transfer trailers if necessary) for long haul shipment to out-of-town landfills or waste-to energy facilities. Access to the facility will be from Alexander Avenue.

- Other Warehousing - There are two development options for the remaining warehousing on the site, the difference being the replacement of the wastepaper recycling facility with warehousing. Under the wastepaper recycling option, a 100,000 sq ft warehouse would be constructed in the central part of site. Under the warehouse option, in addition to the 100,000 sq ft warehouse, 460,000 sq ft of warehousing would be built on the wastepaper recycling site.

- Newsprint Deink, Recycling and Production Facility - The facility will receive baled newsprint and magazines (to be recycled via truck or rail from the NYCDOS or other newsprint collectors) and will produce 375 TPD of finished product. Access would be primarily from St. Ann's Avenue.

S.3 Impacts of the Proposed Action

The impacts of both options for the development plan are addressed here - the wastepaper recycling option and the warehouse option. Where impacts are the same for both options, no distinction is made in the analyses presented. This is true for such impact categories as

zoning, relocation, and cultural resources. Where impacts are different, they are so noted (e.g., for traffic and air quality).

S.3.1 Land Use and Zoning

No zoning change is required for the proposed action. The industrial and commercial activities proposed for the site conform with the site's M3-1 and M2-1 zoning. The proposed reuse of the project site for permitted industrial and commercial uses therefore poses no major land use impacts on the surrounding community. The site is substantially buffered by other industrial uses from the residential section of Mott Haven, which begins on East 135th Street, at least three blocks north of the project site. There are some isolated pockets of residential use in the industrial district that surrounds the site. However, these are already non-conforming with zoning and have long coexisted with the heavy industrial uses that typify much of the district. The proposed action will not, therefore, alter the relative incompatibility of these remanent residential uses with the dominant industrial nature of the area.

The site has long been a rail yard with distribution functions, in turn surrounded by other industrial activities and located in a heavy manufacturing district, represented by an M3-1 designation. This section of the South Bronx waterfront is designated in the NYC Comprehensive Waterfront Plan as a "Significant Maritime/Industrial Area" (Department of City Planning, New York City Comprehensive Waterfront Plan,1992).

The proposed project is in conformity with the newly proposed City's Comprehensive Waterfront Plan (1992) and its designation of the site as part of the South Bronx Significant Maritime/Industrial Zone. This proposal is intended to build upon the City's existing Waterfront Revitalization Program (1982), which in turn is a local effort to implement the NYS Waterfront Revitalization Program and the Federal Coastal Zone Management Program.

S.3.2 Urban design

The overall physical condition and visual quality of the project site would be significantly improved by the replacement of vacant and deteriorated warehouse buildings and vacant weed covered areas with modern, well-designed industrial facilities. The building envelope permitted under the M3-1 zoning would limit height to low-rise buildings. In general, building heights would vary from one to two stories, reaching 28 feet. All structures would be in conformance with requirements of the NYC Zoning Resolution.

One exception to the low elevation of the proposed structures is the wastepaper recycling facility at the extreme eastern end of the site. This facility is expected be housed in a building 50 feet high. Several of the buildings in proximity to this part of the site are of an equal or greater elevation. The Con Edison station is 7 to 8 stories high, and several loft buildings on Willow Avenue in this vicinity are 6 stories. In consequence, the facility will not be out of character from many other of the industrial buildings in this part of the study area. No particularly significant views would be lost as a result of this facility.

No adverse impacts are anticipated on views from Randall's Island because of the nature of existing degraded conditions at the site and the immediate context of other industrial and warehouse buildings, several of which are vacant and dilapidated. The introduction of new modern industrial structures would be an improvement on site and in conformity with the general character of the surrounding industrial district. The railroad and truck activities proposed at the site are essentially the same as now exist, and proposed activity levels would reflect levels occurring 20 to 30 years ago. In addition, a planting buffer is planned along the waterfront. This will be 30-feet wide, except in that segment where the mainline rail track abuts the water directly for about 300 feet along the Bronx Kill. Native plantings would help screen and soften the views of the site from much of Randall's Island.

S.3.3 Socioeconomics

Socioeconomic impacts can be summarized as follows:

- Demographics - The industrial character of the proposed project will have no direct impact on the numbers of the residential population of the study area.

- Employment - Direct permanent employment associated with the proposed project is estimated at 770 employees for the wastepaper recycling option and 803 employees for the warehouse option.

  Direct permanent earnings generated by the wastepaper recycling option are estimated at $25.5 million ($26.6 million for the warehouse option). Indirect employment generated by this option is estimated at an additional 462 jobs (482 for the warehouse option). Temporary employment associated with the construction of the new facilities is estimated at 631 jobs per year for four years (175 for the warehouse option). Indirect or secondary employment would also flow from the temporary construction employment and is estimated at 252 jobs per year (70 for the warehouse option).

  The estimated permanent city and state revenues anticipated from the new personal and corporate income taxes, and sales tax, results in an increase in city revenues of almost $1.9 million per annum for the wastepaper recycling option. For the state, the respective increase in revenues would be over $3.1 million. Corresponding city and state tax revenue measures for the warehouse option are $2 million and $3.2 million, respectively.

- Lease Revenues - Harlem River Yard Ventures has entered into a lease agreement with the State of New York that provides revenues to the state in the form of profit sharing. The amount of revenues that the state will receive is thus a function of the future profitability of the various activities included in the land use plan for the yard.

- Displacement and Relocation - Several facilities would be relocated as part of the proposed action:

  - Baldwin and New Haven formerly operated warehouses east of St. Ann's Avenue, but both have already relocated most of their activities to East 149th Street near the Coca-Cola building. A few remnant activities currently remain, but will vacate the site this year.

- Gassman Coal presently occupies about two acres in the northwest portion of the site. The present lease expires in October 1994 at which time coal activities will be relocated to nearby off-site facilities currently operated by the Gassman Coal Co. The Harlem River Yard construction schedule is compatible with this timeframe and would have no impact on Gassman Coal operations.

- The NYCTA presently occupies about seven acres east of the Little Hell Gate Bridge for employee parking and vehicle storage related to their bus garage. The NYCTA will undertake a major renovation of the facility and all personnel and functions will be transferred to another facility in the Bronx while the renovation is underway. At this time it is not known what functions will return to the site.

- Potential for Secondary Displacement - By forestalling the further expansion of blight and deterioration at the site and improving employment opportunities, the proposed action would attenuate the existing trend toward abandonment and business decline in areas immediately adjacent. It is not expected, however, that the proposed action would result in any significant industrial or residential secondary displacement.

- Induced Development - The secondary employment impacts of the proposed action will likely be absorbed as expansions of existing businesses, particularly those relating to transportation, food, and lodging. Opportunities to open new business serving the project could be readily accommodated by development of the numerous vacant buildings or lots in proximity to the project site.

- Transportation Costs - While the exact savings in transportation costs are difficult to determine, projections made by TBS (1989) cite estimated annual savings of $6.5 million (1988 dollars) in the third year of operation of the TOFC at Harlem River Yard. These dollars were the benefits accruing to New York State users, of a total annual user benefit of $7.9 million projected in that year. The proposed rail operations at HRY are slightly different than those assumed in the TBS Study. If the savings attributed to the relevant users are adjusted to account for the proposed action's volumes and distributions, the annual savings in Year 3 would be $10.5 million and the share to New York users would be $8.6 million. These savings are computed in 1988 dollars. If they are inflated to 1992 dollars, the New York share would increase from $8.6 million to $10.4 million.

Secondary round benefits from these freight cost savings would also accrue to businesses and consumers in the region. The TBS Study projected $14.28 million (1988 dollars) in increased business activity in New York directly associated with the increased transportation activity at HRY in Year 3 of its operation. The secondary rounds of activity projected from this increased

transportation activity included a further $28 million in expenditures in goods and services and earnings of $10.3 million. These economic benefits are projected to increase as the TOFC becomes more established an operation.

In addition to the business expansion in immediate proximity to the facility, the savings in transportation costs would provide consumers in the region with cheaper goods and services, in turn enabling these dollars to be spent on other goods and services, many of which would be produced in New York. This secondary round of benefits also applies to the savings to businesses that they can use for new investment or reduced prices, either of which are likely to improve their competitive position.

S.3.4 Community Resources

The total increased worker population would place demands on certain community facilities and services as follows:

- Police and Fire - Police and fire services in the area would serve a new totally secured state-of-the-art multimodal transportation and industrial park. This would be a safer and more secure environment than the open lots and deteriorated warehouses that characterize much of the site presently. From the perspective of the public safety departments, the proposed action would represent a significant improvement in their ability to serve the area.

- Health Facilities - New workers would be expected to create a demand for approximately two hospital beds. The occupancy rate of nearby facilities would permit the accommodation of this anticipated demand without adverse impacts.

- Recreation - Using the standard ratios employed by the City of New York to measure adequacy of open space resources, the total worker population generates a requirement of 10.34 acres of passive open space. The actual passive open space is 56.43 acres, substantially exceeding the guidelines. Under these circumstances, there are expected to be no adverse impacts generated by the project upon the open space resources of the area.

While no significant open space resource impacts are anticipated, Harlem River Yard Ventures will work with the Bronx Borough President's Office, SOBRO, and Community Board 1 in order to enhance neighborhood amenities and recreational opportunities in the area such as enhancement to local parks; assistance for local use and cultural activities; assistance in

commercial revitalization through physical enhancement (e.g., along Bruckner Boulevard); provision of improved lighting along major arterials to railyard and near subway stations.

S.3.5 Cultural Resources

Cultural resource effects can be summarized as follows:

- National Register and NYC Landmarks Properties - Implementation of the proposed project will have no impacts on any National Register listed (or eligible) and NYC Landmarks properties. The closest historic property to the site (in fact, the site surrounds the property) is the former Willis Avenue Station, which is eligible for listing in the National Register of Historic Places. A small portion of the building is currently used as one residential unit. There are no proposals for development of the station site as part of this proposed action - the building and site will remain untouched. Furthermore, as rail activities in the Harlem River yard increase, the station will appear in a setting that more closely resembles the railroad activities that were conducted on the site in 1891 when the station was first built. The NYS Office of Parks, Recreation, and Historic Preservation (OPRHP) has reviewed the EIS and supporting materials in accordance with the New York State Historic Preservation Law of 1980 (Section 14.09) and has concluded that the proposed action will have no adverse impact on the station provided that the lease with Harlem River Yard Ventures is modified to include specific requirements for buffer areas as outlined in their December 8, 1993 letter.

- Prehistoric Resources - Documentary research indicated that the Harlem River Yard site has prehistoric and early historic-era Native American associations and historical significance. Native American burials, a large "village" site, and nearby 'shell beds' were documented in the mid-19th and early 20th centuries and 17th century deeds attest to the Indian presence.

- Historic Resources - Over time, more than 170 structures have been erected on the site; these include either one or two homes built by Jonas Bronck and at least three by the Morrises.

Grading and construction tied to railroad development that began as early as 1840, and intensified in 1873, as well as more modern industrial development, have undermined the integrity of much, but possibly not all, of the site. However, based on the Phase IA report,

Gauer. - So of 130th betw Gauer
Pl + Cypress
~~Gauer II~~
poss. fill? Would have pre-
leveled arched. MS.
migmatic parallel rock fra/ reds more work!!

Lewis - So of 132 betw
Willis + Brown
on Knoll
graded 9' / no leveling LCS
done - spoke
Lot to go live, BOT
12/dec. leveling if plans
Change
needs work: if disturbed, so be
it, but hist impt

Gauer. II SW corner 131 + Cypress
also on Knoll
poss. Quechqua site as well
8-9' graded
no trid in LB

demands
investig.

+ other fed. assoc
w/ Merrils dec.
Springhouse, Pa

Fed's. re Branch
dec.
Linc & L. 132 area

SHPO is Concerned that testing wasn't sufficient to R/O poss. Str. features, middens etc. either unmitigated knolls or at base

- also, chgs in constr. plans ~~to~~ no longer include flower mkt + iffy about parking lot

- features found in 1B testing should be investigated more thoroughly esp. if constr plans changed → CLEAR

Rock → WORKED OUT

SEE EXEC SUM 5/9

Major questions

① Amt of disturbance
grading high areas
filling low areas

to what extent did they
blitz or protect sites?

- SHPO thinks Ronechqua
blitzed by Tritero Const

② Site assoc w/ Bronck &
Morrises

③ 1B reports?

Joan says
INC: 1B
→ probms w/
TAMS &
client,
weather
conds ↓

Client didn't
want her to have
that feature

it was proposed that testing in the form of backhoe trenching and shoveling be undertaken in the vicinity of the proposed Honorable Gouverneur Morris house site and possibly at the site of the Gouvernor Morris II residence. Testing to confirm disturbance was proposed to be undertaken where the wholesale flower market and refrigerated and dry warehousing would be constructed. No testing was proposed at the Lewis Morris house site (Manor House) at this time since a parking lot, with no underground disturbance, is planned at this location. In the future, should below ground excavation be necessary at this location, testing would be conducted at that time.

Stage 1b archaeological testing of the Harlem River Yard Transportation and Distribution Center Site conducted in February and March 1993 verified the elimination of traces of the structure and foundations of the home occupied by Gouverneur Morris II. It also did not uncover any evidence of the Ranachqua Site where it was possible that components of this Native American site might have been found.

With respect to the Honorable Gouverneur Morris mansion, no definitive features or artifacts were found where this house may have stood. While filling and extensive disturbance were documented, two man-made features, perhaps running parallel to each other, were apparently cut into shallow rock outcrops in the northern part of the test area. However, the proposed construction in this area of the site is such that (1) most of the area tested will be covered by a parking lot, (2) approximately three feet of new fill will be placed over this area, and (3) the flower market structure to be built adjacent to the tested area on the north will be constructed on piles and not on conventional foundations that need to be excavated. Therefore, as planned, the core of the subject test area will not be disturbed. If an alternative method of construction that requires excavation is ultimately chosen, the issue of subsurface disturbance will need to be reinvestigated.

S.3.6 Transportation

Traffic

The project has the potential to generate approximately 6,600 auto, van, and truck trips per day under the wastepaper recycling option (7,500 under the warehouse option) (Table S-3). Consequently, a level of service (LOS) analysis was undertaken at 11 key intersections for peak hour conditions to determine the impacts of this additional traffic.

Compared to the no action condition, the overall delay of most intersections degrades slightly although the level of service designation generally remains unchanged. The only intersection which experiences considerable impacts is the intersection of Bruckner Boulevard and St. Ann's Avenue. This intersection serves as a major access point for the site. The heavy volume of project-generated turning movements at this location impact both EB and WB approaches of Bruckner Boulevard. The existing and no action operations for these approaches are already at LOS F. However, vehicles generated by the project will cause a further deterioration of this condition. Consequently, mitigation measures are recommended at this location. Mitigation is also recommended at Lincoln Avenue and Alexander Avenue where the westbound approaches of Bruckner Boulevard during the AM peak hour deteriorate from LOS E for existing conditions to LOS F for the no action and action conditions.

In a regional context, the development of the site as a mix of industrial and commercial land uses in conjunction with an intermodal truck-to-rail transfer facility is expected, in the long run, to reduce annual truck trips and total truck vehicle miles of travel.

TABLE S-3

PROJECT GENERATED TRIPS

Waste Paper Recycling Option

Facility	AM Peak				PM Peak				Peak Hour of Generator*				Daily Trips			
	Autos	Trucks	Vans	Total	Autos	Trucks	Vans	Total	Autos	Trucks	Vans	Total	Autos	Trucks	Vans	Total
3000 TPD Transfer Station	14	50	--	64	14	16	--	30	--	64	--	64	97	450	--	547
Warehouse 60,000 SF	46	--	--	46	46	13	--	59	--	48	--	48	106	284	--	390
Warehouse 100,000 SF	57	--	--	57	57	17	--	74	--	60	--	60	131	357	--	488
Paper Facility	49	3	--	52	49	3	--	52	--	6	--	6	258	44	--	302
Intermodal Terminal	19	44	--	63	19	44	--	63	--	48	--	48	118	540	--	658
Flower Mart**	--	24	428	452	--	--	--	--	262	166	1594	2022	603	262	3332	4197
Security & Maintenance	6	--	--	6	6	--	--	6	6	--	--	6	35	--	--	35
Team Track	--	4	--	4	--	4	--	4	--	4	--	4	--	48	--	48
Total	191	125	428	744	191	97	--	288	268	396	1594	2258	1348	1985	3332	6665

Note: * occurs during the Off-Peak-period (11:00 AM - 2:00 PM) unless otherwise noted

** Peak hour of Flower Market occurs between 5:30 AM and 6:30 AM

TABLE S-3 (continued)

Warehousing Option

Facility	AM Peak				PM Peak				Peak Hour of Generator*				Daily Trips			
	Autos	Trucks	Vans	Total	Autos	Trucks	Vans	Total	Autos	Trucks	Vans	Total	Autos	Trucks	Vans	Total
3000 TPD Transfer Station	14	50	--	64	14	16	--	30	--	64	--	64	97	450	--	547
Warehouse 80,000 SF	46	--	--	46	46	13	--	59	--	48	--	48	106	284	--	390
Warehouse 100,000 SF	57	--	--	57	57	17	--	74	--	60	--	60	131	357	--	488
Warehouse High Cube 280,000 SF	34	9	--	43	34	9	--	43	--	34	--	34	78	222	--	300
Warehouse 180,000 SF	103	--	--	103	103	30	--	133	--	108	--	108	237	641	--	878
Intermodal Terminal	19	44	--	63	19	44	--	63	--	48	--	48	118	540	--	658
Flower Mart**	--	24	428	452	--	--	--	--	262	166	1594	2022	603	262	3332	4197
Security & Maintenance	6	--	--	6	6	--	--	6	6	--	--	6	35	--	--	35
Team Track	--	4	--	4	--	4	--	4	--	4	--	4	--	48	--	48
Total	279	131	428	838	279	133	--	412	268	532	1594	2394	1405	2804	3332	7541

Note: * occurs during the Off-Peak-period (11:00 AM - 2:00 PM) unless otherwise noted

** Peak hour of Flower Market occurs between 5:30 AM and 6:30 AM

Rail Freight

The NYSDOT, in a separate but related project, will be constructing the Oak Point rail link along the Harlem River which will provide a direct connection with adequate clearances between Selkirk, NY, and the Oak Point Yard, and eliminate the routing of freight trains through the congested Mott Haven and Melrose Junctions. The construction of this link will greatly improve the operational characteristics, and increase the capacity of the rail freight serving the region.

Rail traffic generated by the project will include a total of 150 containers/day for the 3,000 TPD Transfer Station; 375 tons/day in non-toxic paper mill wet sludge and 6 rail cars/units in processing chemicals for the paper facility; two complete trains of 128 cars each for the intermodal terminal. Additional rail cars will also be generated by warehousing and flower market operations. This rail traffic can easily be absorbed by the reserve capacity of the regional rail system serving the site.

Other transportation impacts are as follows:

- Public Transportation - Transit trips generated by the proposed action will impact the Bx15, Bx17, Bx33 and Bx41 bus lines and the IRT No. 6 subway line. However, there is expected to be available residual capacity on these lines. Therefore the minor passenger increases due to the project will not impact the transit facilities.

- Pedestrian Activity - The proposed development will cause a slight increase in pedestrian activity. These pedestrians are employees accessing the site after using the bus or subway. Project generated, walk-only trips are not expected due to the scarcity of residential land uses in the study area and the regional characteristics of the facility. Since low pedestrian volumes are expected into the future, the additional pedestrian activity due to the project will have no adverse impact.

- Reduction in Vehicle Miles of Travel - By increasing the proportion of goods shipped in and out of New York City by rail, the proposed development of the Harlem River Yard will alleviate traffic congestion on trans-Hudson

crossings (in particular the George Washington Bridge) and reduce vehicle miles of travel in the region per year by 23.7 million under the wastepaper recycling option and 26.8 million under the warehouse option. In addition, the potential spinoff development of increased rail freight traffic to and from Long Island will permit further reductions in regional truck traffic. Besides reducing trans-Hudson crossings, the proposed development will permit a share of future movements of waste, and bulk construction materials to be diverted from city streets to barges.

S.2.7 Air Quality

Air quality impacts would be as follows:

- Mobile Sources - The microscale air quality impacts of the proposed action were evaluated by determining the increase in CO levels due to the development projected to occur under the action, and by comparing respective concentrations predicted for the proposed project and no action alternative to the applicable ambient CO standards. The results of the microscale air quality analysis show no violations of the one-hour or eight-hour standards.

  The reduction in vehicle miles of travel by trucks for the wastepaper recycling option is estimated to be over 23.7 million miles per year (26.8 million for the warehouse option). This reduction in travel of high emissions vehicles (relative to automobiles) has the immediate benefit of reducing motor vehicle related pollutants by 189 tons per year of carbon monoxide; 2914 tons per year of hydrocarbons; and 336 tons per year of nitrogen oxides (213, 33, and 380 tons per year, respectively under the warehouse option). The reduction in truck traffic also has the secondary benefit of improving the overall flow and speed of the remaining vehicles on the roadways, thus further reducing air pollution.

- Stationary Sources - Sources of stationary source emissions at the yard are the waste transfer station, flower market, warehousing, intermodal terminal, and paper recycling facility. The most significant amount of emissions comes from the wastepaper recycling facility, which has potential NO_x emissions greater than 25 tons per year from the steam generation plant. (The other sources are minor space heating and hot water boilers.) However, based on a review of boiler and air pollution control technology, it may be possible to reduce the NO_x emissions to under 25 tons per year. This will be determined when detailed design for the plant is done.

Since the NYC metropolitan area is considered a severe ozone non-attainment area, new sources with emissions greater than 25 tons per year of VOCs or NO_x will need to acquire emission offsets (at an offset ratio of 1.3:1 and in the New York State portion of the metropolitan area) and use Lowest Achievable Emission Rate Technology (LAER) in the process of obtaining an air permit under 6NYCRR Parts 201 and 231 from the NYSDEC. An option to use Con Edison as the source of steam would eliminate the boiler emissions and the need for non-attainment review.

S.3.8 Noise

Future noise levels were predicted by considering the contribution of noise generated by (1) vehicles off the site on local streets and (2) activities being conducted in the yard (e.g., crane operations at the intermodal terminal). Yard activities involve outdoor operations (e.g., crane, train, and truck movements) and indoor operations (e.g., waste processing operations at the transfer station and deinking and paper making operations at the wastepaper recycling facility).

The results of the noise analysis are somewhat conservative in that no shielding effect of on-site structures was considered. The NYSDOT considers a noise impact to occur if greater than a 6 dB increase occurs between the existing and proposed action conditions; the NYCDEP uses a figure of greater than a 3 dB increase from the no action to proposed action conditions. Based on these measures of impact, the results on a receptor by receptor basis are as follows:

- Receptor 1 - substantial increases in noise levels occur at this location. However, since these ball fields are utilized primarily during the daytime hours, there will be no noise related impacts to individuals during the late nighttime hours. In fact, active recreation uses are good in such areas. Construction of a barrier would, therefore, not be of particular use and would block views to and from the site;

- Receptor 2 - substantial increases in noise levels occur at this location. However, this receptor is an underutilized, rubble strewn pocket park on Bruckner Boulevard and whose southern boundary is the exit ramp from the

Willis Avenue Bridge onto Bruckner Boulevard. Noise levels in this park are already high due to the amount of traffic that passes by daily. While it is conceivable that a wall could be built on the southern end of the park, given the lack of regular human use of the facility, proximity to the bridge exit ramp, and the potential to create an unsafe area with no sight lines into the park, construction of such a wall is not considered necessary;

- Receptor 3 - substantial increases in noise levels occur at this location on East 133rd Street. However, this row of residential structures is a non-conforming use in a M1-2 manufacturing zone;

- Receptor 4 - substantial increases in noise levels occur at this location on Alexander Avenue near Bruckner Boulevard and the Major Deegan Expressway. However, this residential structure is a non-conforming use in a M1-2 manufacturing zone;

- Receptor 5 - using the NYCDEP criteria substantial increases in noise levels occur at this location on Lincoln Avenue near the Major Deegan Expressway between the hours of midnight and 2:00 am (4 dB increases). Using the NYSDOT criteria, there are no substantial increases. In addition, this residential structure is a non-conforming use in a M2-1 manufacturing zone;

- Receptor 6 - located on Bruckner Boulevard, represents the row of residential apartments. These buildings have a direct line of site to yard operations since the block south of Bruckner Boulevard is not fully developed. This square block is full of open yards and scattered one-story commercial buildings. However, it is anticipated that once the yard is operational, this block would develop with ancillary uses that would support the yard. This future development was considered to have a shielding effect and there are no substantial noise increases at this location;

- Receptor 7 - no substantial increases in noise levels occur at this location on East 135th Street;

- Receptor 8 - no substantial increases in noise levels occur at this school location on East 135th Street;

- Receptor 9 - no substantial increases in noise levels occur at this school and playground location on East 135th Street;

- Receptor 10 - substantial increases in noise levels occur at this location on St. Ann's Avenue near Bruckner Boulevard. However, this residential structure is a non-conforming use in a M1-2 manufacturing zone;

- Receptor 11 - the old Willis Avenue Station, contains a residential unit in a small portion of the structure. This is a non-conforming use in a manufacturing zone.

It is important to consider noise impacts in the context of the long-term industrial nature of the area and the proximity of the yard to major noise generating transportation sources (e.g., Triborough Bridge, Willis Avenue Bridge, Bruckner Boulevard). It has been established through the noise measurement program that existing noise levels in the general vicinity of the residential and recreational receptors studied are high and exceed most ambient noise criteria (i.e., NYC and Federal Highway Administration). It should also be noted that all of the residential receptors fall within a manufacturing district and are all presently nonconforming uses.

S.3.9 Infrastructure

Infrastructure impacts can be summarized as follows:

- Water Supply - An estimated 212,000 gallons per day (gpd) (424,000 under the warehouse option) for potable water is required for all anticipated site uses and will be tied in at various connecting points to form two parallel service loops, one serving the east end of the site and one serving the west end of the site. The major water demand on the site (3 mgd) is for the newsprint deink process comprised of pulping, screening and washing. Wastewater generated during the paper forming process is recirculated into the final washing stage of the deink process in order to reduce the amount of potable water required. However, the 3 mgd of process water would not come from the City's water supply system if the facility were to utilize gray water from the Wards Island Water Pollution Control Plant (WPCP) instead of City water. Sufficient capacity is available in existing mains to serve all water supply demands.

- Wastewater - Approximately 0.21 mgd (0.42 mgd under the warehouse option) of sanitary wastewater will be discharged to the Wards Island WPCP from Harlem River Yard facilities. With no action flows of 247 mgd anticipated at Wards Island, the incremental sanitary loading from the yard would be readily handled at Wards Island.

In addition to sanitary wastes, the wastepaper recycling facility will discharge approximately 3.0 mgd of industrial wastewater to Wards Island. This water would be pretreated at the recycling facility and its composition would conform to requirements of NYCDEP's Industrial Pretreatment Program (IPP).

The 3 mgd of wastepaper recycling facility wastewater would increase total flows to the Wards Island WPCP to 250 mgd, equivalent to the plant's current SPDES permit limit, but below the plant's planned expanded capacity of 275 mgd. Additionally, as a conservation measure, the project sponsor, along with the NYCDEP, are considering a plan to use effluent from Wards Island WPCP as a source of process water for the deinking mill. This alternative would involve withdrawing a portion of the treatment plant discharge, passing it through an additional solids removal process, and then chlorinating and pumping the water to the deinking plant.

Since some additional treatment of Wards Island effluent would be needed before it could be used in the wastepaper recycling process (solids removal and possibly chlorination), there is not expected to be a significant process or other impact resulting from effluent use.

There is sufficient capacity in existing sanitary and storm sewers to accommodate the new flows expected from the proposed facilities.

- Sanitation/Solid Waste - Generally, solid waste will be generated by employees at the Harlem River Yard. Other solid waste sources include the newsprint deink facility with up to 375 wet tons per day of non-hazardous sludge (125 dry tons per day) comprised mostly of clays from the wastewater pretreatment process, as well as off-specification merchandise from the flower market and dry/refrigerated warehouses and other wastes associated with materials handling activities (i.e., wooden pallets, and site-wide facility maintenance activities). Sludge from the deink process will be transported via rail or truck to landfill, compost or other beneficial reuse facility. Recyclables generated on-site will be collected for recycling by private carters. If a materials recovery facility is established on-site, recyclables may be delivered directly to the recycling facility.

- Energy - Electricity will be extended on-site from East 132nd Street to accommodate approximately 12,000 kVA demand for primary feeders for the wastepaper recycling facility and 2,035 kVA demand for secondary feeders for the remaining site facilities. The 12,000 kVA requirement would be eliminated if additional warehousing were substituted for the wastepaper recycling facility, bringing the demand for that option to 3,185 kVA. It is

anticipated that two transformers and one service point will be used to download power to the site.

Gas mains run along East 132nd Street north of the site and will need to be extended to on-site facilities. An estimated 4,000 cubic feet per hour is required for building heating as well as up to 156,000 cubic feet per hour to power the gas-fired boilers for the wastepaper recycling facility. The need for the 156,000 cubic feet per hour would be reduced or eliminated if steam is provided by Con Edison. New gas service mains will likely range in size from 2" to 10".

- Waterfront - The development plan for the Harlem River Yard does not currently include a working waterfront. Infrastructure improvement plans for the waterfront consist of repair of existing structures that have deteriorated or are unstable, to improve drainage patterns, and to embark on a program of regular maintenance to preserve the integrity of existing and newly repaired structures.

S.3.10 Natural Environment

There would be no significant impacts on the natural environment, as described below:

- Floodplains - Approximately 300,000 cubic yards of fill will be placed around the site with a total depth of one to three feet. Fill will be placed on about 60 percent of the site area a part of the site development. The fill will serve several purposes including raising the grade in key building sites above the elevation of the 100-year flood plain and serving as cover material as detailed in the site remediation plan to limit exposure to existing site surface soils. Construction of the facility would not create major impacts on the floodplain, having little impact on the natural moderation of floods and little impact on water quality maintenance and groundwater recharge.

- Ecological Resources - Since there are no significant ecological resources (e.g., wetlands, endangered species) within the Harlem River Yard site, there would be no significant adverse impacts under the proposed action. The development of the project area would have a positive impact on ecological resources to the extent that the proposed action incorporates landscaping in the design.

  The project will not impact the nearby littoral zones. No development is planned within these zones or within a 30-foot buffer area. Additionally, the existing littoral zones do not function biologically as tidal wetlands. They are

characterized by rip-rap, piers, and bulkheads with few or no natural features remaining.

- Stormwater Runoff - Several components of the Harlem River Yard development will require stormwater permits for operation of the facility including the intermodal yard, waste transfer station, and newsprint recycling facility. The details of the requirements as they relate to components of the Harlem River Yard development will be determined at the time permit applications are submitted to the NYSDEC. Consequently, no significant stormwater impacts are anticipated from development of the Harlem River Yard.

  As required by the stormwater regulations, development of the yard will incorporate design and operational features that are specifically geared to the management of stormwater control of erosion and sediment before, during and after the facilities are constructed. For instance, design features will include site grading, construction of drainage ditches and culverts, as well as maintaining all unpaved areas with vegetation. Additional operational practices will include the inspection and maintenance of all stormwater and erosion control devices and adherence to construction and facility pollution prevention plans required by law.

S.3.11 Hazardous Materials

The findings from Phase I and Phase II investigations indicate that contamination at the site is primarily due to past usage as a rail yard and coal storage yard. Much of the site is covered with varying depths of fill related to this past use, this is the primary contributor to the contamination identified. Semivolatile organics (especially PAHs) and metals (especially lead) are the predominant contaminants detected in the surface and subsurface soils at the site. There is no evidence of surface and subsurface organics affecting the groundwater quality at the site. A localized area of contamination exists in the central portion of the site due to on-going fuel pump operations. Based on the Phase I and Phase II investigations, a limited remediation program will be sufficient to mitigate concerns posed by the Harlem River Yard Site.

The remediation plan, which has been approved by the NYSDEC, includes a variety of requirements such as (1) the entire site area will be covered with controlled fill or topsoil, or paved where appropriate for facility operations, and (2) proper engineering controls for dust suppression and appropriate personnel protection measures will be observed during construction or demolition activities throughout the life of the lease. The NYSDEC will not be pursuing any further investigations of this site under the inactive hazardous waste remedial program.

S.3.12 Energy Use and Conservation

Development of the proposed action would result in increased energy demand for gas and electricity. Cost effective methods to decrease overall energy demand would be employed by the developers of the various project components. These methods could include insulation of walls and roofs, insulating glass and selective use of exterior materials to enhance thermal insulation, and selection of energy efficient heating and cooling systems.

The project would also result in reduced energy consumption due to the significant reduction in vehicle miles of travel (over 23.7 million for the wastepaper recycling option, 26.8 million for the warehouse option) resulting from the increased use of rail and decreased use of trucks. Assuming an average fuel economy of eight miles per gallon (trucks at 55 miles per hour), the project would result in a fuel savings of nearly three million gallons of fuel oil per year (nearly 3.4 million under the warehouse option).

S.3.13 Construction Impacts

Minor short-term construction impacts would occur in several areas:

- Air Quality - fugitive dust from on-site construction activities; asbestos which may need to be removed from buildings that would be demolished; mobile source emissions from construction vehicles and equipment and motor vehicles of construction workers;

- Noise - Impacts on community noise levels during construction of the proposed project include noise from construction equipment and noise from construction vehicles/delivery vehicles traveling to and from the site. Increases in noise levels due to the operation of delivery trucks and other construction vehicles would not be significant. Construction noise generated by the proposed project is expected to be similar to noise generated by other construction projects in the City;

- Hazardous Materials - Due to the contamination which has been detected within certain areas of the site, all excavation, surface and subsurface construction activities would be conducted according to the mitigation plan developed with the NYSDEC described earlier. Thus, there would be no significant impacts;

- Stormwater Management - In addition to the requirements described earlier regarding stormwater impacts from operation of certain industrial facilities, the regulations call for permits for any facility when construction is to take place on more than five acres. Thus, a permit will be required for Harlem River Yard construction, which would require the implementation of best management practices during the construction process so as to avoid stormwater impacts;

- Traffic - During construction of the proposed action, some minor disruptions to vehicular traffic may occur, but their impacts will be negligible. Heavy, sometimes oversize, construction equipment occasionally will be transported to and from the site. It is expected that these trips will occur during off-peak periods when impacts to regional highway and local street traffic will be minimized. To the maximum extent possible, the delivery of construction materials, such as steel and fill, will be by rail cars. Other materials such as concrete, will likely be delivered by trucks or barges from nearby concrete plants. However, the volume of material delivery trucks are not expected to result in peak period traffic impacts.

S.4 Alternatives to the Proposed Action

The following alternatives to the proposed land use plan have been considered. It should be noted that the proposed land use plan includes options relating to both use and design in connection with the future development. This FEIS considers the impacts associated with these options. Approval of the land use plan, unless otherwise conditioned, would allow development, subject to other regulatory requirements, of the identified options.

S.4.1 No Action

Under the future no action, no discretionary actions are proposed and therefore no future development in the proposed project site would be expected. The project area would continue to be underutilized and blighted.

S.4.2 Alternatives Considered But Rejected

Development of the Harlem River Yard for uses other than a rail and truck transportation facility (e.g., residential development) was considered and rejected. The key geographic location of the yard in the metropolitan area (both with respect to other transportation facilities and end users), its land use compatibility with the existing area (the proposed use is in keeping with the existing manufacturing zoning), and the critical need to reduce transportation costs and air pollution in the metropolitan area through the increased use of rail, all point to the need to develop this site as proposed by Harlem River Yard Ventures.

S.4.3 Alternative 1 - Increased Warehousing

An alternative to development of the yard as currently proposed would be the construction of an additional 300,000 sq ft of warehousing in place of and on the proposed site of the flower market and newsprint recycling facility. There are many instances where Alternative 1 does not differ from the proposed action in its impacts. Where impacts differ, they are described below:

- Socioeconomics - This alternative presumes fewer permanent employees, only 424, about half of the proposed action. Indirect employment would also be less. Over a four-year construction period, it is estimated about 202 jobs per year would be created, or about one quarter of those created under the proposed action. State and City tax revenues would, in turn, be less than in the proposed action. Total permanent annual revenues for the City are estimated at $1.1 million and $1.7 million for the State.

- Community Resources - Impacts on community resources would generally be less than the proposed action, since there would be fewer employees under this alternative (about one-half). For example, with respect to recreational resources, with a smaller day time worker population in the recreational study area, the requirement for passive open space would be less. In any case, there is more than adequate existing open space in the recreational study area.

- Transportation - The trip generation data shown in Table S-4 indicate substantially fewer vehicle trips during the AM peak hour than for either of the proposed action options; PM peak hour trips fall between the two options. Total daily trips (2,965) are significantly lower than the daily vehicle trips expected from the proposed action options. The lower AM peak hour volumes and daily total traffic volumes for this alternative reflect the elimination of the flower market trips and their replacement with less intensive warehousing trips.

- Air Quality - Since there would be less vehicular trips in the AM and PM peak periods than the proposed action, carbon monoxide levels would be less. Stationary source emissions would be less than the wastepaper recycling option and comparable to the warehouse option since there would be no wastepaper recycling facility;

- Noise - It is anticipated that noise levels of this alternative would be less than those of the proposed action since vehicular movements would be significantly less;

- Infrastructure - As is the case for the proposed action, utility services would need to be extended and modified in order to accommodate additional utility requirements. However, water and wastewater requirements would be significantly less than the wastepaper recycling option and more comparable to the warehouse option since this alternative would not include the paper facility which produces 99 percent of the demand for these services. It is anticipated that there is ample capacity in existing infrastructure for new connections. No excessive demands would be placed on existing local infrastructure, and no adverse effects would be expected.

S.4.4 Alternative 2 - Modified Transfer Station

A second alternative to the Harlem River Yard Intermodal/ Distribution Center could involve the development of the yard as in the proposed action, however, the 3,000 TPD Transfer Station would be replaced with a 2000 TPD Transfer Station and 1000 TPD

TABLE S-4

TRIP GENERATION - ALTERNATIVE #1

Facility	AM Peak				PM Peak				Daily Trips			
	Autos	Trucks	Vans	Total	Autos	Trucks	Vans	Total	Autos	Trucks	Vans	Total
6000 TPD Transfer Station	29	38	–	67	29	38	–	67	160	600	–	760
Warehouse 80,000 + 220,000 = 300,000 SF	171	–	–	171	171	51	–	222	394	1070	–	1464
Intermodal Terminal	19	44	–	63	19	44	–	63	118	540	–	658
Security & Maintenance	6	–	–	6	6	–	–	6	35	–	–	35
Team Track	–	4	–	4	–	4	–	4	–	48	–	48
Total	225	86	–	311	225	137	–	362	707	2258	–	2965

Materials Recovery Facility (MRF). There are many instances where Alternative 2 does not differ from the proposed action in its impacts. Where impacts differ, they are described below:

- Socioeconomics - Similar impacts would be somewhat less the proposed action since total employment (694) is about 15 percent less than the proposed action. State and City tax revenues would, in turn, be somewhat lower than in the proposed action. Total permanent annual revenues for the City are estimated at $1.7 million and $2.8 million for the State;

- Transportation - The trip generation data in Table S-5 indicate fewer vehicle trips during the peak hour periods than either of the proposed action options. Total daily trips would be 6,212 versus 6,665 for the wastepaper recycling option and 7,541 for the warehouse option. Truck traffic would be expected to be less for this alternative (1,478) than the wastepaper facility option (1,985) and warehouse option (2,804). However, overall automobile traffic for this alternative (1,402) would be about the same as for the warehouse option (1,405) and slightly more than the wastepaper recycling option (1,348).

- Air Quality - Carbon monoxide levels are expected to be somewhat less than the proposed action since there are fewer vehicular trips under this alternative. Stationary source emissions would be comparable to the wastepaper recycling option;

- Noise - Noise levels from yard activities and off-site mobile source noise levels would be less than the proposed action due to the fewer number of vehicular trips;

- Infrastructure - Infrastructure demands are expected to be the same as for the wastepaper recycling option, with very minor differences, because the paper recycling facility is such a large consumer.

S.5 Mitigation Measures

Mitigation measures are required in several areas (they are the same for both development options):

TABLE S-5

TRIP GENERATION - ALTERNATIVE #2

Facility	AM Peak				PM Peak				Daily Trips			
	Autos	Trucks	Vans	Total	Autos	Trucks	Vans	Total	Autos	Trucks	Vans	Total
2000 TPD Transfer Station/1000 TPD MRF	51	19	–	70	51	19	–	70	282	300	–	582
Paper Facility	49	3	–	52	49	3	–	52	258	44	–	302
Warehouse 80,000 SF	46	–	–	46	46	13	–	59	106	284	–	390
Intermodal Terminal	19	44	–	63	19	44	–	63	118	540	–	658
Flower Market	–	24	428	452	–	–	–	–	603	262	3332	4197
Security & Maintenance	6	–	–	6	6	–	–	6	35	–	–	35
Team Track	–	4	–	4	–	4	–	4	–	48	–	48
Total	171	94	428	693	171	83	–	254	1402	1478	3332	6212

- Cultural Resources - Based on the conclusions of the Phase 1A literature search and the Phase 1B field testing, no further cultural resource investigations are proposed. However, should project plans be modified such that below ground excavation is required in the vicinity of the Gouvernor Morris I and Lewis Morris house sites, testing would be conducted at that time. Further mitigation field work would be conducted only if the resources are determined significant (i.e., National Register eligible), and only if the project would affect them. At the completion of this review, development could then proceed.

  With respect to the Willis Avenue Station, buffer areas as requested by the OPRHP will be provided. Consequently the proposed action would have no significant impacts on the station.

- Traffic - In order to alleviate the traffic impacts generated by the project a number of mitigation measures are proposed:

  - At Bruckner Boulevard and St. Ann's Avenue, it is recommended that regulatory signing prohibiting left turns during the AM peak period (7AM to 9AM) and the PM peak period (4PM to 7PM) be posted in both directions of Bruckner Boulevard at the intersection. In addition, directional signing for the relocated turn movements should also be posted;

  - Improvements should also be provided along East 134th Street involving the reconstruction of the south side curb returns at Alexander Avenue, Brown Place, Brook Avenue, and St. Ann's Avenue to facilitate turning movements by trucks;

  - Reconstruction of East 132nd Street, which is presently in very poor physical condition;

  - Bruckner Boulevard at the intersections of Lincoln and Alexander Avenues would experience considerable delays due to normal traffic growth and additional project traffic during the AM peak hour. Therefore, Bruckner Boulevard should be restriped to provide three designated travel lanes (two though lanes and one left lane) in the westbound direction at both intersections. Left turns will be allowed in both directions as now exist. The signal timing at each intersection should be adjusted with both operating under a 90-second cycle length;

- Noise - Effects were identified at several residential receptors. However, these receptors represent non-conforming residential uses in a heavy

manufacturing zone. Furthermore, a review of potential noise abatement measures revealed them to be neither feasible nor reasonable. Consequently, noise impacts are unavoidable at these locations.

- Hazardous Materials - Implementation of the agreed upon remediation plan described earlier would mitigate any impacts with respect to hazardous materials.

TABLE OF CONTENTS

Section	Title	Page
1	INTRODUCTION	1-1
	1.1 Background	1-2
	1.1.1 Development Process	1-2
	1.1.2 Potential for Intermodal Service	1-5
	1.2 Purpose and Need	1-8
	1.3 Governmental Approvals	1-9
	1.3.1 Environmental Review	1-10
	1.3.2 Permits	1-10
	1.3.3 Government Grants or Financing	1-11
	1.4 Public Commenting Process	1-11
2	DESCRIPTION OF THE PROPOSED ACTION	2-1
	2.1 General Site Characteristics	2-4
	2.2 Intermodal Rail Terminal	2-4
	2.3 Other Facilities	2-10
	2.3.1 Bulk Transfer/Team Track Rail Facilities	2-10
	2.3.2 Newsprint Deink, Recycling and Production Facility	2-11
	2.3.3 New York City Wholesale Flower Market	2-16
	2.3.4 Warehousing	2-17
	2.3.5 Solid Waste Transfer Station	2-19
3	AFFECTED ENVIRONMENT	3.1-1
	3.1 Zoning and Land Use	3.1-2
	3.1.1 Existing Zoning	3.1-2
	3.1.2 Land Use	3.1-2
	3.2 Urban Design Characteristics	3.2-1
	3.3 Socioeconomics	3.3-1
	3.3.1 Population	3.3-1
	3.3.2 Income and Poverty	3.3-4
	3.3.3 Employment	3.3-6
	3.3.4 Housing	3.3-9
	3.4 Community Resources	3.4-1
	3.4.1 Commercial Services	3.4-1
	3.4.2 Religious and Cultural Institutions	3.4-2
	3.4.3 Schools	3.4-2
	3.4.4 Libraries	3.4-6
	3.4.5 Police and Fire	3.4-6
	3.4.6 Health Care Facilities	3.4-7
	3.4.7 Recreation	3.4-7

TABLE OF CONTENTS

Section	Title	Page
	3.5 Cultural Resources	3.5-1
	3.5.1 National Register and NYC Landmarks Properties	3.5-1
	3.5.2 Topographical Features	3.5-3
	3.5.3 Prehistoric Considerations	3.5-5
	3.5.4 Historical Considerations	3.5-7
	3.6 Transportation	3.6-1
	3.6.1 Traffic	3.6-1
	3.6.2 Rail Freight Traffic	3.6-29
	3.6.3 Public Transportation	3.6-29
	3.6.4 Pedestrian Activity	3.6-33
	3.7 Air Quality	3.7-1
	3.7.1 Regulations	3.7-1
	3.7.2 Mobile Sources	3.7-5
	3.7.3 Stationary Sources	3.7-8
	3.8 Noise	3.8-1
	3.8.1 Noise Fundamentals and Methodology	3.8-1
	3.8.2 Noise Standards and Criteria	3.8-3
	3.8.3 Noise Monitoring	3.8-11
	3.8.4 Existing Noise Levels	3.8-16
	3.9 Infrastructure	3.9-1
	3.9.1 Water Supply	3.9-1
	3.9.2 Wastewater	3.9-1
	3.9.3 Sanitation/Solid Waste	3.9-4
	3.9.4 Energy	3.9-4
	3.9.5 Waterfront	3.9-4
	3.10 Natural Resources	3.10-1
	3.10.1 Geology	3.10-1
	3.10.2 Floodplains	3.10-3
	3.10.3 Ecosystems	3.10-4
	3.10.4 Water Quality	3.10-6
	3.11 Hazardous Materials	3.11-1
	3.11.1 Phase IA	3.11-2
	3.11.2 Phase IB	3.11-8
	3.11.3 Phase II	3.11-15
	3.11.4 Summary of Phase IA and IB and Phase II Findings	3.11-21
4	IMPACTS OF THE PROPOSED ACTION	4.1-1
	4.1 Land Use	4.1-4
	4.1.1 Future Without the Proposed Action	4.1-4
	4.1.2 Impacts of the Proposed Action	4.1-4

LANDMARKS PRESERVATION COMMISSION
100 OLD SLIP, NEW YORK, NY 10005
(212) 487-6800

3 March 1994

Cynthia Blakemore
New York State Historic Preservation Office
The Governor Nelson A. Rockefeller Empire State Plaza
Agency Building 1
Albany, NY 12238

Dear Cynthia:

Finally ... commentary on the Harlem River Yards FEIS. I'm sorry this took so long but I've been swamped with work lately. I read the FEIS, and I also spoke with Joan Geismar, who did the documentary research and the preliminary archaeological testing for this project.

Like you, I have some real concerns about the adequacy of the archaeology that has been undertaken to date, especially in view of the prehistoric and historic significance documented in the 1A. The Ranachqua site, if any of it survives, is an important archaeological resource, given the scarcity of surviving Native American sites in New York City. A possible Jonas Bronck occupation on this project area would also be of great interest and should be more thoroughly investigated. Also, there are the known Morris family homes and possible features associated with these occupations. Because the Morris family played such an important role in the history of both New York City and New York State, localities associated with the family, if they survive, could meet eligibility criteria for the National Register. Portions of these potentially significant sites may have been destroyed by grading and railroad construction, but I would expect some preservation, especially in those areas with up to 9 feet of landfill.

Joan Geismar also expressed her concern regarding continued development in this area without further testing. Certainly the parallel rock features in the vicinity of the Gouverneur Morris house warrant further investigation. Geismar said that weather conditions, poor visibility, and problems with access to the area precluded further investigation at the time of the initial testing back in February 1993. At that point, she did not push the issue since she understood that construction plans (at that time) did not call for extensive subsurface excavation. She did recommend that, should construction plans change, more work should be done. Regardless of whether construction plans have changed or not, I think that the features and the general area should be more thoroughly investigated. Since we do not know either the dating or the significance of these features, it seems to me that it is impossible to assess the impact of development on this extremely important locality. According to the documentary research, the area around the Gouverneur Morris house (131st Street and Cypress Avenue) contains a layer of fill that may have preserved not only architectural but more ephemeral features as well. Geismar recognized the presence of this fill during her testing. The Lewis Morris house area also was flagged by Geismar, although she did not test there because construction plans did not call for deep excavation. Again, she recommended testing should construction plans change. This area, too, demands further investigation. It is possible that grading destroyed existing archaeological deposits, but this has not been tested, and I think it should be.

I can't emphasize strongly enough the significance of any remaining archaeological

deposits associated with the prehistoric and historic occupations on this parcel. I really think that the recommendations of the 1A and the results of the testing need to be reevaluated, and probably that more archaeology needs to be done. I would be glad to participate in any further discussion, evaluation, or decision making regarding this project. Thank you for involving the LPC in this project. Please call (212-487-6846) if you have any questions.

Sincerely,

Susan A. Dublin
Archaeologist

TABLE OF CONTENTS

Section	Title	Page
4.2	Urban Design Characteristics	4.2-1
4.2.1	Future Without the Proposed Action	4.2-1
4.2.2	Impacts of the Proposed Action	4.2-1
4.3	Socioeconomics	4.3-1
4.3.1	Future Without the Proposed Action	4.3-1
4.3.2	Impacts of the Proposed Action	4.3-2
4.4	Community Resources	4.4-1
4.4.1	Future Without the Proposed Action	4.4-1
4.4.2	Impacts of the Proposed Action	4.4-1
4.5	Cultural Resources	4.5-1
4.5.1	Future Without the Proposed Action	4.5-1
4.5.2	Impacts of the Proposed Action	4.5-1
4.6	Transportation	4.6-1
4.6.1	Future Without the Proposed Action	4.6-1
4.6.2	Impacts of the Proposed Action	4.6-8
4.7	Air Quality	4.7-1
4.7.1	Future Without the Proposed Action	4.7-1
4.7.2	Impacts of the Proposed Action	4.7-3
4.8	Noise	4.8-1
4.8.1	Future Without the Proposed Action	4.8-1
4.8.2	Impacts of the Proposed Action	4.8-5
4.9	Infrastructure	4.9-1
4.9.1	Future Without the Proposed Action	4.9-1
4.9.2	Impacts of the Proposed Action	4.9-2
4.10	Natural Environment	4.10-1
4.10.1	Future Without the Proposed Actio	4.10-1
4.10.2	Impacts of the Proposed Action	4.10-1
4.11	Hazardous Materials	4.11-1
4.11.1	Future Without the Proposed Action	4.11-1
4.11.2	Impacts of the Proposed Action	4.11-1
4.12	Energy Use and Conservation	4.12-1
4.12.1	Future Without the Proposed Action	4.12-1
4.12.2	Impacts of the Proposed Action	4.12-1
4.13	Construction Impacts	4.13-1
4.13.1	Air Quality	4.13-1
4.13.2	Noise	4.13-3
4.13.3	Hazardous Materials	4.13-5
4.13.4	Stormwater Management	4.13-6
4.13.5	Transportation	4.13-6

TABLE OF CONTENTS

Section	Title	Page
5	ALTERNATIVES TO THE PROPOSED ACTION	5-1
	5.1 No Action	5-1
	5.2 Alternatives Considered But Rejected	5-1
	5.3 Alternative 1 - Increased Warehousing	5-2
	5.3.1 Zoning and Land Use	5-2
	5.3.2 Urban Design Characteristics	5-2
	5.3.3 Socioeconomics	5-2
	5.3.4 Community Resources	5-4
	5.3.5 Cultural Resources	5-4
	5.3.6 Transportation	5-4
	5.3.7 Air Quality	5-6
	5.3.8 Noise	5-6
	5.3.9 Infrastructure	5-6
	5.3.10 Natural Resources	5-6
	5.3.11 Hazardous Materials	5-7
	5.4 Alternative 2 - Modified Transfer Station	5-7
	5.4.1 Zoning and Land Use	5-7
	5.4.2 Urban Design Characteristics	5-8
	5.4.3 Socioeconomics	5-8
	5.4.4 Community Resources	5-8
	5.4.5 Cultural Resources	5-8
	5.4.6 Transportation	5-8
	5.4.7 Air Quality	5-10
	5.4.8 Noise	5-10
	5.4.10 Natural Resources	5-10
	5.4.11 Hazardous Materials	5-12
6	MITIGATION MEASURES	6-1
	6.1 Cultural Resources	6-1
	6.2 Traffic	6-1
	6.3 Air Quality	6-5
	6.4 Noise	6-6
	6.5 Hazardous Materials	6-8
7	IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES	7-1
8	RELATIONSHIP BETWEEN SHORT TERM USES OF MAN'S ENVIRONMENT AND THE ENHANCEMENT OF LONG TERM	

TABLE OF CONTENTS

Section	Title	Page
	PRODUCTIVITY	8-1
9	UNAVOIDABLE ADVERSE EFFECTS	9-1
10	PUBLIC REVIEW PROCESS AND RESPONSE TO COMMENTS	10-1
	REFERENCES	11-1
	APPENDICES	
	Appendix A Coastal Zone Management Consistency	A-1
	Appendix B Cultural Resource investigations	B-1
	Appendix C Air Quality	C-1
	Appendix D Noise	D-1
	Appendix E Hazardous Materials	E-1
	Appendix F Traffic	F-1
	Appendix G Rail Studies	G-1
	Appendix H Comments on the DEIS	H-1

LIST OF FIGURES

Number	Title	Following Page
2-1	Land Use Plan	2-1
2-2	Project Development Schedule	2-4
2-3	Regional Rail System	2-4
2-4	Newsprint De-Inking Process Flow Chart	2-11
3.1-1	Study Area Boundaries	3.1-1
3.1-2	Zoning Map	3.1-2
3.1-3	Land Use	3.1-3
3.3-1	Census Tracts	3.3-1
3.4-1	Community Facilities	3.4-1
3.4-2	Parks and Recreation	3.4-5
3.5-1	Landmarks and Historic Places	3.5-2
3.5-2	Willis Avenue Station Existing Conditions	3.5-3
3.5-3	1873 Topographical Survey	3.5-3
3.5-4	1816 Randel Survey	3.5-4
3.5-5	1850 Updated Survey	3.5-4
3.6-1	Local Street Network	3.6-1
3.6-2	ATR - Turning Movement/Vehicle Classification Count Locations	3.6-7
3.6-3	Existing Peak Balanced Traffic Flow	3.6-15
3.6-4	Existing Peak Balanced Traffic Flow	3.6-15
3.6-5	Existing Peak Balanced Traffic Flow	3.6-15
3.6-6	Existing Off-Peak Balanced Traffic Flow	3.6-15
3.6-7	Existing Off-Peak Balanced Traffic Flow	3.6-15
3.6-8	Existing Off-Peak Balanced Traffic Flow	3.6-15
3.6-9	Public Transportation	3.6-24
3.7-1	Air Quality Receptors	3.7-6
3.8-1	Noise Receptors	3.8-8
3.9-1	Water Supply System	3.9-4
3.9-2	Sanitary and Storm Sewer Systems	3.9-4
3.10-1	100-Year Flood Plain	3.10-3

LIST OF FIGURES

Number	Title	Following Page
3.11-1	Areas of Potential Environmental Concern	3.11-4
3.11-2	Soil Gas Survey Grid and Monitoring Locations	3.11-7
3.11-3	Sampling/Monitoring Well Location Plan	3.11-10
4.5-1	Willis Avenue Station Future Conditions	4.5-1
4.5-2	Existing Conditions with Potential Areas of Sensitivity	4.5-5
4.5-3	Proposed Development - St. Ann's to Cypress Avenue	4.5-5
4.5-4	Proposed Development - Willis to St. Ann's Avenue	4.5-5
4.6-1	No Action Trip Distribution	4.6-2
4.6-2	No Action Peak Balanced Traffic Flow	4.6-2
4.6-3	No Action Peak Balanced Traffic Flow	4.6-2
4.6-4	No Action Peak Balanced Traffic Flow	4.6-2
4.6-5	Build Trip Distribution - Employees	4.6-9
4.6-6	Build Trip Distribution - Flower Market Deliveries	4.6-9
4.6-7	Build Trip Distribution - Truck Trips	4.6-12
4.6-8	Build Peak Balanced Traffic Flow	4.6-12
4.6-9	Build Peak Balanced Traffic Flow	4.6-12
4.6-10	Build Peak Balanced Traffic Flow	4.6-12
4.6-11	Truck Routings	4.6-17

LIST OF TABLES

Number	Title	Page
2-1	Site Acreage	2-2
2-2	Personnel	2-3
3.1-1	Summary of Zoning Districts in Study Area	3.1-3
3.3-1	Age Distribution of Population (1990)	3.3-2
3.3-2	Age Distribution of Population (1980-1990)	3.3-3
3.3-3	Income and Poverty	3.3-5
3.3-4	Employment by Industry Category - Zipcode 10454	3.3-7
3.3-5	Population and Housing Density (1990)	3.3-10
3.3-6	Housing Occupancy and Tenure (1990)	3.3-11
3.3-7	Housing Occupancy and Tenure (1980-1990)	3.3-13
3.3-8	Housing Units in Structure	3.3-14
3.4-1	School Characteristics	3.4-3
3.4-2	Parochial School Characteristics	3.4-3
3.4-3	Parks and Recreational Space in the Study Area	3.4-7
3.5-1	History of Ownership (1639 through 1905)	3.5-7
3.6-1	Existing Truck Percentages	3.6-5
3.6-2	24-Hour Traffic Volumes Recorded in Study Area	3.6-8
3.6-3	Traffic Level of Service Definitions for Signalized Intersections	3.6-10
3.6-4	Summary of LOS Analysis - Existing Conditions	3.6-12
3.6-5	Average Travel Speeds	3.6-19
3.6-6	Bus Routes Serving the Harlem River Yard	3.6-22
3.6-7	Bus Passenger Loadings	3.6-22
3.6-8	Passenger Loadings No. 6 Train	3.6-24
3.7-1	Federal and New York State Ambient Air Quality Standards	3.7-2
3.7-2	Existing Carbon Monoxide Levels	3.7-5
3.8-1	Noise Abatement Criteria	3.8-4
3.8-2	Part 360 Acceptability Standards	3.8-4
3.8-3	Noise Exposure Standards for CEQR Review	3.8-6
3.8-4	City of New York Ambient Noise Quality Criteria	3.8-8
3.8-5	Maximum Permissible Octave Band Sound Level for a Manufacturing District Adjoining a Residential District	3.8-8
3.8-6	Existing Sound Levels - Sites 1 through 9, 11	3.8-11

LIST OF TABLES

Number	Title	Page
3.8-7	Existing Sound Levels - Site 10	3.8-12
3.8-8	Comparison of Existing Noise Levels with CEPO Standards	3.8-13
3.9-1	Wards Island WPCP Monthly Flows	3.9-2
3.11-1	Areas of Potential Environmental Concern	3.11-3
3.11-2	Phase IB Soil Gas Survey Results	3.11-9
3.11-3	Phase II Site Investigation Report - Summary of Subsurface Soil Sample Analyses	3.11-13
4.3-1	Increase in Annual City and State Tax Revenues	4.3-4
4.4-1	Open Space Analysis	4.4-4
4.6-1	Summary of LOS Analysis - No Action	4.6-4
4.6-2	Project Generated Trips	4.6-10
4.6-3	Summary of LOS Analysis - Proposed Action	4.6-13
4.6-4	Gate Assignments	4.6-19
4.7-1	Results of Microscale Analysis	4.7-2
4.7-2	Air Pollutant Reductions	4.7-5
4.7-3	Boiler Emission Rates	4.7-10
4.7-4	Annual Stationary Source Emissions	4.7-13
4.8-1	Average Ability to Perceive Changes in Noise Levels	4.8-2
4.8-2	No Action Predicted Noise Levels	4.8-3
4.8-3	Predicted Noise Levels	4.8-8
4.13-1	Typical Noise Emission Levels for Construction Equipment	4.13-4
5-1	Increase in Annual City and State Tax Revenues - Alternative 1	5-3
5-2	Trip Generation - Alternative 1	5-5
5-3	Increase in Annual City and State Tax Revenues - Alternative 2	5-9
5-4	Trip Generation - Alternative 2	5-11
6-1	Summary of LOS Analysis - Mitigated Conditions	6-2
6-2	Results of Microscale Analysis	6-5

CHAPTER 1

INTRODUCTION

The proposed 96-acre Harlem River Yard Transportation and Distribution Center located in the south Bronx section of New York City will be a totally secured "State of the Art" multimodal park providing warehousing, distribution and rail transportation services to businesses serving the New York City metropolitan region. The proposed project is a joint venture of the Galesi Group, a major New York State developer and manager of industrial parks, and the Hunts Point Terminal Produce Cooperative, New York City's largest distributor of both refrigerated and non-refrigerated foods. The project will be developed over the next five-year period.

On October 21, 1992 the NYS Department of Transportation published its determination that the proposed development was subject to the requirements of the State Environmental Quality Review Act (SEQRA) and was classified as a Type I action; the department directed that an Environmental Impact Statement (EIS) be prepared pursuant to the requirements of Article 8, Section 8-0101 et. seq. of the Environmental Conservation Law and Title 6 of the New York State Code of Rules and Regulations, Part 617. The purpose of the Draft Environmental Impact Statement (DEIS) was to satisfy that requirement. A public hearing on the DEIS was held on June 30, 1993 and the public comment period was open until July 12, 1993, in accordance with SEQRA regulations.

New or modified text in this Final Environmental Impact Statement (FEIS) is shown highlighted; new or modified tables are indicated by highlighting of the table number and title only, so as to assist in legibility of the table. In addition, Chapter 10 and Appendices G and H are entirely new, while Appendices C, D, and F have changed significantly given the modifications to the proposed action since the DEIS.

1.1 Background

1.1.1 Development Process

The Harlem River Yard site once housed a New Haven Railroad piggyback yard. However, the yard fell into disuse after the Penn Central merger, and piggyback service ceased in 1972. The NYSDOT realized the strategic importance of the site and acquired it for transportation use. In 1978, Harlem River yard was chosen as the site for a regional intermodal facility to better accommodate the New York City's metropolitan area's existing intermodal business and allow for the development of new intermodal services.

In 1982, the US Coast Guard and the NYSDOT issued a Final Environmental Impact Statement (FEIS) on the South Bronx-Oak Point Link Project pursuant to the National Environmental Policy Act (NEPA). The project was part of the NYSDOT Full Freight Access Program to modernize the New York City and Long Island rail freight systems. The EIS addressed clearance improvements south of the Highbridge Yard to the Oak Point Yard, as well as the development of a trailer on flat car (TOFC) facility at the Harlem River yard. A number of alternative routes and yards were evaluated. The off-shore route and Harlem River Yard were selected for implementation.

Construction of the Oak Point Link began in 1982. In the spring of 1988, technical problems were encountered in the construction of the Link, which was stopped. Construction was recommenced in 1992 and is estimated to be complete in 1995. Construction of the intermodal terminal at the Harlem River Yard was commenced in 1986. Portions of the work were completed but work was stopped in 1988 when problems were encountered with the Link construction and the economic viability of the yard (without the link) came into question.

Consequently, in 1988, NYSDOT commissioned Temple, Barker & Sloane, Inc. (TBS) to study the potential for privatizing the Harlem River Yard. The purpose of the study was

to provide NYSDOT with a plan that would minimize the need for additional state funding to complete construction of the yard, maximize private participation in development and operation of the yard, and provide the best use of the yard. The study found a number of attractive uses for the yard, though none of a size large enough to warrant a stand-alone operation. (Potential uses studied included traditional long-haul TOFC, refrigerated long-haul TOFC, specialized unit trains, and several others.) The TBS report concluded that the development of the yard as a multi-purpose transportation terminal would maximize the potential for privatizing the Harlem River Yard. "A state-of-the-art 'intermodal park' could serve several emerging markets and technologies, including network operator, specialized unit train, and bulk carload transfer."

In 1989, NYSDOT solicited proposals from the private sector to finance, construct, and manage the operation of intermodal transportation facilities at the Harlem River Yard. The stated policy in the RFP was that the Harlem River Yard be developed and operated as an intermodal transportation facility having a significant rail component to provide innovative, more efficient, and greater capacity freight transportation for the NYC/Long Island area. Priority markets to be served included refrigerated food (given the proximity of the Hunts Point Produce Terminal, the largest receiver of produce, meats, and frozen foods in NYC) and municipal solid waste (given the increasing distances to disposal sites).

Following an evaluation of competing proposals submitted in response to the request for proposals, Harlem River Yard Ventures, Inc. was selected to develop the yard.

The lease entered into between Harlem River Yard Ventures, Inc. and the NYSDOT provided that the developers were to prepare a land use plan that is subject to the approval of the NYSDOT. The requirement imposed on the developers to conform the future development of the rail yard to the approved land use plan is in addition to any other regulatory approvals that may apply to the proposed development.

The plan recognizes that the elements of the proposed development are likely to advance independently and in accordance with schedules that cannot be determined with a high degree of precision. Moreover, the design of any particular element may change or, in some cases, the particular land use may prove infeasible and an alternative land use would therefore be contemplated.

As an example, one of the components of the plan is a solid waste transfer station. However, at the present time, there is no immediate demand for such a facility and no developer has been identified for this element of the plan. For that reason, the FEIS, in addition to considering the impacts of the waste management facility, considered the impacts of an alternative use, viz warehousing, should a waste management facility prove to be infeasible.

Similarly, the proposed wastepaper recycling facility has an identified developer, but involves several possible design configurations, relating to the following:

* generation of process steam;
* wastewater treatment;
* process water.

The FEIS identifies the environmental factors and potential impacts associated with each of the design options.

The SEQR procedures recognize that after the preparation of an FEIS, changes related to the project, changed conditions (e.g., traffic or air quality), or the availability of new information may require that a supplemental EIS be prepared.

1.1.2 Potential for Intermodal Service

Any projection of future demand for Trailer-On-Flatcar (TOFC) at Harlem River Yard (HRY) will be heavily dependent on the assumed level and characteristics of economic activity, the comparative economics of alternative modes of transportation, and technological innovation. As a result, any such projections involve a relatively high degree of uncertainty.

The proposed action has relied on earlier projections of demand for TOFC at HRY. The first of these was by Andrews and Clark, Inc. for the Oak Point Link Environmental Impact Statement (EIS), entitled: South Bronx - Oak Point Link Environmental Assessment; Technical Support Document No. 10, September 1981. This study was based on 1977 rail traffic data as well as more contemporary surveys, and projected demand for year 2000. The second study was by Temple, Barker & Sloane, Inc. (TBS) for the NYS Department of Transportation (NYSDOT), entitled: Harlem River Yard Privatization Study, February 1989. This was based on 1985 rail traffic data and more current surveys. An earlier study of TOFC at 60th Street in Manhattan by Harbridge House, Inc. for the NYS Urban Development Corporation (entitled A Study of Market Demand for a 60th Street Rail Freight Facility, 1981) was also reviewed but considered of little relevance to forecasting TOFC at HRY. Of the three studies, the most current and comprehensive analysis was that by TBS, which focussed more on realistic line haul costs and user modal preferences. (A more detailed review of these studies and their differences is provided as Appendix G).

The Oak Point EIS "Likely Scenario" projected an annual movement of 170,000 trailers per year by year 2000 and 95,000 trailers per year in the initial phases. Key among the operating assumptions to achieve these projected volumes is that all regional traffic (including that originating in New Jersey) headed for points north and west - Buffalo, Cleveland and Detroit - would be served from the Bronx terminal. The Oak Point EIS also based its "likely scenario" at HRY on an assumed 10 percent reduction in line haul cost. The study does not acknowledge the high proportion of empty cars that would move outbound from HRY because of the nature of freight shipping in NYC. The Oak Point EIS projections,

therefore, appear to be highly optimistic of the ability of a TOFC at HRY to divert TOFC from the NJ terminals and from other freight modes.

The TBS study is a screening study of various options for the HRY and recommends the concept of a privately operated Intermodal Park as a reasonable and feasible use of the property. Under this scenario, the study projects 45,000 trailer loads per year (15,000 of which would be refrigerated) as a reasonable projection for the third year of TOFC operations at HRY. The study does not project beyond this because of the uncertainty inherent in long-range transportation forecasting.

The TBS study makes a detailed and comprehensive market viability assessment of rail freight at HRY, including:

- Traditional long-haul TOFC;
- Refrigerated long-haul TOFC;
- Montreal corridor;
- Network operators;
- Specialized unit trains; and
- Bulk car load transfer.

The TBS study describes the characteristics of the East of Hudson Market with only 562,000 freight container equivalents (FCE's) moving into East of Hudson from prime long haul intermodal regions (Upper-Midwest, Mid-South, Mountains and West). Of these, only 12 percent or 65,000 FCE's moves via intermodal (TOFC). Potential to capture more of this exists for HRY. However, one basic problem is the balance of inbound to outbound intermodal flow of 3.3 to 1, whereas the NJ intermodal terminals maintain a balance of 1.15 to 1 (TBS p. II-7). Another problem with line haul economics for HRY vs NJ terminals is their technical ability to use Road Railers and Double Stack TOFC. While HRY would appear to offer some savings on local drayage costs, TBS presents overall cost ratios of

HRY compared to NJ terminals that never show an advantage to HRY, let alone the 10 percent savings assumed by the Oak Point EIS.

The TBS study also conducted detailed surveys of shipper perceptions of intermodal vs truck and noted the time sensitivity of shippers and found a small fraction willing to switch from trucks if cost savings were large. The survey of potential diversions from trucks and existing intermodal concluded there was a market potential of 70,000 FCE's. These projections are optimistic, however, because TBS found HRY to be more expensive than NJ terminals at the projected inbound/outbound ratio and extremely difficult to improve.

The TBS study of Refrigerated TOFC, despite being almost entirely inbound, indicated a potential market niche because of the concentrated market at nearby Hunts Point, maximum drayage savings, and the competitive market shifts that gave new entrants a potential advantage. The TBS survey on potential diversions of refrigerated movements projects 30,000 FCE's. In conclusion, TBS projected estimates of HRY volume in year 3 of 45,000 trailer loads per year, 15,000 of which would be refrigerated, and a total of 16,500 carloads of bulk users.

Accounting for the different projections of TOFC demand by the two studies may focus on both the internal validity of the studies and on the changes in the external aspects of the economic environment over the intervening time period. The TBS study, in addition to being more current, makes a more comprehensive market assessment: fully incorporating line haul costs, including the level of vacant outbound returns; the potential costs/savings of local drayage; as well as the market perceptions of local shippers of a TOFC at HRY.

External economic variables also altered substantially over the near decade that separated the two studies. Principal among these changes are:

- the structure of the NYC economy, particularly the decline of its Manufacturing and Wholesale sectors which represent the potential freight users;

- the further changes of the structure and technology of the freight shipping industry, with movement to Double Stack TOFC available at NJ terminals but precluded at HRY, and increasing gains to trucks in the region because of their door-to-door flexibility; and

- the changing economics of fuel, with a substantial decline in the real costs of petroleum over the past decade.

The shifts among rail freight modes have permitted NJ terminals to gain an enormous lead in establishing ancillary distribution networks in coordination with the TOFC terminals. To improve the competitive position of a Bronx TOFC terminal, the Oak Point Link must be expanded to increase clearances sufficient to accommodate double stacked trailers. If the State and City accomplish this expanded access, the projected demand for TOFC in NYC would also expand.

In conclusion, the rail program as proposed for HRY Intermodal Park is broadly in conformity with the TBS study and provides a capacity to handle 70,000 trailer lifts per year, plus an additional 30,000 through trailers to Hunts Point. Additional bulk transfer and team track are provided with capacity to handle 2,500 carloads in bulk commodities. The proposed solid waste transfer station is designed to handle 10,000 rail cars per year. Altogether, the proposed action is a very ambitious rail plan but one that appears to be closely grounded on the real potential demand for rail freight and TOFC in New York.

1.2 Purpose and Need

The purpose of the development of the Harlem River Yard contemplated by the proposed land use plan is to implement the policy determination made in connection with the 1982 FEIS that the Harlem River Yard be developed to:

- Enhance the competitiveness of rail freight service in the New York City metropolitan area by developing an intermodal rail terminal in the Harlem River Yard along with associated warehousing and infrastructure;
- Reduce truck traffic on Hudson River bridges;
- Reduce the cost of transporting materials into and out of New York City;
- Create jobs and act as an incentive to economic development;
- Develop infrastructure to facilitate the rail transportation of municipal solid waste (MSW) and recycled material.

From the perspective of the residents of the South Bronx, the project will represent a major infusion of capital, active businesses, and a wide variety of job opportunities. From the larger perspective of consumers and businesses in the New York region, the project promises major savings in transportation costs, consequent reductions in the final prices of numerous critical products which, in turn, will make many New York businesses more competitive and able to expand their market performance.

The project also has the added benefit of reducing regional air pollutant emissions due to major decreases in truck vehicle miles of travel and reducing congestion and related air pollution in midtown Manhattan due to the relocation of the flower market.

1.3 Governmental Approvals

A number of City and State approvals will be required in order for the proposed action to take place. These will be discussed below. No federal approvals are anticipated to be required for this action.

1.3.1 Environmental Review

This project is subject to the requirements of Part 617, the New York State Environmental Quality Review Act (SEQRA) of 1976. The proposed discretionary action (approval of the land use plan by NYSDOT) requires that analyses and disclosure documents be prepared pursuant to SEQRA. Due to the nature and size of the proposed action, it was determined by NYSDOT that it may have a significant effect on the environment and therefore NYSDOT required the preparation of a Draft Environmental Impact Statement. The DEIS was subject to public review; a description of that process and comment received on the DEIS are presented in Chapter 10 and Appendix H.

1.3.2 Permits

A number of permits would be required from the NYS Department of Environmental Conservation (NYSDEC) for various components of the project, including:

- Part 360 solid waste management permit for the waste transfer station (permit issuance is subject to SEQR);
- Part 201 air permits for boiler and industrial process emissions and for non-attainment review under Part 231 (both ministerial actions)(the need for these air permits for the process steam boiler would be eliminated if Con Edison was used as the source of process steam);
- State Pollutant Discharge Elimination System (SPDES) permit for stormwater runoff and possibly for an industrial wastewater discharge from the newsprint deinking facility (if that discharge option is chosen).

Tanks used to store certain chemicals at the newsprint recycling facility will need to be registered by NYSDEC as required under 6NYCRR Part 596 - Registration of Hazardous Substance Bulk Storage Tanks.

In addition to the permits and approvals discussed above, ministerial permits, not subject to SEQRA, would be needed from City agencies for temporary street closings, utility work etc. (As defined in SEQRA, ministerial acts are those "performed upon a given state of facts in a prescribed manner imposed by law without the exercise of any judgement or discretion as to the property of the action, such as the granting of a hunting or fishing license")(6NYCRR Part 617.2). Approvals from the Department of Transportation, the Department of Buildings, the Department of Environmental Protection and other relevant agencies would be required.

Finally, New York State law requires the standards of the New York Code of Rules and Regulations, New York State Uniform Fire Prevention and Building Code be enforced for buildings constructed on New York State property.

1.3.3 Government Grants or Financing

Although funding agreements have yet to be negotiated and executed, it is anticipated that the infrastructure improvements associated with the proposed action would be eligible for grants from both New York State and New York City. The Port Authority of New York and New Jersey and the New York City Economic Development Corporation are considering requests to provide funding for improvements of the rail, sewer, water, and electric utility infrastructure that serve the site. The total amount of the funding being considered at this juncture is approximately seven million dollars. Both agencies have reviewed and have had an opportunity to comment on the DEIS and FEIS in connection with their involvement in the SEQR process.

1.4 Public Commenting Process

All parties involved or interested in the Proposed Action and Environmental Impact Statement are encouraged to make known their views on the action, particularly with respect to their areas of expertise and jurisdiction. Written comments should be submitted to the

NYSDOT during the review period following the issuance of a notice of completion for the FEIS. Comments should be addressed to:

Mr. Bruce A. Blackie
Deputy Assistant Commissioner
Commercial Transport Division
NYS Department of Transportation
1220 Washington Avenue, Building 7A
Albany, NY 12232

The NYSDOT will issue written findings on the action within 30 days of the filing of the FEIS.

CHAPTER 2

DESCRIPTION OF THE PROPOSED ACTION

The proposed 96-acre Harlem River Yard Intermodal Transportation and Distribution Center located in the south Bronx section of New York City will be a totally secured state-of-the-art multimodal park providing rail transportation, warehousing, and distribution services to businesses serving the New York City metropolitan area. There are two development options for the rail yard:

- Wastepaper Recycling Option - a land use plan that includes the development of a 375 ton per day (tpd) newsprint deinking facility and paper mill;
- Warehouse Option - the development of additional warehousing in place of the paper recycling facility.

Depending on the option, the proposed land use at the yard will include the following facilities (Figure 2-1):

- Intermodal rail terminal;
- Warehousing, including a refrigerated/dry warehouse facility;
- Newsprint deink, recycling and production facility, or additional warehousing;
- New York City wholesale flower market;
- Solid waste transfer station.

In addition, a bulk cargo/team track and through track for the Oak Point Link will also be provided. Approximate acreage of the above facilities are presented in Table 2-1. Personnel loadings are summarized in Table 2-2.

TABLE 2-1

SITE ACREAGE

Wastepaper Recycling Option

Facility	Acreage
Intermodal Terminal	28
Wastepaper Recycling	18
Flower Market	5-7
Warehouses	8
Transfer Station	5
Team Track	5

Note: Remaining acreage is occupied by through track, common service roads, open space and land under water.

Warehouse Option

Facility	Acreage
Intermodal Terminal	28
Flower Market	5-7
Warehouses	27
Transfer Station	5
Team Track	5

Note: Remaining acreage is occupied by through track, common service roads, open space and land under water.

TABLE 2-2

PERSONNEL

Wastepaper Recycling Option

Facility	Total Number	Maximum Shift	Other Shifts	Number of Shifts
Intermodal Terminal	69	25	22,22	3
Wastepaper Recycling	149	65	42,42	3
Flower Market	349	349	0	1
Warehouse	137	137	0	1
Transfer Station	46	20	16,10	3
Security and Maintenance	20	8	6,6	3
Total	770	—	—	—

Warehouse Option

Facility	Total Number	Maximum Shift	Other Shifts	Number of Shifts
Intermodal Terminal	69	25	22,22	3
Flower Market	349	349	0	1
Warehouse	319	319	0	1
Transfer Station	46	20	16,10	3
Security and Maintenance	20	8	6,6	3
Total	803	—	—	—

The wastepaper recycling option will be developed over the next five-year period (Figure 2-2). The warehouse option would be developed somewhat faster, being completed over an approximately four-year period.

2.1 General Site Characteristics

The site is readily accessible by truck, rail and water. The site serves as the southern landfall of the Oak Point Link "water route" which is being constructed to modernize and improve rail freight access to markets east of the Hudson River (Figure 2-3). Adjacent to the site are two major highways (Major Deegan and Bruckner Expressways) and three bridges that connect the site to New York City and Long Island (Triboro, Willis Avenue and Little Hell Gate). The site has an existing docking area at the southwestern portion of the site along the Harlem River.

The site is bounded by the Bronx Kill and Harlem River to the south, East 132nd Street to the north, Lincoln Avenue to the west, and the New York City Transit Authority Bus Depot (at Walnut Avenue) to the east. The New York City Department of Sanitation District Offices and truck garages are located on East 132nd Street adjacent to the site as well as a US Postal Service depot.

A portion of the site is located within the 100-year floodplain. No wetlands exist on-site. The site is zoned M3-1 and M2-1. Topography is generally flat.

2.2 Intermodal Rail Terminal

The centerpiece of development of the Harlem River Yard is the intermodal rail terminal. It will occupy the largest acreage on the site (approximately 28 acres along the northern portion of the site). The terminal is designed to function as either a container on flatcar (COFC) or trailer on flatcar (TOFC) facility. The intermodal rail terminal is located on the northern portion of the site to take advantage of the longest straight track sections available,

HARLEM RIVER YARD
INTERMODAL TRANSPORTATION CENTER
PROJECT DEVELOPMENT SCHEDULE

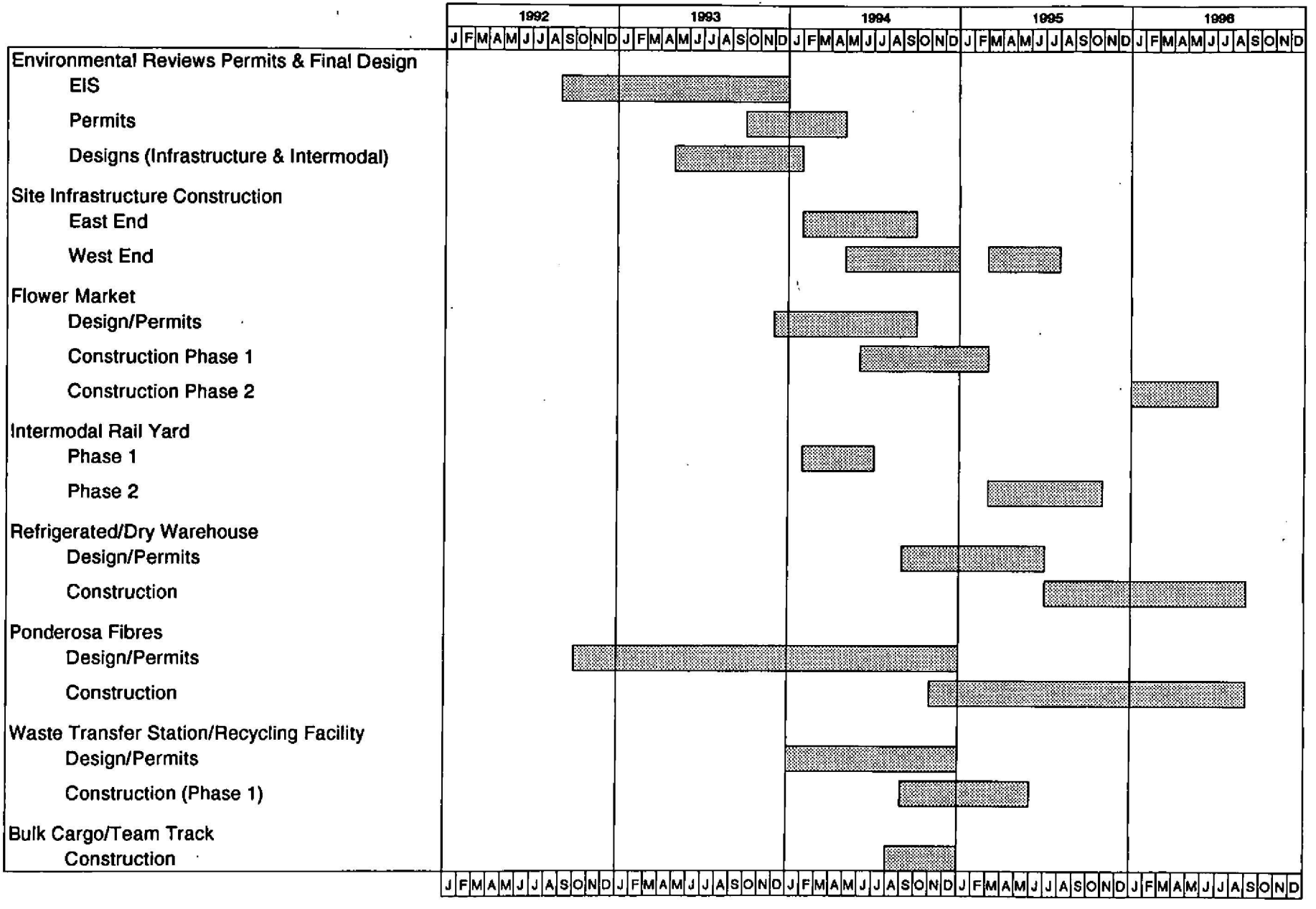
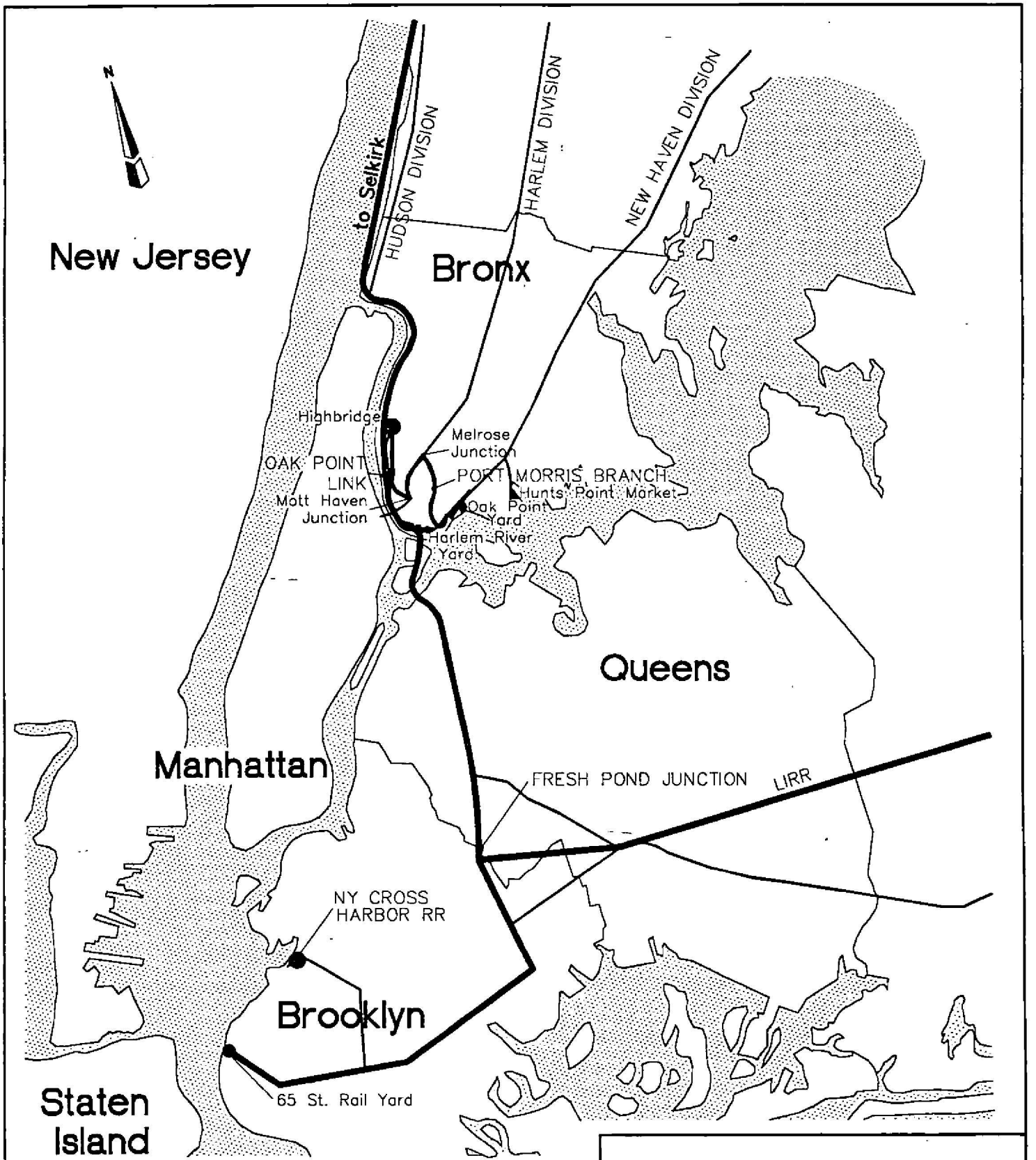


FIGURE 2-2



HARLEM RIVER YARD VENTURES INC.
INTERMODAL TRANSPORTATION AND DISTRIBUTION CENTER

REGIONAL RAIL SYSTEM

DATE: DEC 10, 1993

TAMS CONSULTANTS, Inc.

Figure 2–3

an important element for the efficient operation of a COFC/TOFC terminal. Goods arriving via rail will be transferred to trucks for distribution in the New York City area; goods arriving via truck will be transferred to rail cars for transport to regional end-users. The facility is anticipated to be ready for full operation at the completion of the Oak Point Link project (approximately last quarter, 1995).

Yard Operations

The facility is designed to handle 70,000 units per year on-site and to receive another 30,000 units (of produce), which would then be forwarded to the Hunts Point Market. Yard areas for truck and lift operations are provided both north and south of the working tracks. Container storage areas are provided along the northern boundary of the yard, in the area currently occupied by Gassman Coal, and in an additional secured area west of Alexander Avenue. About 350 trailer spots are provided.

The intermodal terminal at full buildout will have two parallel working (loading and unloading) tracks, each approximately 3,200 feet in length. Of the 3,200 feet, 2,700 feet will be used to actually load and unload railroad cars. Four hundred feet will be taken up by rail operations and as a buffer to prevent the road leading to the flower market and refrigerated warehouse from being blocked. The last 100 feet represent the rail line passing underneath the Willis Avenue Bridge, which does not have sufficient clearance for loading operations.

A total of eleven trains will be unloaded each week, two per weekday and one on the weekend. Trains are assumed to arrive one in the morning and one in the evening. Each train will be 60 cars in length. Each train will be cut into two sections, if needed, and placed on one of the two unloading tracks. Positioning of the train for loading/unloading should take one to two hours to complete. Each track at the intermodal terminal will accommodate 30 railroad cars.

Once the trains are cut and placed on the two parallel tracks, unloading and loading of the cars will be done by up to four lift machines. Trailers or containers will be unloaded from the rail cars and parked in the appropriate stall or directly picked up by the recipient. When the two train sections are unloaded, empties will be loaded onto the cars. The lift machines should complete the loading and unloading operations in approximately four hours.

Once the train is loaded, the two sections will be coupled to make up the outbound train. Making up the train should take one to two hours. The total time for this operation is, therefore, under eight hours.

The containers that are unloaded and parked in the stalls will be tagged and the information will be inputted into the computer system. Customers will also be informed of their deliveries. Containers with long dwell times will be moved to remote locations so as not to interfere with terminal operations. Such locations include the bulk loading/team track area, the area adjacent to the Barge Dock area or other unused secure parking site.

Of the 120 units on each train, most will be stored at the site for later pickup while some will be directly picked up. In the warehousing option, several containers may be directly sent to the four warehouses on-site.

The state-of-the-art yard and terminal operations will utilize computerized management systems to optimize space utilization, load sequence, and pre-blocking. Real-time terminal inventory computer systems and Automatic Equipment Identification (AEI) will enhance the space utilization at the yard. General purpose automated train loading programs (GPAT) will increase the efficiency of loading and unloading available cars and improve the use of track space. Computer Integrated Railroading system (CIR) will provide computer-assisted operations reporting system for customer information and electronic information and booking system.

According to a recent intermodal terminal survey (Mercer, AAR, 1993), limitations to intermodal terminals appear to be bounded by lift machine limits, facility utilization and parking capacity. Lift machine limits can be offset by two factors. The first is increasing the number of lift machines used. The second, but more important factor, is increasing operator efficiency. Formal training for lift machine operators will increase the speed and skill at which individual lift machines can work. GPAT programs will also enhance loading and unloading operations.

Inefficient facility utilization can be attributed to traffic peaks which occur during normal operations. Traffic peaks for example occur during the pre-holiday season as part of the inventory buildup. During such times, instead of the yard receiving two long trains, it may opt to receive, say, four to six shorter trains. This will spread the traffic peaks and reduce terminal costs. Since the Harlem River Yard will serve mostly New York City, it will obtain a diverse customer base. A diverse customer base can also reduce traffic peaks.

Parking capacity limitations will be alleviated by high turnover rates. Thirty thousand units will be forwarded directly to the Hunts Point Market. Of the 70,000 units handled at the yard, most will be picked up for delivery to the five boroughs of New York City. Containers that need to be stored for more than a day or two will be moved to remote long-term parking facilities so as not to interfere with daily intermodal operations. Rate structure for the yard will be established to encourage shippers to pickup their trailer/containers promptly. A computer inventory system will track the movements of such containers and the CIR system will provide movement reports for operators and customers. An additional 100 parking spaces are available on-site at the bulk loading/team track; however, this would prevent operations at the bulk loading track and should only be used in an emergency. As stated previously, remote facilities will be utilized for long term parking of containers.

Competitiveness of Freight Service

The volume of rail traffic generated by the proposed activity at the Harlem River Yard will enhance the competitiveness of freight service to New York City and Long Island. This is because the fixed costs of maintaining freight service and trackage in the Selkirk-New York City corridor will be spread over a substantially larger number of revenue carloads than at present.

Similarly, the increased rail traffic volume between Selkirk and the Bronx will enhance the economic viability of freight service to Long Island. The Galesi Group and its associates in this venture intend to develop the Harlem River Yard in such a way as to complement existing Long Island Rail Road (LIRR) and New York Cross Harbor Railroad freight service. For example, it is anticipated that waste transferred to rail at the Harlem River Yard would be drawn primarily from New York City. Waste or ash removal from Nassau and Suffolk counties by rail would more economically be loaded onto trains at LIRR terminals, with subsequent haulage via Conrail independent of the activity at the Harlem River Yard.

The Harlem River Yard Intermodal Terminal and the associated enhancement of rail freight service east of the Hudson can potentially interact and enhance the use of the 65th St. terminal in Brooklyn and its probable operator The Cross Harbor RR in several ways. First in a manner similar to the service envisioned for the LIRR, blocks of cars from Western origins with trailers or containers destined for Brooklyn could be directly forwarded through the HRY via the Bay Ridge Line directly to 65th St. for unloading. This could remove trucks currently reaching Brooklyn by draying from NJ terminals. Secondly the 65th yard and the Cross Harbor Float Bridge operation could serve as a port of entry for trailers and containers entering NY from the south by rail and destined for the Bronx or Westchester. Where these units currently enter NY via truck either directly from Florida or by dray from NJ they could enter Brooklyn by rail and continue to the Bronx directly on rail for unloading at Harlem River Yard, thus removing this traffic from the BQE, the Triboro

Bridge and/or the GW Bridge. An example of this is fruit and produce from Florida bound for the Hunts Point Market.

The increased traffic in intermodal moves and food products are likely to benefit Long Island by drawing more shippers into using the rail mode. It may eventually become feasible to provide regular intermodal service on the Hudson Line with blocks of cars destined for separate terminals at the Harlem River Yard, 65th Street (Brooklyn) Yard, and an intermodal terminal using Nassau and Suffolk counties.

Intermodal delivery of some 30,000 carloads per year to Hunts Point in tandem with the proposed service to the Harlem River Yard is already planned. It is not difficult to envision that this type of service could readily be extended to include blocks of cars destined to warehouses in Long Island.

Facility Description

The facility will be secured with access limited to a main entry point along an extension of Alexander Avenue. A queuing and gate complex is included in this area. The yard extends from Alexander Avenue east to the Triborough Bridge.

Estimated one-way daily traffic is as follows (based on 5½ days/week operation; no trains on Sunday):

- Rail: 2 trains
- Vans/containers: 270 units
- Employee cars: 52

Buildings associated with the operation of the intermodal terminal include a scale house of about 5,000 sq ft and a one-story building for maintenance, administration and personnel of 20,000 sq ft.

Water required for sanitary use and facility maintenance is approximately 12,000 gallons per day (gpd). Wastewater is also 12,000 gpd and will be discharged to the sewer. Buildings will require ventilation, heating and lighting.

Permits associated with the construction and operation of the intermodal terminal include stormwater run-off associated with the facility which will require a permit under the State Pollutant Discharge Elimination System (SPDES) program. A general permit can be obtained for the discharge by filing a Notice of Intent.

2.3 Other Facilities

2.3.1 Bulk Transfer/Team Track Rail Facilities

A bulk transfer and team track occupying approximately four to five acres will be provided at the western end of the site. The facility could serve as a loading/unloading area for rail-transferred commodities such as plastic pellets, aggregates or other bulk products. The area could also be used as a team track area for loading/unloading various commodities depending upon market demand.

A through-track for the Oak Point Link will also be provided. It will pass through the yard just south of the intermodal terminal in the central portion of the yard and along its originally-designed water route from east of St. Ann's Avenue.

Estimated one-way daily traffic would be:

- Rail: 6 cars

- Trucks: Total: 24
  Average: 2/hr

- Employee cars: 0

2.3.2 Newsprint Deink, Recycling and Production Facility

The newsprint deink, recycling and production facility will occupy approximately 17 to 18 acres of the site east of the Triborough Bridge. The facility will use 480 TPD of baled newsprint and magazines to be recycled (arriving via truck or rail from the NYCDOS or other newsprint collectors and processors) and will produce 375 TPD of finished product. These source-separated raw materials will already have undergone initial sorting and baling at intermediate facilities in order to meet strict quality and purity specifications for use in the deink process (#6 and #8 ONP). Materials to be recycled will be received 10 hours/day, 6 days/week. Deink, recycling and production operations will take place 24 hours/day, 7 days/week. The facility will recycle a mix of approximately 70 percent newsprint and 30 percent magazines. There will be on-site storage capacity for three days storage of incoming waste paper and three to five days of product storage. Facility construction is anticipated to be completed in the last quarter of 1994.

The deinking of old newsprint (ONP) involves three basic operations (Figure 2-4):

- Pulping - The main purpose of pulping is to defiber the incoming paper and to loosen the ink. Normally caustic is added in the pulper to help separate the ink from the fibers and a small amount of hydrogen peroxide is added to prevent yellowing of the fibers by the caustic.

  Dispersion is another mechanical operation used to dislodge ink and contraries. It is usually done later in the process.

- Ink and contrary removal - Once the ink and contraries have been separated from the fibers, they must be removed from the system to prevent redeposition. The principle ways of accomplishing this are screening, cleaning, washing and flotation.

- Screening - both perforated and slotted pressure screens are commonly used in ONP deink systems; the screening process will remove small amounts of non-processibles, such as "Post-it" notes, plastic or other debris from the system. Typical "outthrows" will be less than 1/2 of 1% (about 2 TPD) based on the composited performance specifications using #6 ONP 10% of the time and #8 ONP 90% of the time. These process rejects will be discarded with other solid waste generated through the normal course of plant operations and employee activities.

- Cleaning - these devices use centrifugal forces to remove contraries. Forward cleaners are designed to remove heavy particles and reverse cleaners to remove lightweight particles;

- Washing - in this process, the diluted pulp is thickened and the small dispersed particles will flow out with the filtrate. Displacement washing can also be used;

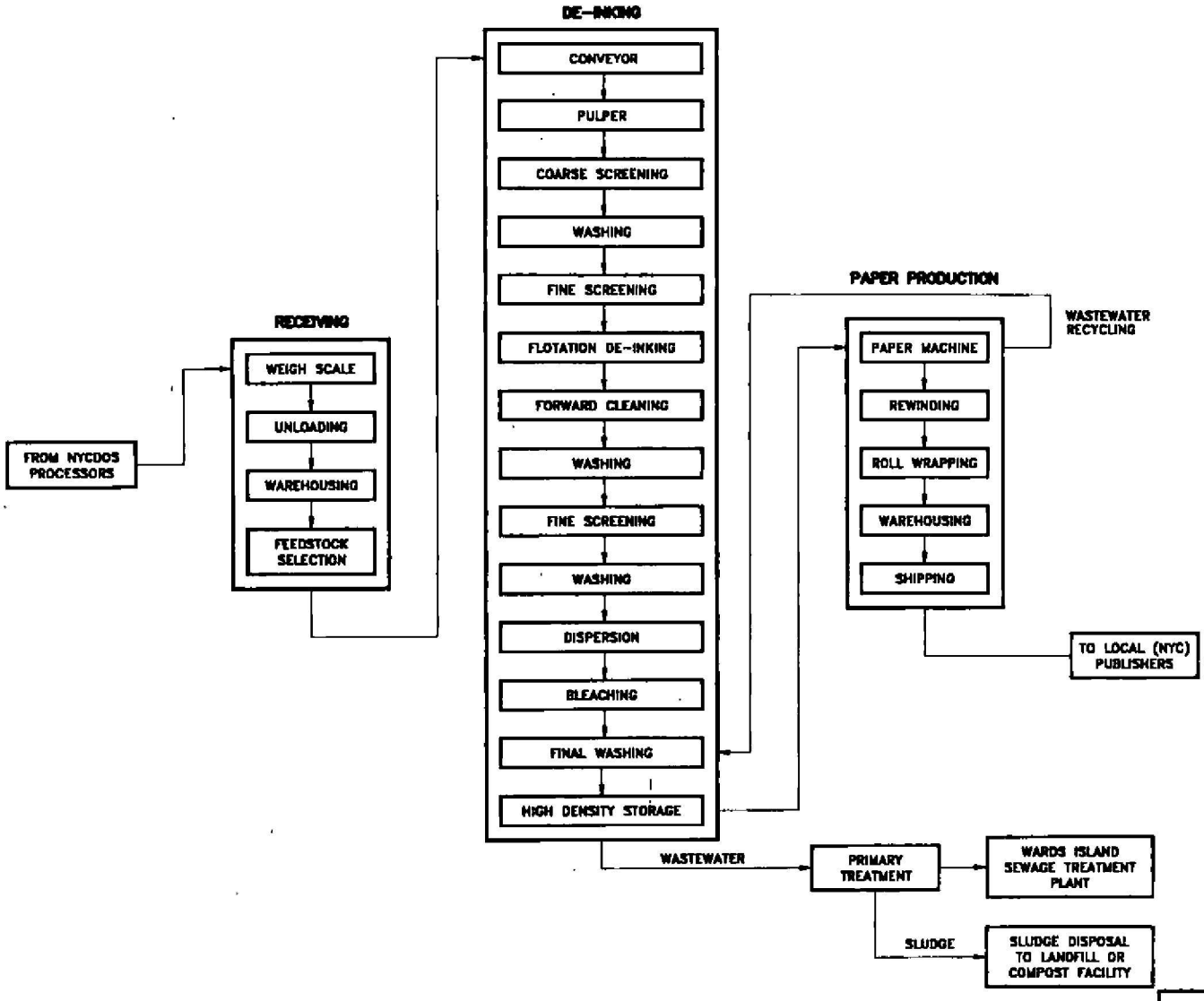
- Flotation - this process uses dissolved air flotation principles to remove the ink and other contraries.

According to the NCASI (National Council of the Paper Industry for Air & Stream Improvements), concerns over the safety during manufacturing and printing have led to the decline of the use of heavy metals in ink formulations. In fact, many printers have shifted to soy-based inks in recent years. As a result, the wastewaters generated have become more environmentally friendly.

For instance, New York City newspapers such as the NY Times, NY Post, Newsday, and the Daily News typically use a petroleum-based ink for their black ink and soy and/or flexographic ink for color and comics. The black ink contains petroleum oils, carbon black, and organic resins. The soy-based inks contain soy oil and organic pigments. Flexographic inks are water-based and contain carbon black and acrylic polymers. All three types of inks have low metals concentrations.

- Bleaching - Environmental concerns have focused on the bleaching sequences which use chlorine compounds. The sequences Ponderosa intends to use are chlorine free. The most common method of bleaching ONP is hydrogen peroxide (oxidative). Hydrogen peroxide is primarily effective in its brightening of the fibers, although it can aid in the separation of ink from the fibers. The basic peroxide sequence utilizes some other compounds:

  - Caustic - alkaline conditions are required;



HARLEM RIVER YARD VENTURES INC.
INTERMODAL TRANSPORTATION AND DISTRIBUTION CENTER

NEWSPRINT DE-INKING PROCESS FLOW CHART

DATE: DEC 21, 1991

TAMS CONSULTANTS, Inc.

Figure 2-4

- Sodium Silicate - a stabilizer for the peroxide;

- Chelants - sequestrants to remove metal ions which impair the process by direct discoloration, or act as decomposition catalysts. Typically these are EDTA or DTPA.

Wastewater generated from the deink process undergoes primary treatment in a settling clarifier before being discharged. The wastewater will be discharged to the local sewer system that connects to the Wards Island Treatment Plant; however, the wastepaper facility will use the Wards Island plant effluent as a source of process water.

Paper sludge consisting of mostly clays that are settled out during primary treatment is later disposed of in a permitted landfill, compost or other beneficial re-use facility (e.g. soil conditioner for agriculture or as landfill cover material). Sludge generated is typically composed of clay (aluminum and silica), paper coating, filler and cellulose fiber. Testing and comparative analyses published by the NCASI state that the sludges are "comparable or superior in quality to municipal wastewater treatment sludges".

Once the newsprint has been deinked, the recovered pulp fibers are pumped over to the paper production building where they are processed into recycled newsprint by paper machines. Steam is an integral component of the paper making process and will be obtained from standard industrial boilers. Emissions of NO_x, particulates and hydrocarbons, and carbon monoxide can be expected from the gas-powered boilers used to generate steam for the paper making process as well as for facility heating (an option to use Con Edison steam would eliminate these emissions). Wastewater generated during the paper-forming process is recirculated into the final washing stage of the deink process. Finished newsprint is then rewound and wrapped before warehousing. The recycled product is then shipped via truck or rail to newspaper publishers including those in the New York City area. Sludge will similarly be transported off-site via rail.

The ONP deink process Ponderosa intends to use would not involve the use of dangerous amounts of any hazardous materials due to the diluting effect of the large quantities of water used in the process. For instance, during the course of 1 minute, only 5-10 pounds of caustic soda would be used in conjunction with 2,100 gallons of process water. However, certain chemicals will be used in the treatment of water for steam generation and process use. Those chemicals to be stored in bulk quantities include:

- hydrogen peroxide;
- sulfuric acid (95 percent);
- amine (Nalco 359 or equivalent);
- oxygen scavenger (Nalco 1700 or equivalent);
- phosphate;
- caustic soda.

Amine is typically used for inhibiting corrosion in boiler condensate systems, and oxygen scavenger is used in the boiler, feedwater and condensate systems to improve reliability and reduce pitting type corrosion. Caustic soda is utilized as a defibering agent.

Estimated one-way daily traffic for the paper facility is as follows:

•	Rail:	4 railcars (sludge), 1 railcar (chemicals) based on 158 TPD sludge (wet) (79 TPD dry)
•	Trucks:	25 incoming, 19 outgoing tractor trailers
•	Employee cars:	112

Buildings associated with the operation of the newsprint deink, recycling and production facility include a one- to two-story deink and pulping building of 280,000 SF and a 50-foot high building for paper production of 290,000 SF.

Approximately three million gallons per day (mgd) of water is required for the deink and recycling process, including sanitary use and facility maintenance. Wastewater generated is about 3 mgd total, comprised of process water effluent and sanitary wastewater, all of which may be discharged to the sewer. Buildings will require ventilation, heating and lighting. In addition, the newsprint recycling process requires 20,000 HP.

Permits associated with the construction and operation of the deink facility are:

- process water effluent from the deink process will require discharge approval from the NYCDEP;
- air emissions from the generation of process steam (e.g., nitrogen oxides, volatile organic compounds, carbon monoxide, and particulate matter) and process emissions from the newsprint machine (volatile organic compounds) will require a Part 201 Air Contamination Source permit from NYSDEC;
- NYC Building and Fire Departments (ministerial permits);
- stormwater run-off associated with the facility will require a permit from NYSDEC under the State Pollutant Discharge Elimination System (SPDES) program and possibly for an industrial wastewater discharge from the newsprint deinking facility (if that discharge option is chosen). If industrial wastewater is discharged to the river, the effluent would be subject to discharge limits established on a case-by-case basis by NYSDEC. NYSDEC reviewed the characteristics of the proposed facility effluent and established discharge limits that, as required by law, would not adversely impact the quality of the receiving waters.

In addition, tanks used to store certain chemicals at the newsprint recycling facility will need to be registered with NYSDEC as required under 6NYCRR Part 596 - Registration of Hazardous Substance Bulk Storage Tanks. Some of these chemicals are the same ones that are widely found in residences, such as hydrogen peroxide (bleach and antiseptic), and sodium hydroxide (an ingredient in soap).

2.3.3 New York City Wholesale Flower Market

The Flower Market will occupy approximately five to seven acres in the central portion of the site west of the Triboro Bridge. The facility will serve as a wholesale distribution center for fresh flowers to dealers in the New York City area and will replace the one presently located in Manhattan. The facility will be rail-served for the arrival of wholesale flowers. Access to the facility will be from St. Ann's Avenue. Completion of facility construction is anticipated to be the third quarter of 1994.

Estimated one-way daily traffic is as follows:

- Rail: several carloads and/or TOFC/COFC units
- Trucks: 131
- Delivery: 833 vans/cars
- Employee cars: 262

The flower market will be housed in a one-story building to be built in two phases with a maximum area of 170,000 sq ft. Water required for sanitary use and facility maintenance is approximately 78,000 gpd. Wastewater is also 78,000 gpd and will be discharged to the sewer. The building will require ventilation, heating, lighting and refrigeration.

Permits/licenses associated with the construction and operation of the flower market are ministerial in nature.

2.3.4 Warehousing

Refrigerated Dry Warehouse

The refrigerated/dry warehouse will occupy approximately two acres west of the Flower Market. The warehouse will serve as a distribution center for rail to truck movement of various commodities. Access to the facility will be from St. Ann's Avenue. Completion of facility construction is anticipated to be the second quarter of 1996.

Estimated one-way daily traffic is as follows:

- Rail: 5 railcars
- Trucks: 142
- Employee Cars: 46

The warehouse will be a three- to four-story building with 80,000 sq ft of floor area. Water required for sanitary use and facility maintenance is approximately 37,000 gallons per day (gpd). Wastewater is also 37,000 gpd and will be discharged to the sewer. The building will require ventilation, heating, lighting, and refrigeration.

Permits/licenses associated with the construction and operation of the refrigerated/dry warehouse are ministerial in nature.

Other Warehousing

There are two development options for the remaining warehousing on the site, the difference being the replacement of the wastepaper recycling facility with warehousing:

- Wastepaper Recycling Option

  Warehouse - 100,000 sq ft in the central part of site

- Warehouse Option

  Warehouse - 100,000 sq ft on central portion of site (as above)
  Warehouse - 280,000 sq ft (high cube) on wastepaper recycling site
  Warehouse - 180,000 sq ft on wastepaper recycling

The warehouses will all be distribution type warehouses (approximately 39-feet high), where goods are received in carload or truckload quantities (such as a box care full of cornflakes) from outside the region and broken down for distribution to local area users. The warehouses will all be direct rail served and receive a significant portion of their goods by rail. The warehouses will be both dry and temperature controlled freezer (cooler) dependent on the user's needs.

Water required for sanitary use and facility maintenance is approximately 257,000 gpd; wastewater generation would likewise be 257,000 gpd.

Estimated one-way daily traffic is as follows:

- Rail: 20 railcars
- Trucks: 611
- Employee Cars: 194

Permits/licenses associated with the construction and operation of the warehouses are ministerial in nature.

2.3.5 Solid Waste Transfer Station

The solid waste transfer station will occupy approximately five acres in the southwestern portion of the site. The facility will serve as a truck to rail transfer station for municipal and/or commercial solid waste. All transfer station activities will be in a completely enclosed facility to control air, noise and visual impacts. Total square footage associated with the build-out of the 3,000 tpd transfer station is 87,500 sq ft.

Transfer of solid waste will occur between collection trucks to rail containers (or transfer trailers if necessary) for long haul shipment to out-of-town landfills or waste-to energy facilities. Access to the facility will be from Alexander Avenue.

Estimated one-way daily traffic is as follows (based on 24 hr/day operations):

- Rail: Total: 38 railcars
  Average: 2 railcars
- Trucks: Total: 225 = 125 packers @ 8 tons/truck, plus 100 trailers @ 20 tons/truck
  Peak: 32/hr
  Average: 14/hr (16 hr/day delivery window)
- Employee cars: 35

Water required for sanitary use and facility maintenance is approximately 40,000 gallons per day (gpd). Wastewater is also 40,000 gpd and will be discharged to the sewer. The building will require ventilation, heating and lighting.

Permits associated with the construction and operation of the transfer station are:

- NYSDEC Part 360 Solid Waste Management Facility permit;
- a NYSDEC SPDES permit for stormwater run-off associated with the facility (unless stormwater is discharged to the sewer);

- NYCDOS permit.

Other associated facility permits are ministerial in nature.

CHAPTER 3

AFFECTED ENVIRONMENT

This chapter describes the existing baseline conditions within the project site (primary study area) and the secondary study area, as described below, that may be directly or indirectly affected by the proposed action. In order to assess the primary and secondary impacts of the proposed action, the existing conditions at the project site and the adjacent areas are described separately, as follows:

- Primary Study Area - coterminous with the proposed project site, as shown in Figure 3.1-1. The project site is bounded by East 132nd Street on the north (with one parcel excepted east of the Triborough Bridge Approach) the Harlem River and Bronx Kill to the south, Lincoln Avenue to the west, and to the east, a line that would extend Feiss Avenue (formerly Walnut Avenue) south to the Bronx Kill;

- Secondary Study Area - for land use a one-quarter mile radius from the project area is used; for socioeconomic and open space analysis a one quarter mile radius using census tract boundaries where 50 percent or more of the tract area is within the quarter-mile radius (Figure 3.1-1). Community facilities boundaries followed service areas districts or boundaries. The secondary study areas for transportation, air quality and noise relate to the distribution of project related trips and are generally within one-quarter mile of the site, consistent with the 1982 EIS for the Oak Point Link.

The primary study area is situated within Bronx Community District 1. The secondary study area includes a small portion of Manhattan Community District 11 to the southwest, but is otherwise contained within Bronx Community District 1.

3.1 Zoning and Land Use

3.1.1 Existing Zoning

Primary Study Area

Most of the primary study area (project site) lies in the M3-1 heavy industrial district (Figure 3.1-2). One section of the area, parallel with the Triborough Bridge Approach, is zoned M2-1 for 200 feet either side of the bridge. A summary of the zoning regulations in these districts is presented in Table 3.1-1.

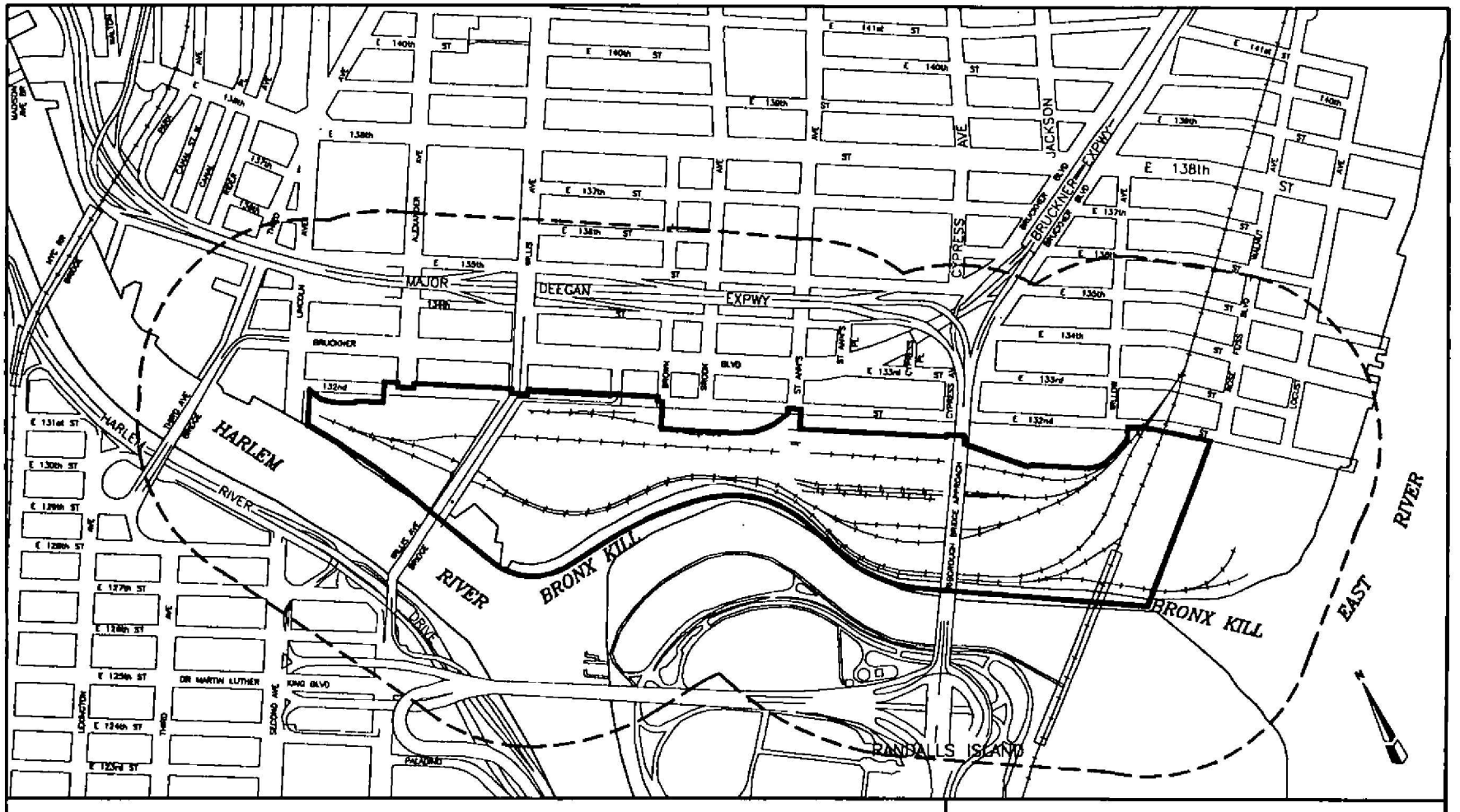
Zoning in Secondary Study Area

The project site is surrounded by other manufacturing districts: M3-1 to the northeast, M2-1 to the west, and M1-2 for most of the area to the immediate north (Figure 3.1-2). The M1-2 district provides a buffer to an R6 residential district that lies some 900 feet to the north of the project site, beyond the Major Deegan Expressway. The secondary study area includes M3-1, M1-2 and R7-2 districts across the Harlem River in Manhattan. A C1-4 commercial overlay district occurs on the east side of Willis Avenue, north of East 136th Street, to serve the residential district.

3.1.2 Land Use

Primary Study Area

The project site is a 95-acre rail yard that parallels the waterfront of the southern tip of the Bronx for a distance of approximately one mile, extending inland approximately 900 feet. East 132nd Street is its northern boundary, with the exception of several lots that front East 132nd Street extending from Brown Place east to Willow Avenue.



Legend

Property Boundary

Quarter Mile Radius

0 500 1000 2000 3000 FEET

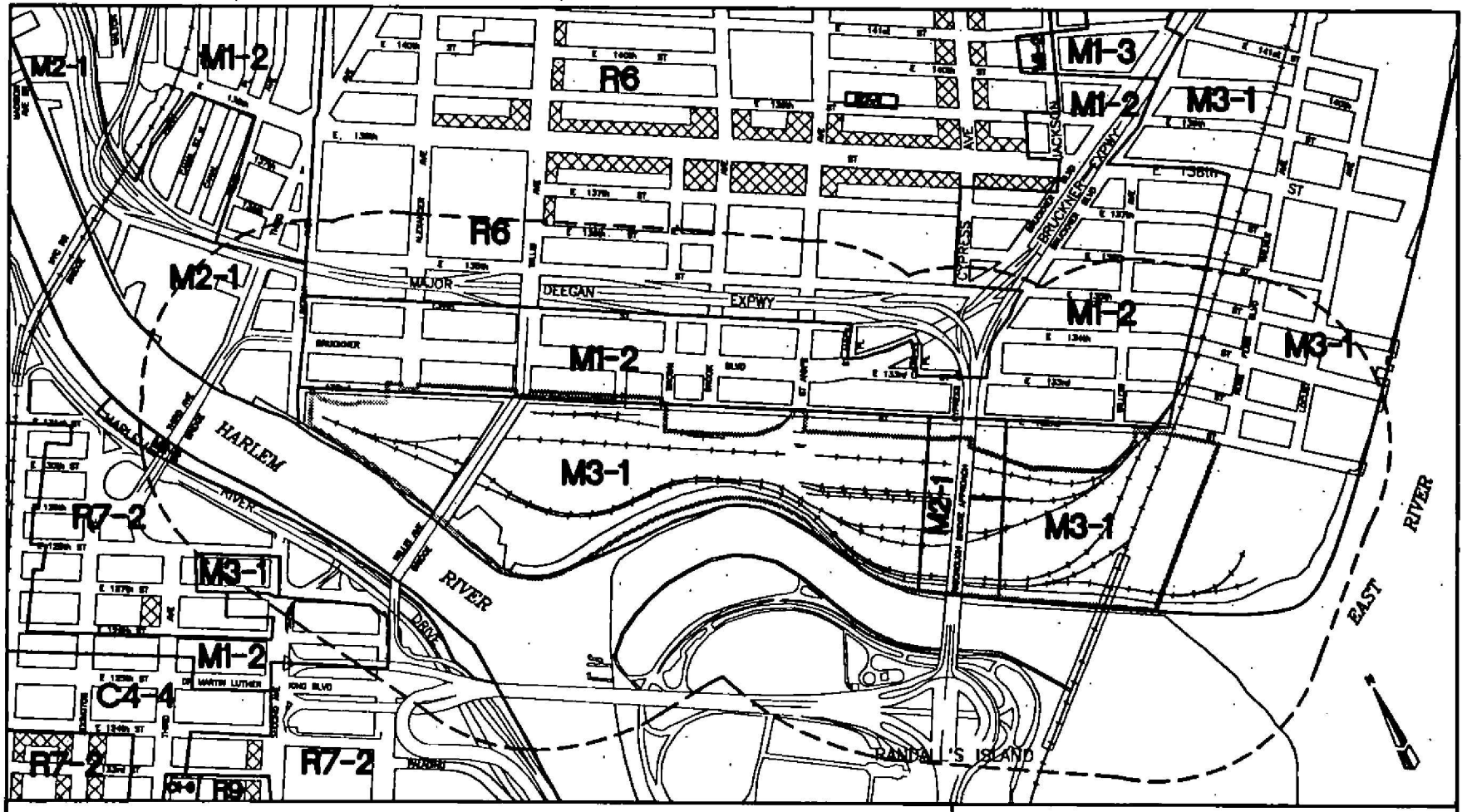
HARLEM RIVER YARD VENTURES INC.
INTERMODAL TRANSPORTATION AND DISTRIBUTION CENTER

STUDY AREA BOUNDARIES

DATE: NOV 16, 1992

TAMS CONSULTANTS, Inc.

Figure 3.1-1



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- Property Boundary
- Quarter Mile Radius
- Zoning Boundary
- C2-4 Overlay
- C1-4 Overlay

DATE: NOV 16, 1992

HARLEM RIVER YARD VENTURES INC.
INTERMODAL TRANSPORTATION AND DISTRIBUTION CENTER

Zoning Map

TAMS CONSULTANTS, Inc.

Figure 3.1-2

TABLE 3.1-1

SUMMARY OF ZONING DISTRICTS IN STUDY AREA

Zoning District	Description - uses permitted	Allowable FAR	Minimum OSR	Required Parking (% of du's)
R6	Non-Quality Housing Option - medium density, general to residential district of 6-12 story apartment buildings, permitting densities of up to 176 D.U.s per acre.	0.78 to 2.43	30.0 to 33.5	70
R6	Quality Housing Option provisions increase FAR on wide streets (75 feet and wider).	3.0	**	50 min.
R6	Quality Housing Option provisions on narrow streets (less than 75 ft.)	2.0	*	50 min.
R7-2	Medium density apartment house district with densities of 208 to 226 D.U.s per acre (based on 2.5 zoning rooms per D.U.)	0.87 to 3.44	15.5 to 22.0	50 min.
C1-4	Overlay commercial zone providing local shopping and services. In an R6 district, max. FAR is 2.0 for commercial.	2.0	***	Varies by use.
M1-2	Light manufacturing; high performance uses, often a buffer to residential districts. Must be fully enclosed. Certain community facility uses permitted by special permit.	2.0	-	Varies by use.
M2-1	Medium manufacturing with less stringent standards than with use M1 districts. Need not be fully enclosed.	2.0	-	Varies by use.
M3-1	Heavy manufacturing uses with low performance standard.	2.0	-	Varies by use.

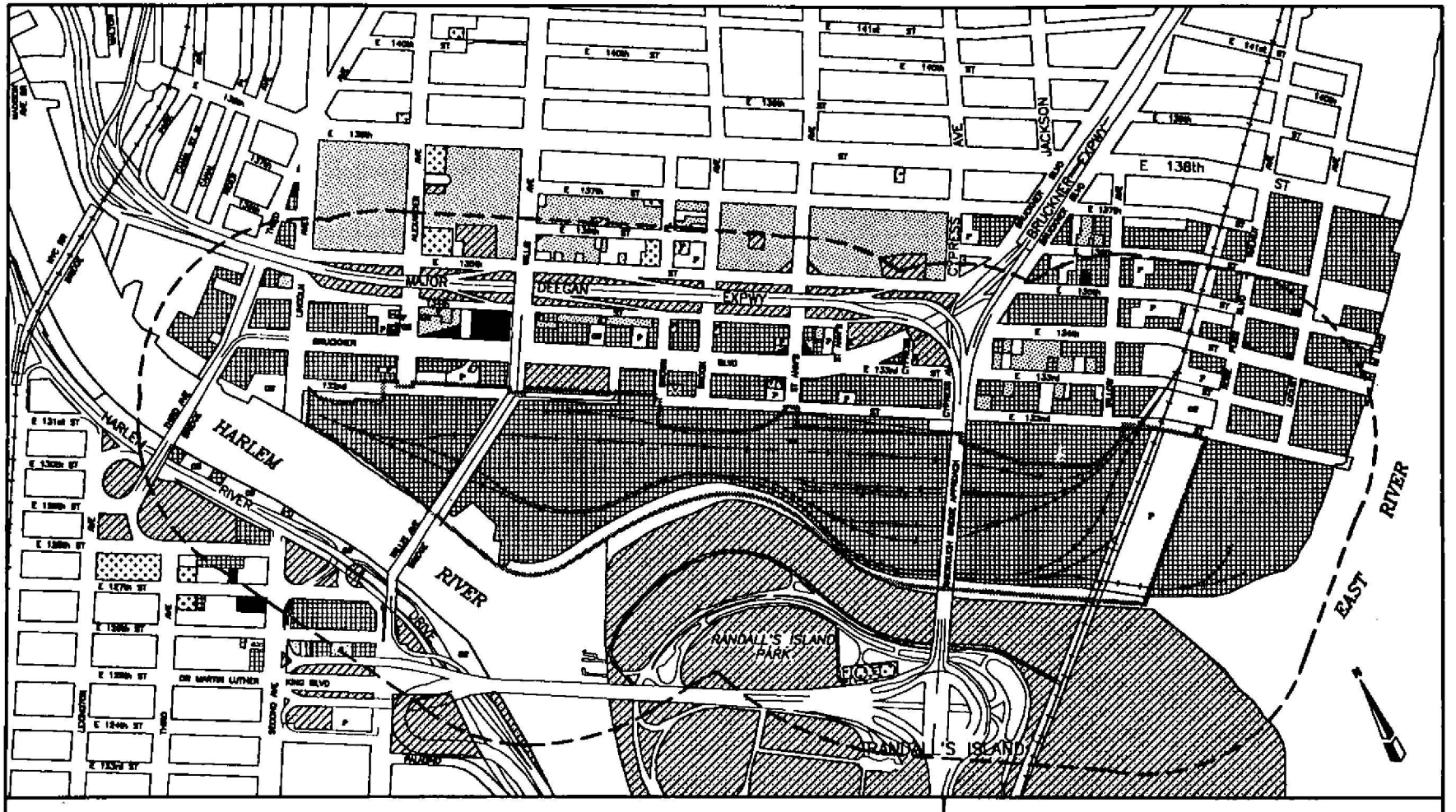
Notes: * Allowable lot coverage of 60 percent (interior lot) or 80 percent (corner lot).
** Allowable lot coverage of 65 percent (interior lot) or 80 percent (corner lot).
*** Residential bulk is governed by the regulations of the surrounding residential district.
Source: NYC Zoning Resolution.

The site is mostly vacant with used and unused railroad tracks stretching the length of the property. Five long and narrow warehouses, formerly associated with rail yard operations, remain in the center portion of the site. There is also a four-story red brick building, near the Willis Avenue Bridge, associated with the original rail yard. This is now mostly vacant but some non-conforming residential occupation appears to exist, describing itself as "East River Plaza". Some heavy construction materials, huge concrete blocks and large-dimension metal pipes, are stored at the western end of the site. A portion of the site adjacent to East 132nd Street between the Willis Avenue Bridge and Brown Place is used for coal storage by Gasman Coal & Oil Co. The eastern end of the site, east of the Little Hell Gate Bridge, is used as a parking lot.

Secondary Study Area

The project site is surrounded on the north, west, and east by predominantly industrial uses (Figure 3.1-3). A wide variety of industries are represented in this area, including the following:

- medical waste disposal incinerator;
- organic fertilizer production;
- bulk oil storage;
- US Postal Service Distribution Center;
- Con Edison Power plant;
- coal and oil distributors;
- NYC Transit Authority bus terminal;
- NYC Transit Authority cable maintenance center;
- NYC Department of Sanitation truck maintenance;
- carting, haulage and sanitation truck garages;
- a variety of warehouse and distribution activities;
- a variety of construction trade contractors (electrical, roofing, glass, steel, stone, lumber, doors and windows);
- furniture manufacturing;
- knitting and rag mills;



Legend

Property Boundary		Parking	
Quarter Mile Radius		Open Storage	
Residential		Commercial	
Community Facility		Industrial/Warehouse/Automotive	
Park or Recreation Fac.		Vacant	

0 320 600 1300 3400
FEET

DATE:
NOV 23, 1992

HARLEM RIVER YARD VENTURES INC.
INTERMODAL TRANSPORTATION AND DISTRIBUTION CENTER

LAND USE

TAMS CONSULTANTS, Inc.

Figure 3.1-3

- luggage manufacturing;
- scientific and electrical goods manufacturing;
- a variety of auto repair and service activities.

A number of industrial buildings, especially older lofts, are vacant for sale or lease. A wide variety of building heights accommodates these industrial uses; most are in one- to two-story structures but there are a substantial number of loft buildings of five to six stories.

There are also a variety of commercial activities interspersed among the industrial uses, particularly eating and drinking places, as well as an antique center that has concentrated on the north side of Bruckner Boulevard between Willis and Alexander Avenues.

In addition, there are a few remnant residential clusters that are nonconforming in this industrial zone, notably East 134th Street between Willis and Brown Avenues, and the block between East 133rd and 134th Streets, Willow Avenue and the Triborough Bridge.

North of the Major Deegan Expressway and west of Cypress Avenue, a zoned residential district is comprised mainly of two large public housing complexes: the John Purroy Mitchel Houses to the west, between East 135th and 138th Streets, Willis to Lincoln Avenues (ten 17- to 20-story towers); and Mill Brook Houses to the east, between East 135th and 137th Streets, Cypress to Brook Avenues (ten 16-story towers). Between these two projects is a residential district comprised mainly of older three- to five- story row houses and tenements.

Two elementary schools are located in this residential area: PS 43 on Brown Place, between East 135th and 136th Streets, and PS 154 on Alexander Avenue, between 135th Street and the Mitchel Houses.

Several parks are located in the study area (see Section on Community Facilities for more detailed discussion). Two of these are associated with the public housing projects and face East 135th Street. In the industrial district, Pulaski Park is on the south side of Bruckner

Boulevard east of Willis Avenue. There is also a park area across the portal as Bruckner Boulevard descends and transitions to the Bruckner Expressway.

Across the Harlem River, a small section of Manhattan is included within the quarter-mile study area. Three small park complexes occur here, each of which are associated with the bridges (Triborough, Willis and Third Avenues) as their roadways transition with the Harlem River and FDR Drives. Much of the remaining land use in this section is industrial or automobile oriented (there are two bus garages as well as the East Harlem Recycling Center). PS 30 is at the periphery of the study area between East 127th and 128th Streets, west of Third Avenue. A small number of residences are located on East 126th Street between First and Second Avenues (nonconforming uses in this M1-2 area).

Located across the narrow water body known as the Bronx Kill, south of the project site, is Randalls Island. Much of this area is a park with ball fields, tennis courts and a pool. It is also the location of the headquarters of the Triborough Bridge and Tunnel Authority and the NYC Fire Department Training Academy.

Land Use Trends

Residential use in the study area declined slightly over the period 1980-90, with the total number of units declining from 5,147 to 5,001 (see Section on Housing). The decline in residential use reflects a drop in population in the area of 6.9 percent (see Section on Population). Business activity has also declined in the area, in part measured by the decline in employment in the surrounding zip code of 1,905 employees, or 21 percent, over the period 1986-91 (see Section on Employment). A substantial number of loft buildings are vacant for sale or lease in the surrounding area and very little leasing activity is occurring at this time (N. Pariser, SOBRO, November 11, 1992). Other development trends in the area are associated with the expansion and modernization of the Con Edison plant, the medical waste incinerator, and the renovation of part of Bruckner Boulevard for an antique center.

Across the Harlem River in Manhattan, there are plans being sponsored by the Manhattan Borough President's Office for a Harlem River Esplanade to run from East 125th Street to East 145th Street. The first phase, north of East 135th Street to East 139th Street and beyond the study area, is scheduled to open in 1997.

Immediately to the north of the study area, a Nehamiah housing project of 200 to 250 units is proposed in the area known as St. Mary's Park South (between the park, East 138th Street, Jackson, and St. Ann's Avenues. This will help stabilize the residential district to the north of the project.

3.2 Urban Design Characteristics

Primary Study Area

The project site is a 96-acre former rail yard that parallels the waterfront of the southern tip of the Bronx for a distance of approximately one mile, extending inland approximately 900 feet (Photo 1). The site is mostly vacant with used and unused railroad tracks stretching the length of the property. Some deteriorated barge loading wharves are located on the Harlem River, at the western end of the site (Photo 2). Several nondescript structures associated with the former rail yard and warehousing operations remain in the center portion of the site (Photo 3). These structures include four one-story warehouses and one two-story warehouse. There is also a four-story red brick building, near the Willis Avenue Bridge, associated with the original rail yard (Photo 4). All these structure have long, lean dimensions, reflecting their positioning between various rail sidings (Photo 5).

Some large construction materials, huge concrete blocks and large-dimension metal pipes, are stored at the western end of the site. The eastern end of the site, east of the Little Hell Gate Bridge, is used as a parking lot. The remainder of the vacant areas tends to be weed covered, without trees, and surrounded and dissected by chain link fencing with razor wire.

The low elevation and flat topography of the site permits views across the Bronx Kill to Randalls Island Park and across the Harlem River to Harlem (Photo 6). Views into the Bronx are generally obscured by industrial and warehouse buildings along East 132nd Street, which generally acts as the northern boundary of the project site.

Secondary Study Area

The secondary study area, within one quarter mile of the project site, includes the southern tip of the Bronx together with a small area of East Harlem and part of Randall's Island. The area exhibits a built environment of diverse character, including a mixture of industrial,

commercial and residential buildings, and parkland. Industrial activities surround the landside of the project site usually for a radius of two or more blocks, while the predominantly residential district of Mott Haven extends to the north of the visual and physical barriers created by the Major Deegan and Bruckner Expressways. The Major Deegan descends from a structure in the west to a block-wide cut (East 134th to 135th Streets) in the center of the study area; thereafter, it continues on structure south to the Triborough Bridge, or north as the Bruckner Elevated Expressway. The New York-New Haven railroad, also on structure, dissects the industrial eastern end of the study area, providing rail access to the rail sidings of the project site and south, across the Hell Gate Bridge to Queens via Randalls Island.

The well-established industrial character of much of the area is made manifest by many older lofts and other industrial structures, vacant lots and open storage. This area generally lacks a cohesive urban design, exhibiting a wide diversity of building types and architectural styles, ranging from nineteenth century six-story red brick lofts with handsome fenestration, to modern windowless one-story warehouses (Photos 7 and 8). A sense of clutter is introduced by the vacant lots with open storage, the ubiquitous chain link and razor wire fences, advertising billboards, some utility poles and, in the eastern section where Con Edison's plant is located, there are blocks of transformers open and visible (Photos 9, 10).

Recent decades have witnessed a local economy that has suffered much decline in demand, causing the vacancy and frequent deterioration of many buildings and properties. The resulting visual impression is one of a once-thriving industrial district left rather rundown and shabby around its edges, but still with substantial business vitality (Photo 11).

The residential district north of the Major Deegan Expressway provides two different characters. To the east and west are mega-blocks of public housing built in the period 1957-65, with numerous well-maintained towers set in landscaped open space with playgrounds and ball courts. Between these two areas are several blocks of Nineteenth Century tenements of a more mixed character. Some are very well-maintained and boast of

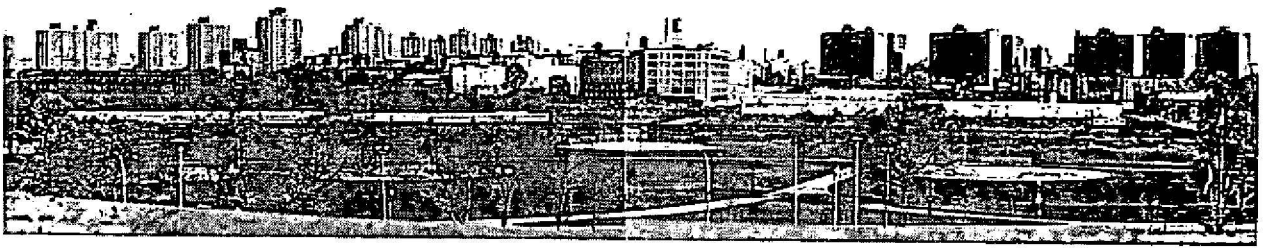


Photo 1: Panorama of Study Area with Randalls Island Park in foreground, industrial and warehouses beyond project site, and public housing towers to east (Mill Brook) and west (Mitchel).

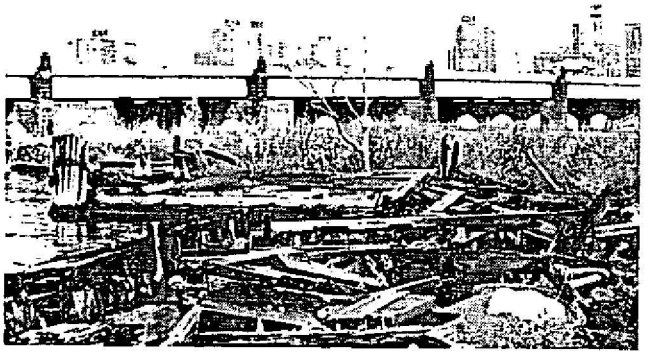


Photo 2: Decayed wharves on Harlem River.

Photo 3: Warehouses on Project Site.

Photo 4: Former railroad "Station House."

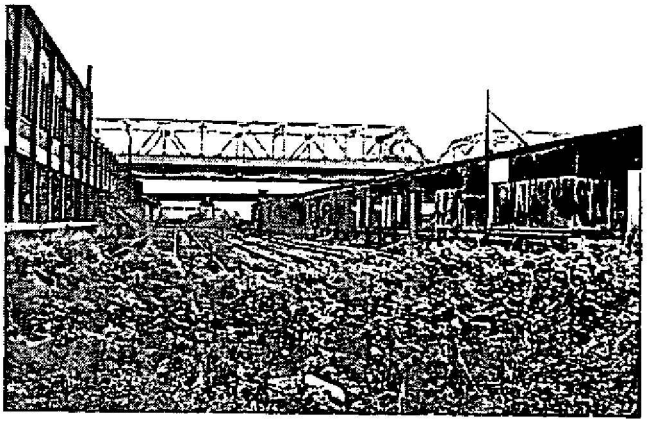
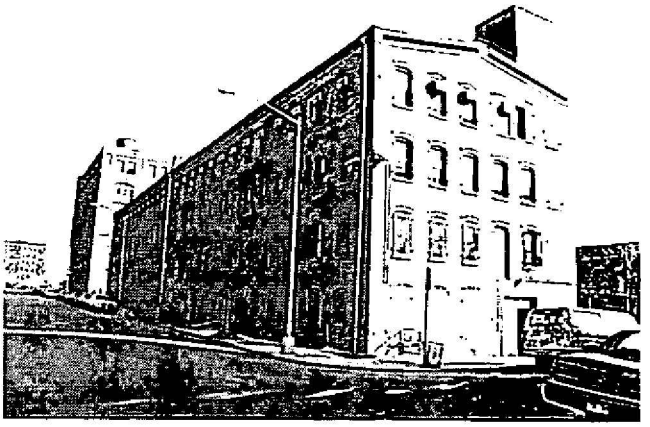


Photo 5: Warehouses and tracks on Project Site. Triborough Bridge and Hell Gate Bridges in rear.

Photo 6: Looking from Project Site, across Bronx Kill to Randalls Island and Little Hell Gate Bridge.



Phote 7: Lofts on Willow Avenue.

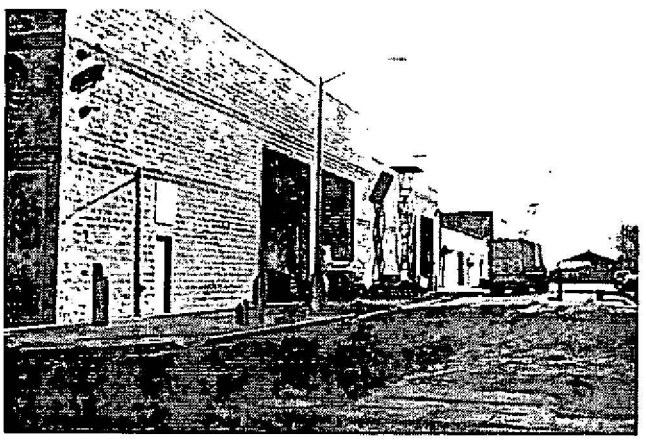


Photo 8: Warehouse on St. Ann's Avenue.

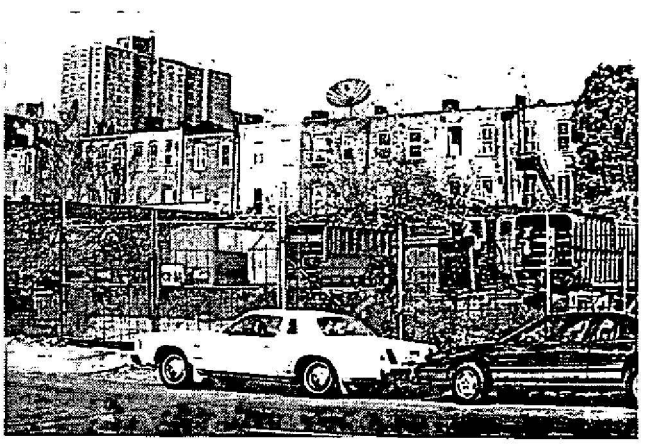


Photo 9: Bruckner Boulevard looking north.

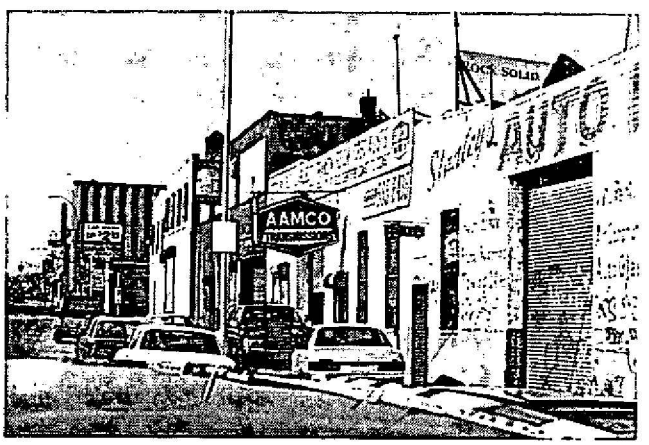


Photo 10: Bruckner Boulevard looking west.

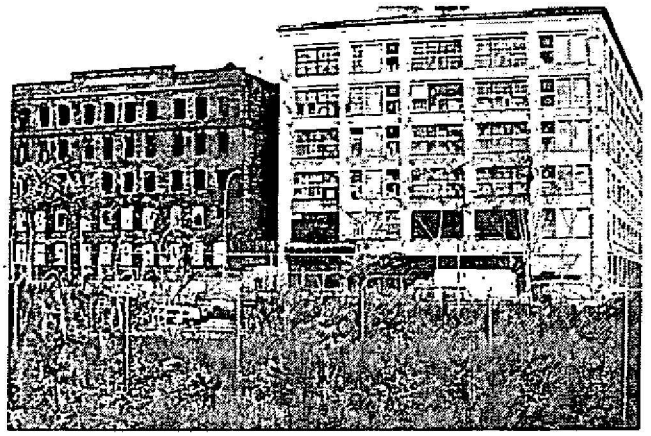


Photo 11: Lofts on E. 132nd Street from Project Site.

Photo 12: North side of E. 136th Street.

Photo 13: South side of E. 134th Street.

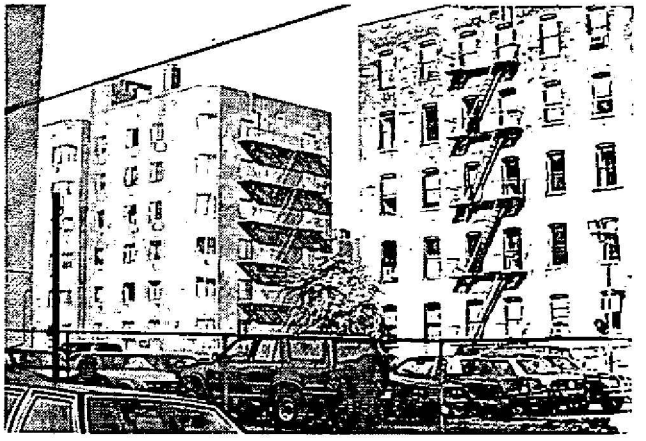


Photo 14: Contextual In-fill Housing on E. 137th Street.

Photo 15: Lincoln Corners Building.

Photo 16: "Antique Row" on Bruckner Boulevard.

Photo 17: Tiny row houses on E. 134th Street.

Photo 18: Mill Brook Houses from E. 135th Street looking east toward Brook Avenue.

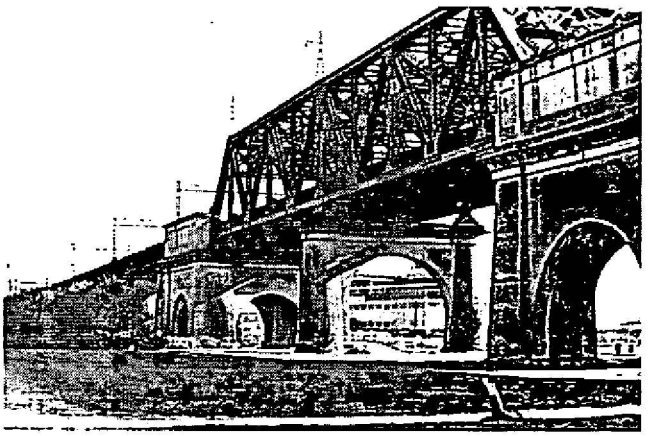


Photo 19: Little Hell Gate Bridge and rail line crossing Bronx Kill and Randalls Island Park.

interesting architectural detail and cohesive form, as for example on East 136th Street between Willis Avenue and Brown Place (Photos 12 and 13). Others are more deteriorated and with vacant lots and sealed buildings scattered among them. There are also some new contextual buildings that have provided some in-fill among these older residential blocks (Photo 14).

Due to the functional nature and often deteriorated condition of many of the structures in the study area, the buildings tend to be of low to medium visual quality. Architectural visual quality is reflected in whether buildings are good representations of particular styles, the quality of the design, and the condition in which a building is maintained.

The higher visual quality buildings remaining in the study area include: the railroad building near the Willis Avenue Bridge (Photo 4); the Lincoln Corners (Tower) Building on Bruckner Boulevard and Lincoln Avenue (Photo 15); several four- to six-story loft buildings on Willow Avenue at East 135th and 136th Streets (Photo 7); the row of storefronts and apartments on Bruckner Avenue east of Alexander Avenue ("antiques row") (Photo 16); the residential rows on East 134th and 136th Streets, between Willis Avenue and Brown Place (Photos 12 and 13); and the tiny residential row of homes on East 134th Street west of Willis Avenue (Photo 17).

The topography of this area of the South Bronx rises gently from the waterfront, which is mostly the project site, to an elevation of 50 feet at the northern edge of the study area. The areas of higher elevation are dissected by a north-south valley in the vicinity of Brook Avenue. Views east and west across the valley are usually terminated by the towers of the public housing projects (Photo 18). The block-wide cut provided for the Major Deegan Expressway permits some views towards the west, of Harlem with some residential towers and the State Office Building on the skyline. The north-south orientation of the avenues permits some partial views of the skyline of Mid-Town Manhattan from a number of vantage points.

The small portion of the study area in Manhattan extends in an arc reaching a maximum of some 700 feet inland from the Harlem River. The dominant feature of the area is its proximity to the River and the Harlem Rive Drive, which transitions to the Franklin Delano Roosevelt Drive (FDR) south of the Triborough Bridge at East 125th Street. The Triborough, Willis Avenue and Third Avenue Bridges are also major features as their landing and connecting ramps account for large portion of the land of this part of the study area.

Much of the remaining land associated with these connecting ramps became parkland in the 1930s and 1940s. Although these parks are somewhat isolated by the heavy vehicular traffic associated with the drives and bridges, they do provide landscaped havens with relatively mature trees, ball fields and seating. Further inland, the area is mostly industrial with a diverse character of building types, ranging from old loft structures to modern bus terminals. Some occupied and some vacant older tenements remain on East 126th Street, between First and Second Avenues. A small cluster of modern and well maintained institutional uses (including PS 30 and a parochial school), at Third Avenue and East 128th Street, contrasts with the generally deteriorated character of the area. Rubble strewn vacant lots characterize much of upper Second Avenue in the center of this area. The demolition of many structures here has left remaining isolated structures with their sides and rears exposed. The waterfront of much of this area, stretching almost one half mile north from the Triborough Bridge, is presently occupied by a concrete distributor and by a huge salt pile. The open storage nature of these uses adds to the careless and disorderly appearance of much of the area.

Across the Triborough Bridge from both East Harlem and from the Bronx, is Randalls Island. The study area here is dominated by the bridge roadways on their massive concrete structures, as they channel traffic to each of the three Boroughs of Manhattan, Bronx and Queens, as well as the bridge toll booths. The Hell Gate Railroad Bridge, also on concrete structure, parallels the road bridge as it transits south from the Bronx to Queens (Photo 19). The headquarters of the Triborough Bridge and Tunnel Authority (TBTA) is located close

beneath the Manhattan bound section of the bridge, as is also a maintenance facility for the NYC Department of Parks and Recreation.

Elsewhere in the study area the island is parkland with open ball fields and tree-lined road and walkways. Generally unrestricted views are available from the park area across the Bronx Kill, to the project site, other industrial features, and the public housing towers. More aesthetic vistas extend eastward across the East River, as this water body continues towards Long Island Sound.

3.3 Socioeconomics

The socioeconomic baseline conditions for the secondary study area are based on US Census data. Eight census tracts define the secondary study area (Figure 3.3-1). The primary study area is an anomalous census tract that includes the project site and then extends along the waterfront of the East River more than a mile from the project site (Tract 81) and incorporates exclusively industrial property. The 1990 Census does report 39 residents for this tract, but because these could be located more than a mile from the project and due to the general nonresidential nature of this tract, the tract is not incorporated in the socioeconomic analysis. The project site itself has no residential population. References to the "Study Area" will therefore signify the "Secondary Study Area" as used here.

3.3.1 Population

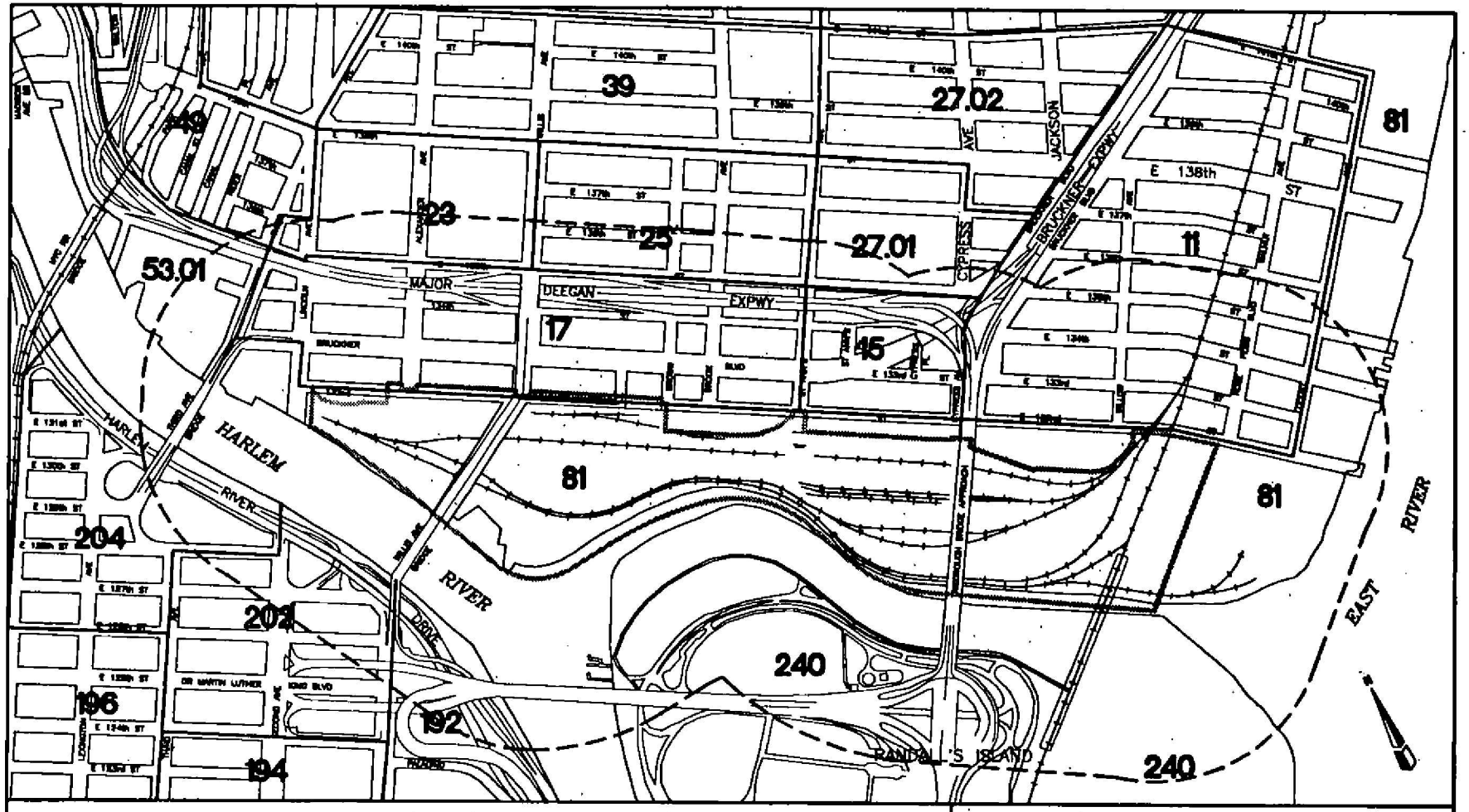
The 1990 Census records a population of 18,767 persons residing in the study area, characterized as notably younger than in the Bronx, or the City as a whole (Table 3.3-1). Persons under age 18 represent 32.4 percent of the total, compared to 23 percent for the City. Elderly persons over 65 represent 8.3 percent in the study area, compared to 13 percent in the City. Over the period 1980-90, the study area experienced a net loss of 1,382 persons (6.9 percent) (Table 3.3-2). This decline compares to a gain of 2.98 percent in the Bronx and 3.55 percent in NYC, over the same period.

TABLE 3.3-1

AGE DISTRIBUTION OF POPULATION
(1990)

Census Tract	Total Persons	Under 18 Years		Age 65 & Over	
		Persons	Percent	Persons	Percent
Bronx 11	725	197	27.17	42	5.79
15	47	12	25.53	2	4.26
17	817	250	30.60	49	6.00
23	4,665	1,468	31.47	608	13.03
25	5,484	1,894	34.54	333	6.07
27	2,922	1,042	35.66	173	5.92
NY 192	3,669	1,095	29.84	313	8.53
202	438	123	28.08	38	8.68
Study Area	18,767	6,081	32.40	1,558	8.30
Bronx	1,203,789	331,648	27.55	140,220	11.65
New York	1,487,536	246,827	16.59	197,384	13.27
NYC	7,322,564	1,686,718	23.03	953,317	13.02

Source: 1990 Census, STF1A and PLF 94-171, NYCDCP 1991.



HARLEM RIVER YARD VENTURES INC.
INTERMODAL TRANSPORTATION AND DISTRIBUTION CENTER

CENSUS TRACTS

DATE: NOV 17, 1992

TAMS CONSULTANTS, Inc.

Figure 3.3-1

TABLE 3.3-2

AGE DISTRIBUTION OF POPULATION
(1980-1990)

Census Tract	Total Persons		Percent Change	Under 18 Years		Percent Change	Age 65 & Over		Percent Change
	1980	1990		1980	1990		1980	1990	
Bronx 11	610	725	18.85	189	197	4.23	53	42	-20.75
15	39	47	20.51	13	12	-7.69	0	2	n/a
17	834	817	-2.04	319	250	-21.63	42	49	16.67
23	5,123	4,665	-8.94	1816	1,468	-19.16	650	608	-6.46
25	5,299	5,484	3.49	2156	1,894	-12.15	244	333	36.48
27	3,396	2,922	-13.96	912	1,042	14.25	176	173	-1.70
NY 192	4,351	3,669	-15.67	4,076	1,095	-73.14	275	313	13.82
202	497	438	-11.87	470	123	-73.83	27	38	40.74
Study Area	20,149	18,767	-6.86	9,951	6,081	-38.89	1,467	1,558	6.20
Bronx	1,168,972	1,203,789	2.98	341,710	331,648	-2.94	151,298	140,220	-7.32
New York	1,428,285	1,487,536	4.15	203,244	246,827	21.44	204,437	197,384	-3.45
NYC	7,071,639	7,322,564	3.55	1,765,467	1,686,718	-4.46	951,732	953,317	0.17

Source: US Census, 1990, STF1A and PLF 94-171, NYCDCP 1991; US Census, 1980.

3.3.2 Income and Poverty

The study area is generally characterized as one with substantial populations in poverty, receiving much lower incomes than elsewhere in the Bronx and the City. The 1990 Census data provides income and poverty data for 1989. The median household income in the census tracts comprising the study area ranged from $4,999 to $15,250 (Table 3.3-3). The area is identified as a distinctly lower-income area when compared to the medians for the Bronx ($21,944) and the City as a whole ($29,823). For families, the median income ranged from $4,999 to $45,139, although most tracts were in the $10,000 to $13,000 range. These family income levels also appear low compared to the rest of the Bronx ($25,479) and the rest of the City ($34,360).

The Census definition of poverty for persons in 1989 is shown in Table 3.3-3, where 51.4 percent of the study area's population are identified below the poverty level. Among the tracts comprising the study area, the percent in poverty ranges from 36 percent to 100 percent. These data compare to 28.7 percent for the Bronx and 19.3 percent for the City.

Additional data on income and poverty is available for the Community District. In 1990, Bronx Community District 1 reported 52.7 percent of its population received income support (AFDC, SSI, or Medicaid). This percent increased from 45.4 percent in 1980, (Department of City Planning Community District Needs FY 1993). These percentages, for 1990, would compare to 29.4 percent in the Bronx, and 18.7 percent for NYC.

TABLE 3.3-3

INCOME AND POVERTY

Census Tract	Households		Families		Persons		
	Total	Median Income $	Total	Median Income $	Total	Below Poverty Level	
						Total	Percent
Bronx 11	182	15,250	128	45,139	729	262	35.94
15	10	4,999	10	4,999	39	39	100.00
17	265	9,430	179	13,686	788	496	62.94
23	1,690	7,925	1,110	15,189	4,477	2,272	50.75
25	1,804	8,246	1,271	9,807	5,567	2,924	52.52
27	1,001	8,128	776	10,109	3,004	1,742	57.99
NY 192	1,296	11,284	966	11,279	3,641	1,612	44.27
202	227	9,338	112	13,571	427	244	57.14
Study Area	6,475		4,552		18,672	9,591	51.37
Bronx	423,191	21,944	291,978	25,479	1,163,947	334,137	28.71
New York	716,811	32,262	305,368	36,831	1,450,698	297,617	20.52
NYC	2,816,274	29,823	1,755,718	34,360	7,181,155	1,384,994	19.29

Source: US Census 1990, STF3A, NYCDCP 1992.

3.3.3 Employment

Employment in the area is generally focussed on manufacturing activity, which experienced some growth in recent years. However, employment as a whole has seen a notable decline in the area. Data from the 1990 Census is not yet available on the labor characteristics of the resident population in the study area.

The New York State Department of Labor maintains records of employment by Standard Industrial Classification (SIC) codes by zip code. These data include unemployment insurance covered employment but government employment is not included. (Some caution with these data is appropriate in that headquarters' personnel records may be counted rather than the actual location of employment.) Zip code area 10454 covers almost all of the study area and so these data permit a profile of local business activity. Data for 1986 and 1991 are presented in Table 3.3-4.

In 1991, manufacturing employment accounted for 44.2 percent of all employment in the area. The next most important classifications were Trade, at 25.8 percent, and Services at 10.1 percent. A large number of the detailed industrial classifications are suppressed because of the small number of firms and the requirement to maintain confidentiality. However, in the major industry group category, Manufacturing is seen to have grown from 2,814 employees in 1986 to 3,238 in 1991, an increase of 15 percent. On the other hand, overall employment in the area declined from 9,228 to 7,323 over the period. Most of this decline appears to have occurred in Services and Trade categories.

TABLE 3.3-4

EMPLOYMENT BY INDUSTRY CATEGORY
ZIPCODE 10454

SICC	Industry	Firms			Employees		
		1986	1991	Change 1986-91	1986	1991	Change 1986-91
	Major Groups						
0	Unclassified	3	4	1	*	4	n/a
3	Construction	36	36	0	415	622	207
4	Manufacturing	104	106	2	2,814	3,238	424
5	Transport, Utilities, & Comm.	23	20	(3)	*	378	n/a
6	Trade	173	170	(3)	2,095	1,886	(209)
7	F.I.R.E.	38	43	5	75	452	377
8	Services	75	80	5	1,237	743	(494)
	Totals	452	459	7	9,228	7,323	(1,905)
	Detailed Groups						
0	Unclassified	3	4	1	*	4	n/a
15	General Construction	3	8	5	*	*	n/a
16	Heavy Construction	0	1	1	0	*	n/a
17	Special Trade Const.	33	27	(6)	0	420	420
20	Food Products	7	8	1	347	*	n/a
22	Textile Mill Products	4	4	0	*	*	n/a
23	Apparel	16	16	0	540	558	18
24	Lumber & Wood Products	5	8	3	*	182	n/a
25	Furniture	9	9	0	89	102	13
26	Paper & Allied	6	5	(1)	91	41	(50)
27	Printing & Publishing	2	1	(1)	*	*	n/a
28	Chemicals	4	6	2	137	166	29
30	Rubber & Misc. Plastics	4	3	(1)	*	*	n/a
31	Leather Products	2	1	(1)	*	*	n/a
32	Stone & Clay	3	4	1	*	*	n/a
33	Primary Metal Industries	3	1	(2)	*	*	n/a
34	Fabricated Metal Products	13	10	(3)	320	133	(187)
35	Machinery & Computers	9	9	0	*	*	n/a
36	Electronic (excpt Computers)	5	5	0	*	*	n/a
37	Transportation Eqpt.	0	1	1	0	*	n/a
38	Measuring Instruments	2	1	(1)	*	*	n/a

SICC	Industry	Firms			Employees		
		1986	1991	Change 1986-91	1986	1991	Change 1986-91
39	Misc. Manufacturing	10	14	4	345	355	10
41	Transit	0	1	1	0	*	n/a
42	Transportation & Warehousing	14	14	0	*	308	n/a
47	Transportation Services	3		(3)	*		n/a
48	Communications	6	4	(2)	*	*	n/a
49	Electric/gas/sanitary	0	1	1	0	*	n/a
50	Wholesale Trade (Durables)	15	18	3	271	242	(29)
51	Wholesale Trade (Nondurables)	23	18	(5)	310	418	108
52	Building Materials Supply	7	8	1	41	53	12
53	General Merchandise Stores	6	6	0	*	*	n/a
54	Food Stores	54	49	(5)	617	331	(286)
55	Auto Dealers & Gas Stations	7	6	(1)	20	20	0
56	Apparel Stores	4	9	5	*	23	n/a
57	Home Furnishings	6	9	3	*	*	n/a
58	Eating & Drinking	21	21	0	104	182	78
59	Misc. Retail	30	26	(4)	168	124	(44)
60	Depository Institutions	3	2	(1)	*	*	0
64	Insurance Agents	3	2	(1)	*	*	0
65	Real Estate	32	39	7	48	405	357
72	Personal Services	14	9	(5)	*	38	n/a
73	Business Services	8	12	4	*	56	n/a
75	Auto Repair & Parking	5	10	5	21	24	3
76	Misc. Repair	3	4	1	*	6	n/a
79	Amusement & Recreation	1	1	0	*	*	n/a
80	Health Services	22	16	(6)	247	146	(101)
82	Educational Services	9	6	(3)	113	69	(44)
83	Social Services	8	16	8	299	378	79
86	Membership Organizations	4	5	1	*	12	n/a
87	Other Prof. Services	1	1	0	*	*	n/a

Note: * indicates data suppressed for reasons of confidentiality.

Source: NYS Department of Labor, Covered Employment Reports, 1986 and 1991.

3.3.4 Housing

Census data generally show the study area to have a relatively stable housing stock which is overwhelmingly occupied by renters at rather high densities, characterized by structures with large numbers of housing units.

The 1990 Census recorded 6,496 housing units in the 357-acre study area, with a resident population of 18,767. This implies a population density of 52.5 persons per acre and 18.2 housing units per acre (Table 3.3-5). These population and housing densities are somewhat higher than those for the Bronx, with population density at 44.75 persons per acre and housing density at 16.39 units per acre, and the City as a whole, at 37.0 and 15.1, respectively.

The 1980 Census recorded 6,496 year round housing units in the study area (Table 3.3-6). Of the 6,353 occupied units, 197 (3.1 percent) were owner occupied, and 6,156 renter occupied (96.9 percent). These tenure rates compare to 82.1 percent renters in the Bronx and 71.4 percent for the City as a whole. Vacancy rates for rental units were very low at 1.6 percent in the study area, compared to 3.1 percent for the Bronx and 4.1 percent for the City. The number of housing units in the study area declined slightly during the 1980s, by 146 units or 2.8 percent (Table 3.3-7).

TABLE 3.3-5

POPULATION AND HOUSING DENSITY
(1990)

Census Tract	Total Population	Total Housing Units	Acres	Persons Per Acre	Housing Units per Acre
Bronx 11	725	205	105.017	6.903	1.952
15	47	17	18.038	2.605	0.942
17	817	300	61.280	13.332	4.895
23	4,665	1,740	24.957	186.921	69.719
25	5,484	1,809	28.169	194.682	64.219
27	2,922	930	21.497	135.925	43.261
NY 192	3,669	1,291	48.184	76.145	26.793
202	438	204	50.161	8.731	4.066
Study Area	18,767	6,496	357.303	52.524	18.181
Bronx	1,203,789	440,955	26,899.058	44.752	16.393
New York	1,487,536	785,127	18,161.355	81.906	43.230
NYC	7,322,564	2,992,169	197,722.007	37.035	15.133

Source: US Census 1990, STF1A, NYCDCP 1992.

TABLE 3.3-6

HOUSING OCCUPANCY AND TENURE (1990)

Census Tract	Total Housing Units	Total Occupied Units	Owner Occupied Units	Percent Owner Occupied	Renter Occupied Units	Percent Renter Occupied	Rental Vacancy Rate	Owner Vacancy Rate
Bronx 11	205	190	64	34	126	66.32	1.6	3.0
15	17	17	6	35.29	11	64.71	0.0	0.0
17	300	274	36	13.14	238	86.86	6.7	0.0
23	1,740	1,734	23	1.33	1,711	98.67	0.3	0.0
25	1,809	1,756	35	1.99	1,721	98.01	2.2	0.0
27	930	919	7	0.76	912	99.24	1.2	0.0
NY 192	1,291	1,280	25	1.95	1,255	98.05	0.6	0.0
202	204	183	1	0.55	182	99.45	9.5	0.0
Study Area	6,496	6,353	197	3.10	6,156	96.90	1.6	1.0
Bronx	440,955	424,112	75,842	17.88	348,270	82.12	3.1	2.5
New York	785,127	716,422	128,037	17.87	588,385	82.13	6	6
NYC	2,992,169	2,819,401	807,378	28.64	2,012,023	71.36	4.1	3.0

Source: US Census 1990, STF1A, NYCDCP 1992.

This rate of loss was similar to the Bronx as a whole (2.3 percent) while the City saw a housing growth of 1.7 percent. Owner-occupied units actually increased in the study area at rates slightly higher than for the Bronx and City, albeit from a very small base of 136 units to 171 units.

In 1990, 53.6 percent of units were in structures with 50 or more units, while only 2.2 percent were in single family structures (Table 3.3-8). In all, units in structures with ten or more units accounted for 83.9 percent of all units.

TABLE 3.3-7

HOUSING OCCUPANCY AND TENURE
(1980-1990)

Census Tract	Total Housing Units			Owner Occupied Units			Renter Occupied Units		
	1980	1990	Percent Change 1980-90	1980	1990	Percent Change 1980-90	1980	1990	Percent Change 1980-90
Bronx 11	248	205	-17.3	45	64	42.2	168	126	-25.0
15	21	17	-19.0	4	6	50.0	9	11	22.2
17	297	300	1.0	30	36	20.0	235	238	1.3
23	1,774	1,740	-1.9	16	23	43.8	1,754	1,711	-2.5
25	1,687	1,809	7.2	33	35	6.1	1,617	1,721	6.4
27	1,120	930	-17.0	8	7	-12.5	1,020	912	-10.6
NY 192	1,362	1,291	-5.2	15	25	66.7	1,318	1,255	-4.8
202	292	204	-30.1	1	1	0.0	242	182	-24.8
Study Area	5,147	5,001	-2.8	136	171	25.7	4,803	4,719	-1.7
Bronx	451,118	440,955	-2.3	62,883	75,842	20.6	366,374	348,270	-4.9
New York	753,756	785,127	4.2	54,785	128,037	133.7	649,717	588,385	-9.4
NYC	2,940,837	2,992,169	1.7	652,105	807,378	23.8	2,136,425	2,012,023	-5.8

Source: US Census 1990, STF1A, NYCDCP 1992; US Census of Population and Housing 1980.

TABLE 3.3-8

HOUSING BY UNITS IN STRUCTURE
(1990)

Census Tract	Total Housing Units	Single Family	Two to Four Units	Five to Nine Units	Ten to Nineteen Units	Twenty to Forty-nine Units	Fifty or More Units
Bronx 11	205	61	65	10	28	24	0
15	17	5	2	0	9	0	0
17	300	39	104	82	70	0	0
23	1,740	1	12	10	124	186	1,345
25	1,809	32	96	209	299	572	575
27	930	3	11	10	123	43	681
NY 192	1,291	5	49	27	78	221	881
202	204	0	8	3	88	105	0
Study Area	6,496	146	347	351	819	1,151	3,482
Percent	100	2.2	5.3	5.4	12.6	17.7	53.6
Bronx	440,955	43,932	60,803	14,030	25,335	119,185	168,771
New York	785,127	4,652	17,327	47,100	94,490	193,481	415,956
NYC	2,992,169	439,135	466,105	201,410	201,928	514,422	942,494

Source: US Census 1990, STF1A, NYCDCP 1992.

3.4 Community Resources

The study area is the southern tip of the South Bronx together with a small area of East Harlem and part of Randalls Island. The study area within one quarter mile of the project site exhibits a diverse character of mixed industrial, commercial and residential uses. Industrial uses surround the project site for a radius of two or more blocks, while the predominantly residential district extends to the north of the barriers created by the Major Deegan and Bruckner Expressways.

As a consequence of the industrial character of most of the study area, there are relatively few community facilities located there. Those that do exist tend to be associated with the residential district in the central northern part of the study area. Existing community resources are identified below, these include commercial services, religious and cultural institutions, schools, libraries, health facilities, public safety, and recreation.

3.4.1 Commercial Services

A number of eating and drinking places are scattered throughout the industrial district, ranging from diners to Spanish restaurants to McDonalds. Some local convenience stores are also to be found serving the workers and small residential population of the manufacturing district. A neighborhood commercial district is located on East 138th Street, from Alexander Avenue to Bruckner Boulevard, with some overflow on 137th Street, but all of this is slightly to the north of the study area. More regional shopping facilities are located at the "Hub" on East 149th Street, about three-quarters of a mile north of the project site.

3.4.2 Religious and Cultural Institutions

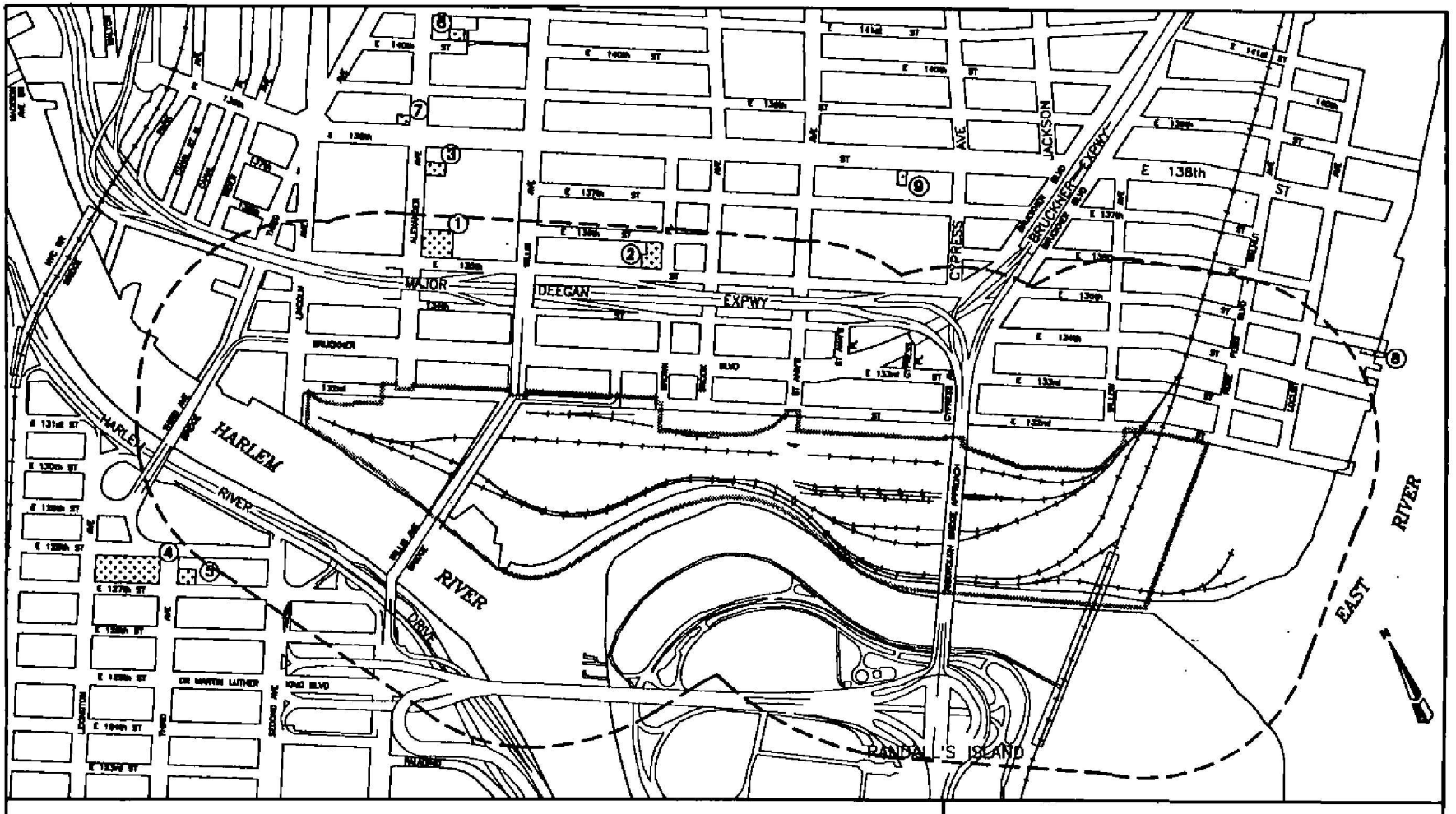
Relatively few religious and cultural institutions are located in the study area because of its predominantly industrial character. The only substantial church is St. Jerome, at Alexander Avenue and East 137th Street. Several small storefront type churches, usually of a Pentecostal denomination, are scattered among the small residential pockets in the area.

3.4.3 Schools

The study area is primarily served by Bronx Community School District 7. The small portion of the study area in Manhattan is split between Community School Districts 4 and 5, although the only school in the study area is in District 5. Schools and other community facilities are identified in Figure 3.4-1.

Presently, the only public schools in the study area are at the elementary level. The numbers of pupils enrolled by grade in 1991-92 and school capacities are shown in Table 3.4-1. Two private parochial schools exist in the area, St. Jerome's School on Alexander Avenue and the Kings Academy on upper Third Avenue in Manhattan. These private schools account for 17 percent of all the students enrolled in the area.

Higher education facilities are available within easy reach of the study area, including Hostos Community College (which is currently undergoing a major expansion) on the Grand Concourse, at East 149th Street, City College of CUNY is less than 1.5 miles to the east, and the College of New Rochelle is at 378 East 151st Street in the Bronx. Bronx Community College, Herbert H. Lehman College, Manhattan College, and Fordham University are three to five miles to the north and are easily reached by public transportation.



Legend

- Property Boundary
- Quarter Mile Radius
- Community Facility

Schools
1. PS 154
2. PS 43
3. School of St. Jerome
4. PS 30
5. Kings Academy

Library
6.

Police
7. 40th Precinct
8. Bronx Harbor

Fire
9. Engine Co. 83 and Ladder Co. 29

DATE: NOV 16, 1992

HARLEM RIVER YARD VENTURES INC.
INTERMODAL TRANSPORTATION AND DISTRIBUTION CENTER

Community Facilities

TAMS CONSULTANTS, Inc.

Figure 3.4-1

TABLE 3.4-1

SCHOOL CHARACTERISTICS

School	Grades	Year Built	1991 Capacity	1991-92 Enrollment	Utilization	
					Number	Percent
District 7 Bronx						
PS 154	K-6	1962	982	707	-275	72
PS 43	K-6	1906	856	493	-278	78
	Special			188		
District 5 Manhattan						
PS 30	K-6	1968	1217	796	-303	74
	Special			108		

Source: NYCDCP 1992.

TABLE 3.4-2

PAROCHIAL SCHOOL CHARACTERISTICS (1990-91)

School	Enrollment
St. Jerome	223
Kings Academy	180
Total	403

Source: NYCDCP 1992.

3.4.4 Libraries

The only library serving the area is Mott Haven Public Library at East 140th Street east of Alexander Avenue. This a relatively small facility with an annual circulation of 60,391 books (Community District Needs Statement, FY 1993).

3.4.5 Police and Fire

Police services in the Bronx portion of the study area are provided by the 40th Precinct. The Police Precinct Station is located immediately to north of the study area at East 138th Street and Alexander Avenue. The precinct is essentially coterminous with Community District 1. The 40th Precinct is comprised of approximately 200 police officer plus officers and civilian support personnel. At least 13 patrol cars are available for service. In addition to the usual community policing etc., the precinct operates an Anti-Crime Division (PO Ada Rodriguez, Community Affairs Officer, 40th Precinct, November 6, 1992). The station house is slated to move to a new facility near the Hub at East 149th Street in approximately one year. A Bronx Harbor Police administrative facility is located at Locust Avenue and East 135th Street; actual marine equipment are fielded from College Point in Queens.

Fire services are provided most directly by the fire station located at East 138th Street west of Cypress Avenue, Engine Company 83 and Ladder Company 29. The next nearest facility is Engine 60/Ladder 17 at 341 East 143rd Street. Both of these facilities are under the command of the 14th Battalion. Each facility would field one engine and one truck and each comprise 25 men (Deputy Chief Thomas Kilker, 11/6/92).

3.4.6 Health Care Facilities

The major hospital serving the study area is Lincoln Medical and Mental Health Center at East 149th Street and Morris Avenue. This is a City hospital providing 641 beds. The Bronx-Lebanon Hospital Center (Fulton Division), a voluntary facility providing 285 beds, is

located 2.5 miles north of the project area at 1276 Fulton Avenue. In Manhattan, the Harlem Hospital Center, a City facility providing 678 beds, is located at 5th Avenue and East 135th Street, about one half mile from the project site.

3.4.7 Recreation

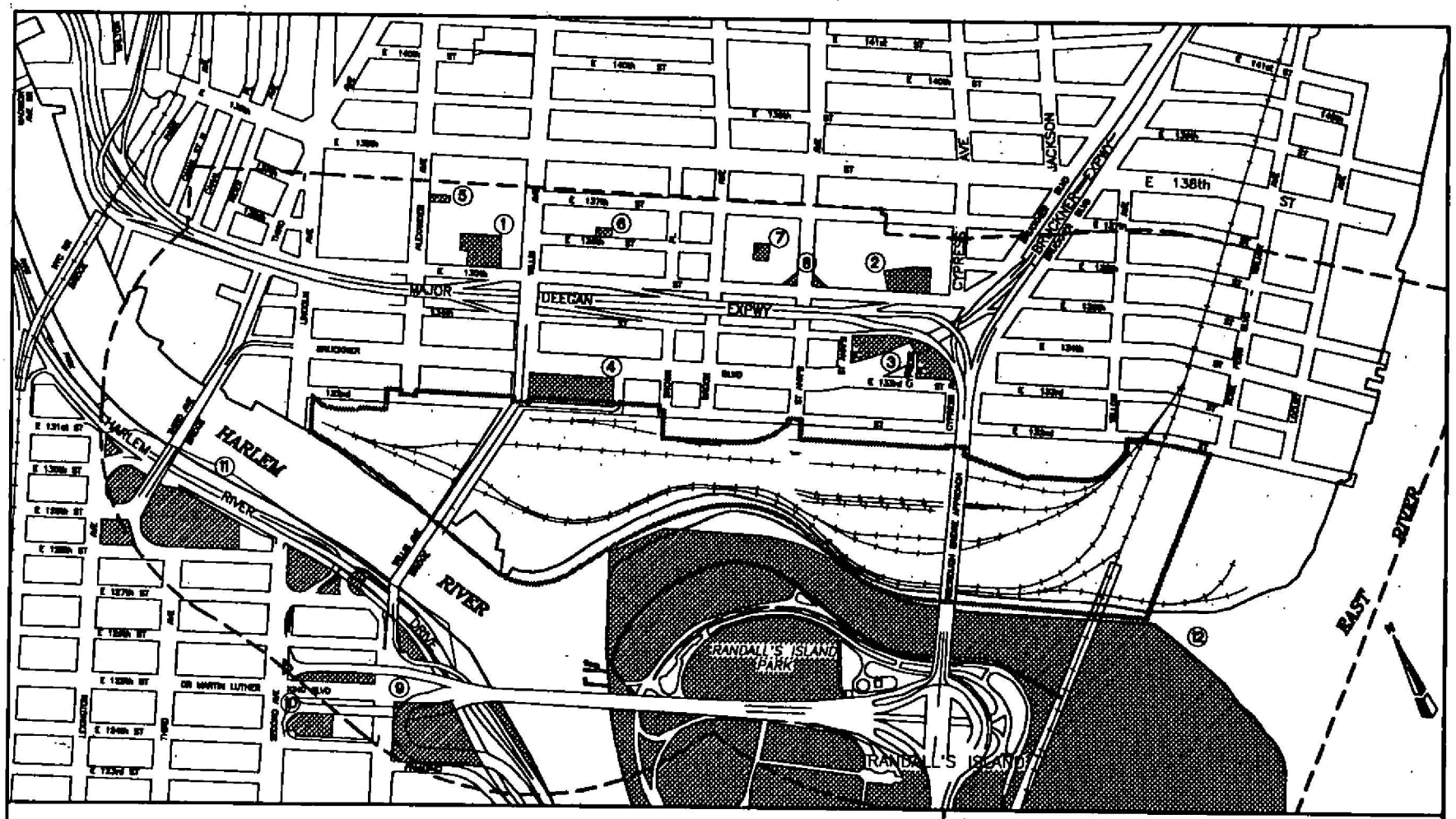
The study area for the open space analysis incorporates a 1,200 foot (approximately one quarter-mile) radius from the project area (the equivalent of a five-minute walk, and a reasonable distance for daytime workers to travel for local open space and recreation, (Figure 3.4-2)). A census tract was included in the analysis when at least 50 percent of the tract was within the appropriate study radius.

There are a total of 12 publicly accessible open space and recreational facilities in the study area (Figure 3.4-2, Table 3.4-3). These include eight facilities operated by the NYC Department of Parks and Recreation (NYCDPR), three facilities operated by the Housing Authority, and one with no identification. Most of the facilities are not well maintained, although Randalls Island Park is in good condition.

Because the project is a non-residential project, an appropriate method to assess the utilization of existing facilities is to use the traditional method adopted by the NYCDCP: a threshold guideline of 0.5 acres of passive open space per 1,000 residential population and 0.15 acres of passive open space per 1,000 daytime workers/visitors. Overall residential ratios average 1.5 acres per 1,000 population Citywide (NYC Office of Environmental Coordination, 1992).

Estimating passive open space by field reconnaissance, the total park acreages are adjusted as in Table 3.4-1. The table shows that when all the parks in the quarter mile study area are included there would be an adequate supply of passive open space in the area. Total required passive open space would be 10.27 acres. The study area provides 56.43 acres, well above the suggested guideline. Randalls Island Park provides the bulk of this open space

and it is readily accessible near the project site by means of a short pedestrian walkway attached to the Triborough Bridge where it crosses the Bronx Kill.



Legend

- Property Boundary
- Quarter Mile Radius
- Park or Recreation

Park and Recreation Facilities

1. PFC Carlos Lozada Plgd
2. Mill Brook Houses Plgd
3. Bruckner & Cypress Plgd
4. Pulaski Park
5. Mitchel Houses Gym
6. Basketball Court
7. Basketball Courts
8. Playgrounds
9. Louis Cuvillies Park
10. Triborough Bridge Park
11. Harlem River Drive Parks
12. Randall's Island

DATE: NOV 17, 1992

HARLEM RIVER YARD VENTURES INC.
INTERMODAL TRANSPORTATION AND DISTRIBUTION CENTER

PARKS AND RECREATION

TAMS CONSULTANTS, Inc.

Figure 3.4-2

TABLE 3.4-3

PARKS AND RECREATIONAL SPACE IN THE STUDY AREA

Map Key	Facility	Agency Jurisdiction	Acreage Within Quarter Mile	Percent Passive	Acreage Passive
In Bronx Community Board 1					
1	PFC Carlos Lozarda Plgd.	NYCDPR	1.05	20	0.21
2	Mill Brook Houses Plgd.	NYCDPR	1.05	40	0.42
3	Plgd. Bruckner & Cypress Ave.	NYCDPR	2.05	100	2.05
4	Pulaski Park	NYCDPR	1.43	30	0.43
5	Mitchel House Gymnasium	NYCHA	n/a		
6	Basket Ball Court	No Id.	0.25	0	0.00
7	Basket Ball Courts	NYCHA	0.4	10	0.04
8	Playgrounds	NYCHA	0.4	10	0.04
In Manhattan Community Board 11					
9	Louis Cuvillier Park	NYCDPR	0.2	80	0.16
10	Triborough Bridge Park	NYCDPR	2.75	20	0.55
11	Harlem River Drive Park (a)	NYCDPR	10.60	70	7.42
12	Randall's Island Park *	NYCDPR	136.69	33	45.11
	Totals		156.87		56.43
	Acreage per 1000 residents		8.36		3.01
	1990 Resident Population		18,767		
	1980 Worker Population**		5,913		
	Required Passive Acreage per 1000 Population				9.38
	Required Passive Acreage per 1000 Visitors				0.89
	Total Required Passive Acreage				10.27

Notes: * Assumes 50 percent of park is in study area.
** NYCDCP, 1993.

3.5 Cultural Resources

While the issue of the site's prehistoric and historic significance was addressed in a report titled the Archival Documentation of a Phase 1A Cultural Resource Survey for the Harlem River Yard Oak Point Link Study (Johannemann and Schroeder 1982), the New York City Landmarks Preservation Commission requested additional research (LPC 1992). Consequently, research focused on the ownership, occupation, development history, and archaeological potential of the entire project site.

Primary research sources have included maps, deeds, wills, tax and other municipal records, federal census manuscripts, and directories. Secondary sources mainly comprised published histories that in this case were particularly abundant because of the achievements of the Morris family, published and unpublished reports (including the above-mentioned Johannemann and Schroeder report), and newspaper and scrap book articles. In addition to county offices, research was done at several institutions including the Bronx County and New York Historical Societies, the Westchester County Archives, the Municipal Archives, the Avery Library of Columbia University, and the New York Public and New York Society Libraries. Interviews were also conducted with local residents or owners.

It should be noted that the line of St. Ann's Avenue, a major thoroughfare north of the project area, partially follows the route of Mill Brook on the project site. This stream has long been culverted, but it was named for its mill sites (beyond the project area) and is cited historically as a land boundary.

3.5.1 National Register and NYC Landmarks Properties

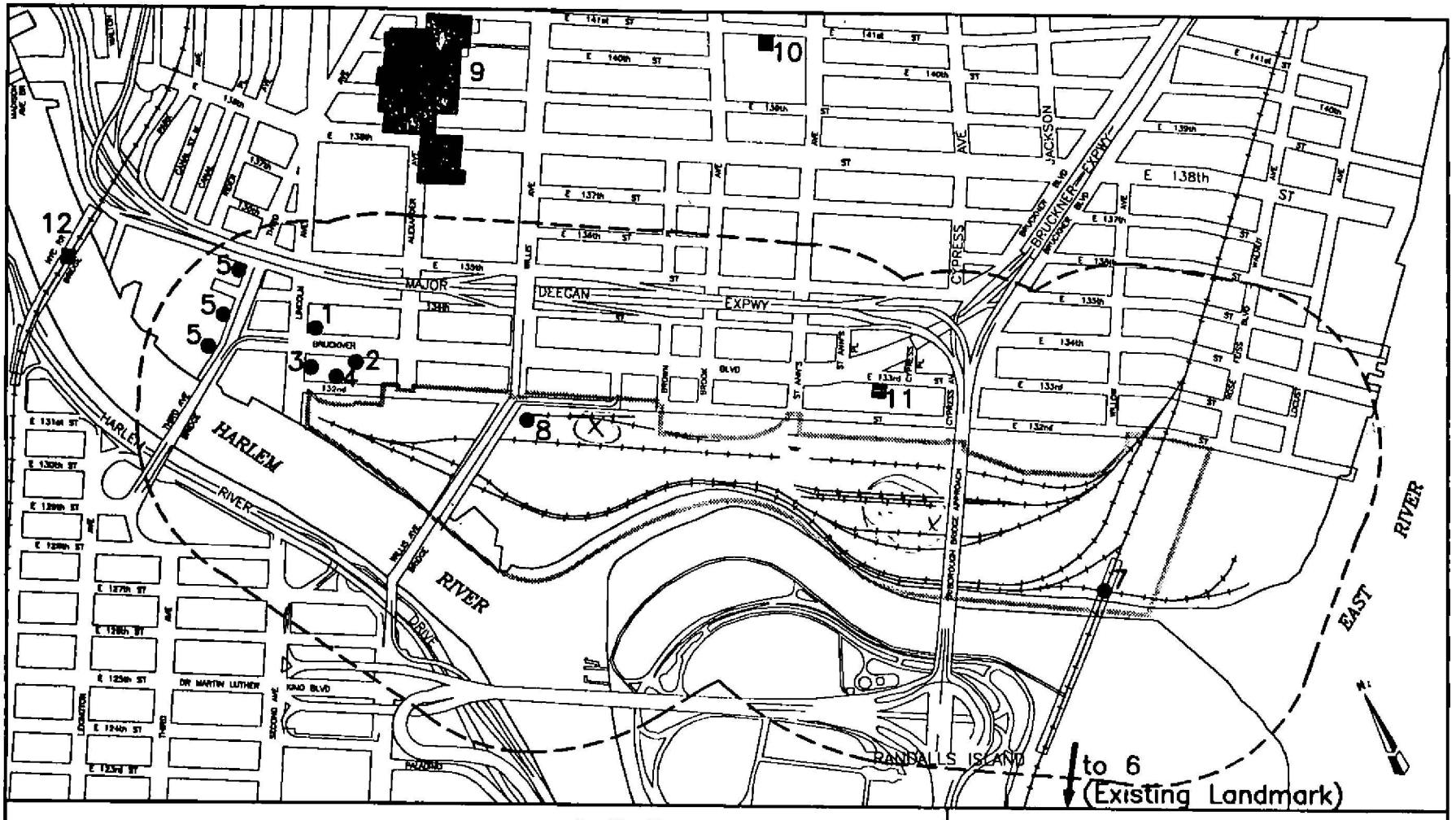
North of East 132nd Street are the industrial buildings and turn-of-the-century tenements typical of this part of the Bronx. A 1982 NYSDOT study identified several nearby buildings/structures as eligible for nomination to the National Register of Historic Places

(E.O. 11593:1983), a determination that affords the protection of a National Register property. These include (Figure 3.5-1):

- Estey Piano Factory (13-21 Bruckner Boulevard) (Map Location 1);
- Haines Piano Factory (26 Bruckner Boulevard) (Map Location 2);
- Henry Spies Building (82-96 Lincoln Avenue) (Map Location 3);
- Jacob Brewer Ice Plant (281 East 132nd Street) (Map Location 4);
- three buildings that comprise the J. L. Mott Iron Works Complex located on the Harlem River northwest of the project site (2401 and 2413 Third Avenue [this latter building now altered] and 220 East 134th Street) (Map Location 5);
- Harlem River Railroad Bridge (Map Location 12).

The Ward's Island Water Pollution Control Plant (Map Location 6) has also been found eligible, and is also a New York City Landmark (Dolkart 1992:personal communication). The Bronx Grit Chamber at 158 Bruckner Boulevard (Map Location 11), a component of the Ward's Island Water Pollution Control Plant, is itself a New York City Landmark. It's neo-classical exterior makes it one of the city's most unusual industrial structures (Hermalyn and Kornfeld 1989:25).

The site is crossed by three bridges, including the Little Hellgate Bridge (Map Location 7), which is a small railroad bridge that is part of the New York Connecting Railroad system. Opened in 1917 (WPA 1939:564- 565), it is a component of the rail system that connects the South and West with New England and the only freight link between the Bronx and Long Island (Donnelly 1992:personal communication). This 350-ft. double bascule bridge, and the entire bridge and viaduct system of which is part, was found eligible for listing in the National Register of Historic Places in 1977 (E.O. 11593:1977).



Legend

- Property Boundary
- Quarter Mile Radius
- ■ Existing Landmark or Historic District
- ● Potential Landmark or National Register Property

1. Estey Piano Factory
2. Haines Piano Factory
3. Henry Spies Building
4. Jacob Brewer Ice Plant
5. J.L. Mott Iron Works Complex
6. Wards Island Water Pollution Control Plant
7. Little Hellgate Bridge
8. Willis Avenue Station
9. Mott Haven Historic District
10. St. Ann's Church and Graveyard
11. Bronx Grit Chamber
12. Harlem River Railroad Bridge

DATE: DEC 18, 1992

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LANDMARKS AND HISTORIC PLACES

TAMS CONSULTANTS, Inc.

Figure 3.5–1

The project site surrounds a three-story brick structure situated on a plateau just east of Willis Avenue (Map Location 8; also see following photographs). Figure 3.5-2 shows additional features around the station site. It was built in 1891 as the Harlem River Station, but is now known as the Willis Avenue Station. The above-mentioned 1982 eligibility assessment determined that this privately-owned building was also eligible for inclusion to the National Register of Historic Places.

Within one half mile of the project site are two additional historic sites with both National Register of Historic Places and New York City designations. The Mott Haven Historic District (Map Location 9) is a New York City Historic District located approximately between East 141st Street to the north and East 137th Street to the south on either side of Alexander Avenue. This area contains several old churches and row houses built in the Dutch style, and includes some historic residences. St. Ann's Church and Graveyard (Map Location 10) is a New York City Landmark located at 295 St. Ann's Avenue. Gouverneur Morris II build the church in 1841, and the graveyard contains the tombs of the elder Gouverneur Morris and his wife Anne.

3.5.2 Topographical Features

Topographical surveys from 1873 and 1892 indicate that until about 1892, the site terrain included at least two rises, two streams or brooks, and marshland (Commissioners of the Dept. of Parks 1873; Figure 3.5-3; Bronx Final Map 1895). In addition, the 1873 map shows water or marsh covering most of the site east of Cypress Avenue. A modern topographic map (TAMS 1992a) suggests that part of a former 30-foot rise lying west of Brown Avenue, near East 132nd Street, still exists in a reduced form, its most obvious remnant being the plateau where the Willis Avenue station (82 Willis Avenue) is situated (it appears this plateau was created in part when an embankment on its southern boundary was cut sometime after 1892). The rest of the site has been made basically flat and featureless by the filling and grading undertaken to create a rail yard and industrial site.

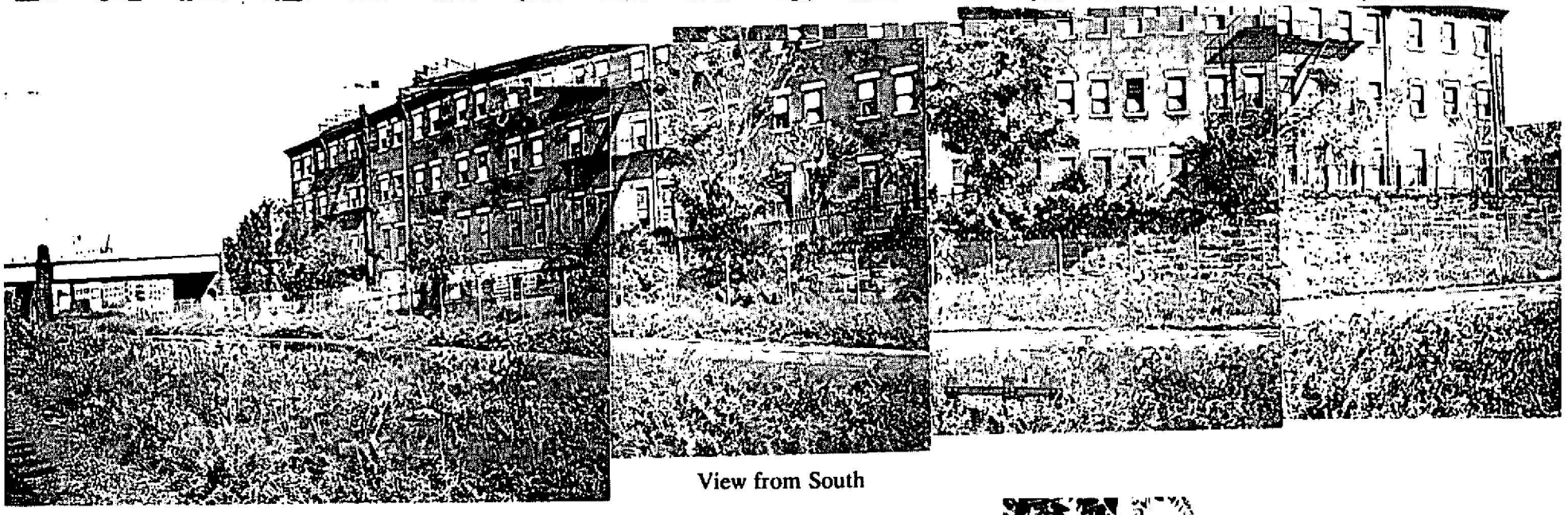
Comparison of the late-19th century topographical maps with recent ones has been made to determine land alterations over time (Johannemann and Schroeder 1982 Attachments A, B, and C). This is an important issue since grading and filling are factors in the preservation of potential archaeological sites. These and other maps (NYSDOT 1988) indicate that recent filling or grading has taken place in parts of the project area over the last six years, but not in areas deemed potentially sensitive in this study. Based on the contour maps made in 1873 and 1892, which show the contours unchanged, and one made in 1982, it also appears that at least 8 feet of fill have been introduced south of the plotted line of East 130th Street since 1892 (East 130th Street was apparently never run). In addition, the shoreline has been differentially altered over time. These factors have important implications for preservation of at least one Morris house site and possibly prehistoric or early-historic era Native American features.

Another consideration is the location of sewer and utility lines or rights-of-way (ROW) (TAMS 1989). Based on historical documentation, it appears those now on the site do not affect any potentially sensitive historical resources; their effect on any prehistoric or Revolutionary War sites or features is unknown.

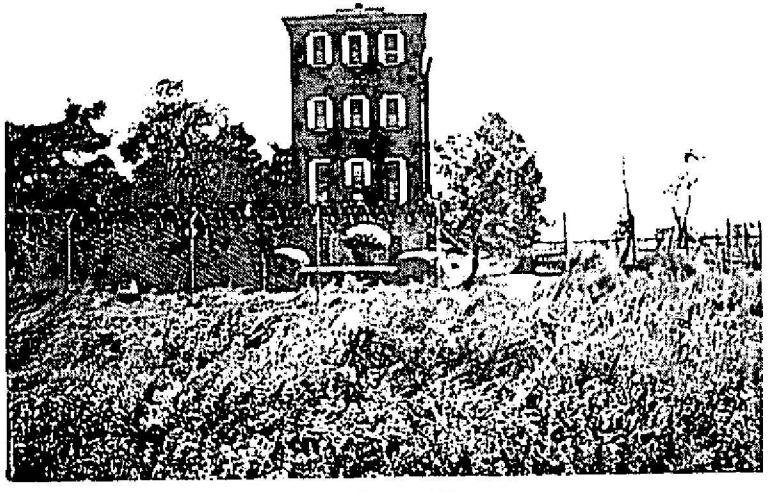
3.5.3 Prehistoric Considerations

The Mill Brook that divided the site into eastern and western segments would have been attractive to Native American hunters and gatherers as a food source and, north of its mouth, for fresh water. Adding to the site's prehistoric potential is a fresh water spring documented east of Mill Brook on an 1816 survey (Randel 1816; see Figure 3.5-4) and its 1850 update (Findlay 1850 in Robinson 1888; see Figure 3.5-5). It seems quite likely that this fresh water source was also known to local Native Americans before the site was settled by Europeans.

In the vicinity of the spring and a Morris family residence, Reginald Bolton identified the "Ranachqua" site that he described as a "tract of land, about 500 acres in extent," and



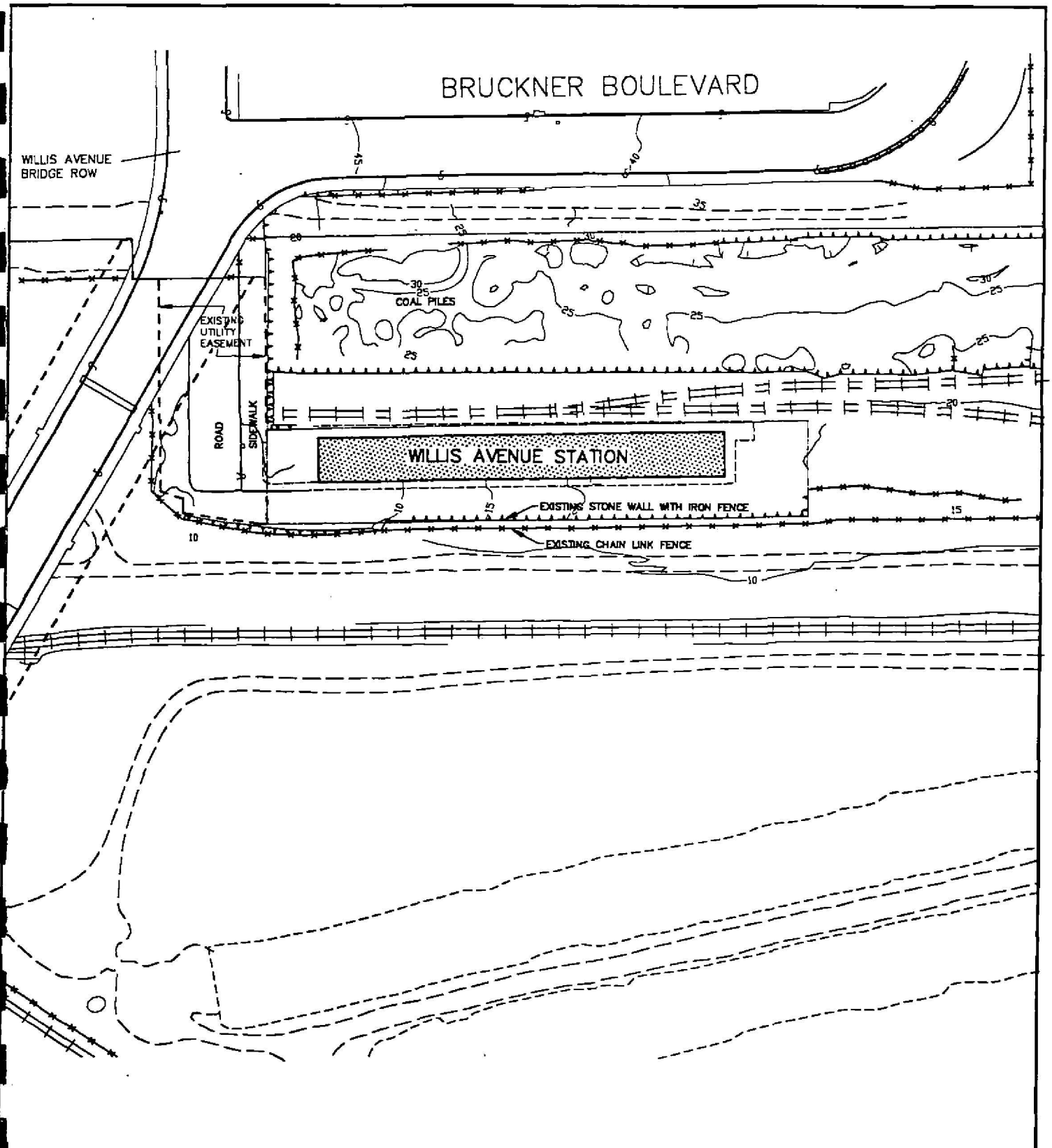
View from South



View from West

View from East

WILLIS AVENUE STATION



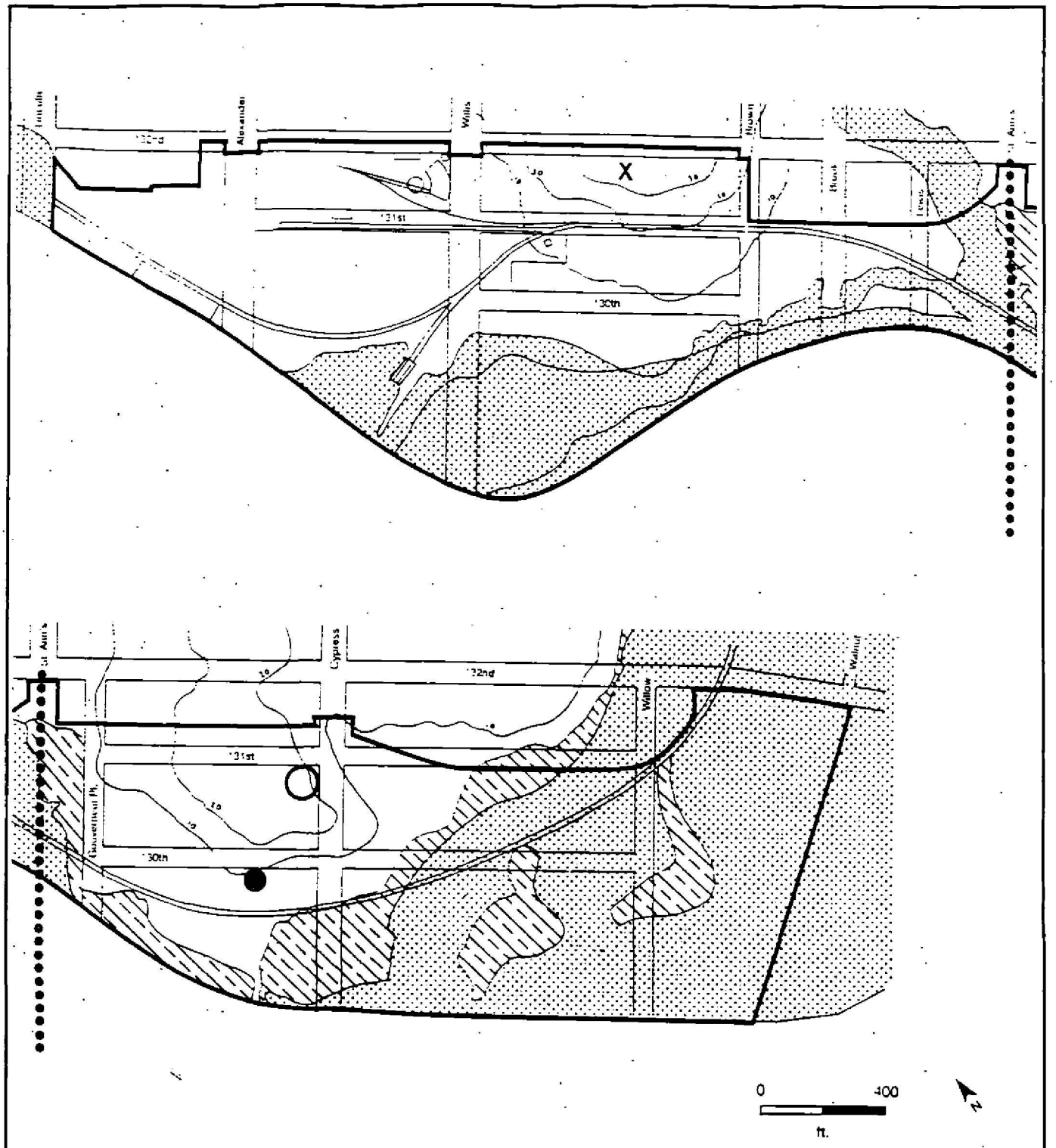
HARLEM RIVER YARD VENTURES INC.
INTERMODAL TRANSPORTATION AND

WILLIS AVENUE STATION EXISTING CONDITIONS

DATE: OCT 26, 1993

TAMS CONSULTANTS, Inc.

Figure 3.5–2



Legend

- Property Line
- Match Line (to St. Ann's Ave.)
- Water
- Marsh
- X — Lewis Manor Site (approx.)
- Gouverneur Morris II House Site (approx.)
- Hon. Gouverneur Morris Mansion (approx.)

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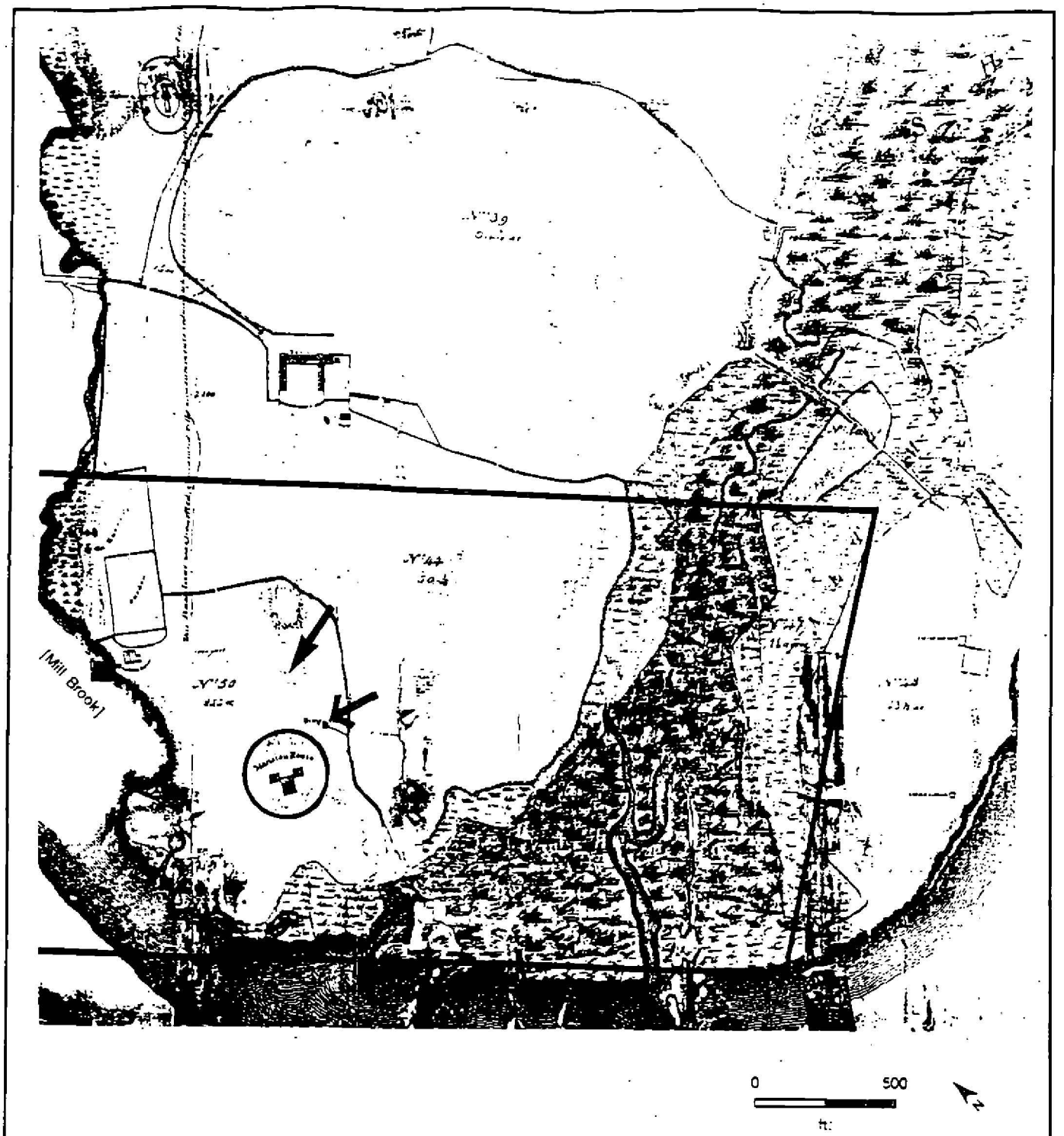
INTERMODAL TRANSPORTATION AND DISTRIBUTION CENTER

1873 TOPOGRAPHICAL SURVEY

TAMS CONSULTANTS, Inc.

Figure 3.5-3



Legend

- Project Site (part and approx.)
- Hon. Gouverneur Morris Mansion
- Later Site of Gouverneur Morris II House (approx.)
- Hon. Gouverneur Morris Burial Vault (approx. site of St. Ann's Church)
- Spring House

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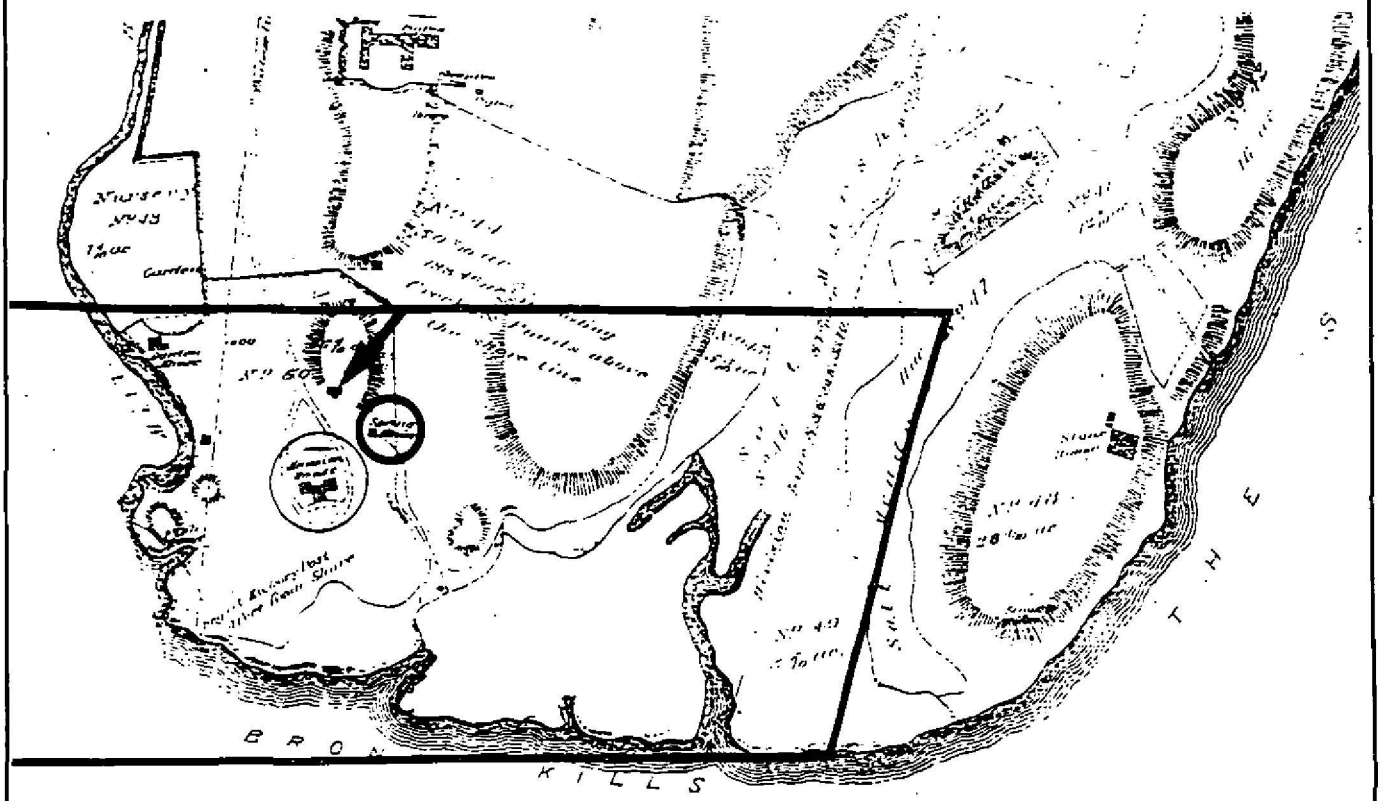
INTERMODAL TRANSPORTATION AND DISTRIBUTION CENTER

1816 RANDEL SURVEY

TAMS CONSULTANTS, Inc.

Figure 3.5-4



Legend

- Property Line
- Hon. Gouverneur Morris Mansion
- Gouverneur Morris II House
- Spring House

HARLEM RIVER YARD VENTURES INC.
INTERMODAL TRANSPORTATION AND DISTRIBUTION CENTER

1850 UPDATED SURVEY

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Figure 3.5-5

therefore the whole of Jonas Bronck's original 1639 land patent. Bolton goes on to say "The occupied site of a native village seems to have been at Cypress Avenue, near 131st Street, where food-pits and Indian implements have been found" (Bolton 1934:137). Elsewhere, he notes "Fireplaces, and shell-pits with pottery, discovered around the site of the Morris mansion, foot of Cypress ave. [sic]" (Bolton 1920:303). And still elsewhere he says that it was situated "around the knoll on which the mansion of Gouverneur Morris stood at East 132nd St. near Cypress Ave." (Bolton 1922 in Johannemann and Schroeder 1982:26). As will be seen, this was probably the site of Gouverneur Morris II's home at East 131st Street, not 132nd, and Cypress, but whether it was also the site of his father's mansion remains a question (see below).

Johannemann and Schroeder computed that 8 to 9 feet, or about 80,800 cubic yards of earth, were taken from the knoll where this mansion stood (1982:26). They also calculated that about 9 feet were removed from the proposed Lewis Morris Manor site located on another knoll west of the Mill Brook (St. Ann's Avenue) (Johannemann & Schroeder 1982:29). It was estimated that this grading removed about 145,000 cubic yds. of soil that may have been used to fill the site's low areas (Johannemann and Schroeder 1982:26). Whatever the actual amount of soil removed, the map data indicate grading in these two potentially sensitive areas that would have eliminated evidence of Native American occupation or use. However, where fill has been introduced, prehistoric and historical sites or features could remain, and historical features--such as foundations and yard privies, cisterns, or wells, might persist.

Nearby shell middens (discarded mollusk shells mixed with other trash) were mentioned by Robert Bolton (not to be confused with the archaeologist Reginald Bolton cited above). He referred to them as 'shell beds' and noted in the 1848 edition of his History of the County of Westchester "they were still to be seen" along the East and Harlem Rivers (Bolton 1848: 280). He went on to say that "several Indian tumuli (graves) have been accidentally opened in the vicinity of Gouverneur Morris's residence, and found to contain large sized skeletons of the Aborignes." This was repeated, word for word, in the 1881

revised edition of his work published posthumously (Bolton 1881:451), but it appears likely that the information was by then obsolete. The historical Native American presence is confirmed by eighteenth-century Indian deeds, the first to Bronck based on tradition rather than documentation (Grumet 1992:personal communication), the second to Lewis Morris (Bolton 1881:463).

It appears that grading would have eliminated the core area of the "Ranachqua" Indian site, but unknown components may yet be found where there is fill. This is particularly so of fill introduced in preparation for constructing a railroad line in the first half of the 19th century (Liber of Deeds [hereafter LD] 20 1840:265). However, no rail bed was built until 1873 when the New Haven & Portchester line was run on the site (Scharf 1886:480).

3.5.4 Historical Considerations

The site's European ownership dates to 1639, only 15 years after initial Dutch settlement in Lower Manhattan. This is when Jonas Bronck (or Bronk), possibly of Swedish or Danish descent (Jenkins 1912:26; Riker 1904:135), is believed to have received a 500-acre land patent from local Native Americans that included the project site. This grant was later confirmed by a Dutch ground brief (Bolton 1881:451). Bronck may have built his house, named "Emmaus," on Lincoln or Willis Avenues, just within or beyond the bounds of the project area (e.g., Bolton II 1881:489; Jenkins 1912: 27-28; Cook 1913; Stokes II 1916:204; Wilkinson 1966:58).

After a short occupation by Bronck and several tenants, it passed through a number of owners (Table 3.5-1) until 1670, when it came into the possession of Richard Morris, a New York City merchant (Bolton 1881:455, 460). Morris, a former officer of Cromwell's army, was then living in Barbados as was his brother, Lewis. Richard's ownership of the site

TABLE 3.5-1
HARLEM RIVER YARD
HISTORY OF OWNERSHIP (1639 THROUGH 1905)

Owner	Dates	Occupation	Comments	Source
ENTIRE PROJECT AREA (bounded north by E. 132nd St., west by Lincoln Ave., south by the Harlem River and Bronx Kills, and east by Walnut Ave.				
Jonas Bronck	1639	Homestead dwelling "Emmaus," built c. 1841-43 near present Lincoln Ave. & E. 132nd St.	Through deed by local Native Americans; confirmed by later Dutch ground brief. Bronck dies by 1643.	Bolton II 1881:451 Wilkinson 1966:44, 48 Bolton II 1881:452; 489
Arendt Van Curler, or Corlear (second husband of Bronck's widow, Antonia)	c. 1643	Van Curler resides at Albany and/or Schenectady, not on wife's inherited land.	Ground brief by Dutch Director General Kieft.	Bolton II 1881:452-453
Samuel Edsall	by 1664		Purchase from Herman Smeeman of Commoonepau on the Maine; transaction confirmed by royal British patent.	Bolton II 1881:454
Captain Richard Morris	1670	May have built 2nd "Emmaus" on site of Bronck's homestead at Lincoln & E. 132nd St.	Morris, officer in Cromwell's army & later merchant in Barbados, acting for self & brother, Lewis. Richard & wife die leaving infant son, Lewis.	Bolton II 1881:455 Bolton II 1881:489 Wilkinson 1966:44 Bolton II 1881:458
Colonel Lewis Morris	1672	Probably builder of Manor on or near Bronck's site west of Mill Brook; also on land were barns, boat dock, & burial ground for family & slaves.	Lewis, brother of Richard, assumes guardianship of infant nephew, Lewis; is granted land by English patent 1676, confirmed by Indian deed 1684.	Bolton II 1881:461-463 Wilkinson 1966:44, 48 Randell 1816
Hon. Lewis Morris	1691	Son of Richard, born at Morisania, lives much of adult life in NJ.	Third Morris owner & heir of uncle. First Royal Governor of NJ & prominent legislator. Has property designated as a manor & becomes 1st proprietor.	Bolton II 1881:473-474 Scharf 1886:826 Bolton II 1881:470
Isabella Morris	1746	Wife of Hon. Lewis Morris, has life interest in property west of Mill Brook after death of husband in 1746.		Bolton II 1881:480-481
Judge Lewis Morris	1746 (east of Mill Brook) 1752 (west of Mill Brook)	Apparently lived elsewhere on Morrisania property; may have built new house east of Mill Brook. General Lewis receives old Manor House prior to the Revolutionary War.	Fourth Morris owner & heir of father; marries Eliz. Staats, mother of Gen. Lewis & Staats Long Morris; 2nd wife Sarah Gouverneur is mother of Honorable Gouverneur Morris.	Bolton II 1881:opp. 455, 481; Scharf 1886:827; Ultan 1976:2; Spooner 1906:259

TABLE 3.5-1
HARLEM RIVER YARD
HISTORY OF OWNERSHIP (1639 THROUGH 1905)

Owner	Dates	Occupation	Comments	Source
At the death of Judge Lewis Morris in 1762, family lands were divided at Mill Brook. The western side of the property had been received by General Lewis Morris during his father's lifetime, while Staats Long Morris inherited the land east of Mill Brook (Scharf 1886:603).				
WESTERN PART OF PROJECT AREA (bounded north by E. 132nd St., west by Lincoln Ave., south by the Harlem River and Bronx Kill, east by Mill Brook (St. Ann's Ave.)				
General Lewis Morris	1762	Forced to vacate old Manor House during War for Independence; house used as Gen. De Lancey's headquarters 1777-1781 & suffered war damage; Gen. Morris restores house & grounds after war.	Illustrious patriot & brigadier-general of Continental Army; signer of Declaration of Independence.	Scharf 1886:827 Ultan 1976:2) Wilkinson 1966:40, 44 Wilkinson 1966:56-57
Lt. Col. Lewis Morris	1798	Lives & dies at Morrisania.	Aide to Gen. Nathaniel Green in War for Independence.	Bolton II 1881:483
Col. Lewis Morris	1824		Son & heir of Lt. Col. Morris, dies at Adams Run, S.C. in 1863.	Bolton 1881 II:484
Clarence S. Brown	1865	Brown has land surveyed for subdivision, but no develop- appears to have occurred in project area.	Brown, a NYC banker, buys from Harry M. Morris, executor & son of Col. Lewis Morris (d. 1863). Land bounded by Boston Post Rd., E. 138th St., Mill Brook, the "Kills", & Harlem & Harlem River: 106+ ac.; also lands under water granted to Lewis Morris in 1851.	LD 1865 122:43, NYC Directory 1870 Free Map No. 419; Book of Patents 31:173 cited in LD 1865 122:43
Lewis B. & Emma Brown, James M. Brown, John Crosby & Mary Brown, William Kyle, Harriet Fink, et. al	1869-1892	Site of old Manor House, south side of 132nd St. between Brook & Willis, leased to others by owner, Lewis B. Brown. Rudolph D. Christ has hotel & park (or tavern & beer garden) on site 1876-1879. Gustav Baur has park & hotel 1885-1890.	Brown's land in project area sold in multiple transactions by Brown, his heirs & others.	Misc. Bronx Co. libers; Bolton 1881 II:484 NYC Directories; Bolton 1881:490; Beers 1885; LD 1889 2191:339
New York, New Haven & Hartford Railroad Co.	1882-1892	Railroad structures built on site (see text). Old Manor House site sold to NYNH&HRR Co. in 1888. House demolished same year.	Brown's heirs & executors sell his land to NYNH&HRR Co. 1882 & 1891 in multiple transactions.	Misc. libers; see LD 1904 38:283 for recitation. LD 1889 2191:339 Wilkinson 1966:44
New York, New Haven & Hartford Railroad	1904		Through lease, Harlem River & Portchester line becomes Harlem River Branch of NYNH&HRR.	LD 1904 38:283 Scharf 1886:480

TABLE 3.5-1
HARLEM RIVER YARD
HISTORY OF OWNERSHIP (1639 THROUGH 1905)

Owner	Dates	Occupation	Comments	Source
CENTRAL PART OF PROJECT AREA (bounded north by E. 132nd St., west by Mill Brook (St Ann's Ave.), south by Bronx Kills, and east by Willow Ave.)				
Staats Long Morris	1762	Owns, but does not appear to occupy site.	As noted above, inherits estate east of Mill Brook from father, Judge Lewis Morris. A General in the British Army, Staats serves in India; remains loyal to Britain during Revolution; lives in England & Canada; appointed Governor of Quebec in 1797.	Bolton II 1881:483 Cook 1913:14 Bolton II 1881:492
Gouverneur Morris (the Honorable)	1786	Lives in Phila. & abroad for most of adult life; builds new mansion house near 130th St. & Cypress c. 1799; lives here until death in 1816.	Acquires family lands east of Mill Brook from half-brother, Staats Long Morris. A distinguished statesman & framer of the Constitution, minister to France, US Senator for NYS. At age 57 marries Anne Cary Randolph. Son Gouverneur Morris II, born 1813.	Scharf 1881:603 Wilkinson 1966:260 Spooner 1906:566 Scharf 1886:603-604 Cook 1913:19
Gouverneur Morris, II	1837	As a child, lives on property with widowed mother. Morris and family listed here on census records 1850-1870.	Inherits after death of mother in 1837; pioneer railroad builder & developer of Bronx commerce & & real estate; marries cousin Patsey Jefferson Cary in 1842. Receives grant of lands under water fronting homestead property.	Scharf 1886:308; Cook 1913:18; Geismar 1992; Spooner 1906:328 LD 1890 2274:454
New York & Harlem Railroad	1841	Morris living on property; some of land leased for farming.	Gouverneur Morris II sells right-of-way across property but railroad not operational until 1873 (see text).	FC 1840 LD 1841 20:265; Scharf 1886:480
Orlando Fairfax	1854	Fairfax of Alexandria, Va.	Homestead of Gouvernor Morris 2nd (see text) put in trust for Patsey J. Morris; rents & profits used for her benefit during her life, & then divided among her children.	LD 1854 287:2
Gouvernor Morris 3rd, Ann Cary Morris. Mary Fairfax Morris, Margaret Morris, Powhattan Randolph Morris	1874	Patsey J. Morris dies in NYC in 1873. Family appears to live at Bartow-on-the-Sound where Gouverneur 2nd lives until his death in 1888.	As per Patsey's will, land divided among her 5 children. Gouverneur Morris 2nd remarries without issue.	LD 1874 1301:81-162 FC 1880; Spooner 1906:328; Barber 1942:46-48:6; Barber 1942 54:53

TABLE 3.5-1
HARLEM RIVER YARD
HISTORY OF OWNERSHIP (1639 THROUGH 1905)

Owner	Dates	Occupation	Comments	Source
Clarence Cary & Henry Lewis Morris	1891	Mary F. (Morris) Davenport (widow) lives on property with her family & Anne Cary Morris, from at least 1880 through at least 1891. By 1891, Margaret (Morris) Rutherford lives in London. P. Randolph Morris lives in Parachute, Colo. where he is active in politics & real estate development.	Cary & H. L. Morris to hold land of Ann, Mary & Margaret in trust.	LD 1891 3:305, 311, 316, 320, 325 LD 1891 1:423 Spooner 1906:328
New York, New Haven & Hartford Railroad Co.	1905	By this year, Anne C. Morris (Maudsley) is married, lives in England. House leased, tenant unknown. House demolished this year.	Sale by trustees, Cary & H. L. Morris. Sale subject to lease that expired 5/1/1905 on Morris house on Mary F. M. Davenport's land	LD 1905 45:25, 27, 30, 31, 152 Spooner 1906:328 Wilkinson 1966:44
EASTERN PART OF PROJECT AREA (bounded by north by E. 132nd St., west by Willow Ave., south by Bronx River, and Bronx Kill) and east by Walnut Ave.).				
Honorable Gouverneur Morris	1786		Part of purchase from half brother Staats Long Morris.	Scharf 1886: 603
New York & Harlem Railroad	1841		As noted above, Gouverneur Morris II sells right-of-way across land; railroad not operational until 1873. Two stone houses east of Walnut Ave. may have been tenant occupied.	LD 1841 20:265; Randel 1816; Randel/Findlay 1850; Scharf 1886:480
Port Morris Land & Improvement Co.	1868		Morris conveys numerous properties to Port Morris Land & Improvement Co. (PML&I); he & co-investors hope to develop Port Morris (northeast of project site as a seaport. Deeds appear also to relate to land in project area.	LD 1868 142:478; LD 1868 148:220, LD 1868 152:234 Port Morris Map, Board of Real Estate 1868
Port Morris Land & Improvement Co.	1890		Grant of land under water, opposite land already owned by PML&I Co. from line of Willow Ave. to line of 1853 water grant of G. Morris II.	LD 1890 3374:454
New York, New Haven & Hartford Railroad	1904		NYNH&HRR subsumes Harlem River & Portchester line, acquiring title to all project land west of Willow Ave.	Scharf 1886:480 LD 1904 38:283 Wells et al 1927:768

property began the Morris family possession that endured for more than 200 years, ending in the early years of the twentieth century and included such individuals as:

- Lewis Morris (termed "the Honorable") - a statesman and prominent legislator and the first Royal Governor of New Jersey;
- Lewis Morris - an ardent patriot, a brigadier-general of the Continental Army, and a signer of the Declaration of Independence;
- Staats Long Morris - a brigadier-general in the British Army and lifelong Tory and Royal Governor of Quebec;
- Gouverneur Morris (also the "Honorable") - a framer of the United States Constitution, minister to France, and a United States senator from New York State. He was also one of three commissioners appointed in 1807 to lay out Manhattan's street and road grid (Stokes V 1926: 1457), and, in 1811, was appointed to a commission to develop inland navigation between the Great Lakes and the Hudson River that resulted in the building of the Erie Canal (Stokes V 1926:1532; Morris II 1888:518);
- Gouvernor Morris II - son of the Honorable Gouvernor Morris, land and railroad speculator and developer. Created the new village of Morrisania, north of the project site.

During the nearly two hundred years of Morris family occupation of the site several residences were built as discussed below.

Westchester County was created in 1683 (Zoebelein 1964:3), and the Morris family holding became a township in the county in 1697 (Bolton 1881:470). Named Morrisania, it remained part of Westchester for almost two centuries. The West Bronx where Morrisania was situated was annexed by New York City as the 23rd and 24th Wards in 1874 (Dolkart 1987), and the project area became known as North New York.

In 1898, all the land north of the Harlem River--including the two annexed wards--became part of the Borough of the Bronx, but one with no borough autonomy (Zoebelein 1964:5). After years of trying to establish the Bronx as a political entity, Bronx County was finally created in 1912 (Zoebelein 1964:10-16). By this time, the project site no longer belonged

to members of the Morris family and its subsequent history is tied to transportation and industry.

Old Manor or Mansion House

Colonel Lewis Morris (brother of Richard) built the first of the Morris family residences. This house, west of Mill Brook, ultimately became known as the Old Manor or Mansion House. General Lewis Morris (son of Judge Morris) received the western part during his father's lifetime and occupied the old manor house. The General and his family vacated the manor house west of Mill Brook during the Revolutionary War when it was occupied first by the Americans and then by the British under General James De Lancey.

It has been said that "70 soldiers huts" were on the property (Lamb 1877:280) and that the house sustained considerable damage (Wilkinson 1966:40, 44), while others say it burned to the ground (e.g., Bolton 1881:500). Whatever the fate of the house, more than 1000 acres of woodland were apparently burned. After the war, General Morris returned to restore the house and grounds west of Mill Brook where, according to Wilkinson, he remained until his death in 1798 (Wilkinson 1966:56-57).

After passing through several other Morris heirs, Henry M. Morris sold a tract of land in 1865 that included the project site to Clarence S. Brown, a Wall Street banker (LD 1865 122:43; NYC Directory 1870). Lewis Brown, an heir and possibly Clarence's son, leased the manor house site, and perhaps the house itself, to various amusement park proprietors. Brown and others, probably family members, sold their land west of Mill Brook to the New York, New Haven and Hartford Railroad in various transactions between 1882 and 1892 (LD 1904 38:283). A structure believed to be the old manor house was demolished in 1891 (e.g., Jenkins 1912:360; Wilkinson 1966:44).

The Honorable Gouvernor Morris Residence

In 1799, Gouvernor Morris built a mansion house "on the foundation of that in which I was born and in which my parents died" (Morris II 1888:419). Based on surveys from 1816 (Randel 1816; Figure 3.5-4) and 1850 (Findlay in Robinson 1888; Figure 3.5-5), this somewhat austere (e.g., Bolton 1848:313), 130-foot stone house with three wings was located east of Mill Brook, just south of East 130th Street and west of Cypress Avenue. Over time, only the central area of this building survived and was the home of Morris's son, Gouvernor II, at least through 1848 (Bolton 1848:315). The fate of the house is unknown, but it appears to have been demolished sometime after 1850.

Gouvernor Morris II Residence

Based on the aforementioned surveys and subsequent map data (e.g. Bromley 1879; Robinson 1885; Robinson 1897), it appears that Gouvernor Morris II built, or refurbished, yet another residence just northeast of his father's house sometime before 1850 when both his home and his father's mansion appear on the same survey (Findlay 1850; Figure 3.5-5). This second house may erroneously be considered the mansion built by his father years before even though this building was of brick (Perris & Browne 1873) and his father's of stone (e.g., Bolton 1848:313). Nineteenth and early 20th-century drawings and photographs of Gouverneur II's house raise further questions since its style, which is Dutch colonial, dates to the 1760s (Dolkart 1992:personal communication; McAllister 1991:112ff, 336ff), almost 100 years before it is first documented on a map.

The house and all the land comprising the project site between Mill Brook and Willow Avenue was sold by the trustees to the New York New Haven and Hartford Railroad in 1905 (LD 45:25, 27, 30, 31, 152). The former family home was then under lease (LD 1905 45:30), but its occupant is unknown. It was demolished later in that year (Wilkinson 1966:44).

Development of the Site for Rail Use

Gouverneur Morris II was active in promoting development of Bronx commerce and real estate, and was a principal agent in bringing rail transportation to Westchester County (Scharf 1886:478). In 1840, he sold a railroad right-of-way across his Morrisania land, having prepared the way by surveying and grading the area (LD 1840 20:265). Since Morris charged the railway company $1,350 in damages paid to the "lessee on the farm," this deed tells us that at least some of the property was then farmed by a tenant, or tenants. It also tells us that it had undergone its first episode of grading. Although the deed stipulated that the railroad was to be built within a year, it was not until 1873, when the New York, New Haven & Hartford Railroad Company leased the right-of-way and laid track, that a railroad crossed the site (Scharf 1886:480; Wells et al 1927:768).

By the 1870s, the character of the area--once praised for its quiet pastoral scenes and spectacular views of Hell Gate and Randalls Island (Bolton 1881:490)--was changing, at least in part because of the commercial development planned and promoted by Gouverneur Morris II. In company with other Bronx investors, he established the Port Morris Land and Improvement Company in order to develop the waterfront just northeast of the project site as a major seaport. Morris sold numerous properties to the Port Morris Land and Improvement Company beginning in 1868 (miscellaneous transactions made in 1868; see Table 3.5-1). About the time of the 1873 opening of the rail line across the Morris homestead property, the marshland to the east was apparently filled (e.g., Bromley 1879), undoubtedly in connection with this railroad building.

By 1904, the project site east of Willow Avenue had also been acquired by the New York, New Haven and Hartford Railroad. This company had subsumed the Harlem River and Portchester line in 1873 Scharf I 1886:480) and bought additional land from the Port Morris Land and Improvement Company (see LD 1890 2274:454, and LD 1904 38:283 for recitations).

3.6 Transportation

3.6.1 Traffic

Local Street Network

The Harlem River Yards project site, located at the southern tip of the Bronx, is bounded by the Bronx Kill and Harlem River on the south, East 132nd Street on the north, Lincoln Avenue on the west, and the southerly extension of Rose Feiss Boulevard - Walnut Avenue on the east. The site is presently vacant although unused freight rail lines are located on the property.

Access to the site is provided by major expressways in conjunction with local arterials. The Major Deegan Expressway provides access from the west Bronx, the George Washington Bridge (New Jersey), and Westchester County while the Bruckner Expressway provides access from the Triborough, the Whitestone and the Throgs Neck Bridges, the east Bronx, and New England. Other principal arterials within the primary and secondary impact areas include: Third Avenue, Alexander Avenue, Willis Avenue, St. Ann's Avenue, East 135th Street and Bruckner Boulevard. Traffic flow directions, signalized intersections, and truck routes in the study area are shown in Figure 3.6-1.

For the purposes of this study, the primary traffic study area extends from the northern project boundary at East 132nd Street to Bruckner Boulevard between Third Avenue and St. Ann's Avenue. The secondary study area extends from Bruckner Boulevard to East 135th Street, also between Third Avenue and St. Ann's Avenue.

Transportation characteristics in the study area are primarily commuter related during the AM and PM peak hours of travel although substantial delivery and service trips related to local area industrial and commercial business occur throughout the day. The commuter traffic is a mix of locally generated and regional trips that use the Triborough Bridge and

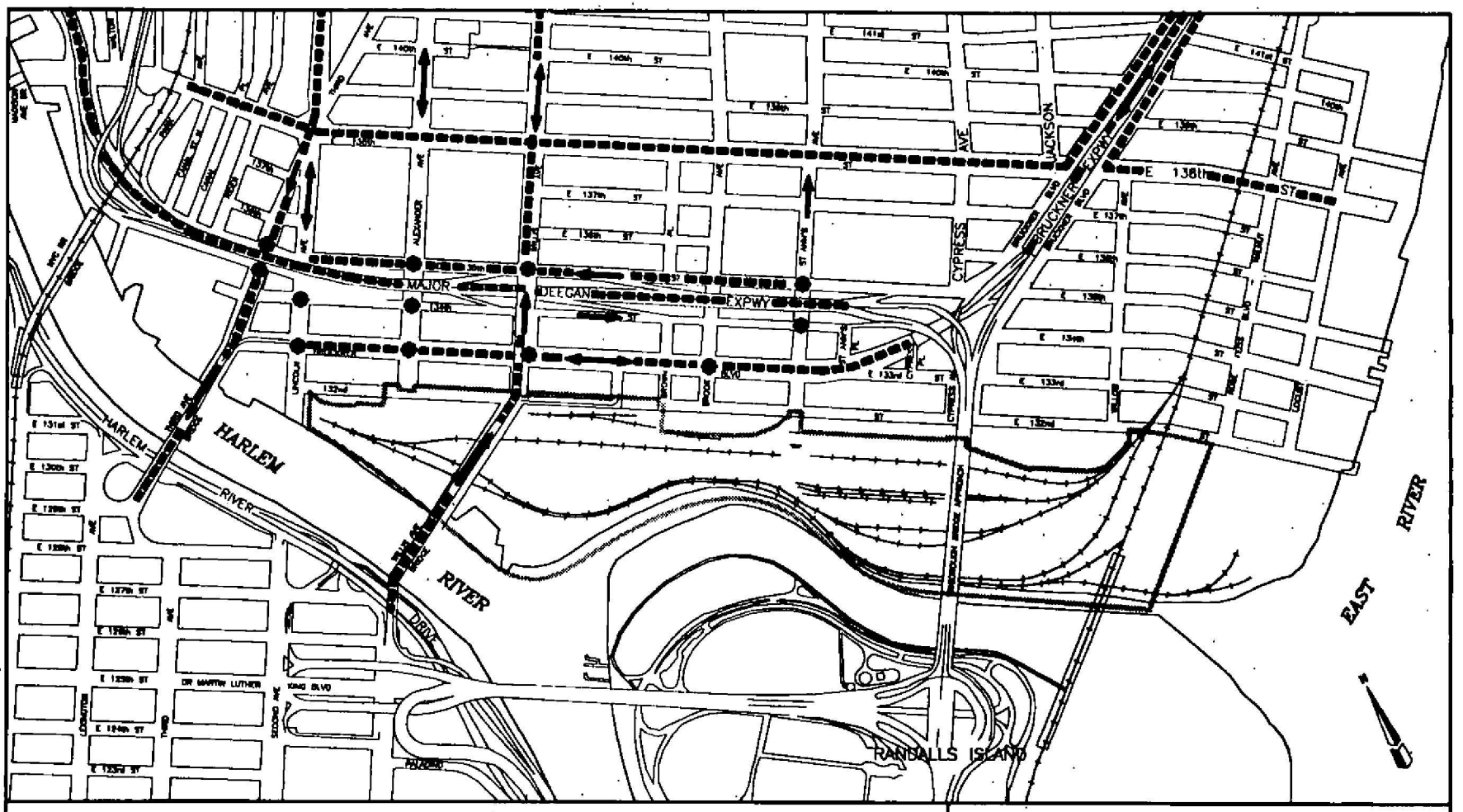
the Third Avenue Bridge and the Willis Avenue Bridge crossings of the Harlem River for destinations in Manhattan, Queens and Long Island.

Third Avenue is an important southbound arterial through the study area. It is a one-way road with six travel lanes in the southbound direction with parking provided on both sides. It provides direct access to the Third Avenue Bridge into Manhattan. Within the study area, the land use along Third Avenue is primarily commercial. Traffic operation is relatively smooth.

Lincoln Avenue provides alternative access to the Third Avenue Bridge via Bruckner Boulevard. It is a two-way roadway with one travel lane in each direction. Parking is permitted on both sides. Land uses along this road within the study area consist of industrial developments south of East 135th Street. North of East 135th Street, a large residential housing development and commercial land uses abut the roadway. Traffic operation is relatively smooth with some double parking observed at residential buildings. Lincoln Avenue provides direct access to the project site.

Alexander Avenue is a north-south arterial through the study area. It is a two-way road with one travel lane in each direction and parking on both sides. Mainly industrial land uses exist between East 135th Street and the project site; residential uses exist between East 135th Street and East 138th Street. Traffic movement on this roadway within the study area is unconstrained. However, double parking occurs in the residential area.

St. Ann's Avenue is a two-way road with one travel lane in each direction. It is an important north-south arterial that provides direct access to the project site. It links the project site with the commercial activities east along East 138th Street. Land use along St. Ann's Avenue within the study area is mainly industrial. Traffic operations on this road are relatively smooth with interruptions only at the signalized intersections. However, constrained operations occur at the Bruckner Boulevard intersection.



Legend

- Property Boundary
- Signalized Intersection
- Truck Route
- Traffic Direction

FEET

HARLEM RIVER YARD VENTURES INC.
INTERMODAL TRANSPORTATION AND DISTRIBUTION CENTER

LOCAL STREET NETWORK

DATE: DEC 15, 1992

TAMS CONSULTANTS, Inc.

Figure 3.6-1

East 135th Street is a westbound one-way road two to four travel lanes wide that serves as the service road to the northbound Major Deegan Expressway. Land use along the north side of the road is residential within the study area. Traffic operation is relatively smooth. However, constrained operation occurs at the Willis Avenue intersection.

Bruckner Boulevard is an important arterial that provides local street access to Manhattan via the Third Avenue Bridge and Willis Avenue Bridge one-way couplet. It is a two-way road with two travel lanes in each direction and parking on both sides. Direct access into the project site is available at the Bruckner Boulevard intersections with St. Ann's and Lincoln Avenues. Land use along this road within the study area is mainly industrial. Traffic generally experiences constrained operation in the east-west directions at the signalized intersections.

Local Truck Network

Due to the manufacturing and industrial land uses within the study area, existing truck volumes are heavy throughout the day. A system of local and through truck routes provide for the circulation of these trucks around the project site.

Local truck routes designated by the NYC Department of Transportation provide for local truck circulation within the project area. These routes include the following:

- Bruckner Boulevard between Third Avenue and Willis Avenue;
- Bruckner Boulevard north of East 138th Street;
- East 138th Street;
- East 149th Street;
- Third Avenue;
- Willis Avenue.

Designated through truck routes provide for truck circulation between the project area and the rest of the Bronx and outlying areas. These routes (Figure 3.6-1) include the following:

- Major Deegan Expressway;
- Third Avenue Bridge;
- Willis Avenue Bridge;
- Willis Avenue south of East 135th Street;
- Bruckner Boulevard between Willis Avenue and East 138th Street;
- Bruckner Expressway.

Truck cordon studies completed in 1987 by the Port Authority of New York and New Jersey (1987 Truck Cordon Report) found that 35,000 trucks enter (one-way trips) the 17 county New York-New Jersey region on a typical weekday. The region includes New York City, Long Island, the northern and central counties of New Jersey, and the southernmost counties of New York and Connecticut.

Approximately 13 percent (4,700) of these one-way truck trips have destinations within New York City; approximately 1,000 trucks have destinations in the Bronx using the regional highway system. These truck volumes do not include truck traffic generated inside the 17-county New York-New Jersey region.

Existing truck percentages range as high as 36 percent within the study area. Table 3.6-1 provides truck percentage and volumes for each intersection approach studied.

TABLE 3.6-1
EXISTING TRUCK PERCENTAGES AND VOLUMES

Approach	AM Peak		Off Peak		PM	
	Truck Percent	Truck Volume	Truck Percent	Truck Volume	Truck Percent	Truck Volume
E. 135th St. & Third Ave.						
WB	3	62	2	28	2	37
SB	4	30	4	24	8	52
E. 135th St. & Alexander Ave.						
WB	7	159	3	48	6	120
NB	36	20	21	13	24	26
SB	24	17	6	5	6	5
Bruckner Blvd. & Alexander Ave.						
EB	27	20	24	25	12	11
WB	6	134	6	74	5	65
NB	36	5	0	0	33	1
SB	24	50	15	27	3	8
E. 135th St. & Willis Ave.						
WB	2	44	8	121	3	59
NB	4	15	4	20	1	3
SB	0	0	20	14	16	15
Bruckner Ave. & Willis Ave. Bridge Exit Ramp						
EB	21	24	15	33	7	16
WB	17	283	9	65	2	16
NB	8	100	12	195	5	106
Bruckner Blvd. & Willis Ave.						
EB	16	14	9	16	16	22
WB	24	403	7	52	6	48
NB	0	0	0	0	0	0
SB	5	31	5	29	3	19

TABLE 3.6-1
EXISTING TRUCK PERCENTAGES AND VOLUMES

Approach	AM Peak		Off Peak		PM	
	Truck Percent	Truck Volume	Truck Percent	Truck Volume	Truck Percent	Truck Volume
E. 135th St. & St. Ann's Ave.						
WB	10	34	8	15	4	10
NB	4	8	8	20	10	32
SB	8	6	4	4	0	0
E. 134th St. & St. Ann's Ave.						
EB	8	19	8	21	8	28
NB	24	26	12	18	4	6
SB	25	26	18	20	7	8
Bruckner Blvd & St. Ann's Ave.						
EB	12	163	11	199	6	140
WB	16	272	7	47	7	53
NB	26	17	30	36	0	0
SB	21	28	24	36	12	21
Major Deegan Serv. Rd & Third Ave.						
EB	10	78	4	25	5	34
NB	2	1	2	1	2	1
SB	4	108	3	56	5	109
Bruckner Blvd & Lincoln Ave.						
EB	2	1	2	1	2	1
WB	8	189	3	39	3	43
NB	0	0	0	0	0	0
SB	8	45	5	16	9	37

Traffic Characteristics

Twenty-four hour automatic traffic recorder (ATR) counts were taken at six locations. Five locations were counted for 24 hours between September 28th and October 1st, 1992 and one control station was counted for seven days (September 28 to October 4, 1992). A review of ATR data confirmed the weekday peak travel periods to be 7:00 to 9:00 AM and 4:00 - 6:00 PM. Typical weekday volumes are shown in Table 3.6-2. ATR count locations are shown in Figure 3.6-2.

Turning movement and vehicle classification counts were conducted at twelve locations. These counts were performed for a continuous 12-hour period (6:00 AM - 6:00 PM) during three typical mid-week weekdays during October 1992. Figure 3.6-2 shows the traffic count locations.

Each of the signalized intersections counted was also inventoried to identify those parameters used to determine the capacity of the intersection and its approaches, as specified in the 1985 Highway Capacity Manual (HCM).

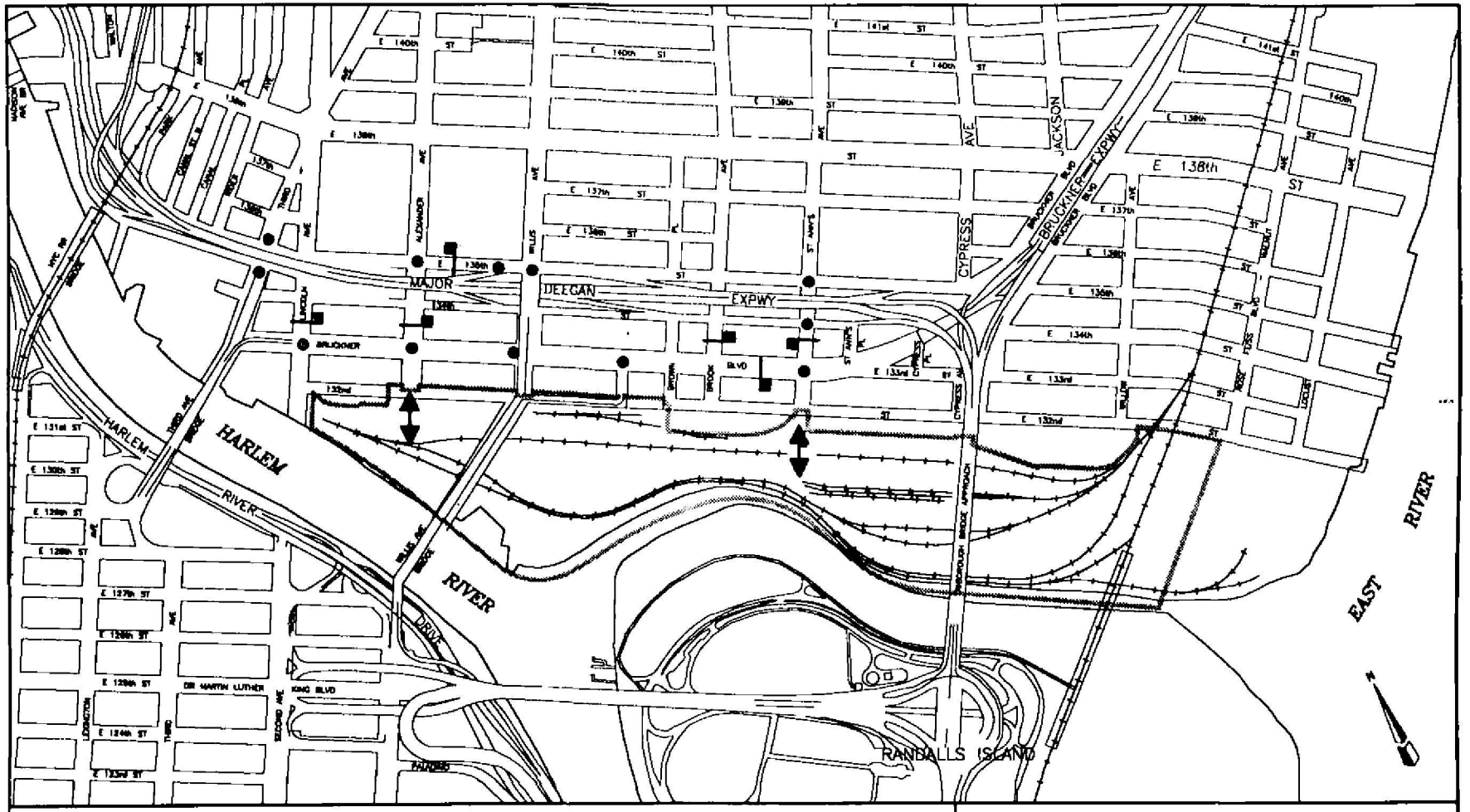
Specifically, each traffic signal was inventoried for its cycle length, phasing (green time allocated for each movement) and progression (to determine the traffic "arrival type"). Geometric conditions of the intersection, such as street widths, lane widths, and crosswalk widths, were also recorded. General operating conditions were also observed. These include posted parking regulations, number of parking maneuvers by vehicles during peak periods, impacts on traffic made by local buses making stops, and pedestrian interference with traffic movements.

TABLE 3.6-2

24 HOUR TRAFFIC VOLUMES RECORDED IN STUDY AREA

LOCATION	AVERAGE DAILY VOLUME	
Lincoln Avenue Between Bruckner Blvd and East 134th Street	NB 794	SB 4,333
Alexander Avenue Between Bruckner Boulevard and East 134th Street	NB 1,329	SB 3,032
East 135th Street Between Alexander Avenue and Willis Avenue	–	WB 28,203
Brook Avenue Between Bruckner Boulevard and East 134th Street	–	SB 5,990
St. Ann's Avenue Between Bruckner Boulevard and East 134th Street	NB 2,587	SB 2,693
Bruckner Boulevard Between Brook Avenue and St. Ann's Avenue	EB 34,082	WB 7,290
Bruckner Boulevard (7 Day Average) Between Brook Avenue and St. Ann's Avenue	EB 32,302	WB 6,926

Based on ATR Volumes recorded between September 28th and October 4th, 1992 by TAMS Consultants, Inc.



HARLEM RIVER YARD VENTURES INC.
INTERMODAL TRANSPORTATION AND DISTRIBUTION CENTER

ATR LOCATIONS – TURNING MOVEMENT/VEHICLE CLASSIFICATION COUNT LOCATIONS

DATE: DEC 16, 1992

TAMS CONSULTANTS, Inc.

Figure 3.6-2

Capacity Analysis

Capacities for the signalized intersections were calculated using the methodology described in the 1985 HCM. All of the analyses were conducted using the Highway Capacity Software Version 1.5.

Signalized Intersection Capacity and Level-of-Service

The quality of traffic flow through a signalized intersection is commonly described by two measures, the volume/capacity (V/C) ratio and level of service (LOS). The methodology in the 1985 HCM for signalized intersections differs significantly from the procedures used in earlier manuals, such as the 1965 HCM and the Transportation Research Board (TRB) Circular 212 (1980). The 1965 HCM was published as a guide for the design and operational analysis of highway facilities. Signalized urban intersections were evaluated in terms of volume to capacity ratios. The TRB Circular 212 was a collection of interim materials distributed prior to the publication of a revised HCM. This document introduced the analytical concept of evaluating "critical movements" for an entire signalized urban intersection. The critical movement is defined as that traffic movement requiring the most amount of green time during a particular phase of a signal cycle.

In the 1985 HCM, the definition of level of service for signalized intersections is not directly related to the computation of v/c ratios. Instead, level of service is defined by the "average stopped delay" time per vehicle for various movements within the intersection (see Table 3.6-3 for the level of service criteria expressed in terms of average stopped delay).

In the 1985 HCM, a poor level of service does not necessarily indicate that the intersection is approaching saturation (i.e., has high v/c ratio). Even at moderate v/c ratios, a poor level of service can occur because of a combination of factors such as a long signal cycle, an inappropriate allocation of green times for various traffic movements, and/or an unbalanced progressive timing of traffic signals on the approaches to the intersection. Thus,

TABLE 3.6-3

TRAFFIC LEVEL OF SERVICE DEFINITIONS
FOR SIGNALIZED INTERSECTIONS

LOS	Description
A	Level A describes operations with very low delay, i.e., less than 5.0 seconds per vehicle. This occurs when progression is extremely favorable, and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
B	Level B describes operations with delay in the range of 5.1 to 15.0 seconds per vehicle. This generally occurs with good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of average delay.
C	Level C describes operations with delay in the range of 15.1 to 25.0 seconds per vehicle. These higher delays may result from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear in this level, although many still pass through the intersection without stopping.
D	Level D describes operations with delay in the range of 25.1 to 40.0 seconds per vehicle. At Level D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high v/c ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	Level E describes operations with delay in the range of 40.1 to 60.0 seconds per vehicle. This is considered to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent occurrences.
F	Level F describes operations with delay in excess of 60.0 seconds per vehicle. This is considered to be unacceptable to most drivers. This condition often occurs with over saturation, i.e., when arrival flow rates exceed the capacity of the intersection. It may also occur at high v/c ratios below 1.00 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.

Source: Transportation Research Board Special Report, 209, Highway Capacity Manual.

in evaluating signalized intersections it is necessary to consider both the level of service and the v/c ratio as two separate measures of the adequacy of intersection operations.

The 1985 HCM provides a methodology to determine capacity of signalized intersections for each lane group (i.e., one or more lanes of traffic at an intersection approach serving one or more traffic movements), approach and intersection as a whole. The capacity of an intersection is defined as the maximum rate of flow that may pass through the intersection under prevailing traffic conditions (vehicular and pedestrian), roadway conditions (geometry and lane use) and signalization conditions (signal timing, type of signal control, and an evaluation of signal progression on each approach).

Volume to capacity ratios are computed for individual movements, and a composite v/c ratio is computed for the sum of critical movements or lane groups within the intersection. The composite, or "critical v/c ratio" is useful in evaluating the overall operation of the intersection, but in some cases will not reveal problems of poor signal timing.

Based on the computed capacity and on observed traffic flow characteristics, an estimate of delay time can be made using the 1985 HCM procedures. The estimates of delay are subsequently translated into levels of service, according to criteria provided in the 1985 HCM.

For the existing conditions, four time periods were analyzed, the AM peak (8AM-9AM), PM peak (5PM-6PM), AM off-peak (11AM-12 noon,) and PM off-peak (1PM-2PM). The balanced volumes of traffic traveling on specific study area intersections during each of these analysis periods is shown in Figures 3.6-3 to 3.6-8. Table 3.6-4 provides a summary of intersection approach volume, volume/capacity ratios, stopped delay and approach level of service for the analyzed intersections for all four time periods. Following is a brief description of each intersection and its existing operational characteristics.

TABLE 3.6-4
SUMMARY OF LOS ANALYSIS - EXISTING CONDITIONS

Intersection	AM Peak Hour				PM Peak Hour			
	Appr. Volume	V/C Ratio	Stopped Delay	LOS	Appr. Volume	V/C Ratio	Stopped Delay	LOS
E. 135th St. & Third Ave.								
WB L	1950	0.907	19.8	C	1545	0.916	20.6	C
WB LT	120	0.913	20.3	C	280	0.930	22.2	C
SB TR	755	0.303	26.2	D	655	0.297	26.1	D
Overall:		0.736	21.9	C		0.747	22.8	C
E. 135th St. & Alexander Ave.								
WB LTR	2270	0.858	12.6	B	2000	0.730	10.5	B
NB L	30	0.071	7.6	B	60	0.113	7.7	B
NB T	25	0.050	7.5	B	50	0.075	7.6	B
SB TR	70	0.092	7.6	B	85	0.133	7.8	B
Overall:		0.489	12.3	B		0.443	10.2	B
Bruckner Blvd. & Alexander Ave.								
EB L	20	0.751	40.1	E	15	0.360	9.4	B
EB TR	55	0.106	6.9	B	80	0.137	7.0	B
WB LTR	2140	1.080	59.8	E	1290	0.608	10.7	B
NB LTR	15	0.024	20.9	C	10	0.019	20.9	C
SB LTR	210	0.286	23.0	C	225	0.285	22.9	C
Overall:		0.808	54.0	E		0.498	12.3	B
E. 135th St. & Willis Ave.								
WB TR	2210	0.932	16.2	C	1950	0.925	15.7	C
NB L	65	0.192	27.5	D	75	0.211	27.7	D
NB T	300	0.423	29.4	D	265	0.356	28.8	D
SB R	45	0.078	26.7	D	95	0.172	27.4	D
Overall:		0.803	18.2	C		0.780	17.8	C
Bruckner Blvd. & Willis Ave. Exit Ramp								
EB T	115	0.271	30.9	D	235	0.398	31.9	D
WB T	1565	0.777	8.0	B	800	0.331	3.8	A
NB L	15	0.058	29.5	D	20	0.066	29.6	D
NB R	1240	0.678	7.3	B	2090	0.971	20.9	C
Overall:		1.130	8.9	B		1.002	17.6	C
Bruckner Blvd. & Willis Ave.								
EB L	15	0.298	8.8	B	25	0.121	6.9	B
EB TR	75	0.074	6.7	B	115	0.121	6.9	B
WB LTR	1580	0.913	19.8	C	800	0.440	8.9	B
NB LTR	10	0.020	20.9	C	10	0.040	21.0	C
SB LTR	625	0.722	29.0	D	640	0.742	29.5	D
Overall		0.848	21.7	C		0.543	16.7	C

TABLE 3.6-4
SUMMARY OF LOS ANALYSIS - EXISTING CONDITIONS

Intersection	AM Peak Hour				PM Peak Hour			
	Appr. Volume	V/C Ratio	Stopped Delay	LOS	Appr. Volume	V/C Ratio	Stopped Delay	LOS
E. 135th St. & St. Ann's Ave.								
WB LTR	340	0.262	10.1	B	255	0.166	9.7	B
NB LTR	210	0.155	5.4	B	320	0.228	5.7	B
SB TR	80	0.065	5.1	B	100	0.094	5.2	B
Overall:		0.199	8.0	B		0.203	7.1	B
E. 134th St. & St. Ann's Ave.								
EB L	140	0.299	11.9	B	205	0.448	12.9	B
EB TR	100	0.194	11.4	B	145	0.282	11.8	B
NB TR	110	0.073	4.1	A	150	0.106	4.2	A
SB LT	105	0.079	4.2	A	115	0.085	4.2	A
Overall:		0.157	7.8	B		0.227	8.4	B
Bruckner Blvd. & St. Ann's Ave.								
EB L	10	0.194	7.5	B	90	1.246	*	F
EB TR	1345	1.270	*	F	2235	1.246	*	F
WB L	50	1.000	109.9	F	5	0.093	6.8	B
WB TR	1550	1.511	*	F	755	0.690	12.5	B
NB LTR	65	0.092	21.4	C	70	0.094	21.4	C
SB L	75	0.205	22.3	C	115	0.325	23.4	C
SB TR	60	0.155	21.9	C	60	0.155	21.9	C
Overall:		1.065	*	F		0.931	*	F
Major Deegan Service Rd. and Third Avenue								
EB TR	775	0.889	33.5	D	680	0.660	25.1	D
NB R	5	0.011	8.0	B	10	0.023	8.0	B
SB L	5	0.006	7.9	B	10	0.012	8.0	B
SB T	2690	0.578	12.1	B	2165	0.511	11.4	B
Overall:		0.698	17.2	C		0.569	14.4	B
Bruckner Blvd. & Lincoln Ave.								
EB TR	10	0.012	4.1	A	15	0.017	4.1	A
WB LTR	2260	1.054	42.9	E	1420	0.665	7.7	B
NB L	5	0.047	18.1	C	5	0.062	18.2	C
NB TR	10	0.036	18.0	C	25	0.062	18.2	C
SB LTR	560	0.769	25.7	D	415	0.579	22.0	C
Overall:		0.970	39.1	D		0.640	11.1	B

Note: When the V/C ratio exceeds 1.2, the stopped delay calculation is meaningless.

TABLE 3.6-4 (continued)
SUMMARY OF LOS ANALYSIS - EXISTING CONDITIONS

Intersection	AM Off-Peak Hour				PM Off-Peak Hour			
	Appr. Volume	V/C Ratio	Stopped Delay	LOS	Appr. Volume	V/C Ratio	Stopped Delay	LOS
E. 135th St. & Third Ave.								
WB L	1450	0.713	10.7	B	1235	0.627	9.1	B
WB LT	145	0.719	10.9	B	115	0.623	9.2	B
SB TR	535	0.210	25.4	D	585	0.250	25.7	D
Overall:		0.572	14.8	B		0.522	14.8	B
E. 135th St. & Alexander Ave.								
WB LTR	1730	0.628	9.5	B	1525	0.537	8.8	B
NB L	25	0.054	7.5	B	20	0.062	7.5	B
NB T	25	0.045	7.5	B	40	0.062	7.5	B
SB TR	55	0.093	7.6	B	75	0.061	7.5	B
Overall:		0.370	9.3	B		0.308	8.7	B
Bruckner Blvd. & Alexander Ave.								
EB L	15	0.289	8.6	B	15	0.461	12.6	B
EB TR	75	0.082	6.8	B	85	0.155	7.1	B
WB LTR	1170	0.631	11.0	B	1190	0.629	11.0	B
NB LTR	15	0.025	20.9	C	15	0.032	21.0	C
SB LTR	210	0.342	23.5	C	175	0.260	22.8	C
Overall:		0.532	13.0	B		0.505	12.3	B
E. 135th St. & Willis Ave.								
WB TR	1710	0.694	8.2	B	1460	0.611	7.1	B
NB L	45	0.128	27.1	D	75	0.226	27.8	D
NB T	175	0.239	27.9	D	400	0.577	31.2	D
SB R	60	0.152	27.2	D	65	0.149	27.2	D
Overall:		0.578	11.1	B		0.602	13.8	B
Bruckner Blvd. & Willis Ave. Exit Ramp								
EB T	165	0.287	31.0	D	210	0.430	32.2	D
WB T	725	0.372	4.0	A	690	0.351	3.9	A
NB L	10	0.039	29.4	D	30	0.120	29.9	D
NB R	1110	0.606	6.5	B	1530	0.863	11.8	B
Overall:		0.756	7.7	B		0.936	11.7	B
Bruckner Blvd. & Willis Ave.								
EB LTR	125	0.127	7.0	B	175	0.130	7.0	B
WB LTR	735	0.510	9.6	B	720	0.392	8.6	B
NB LTR	10	0.033	21.0	C	10	0.020	20.9	C
SB LTR	535	0.675	28.0	D	560	0.701	28.5	D
Overall		0.566	15.6	C		0.498	16.0	C

TABLE 3.6-4 (continued)
SUMMARY OF LOS ANALYSIS - EXISTING CONDITIONS

Intersection	AM Off-Peak Hour				PM Off-Peak Hour			
	Appr. Volume	V/C Ratio	Stopped Delay	LOS	Appr. Volume	V/C Ratio	Stopped Delay	LOS
E. 135th St. & St. Ann's Ave.								
WB LTR	195	0.119	9.6	B	185	0.122	9.6	B
NB LTR	175	0.124	5.3	B	240	0.162	5.4	B
SB TR	85	0.075	5.2	B	100	0.075	5.2	B
Overall:		0.122	7.0	B		0.146	6.9	B
E. 134th St. & St. Ann's Ave.								
EB L	90	0.279	11.7	B	135	0.316	12.0	B
EB TR	120	0.279	11.7	B	115	0.242	11.6	B
NB TR	115	0.083	4.2	A	145	0.085	4.2	A
SB LT	105	0.122	4.3	A	105	0.083	4.2	A
Overall:		0.177	7.6	B		0.166	7.8	B
Bruckner Blvd. & St. Ann's Ave.								
EB LTR	1275	0.703	12.2	B	1740	1.194	127.0	F
WB L	5	0.458	9.2	B	5	0.096	6.8	B
WB TR	580	0.458	9.2	B	640	0.606	11.0	B
NB LTR	75	0.126	21.7	C	115	0.158	21.9	C
SB L	65	0.192	22.2	C	85	0.272	22.9	C
SB TR	65	0.174	22.0	C	60	0.163	22.0	C
Overall:		0.528	12.5	B		0.878	90.9	F
Major Deegan Service Rd. and Third Ave.								
EB TR	610	0.599	24.1	C	600	0.584	23.8	C
NB R	5	0.011	8.0	B	10	0.021	8.0	B
SB L	5	0.006	7.9	B	10	0.012	8.0	B
SB T	1945	0.466	10.9	B	1785	0.422	10.5	B
Overall:		0.518	13.8	B		0.484	13.5	B
Bruckner Blvd. & Lincoln Ave.								
EB TR	15	0.025	4.1	A	10	0.014	4.1	A
WB LTR	1285	0.649	7.5	B	1250	0.587	6.9	B
NB LTR	15	0.046	18.1	C	15	0.030	18.0	C
SB LTR	320	0.440	20.6	C	310	0.420	20.4	C
Overall:		0.587	10.1	B		0.537	9.7	B

Note: When the V/C ratio exceeds 1.2, the stopped delay calculation is meaningless.

- East 135th Street and Third Avenue - This intersection is controlled by a two-phase, 120-second cycle. Despite the heavy left turning volumes from westbound East 135th Street to the southbound Third Avenue Bridge, the intersection operates at LOS C during the AM and PM peaks and LOS B during the AM and PM off-peak. One-way operation of both streets that permits the unopposed left turns results in generally satisfactory operating conditions at this location.

- East 135th Street and Alexander Avenue - This intersection is controlled by a two-phase 60-second cycle. Operation of this intersection is satisfactory (LOS B) for all time periods. The one-way operation of East 135th Street and the short cycle length both help to lower overall stopped delay.

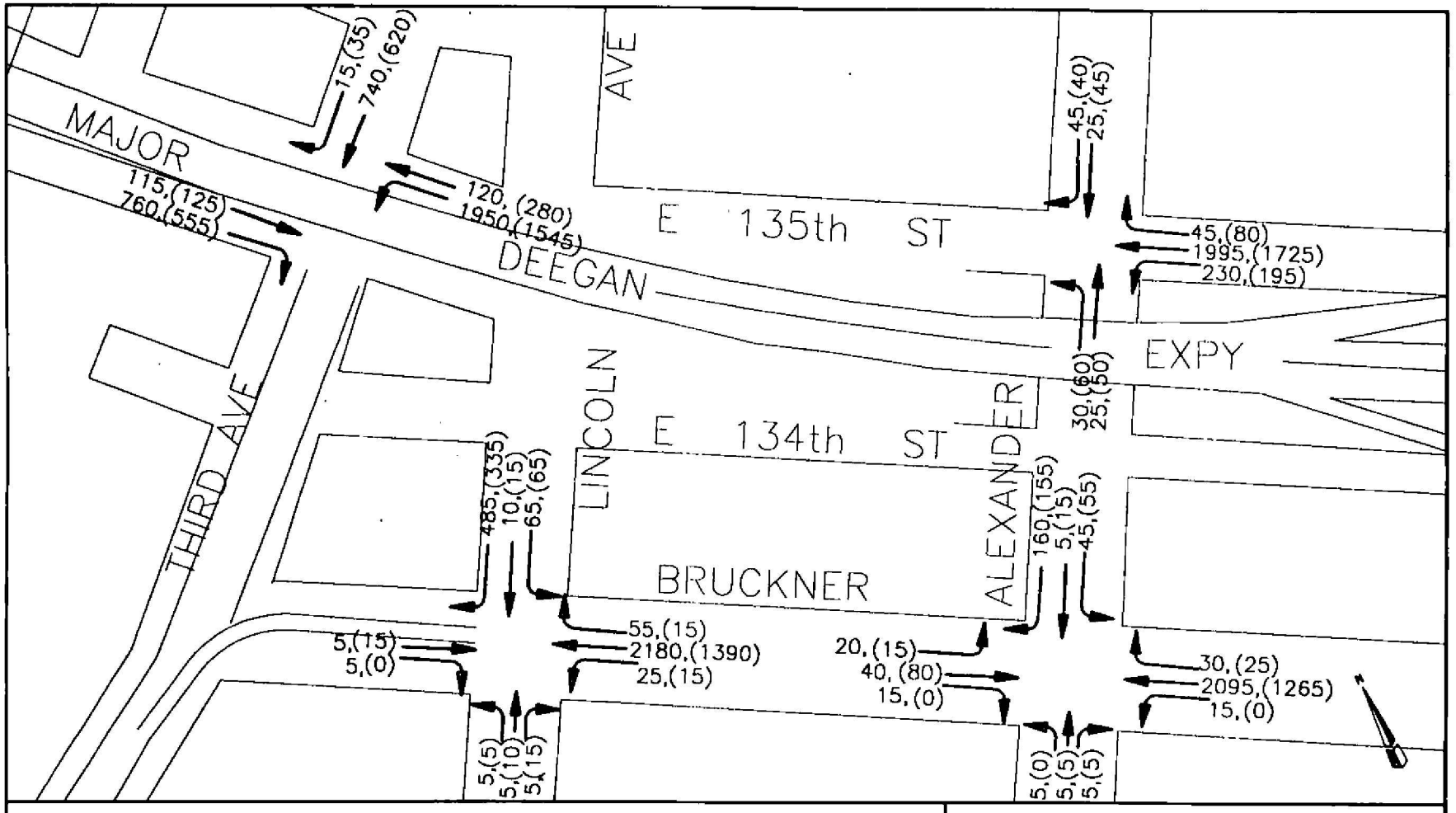
- Bruckner Boulevard and Alexander Avenue - This intersection is controlled by a two-phase, 120-second cycle. The intersection operates poorly (LOS E) during the AM peak due to a heavy westbound through movement on Bruckner Boulevard destined for the Third Avenue Bridge and Manhattan in the morning. During the other time periods, this volume is significantly lower and the intersection operates satisfactorily (LOS B).

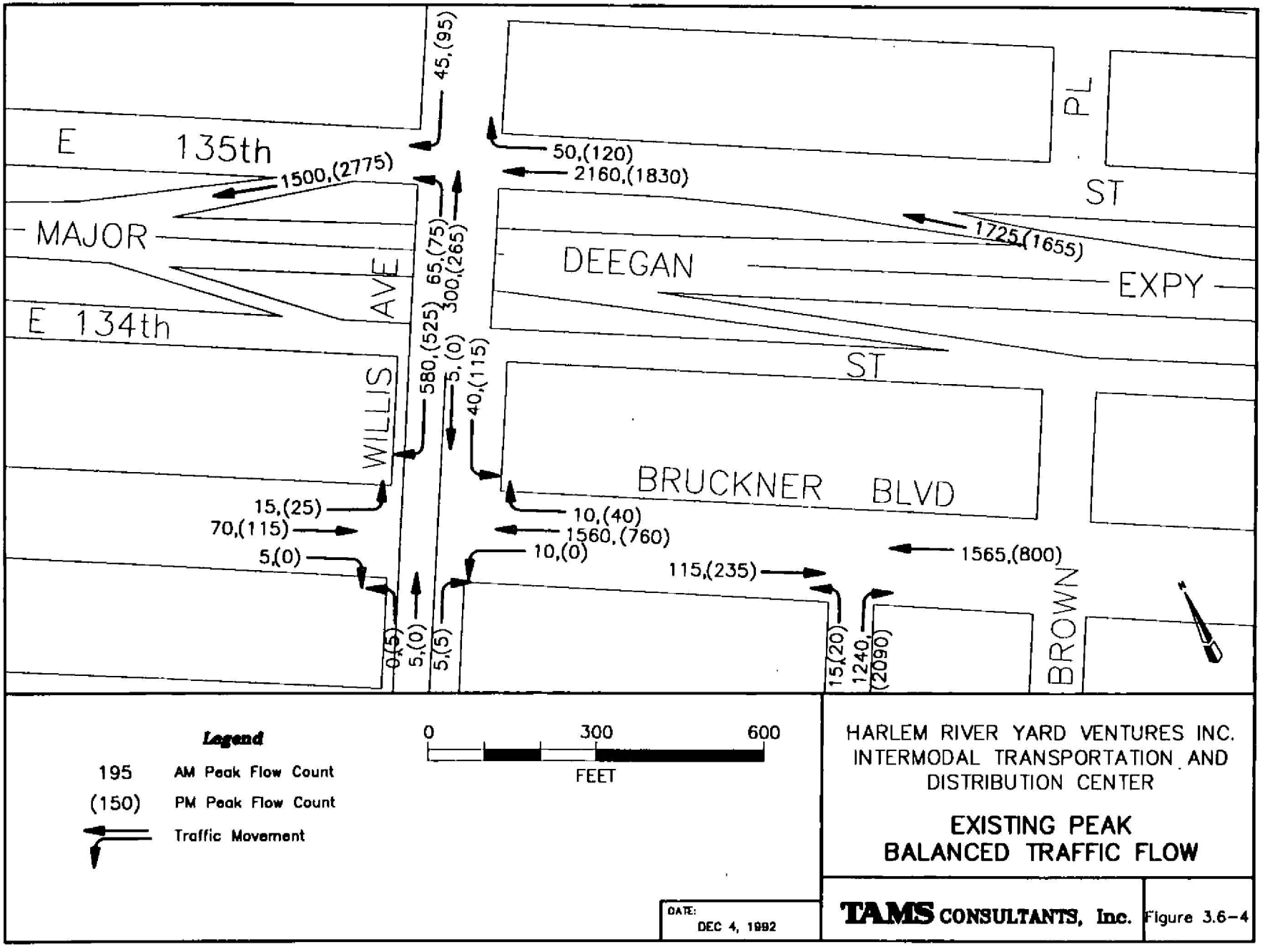
- East 135th Street and Willis Avenue - This intersection is controlled by a two-phase, 120-second cycle. The westbound approach experiences heavy volumes from vehicles destined for the northbound Major Deegan Expressway and the Third Avenue Bridge. The intersection can successfully accommodate this movement due to the one-way operation and low volumes on the two Willis Avenue approaches. The intersection operates at LOS C or better for all time periods.

  However, the operations of this intersection are at times seriously affected by merging backups at the entrance to the northbound Major Deegan Expressway immediately west of this intersection (see discussion below) which often extend into the intersection during peak periods. These conditions cannot be represented in the HCM analysis for this signalized intersection.

- Bruckner Boulevard and Willis Avenue Bridge Exit Ramp - This intersection is controlled by a three-phase, 120-second cycle. The intersection experiences its heaviest volumes during the PM peak when vehicles from the Willis Avenue Bridge and Manhattan use this intersection for access to the local street network. Overall, however, the intersection operates at LOS C or better during all time periods.

- Bruckner Boulevard and Willis Avenue - This intersection is controlled by a two-phase, 120-second cycle. The overall operation of the intersection is satisfactory for all but the AM peak. During this period a heavy westbound


MAJOR
DEEGAN
EXPY
E 135th ST
E 134th ST
LINCOLN
ALEXANDER
BRUCKNER
THIRD AVE
AVE
15,(35)
740,(620)
120, (280)
1950,(1545)
115,(125)
760,(555)
45,(40)
25,(45)
45,(80)
1995,(1725)
230,(195)
30,(60)
25,(50)
485,(335)
10,(15)
65,(65)
160,(155)
5,(15)
45,(55)
55,(15)
2180,(1390)
25,(15)
5,(15)
5,(0)
20,(15)
40,(80)
15,(0)
30,(25)
2095,(1265)
15,(0)
5,(5)
5,(10)
5,(15)
5,(0)
5,(5)
5,(5)
Legend
195 AM Peak Flow Count
(150) PM Peak Flow Count
Traffic Movement
0
300
600
FEET
HARLEM RIVER YARD VENTURES INC.
INTERMODAL TRANSPORTATION AND
DISTRIBUTION CENTER
EXISTING PEAK
BALANCED TRAFFIC FLOW
DATE:
DEC 3, 1992
TAMS CONSULTANTS, Inc.
Figure 3.6-3


E 135th
MAJOR
E 134th
WILLIS AVE
DEEGAN EXPY
ST
PL
ST
BRUCKNER BLVD
BROWN
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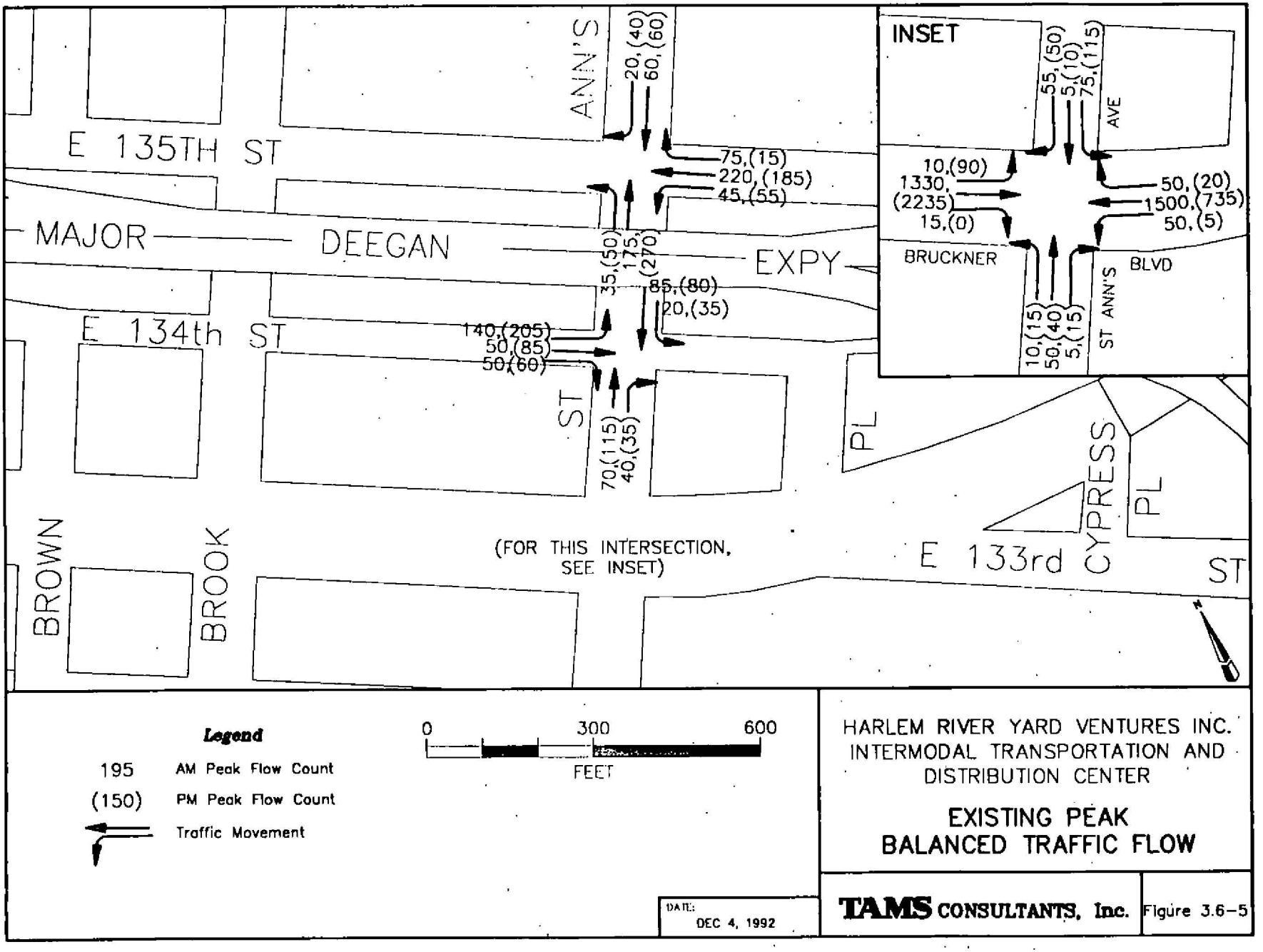
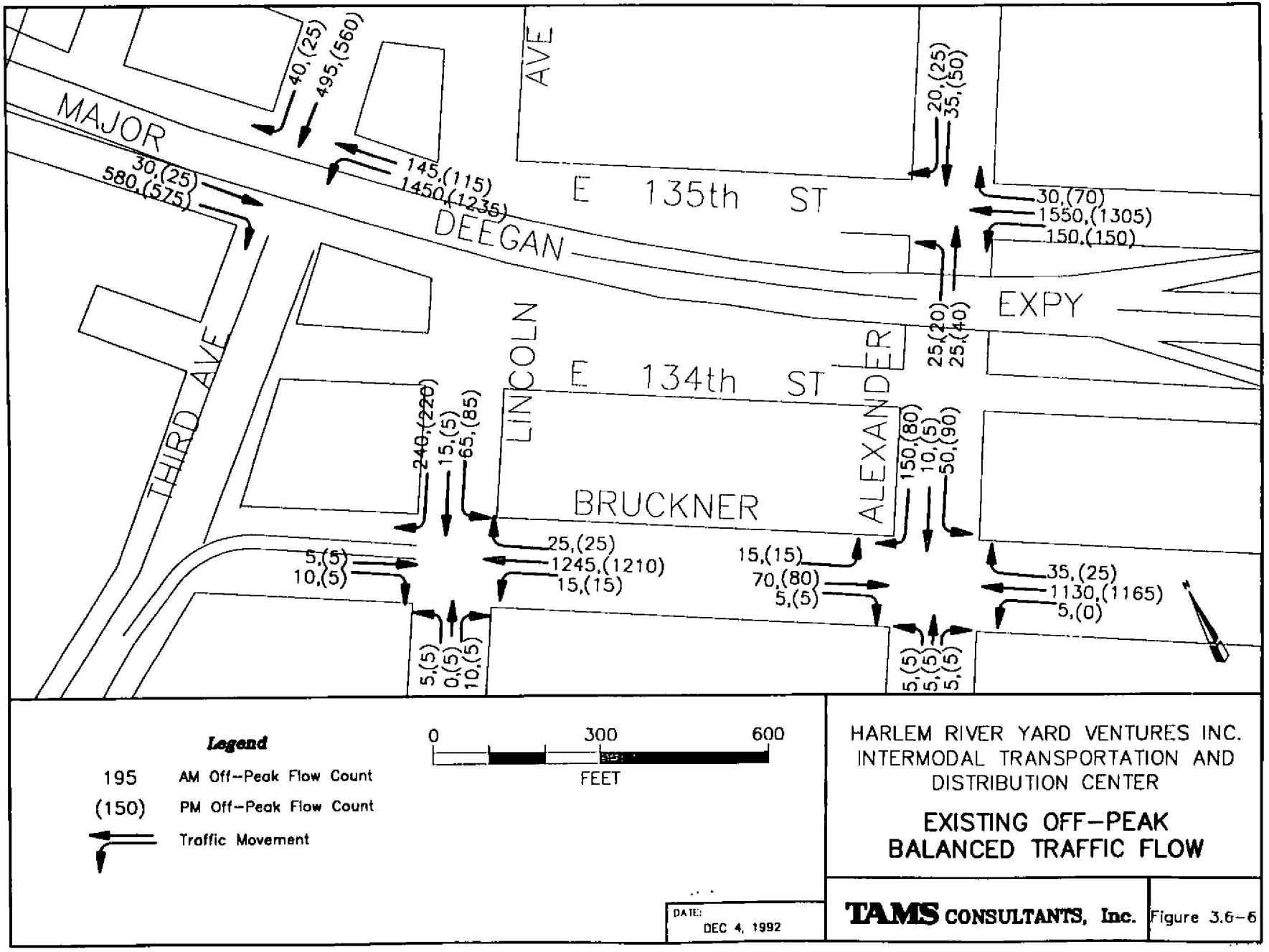
50,(120)
2160,(1830)
1500,(2775)
1725,(1655)
65,(75)
300,(265)
580,(525)
5,(0)
40,(115)
15,(25)
70,(115)
5,(0)
10,(40)
1560,(760)
10,(0)
115,(235)
1565,(800)
0,(5)
5,(0)
5,(5)
15,(20)
1240,(2090)
Legend
195 AM Peak Flow Count
(150) PM Peak Flow Count
Traffic Movement
0
300
600
FEET
HARLEM RIVER YARD VENTURES INC.
INTERMODAL TRANSPORTATION AND DISTRIBUTION CENTER
EXISTING PEAK
BALANCED TRAFFIC FLOW
DATE:
DEC 4, 1992
TAMS CONSULTANTS, Inc.
Figure 3.6-4


INSET
E 135TH ST
MAJOR DEEGAN EXPY
E 134th ST
BROWN
BROOK
ST ANN'S AVE
BRUCKNER BLVD
ST ANN'S PL
CYPRESS PL
E 133rd ST
20,(40)
60,(60)
75,(15)
220,(185)
45,(55)
35,(50)
175,(270)
85,(80)
20,(35)
140,(205)
50,(85)
50,(60)
70,(115)
40,(35)
55,(50)
5,(10)
75,(115)
10,(90)
1330,(2235)
15,(0)
50,(20)
1500,(735)
50,(5)
10,(15)
50,(40)
5,(15)
(FOR THIS INTERSECTION, SEE INSET)
Legend
195 AM Peak Flow Count
(150) PM Peak Flow Count
Traffic Movement
0 300 600
FEET
HARLEM RIVER YARD VENTURES INC.
INTERMODAL TRANSPORTATION AND DISTRIBUTION CENTER
EXISTING PEAK
BALANCED TRAFFIC FLOW
DATE: DEC 4, 1992
TAMS CONSULTANTS, Inc.
Figure 3.6-5


MAJOR DEEGAN EXPY
E 135th ST
E 134th ST
BRUCKNER
LINCOLN
ALEXANDER
THIRD AVE
AVE
40,(25)
495,(560)
145,(115)
1450,(1235)
30,(25)
580,(575)
20,(25)
35,(50)
30,(70)
1550,(1305)
150,(150)
25,(20)
25,(40)
240,(220)
15,(5)
65,(85)
150,(80)
10,(5)
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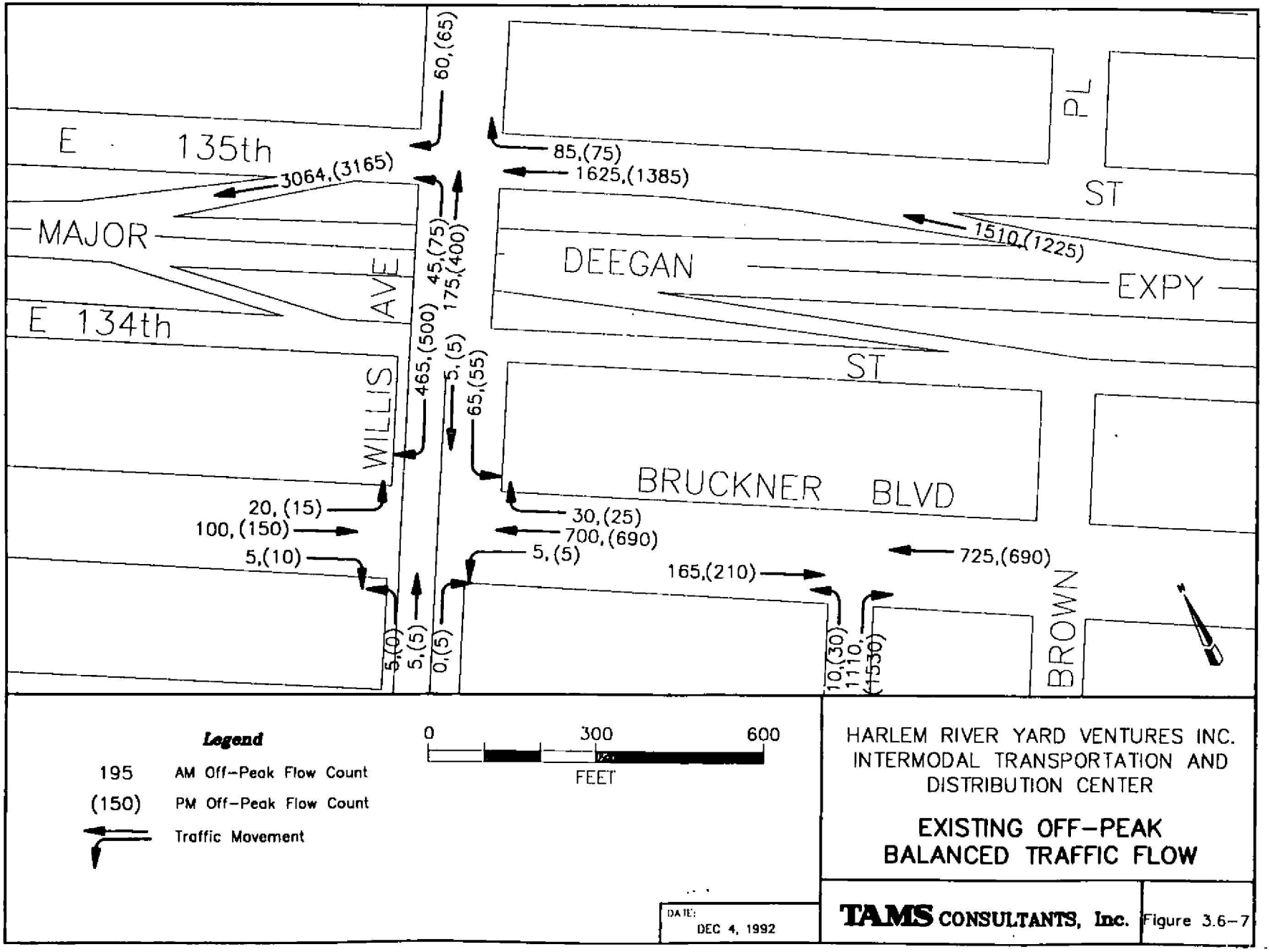
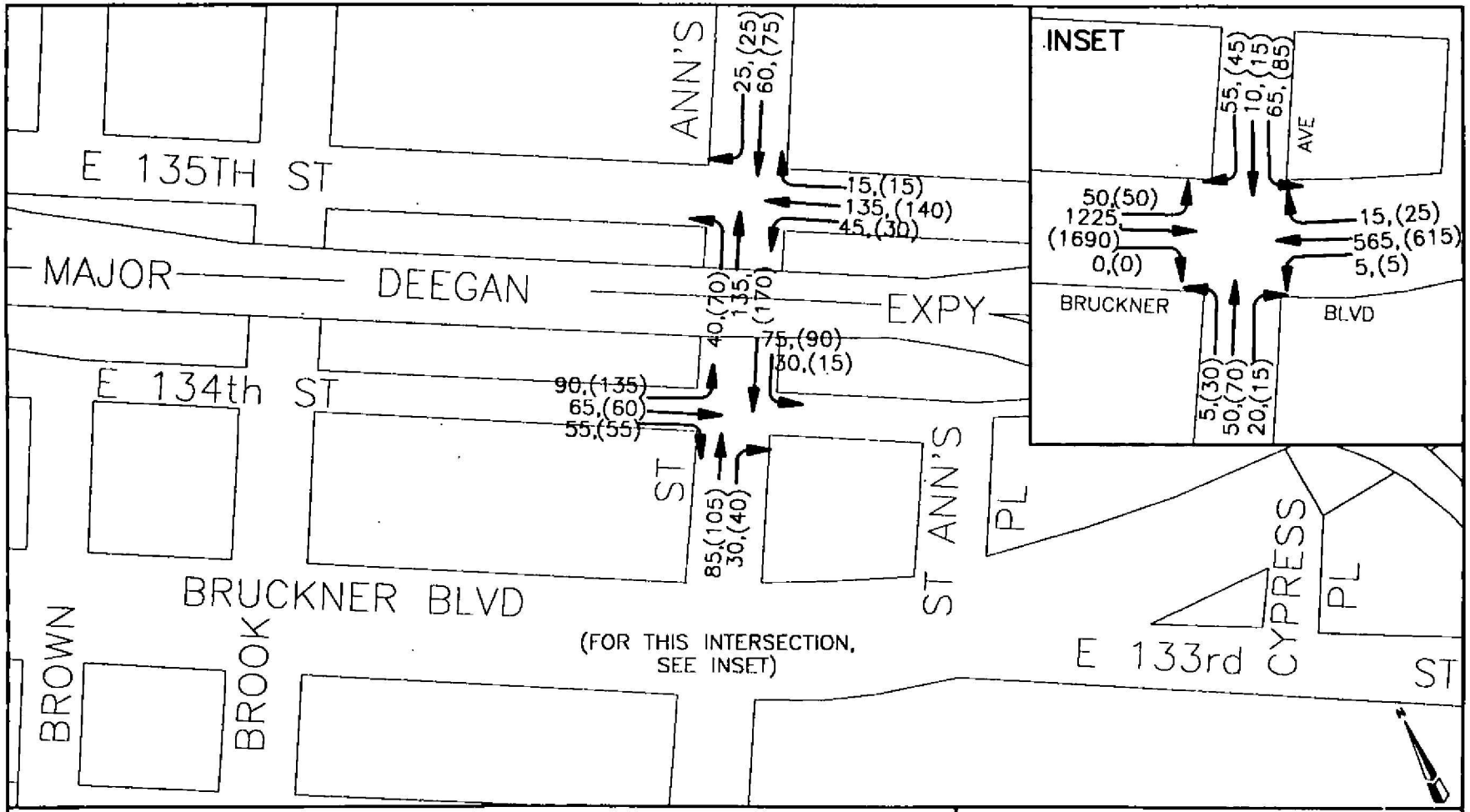
35,(25)
1130,(1165)
5,(0)
5,(5)
0,(5)
10,(5)
5,(5)
5,(5)
5,(5)
Legend
195 AM Off-Peak Flow Count
(150) PM Off-Peak Flow Count
Traffic Movement
0
300
600
FEET
HARLEM RIVER YARD VENTURES INC.
INTERMODAL TRANSPORTATION AND
DISTRIBUTION CENTER
EXISTING OFF-PEAK
BALANCED TRAFFIC FLOW
DATE:
DEC 4, 1992
TAMS CONSULTANTS, Inc.
Figure 3.6-6


E 135th
MAJOR
E 134th
WILLIS AVE
DEEGAN EXPY
BRUCKNER BLVD
ST
PL
BROWN
60,(65)
85,(75)
1625,(1385)
3064,(3165)
1510,(1225)
45,(75)
175,(400)
465,(500)
5,(5)
65,(55)
20,(15)
100,(150)
5,(10)
30,(25)
700,(690)
5,(5)
725,(690)
165,(210)
5,(0)
5,(5)
0,(5)
10,(30)
1110,(1530)
Legend
195 AM Off-Peak Flow Count
(150) PM Off-Peak Flow Count
Traffic Movement
0
300
600
FEET
HARLEM RIVER YARD VENTURES INC.
INTERMODAL TRANSPORTATION AND DISTRIBUTION CENTER
EXISTING OFF-PEAK BALANCED TRAFFIC FLOW
DATE: DEC 4, 1992
TAMS CONSULTANTS, Inc.
Figure 3.6-7


INSET
E 135TH ST
MAJOR DEEGAN EXPY
E 134th ST
BRUCKNER BLVD
BROOK
BROWN
ST ANN'S
ST
PL
CYPRESS
E 133rd ST
AVE
BRUCKNER BLVD
(FOR THIS INTERSECTION, SEE INSET)
25,(25)
60,(75)
15,(15)
135,(140)
45,(30)
40,(70)
135,(170)
75,(90)
30,(15)
90,(135)
65,(60)
55,(55)
85,(105)
30,(40)
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10,(15)
65,(85)
50,(50)
1225,(1690)
0,(0)
15,(25)
565,(615)
5,(5)
5,(30)
50,(70)
20,(15)
Legend
195 AM Off-Peak Flow Count
(150) PM Off-Peak Flow Count
Traffic Movement
0
300
600
FEET
HARLEM RIVER YARD VENTURES INC.
INTERMODAL TRANSPORTATION AND DISTRIBUTION CENTER
EXISTING OFF-PEAK BALANCED TRAFFIC FLOW
DATE: DEC 4, 1992
TAMS CONSULTANTS, Inc.
Figure 3.6-8

through movement on Bruckner Boulevard destined for the Third Avenue Bridge and Manhattan causes the intersection to degrade slightly to LOS C.

- East 135th Street and St. Ann's Avenue - This intersection is controlled by a two-phase, 60-second cycle. Because of light traffic volumes and a short cycle length, this intersection operates at a satisfactory LOS B during all time periods.

- East 134th Street and St Ann's Avenue - This intersection is controlled by a two-phase 60-second cycle. Low traffic volumes and a short cycle length result in satisfactory operation at this location (LOS B) for all time periods.

- Bruckner Boulevard and St. Ann's Avenue - This intersection is controlled by a two-phase, 120-second cycle. The operation of this intersection is the poorest of all study area intersections due to heavy volumes along both directions of Bruckner Boulevard. Breakdown conditions (LOS F) are experienced for all time periods with the exception of the AM off-peak.

- Major Deegan Service Road and Third Avenue - This intersection is controlled by a two-phase, 120-second cycle. The southbound through movement on Third Avenue is heavy from vehicles entering Manhattan via the Third Avenue Bridge. Despite the high volumes at this intersection, one-way operation on Third Avenue and the Service Road results in satisfactory operation (LOS C or better) during all time periods.

- Bruckner Boulevard and Lincoln Avenue - This intersection is controlled by a two-phase, 90-second cycle. Overall operation of the intersection is favorable (LOS B) with the exception of the AM peak. During this period, a heavy westbound through movement on Bruckner Boulevard of vehicles destined for the Third Avenue Bridge causes the approach to operate at LOS E. Overall the operation operates at LOS D during the AM peak.

- Major Deegan West Bound Entrance Ramp West of Willis Avenue - The unsignalized location cannot be analyzed in accordance with HCM procedures because it involves the merging of traffic flows from East 135th Street and a free-flow left turn lane from the Willis Avenue bridge which is separated from the signalized intersection of East 135th Street and Willis Avenue. Because of the severely limited geometrics of the merging area and the high volumes which merge at the mouth of the ramp, backups occur especially during peak periods, that are indicative of breakdown conditions (LOS F). When the backups occur, they frequently extend to the signalized intersection of East 135th Street and Willis Avenue and affect operations at that location.

Travel Speeds

Average travel speeds of vehicles along principal streets between links within the study area were obtained using the floating car method. This technique uses a field vehicle which travels at speeds under prevailing traffic conditions. These runs were conducted during the AM peak, AM off-peak, PM off-peak and the PM peak periods. The speed runs were performed on the following links: Third Avenue southbound, Lincoln Avenue in each direction, Alexander Avenue in both directions, Willis Avenue northbound between First Avenue in Manhattan and East 138th Street in the Bronx and southbound between East 138th Street and East 135th Street, St. Anne's Avenue in both directions and Bruckner Boulevard in both directions between East 138th Street and Third Avenue. Table 3.6-5 provides link by link average travel speeds for the AM peak, AM off-peak, PM off-peak and PM peak periods.

The study area's speeds range from 2 to 53 miles per hour (MPH). The slower travel speeds links are usually the result of stopped delay caused by vehicles waiting at traffic signals due to traffic overflows on some links. For example, travel speeds on Willis Avenue southbound between East 136th and East 135th Streets are greatly impaired during the peak periods by traffic overflow at the entrance ramp onto the Major Deegan Expressway. Other slow links include: St. Anne' Avenue southbound between East 134th Street and Bruckner Boulevard, St. Anne's Avenue northbound between East 137th Street and East 138th Street, Bruckner Boulevard westbound between Lincoln and Third Avenues and eastbound between Willis Avenue and Brown Place. The highest speeds were recorded on Bruckner Boulevard in both directions between East 138th Street and St. Anne's Place, which serves as a service roadway for the Bruckner Expressway.

TABLE 3.6-5
AVERAGE TRAVEL SPEEDS

Location	Speed (mph) by Time Period			
	AM	AM Off	PM Off	PM
Westbound on E. 135th St.				
Brown Pl. to Willis Ave.	17	17	14	12
Willis Ave. to Alexander Ave.	18	15	17	20
Alexander Ave.to Lincoln Ave.	15	21	17	17
Lincoln Ave. to Third Ave.	8	15	15	13
Third Ave. to Rider Ave.	24	26	25	27
Rider Ave. to Canal Pl.	17	16	19	20
Southbound on Third Ave.				
E. 138th St. to E. 137th St.	24	21	23	23
E. 137th St. to E. 136th St.	28	26	26	24
E. 136th St. to E. 135th St.	5	5	9	8
E. 135th St. to E. 134th St.	22	22	24	23
E. 134th St. to Bruckner Blvd.	14	17	16	16
Northbound On Alexander Ave.				
Dead End to Bruckner Blvd.	10	7	6	7
Bruckner Blvd to E. 134th St.	23	21	24	25
E. 134th St. to E. 135th St.	12	12	10	12
E. 135th St. to E. 138th St.	8	10	12	11
Southbound on Alexander Ave.				
E. 138th St. to E. 135th St.	15	16	16	13
E. 135th St. to E. 134th St.	27	28	35	26
E. 134th St. to Bruckner Blvd.	5	6	7	5
Bruckner Blvd to Dead End	35	33	33	29
Northbound on Lincoln Ave.				
E. 132nd St. to Bruckner Blvd	20	9	7	11
Bruckner Blvd. to E. 134th St.	20	25	17	19
E. 134th St. to E. 135th St.	19	27	24	14
E. 135th St. to E. 136th St.	16	15	11	14
E. 136th St. to E. 137th St.	34	26	28	24
E. 137th St. to E. 138th St.	16	20	16	18
Southbound on Lincoln Ave.				
E. 138th St. to E. 137th St.	37	35	38	34
E. 137th St. to E. 136th St.	17	19	18	18
E. 136th St. to E. 135th St.	7	10	12	8
E. 135th St. to E. 134th St.	33	36	35	33
E. 134th St. to Bruckner Blvd.	9	8	8	6
Bruckner Blvd. to E.132nd St.	26	21	25	24
Northbound on Willis Ave.				
First Ave (Man.) to E. 135th St.	20	18	20	18
E. 135th St. to E. 136th St.	18	13	10	16

TABLE 3.6-5
AVERAGE TRAVEL SPEEDS

Location	Speed (mph) by Time Period			
	AM	AM Off	PM Off	PM
E. 136th St. to E. 137th St.	23	20	11	9
E. 137th St. to E. 138th St.	17	7	12	9
Southbound on Willis Ave.				
E. 138th St. to E. 137th St.	24	24	30	20
E. 137th St. to E. 136th St.	27	32	31	31
E. 136th St. to E. 135th St.	3	3	3	2
E. 135th St. to Alexander Ave.	20	28	22	22
Eastbound on Bruckner Blvd.				
Third Ave. to Lincoln Ave.	11	12	10	12
Lincoln Ave. to Alexander Ave.	18	25	32	17
Alexander Ave. to Willis Ave.	21	17	19	17
Willis Ave. to Willis Ave. Ramp	6	5	5	5
Willis Ave. Ramp to Brown Pl.	6	5	5	4
Brown Pl. to Brook Ave.	21	21	17	14
Brook Ave. to St. Ann's Ave.	21	22	20	13
St. Ann's Ave. to St. Ann's Pl.	26	25	13	15
St. Ann's Pl. to E. 138th St.	45	42	43	32
Westbound on Bruckner Blvd.				
E. 138th St. to St. Ann's Pl.	46	48	53	52
St. Ann's Pl. to St. Ann's Ave.	16	16	14	16
St. Ann's Ave. to Brook Ave.	29	27	27	29
Brook Ave. to Brown Pl.	31	25	30	29
Brown Pl. to Willis Ave. Ramp	13	13	19	13
Willis Ave. Ramp to Willis Ave.	13	22	12	13
Willis Ave. to Alexander Ave.	10	17	14	16
Alexander Ave to Lincoln Ave.	12	14	15	15
Lincoln Ave. to Third Ave.	5	4	5	6
Northbound on St. Ann's Ave.				
E. 132nd St. to Bruckner Blvd.	8	6	7	12
Bruckner Blvd. to E. 134th St.	24	17	19	18
E. 134th St. to E. 135th St.	30	28	33	15
E. 135th St. to E. 137th St.	10	13	9	13
E. 137th St. to E. 138th St.	11	7	6	5
Southbound on St. Ann's Ave.				
E. 138th St. to E. 137th St.	11	11	15	10
E. 137th St. to E. 135th St.	16	18	11	15
E. 135th St. to E. 134th St.	29	20	29	28
E. 134th St. to Bruckner Blvd.	6	4	5	6
Bruckner Blvd. to E.132nd St.	15	22	26	18

3.6.2 Rail Freight Traffic

Previous studies of a proposed rail link and an intermodal freight yard across the project site (NYSDOT, 1982) between the MTA's Hudson Division and the Oak Point Rail Yards, northeast of the site, identified that regional freight service to New York City and Long Island, not including car float service to the Brooklyn waterfront, is provided from Selkirk, NY to the Oak Point Yard. The routing of two conventional freight trains daily in each direction occurs over the Hudson Division, through Mott Haven Junction, across MTA's Harlem Division to Melrose Junction and MTA's Port Morris Branch to the Oak Point Yard. The heavy volume of commuter trains in the Mott Haven Junction area, severely limit freight service through this point with freight trains precluded from using the junction area during peak commuter periods.

Current rail freight access to the site is provided by connecting tracks from the Oak Point Yard. Rail freight service to the site is currently limited to Conrail crossing yard trackage to access the SPM Environmental facility located at the east side of the site at Locust Avenue and East 132nd Street. SPM Environmental ships containerized NYC sewage sludge via rail.

3.6.3 Public Transportation

The project site is served by both bus and subway transportation. The Bx33 is an east-west route along East 138th Street north of the site that crosses the Madison Avenue Bridge and continues along West 135th Street in Harlem. The Bx 17 runs along St. Anne's Avenue from the northern boundary of the project site to the north central Bronx at Fordham Plaza. The Bx 41 on Lincoln Avenue extends from Bruckner Boulevard to the Bronx-Westchester county line. The Bx 15 extends from Fordham Plaza along Willis and Third Avenues to and across 125th Street in Harlem. Each of these lines can serve as feeder routes from the project site to the IRT subway on East 138th Street. Table 3.6-6 provides the terminals and operating frequencies of these routes. Since the Bx 33, Bx 17, and the Bx 41 terminate in

TABLE 3.6-6
BUS ROUTES SERVING THE HARLEM RIVER YARD

Route	Route of Operation	Destinations		Frequency of Operation*
		From	To	
Bx 15	Willis Ave./ Third Ave.	Fordham Plaza	Harlem/ 12th Ave.	9 min.
Bx 17	St. Ann's Ave./ E. 133rd St.	Fordham Plaza	Port Morris/ E. 132nd St.	8 min.
Bx 33	E. 138th St.	Port Morris/ E. 132nd St.	Harlem/ St. Nicholas Ave.	12 min.
Bx 41	Bruckner Blvd./ Lincoln Ave./ Alexander Ave.	Wakefield/ E. 241st St.	Mott Haven/ E. 133rd St.	5 min.

Note: * Approximate frequency of service during AM and PM Commuter Peaks.

TABLE 3.6-7
BUS PASSENGER LOADINGS

	Direction	Passengers	Trips	Dates	Time Period
BX-15					
Willis Av & 138th St	S/B	2,249	99	10/01, 10/07/91	18 Hours
3rd Av & 150th St	S/B	2,593	101	10/01, 10/07/91	18 Hours
Willis Av & 138th St	N/B	2,676	105	10/01, 10/07/91	18 Hours
3rd Av & Westchester Av	N/B	2,558	103	10/01, 10/07/91	18 Hours
BX-41					
Melrose Av & 150th St	S/B	1,484	195	10/08, 10/09/91	18 Hours
Bruckner Blvd & Lincoln Av	S/B	118	193	10/08, 10/09/91	18 Hours
Melrose Av & 149th St	N/B	2,962	176	10/08, 10/09/91	18 Hours
Bruckner Blvd & Lincoln Av	N/B	123	170	10/08, 10/09/91	18 Hours
BX-17					
183rd St & Crotona Av	S/B N/B	336 351	9 8	11/03/88 11/03/88	16-17 07-08
BX-33					
138th St. & St. Ann's Ave.	W/B E/B	648 570	86 88	5/08,5/13/91 5/08,5/13/91	18 Hours 18 Hours
138th St. & Third Ave.	W/B	1010	86	5/08,5/13/91	18 Hours
138th St. & Lincoln Ave.	E/B	922	88	5/08,5/13/91	18 Hours

Source: NYCTA - Operations Planning/System Data and Traffic

the immediate vicinity of the site, available reserve passenger capacity is substantial on these routes (passenger loadings are provided in Table 3.6-7).

The IRT No. 6 - Lexington Avenue Local - Pelham Bay line which runs along East 138th Street provides the nearest subway service to the site from the Bronx and Manhattan. The No. 6 line operates as a local train in Manhattan and a peak direction express and local in the Bronx. The nearest subway stations to the project site are on East 138th Street at Third Avenue, Brook Avenue and Cypress Avenue. Passenger loadings for the No. 6 train are provided in Table 3.6-8.

Figure 3.6-9 presents the bus and rail routes which serve the study area.

3.6.4 Pedestrian Activity

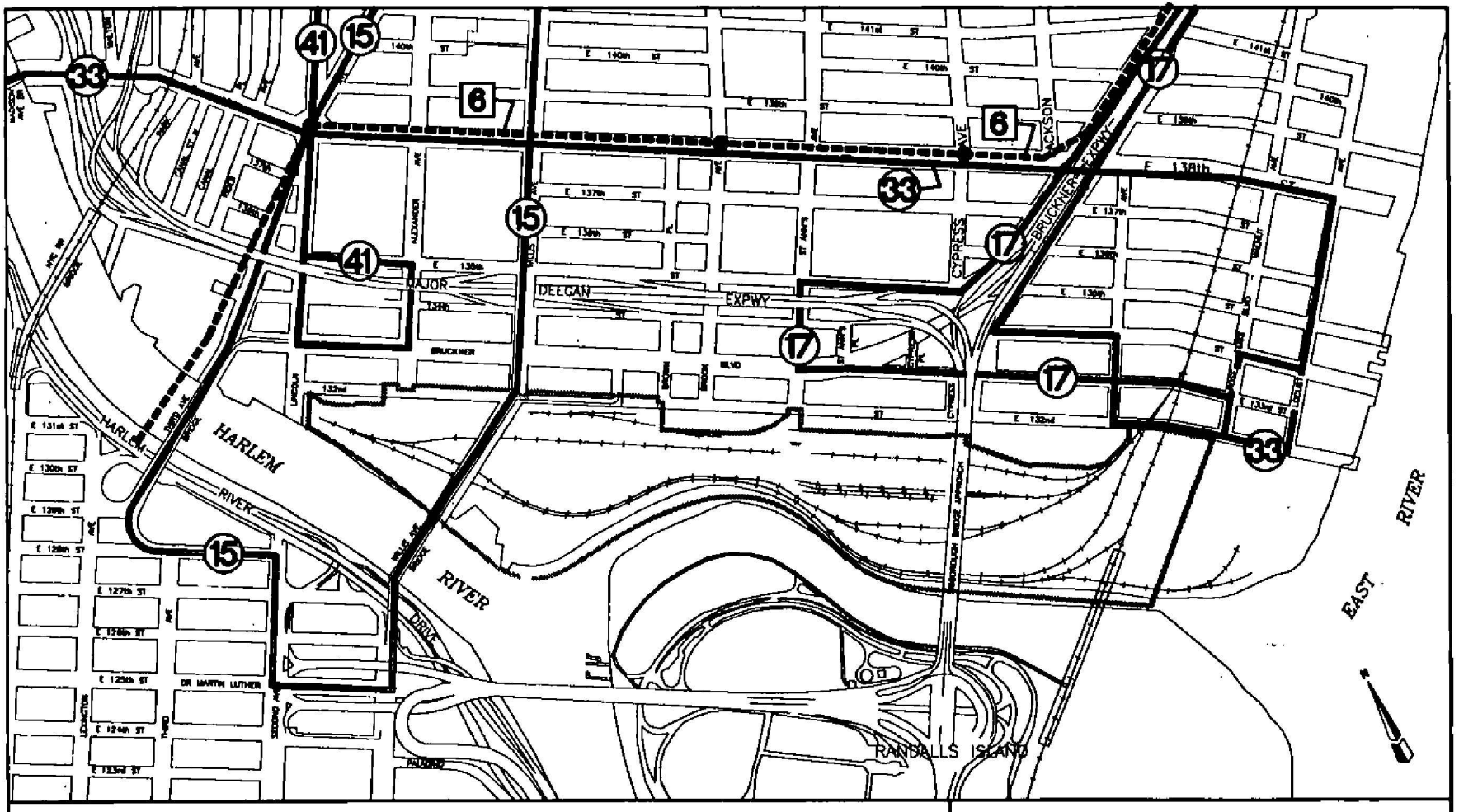
General observations of pedestrian activity within the study area were made during the four time periods studied. It was noted that pedestrian activity is very light, especially south of East 135th Street. Most of the activity occurred around the housing developments north of the project site.

TABLE 3.6-8

PASSENGER LOADINGS NO. 6 TRAIN

Station	Average Weekday	Annual Registrations
138th Street - 3rd Avenue	3,799	1,151,276
Brook Avenue	3,343	1,060,951
Cypress Avenue	1,609	456,172
East 143rd Street	452	117,376
East 149th Street	1,370	455,239
Longwood Avenue	1,634	492,335
Hunts Point Avenue	6,120	1,735,480

Source: NYCTA - Operations Planning/System Data and Traffic



Legend

- Property Boundary
- NYCTA Subway Line and Station
- NYCTA Bus Line

0 300 600 1200 2400
FEET

HARLEM RIVER YARD VENTURES INC.
INTERMODAL TRANSPORTATION AND DISTRIBUTION CENTER

PUBLIC TRANSPORTATION

DATE:
AUG 31, 1993

TAMS CONSULTANTS, Inc.

Figure 3.6-9

3.7 Air Quality

3.7.1 Regulations

Criteria pollutants are those pollutants for which ambient air quality standards have been set by the U.S. Environmental Protection Agency (USEPA) under the requirements of the Clean Air Act. These include carbon monoxide (CO), ozone (0_3), nitrogen dioxide (NO_2), particulate matter (PM 10), sulfur dioxide ($S0_2$) and lead (Pb). Federal standards for these pollutants, known as the National Ambient Air Quality Standards (NAAQS) are shown in Table 3.7-1, together with the New York State standards.

Federal standards are defined at primary and secondary levels. The primary standards are intended to protect the public health. The secondary standards are intended to protect the nation's welfare and account for air pollutant effects on soil, water, visibility, materials, vegetation and other aspects of the general welfare.

The project area is located in New York City which is presently designated as a nonattainment area (i.e., not meeting the NAAQS) for carbon monoxide and ozone. The New York City area was designated as unclassified for the primary PM 10 standard, $S0_2$, and $N0_2$.

The primary pollutant emissions from automobiles are CO, $N0_2$ and hydrocarbon (HC). Lead emissions from automobiles are not significant and have declined in recent years through the increased use of unleaded gasoline. Potential emissions of particulates and sulfur dioxides from indirect (mobile) sources such as automobiles are insignificant in comparison with direct (non-mobile) emission sources. Therefore, only the potential impact of vehicle-related emissions of CO, $N0_2$, and HC pollutants are considered with respect to indirect sources.

TABLE 3.7-1

FEDERAL AND NEW YORK STATE AMBIENT AIR QUALITY STANDARDS[1]

Pollutant	Averaging Period	New York State Standards	Federal Standards	
			Primary	Secondary
Carbon Monoxide	8-hour 1-hour	9 ppm 35 ppm	10 mg/m^3 40 mg/m^3	10 mg/m^3 40 mg/m^3
Ozone	1-hour	0.08 ppm[2]	235 ug/m^3	235 ug/m^3
Nitrogen Dioxide	1-year	0.05 ppm	100 ug/m^3	100 ug/m^3
Lead	3-month	(3)	1.5 ug/m^3	1.5 ug/m^3
PM10	1-year 24-hour	(3) (3)	50 ug/m^3 150 ug/m^3	50 ug/m^3 150 ug/m^3
Sulfur Dioxide	1-year 24-hour 3-hour	0.03 ppm 0.14 ppm 0.50 ppm	80 ug/m^3 365 ug/m^3	 1300 ug/m^3

NOTES:

1. All maximum values are standards not to be exceeded more than once a year, except the ozone standard which is not to be exceeded more than one day per year.

   ppm = parts per million
   ug/m^3 = micrograms per cubic meter
   mg/m^3 = milligrams per cubic meter

2. Existing NYS Standard for ozone of 0.08 ppm not yet officially revised via regulatory process to coincide with the federal standard of 0.12 ppm which is currently being applied to determine compliance status.

3. Federal standard for PM10 and lead not yet officially adopted by New York State, but is currently being applied to determine compliance status.

4. New York State also has standards for beryllium, fluorides, hydrogen sulfide, settleable particulates (dustfall) and total suspended particulates.

Carbon monoxide, the predominant pollutant emitted by motor vehicles, is a site-specific pollutant, with major concentrations generally found immediately adjacent to roadways. As a result, it is usually of concern on a local or microscale basis. Therefore, air quality impacts are typically evaluated through a microscale analysis of traffic-related CO levels.

Hydrocarbons and nitrogen oxides (NO_x) react in the presence of sunlight to form a photochemical smog, of which the major constituent is ozone. Thus, HC and NO_x are reactive contaminants whose impact generally occurs well beyond the areas immediately adjacent to a roadway. This reaction is time dependent and usually takes place far downwind from the site where the contaminants were originally emitted. The formation of secondary pollutants is related to the ambient temperature, the amount of incoming ultraviolet radiation, the relative concentrations of each primary pollutant at a particular moment, and the time required for the reaction to occur. Because of the complex chemistry and transport, no models are available which can accurately predict ozone on a microscale level. As a result, NO_x and HC are not site specific as is CO, and should be analyzed on a regional or mesoscale basis for mobile sources of air pollution.

Sulfur dioxide, PM 10, NO_2 are the principal pollutants normally of concern from fuel combustion stationary (direct) sources such as boilers. The emissions from these sources are primarily the result of fuel burning for space heating and hot water. In some instances, however, other pollutants may also be of concern.

3.7.2 Mobile Sources

Carbon monoxide is a site-specific pollutant, with its major concentrations generally found immediately adjacent to roadways. As a result, it is usually of concern on a local or microscale basis. Therefore, the study of air quality impacts as a result of project-generated traffic is typically evaluated through a microscale analysis of traffic-related CO levels.

Local CO concentrations are estimated through the use of computerized mathematical models, since data on street level CO concentrations in urban areas is not at a level of detail relevant for most projects. Using the models, worst case CO levels are calculated for the peak one-hour and eight-hour time periods, corresponding to the averaging periods of the state and federal ambient CO standards.

Generally, the CO concentrations which occur at any one site result from a contribution of several emission sources. Ambient CO concentrations consist of two components: the local source contribution (i.e., vehicles on the roadway(s) next to the analysis site) and background. The CO levels due to local roadway source contribution are dependent on traffic and operating conditions (e.g., volumes, speeds). The background CO concentration is a function of land use, land use density, and transportation related activity in the general community, as opposed to the specific localized sources.

For New York City, the New York City Department of Environmental Protection (NYCDEP) periodically provides estimates of background CO levels for use in air quality analyses. Based on revised emissions model, the NYCDEP has calculated the 1992 second highest one-hour and eight-hour values to be 7.8 and 3.3 ppm, respectively. The second highest CO levels are utilized because the federal and New York State standards for CO can be exceeded only once per year; therefore, the potential worst case project impact must not result in a second violation.

The CO contribution from local traffic is determined in two steps. First, emissions from vehicle exhausts are calculated. These numbers and assumptions about meteorology are then used to calculate the concentrations of CO in the air. Conservative assumptions are made with respect to model inputs so that worst case CO levels can be calculated. Emissions were calculated using the USEPA's MOBILE4.1 computer emissions model.

Carbon monoxide concentrations due to vehicles were then calculated by using the USEPA's CAL3QHC computer dispersion model. The concentrations determined by using this model

are a function of such input parameters as wind speed, wind direction, and atmosphere stability class. The CAL3QHC model was used with the inputs described in Appendix C.

Several receptor sites were identified where CO concentration impacts were estimated. They were selected based on consideration of where the maximum changes in traffic patterns would occur and where residential properties now exist or will as part of project development. The receptor locations are shown in Figure 3.7-1 and results of the computer modeling are presented in Table 3.7-2 (concentrations shown are for the AM peak period, which were higher than the PM period). Based on this effort, no current violations of the one-hour CO standard is predicted. However, violations of the eight-hour standard are predicted to currently occur at all locations.

TABLE 3.7-2

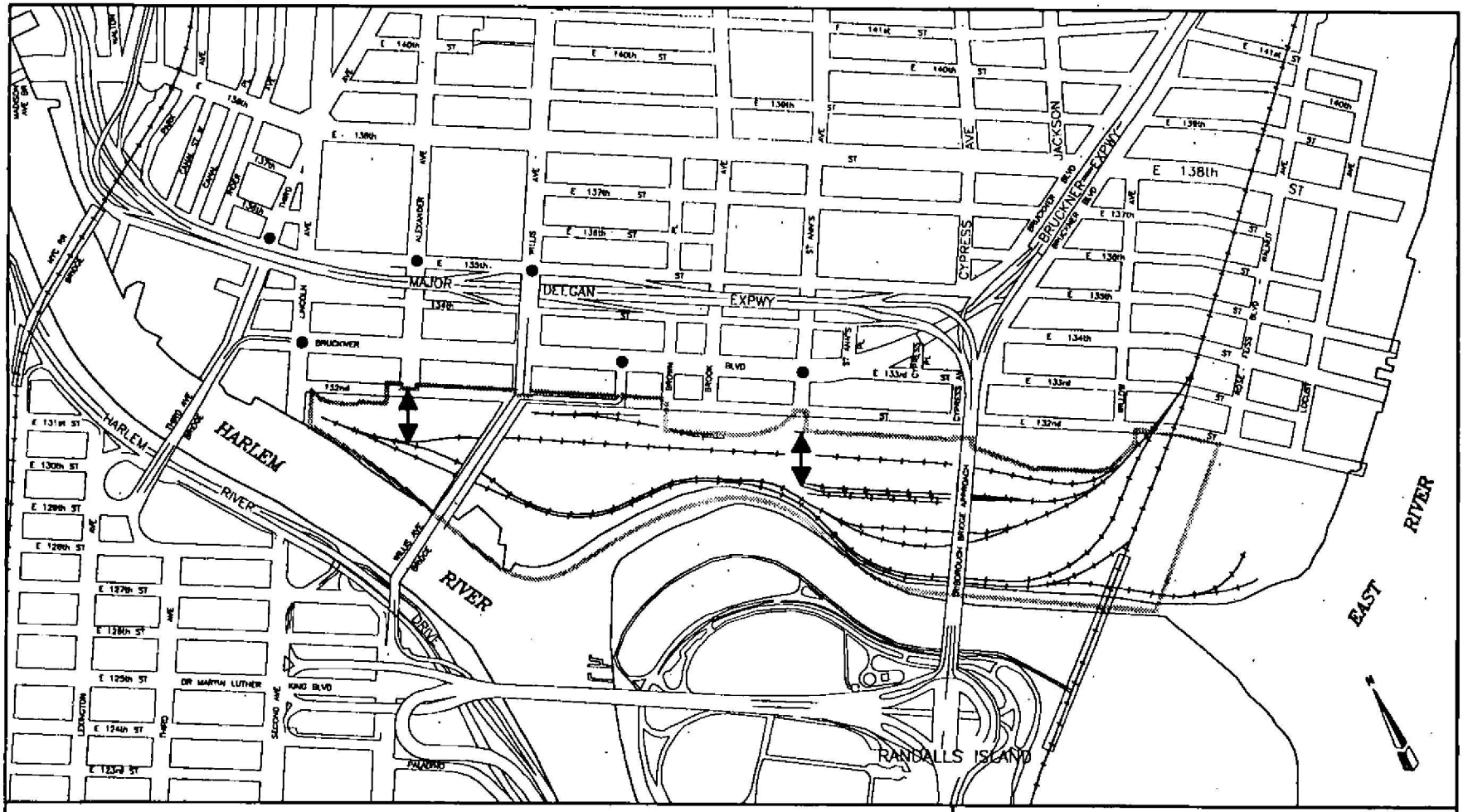
EXISTING CARBON MONOXIDE LEVELS

Receptor	One Hour (ppm)	Eight Hour (ppm)
1. Third Ave./E 135th St.	26.2	16.5
2. Alexander Ave./E 135th St.	21.3	13.1
3. Willis Ave./E 135th St.	19.9	12.1
4. Lincoln Ave./Bruckner Blvd.	19.5	11.8
5. Willis Ave Bridge Exit/Bruckner Blvd.	18.7	11.3
6. St. Ann's Ave. /Bruckner Blvd.	16.8	10.0

Note: CO levels include 1992 background concentrations of 7.3 ppm (one-hour) and 3.3 ppm (eight-hour).

3.7.3 Stationary Sources

In the project area, there are five existing warehouses. The emissions from these warehouses are primarily from space heating of the office areas and are not significant.



Legend

- Property Boundary
- Site Entrance
- Receptor Location

DATE: SEPT 30, 1992

HARLEM RIVER YARD VENTURES INC.
INTERMODAL TRANSPORTATION AND DISTRIBUTION CENTER

AIR QUALITY RECEPTORS

TAMS CONSULTANTS, Inc.

Figure 3.7-1

3.8 Noise

3.8.1 Noise Fundamentals and Methodology

Noise pollution in an urban environment comes from numerous sources. Some are activities essential to the health, safety, and welfare of the city's inhabitants such as noise from emergency vehicle sirens, from garbage collection operations, and from construction and maintenance equipment. Other sources, such as traffic, stem from the movement of people and goods, activities that are essential to the viability of the city as a place to live and do business.

Ways to Measure Noise

A number of factors affect sound as it is perceived by the human ear. These include the actual level of the sound (or noise), the frequencies involved, the period of exposure to the noise, and changes or fluctuations in the noise levels during exposure. Levels of noise are measured in units called decibels. Since the human ear cannot perceive all pitches or frequencies equally well, these measures are adjusted or weighted to compensate for the human lack of sensitivity to low pitched and high pitched sounds. This adjusted unit is known as the A-weighted decibel, or dBA. The A-weighted network de-emphasizes both very low and very high pitched sound, so the measured levels correlate well with the human perception of loudness.

Human response to changes in noise levels depends on a number of factors, including the quality of the sound, the magnitude of the changes, the time of day at which the changes take place, whether the noise is continuous or intermittent, and the individual's ability to perceive the changes. Human ability to perceive changes in noise levels varies widely with the individual, as does response to the perceived changes. Generally, changes in noise levels

less than 3 dBA will barely be perceptible to most listeners, whereas, a 10 dBA change normally is perceived as a doubling (or halving) of noise levels. These guidelines permit direct estimation of an individual's probable perception of changes in noise levels.

Since dBA describes a noise level at just one moment, and very few noises are constant, other ways of describing noise over extended periods are needed. One way of describing fluctuating sound is to describe the fluctuating noise heard over a specific time period, as if it had been a steady, unchanging sound. For this condition, a descriptor called the equivalent sound level, L_{eq}, can be computed. L_{eq} is the constant sound level that, in a given situation and time period (e.g., one-hour $L_{eq}[1]$, or 24-hour $L_{eq}[24]$), conveys the same sound energy as the actual time-varying sound. Statistical sound level descriptors such as L_1, L_5, L_{10}, L_{50}, L_{90}, and L_x are also sometimes used to indicate noise levels which are exceeded 1, 5, 10, 50, 90, and x percent of the time, respectively.

Alternatively, it is often useful to account for the difference in response of people in residential areas to noises that occur during sleeping hours as compared to waking hours. A descriptor, the day-night noise level (L_{dn}), defined as the A-weighted average sound level in decibels during a 24-hour period with a 10 dB weighting applied to nighttime sound levels, is a widely used indicator for such evaluations. L_{dn} has been proposed by the USEPA and other organizations as one of the most appropriate criteria for estimating the degree of nuisance or annoyance that increased noise levels would cause in residential neighborhoods.

The maximum one-hour equivalent sound level ($L_{eq}[1]$), the 24-hour equivalent sound level ($L_{eq}[24]$), and the day-night noise level (L_{dn}) have been selected as the noise descriptors to be used in the noise impact analysis of this project. Minimum one-hour equivalent sound levels were used to provide an indication of highest expected sound levels.

3.8.2 Noise Standards and Criteria

Noise levels associated with operation of the project are subject to the noise standards of the New York City Noise Control Code, the NYC Zoning Resolution Performance Standards, and (for the waste management facility only) NYSDEC Part 360, Solid Waste Management Facilities Guidelines. These criteria are used as a means of comparison. Other standards and guidelines promulgated by city and federal agencies do not specifically apply to this project, but are useful to review in that they provide measures of impact.

23CFR772

The Code of Federal Regulations (23CFR772) contains FHWA noise regulations that require that a noise analysis be conducted for all highway projects. The standards contain noise abatement criteria considered by FHWA to be the acceptable limits for noise levels for exterior land uses and outdoor activities and for certain interior uses (Table 3.8-1).

The FHWA Noise Abatement Criteria lists developed land use types as Categories A, B, C, or E. In this study, Category B, which includes residences, schools and churches, represents most of the receptors that lie in close proximity to the project.

Future noise levels are predicted to determine if there is an impact with respect to the noise abatement criteria. If the criteria is equalled or exceeded, or if there is a substantial increase above the existing noise level, abatement measures will be considered.

TABLE 3.8-1

NOISE ABATEMENT CRITERIA

Activity Category	L_{eq}(h)	L_{10}(h)	Description of Activity Category
A	57 (exterior)	60 (exterior)	Land for which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 (exterior)	70 (exterior)	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
C	72 (exterior)	75 (exterior)	Developed lands, properties or activities not included in Categories A or B above.
D	—	—	Undeveloped lands.
E	52 (interior)	55 (interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals and auditoriums.

Note: Either L_{10}(h) or L_{eq}(h) (but not both) may be used on a project.

TABLE 3.8-2

PART 360 SITE ACCEPTABILITY STANDARDS

Character of Community	Time Period	
	7AM to 10PM	10PM to 7AM
Rural	57 dBA	47 dBA
Suburban	62 dBA	52 dBA
Urban	67 dBA	57 dBA

Note: If the sound level excluding any contributions from the background sound level exceeds these limits, the operation of the facility must not cause the L_{eq} sound level to exceed the background ambient.

Part 360 -- Solid Waste Management Facilities Guidelines

This regulation states that noise levels at the facility must be controlled to prevent sound levels beyond the property line at locations zoned or otherwise authorized for residential purposes from exceeding the hourly L_{eq} values presented in Table 3.8-2. If the background noise levels exceed these limits, the operation of the facility must not exceed the ambient noise levels.

New York CEPO-CEQR Noise Standards

The New York City Department of Environmental Protection, Bureau of Noise Abatement has set external noise exposure guidelines. These guidelines for non-airport environs are shown on Table 3.8-3. Noise exposure is classified into four categories: acceptable, marginally acceptable, marginally unacceptable and clearly unacceptable. The standards shown in Table 3.8-3 are based on maintaining a cumulative interior noise level of:

- L_5 less than or equal to 45 dBA during nighttime hours (between 11 PM to 7 AM) and 55 dBA during daytime hours (between 7 AM and 11 PM), and;
- worst case hour L_{10} less than or equal to 45 dBA for nighttime hours and 55 dBA for daytime hours.

New York City Noise Code

The New York City Noise Control Code contains sound level standards for certain types of motor vehicles, air compressors, and paving breakers; requires that all exhausts be muffled; and prohibits all unnecessary noise adjacent to schools, hospitals, or courts. The code further limits construction activities to weekdays between 7 AM and 6 PM. However, a variance many be granted to permit work other than on weekdays from 7AM to 6PM under urgent necessity and in the interest of public safety.

TABLE 3.8-3

NOISE EXPOSURE STANDARDS FOR CEQR REVIEW

Noise Receptor Classification	General External Exposure (dBA)			
	Acceptable	Marginally Acceptable	Marginally Unacceptable	Clearly Unacceptable
1. Outdoor areas requiring serenity and quiet	L_5 <=55 L_{10} <=55			
2. Hospitals and nursing homes	L_5 <=55 L_{10} <=55	55 <L_5 <=65 55 <L_{10} <=65	65 <L_5 <=80 65 <L_{10} <=80	L_5 >80 L_{10} >80
3. Residential including residential hotels and motels	L_5 <=65 L_{10} <=65	65 <L_5 <=70 65 <L_{10} <=70	70 <L_5 <=80 70 <L_{10} <=80	L_5 >80 L_{10} >80
4. Schools, museums, libraries, courts, houses of worship, transient hotels and motels, public meeting rooms, auditoriums, and out-patient public health facilities	<---------- same as residential day ----------> (7am to 11pm)			
5. Commercial offices	<---------- same as residential day ----------> (7am to 11pm)			
6. Industrial, public areas only	L_5 <=70 L_{10} <=70	70 <L_5 <=80 70 <L_{10} <=80		L_5 >80 L_{10} >80

Notes:

1. All L_{10} standards refer to the worst hour.
2. The applicable time period for noise receptor classifications 1, 4, 5, and 6 is cumulative for the hours of use; for classifications 2 and 3 the periods are 7 am to 11 pm and 11 pm to 7 am.

In 1979, Section 1403.3-6.01 of the code was re-enacted as Local Law No. 64. This new law established ambient noise quality criteria and standards based on existing land use zoning designations. Table 3.8-4 summarizes the ambient noise quality criteria established under Local Law No. 64. Conformance with the noise level values contained in the law is determined by considering noise emitted directly from stationary activities within the boundaries of a project. Construction activities are not included within the provisions of this law.

Performance Standards for Manufacturing Districts

New York City's Zoning Resolution imposes performance standards for uses in manufacturing districts. Noise levels from any activity, whether open or enclosed, cannot exceed certain prescribed sound pressure levels (db) on or beyond the lot line. Operations of motor vehicles or transportation facilities are not included in the performance standards. The standards are shown on Table 3.8-5.

3.8.3 Noise Monitoring

A noise measurement survey was conducted in the primary study area. Eleven measurement locations were selected to provide an indication of the existing noise levels (Figure 3.8-1). A sampling measurement program was conducted at Sites 1 through 9 for five time periods (October 20 through October 22, 1992 and November 10 through November 25, 1992); a similar program was undertaken at Site 11 on January 7, 1993. A 24-hour measurement program was conducted at Site 10 (November 23 and 25, 1992). Measurements were taken five feet from the existing building walls of the receptor locations except where there were empty lots and the microphone was located on the property line. Microphone height for all receptors was eight feet above ground. In addition to noise sources described there were constant jet flyovers, landing and takeoffs, during the sampling period. These sources were edited out during the monitoring program.

TABLE 3.8-4

CITY OF NEW YORK AMBIENT NOISE QUALITY CRITERIA (dBA)

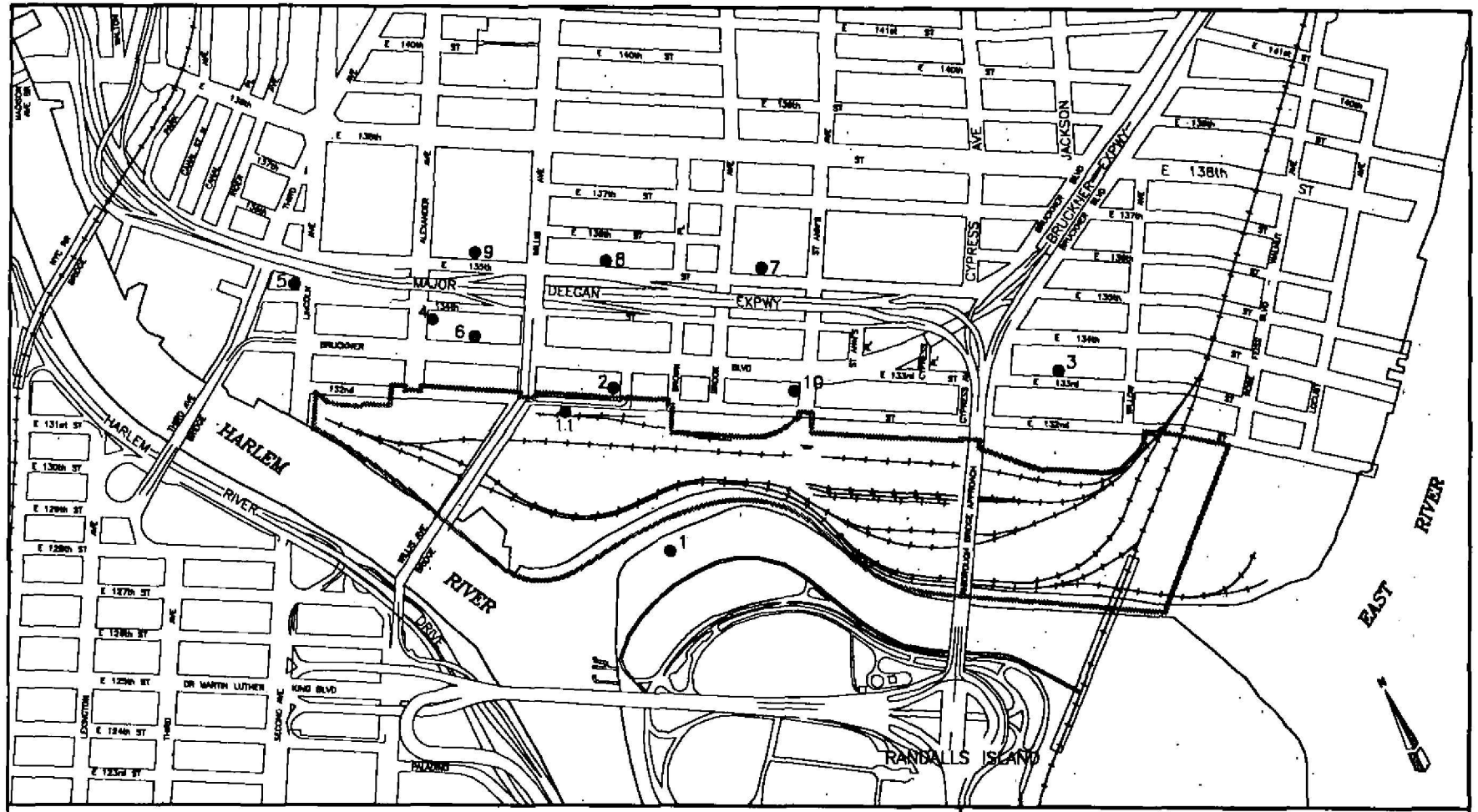
Ambient Noise Standards Quality Zone	Daytime Standards (L_{eq}) 7AM to 10PM	Nighttime Standards (L_{eq}) 10PM to 7AM
Low Density Residential Land Use	60	50
High Density Residential Land Use	65	55
Commercial & Manufacturing Land Use	70	70

Source: City of New York Local Law No. 64, 1979.

TABLE 3.8-5

MAXIMUM PERMISSIBLE OCTAVE BAND SOUND LEVEL FOR A MANUFACTURING DISTRICT ADJOINING A RESIDENTIAL DISTRICT

Center Frequency Octave Band (Hertz)	Sound Pressure Level (dB)		
	M1	M2	M3
31.5	74	74	75
63	70	71	71
125	63	65	67
250	57	60	62
500	51	54	56
1000	44	48	50
2000	38	44	46
4000	35	40	42
8000	32	37	39
A-Scale	54	57	59



Legend

Property Boundary

●3 Receptor Location and Number

0 300 600 1200 2400
FEET

HARLEM RIVER YARD VENTURES INC.
INTERMODAL TRANSPORTATION AND DISTRIBUTION CENTER

NOISE RECEPTORS

DATE: JAN 8, 1993

TAMS CONSULTANTS, Inc.

Figure 3.8-1

Site 1: Sitting area on ball field on Randall's Island. Background noise levels include traffic noise from the Triboro Bridge and aircraft traffic at La Guardia Airport.

Site 2: Pulaski Park, seating area adjacent to off ramp from the Willis Avenue Bridge. Noise source is from traffic on the off-ramp and on Bruckner Blvd.

Site 3: Residential block between Cypress and Willow Avenues. The microphone was located in front of 705 East 133rd Street.

Site 4: Microphone was located in front of residential building at 128 Alexander Avenue. This is located between Bruckner Blvd and 134th Street on the east side of Alexander Avenue. Noise source is from Bruckner Boulevard and the elevated Major Deegan.

Site 5: Microphone was located in front of 147 Lincoln Avenue a residential building. This receptor is located between the Major Deegan and East 134th Street on the west side of Lincoln Avenue. The major noise source is from the elevated Major Deegan.

Site 6: This block is a commercial retail strip on street level with residential on the three floors above the commercial. The microphone was located in front of 65 Bruckner Blvd between Alexander and Willis Avenues. Noise source is from traffic on Bruckner Blvd.

Site 7: Residential buildings on East 135th Street that front the elevated Major Deegan between St. Ann's and Brook Avenue. The microphone was located in a sitting area between the two corner buildings. The major noise source is from the Major Deegan.

Site 8: School on East 135th Street that fronts the Major Deegan, which is in a cut but still has a line of site with the school. The receptor is located between Brown Place and Willis Avenue.

Site 9: School and playground on East 135th Street between Alexander and Willis Avenue. Microphone was located in the playground at the property line. The major Deegan is at grade and the major noise source is from the highway and from traffic exiting the highway on East 135th Street.

Site 10: A residential building on St. Ann's Avenue between Bruckner Blvd and East 132nd Street. The major noise source is from background traffic from Bruckner Blvd. The microphone was located in a side lot of the corner residential building at Bruckner and St. Ann's Avenue.

Site 11: Former Willis Avenue Station, now partially a residence. The microphone was placed on the south side of the building overlooking the proposed site of the intermodal facilities.

The field monitoring program was conducted using the following equipment:

- Bruel & Kjaer Type 2231 Precision Sound Level Meter
- Bruel & Kjaer Type 2218 Graphic Printer
- Bruel & Kjaer Type 4230 Sound Level Calibrator
- Bruel & Kjaer Type 4133 1/2 inch microphone
- Bruel & Kjaer Type 2614 microphone preamplifier

Measurements at each sampling location were made on the A-scale (dBA) for a sampling period of 30 minutes. Twenty-four hour measurements ran continuously. A wind screen was used to minimize wind noise across the face of the microphone. The data were digitally recorded by the noise analyzer and displayed at the end of the measurement period in units of dBA L_{eq}, L_1, L_5, L_{10}, L_{50}, and L_{90}.

3.8.4 Existing Noise Levels

The one-hour equivalent noise levels ($L_{eq}[1]$), measured at Sites 1 through 9 and 11 are presented in Table 3.8-6. The 24-hour monitoring results for Site 10 are shown in Table 3.8-7. At all measurement locations, the predominant source of noise was from vehicular traffic.

All of the measured noise levels exceed the acceptable NYC CEPO - CEQR noise standard classification levels. Site 1 is in the marginally acceptable range and the remaining nine sites are in the marginally unacceptable range (Table 3.8-8). However, the high noise levels are common on commercial blocks in New York City, and these existing measurements reflect the level of activity and vehicular traffic present.

TABLE 3.8-6

EXISTING SOUND LEVELS - SITES 1 THROUGH 9, 11

	One-Hour L_{eq} In dBA									
Time Period	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6	Site 7	Site 8	Site 9	Site 11
AM Peak (7 - 9 am)	62	66	65	66	70	73	66	76	75	58
Midday (10am - 2pm)	64	67	66	67	68	71	68	75	76	59
PM Peak (5 - 7 pm)	65	69	67	69	69	73	69	77	77	55
Pre-Midnight (9pm-12 am)	60	66	62	63	65	69	66	72	72	54
Post Midnight (12-2 am)	59	64	60	62	63	66	65	68	69	61
$L_{eq}[24]$	63	67	64	66	67	71	68	74	74	59
L_{dn}	67	73	69	71	72	76	74	78	79	66

TABLE 3.8-7

EXISTING SOUND LEVELS - SITE 10

Time Period	One-Hour L_{eq} In dBA
	Site 5
AM	
12-1	64
1-2	63
2-3	62
3-4	61
4-5	64
5-6	66
6-7	66
7-8	67
8-9	67
9-10	67
10-11	66
11-12	67
PM	
12-1	67
1-2	68
2-3	68
3-4	67
4-5	69
5-6	69
6-7	68
7-8	69
8-9	67
9-10	66
10-11	65
11-12	65
$L_{eq}[24]$	67
L_{dn}	71

TABLE 3.8-8

COMPARISON OF EXISTING NOISE LEVELS
WITH CEPO STANDARDS

Site	L_5 (dBA)	L_{10} (dBA)	Time Period	CEPO Standards
1	67	66	PM Peak	Marginally Acceptable
2	72	72	PM Peak	Marginally Unacceptable
3	70	69	PM Peak	Marginally Unacceptable
4	69	71	PM Peak	Marginally Unacceptable
5	72	72	AM Peak	Marginally Unacceptable
6	76	76	AM Peak	Marginally Unacceptable
7	72	71	PM Peak	Marginally Unacceptable
8	79	79	PM Peak	Marginally Unacceptable
9	80	79	PM Peak	Marginally Unacceptable
10	71	71	PM Peak	Marginally Unacceptable
11	61	63	AM Peak	Acceptable

Octave band sound pressure levels were not monitored since there were no existing identifiable manufacturing uses that generated noise levels that would adversely affect any existing or proposed residential units.

The NYSDEC Part 360 regulations specify noise levels at residential uses which are at a waste management facility property line. The existing noise levels at Site 11 (which would be representative of noise levels at the site boundary of the transfer station) meet the daytime values but exceed the nighttime values in the regulations. However, there are no residential uses which bound the transfer station site.

The FHWA Criteria for residential land use is 67 dBA. Existing noise levels exceed the FHWA criteria at sites 2 through 10. Site 1, the park on Randalls Island, and Site 11 (old Willis Avenue Station) are not subject to adjacent local street traffic noise. The only noise present is background traffic from the Triborough Bridge.

The NYC Daytime Noise Quality Criteria Standard of 65 dBA for high density residential land use is exceeded at sites 2 through 10 for at least one hour each day. The nighttime criteria of 55 dBA for high density residential land use is exceeded at all sites except Site 11 during the 1-2 AM period when the existing noise level is 54 dBA.

These measured existing levels at all receptors except Site 1 and 11, reflect very high existing noise levels, which is very typical for urban areas. At all sites, except Site 1, these measurements exceed the local and federal criteria that were selected as a measure of impact.

3.9 Infrastructure

3.9.1 Water Supply

New York City obtains its potable water supply from the Croton, Catskill and Delaware systems. These systems provide the 1.5 billion gallons of water used each day. Potable water for the Harlem River Yard is provided by the Delaware-Catskill reservoir system. Gravity head and regulating valves are predominantly responsible for maintenance of flow throughout the system at about 35 to 60 pounds per square inch (psi) of pressure.

No pumping stations exist on-site. The site is served by water mains that run along East 132nd Street north of the site. Existing service to the site enters at Lincoln Avenue (24" main), St. Ann's Avenue (4" main), and Willis Avenue (24" main) (Figure 3.9-1).

3.9.2 Wastewater

Sanitary Waste Treatment

Sanitary sewage generated in the south and western Bronx and the east side of Manhattan is conveyed to the Wards Island Water Pollution Control Plant (WPCP) by means of a combined storm and sanitary sewer system. The plant, located on Wards Island in the East River, was built in 1937 and is the oldest sewage treatment plant in the City. Sanitary sewage undergoes primary and secondary treatment at the plant.

The Wards Island WPCP treated an annual dry weather average of 258 million gallons of sewage during the period August 1992 to July 1993. Effluent from the plant is discharged into the East River and is regulated by the NYSDEC under the State Pollution Discharge Elimination System (SPDES) (discharge permit No. 26131, dated September 30, 1988, modified July 29, 1991, and valid until September 29, 1993). Parameters regulated under the SPDES permit include the amount of dry weather sewage flow, the percent removal of

biological oxygen demand (BOD) and total suspended solids (TSS), mass loadings of BOD and TSS (i.e., the organic strength of the discharged effluent), and fecal coliform counts.

The SPDES permit sets an average dry weather monthly flow limit of 250 million gallons per day (mgd). Table 3.9-1 shows the monthly flows over the past year and the plant's annual average monthly dry weather flow during that period.

TABLE 3.9-1

WARDS ISLAND WPCP MONTHLY FLOWS

Month		Flow (mgd)	Month	Flow (mgd
August	1992	259	February	256
September		271	March	265
October		251	April	254
November		252	May	240
December		252	June	262
January	1993	252	July	273

Source: NYCDEP, September 1993.

Average monthly dry weather flows to the plant caused a contravention of its permitted discharge limits by 8 mgd over the 12-month period ending in July 1993. During this 12-month interval the WPCP exceeded its SPDES flow limits during 11 of the 12 months.

In order to address the plant's consistent exceedance of the SPDES requirements, the NYCDEP entered into an Order on Consent with the NYSDEC in January 1989. The agreement mandated a variety of steps to reduce flows to the plant so that its annual running average would not exceed the plant's permitted dry weather flow limit. The steps carried out by the NYCDEP included installation of calibrated influent flow meters, acceleration of water meter installations, installation of locking caps on drainage basin, completion of door-to-door surveys along sewer lines where flow was found to be higher than expected, removal of Central and Van Cortlandt parks overflows from the combined sewer system, and institution of a public information program.

Storm and Sanitary Sewers

In the Harlem Yard vicinity existing storm sewer lines include two lines at Cypress Avenue (26" x 36", and 24"), two lines at St. Ann's Avenue (12"), and several smaller lines at the west end of the site (Figure 3.9-2). Existing storm culverts averaging 18" in diameter occur along the Harlem Yard shoreline.

Sanitary sewers in the site vicinity are comprised of a 50" x 62" line at Lincoln Avenue and a 10'-6" diameter line east of St. Ann's Avenue. A 12' x 9.8' combined sanitary/storm sewer line crosses the site at Brook Avenue; another similar line crosses at Lincoln Avenue.

3.9.3 Sanitation/Solid Waste

The approximately 14,000 tons of residential waste generated each day in New York City is collected by the Department of Sanitation. Commercial and industrial waste generated (approximately 12,000 tons per day) is collected by private carters. Most residential waste is disposed of at the Fresh Kills Landfill; the rest is managed locally at three incinerators and one other landfill. Commercial/industrial waste is exported out of New York City to predominantly out-of-state disposal sites.

Commercial waste generated by on-site facilities at the Harlem River Yard is handled by private carters. In addition, as required by New York City law, businesses must have arrangements for their recyclables to be collected for recycling, including paper, glass, metals and plastic.

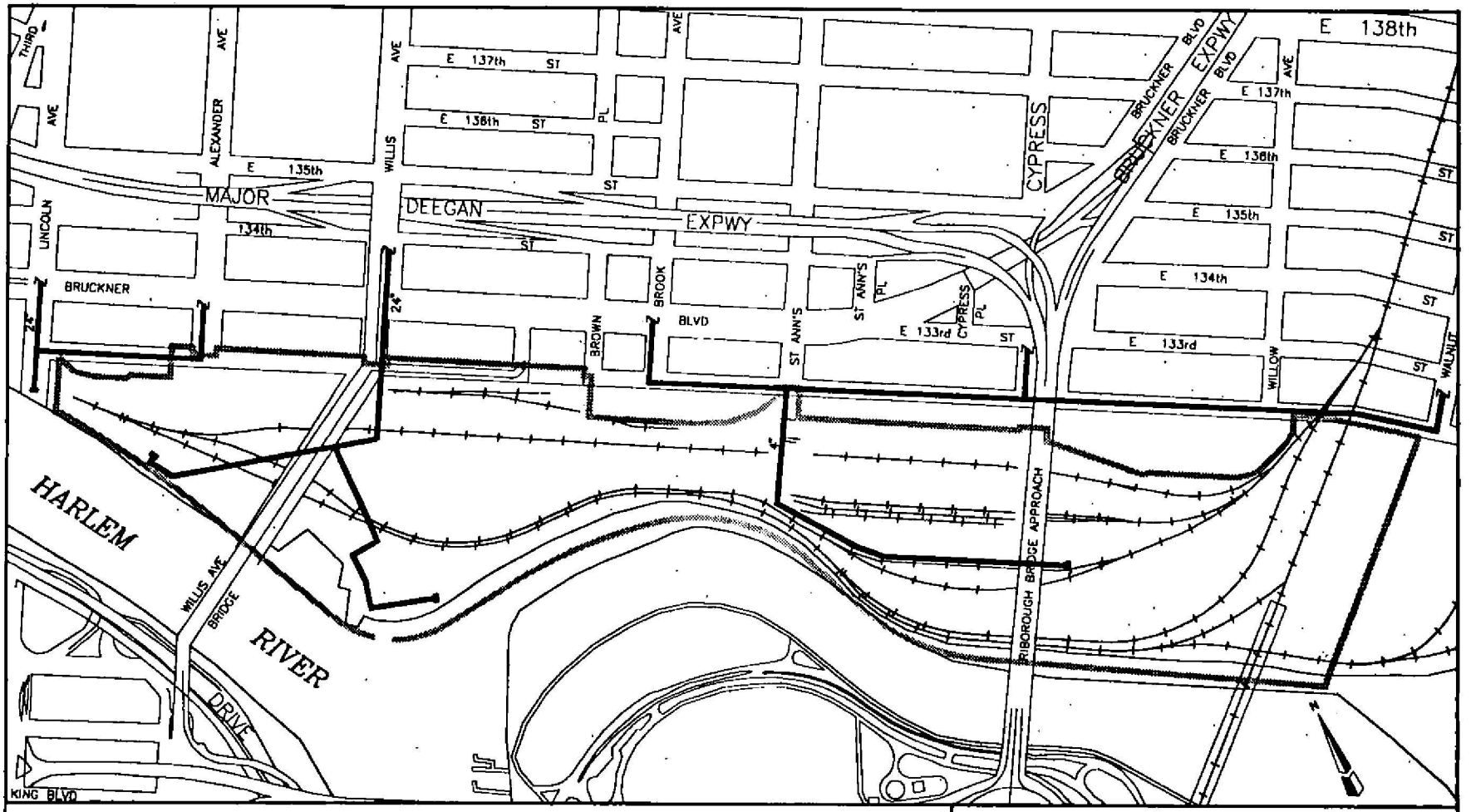
3.9.4 Energy

Electricity and gas service to the Harlem River Yard is provided by Con Edison. Existing electrical service on-site is provided from East 132nd Street and enters the site at Lincoln, Alexander and Willis Avenues.

Gas mains run along East 132nd Street north of the site and no gas distribution system presently exists on the site.

3.9.5 Waterfront

The Harlem River Yard waterfront borders the Harlem River at the west end of the site and the Bronx Kill for the remainder of the site. The waterfront is built-up along practically the entire shoreline. The west end is mostly comprised of bulkheads, dotted with two timber piers. To the east of the Willis Avenue Bridge overpass lies a former rail barge dock area with timber piers as well as a wooden deck. The timber piers and wooden deck presently are in a deteriorated state. The area between the barge dock area and the Triboro Bridge overpass is mostly rip-rapped. The area east of the Triborough Bridge is predominantly earth fill material, with intermittent rip-rap except around the foundations of the Triborough and Little Hell Gate Bridges where concrete piers and structures line the waters edge.



Legend

Property Boundary

Water Supply Line

0 200 400 800 1600
FEET

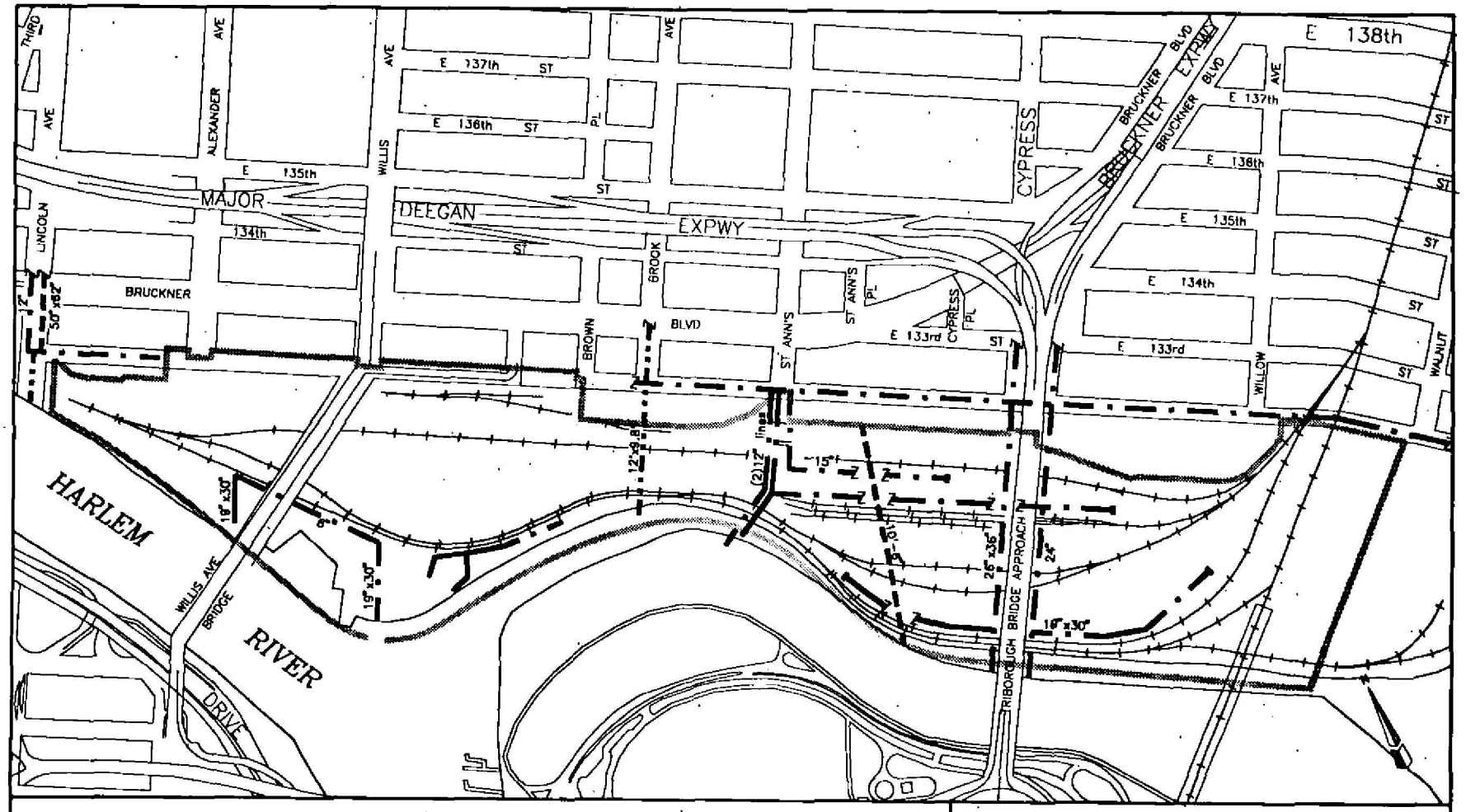
HARLEM RIVER YARD VENTURES INC.
INTERMODAL TRANSPORTATION AND DISTRIBUTION CENTER

WATER SUPPLY SYSTEM

DATE:
DEC 9, 1992

TAMS CONSULTANTS, Inc.

Figure 3.9–1



Legend

- Property Boundary
- Sanitary Sewer Line
- Storm Sewer Line
- Combined Sewer Line

0 200 400 600 1000
FEET

HARLEM RIVER YARD VENTURES INC.
INTERMODAL TRANSPORTATION AND DISTRIBUTION CENTER

SANITARY AND STORM SEWER SYSTEMS

DATE: DEC 9, 1992

TAMS CONSULTANTS, Inc.

Figure 3.9-2

3.10 Natural Resources

3.10.1 Geology

The Harlem River Yard site is underlain by consolidated pre-Cambrian rocks. The three most extensive formations are Fordham Gneiss, Inwood Marble, and Manhattan Schist. The Fordham, Inwood, and Manhattan Formations comprise the New York City Group. The strata of the three principal formations are tightly folded, and both the folding and subsequent erosion have produced a belted outcrop pattern and also a series of northeast-trending ridges and valleys.

The southern portion of Bronx County, where the site is located, is underlain by the Fordham Gneiss and narrow bands of infolded Inwood Marble. The marble typically underlies the low areas, forming long, narrow valleys. During the Pleistocene epoch, a relatively thin covering of glacial deposits, consisting chiefly of till, was laid down upon the pre-Cambrian rocks, and some stratified drifts were deposited in the valleys underlain by the Inwood Marble.

Fordham Gneiss is considered to be the oldest formation of the New York City Group. The gneiss is a well-foliated rock, and it normally exhibits a distinct banded appearance. Alternating light and dark gray to black bands can be seen on freshly exposed rock. Composed largely of the minerals quartz and orthoclase feldspar, the light-colored bands are most distinct when pure quartz is in definite concentrations. The dark bands contain abundant and aligned concentrations of biotite mica. Plagioclase feldspars and occasionally some hornblende are also present. But, feldspar, quartz and biotite mica are the predominant minerals.

Inwood Marble overlies the Fordham Gneiss and is relatively younger than the gneiss. The principal rock in this formation is a dolomitic marble. The major mineral constituent is calcite, an equidimensional mineral which does not produce foliation. Therefore, Inwood

Marble is a non-foliated rock. Other minor constituents are phlogopite mica, pyrite, tremolite, and occasionally graphite. Sugary appearing, medium to coarse-grained, and white to blue-gray on the surface, the Inwood Marble is frequently stained rust brown where weathered.

Among the pre-Cambrian rocks in Bronx County, Inwood Marble is the most productive source of groundwater. The marble is a metamorphosed limestone. It is less resistant to erosion than either the Fordham Gneiss or the Manhattan Schist. Also, it is soluble in slightly acidic water which may result in the development of underground channels.

Because the formation is weak, it underlies low ground almost everywhere. During the Pleistocene epoch, glacial melt-water streams occupied these low areas, and in part filled them with permeable stratified deposits. The increased permeability due to solutional activities, and the presence of a permeable overburden accounts for the greater productivity of the Inwood Marble than from the other consolidated rocks in the New York City Group.

The unconsolidated deposits in the Bronx County consist of upper Pleistocene deposits and Recent alluvium. A large deposit of stratified drift underlies the site. This deposit is roughly a quarter mile wide and extends south-southwestward across the western part of the county. It occupies a narrow valley that was formed in pre-Pleistocene time on the outcrop of the Inwood Marble. The stratified drift deposited on the Inwood Marble is composed of mostly sand and gravel. This drift may have been excavated by construction over the years and may not be present. Construction debris and fill may have replaced this drift.

3.10.2 Floodplains

The Federal Emergency Management Agency (FEMA) employs consultants to conduct hydrological analyses for flood insurance studies. These studies are used for a variety of purposes, including environmental planning, insurance maps, feasibility studies, and others. FEMA regulations are codified in 44CFR and specify requirements pertaining to

construction of buildings in floodplains . The City of New York implements the federal regulations on a local level through Local Laws No. 58 of 1983 and No. 33 of 1988 which amend Section 27 of the Administrative Code of New York City. This process involves preconstruction review by the Departments of Buildings and City Planning (Waterfront Development Office) of projects to be built in floodplains.

In order to facilitate the varied uses of the detailed hydrological data, FEMA has standardized designations to delineate areas of concern. The term 'flood' is used to describe a temporary condition of partial or complete inundation of normally dry land areas by the overflow of inland or tidal waters. Flood events are normally referred to by the statistically determined return period; e.g., a '100-year flood' is the flood that has a one percent chance of occurrence in any given year, or the probability of occurring once in every 100 years. Return periods are determined by statistical analyses of available records, such as rainfall, tidal events, and river discharges.

Flood elevations for the 100- and 500-year floods are determined by mathematically modeling the selected area with a computer model. The boundaries are then plotted on contour maps as shown in Figure 3.10-1 (which are based on 1983 FEMA maps). The zones presented on Figure 3.10-1 are the FEMA designations for the following flooding events:

- Zone A1-30: FEMA Zone A is the flood hazard area inundated by the 100-year flood. The numerical suffix indicates that the area has had a Flood Hazard Factor determined for it. The Flood Hazard Factor is a correlation with insurance rate tables made by the Federal Insurance Administration. On-site Zone A elevations generally range from 11 to 15 feet (NGVD).

- Zone B: Zone B is the FEMA designation for the area between the limits of the 100-and 500-year floods, inundated by the flood with a 0.2 percent chance of occurrence, or the probability of occurring every 500 years. On-site Zone B elevations generally range from 11 to 16 feet.

- Zone C: Zone C is the FEMA designation for the area that would not be inundated even if a 500-year flood occurred. On-site Zone C elevations generally run from 16 feet and higher.

Approximately 62 acres of the project site are mapped as Zone A1-30.

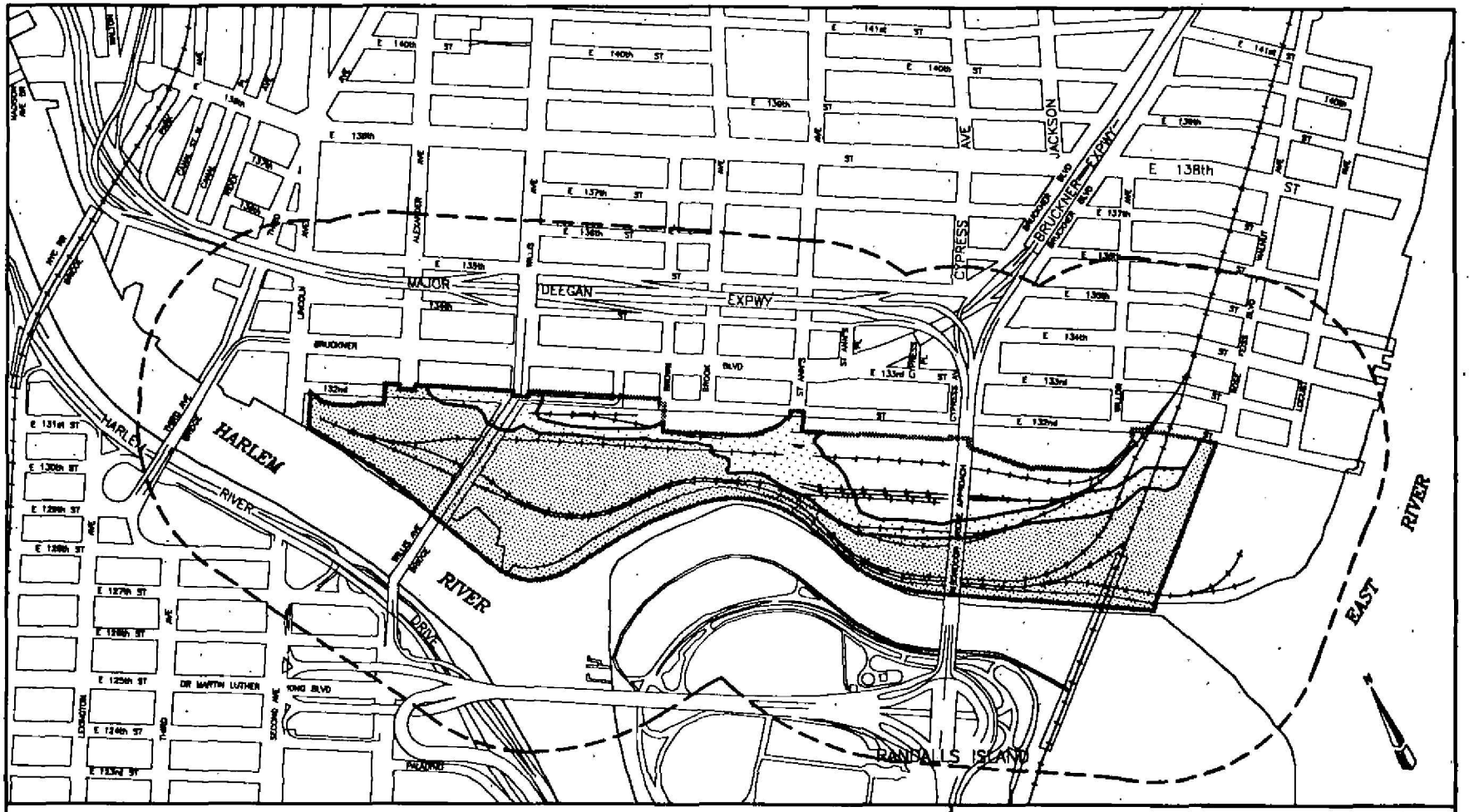
3.10.3 Ecosystems

The Harlem River Yard site has been filled, paved and built upon to such an extent that few natural features remain. Existing vegetative communities are dominated by invasive, opportunistic species such as mugwort, goldenrod, purple loosestrife and common reed. These species are typical of disturbed areas. The following is a general listing of vegetative species observed within the study area:

- Mugwort (Artemisia vulgaris);
- Goldenrod (Solidago sp.);
- Purple loosestrife (Lythrum salicaria);
- Common reed (Phragmites australis);
- Cattail (Typha latifolia);
- Sedges (Carex sp.);
- Smartweed (Polygonum sp.);
- Black willow (Salix nigra);
- Southern catalpa (Catalpa bignonioides).

There are active drainage ditches along much of the existing railroad tracks. These narrow ditches are dominated by common reed and comprise less than 1/10 of an acre. Per US Army Corps of Engineers Federal Regulations (Vol. 51, No.219, Preamble Pt. 328), these drainage ditches do not meet the criteria of waters of the United States.

The Harlem River and the Bronx Kill lie just south of the project site. New York State tidal wetland regulations (6NYCRR661) indicate that all lands under tidal waters that are less than six feet deep at mean low water, and that are not included in any other tidal



Legend

- Property Boundary
- Quarter Mile Radius
- 100 Year Flood Plain
- 500 Year Flood Plain

0 300 600 1200 2400
FEET

HARLEM RIVER YARD VENTURES INC.
INTERMODAL TRANSPORTATION AND DISTRIBUTION CENTER

100 YEAR FLOOD PLAIN

DATE: DEC 21, 1991

TAMS CONSULTANTS, Inc.

Figure 3.10-1

wetland category are defined as littoral zones. Therefore, those portions of the Harlem River and the Bronx Kill that are less than six feet deep at mean low water are considered littoral zones.

There is insufficient habitat within the study area to support diverse wildlife communities. Avifauna that were directly observed on-site are: herring gull (Larus argentatus), slate-colored junco (Junco hyemalis), ring-necked pheasant (Phasianus colchicus), house sparrow (Passer domesticus), American crow (Corvus brachyrhynchos), European starling (Sturnus vulgaris), common grackle (Quiscalus quiscula), and domestic pigeon (Columba livia). Because the site is not densely vegetated and likely contains numerous rodents, it might provide foraging habitat for raptors. It is unlikely however, that other avian species would be able to actively exploit the other limited resources of the study area.

The only mammal observed within the study area was the Eastern cottontail (Sylvilagus floridanus). Other mammalian species typically found in urban areas and which are expected to exist at this site include the Norway rat (Rattus norvegicus,) the house mouse (Mus musculus) and domestic dogs and cats.

No species observed in the study area are identified as threatened or endangered by either the NYSDEC or the US Fish and Wildlife Service. In addition, there is no habitat present within the area that would be suitable to maintain any protected species.

3.10.4 Water Quality

The sections of the Harlem River and Bronx Kill which lie just south of the project site are classified as Class I waters by New York State. The state indicates that Class I waters shall be suitable for secondary contact recreation and any other usage except for primary contact recreation and shellfishing for market purposes.

The New York City Department of Environmental Protection (NYCDEP), Bureau of Water Pollution Control, and other agencies have been collecting water quality data throughout the harbor area since 1909. The Harlem River is considered to be a polluted waterway. Three parameters among many that are generally used by NYCDEP to assess water quality are dissolved oxygen, organics and metals. Summer values for dissolved oxygen range from between 3.4 to 4.4 mg/l. These values are below the generally accepted lower limit of 5 mg/l that most finfish need for adequate respiration.

Harlem River sediments contain higher levels of certain organic pollutants than any other local waterway. Some of these pollutants are highly toxic to biota and include groups such as herbicides, pesticides, transformer oils and polychlorinated biphenyls. Harlem River sediments also exhibit elevated levels of soluble metals including mercury, copper, lead, nickel, and zinc. Many of these metals are quite toxic to aquatic life and may be one of the limiting factors to development of the resident biotic communities. Results from field studies previously conducted in the vicinity of the project site, clearly showed that a stressed biotic system was present.

3.11 Hazardous Materials

A hazardous waste site assessment was conducted in two phases for the Harlem River Yard Project. The first phase was performed in two parts. Phase IA consisted of:

- a review of historical and current site records from various federal, state, and local agencies;
- a detailed visual reconnaissance to record current site conditions and to note possible sampling locations; and
- recommendation of a strategic program of sampling to confirm or negate potential hazardous waste concerns.

The Phase IB program consisted of a soil gas survey in the vicinity of underground storage tanks near the Triborough Bridge and collection of a series of surface and near-surface soil samples in other selected areas. These areas are characterized by stained soils, coal storage, dumping activities, above ground and underground storage tanks, and historical activities of environmental concern (such as railroad operations or coal storage). Four objectives were defined for this Phase IB assessment, as follows:

- Confirm or negate the presence of surface or near-surface soil contamination at selected locations;
- Determine the nature and severity of soil contamination, if any, at these locations;
- Consider possible means of remediation of detected contamination to manage health risks or environmental liability, if necessary; and
- Indicate the potential for groundwater contamination.

Phase II was performed to provide further information with regard to the hydrogeologic environment, while at the same time addressing data requirements identified during the Phase IB investigation.

3.11.1 Phase IA

Records Review

To determine potential sources of environmental concerns, a six step procedure was followed:

1. Summaries of computerized USEPA and NYSDEC records of activities or locations of potential environmental concern in the vicinity of the site were obtained.

2. Sanborn Fire Insurance Maps were analyzed for the locations of potential sources of concern. The Sanborn maps reviewed are dated 1891, 1908, 1946, and 1989.

3. Aerial photographs of the Harlem River Yard site were also analyzed for 1951, 1962, 1970, and 1977. The aerial photographs cover the years where Sanborn maps were not available.

4. Borings logs from the NYS Department of Transportation were reviewed for potentially hazardous materials which may have been buried at the site.

5. Organizations such as Con Edison and the New York City Department of Environmental Protection were contacted regarding utility lines and right-of-ways which transect the site.

6. Areas of potential concern indicated by steps 1, 2, or 3 above were assessed for likely contaminants.

From USEPA records, no sites are listed on the National Priorities List, the Comprehensive Environmental Response, Compensation and Liability Index System, or the National Spill Reports list. From the Facilities Index System Database, which lists properties that have been investigated or reviewed by the USEPA for any reason, and the RCRA Notifier List, which lists facilities which generate, store, transport, treat, or dispose of hazardous waste, 14 sites were found to be within or near the Harlem River Yard site (i.e. south of 134th Street). These locations are listed in Table 3.11-1.

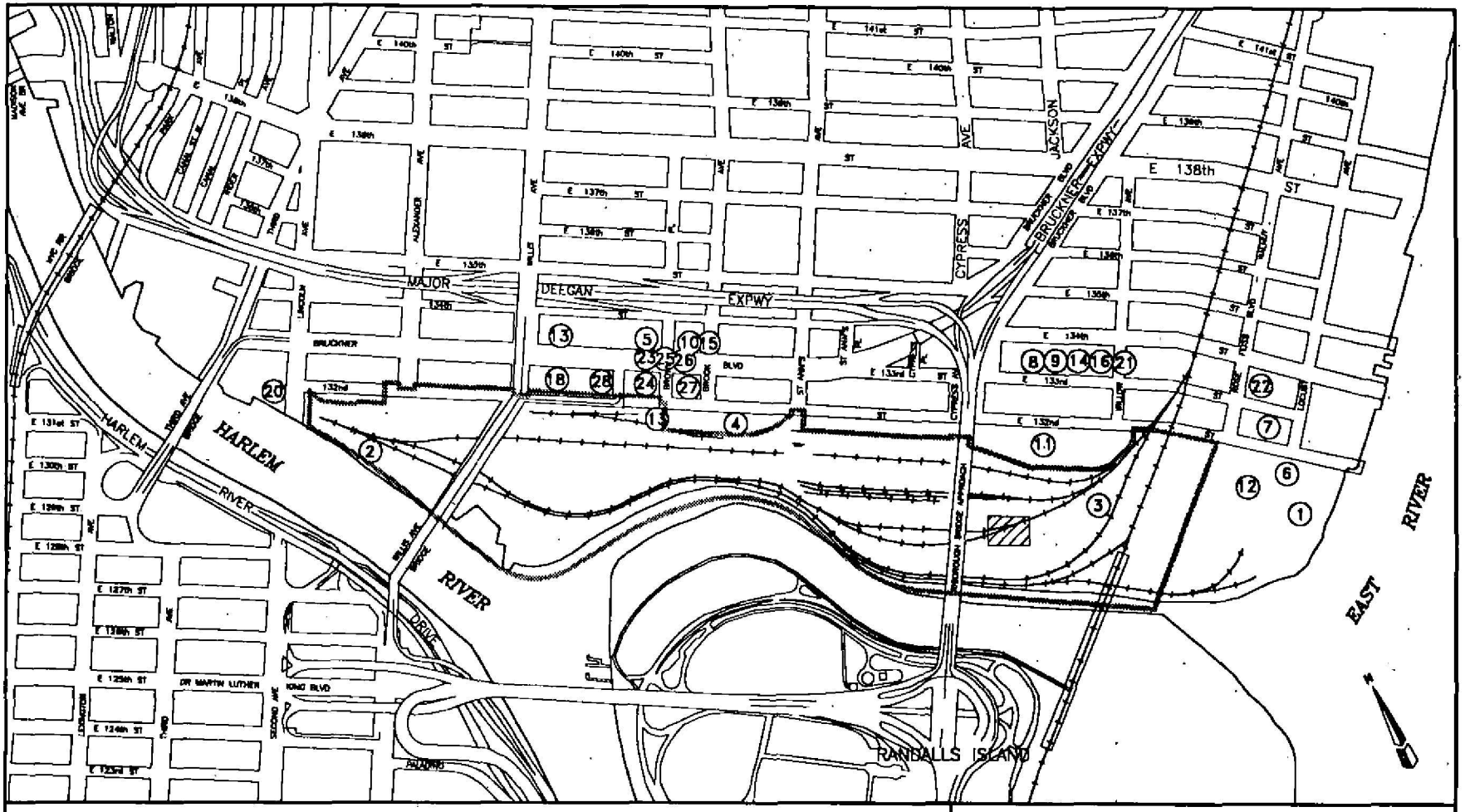
TABLE 3.11-1
AREAS OF POTENTIAL ENVIRONMENTAL CONCERN

SOURCE OF INFORMATION	FACILITY	POSSIBLE CONTAMINANTS	LOCATION FIGURE 3.11-1
1951 Sanborn	Coal Piles	Coal, Slag	1
1989 Sanborn	Heavy Equipment Storage Yard	Metals	2
1989 Sanborn	Auto Storage Yard	Metals, Oils and Grease	3
1989 Sanborn	Photomarker	Silver and Solvents	4
FINDS data base	American Pharmaceutical Co.	Chemical Solutions	5
FINDS data base	Berg Chemical Company, Inc.	Solvents	6
FINDS data base	Con Edison-Hell Gate Substation	Oil, Grease	7
FINDS data base	Flex-O-Tex Drapery Cleaners	Cleaning Solutions	8
FINDS data base	Majestic Drug Company	Solvents	9
FINDS data base	Merit Oil Corporation	Oil, Grease, Metals	10
FINDS data base	NYC Dept of Sanitation: Bx-W-1	Oil, Grease, Metals	11
FINDS data base	NYC Transit Authority	Oil, Grease, Metals	12
FINDS data base	Service Station	Oil, Grease, Metals	13
FINDS data base	Zodiac, Healox & Lustry	Oil and Grease	14
FINDS data base	Racon Manufacturing Company	Solvents	15
RCRA data base	Murray Feiss Import	Metals	16
RCRA data base	George Lopez's Cleaners	Cleaning Solutions	17
RCRA data base	Statewide Medical		18
UST data base	Gassman Coal & Oil Company	Oil and Coal	19
UST data base	Gerosa, Incorporated	Fuel Oil	20
UST data base	ISS Renofab Services	Fuel Oil	21
UST data base	Manhattan Beer Distribution, Inc.	Fuel Oil	22
UST data base	Merit Bruckner	Fuel Oil, Gasoline	23
UST data base	Mobil Service Station	Fuel Oil, Gasoline	24
UST data base	Alabama Auto Center, Inc.	Fuel Oil, Gasoline	25
UST data base	Wedtech Corporation	Fuel Oil, Gasoline	26
UST data base	Zaro Bake Shop, Inc.	Fuel Oil, Gasoline	27
Solid Waste Facility Index	Vigliotti & Sons Transfer Station	Solid Waste	28

From NYSDEC records, no locations on the Registry of Inactive Waste Disposal sites were found within or near the site. A search of the New York Underground Storage Tank Database, yielded ten locations where one or more such tanks are found. No sites were found on the 1989 open dump inventory of facilities that do not comply with USEPA's "Criteria for Classification of Solid Waste Disposal Facilities and Practices". A search of the New York Register of Solid Waste Management Facilities, Owner/Operator listing showed one transfer station in the vicinity of the site. These sites are listed on Table 3.11-1.

Review of the 1891, 1908, 1946, 1951, and 1989 Sanborn maps identified 25 locations on or near the site as areas of potential concern. These are also listed in Table 3.11-1 and are shown in Figure 3.11-1. Aerial photographs taken in 1951, 1962, 1970, and 1977 were also analyzed for possible sites because Sanborn maps were not available for the period between 1951 and 1989. The 1951 aerial photograph shows freight cars being kept between Willis Avenue Bridge and Brook Avenue. Sanborn maps for years 1946 and 1951, shows four workshops and one machine shop adjacent to the tracks by the pier. Maintenance of the freight cars may have occurred in that vicinity. The 1962 aerial photograph shows some of the tracks between Willis and Brook Avenues removed. Freight cars were still kept in that area and also at the bend beneath the Triborough bridge. The 1970 aerial photograph shows the absence of the workshops and machine shop by the pier. At that time, freight cars were primarily evident beneath the Triborough bridge with some near the Willis Avenue Bridge. The 1977 aerial photograph shows the tracks near the Willis Avenue Bridge mostly abandoned and storage of freight cars confined to the area beneath the Triborough bridge.

Boring logs and site plans for the Harlem River Yard Intermodal Terminal obtained from the NYSDOT were examined for possible contaminants encountered during the borings. The borings cover the site from Lincoln Avenue to the Little Hell Gate Bridge. Many of the borings record demolition debris (wood, bricks, glass, concrete, and boulders) and cinders near the surface. Ash was found buried by the Little Hell Gate Bridge near 132nd



Legend

Property Boundary

① Area of Potential Environmental Concern (See Table 3.11–1)

Soil Gas Survey Location (See Figure 3.11–2)

0 300 600 1200 2400
FEET

HARLEM RIVER YARD VENTURES INC.
INTERMODAL TRANSPORTATION AND DISTRIBUTION CENTER

AREAS OF POTENTIAL ENVIRONMENTAL CONCERN

DATE: NOV 19, 1992

TAMS CONSULTANTS, Inc.

Figure 3.11–1

Street. Asphalt was encountered on the east side of the Triborough Bridge close to the platforms.

From the NYSDOT site plans, four NYC utility or sewer lines were identified transecting the site. The first line extends from Alexander Avenue, the second line from Brook Avenue, the third from St. Ann's Avenue, and the last from between St. Ann's Avenue and Cypress Avenue. The Con Edison easement adjacent to the eastern edge of the site carries a gas line and electric cables which are connected with Astoria.

Site Reconnaissance

Detailed visual reconnaissance of the site was conducted on May 18, 1990. Reconnaissance activities consisted of walking through accessible areas of the site, making a record of observations, taking photographs of site features and potential sampling locations, and disturbing surficial materials in various locations to observe the constituency.

A rubbish heap is located next to the entrance gate at Lincoln Avenue. The rubbish consists mainly of construction debris and remnants of an abandoned car. Near the entrance, deposits of coal directly beneath the surface were observed. Underneath the Willis Avenue Bridge, several abandoned cars are located next to one pier. The soil around the pier is stained black with oil.

Based on a conversation with the owner of the Willis Avenue Company property, junk cars are frequently abandoned in this area, and several abandoned cars were recently removed by the Department of Sanitation. It was noted during this reconnaissance that numerous vehicles and partially stripped vehicles were scattered about the site, particularly beneath the bridges. Some appeared to be in use as shelters by squatters. The Willis Avenue Company owner indicated that while he often saw dumping of solid materials on the site, he had never witnessed the dumping of liquid wastes.

A location behind Gassman Coal and Oil company was identified as a coal yard on the 1891, 1908, and 1951 Sanborn maps. Also the Underground Storage Tank Database identified three buried tanks beneath that site. Currently there are open piles of coal on property occupied by Gassman.

Two deteriorated drums were found along the drainage ditch which runs beside the railroad lines. The area between the Triborough Bridge and the Little Hell Gate Bridge appears to have been used extensively for disposal of demolition debris. Also, pieces of coal and coal slag were found on the ground. Growth in the area is limited to weeds. Spent sealant cartridges were strewn about the ground beneath the Little Hell Gate Bridge along with old window sash and broken glass.

Also, a pile of used automobile gasoline tanks and various piles of trash and rubbish were noted in areas beneath the bridge and immediately to the east. An underground storage tank is located next to the loading platforms. This tank contains diesel fuel and the area around the fuel pump is stained.

Recommended Phase IB Program

Based on the records review and site reconnaissance, the Phase IB program consisted of a soil gas survey in the vicinity of the underground storage tank near the Triborough Bridge and collection of a series of surface and near-surface soil samples in other selected areas. The program was designed to confirm the presence and nature of soil contamination and indicate the potential for groundwater contamination.

3.11.2 Phase IB

Soil Gas Survey

During site reconnaissance under Phase IA of this assessment, TAMS personnel observed a fuel dispensing pump and underground storage tank filler caps in the concrete slab north of and immediately adjacent to a set of railroad tracks just east of the Triborough Bridge. No documentation of tanks in this location was found in the New York State Underground Storage Tank Registry. It was observed that the pump hose had no receptacle, but is simply draped over the pump housing when not in use, dripping fuel on the ground around the tanks. The soil and concrete surfaces surrounding the pump were noted to be stained, puddles showed iridescent sheens and a noticeable odor of fuel was present.

A soil gas survey was performed to assess the general extent of the surficial problems in the tank area and to determine whether the soil contamination extends deeper into the subgrade. Samples were taken at two-foot and four-foot intervals (Figure 3.11-2). During the soil gas survey, TAMS' field personnel observed a delivery of diesel fuel by the Whaleco Oil Company of Brooklyn at the tank location. The driver indicated that there are two 4,000-gallon tanks in service, each having a 72-inch diameter. According to the driver, one tank was used by the New Haven Distribution Company and deliveries by Whaleco average 1,400 gallons per week. The second tank was used by the Baldwin Company and deliveries average 3,000 gallon per week.

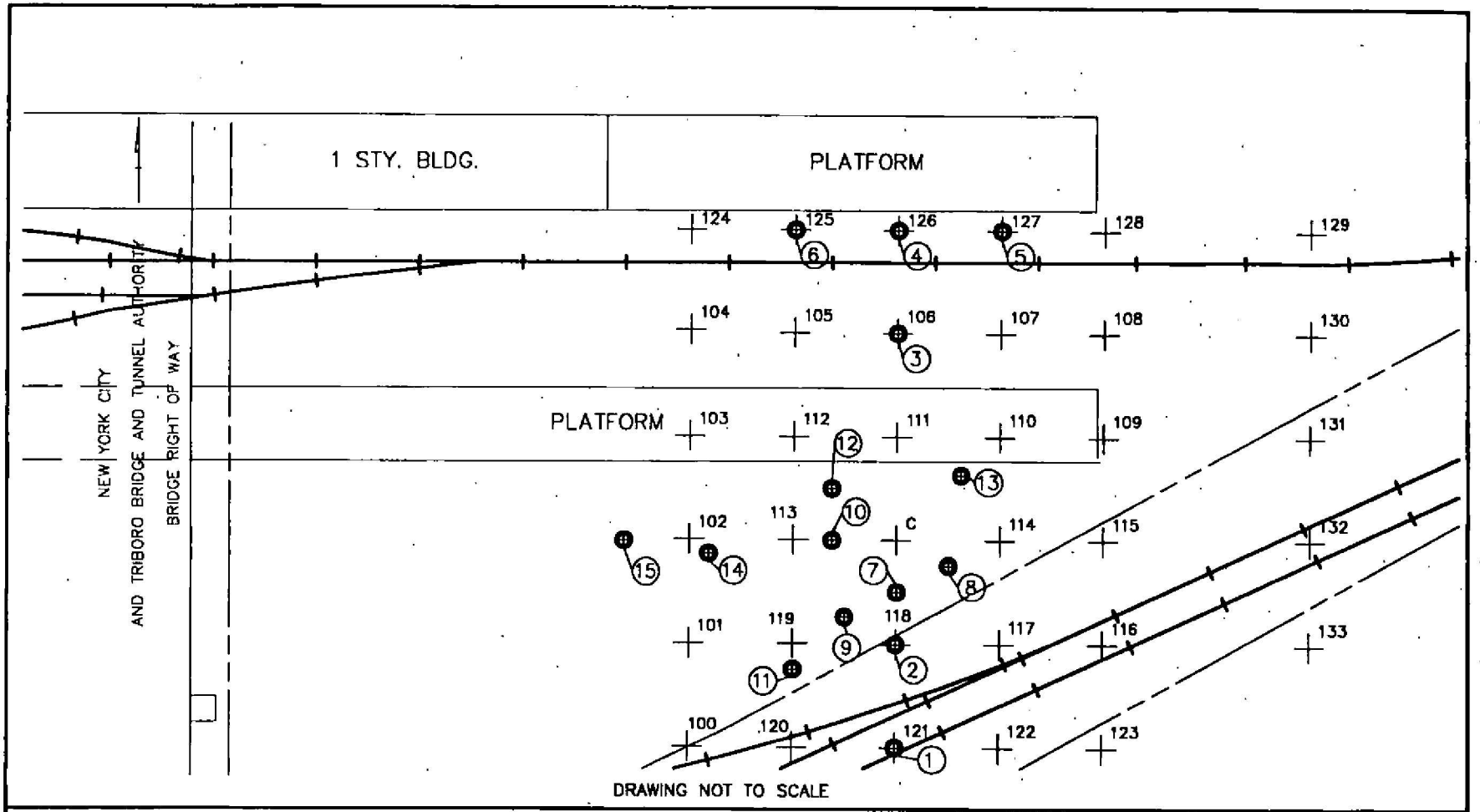
Information has been received from Lieutenant Broderick of the New York City Fire Department indicating that the tanks are registered with that organization, are constructed of steel, and were installed in 1974. He confirmed the sizes stated by the Whaleco driver and indicated that these tanks were tested in the 1988/89 cycle and no leaks were discovered.

The results (Table 3.11-2) show that measurable soil vapor contamination exists in the area of the underground storage tanks at both the two-foot and four-foot intervals. The contamination decreases in concentration with distance from the pump area, both horizontally and with depth. Taking into account the information from the Fire Department that the tanks have been shown not to be leaking, the observations made and results obtained during the course of this investigation strongly suggest that the contamination in the tank area has a surficial origin. It is likely that the problem has resulted from the pump hose dripping on the ground or other sloppy practices over the years.

Soil Sampling

Analytical results for surface and near-surface soil samples are presented in Appendix E. Analytical parameters included Target Compound List (TCL) volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and pesticides/PCBs; Target Analyte List (TAL) inorganics, including cyanide (lead only for certain samples); and total petroleum hydrocarbons (TPHC). For organic fractions, complete lists of target analytes are presented before the results. Results are reported only for those compounds present in at least one sample analyzed. Where non-target peaks were scanned (i.e., for VOCs and SVOCs), totals are presented for the tentatively identified compounds (TICs) in one or more categories within the fractions.

The near-surface samples were collected from locations well-distributed over the western and middle portions of the site, from Lincoln Avenue to the Triborough Bridge. According to Phase IA program, this is where the bulk of recent and historical activities appear to have occurred.



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110 Grid Location

Sampling Location

HARLEM RIVER YARD VENTURES INC.
INTERMODAL TRANSPORTATION AND DISTRIBUTION CENTER

SOIL GAS SURVEY GRID AND MONITORING LOCATIONS

DATE: DEC 7, 1992

TAMS CONSULTANTS, Inc.

Figure 3.11-2

TABLE 3.11-2

PHASE 1B
SOIL GAS SURVEY RESULTS

SAMPLE LOCATION	2-FOOT DEPTH			4-FOOT DEPTH		
	HNu-PID READING (ppm)	OVA READING (ppm)	GC ANALYSIS (ppm)	HNu-PID READING (ppm)	OVA READING (ppm)	GC ANALYSIS (ppm)
1	0.0	1.0		0.1	0.2	
2	0.4	2.0		0.5	0.0	
3	0.1	0.1		0.2	0.7	
4	0.5	0.7		0.6	0.8	
5	0.5	0.7		0.6	0.8	
6	0.1	0.0		**	**	
7	39.0	38.0	336	12.0	42.0	
8	0.3	2.0		0.2	0.0	
9	0.2	12.0	107	0.2	20-60	388
10	5.0	500*	1048	11.0	35+	
11	0.1	0.0		0.2	0.0	105
12	0.2	0.5		**	**	601
13	0.2	0.7		0.2	0.2-0.6	
14	0.2	18.0		0.4	24.0	xxx
15	0.0	0.0	27	0.1	2.0	

NOTES:

* Peak Reading
** No reading taken
xxx Insufficient sample

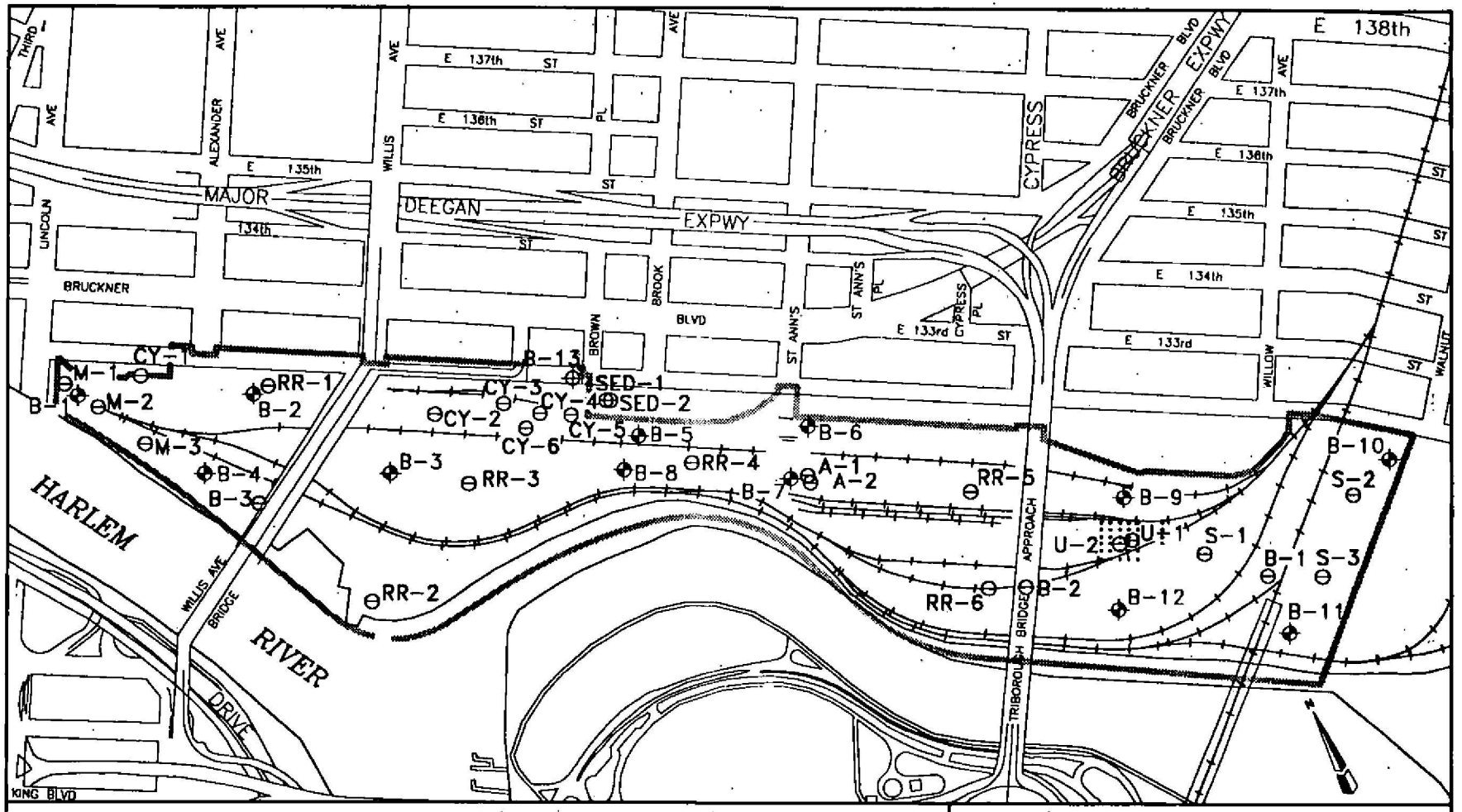
HNu PID readings using 10.2 eV lamp, referenced to benzene.
OVA FID readings referenced to methane.
GC analysis using USEPA Method T012, referenced to propane.

The analytical results were evaluated by comparing detected levels of contamination to those levels used by New York State or New Jersey to determine the need for site remediation. A detailed explanation of these action levels is provided in Appendix E. The NYSDEC will generally evaluate sites in terms of: (1) the potential to contaminate ground or surface water, and (2) the potential health risks from direct exposure to surficial contamination. Whether remediation will be required and the objectives of the remediation program are highly dependent on the proposed site use and the relation of the site to adjacent land and water resources.

Thirty surface and near-surface soil samples were collected at 22 locations on the site (Figure 3.11-3). Every sample collected showed detection of at least one parameter or class of compounds in excess of a calculated NYSDEC soil criterion or NJDEP action level.

In each of the 24 samples for which SVOCs were analyzed, individual PAHs detected exceed calculated NYSDEC soil criteria, often by many multiples. In addition, the NJDEP action level for total B/N compounds, which include PAHs, is consistently exceeded. Concentrations of selected inorganics exceed NJDEP action levels in nine of the 22 samples in which they were analyzed. These inorganics include arsenic, cadmium, copper, mercury and zinc. Lead was also detected at elevated concentrations in many samples. These results are consistent with the observable widespread presence of coal residues in surface and near-surface soils at the site.

Levels of TPHC detected are in excess of the NJDEP action level for 16 of the 18 samples in which they were measured (13 of 13 locations). For samples collected near storage tanks, the results are consistent with discharges of petroleum products near the tanks. Combined with results of the soil gas survey, these findings confirm visual observations of surficial contamination and release of fuel to the ground by inadequate dispensing equipment near the underground storage tanks. The concentration decreases with distance and depth from the pump area. VOC results for the sample nearest the above-ground storage tank confirm the TPHC results and are consistent with a discharge in the area nearest the tank.



Legend

- Property Boundary
- Surface Soil Sample Location
- Shallow Boring with Monitoring Well Location
- Shallow Boring Location
- Soil Gas Survey Location

0 300 400 800 1600 FEET

DATE: NOV 20, 1992

HARLEM RIVER YARD VENTURES INC.
INTERMODAL TRANSPORTATION AND DISTRIBUTION CENTER

SAMPLING/MONITORING WELL LOCATION PLAN

TAMS CONSULTANTS, Inc.

Figure 3.11-3

Detections of TPHC in excess of the NJDEP action level in current or former railroad bed or roundhouse locations are consistent with spills or discharges of fuels or lubricants during operation and maintenance activities. Exceedances of TPHC detections in bridge rights-of-way may be attributed to vehicular traffic on the bridges or rail operations across the bridge easements.

PCBs were analyzed in 14 samples from 10 locations in petroleum storage tank areas and railroad bed areas. Only one detection in a railroad bed sample exceeds 5 ppm, which is the NJDEP action level for an industrial area. This detection is, however, below the Federal TSCA remediation action level. Only two other locations showed detections of PCB compounds and these were below 5 ppm. These findings do not indicate any significant concern in regard to PCBs at the site.

Pesticides were analyzed in five samples in three locations. Pesticides were detected in one sample at each location in total concentrations ranging from 9.4 ppb to 41.4 ppb and consisting of Chlordane compounds, as well as DDT and a derivative. The concentrations detected may reflect the past use of pesticides on the site or, perhaps, disposal of pesticides or pesticide containers among debris on the site. There are no action levels for pesticides in soil other than toxicity limits under regulations pursuant to the Resource Conservation and Recovery Act (RCRA). No such determinations were made.

In short, this investigation has confirmed the widespread presence of surficial soil contamination at the site in excess of calculated NYS soil criteria and NJDEP action levels. The contamination detected is consistent with the observable widespread distribution of coal residues about the site (through storage, handling or movement of residue-containing soils), discharges of petroleum products around track areas and under bridges, and sloppy operations or practices in the vicinity of above ground and underground fuel storage tanks. The presence of pesticides on the site has also been confirmed.

In general, concentrations of contaminants detected were shown to decrease with depth of the sample collected, although this pattern was somewhat less pronounced or consistent for metals than for SVOCs. However, samples collected from the 24-inch to 30-inch interval also showed exceedances of criteria or action levels for several fractions or analytes. Borings conducted on the site in 1985 by Warren George for NYSDOT showed the groundwater table to be between approximately seven and fifteen feet below the surface, depending on location. Subsurface deposits were largely classified as rubble and granular materials with some finer constituents.

3.11.3 Phase II

Subsurface Soil Sampling

In order to further define site contamination, subsurface soil samples were collected from thirteen borings for chemical analysis (Figure 3.11-4). The analytical parameters chosen for soil sample analysis were based on information obtained from the Phase IA and IB investigations. Concentrations above calculated NYS soil criteria and other guidelines for semivolatile organic compounds, inorganics, and petroleum hydrocarbons were identified in many of the Phase IB surface and near-surface soil samples.

Samples which were collected from 0 to 2 feet and from just above the water table at a given boring location were analyzed for Target Compound List (TCL) organic parameters (volatile organic compounds, semivolatile organic compounds, and pesticides/PCBs), Target Analyte List (TAL) inorganic parameters, total organic carbon (TOC), and total petroleum hydrocarbons (TPHC). Additional samples collected from the profile borings were analyzed for TCL semivolatile organic compounds and TAL inorganics plus cyanide. Table 3.11-3 provides a summary of samples collected from each boring, depth of sample collection, and the analyses performed on each sample.

TABLE 3.11-3

PHASE II SITE INVESTIGATION REPORT
SUMMARY OF SUBSURFACE SOIL SAMPLE ANALYSES

SAMPLE ID	BORING	DEPTH	TCL VOC	TCL SVOC	TCL PEST/PCB	TAL INORG	TPHC	TOC
SSB1-1	B-1	0-2	X	X	X	X	X	X
SSB1-2	B-1	2-4	X	X		X	X	X
SSB1-3	B-1	4-6		X		X	X	
SSB1-4	B-1	6-8	X	X	X	X	X	
SSB2-1	B-2	0-2	X	X	X	X	X	X
SSB2-2	B-2	2-4				X		
SSB2-3	B-2	4-6	X	X	X	X	X	X
SSB2-4	B-2	6-8				X		
SSB2-5(DUP)	B-2	6-8				X		
SSB3-1	B-3	3-5	X	X	X	X	X	X
SSB4-1	B-4	3-5	X	X	X	X	X	X
SSB5-1	B-5	2-4	X	X	X	X	X	X
SSB6-1	B-6	5-7	X	X	X	X	X	X
SSB7-1	B-7	0-2	X	X	X	X	X	X
SSB7-2	B-7	2-4		X		X		
SSB7-3	B-7	4-6		X		X		
SSB7-4	B-7	6-8	X	X	X	X	X	X
SSB7-5(DUP)	B-7	2-4		X		X		
SSB8-1	B-8	0-2	X	X	X	X	X	X
SSB8-2	B-8	2-4		X	X			
SSB8-3	B-8	4-6		X	X			
SSB8-4	B-8	6-8	X	X	X	X	X	X
SSB9-1	B-9	0-2	X	X	X	X	X	X
SSB9-2	B-9	2-4		X		X	X	
SSB9-3	B-9A	4-6		X		X		
SSB9-4	B-9A	8-10	X	X	X	X	X	X
SSB10-1	B-10	3-5	X	X	X	X	X	X
SSB11-1	B-11	0-2	X	X	X	X	X	X
SSB11-2	B-11	3-5	X	X	X	X	X	X
SSB12-1	B-12	0-2	X	X	X	X	X	X
SSB12-2	B-12	2-4		X		X		
SSB12-3	B-12	4-6		X		X		
SSB12-4	B-12	6-8	X	X	X	X	X	X
SSB13-1	B-13	0-2	X	X	X	X	X	X
SSB13-2	B-13	2-4				X		
SSB13-3	B-13	4-6	X	X	X	X	X	X

Grain size analyses were also performed for seven subsurface soil samples to confirm field classifications. Samples collected for this purpose include Boring B-1, Sample S-3 (B-1, S-3, 4 to 6 ft depth interval), and B-4, S-2 (1.5 to 3 ft), both from the western zone; B-5, S-3 (4 to 6 ft), B-6, S-3 (3 to 5 ft), and B-7, S-2 (2 to 4 ft), all from the central zone; and B-9, S-2 (2 to 4 ft), and B-11, S-4 (5 to 7 ft), both from the eastern zone.

Table 3.11-3 provides a summary of analyses performed for samples collected at each boring location. Results of the analyses are included in Appendix E.

Surface and Near-Surface Soil and Sediment Sampling

Surface and near-surface soil samples were collected for chemical analysis at three locations identified during the Phase IB investigation as areas of potential contamination. Sampling locations S-1 through S-3 are within the eastern zone of the site as shown on Figure 3.11-4. The samples were collected by TAMS personnel on August 14 and 15, 1991.

Two sediment samples, SED-1 and SED-2, were collected by TAMS personnel on August 15, 1991 from the edge of a small ponded area between a one-story warehouse and the Bronx Kill, and just to the west of the Triborough Bridge, as shown on Figure 3.11-4. The sampling locations were based on observations of a 55-gallon drum and an oil container floating in a depression filled with water during the Phase IA investigation. The two samples were collected from 0 to 6 inches in depth using dedicated stainless steel hand bucket augers.

The six surface and near-surface soil samples and two sediment samples were analyzed for TCL organics, TAL inorganics, TPHC, and TOC.

Table 3.11-3 provides a summary of analyses performed for samples collected at each surface and sediment location. Analytical results are summarized in Appendix E. The six surface and near-surface soil samples are designated on the tabulated data with the prefix

"HRYS", following the location number (1, 2, or 3) and the depth (-1 for surface [less than 12 inches below the surface], and -2 for near-surface [24 to 30 inches below the surface]). Two additional surface soil samples, labeled as sediment samples SED-1 and SED-2, were collected from potentially contaminated areas in which ponded water had been observed previously.

Groundwater Sampling

Groundwater samples were collected from each monitoring well on September 9, 1991. The groundwater samples were collected to determine if the shallow soil contamination were leaching into the groundwater present at the site. The samples were analyzed for TCL organics, TAL inorganics, TPHC, and chlorides. Chlorides were analyzed to confirm results of the tidal study discussed below, in regard to salt water intrusion.

Twelve groundwater samples were collected and analyzed for TCL organics and inorganics, TPHC, and chlorides. A field duplicate of the sample from well B-2, labeled B-13, was also collected and analyzed. A summary of analytical data is presented in Appendix E.

3.11.4 Summary of Phase IA and IB and Phase II Findings

Semivolatile organics (especially PAHs) and metals (especially lead) are the predominant contaminants detected at the site. There is no evidence that the presence of the organic contaminants in the surface and subsurface soils is affecting groundwater quality at the site. For certain monitoring locations, measured groundwater quality does not meet 6NYCRR Part 703 standards for a number of metals; however, in many instances this is due to the present of silt (suspended solids) in unfiltered samples. There is little correlation between the metals detected in soil samples at concentrations exceeding reported background values and the metals exceeding groundwater standards.

The results of this investigation are generally consistent with the results of the Phase IB investigation, and add to the database for the site.

Surface and subsurface soil contaminants reported in the Phase II investigation are consistent with the Phase IB data, both in terms of the identity of the contaminants detected at the site and the concentrations at which they were detected.

Inorganic soil contamination appears to be somewhat more prevalent in the eastern zone of the site than in the western and central zones; however, there is no consistent relationship between sample depth and inorganic contaminant concentration. A similar pattern is also evident for the TCL organics, especially the SVOCs and in particular, PAHs.

On the other hand, a definite relationship between sample depth and TPHC concentration was observed, but without any apparent relationship between TPHC concentration and zone (western, central, or eastern). This trend in the TPHC data is consistent with visual observations and the conclusions of the Phase IB report, in which it is stated that TPHC contamination likely originates as surficial contamination, and only gradually migrates downward.

Interpretation of the groundwater data is hindered by the unusual flow patterns at the site. The complex hydrogeologic conditions make strict definitions of monitoring wells as "upgradient" or "downgradient" difficult. In the eastern zone of the site, where it does appear that B-9 is upgradient of B-11 and B-12, the chemical analytical data are inconclusive as to the effect of the site on groundwater quality. Inorganic analyte concentrations in the sample from B-11 do not appear to be significantly greater than in the B-9 sample; however, some inorganic analyte concentrations are higher for B-12 than for B-9.

The groundwater data are generally consistent with the history of the site; i.e., the random placement of fill of varying composition from various sources. Metals in the dissolved state

exceeding applicable criteria are generally limited to iron, magnesium, manganese, and sodium.

CHAPTER 4

IMPACTS OF THE PROPOSED ACTION

This chapter of the EIS describes the impacts associated with the approval of the proposed land use plan. Other alternatives to the proposed action are discussed in Chapter 5. Where the land use plan includes options for the possible future development of the site (e.g., waste paper recycling or warehousing), the impacts of the options are analyzed. Where impacts are the same for both options, no distinction is made in the analyses presented. This is true for such impact categories as zoning, relocation, and cultural resources. Where impacts are different, they are so noted (e.g., for traffic and air quality).

While the no action alternative assumes that the proposed action would not be implemented, it does, however, consider the impacts of other proposed projects in the study area that meet all of the following criteria:

- would occur in the same time frame as this project (i.e., by 1996);
- would be significant;
- would be geographically close enough (i.e., within the primary and secondary study areas) to be specifically considered in the impact analyses.

Consequently, a variety of sources were contacted to identify any proposed projects that met the above criteria. These sources included:

- City Environmental Quality Review (CEQR) filings at the New York City Department of City Planning (NYCDCP) and New York City Department of Environmental Protection (NYCDEP);
- Bronx agencies and organizations such as the Bronx Office of City Planning, and the South Bronx Overall Development Organization (SOBRO).

The only project identified was Nehemiah Housing in the area south of St. Mary's Park, providing 200-250 units with a start year of 1993 and completion by 1994.

While the Nehemiah housing project is the only one close and significant enough to be specifically factored into the EIS analyses, it must be noted that the Harlem River Yard project is one of several key development projects in the City's efforts to "bring back the Bronx". These redevelopment initiatives include:

- Melrose Commons, a 3000-unit residential complex with 500,000 square feet of commercial space;
- Morrisania Industrial Park, which will generate over 900 jobs;
- NYC Police Academy relocating to the Grand Concourse;
- Major expansion of Hostos Community College;
- Section 404 housing projects at a number of location;
- Reopening the East 161st Street Courthouse;
- Transportation improvements at Yankee Stadium.

These projects are being coordinated under the planning umbrella of the Bronx Center Project.

Thus, the Harlem River Yard project becomes another key component in improving the institutional, commercial and residential fabric of Bronx County.

4.1 Land Use

4.1.1 Future Without the Proposed Action

The no action alternative assumes the proposed project would not be built. Under this scenario, the remaining manufacturing uses and the isolated residential uses would be expected to continue to operate, albeit at a somewhat lesser rate of decline than experienced during the 1970s and 1980s.

In the absence of any actions, it is expected that the area would continue to deteriorate and there would be further vacancies of manufacturing and commercial spaces. Nearby efforts to revitalize Mott Haven and the Hub would also be less likely to succeed. There are several other proposed projects (identified below) that would assist in stabilizing the area and perhaps provide some support for industrial stabilization.

4.1.2 Impacts of the Proposed Action

Compatibility with Surrounding Area

No zoning change is required for the proposed action. The industrial and commercial activities proposed for the site conform with the site's M3-1 and M2-1 zoning.

The proposed action would redevelop the mostly vacant 96-acre Harlem River Rail Yard, establishing a variety of industrial and commercial uses. The following summarizes the proposed uses and their principal characteristics:

1. 3,000 TPD Transfer Station
   Acreage: 5
   Building: 87,500 sq ft/28ft high

Operation: Household and commercial garbage will be delivered by truck to the fully enclosed facility, where it would be compacted before being loaded into containers for rail shipment to a landfill or waste-to-energy facility.

2. Paper Facility
Acreage: 18
Building: 570,000 sq ft/28-50 ft high
Operation: Old newsprint and magazines generated in NYC would be recycled into new newsprint through a process of pulping, screening, washing and deinking. Machines will dry and form the pulp into newsprint.

3. Warehouse
Refrigerated or dry goods warehouse/distribution
Acreage: 2
Building: 80,000 sq ft/up to 39 ft high.

Other Warehousing

Wastepaper Recycling Option	Warehouse Option
Acreage: 6	Acreage: 25
Building: 100,000 sq ft/39 ft high	Building: 560,000 sq ft, 39 ft high

4. Intermodal Terminal
Acreage: 28
Buildings:
a) Maintenance/administrative/personnel - 20,000 sq ft/1 story
b) Scale House - 5,000 sq ft/1 story
Operation: Center for transfer of goods from truck to rail and rail to truck.

5. Flower Market
Acreage: 5-7
Building: 170,000 sq ft/14 ft high
Fresh flowers would arrive by truck or rail to this wholesale distribution center. Orders will be shipped out by truck to metropolitan area florists.

Parking would be as required under the Zoning Resolution for M3-1 districts, which is: one space per 1,000 sq ft or one space per three employees for manufacturing uses (whichever is the greater); or one space per 2,000 sq ft or one space per three employees for storage or miscellaneous uses. Based on the anticipated buildout of industrial and warehousing/ distribution space, a total of 831 automobile parking spaces would provided under the M3-1 zoning for the wastepaper recycling option. For the warehouse option, the required parking

spaces would be 322. In addition, truck loading bays would be provided in accordance with the zoning resolution.

The proposed reuse of the project site for permitted industrial and commercial uses poses no major land use impacts on the surrounding community. This finding is based on the fact that the site is substantially buffered by other industrial uses from the residential section of Mott Haven, which begins on East 135th Street, at least three blocks north of the project site. There are some isolated pockets of residential use in the industrial district that surrounds the site. However, these are already non-conforming with zoning and have long coexisted with the heavy industrial uses that typify much of the district. The proposed action will not, therefore, alter the relative incompatibility of these remanent residential uses with the dominant industrial nature of the area.

The parkland across the Bronx Kill from the Project Site, on Randalls Island, will come into closer contact with industrial use as a result of the redevelopment of the site. However, the park is in similar juxtaposition with other existing industrial uses at its eastern end, where the Con Edison generator and Surface Transit Garage are located, with no apparent problem. The fact that the primary activities of the proposed facility would be enclosed implies that no adverse land use impacts will extend across the Bronx Kill to Randall's Island.

Relationship to Public Policy and Plans in the Area

As noted above, the proposed action is in conformity with existing zoning for the site. The site has long been a rail yard with distribution functions, in turn surrounded by other industrial activities and located in a heavy manufacturing district, represented by an M3-1 designation. This section of the South Bronx waterfront is designated in the NYC Comprehensive Waterfront Plan as a "Significant Maritime/Industrial Area", (Department of City Planning, New York City Comprehensive Waterfront Plan,1992). The City's strategy for areas so designated emphasizes:

- Manufacturing zoning should be maintained;
- Development on property leased or sold by public agencies should be designed in a way that would leave open future berthing of maritime support vessels in and along the water;
- Municipal facilities proposed for locations in the Significant Areas should be encouraged to consider inclusion of water-dependent elements and use of rail for movement of materials;
- A task force should be established to develop and implement a regional rail freight intermodal strategy.

The intermodal nature of the project's transportation system, especially with its critical relationship to the NYSDOT-supported Oak Point Rail Link, is very much in accord with the City's present and long-standing plans for the area. Utilizing rail to import goods to NYC markets and to export solid waste would substantially reduce reliance on truck traffic, with all its concomitant congestion, noise and air quality problems.

Coastal Zone Consistency

The proposed project is in conformity with the newly proposed City's Comprehensive Waterfront Plan (1992) and its designation of the site as part of the South Bronx Significant Maritime/Industrial Zone. This proposal is intended to build upon the City's existing Waterfront Revitalization Program (1982), which in turn is a local effort to implement the NYS Waterfront Revitalization Program and the Federal Coastal Zone Management Program. The State's Waterfront Revitalization Program, as administered by NYS Department of State, sets forth 44 program policies. (Each of these is identified in Appendix A and the proposed project's consistency with each policy is stated immediately following).

4.2 Urban Design Characteristics

4.2.1 Future Without the Proposed Action

The no action alternative would most likely result in little new development in the project area. Other proposed projects beyond the secondary study area may contribute to some minor commercial growth and stability in the project area but would be unlikely to significantly alter its overall visual character.

As described in Section 3.2, the immediate study area lacks a cohesive urban design and character and has a high degree of visual clutter. There are wide varieties of building heights, land uses and architectural styles, interspersed with numerous vacant lots usually occupied with open storage, parked vehicles or littered with illegally dumped debris. Other than in the parks, vegetation is mostly in the form of overgrown lots. Under the future no action, the visual quality and physical conditions are expected to be the same as the existing conditions.

4.2.2 Impacts of the Proposed Action

The proposed action would result in the redevelopment of the Harlem River Rail Yard on the footprint shown in Figure 2-1. The buildout would be consistent with the zoning provisions for M3-1 districts. The overall physical condition and visual quality of the project site would be significantly improved by the replacement of vacant and deteriorated warehouse buildings and vacant weed covered areas with modern, well-designed industrial facilities.

The floor area ratio (FAR) permitted under the M3-1 zoning generally produces low-rise buildings. (The zoning permits a street wall to rise to 60 feet before requiring setbacks in conformity with sky exposure plane requirements.) In general, building heights would vary from one to two stories, reaching 28 feet.

One exception to the low elevation of the proposed structures is the wastepaper recycling facility at the extreme eastern end of the site. This facility is expected be housed in a building 50 feet high. Several of the buildings in proximity to this part of the site are of an equal or greater elevation. The Con Edison station is 7 to 8 stories high, and several loft buildings on Willow Avenue in this vicinity are 6 stories. In consequence, the facility will not be out of character from many other of the industrial buildings in this part of the study area. No particularly significant views would be lost as a result of this facility.

The study area beyond the project site would not be directly affected by the proposed action. The existing industrial buildings and character of the surrounding blocks would buffer and screen the activities on the project site from the residential community to the north. Little of the redevelopment would be visible from the residential district, except from the higher floors of those residential towers that have wide panoramic views of much of the City. The low elevations of most of the proposed structures would not, however, be out of character with their immediate industrial surrounds. Neither would they act to block views of the green spaces of Randalls Island, the water views across the East River towards Long Island Sound, and south to the skyscrapers of Midtown Manhattan, enjoyed by these high-rise residents.

No adverse impacts are anticipated on views from Randall's Island because of the nature of existing degraded conditions at the site and the immediate context of other industrial and warehouse buildings, several of which are vacant and dilapidated. The introduction of new modern industrial structures would be an improvement on site and in conformity with the general character of the surrounding industrial district. The railroad and truck activities proposed at the site are essentially the same as now exist, and proposed activity levels would reflect levels occurring 20 to 30 years ago. In addition, a planting buffer is planned along the waterfront. This will be 30-feet wide, except in that segment where the mainline rail track abuts the water directly for about 300 feet along the Bronx Kill. Native plantings would help screen and soften the views of the site from much of Randall's Island.

4.3 Socioeconomics

4.3.1 Future Without the Proposed Action

Demographics

The present non-residential character of the project site would remain unchanged without the proposed action. Without the proposed action there would be no redevelopment of this area and no increase in employment at the site. The present minimal level of employment at the project site (approximately two security guards and several workers associated with the warehouse operations) would be expected to continue.

No other projects are known to be planned and in operation by the proposed project's Build Year. Consequently, no identifiable growth in employment is likely to occur in the study area under the no action alternative. The trend of declining employment described in Chapter 3 would be expected to continue.

State and City Tax Revenues

Under the no action alternative, there would be no new employment associated with the proposed action and consequently, there would be no increase in related state and city tax revenues.

4.3.2 Impacts of the Proposed Action

Demographics

The industrial character of the proposed project will have no direct impact on the numbers of the residential population of the study area.

Employment

Permanent Employment

Direct permanent employment associated with the wastepaper recycling option is estimated at 770 employees (803 for the warehouse option)(Table 2-2). On the basis of US Bureau of Labor Statistics (BLS) data on average wage rates in New York City for laborers, material handlers, and truck drivers, it is assumed that an average wage of $15.50 per hour (1991) will be earned by 95 percent of the employees (BLS June 1991 Survey, most recent available as of November 1992). The remaining five percent are assumed to be highly skilled technical professionals or managers earning an average of $50,000 per year. In total, therefore, direct permanent earnings generated by the proposed action are estimated at $25.5 million for the wastepaper recycling option ($26.6 million for the warehouse option), based on an average of $33,128 per worker (1991 dollars).

Indirect employment generated under the wastepaper recycling option is estimated at an additional 462 jobs (482 for the warehouse option). This figure is based on a secondary economic multiplier of 1.6 (i.e. for each additional dollar of direct demand an additional sixty cents of demand would be created in the local economy). This multiplier is based on NYC Office of Management and Budget studies which noted multipliers of 1.6473 (Transportation), 1.6061 (Utilities); and 1.2801 (Wholesale Trade). This secondary employment round would be expected to generate additional earnings of $15.3 million ($16 million for the warehouse option). Secondary demand would be expected most to occur in the following sectors: Manufacturing; Business Services; Eating/Drinking/Hotels; Government; Trade; and Construction.

Temporary Employment

Temporary employment associated with the construction of the new facilities is estimated on the basis of prevailing wage rates of approximately $40,000 per year in 1991 (including

20 percent fringe benefits), and a standard labor component (40 percent) of estimated construction costs ($252.3 million in 1993) ($70.2 million for the warehouse option). Over an anticipated four year development period, construction employment is estimated at 631 jobs per year (175 jobs for the warehouse option). Indirect or secondary employment would also flow from the temporary construction employment. For this a multiplier of 1.4 is used, thus generating an additional 252 temporary indirect jobs in each of the four years of construction (70 jobs for the warehouse option).

It is assumed that a high percentage of the employees would be drawn from the Bronx and all but 10 percent drawn from other boroughs of the city. It is also assumed that all the jobs, both from the expansion of existing firms and those from new firms would be new jobs or jobs retained in the city that would have relocated elsewhere.

City and State Tax Revenues

Tax revenues would increase as a result of the proposed action (Table 4.3-1). Increased personal and corporate income taxes and sales taxes from new job earnings would be the primary sources of anticipated new revenues. Real property taxes will not be a major factor because the site is tax exempt as a State-owned utility.

Some other properties in the surrounding area that would benefit from the increased level of business activity and employment in the area may see some real property tax increases, to reflect increases in the value of property, but this expected to be a minor factor and is not itemized here.

Personal Income Taxes

The types of transportation, manufacturing and wholesale businesses to be located at the site are identified above. Based on average hourly earnings of $15.50 (BLS 1991 Survey) for 95 percent of the workforce and $50,000 per year for the remaining management and

TABLE 4.3-1
INCREASE IN ANNUAL CITY AND STATE TAX REVENUES
Wastepaper Recycling Option

		Personal Income ($000)			Corporate Income ($000)			Sales ($000)			Total City	Total State	City & State
		State	City	Total	State	City	Total	State	City	Total	($000)	($000)	($000)
Permanent													
No. of Employees	770	1,142	562	1,704	510	413	923	263	237	500	1,212	1,915	3,127
Avg. Earnings $	33,128												
Indirect													
No. of Employees	462	685	337	1,022	306	248	554	158	142	300	727	1,149	1,876
Avg. Earnings $	33,128												
Total Permanent	1,232	1,827	899	2,726	816	661	1,477	421	379	800	1,939	3,064	5,003
Direct Temporary													
No. of Employees	631	1,276	1,149	2,425	505	409	914	260	234	494	1,792	2,041	3,833
Avg. Earnings $	40,000												
Indirect Temporary													
No. of Employees	252	511	459	970	202	164	365	104	94	198	717	817	1,533
Avg. Earnings $	40,000												
Total Temporary	883	1,787	1,608	3,395	707	572	1,279	364	328	692	2,509	2,858	5,367
Grand Total	2,115	3,614	2,507	6,121	1,523	1,234	2,756	785	707	1,492	4,448	5,922	10,370

Assumptions: married, four exemptions; 90 % live in City, 100 % in State.

TABLE 4.3-1 (continued)

Warehouse Option

		Personal Income ($000)			Corporate Income ($000)			Sales ($000)			Total City	Total State	City & State
		State	City	Total	State	City	Total	State	City	Total	($000)	($000)	($000)
Permanent													
No. of Employees	803	1,191	586	1,777	532	431	963	274	247	521	1,264	1,997	3,261
Avg. Earnings $	33,128												
Indirect													
No. of Employees	482	715	352	1,066	319	259	578	165	148	313	758	1,198	1,957
Avg. Earnings $	33,128												
Total Permanent	1,285	1,905	938	2,843	851	690	1,541	439	395	834	2,022	3,196	5,218
Direct Temporary													
No. of Employees	175	355	319	674	140	114	254	72	65	137	498	568	1,066
Avg. Earnings $	40,000												
Indirect Temporary													
No. of Employees	70	142	128	270	56	45	102	29	26	55	199	227	426
Avg. Earnings $	40,000												
Total Temporary	246	497	447	944	196	159	356	101	91	192	698	795	1,492
Grand Total	1,530	2,402	1,385	3,787	1,048	849	1,896	540	486	1,026	2,720	3,990	6,710

Assumptions: married, four exemptions; 90 % live in City, 100 % in State.

professional jobs, an average annual wage of $33,128 is estimated for the new jobs. Based on the 1991 personal income tax rates, the average wages for these new permanent employees, and $40,000 wages for construction workers, New York City and State tax revenues are estimated for the proposed project in Table 4.3-1.

Corporate Income Taxes

Estimates of additional city and state corporate income tax revenues collected from the proposed action were made on the basis of the following assumptions. Estimated payrolls associated with the proposed action permit an estimate of "total value added" by the new businesses. The labor component of total value added is approximately 50 percent. Assuming all employers are corporations, corporate profits are estimated at approximately 10 percent of total value added and these would be subject to the city and state corporate income taxes at 0.09 percent and 0.1 percent, respectively. Table 4.3-1 indicates estimated corporate income taxes.

Sales Taxes Revenues

Additional city and state sales tax revenues would be generated from the new jobs and the share of their income subject to sales taxes. The employment and payroll data estimated above is used again. Here, 25 percent of income is estimated as subject to sales tax, the city's share being at a rate of $0.04125 and the state's at $.04 (the MTA receives - $.00125, which for the sake of simplicity is included with the state's share in this analysis). On this basis, the sales taxes projected for the proposed action are presented in Table 4.3-1.

Miscellaneous Tax Revenues

Additional tax revenues are expected from various sources, including water and sewer charges, real property transfer taxes, commercial occupancy taxes, and utility taxes. These are expected to be relatively minor in total and therefore have not been estimated.

Total Tax Revenues

Under the wastepaper recycling option, the estimated permanent city and state revenues anticipated from the new personal and corporate income taxes, and sales tax, results in an increase in city revenues of almost $1.9 million per annum (Table 4.3-1). For the state, the respective increase in revenues would be over $3.1 million. Corresponding city and state tax revenue measures for the warehouse option are $2 million and $3.2 million, respectively.

Lease Revenues

Harlem River Yard Ventures has entered into a lease agreement with the State of New York that provides revenues to the state in the form of profit sharing. The amount of revenues that the state will receive is thus a function of the future profitability of the various activities included in the land use plan for the yard.

Displacement and Relocation

Several facilities, which presently operate out of the Harlem River Yard (Baldwin, New Haven, Gassman Coal and the NYC Transit Authority (NYCTA)), would be relocated as part of the proposed action. Baldwin and New Haven formerly operated warehouses east of St. Ann's Avenue, but both have already relocated most of their activities to East 149th Street near the Coca-Cola building. A few remnant activities currently remain, but will vacate the site this year.

Gassman Coal presently occupies about two acres in the northwest portion of the site. The present lease expires in October 1994 at which time coal activities will be relocated to nearby off-site facilities currently operated by the Gassman Coal Co. The Harlem River Yard construction schedule is compatible with this timeframe and would have no impact on Gassman Coal operations.

The NYCTA presently occupies about seven acres east of the Little Hell Gate Bridge for employee parking and vehicle storage related to their bus garage. The NYCTA will undertake a major renovation of the facility and all personnel and functions will be transferred to another facility in the Bronx while the renovation is underway. At this time it is not known what functions will return to the site.

Potential for Secondary Displacement

Off-site secondary displacement and induced development impacts are a potential issue for certain types of actions of this magnitude. This situation occurs when existing business tenants are outbid by new tenants attracted to the area because of the improved conditions attributed to development likely to occur under the proposed action.

By forestalling the further expansion of blight and deterioration at the site and improving employment opportunities, the proposed action would attenuate the existing trend toward abandonment and business decline in areas immediately adjacent. It is not expected, however, that the proposed action would result in any significant industrial or residential secondary displacement.

Induced Development

The secondary employment impacts of the proposed action will likely be absorbed as expansions of existing businesses, particularly those relating to transportation, food, and lodging. Opportunities to open new business serving the project could be readily

accommodated by development of the numerous vacant buildings or lots in proximity to the project site.

Transportation Costs

While the exact savings in transportation costs are difficult to determine, projections made by Temple, Barker & Sloane, Inc. (TBS) for NYSDOT cite estimated annual savings of $6.5 million (1988 dollars) in the third year of operation of the TOFC at Harlem River Yard (Harlem River Yard Privatization Study, Feb. 1989, p.VII-10.) These dollars were the benefits accruing to New York State users, of a total annual user benefit of $7.9 million projected in that year. The proposed rail operations at HRY are slightly different than those assumed in the TBS Study. If the savings attributed to the relevant users are adjusted to account for the proposed action's volumes and distributions, the annual savings in Year 3 would be $10.5 million and the share to New York users would be $8.6 million, as shown below:

	Volume	Unit Savings	Total Savings
Refrigerated Trailers	45,000	$40	$1,800,000
Other Trailers	55,000	$10	$550,000
Solid Waste	9,750	$600	$5,850,000
Lumber	1,300	$275	$360,000
Bulk	1,200	$908	$1,900,000
		Total	$10,460,000
		New York Share	$8,577,000

These savings are computed in 1988 dollars. If they are inflated to 1992 dollars, the New York share would increase from $8.6 million to $10.4 million.

The TBS Study extended their projected savings over 20 years incorporating an annual growth in volume of one percent per year after Year 3, and discounted at a rate of 10

percent per year to arrive at a cumulative net present value of $51.8 million. If the proposed action's volumes are similarly projected and discounted using 1992 dollars, cumulative net present value savings would be in the order of $78.5 million. In 1993, however, discount rates have declined to three percent and at this rate cumulative net present value would be in the order of $148.9 million. Moreover, the TBS Study is particularly conservative in that it does not assume any inflation of the per unit cost savings over the 20-year time frame but merely discounts the 1988 estimated dollar savings generated by TOFC at HRY.

Secondary round benefits from these freight cost savings would also accrue to businesses and consumers in the region. The TBS Study projected $14.28 million (1988 dollars) in increased business activity in New York directly associated with the increased transportation activity at HRY in Year 3 of its operation (TBS for NYSDOT, 1989, p.VII-17). The secondary rounds of activity projected from this increased transportation activity included a further $28 million in expenditures in goods and services and earnings of $10.3 million (TBS for NYSDOT, 1989, p.VII-21). These economic benefits are projected to increase as the TOFC becomes more established an operation.

In addition to the business expansion in immediate proximity to the facility, the savings in transportation costs would provide consumers in the region with cheaper goods and services, in turn enabling these dollars to be spent on other goods and services, many of which would be produced in New York. This secondary round of benefits also applies to the savings to businesses that they can use for new investment or reduced prices, either of which are likely to improve their competitive position.

4.4 Community Resources

4.4.1 Future Without the Proposed Action

No other projects are likely to be developed in the secondary study area by the build year 1996. However, immediately to the north of the study area, 200 to 250 dwelling units are planned for construction under the Nehemiah program in the St Mary's Park South area, between Jackson and St Anne's Avenues and north of East 138th Street. While these would add demands for residentially-oriented services, the relatively small scale of this residential project and its location to the north of the study area are not likely to cause problems and is not included in this section.

The future without the proposed action is expected to resemble existing conditions and trends. Residential population is expected to remain fairly stable. Employment may show some further decline. These trends would show up in some modest renovation of existing residential buildings and very little movement of for sale or lease industrial buildings.

4.4.2 Impacts of the Proposed Action

No other projects are likely to be developed in the secondary study area by the build year of the proposed project. Consequently, only the impacts of the proposed action need be considered. The wastepaper recycling option would directly add a total of 770 workers to the employment in the study area. Indirect employment created by the project could create another 462 jobs (assuming an economic multiplier of 1.6). It is unlikely that the majority of these indirect jobs will be in close proximity to the project site, although some will be, for example, eating and drinking places. For the purposes of this analysis, it is assumed that 25 percent or 116 of these indirect jobs will locate within the study area. Under the warehouse option direct employment of 803 workers and 482 indirect workers would be expected.

The total increased worker population would place demands on certain community facilities and services although, unlike a residential project, these would not be upon schools. School impacts are, therefore, not considered here. Impacts of an industrial project and expanded workforce are most likely to affect public safety services, health care services, and recreation facilities. (Impacts on roads, sewers and water facilities are dealt with elsewhere).

Police and Fire

Police and fire services in the area would serve a new totally secured state-of-the-art multimodal transportation and industrial park. The infrastructure construction on the site would include a new fire protection system including alarm and hydrant systems. All buildings would be fully sprinklered.

This would be a safer and more secure environment than the open lots and deteriorated warehouses that characterize much of the site presently. From the perspective of the public safety departments, the proposed action would represent a significant improvement in their ability to serve the area (NYFD and NYPD, November 1992). Both departments have indicated they would have no problems in continuing to adequately serve the area. The Police precinct presently serves a residential population of 77,000 compared to a population of 138,000 20 years ago.

Health Facilities

The 3,973 certified medicine/surgical hospital beds in the Bronx (excluding Veterans Administration) are used at an occupancy rate of approximately 86 percent by the 1.203 million residents of the Bronx (1990), indicating a demand of 2.83 beds per thousand population (Community District Needs Statement FY1993). Applying this demand factor to the new workers expected in the secondary study area would be expected to create a demand for approximately two hospital beds. The occupancy rate of nearby facilities would permit the accommodation of this anticipated demand without adverse impacts.

Recreation

Under the future proposed action, impacts on recreational facilities would occur due to the increased worker population in the area. Using the forecast worker population of 886 (770 plus 116), the open space per population ratios would be as shown in Table 4.4-1 for the wastepaper recycling option. The corresponding ratios for the warehouse option are also presented in Table 4.4-1 based on a worker population of 803 on site, plus 25 percent of the indirect worker population (121), for a total worker population of 924.

The existing relationship of parks to population, at 8.36 acres per 1,000 population, substantially exceeds the present Citywide average of 1.5 acres per 1,000. Moreover, the standard ratios used by NYCDCP of 2.0 acres of active and 0.5 acres of passive per 1,000 are substantially exceeded. The standard ratios used by NYCDCP for Commercial/Industrial projects of 0.5 acres of passive open space for the residential population and 0.15 acres of passive open space for the worker population generates a requirement of 10.34 acres of passive open space for the wastepaper recycling or warehouse options. The actual passive open space is 56.43 acres, again substantially exceeding the guidelines. Under these circumstances, there are expected to be no adverse impacts generated by the project upon the open space resources of the area.

While no significant open space resource impacts are anticipated, Harlem River Yard Ventures will work with the Bronx Borough President's Office, SOBRO, and Community Board 1 in order to enhance neighborhood amenities and recreational opportunities in the area such as:

- enhancement to local parks;
- assistance for local use and cultural activities;
- assistance in commercial revitalization through physical enhancement (e.g., along Bruckner Boulevard);

TABLE 4.4-1

OPEN SPACE ANALYSIS

Parameter	Existing (1990)	No Action	Proposed Action
Residential Population	18,767	18,767	18,767
Daytime Population	5,482	5,482	6,368 (wastepaper) 6,406 (warehouse)
Active Acreage	100.44	100.44	100.44
Passive Acreage	56.43	56.43	56.43
Total Acreage	156.87	156.87	156.87

Type of Space	Residential			Worker			Total Deficiency	
	Standard (acres/ 1,000)	Actual (acres)	Required Acres	Standard (acres/ 1,000)	Actual (acres)	Required Acres	Acres	Percent
Active	2.0	100.44	37.53	0.0	62.91	0.0	0	0
Passive	0.5	56.43	9.38	0.15	47.05	.96	0	0
Total	2.5	156.87	46.91	0.15	109.96	.96	0	0

- provision of improved lighting along major arterials to railyard and near subway stations.

Other Facilities

Other services affected by an increase in worker population are also unlikely to create problems. Commercial facilities are based upon market conditions and have appropriate zoning to locate within proximity to the site if new facilities were induced to develop as a result of the new population. Existing facilities would be expected to benefit from increased spending by these workers. Religious and membership institutions may increase their congregations/membership to some extent but this would be welcomed by those facilities. The Library on East 140th Street is relatively underutilized and would also welcome any additional circulation to justify increased acquisitions.

4.5 Cultural Resources

4.5.1 Future Without the Proposed Action

Under the no build alternative, no development would occur on the site and any cultural resources that might remain on the site would be preserved.

4.5.2 Impacts of the Proposed Action

National Register and NYC Landmarks Properties

Implementation of the proposed project will have no impacts on any National Register listed (or eligible) and NYC Landmarks properties. The closest historic property to the site (in fact, the site surrounds the property) is the former Willis Avenue Station, which is eligible for listing in the National Register of Historic Places.

The three-story, 40-foot tall brick structure in question was built in 1891 as the Harlem River Station, but is now known as the Willis Avenue Station. The Station structure currently exists in a vacant rail yard setting. Although, it is not being used for the purpose it was intended for in 1891, which was as a rail station, a small portion of the building is currently used as a residential unit. The rail station has also been used for a warehouse and for the manufacture of furniture.

There are no proposals for development of the station site as part of this proposed action - the building and site will remain untouched, as shown in Figure 4.5-1, including such features as the existing stone wall and iron fence. The existing surface grades adjacent to the station will remain unchanged.

To the north of the station site (off the redevelopment parcel) there are existing manufacturing, warehousing, and auto-related uses in keeping with the industrial nature of

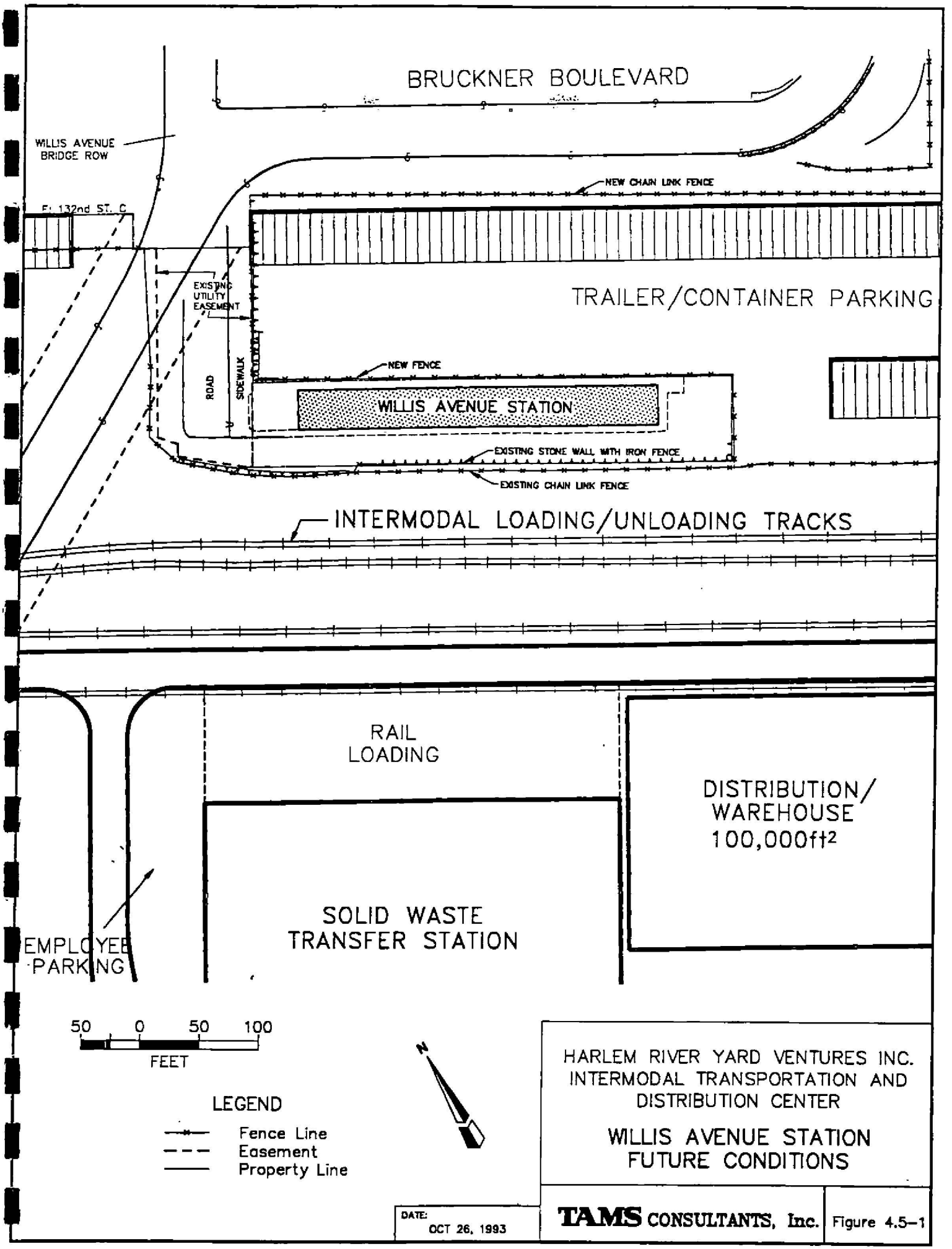
the area. Many of these buildings are taller than the station and have outdoor activities. Just across East 132nd Street is the exit ramp from the Willis Avenue Bridge which includes a high volume of traffic exiting from the bridge.

To the north of the station (on the development parcel) are existing coal storage piles that are up to 30 feet high. The operation of this coal yard includes the use of heavy trucks and other coal handling equipment. These would be removed as Gassman Coal vacates the site. In their place would be modern trailer/container parking, as would also occur to the east and west of the station site.

Immediately to the west of the site is an existing easement that provides access to and from the site to Bruckner Boulevard via Willis Avenue. Under the future development plan, the easement would remain. There would be no impact on future access to and from the station.

Immediately to the south of the station site are railroad tracks that are currently unutilized. These and one additional new track will be utilized for the intermodal terminal use. Therefore, as rail activities in the Harlem River yard increase, the station will appear in a setting that more closely resembles the railroad activities that were conducted on the site in 1891 when the station was first built.

The nearest structures proposed to be built on the site are the solid waste transfer station (28-feet high) and a distribution warehouse (39-feet high) to the south of the above referenced tracks. These buildings would be nearly 200 feet from the station. Furthermore, they would be constructed at approximately a 10-foot lower elevation than the station. Activities at the solid waste transfer station would be conducted entirely indoors (with the exception of trucks going to and from the facility). Thus any odor related problems would



HARLEM RIVER YARD VENTURES INC.
INTERMODAL TRANSPORTATION AND DISTRIBUTION CENTER

WILLIS AVENUE STATION
FUTURE CONDITIONS

DATE: OCT 26, 1993

TAMS CONSULTANTS, Inc.

Figure 4.5–1

be mitigated. Activities at the warehouse would include receiving goods by railcar and truck for distribution throughout the New York Metropolitan area by truck.

Noise and vibration levels would increase in the vicinity of the building with any increased use of the site since the yard is currently vacant. However, it should be noted that: (1) the station is currently in an area zoned for heavy manufacturing; (2) all proposed uses are appropriate with respect to the NYC Zoning Resolution for such a manufacturing zone; (3) the vibration levels are those characteristic of a rail yard, which the Willis Avenue station was routinely subjected to over its lifetime as a rail station; (4) vibration levels from trucks operating in the intermodal yard would be comparable to those experienced currently due to trucking operations at Gassman coal; and (5) the proposed individual uses in the yard would have to comply with the requirements of the Zoning Resolution with respect to noise emissions. New York City's Zoning Resolution imposes performance standards for uses in manufacturing districts. Noise levels from any activity, whether open or enclosed, cannot exceed certain prescribed sound pressure levels (db) on or beyond the lot line. Operations of motor vehicles or transportation facilities are not included in the performance standards. The standards are shown in Table 3.8-5.

Construction of the solid waste transfer station and distribution warehouse may involve conventional pile driving. Vibration levels from this activity (which will occur 200 feet away from the Willis Avenue Station) are not expected to have any impact at the station structure. A conservative guideline value for a peak particle velocity at which structural damage may occur is 2 inches per second. While it is not expected that vibration levels would even approach this value, Harlem River Yard Ventures would provide for vibration monitoring during the pile driving phase of construction (which is anticipated to be less than a month per structure) to assure that excessive vibration levels are not experienced at the station building. If necessary, alternative pile installation methods will be utilized.

There will be no intrusive development around the site and thus the long-term maintenance and preservation of the building would not be affected. The Harlem River Yard redevelopment would in no way negatively affect the economic viability of future use of the station for warehousing, manufacturing, or office activities, which represent the historic uses of the building. In fact, redevelopment would improve the environs of the building making reuse of the station more likely (e.g., its use for manufacturing would be enhanced in the high security setting provided by the development of Harlem River Yard, as opposed to the vacant lands and presence of coal piles currently surrounding the building). The redevelopment of the yard as proposed for rail and industrial uses will help restore a semblance of the original setting of the station.

With respect to the analysis of alternatives, it must be emphasized that the proposed project is to redevelop the Harlem River Yards. Alternative sites for a multimodal transportation center like the Harlem River Yard development are not available in the Bronx. A series of site land use options and alternatives were investigated as part of the environmental work done for the project. The results of these investigations are presented in Chapter 2 and 5 of the EIS document. Given the site characteristics, location advantages, and existing rail infrastructure, no feasible alternatives for site development, other than those discussed in the EIS, have been identified.

Finally, it must be noted that care was taken in the development of land use plan options for the site to minimize any impacts on the Willis Avenue Station.

The NYS Office of Parks, Recreation, and Historic Preservation (OPRHP) has reviewed the EIS and supporting materials in accordance with the New York State Historic Preservation Law of 1980 (Section 14.09) and has concluded that this project will have no adverse impact on the Willis Avenue Station provided that the following condition is met:

"The property lease with Harlem River Yard Ventures will be modified to include the following buffers surrounding the Willis Avenue Station (approximate measurements), in which no construction will take place, and in which the existing features and vegetation will be maintained:

North side: a strip 50' from edge of Station building (corresponding to existing grade/fence line);

East side: a strip 60' from edge of Station building;

South side: a strip 30' from edge of Station building (corresponding to outside edge of granite retaining wall);

West side: a strip 100' from edge of Station building, corresponding to the west edge of Willis Avenue extension.

It is our understanding that the north-east corner of this buffer may need to be curved in order to accommodate truck turning radii. This will be consistent with the above conditions provided a minimum 60' distance from the northeast corner of the building is maintained."

Prehistoric Resources

Documentary research indicates that the Harlem River Yard site has prehistoric and early historic-era Native American associations and historical significance. Native American burials, a large "village" site, and nearby 'shell beds' were documented in the mid-19th and early 20th centuries (e.g., Bolton 1848:280; Bolton 1934:137) and 17th century deeds attest to the Indian presence (Bolton 1881:451).

Two structures planned east of St. Ann's Avenue (a refrigerated/dry warehouse and wholesale flower market) may require excavation either for utilities or foundation pilings. Both sites scheduled for construction are in the general vicinity of the Ranachqua Native American site noted by Bolton and discussed previously. The only commercial structures built in this area are the platforms and low buildings still standing at this writing. A soil

boring drilled within the area proposed for the warehouse structure suggests that fill is present to about 10 feet (DOT Borings 1985:DAC 543; unfortunately, no borings are available for the flower market site). It is possible this fill may protect remnants of this Native American site despite subsequent construction.

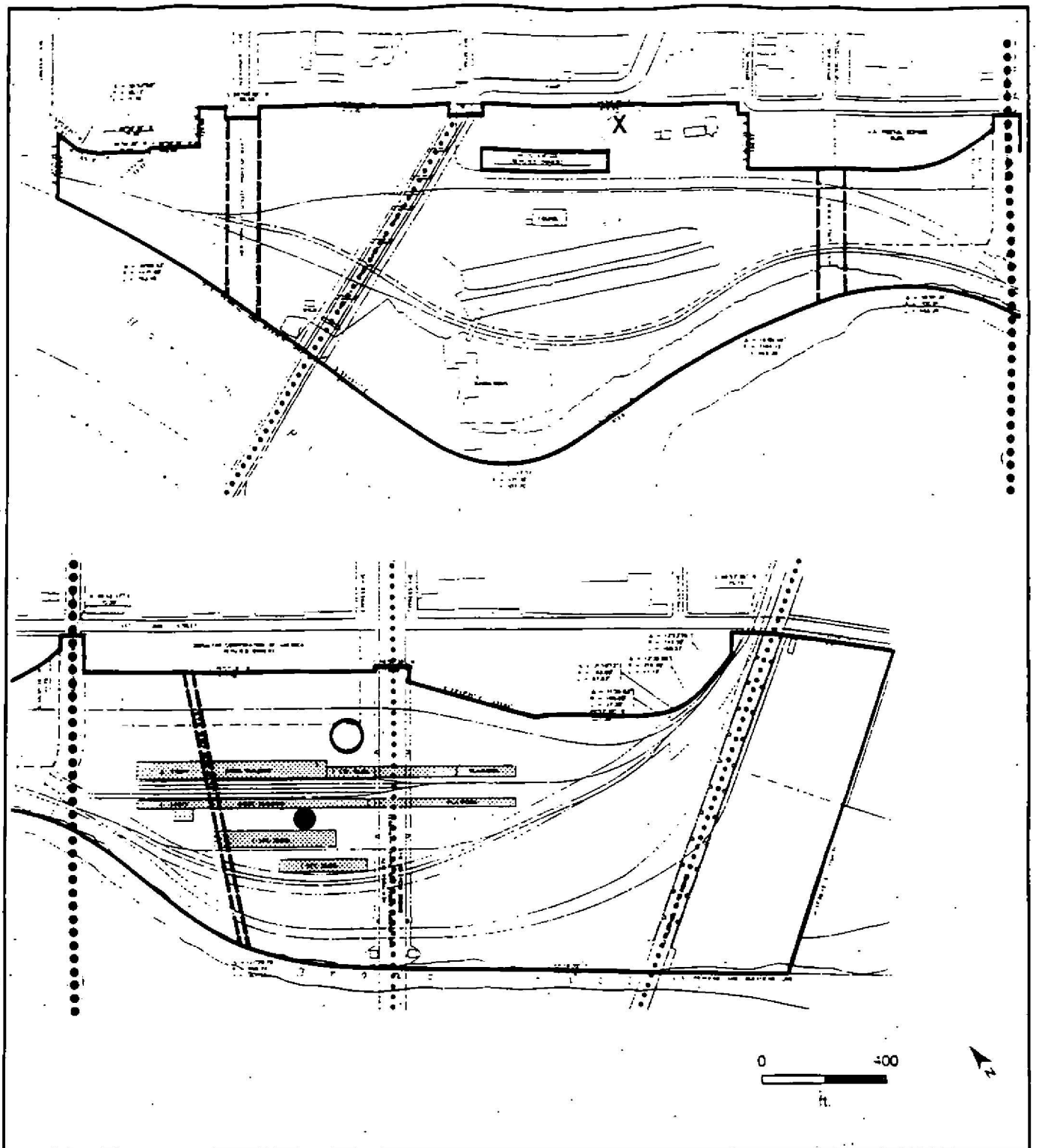
Historic Resources

Over time, more than 170 structures have been erected on the site; these include either one or two homes built by Jonas Bronck and at least three by the Morrises. Only ten structures still stand at this writing, all of them built after 1923, all of them either platforms or one- to two-story buildings built on pilings (no building records could be located).

The development history of the site as traced through maps (e.g., Perris & Browne 1873; Bromley 1879; Bromley 1882; Robinson 1885; Bromley 1897; Bromley 1907; Bromley 1912; Bromley 1923; Bromley 1943; Bromley 1965), records, and deeds, indicates that the proposed foundation of the Honorable Gouverneur Morris's 1799 mansion south of East 130th Street may still be relatively intact. This is base on a soil boring from this vicinity that suggests boulders at 3 and 7 1/2 feet below the ground surface (DOT 1985:Boring DAC 561) that imply a possible foundation or debris from a former structure.

A map showing existing conditions (Figure 4.5-2) indicates that standing structures and utility lines between St. Ann's and Cypress Avenues, when coordinated with historical maps and other data, have not impacted potential sites. Maps of the proposed construction (Figures 4.5-3 and 4.5-4) show the development planned within these potentially sensitive areas.

Below ground excavation in the vicinity of the proposed Honorable Gouverneur Morris mansion site might impact a potentially sensitive area. It is also conceivable, but less likely,



Legend

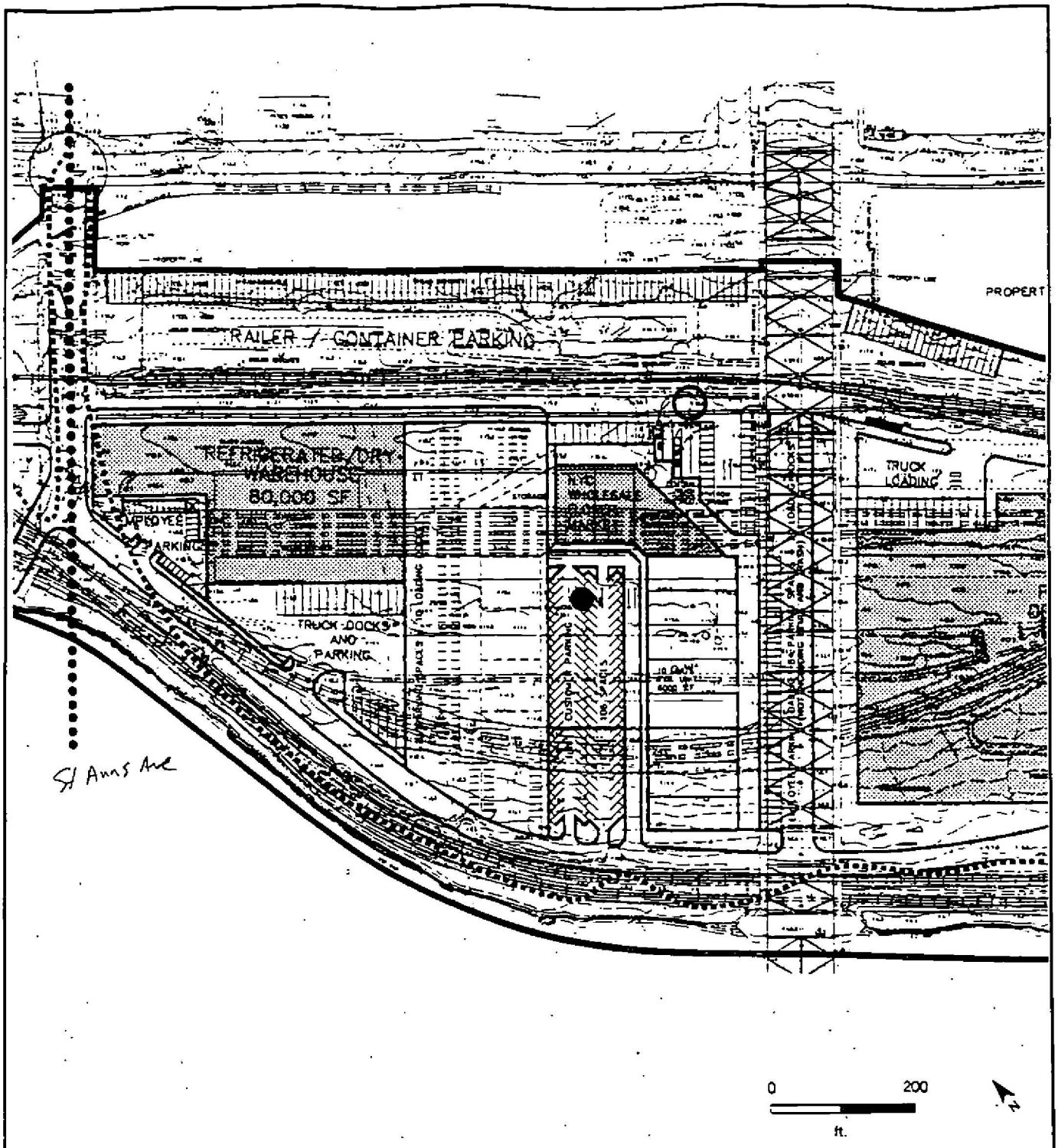
- Property Line
- Match Line (St. Ann's Ave.)
- Standing Structure
- Sewer Easement/Utility ROW
- Bridge
- X — Lewis Morris Manor Site (approx.)
- Gouverneur Morris II House Site (approx.)
- Hon. Gouverneur Morris Mansion Site (approx.)

HARLEM RIVER YARD VENTURES INC.
INTERMODAL TRANSPORTATION AND DISTRIBUTION CENTER

EXISTING CONDITIONS WITH POTENTIAL AREAS OF SENSITIVITY

TAMS CONSULTANTS, Inc.

Figure 4.5-2



Legend

- Property Line
- Match Line (St. Ann's Ave.)
- Proposed Structure
- Proposed Parking
- Proposed Parking
- Gouverneur Morris II House Site (approx.)
- Hon. Gouverneur Morris Mansion Site (approx.)
- Old Shoreline

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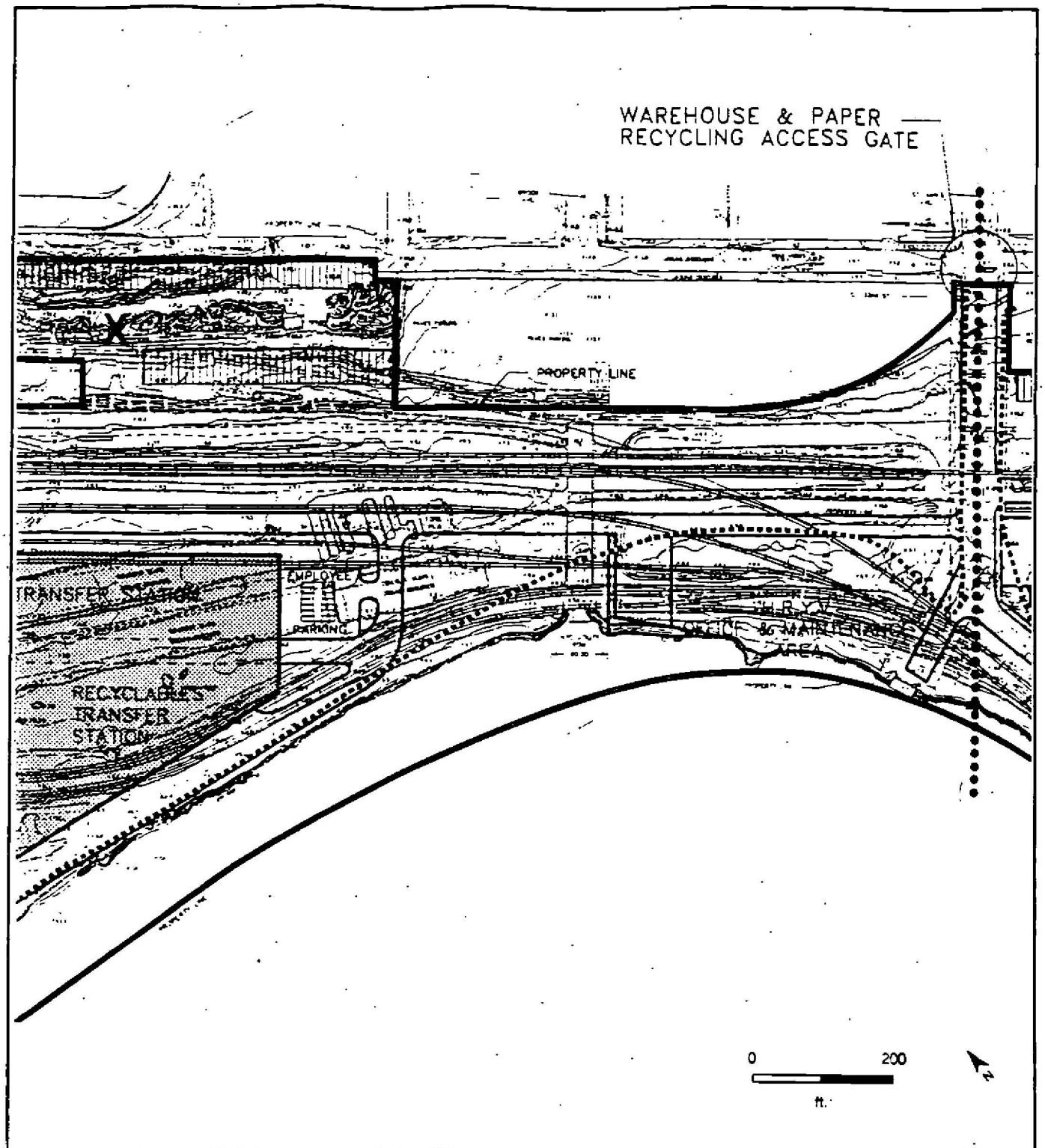
INTERMODAL TRANSPORTATION AND DISTRIBUTION CENTER

PROPOSED DEVELOPMENT ST. ANN'S TO CYPRESS AVENUE

TAMS CONSULTANTS, Inc. Figure 4.5-3



Legend

- Property Line
- Match Line (St. Ann's Ave.)
- Proposed Structure
- Proposed Parking
- X — Gouverneur Morris II House Site (approx.)
- Old Shoreline

HARLEM RIVER YARD VENTURES INC.
INTERMODAL TRANSPORTATION AND
DISTRIBUTION CENTER

PROPOSED DEVELOPMENT
WILLIS TO ST. ANN'S AVENUE

TAMS CONSULTANTS, Inc.

Figure 4.5-4

that the Manor House site west of Mill Brook and the site of the home of Gouverneur Morris II east of the brook may contain remnants of foundations that might offer dating and, in the case of the manor, location information. It is also possible that evidence of Native American use may persist under fill between St. Ann's and Cypress Avenues.

During the Revolutionary War, the site was used first by the Americans and then by the British, and its historic site potential includes a military encampment from this period as well as homes of members of the Morris family. However, grading and construction tied to railroad development that began as early as 1840, and intensified in 1873, as well as more modern industrial development, have undermined the integrity of much, but possibly not all, of the site.

Recommendations for Testing

Based on the results of the Phase 1A report, testing in the form of backhoe trenching and shoveling was recommended to be undertaken in the vicinity of the proposed Honorable Gouverneur Morris house site prior to further site development since this would be the most expedient way to determine its sensitivity and avoid any interference with planned construction. It was also recommended that testing be undertaken at the site of the Gouvernor Morris II residence depending on the results of the testing at the Gouvernor Morris house site and that testing to confirm disturbance be undertaken where the wholesale flower market and refrigerated and dry warehousing would be constructed.

No testing was proposed at the Lewis Morris house site (Manor House) at this time since a parking lot, with no underground disturbance, is planned at this location. In the future, should below ground excavation be necessary at this location, testing would be conducted at that time.

Field Testing Program

Stage 1b archaeological testing of the Harlem River Yard Transportation and Distribution Center Site conducted in February and March 1993 verified the elimination of traces of the structure and foundations of the home occupied by Gouverneur Morris II. It also did not uncover any evidence of the Ranachqua Site in Test Area G1 where it was possible that components of this Native American site might have been found (see Appendix B).

With respect to the Honorable Gouverneur Morris mansion, no definitive features or artifacts were found where this house may have stood. While filling and extensive disturbance were documented, two man-made features, perhaps running parallel to each other, were apparently cut into shallow rock outcrops in the northern part of the test area (Test Area G1). Just when and for what purpose these foundation-like features were fashioned remains unknown, and, indeed may be unknowable. On the other hand, test conditions--weather, water, and limited access--were such that these features could not be traced, nor is it known if there are any others like them or if they represent some sort of patterned construction. What appears to be a free-standing cut stone located on the southwestern periphery of the test area at a depth of three feet has also not been fully investigated.

The proposed construction in this area of the site is such that (1) most of the area tested will be covered by a parking lot, (2) approximately three feet of new fill will be placed over this area, and (3) the flower market structure to be built adjacent to the tested area on the north will be constructed on piles and not on conventional foundations that need to be excavated. Therefore, as planned, the core of the subject test area will not be disturbed. If an alternative method of construction that requires excavation is ultimately chosen, the issue of subsurface disturbance will need to be reinvestigated.

4.6 Transportation

4.6.1 Future Without the Proposed Action

Traffic

Trip Generation

In order to develop future traffic volumes, it is necessary to research historical traffic growth rates in the study area. Also, nearby developments which will likely be constructed by the build year must be considered and person trips must be assigned to these developments.

After research of historic growth rates and discussion with the NYC Department of Transportation, it was agreed that a growth rate of one percent per year would be used to account for background traffic growth in the study area. Based on the projected build year of 1996 and likely nearby development scenarios as discussed with the Bronx office of the Department of City Planning, it was determined that only the Nehemiah Housing Project (adjacent to St. Marys Park between East 138th Street, St. Ann's Avenue and Jackson Avenue) would be considered under the no build scenario.

The number of person trips anticipated to be generated by the Nehemiah Housing Project is dependent upon several factors:

- Daily Trip Generation Rate: total daily trips generated by the particular land use;
- Temporal Distribution: peak hour trips as a percentage of the daily total;
- Modal Split: Travel mode, i.e., auto, bus, subway or walking;
- Directional Split: ratio of trips entering and leaving the site.

The trip generation rate was developed from several sources including the Institute of Transportation Engineers' (ITE) Trip Generation Report (Fourth Edition), the Regional Plan Association report entitled "Urban Space for Pedestrians", and the National Cooperative Highway Research Program (NCHRP) Report 187. The daily rates presented in these sources are vehicle trips, therefore these values were multiplied by the 1980 census vehicle occupancy rate for this geographic area (1.56 persons/vehicle) to obtain daily person trip rates. The modal split and temporal distribution factors were then used to compute the peak hour trip rates by mode.

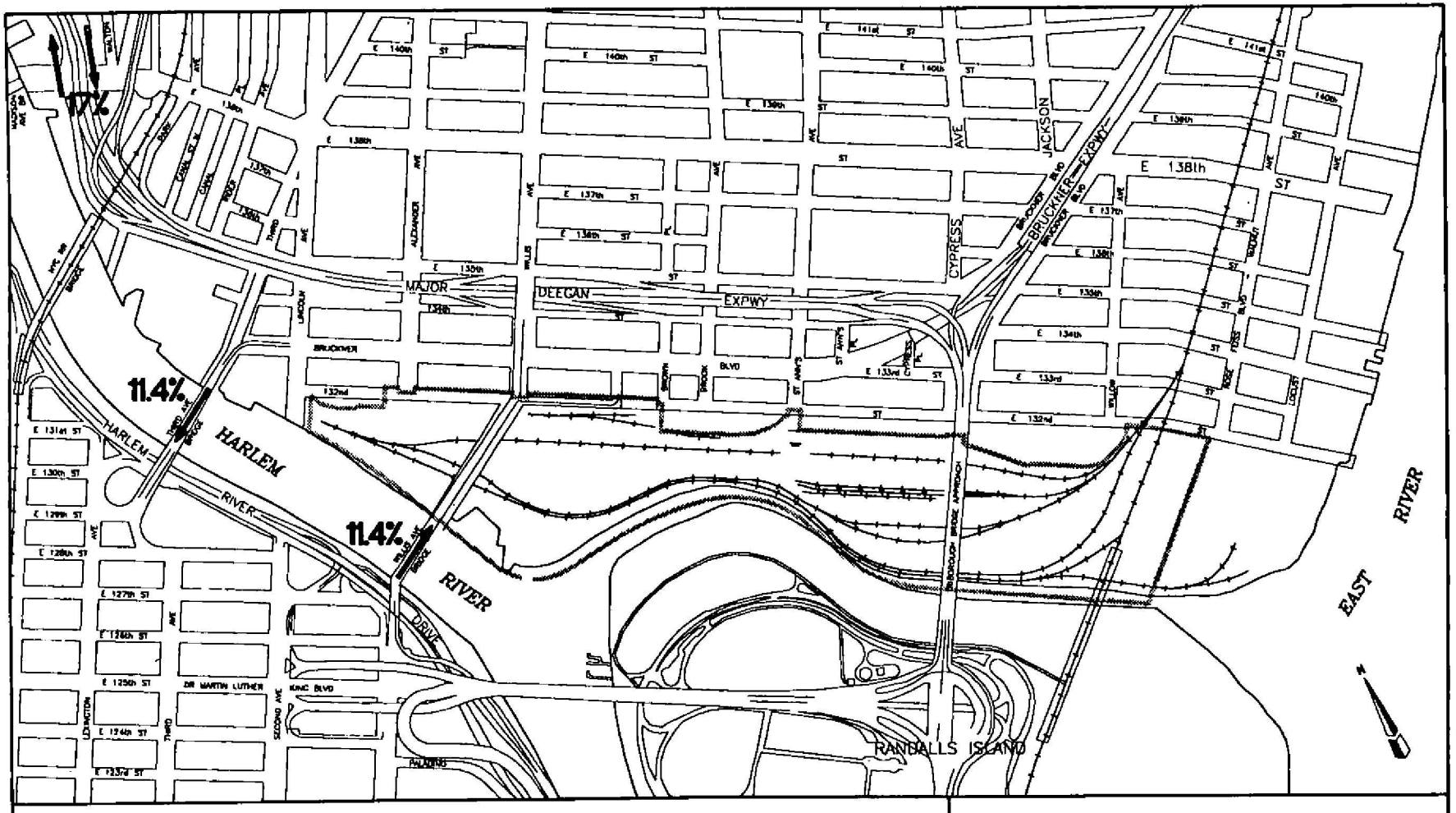
The temporal distribution was developed from an analysis of 1980 Census data pertaining to tracts in the study area (1990 data was not available). This analysis also yielded a modal split of 22 percent auto, 68 percent transit and 10 percent walk-only trips for residential land uses. The directional split was obtained from the ITE Trip Generation Report.

The resulting trip factors were previously used and accepted by the New York City Department of Transportation for similar residential developments planned for the nearby Morrisania and Melrose areas of the Bronx.

Vehicular Trip Distribution and Assignment

Vehicular trip distribution patterns were developed using Journey-to-Work data from the 1980 Census. The census data indicate the distribution of peak hour trips by origin and destination for the study area. Alternative routes between the origins and destinations were investigated with traffic being assigned to the most direct routes. Figure 4.6-1 presents the trip distribution route developed for the Nehemiah Housing project.

Traffic volumes for the year 1996 No Build condition for the weekday AM and PM peak periods are shown in Figures 4.6-2 to 4.6-4. These volumes reflect expected background traffic growth and additional trips generated by the Nehemiah Housing Project. These volumes were used for the analysis of intersection Levels of Service (LOS).



Legend

Property Boundary

Direction of Trips

17% Percent of Trips

Note: These are the trips which will impact the study area.

0 300 600 1200 3600
FEET

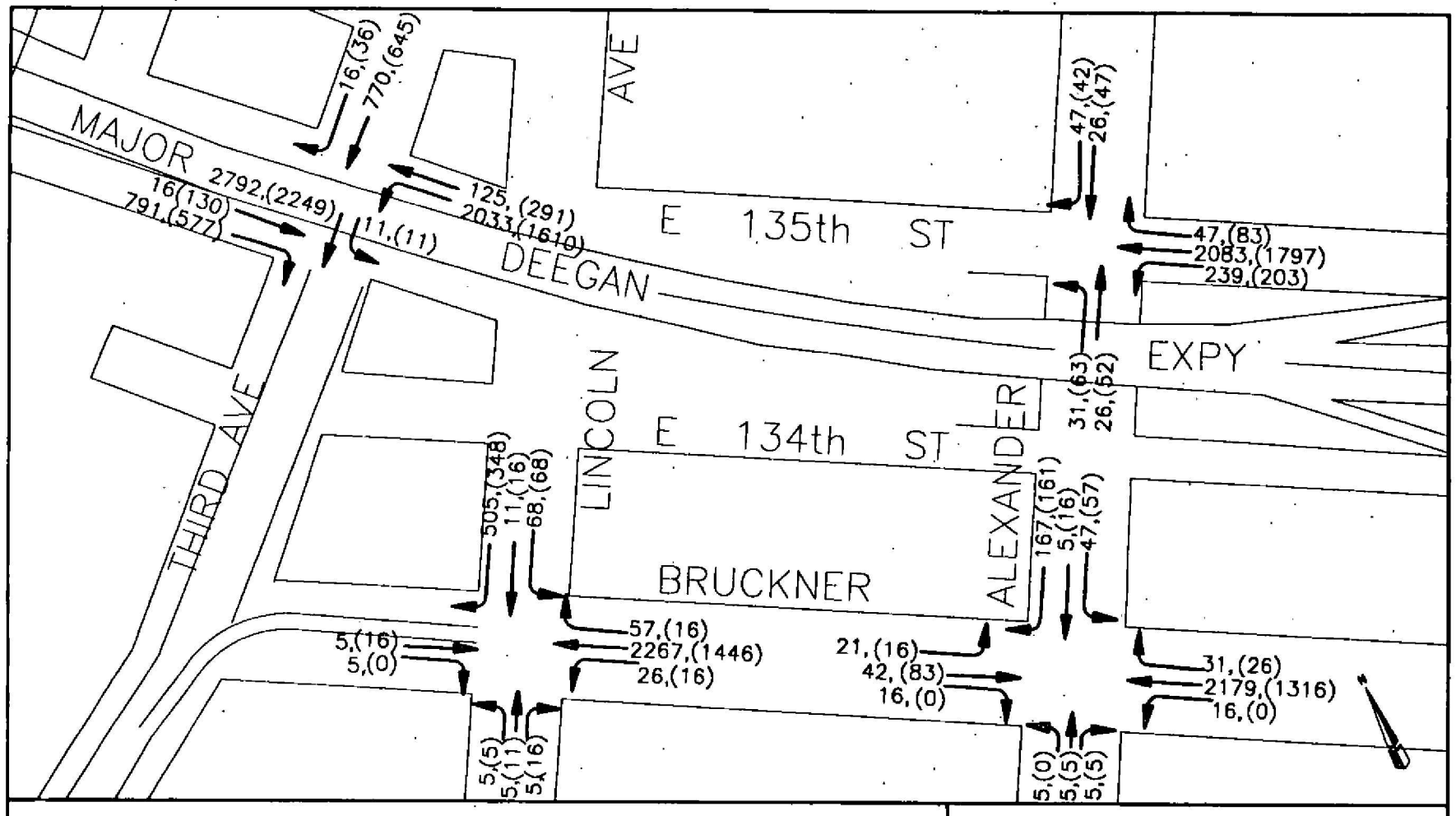
HARLEM RIVER YARD VENTURES INC.
INTERMODAL TRANSPORTATION AND
DISTRIBUTION CENTER

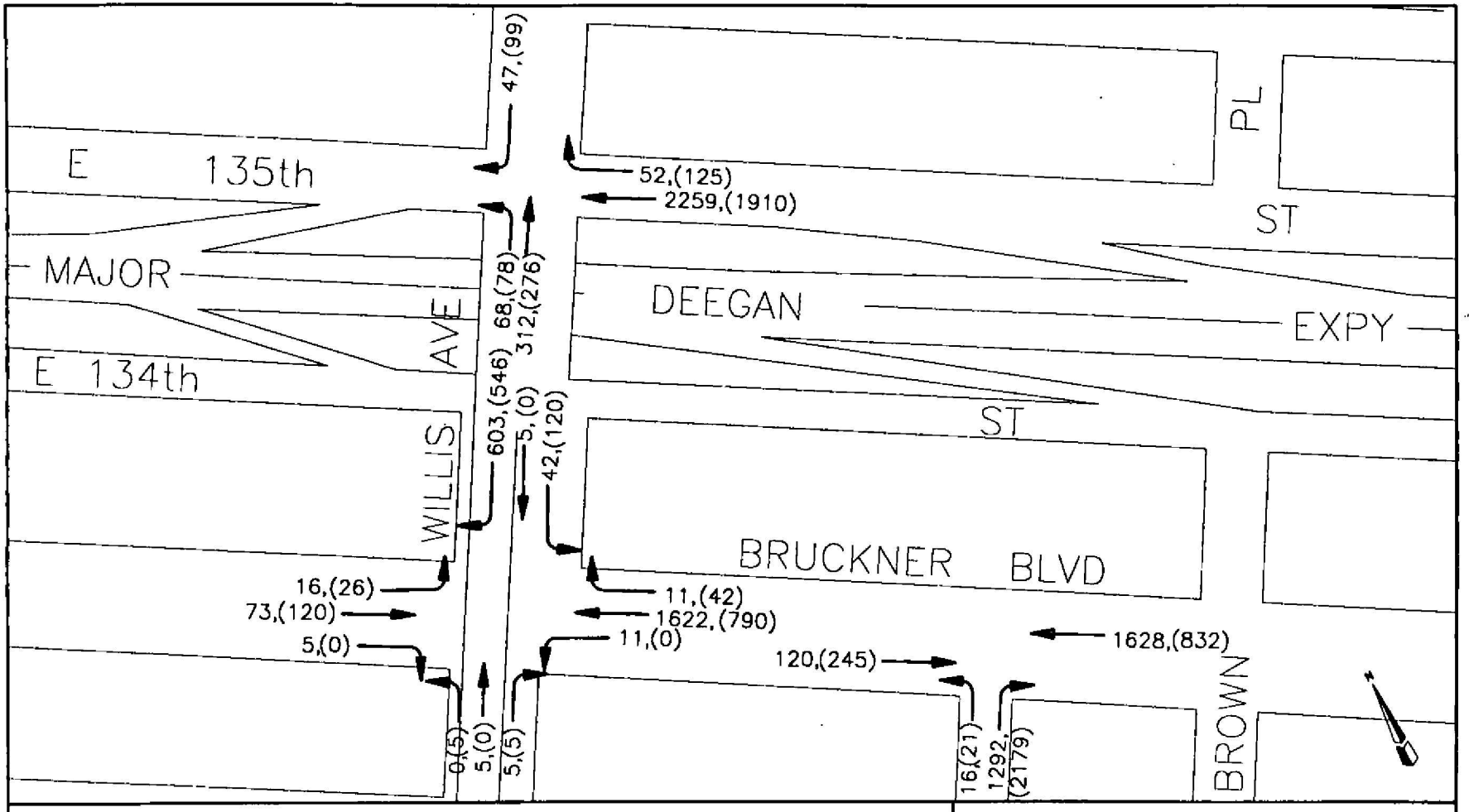
NO ACTION TRIP DISTRIBUTION

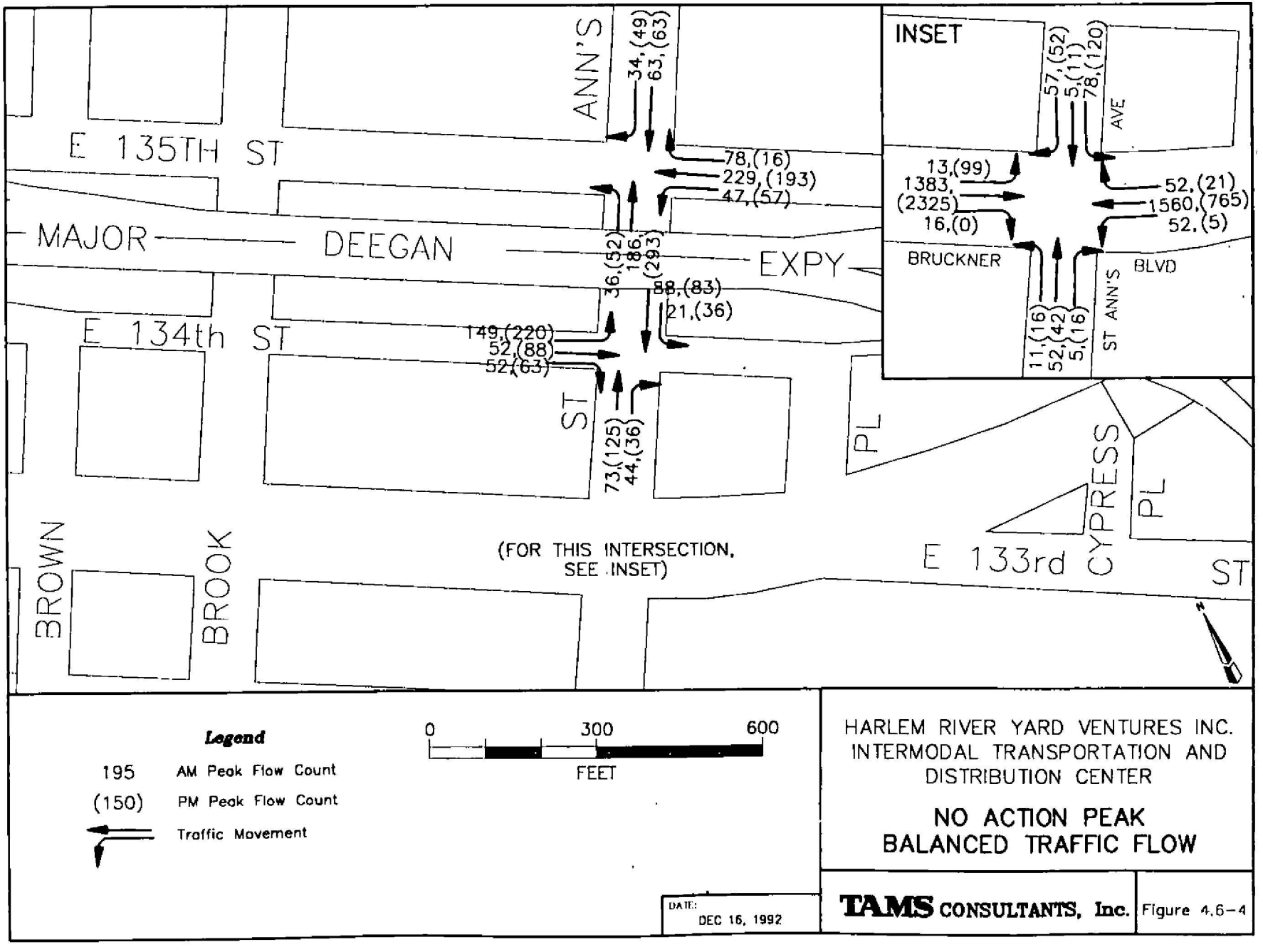
DATE:
DEC 3, 1992

TAMS CONSULTANTS, Inc.

Figure 4.6–1


MAJOR DEEGAN EXPY
E 135th ST
E 134th ST
BRUCKNER
LINCOLN
ALEXANDER
THIRD AVE
AVE
16,(36)
770,(645)
125,(291)
2033,(1610)
11,(11)
16(130)
791,(577)
2792,(2249)
47,(42)
26,(47)
47,(83)
2083,(1797)
239,(203)
31,(63)
26,(52)
505,(348)
11,(16)
68,(68)
167,(161)
5,(16)
47,(57)
5,(16)
5,(0)
57,(16)
2267,(1446)
26,(16)
21,(16)
42,(83)
16,(0)
31,(26)
2179,(1316)
16,(0)
5,(5)
5,(11)
5,(16)
5,(0)
5,(5)
5,(5)
Legend
195 AM Peak Flow Count
(150) PM Peak Flow Count
Traffic Movement
0
300
600
FEET
HARLEM RIVER YARD VENTURES INC.
INTERMODAL TRANSPORTATION AND
DISTRIBUTION CENTER
NO ACTION PEAK
BALANCED TRAFFIC FLOW
DATE:
DEC 18, 1992
TAMS CONSULTANTS, Inc.
Figure 4.6-2


E 135th
MAJOR
E 134th
WILLIS AVE
DEEGAN EXPY
BRUCKNER BLVD
ST
PL
ST
BROWN
47,(99)
52,(125)
2259,(1910)
68,(78)
312,(276)
603,(546)
5,(0)
42,(120)
16,(26)
73,(120)
5,(0)
11,(42)
1622,(790)
11,(0)
1628,(832)
120,(245)
0,(5)
5,(0)
5,(5)
16,(21)
1292,(2179)
Legend
195 AM Peak Flow Count
(150) PM Peak Flow Count
Traffic Movement
0
300
600
FEET
HARLEM RIVER YARD VENTURES INC.
INTERMODAL TRANSPORTATION AND
DISTRIBUTION CENTER
NO ACTION PEAK
BALANCED TRAFFIC FLOW
DATE:
DEC 16, 1992
TAMS CONSULTANTS, Inc.
Figure 4.6-3



HARLEM RIVER YARD VENTURES INC.
INTERMODAL TRANSPORTATION AND DISTRIBUTION CENTER

NO ACTION PEAK BALANCED TRAFFIC FLOW

TAMS CONSULTANTS, Inc.

Figure 4.6-4

LOS Analysis

Capacity analysis was performed for the same eleven intersections considered in the existing conditions analysis. The results of these analyses for the AM and PM peaks are summarized in Table 4.6-1. Also analyzed was the PM off-peak time period. This period corresponds with the peak hour of generation for the proposed development. The result of this analysis is also presented in Table 4.6-1.

Despite minor volume increases due to traffic growth, the analysis indicates that traffic operations at these locations generally will remain at the same levels of service as existing conditions with only slightly greater stopped delays than existing and an occasional drop in level of service on some approaches.

The most significant drops in level of service occur during the AM peak hour on westbound Bruckner Boulevard at Alexander Avenue and Lincoln Avenue, where they drop from LOS E (the limit of acceptable delay) to LOS F (excessive delays).

Public Transportation

The analysis of the no action public transportation impacts considers increased usage due to background growth and nearby development. Considering a conservative growth rate of one percent per year or four percent by the build year, the impacts to the public transportation system will be negligible with residual capacity available.

Pedestrians

Due to the manufacturing and industrial land uses within the study area, which generate few pedestrian trips, and the absence of other new development within the study area, pedestrian volumes are not expected to increase over existing conditions.

TABLE 4.6-1
SUMMARY OF LOS ANALYSIS - NO ACTION

Intersection	AM Peak Hour				PM Peak Hour			
	Appr. Volume	V/C Ratio	Stopped Delay	LOS	Appr. Volume	V/C Ratio	Stopped Delay	LOS
E. 135th St. & Third Ave.								
WB L	2033	0.946	24.3	C	1610	0.954	25.6	D
WB LT	125	0.951	25.2	D	291	0.969	28.1	D
SB TR	786	0.315	26.3	D	681	0.308	26.2	D
Overall:		0.767	25.2	D		0.778	26.7	D
E. 135th St. & Alexander Ave.								
WB LTR	2369	0.895	13.9	B	2083	0.760	10.8	B
NB L	31	0.073	7.6	B	63	0.120	7.7	B
NB T	26	0.052	7.5	B	52	0.078	7.6	B
SB TR	73	0.096	7.6	B	89	0.139	7.8	B
Overall:		0.511	13.5	B		0.461	10.5	B
Bruckner Blvd. & Alexander Ave.								
EB L	21	0.789	47.0	E	16	0.511	14.8	B
EB TR	58	0.112	6.9	B	83	0.142	7.0	B
WB LTR	2226	1.124	81.7	F	1342	0.633	11.0	B
NB LTR	15	0.024	20.9	C	10	0.019	20.9	C
SB LTR	219	0.298	23.1	C	234	0.296	23.0	C
Overall:		0.841	72.6	F		0.518	12.6	B
E. 135th St. & Willis Ave.								
WB TR	2311	0.975	21.4	C	2035	0.965	20.0	C
NB L	68	0.201	27.6	D	78	0.219	27.7	D
NB T	312	0.440	29.6	D	276	0.371	28.9	D
SB R	47	0.081	26.8	D	99	0.179	27.4	D
Overall:		0.839	22.6	C		0.814	21.4	C
Bruckner Blvd. & Willis Ave. Exit Ramp								
EB T	120	0.283	31.0	D	245	0.415	32.1	D
WB T	1628	0.808	6.7	B	832	0.344	3.9	A
NB L	16	0.062	29.6	D	21	0.069	29.6	D
NB R	1292	0.706	7.8	B	2179	1.012	29.9	D
Overall:		1.177	9.5	B		1.044	23.5	C
Bruckner Blvd. & Willis Ave.								
EB L	16	0.318	9.1	B	26	0.129	7.0	B
EB TR	78	0.076	6.7	B	120	0.129	7.0	B
WB LTR	1644	0.950	23.4	C	832	0.458	9.1	B
NB LTR	10	0.020	20.9	C	10	0.042	21.0	C
SB LTR	650	0.751	29.8	D	666	0.772	30.4	D
Overall		0.882	24.4	C		0.565	17.1	C

TABLE 4.6-1
SUMMARY OF LOS ANALYSIS - NO ACTION

Intersection	AM Peak Hour				PM Peak Hour			
	Appr. Volume	V/C Ratio	Stopped Delay	LOS	Appr. Volume	V/C Ratio	Stopped Delay	LOS
E. 135th St. & St. Ann's Ave.								
WB LTR	354	0.273	10.2	B	266	0.173	9.8	B
NB LTR	222	0.165	5.4	B	345	0.246	5.7	B
SB TR	97	0.080	5.2	B	112	0.106	5.3	B
Overall:		0.209	6.0	B		0.216	7.1	B
E. 134th St. & St. Ann's Ave.								
EB L	149	0.319	12.0	B	220	0.481	13.1	B
EB TR	104	0.201	11.4	B	151	0.294	11.8	B
NB TR	117	0.078	4.1	A	161	0.114	4.2	A
SB LT	109	0.082	4.2	A	119	0.088	4.2	A
Overall:		0.166	7.6	B		0.243	8.5	B
Bruckner Blvd. & St. Ann's Ave.								
EB L	13	0.253	8.1	B	99	1.645	*	F
EB TR	1399	1.321	*	F	2325	1.645	*	F
WB L	52	1.040	128.4	F	5	0.093	6.8	B
WB TR	1612	1.572	*	F	786	0.719	13.1	B
NB LTR	68	0.096	21.4	C	74	0.100	21.5	C
SB L	78	0.214	22.4	C	120	0.342	23.6	C
SB TR	62	0.160	21.9	C	63	0.163	22.0	C
Overall:		1.107	*	F		1.199	*	F
Major Deegan Service Rd. & Third Ave.								
EB TR	807	0.926	36.8	D	707	0.687	25.6	D
NB R	5	0.011	8.0	B	11	0.025	8.0	B
SB L	5	0.006	7.9	B	11	0.014	8.0	B
SB T	2798	0.601	12.3	B	2244	0.530	11.5	B
Overall:		0.726	18.2	C		0.590	14.6	B
Bruckner Blvd. & Lincoln Ave.								
EB TR	10	0.012	4.1	A	16	0.018	4.1	A
WB LTR	2350	1.096	61.4	F	1478	0.692	8.0	B
NB L	5	0.050	18.1	C	5	0.067	18.2	C
NB TR	10	0.036	18.0	C	27	0.067	18.2	C
SB LTR	584	0.802	26.9	D	432	0.602	22.3	C
Overall:		1.009	53.8	E		0.666	11.4	B

Note: When the V/C ratio exceeds 1.2, the stopped delay calculation is meaningless.

TABLE 4.6-1 (continued)
SUMMARY OF LOS ANALYSIS - NO ACTION

Intersection	PM Off-Peak Hour			
	Appr. Volume	V/C Ratio	Stopped Delay	LOS
E. 135th St. & Third Ave.				
WB L	1284	0.652	9.5	B
WB LT	120	0.658	9.6	B
SB TR	608	0.259	25.8	D
Overall:		0.542	15.1	C
E. 135th St. & Alexander Ave.				
WB LTR	1586	0.559	8.9	B
NB LT	63	0.065	7.5	B
SB TR	78	0.064	7.5	B
Overall:		0.321	8.8	B
Bruckner Blvd. & Alexander Ave.				
EB L	16	0.593	21.0	C
EB TR	88	0.161	7.1	B
WB LTR	1238	0.654	11.3	B
NB LTR	15	0.033	21.0	C
SB L	94	0.279	22.9	C
SB TR	88	0.265	22.8	C
Overall:		0.526	12.7	B
E. 135th St. & Willis Ave.				
WB TR	1518	0.635	7.4	B
NB L	78	0.235	27.9	D
NB T	416	0.600	31.6	D
SB R	68	0.156	27.3	D
Overall:		0.626	14.1	B
Bruckner Blvd. & Willis Ave. Exit Ramp				
EB T	218	0.446	32.4	D
WB T	718	0.365	4.0	A
NB L	31	0.124	29.9	D
NB R	1591	0.897	13.6	B
Overall:		0.973	12.8	B
Bruckner Blvd. & Willis Ave.				
EB LTR	192	0.138	7.0	B
WB LTR	749	0.408	8.7	B
NB LTR	10	0.020	20.9	C
SB LTR	582	0.729	29.2	D
Overall		0.518	16.3	C

TABLE 4.6-1 (continued)
SUMMARY OF LOS ANALYSIS - NO ACTION

Intersection	PM Off-Peak Hour			
	Appr. Volume	V/C Ratio	Stopped Delay	LOS
E. 135th St. & St. Ann's Ave.				
WB LTR	193	0.128	9.6	B
NB LTR	250	0.169	5.5	B
SB TR	104	0.078	5.2	B
Overall:		0.152	6.9	B
E. 134th St. & St. Ann's Ave.				
EB L	140	0.327	12.0	B
EB TR	119	0.251	11.6	B
NB TR	151	0.089	4.2	A
SB LT	110	0.087	4.2	A
Overall:		0.173	7.8	B
Bruckner Blvd. & St. Ann's Ave.				
EB LTR	1810	1.248	*	F
WB L	5	0.096	6.8	B
WB TR	666	0.631	11.6	B
NB LTR	120	0.166	22.0	C
SB L	88	0.284	23.0	C
SB TR	63	0.171	22.0	C
Overall:		0.918	*	F
Major Deegan Service Rd. & Third Ave.				
EB TR	624	0.607	24.2	C
NB R	5	0.010	8.0	B
SB L	5	0.006	7.9	B
SB T	1861	0.425	10.6	B
Overall:		0.495	13.7	B
Bruckner Blvd. & Lincoln Ave.				
EB TR	10	0.014	4.1	A
WB LTR	1301	0.610	7.1	B
NB LTR	15	0.031	18.0	C
SB LTR	322	0.437	20.5	C
Overall:		0.559	9.9	B

Note: When the V/C ratio exceeds 1.2, the stopped delay calculation is meaningless.

4.6.2 Impacts of the Proposed Action

Traffic

Trip Generation

The proposed action consists of the development of 96 acres of presently vacant land except for some inactive warehouse buildings. Several abandoned freight sidings traverse the project site. The proposed development scenario includes the following land uses:

Wastepaper Recycling Option	Warehouse Option
Intermodal Terminal	Intermodal Terminal
Team Track	Team Track
3000 TPD Waste Transfer Station	3000 TPD Waste Transfer Station
80,000 sf Dry Refrigerated Warehouse	80,000 sf Dry Refrigerated Warehouse
100,000 sf Dry Warehouse	100,000 sf Dry Warehouse
Flower Market	Flower Market
Security and Maintenance Services	Security and Maintenance Services
Paper Facility	280,000 sf High Cube Warehouse
	180,000 sf Dry Warehouse

In order to develop the projected trips for the proposed facilities, each operator (except warehouses and Flower Market) was asked to estimate the number of employees and shifts, and expected truck and auto trips that would use the facility on completion. Responses were used to generate volumes of autos and trucks for each analyzed time period. This approach was used for all land uses with the exception of the warehouse facilities and flower market. For the warehouse buildings, the ITE Trip Generation Report was used to establish estimates of employees truck trips and total trips.

In order to prepare trip generation estimates for the flower market, surveys were sent to each of the prospective tenants expected to relocate from the Manhattan Flower District to the market. The surveys requested specific information on the vendor's current building

space, total vehicle trips during a peak weekday and peak periods, total number of employees and employees by shift, shift hours and the number of walk-in sales. Responses were returned by three of the vendors; the results were reviewed and compiled to develop car and truck trip generation rates on a square foot basis.

The generated auto and truck trips for each project component are presented in Table 4.6-2.

Trip Distribution

Vehicle trip distribution for the proposed Harlem River Yard development was developed for three distinct trip patterns:

- Employee Arrival and Departure;
- Flower Market Deliveries;
- Truck Trip Arrivals and Departure.

The employee trip distribution (Figure 4.6-5) is based on 1980 Journey-to Work data. This data indicates the distribution of peak hour trips by origin and destination. Figure 4.6-5 was developed in conjunction with Figure 4.6-1. The employee arrival and departure distribution assumes more local trips than the other trip distributions.

The Flower Market distribution (Figure 4.6-6) presents likely travel routes of autos and vans which are making deliveries to florists throughout New York City and adjacent suburbs. The majority of these vehicles were assigned to the major travel routes, the Major Deegan and Bruckner Expressways, via study area roadways.

It is expected that the draw of truck traffic, comprising mostly large single-unit trucks, container trucks, and tractor trailers, to the site will be regional in nature. However, the actual origins and destinations (O-D) of truck trips generated by the individual facilities is

TABLE 4.6-2

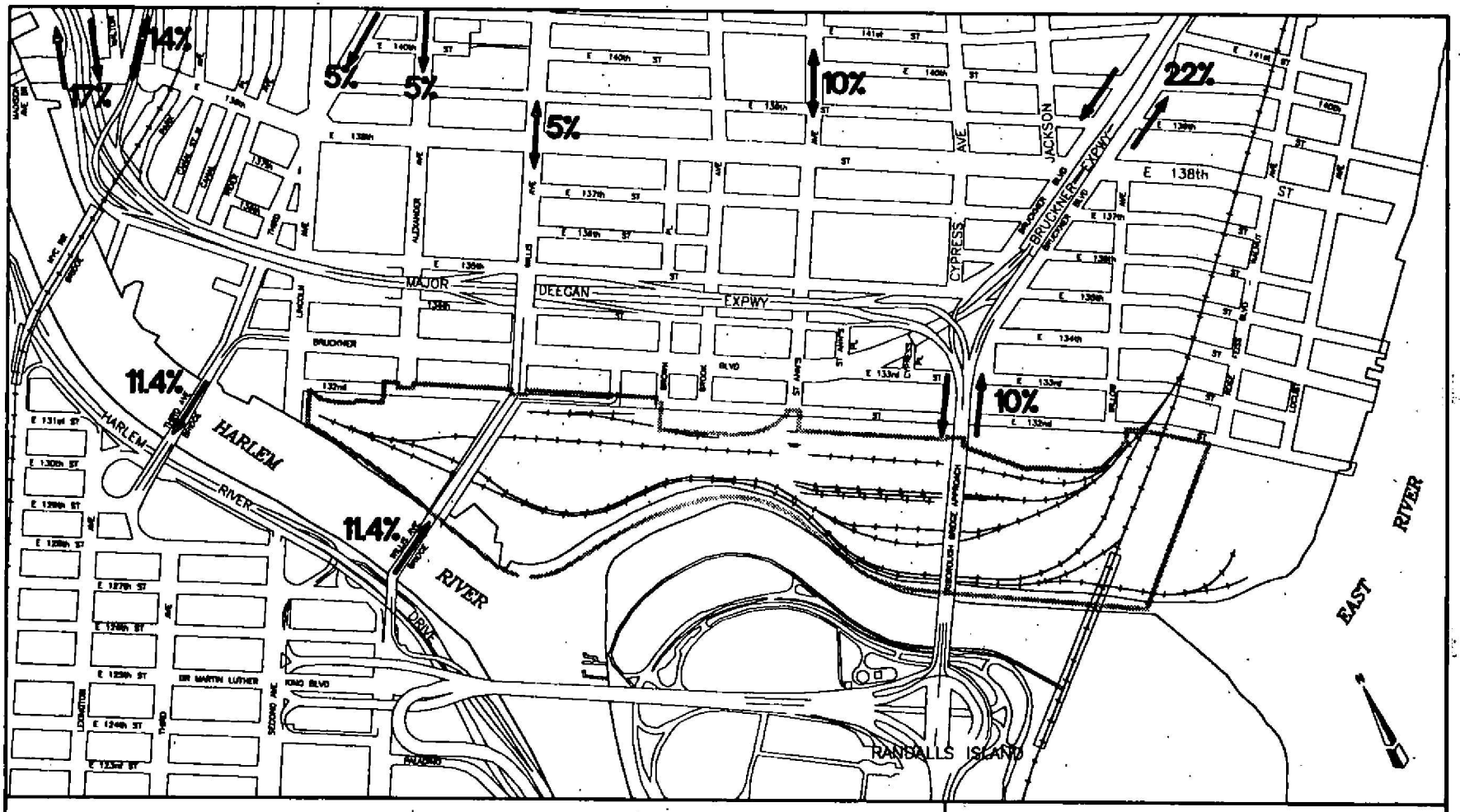
PROJECT GENERATED TRIPS

Waste Paper Recycling Option

Facility	AM Peak				PM Peak				Peak Hour of Generator*				Daily Trips			
	Autos	Trucks	Vans	Total	Autos	Trucks	Vans	Total	Autos	Trucks	Vans	Total	Autos	Trucks	Vans	Total
3000 TPD Transfer Station	14	50	--	64	14	16	--	30	--	64	--	64	97	450	--	547
Warehouse 80,000 SF	46	--	--	46	46	13	--	59	--	48	--	48	106	284	--	390
Warehouse 100,000 SF	57	--	--	57	57	17	--	74	--	60	--	60	131	357	--	488
Paper Facility	49	3	--	52	49	3	--	52	--	6	--	6	258	44	--	302
Intermodal Terminal	19	44	--	63	19	44	--	63	--	48	--	48	118	540	--	658
Flower Mart**	--	24	428	452	--	--	--	--	262	166	1594	2022	603	262	3332	4197
Security & Maintenance	6	--	--	6	6	--	--	6	6	--	--	6	35	--	--	35
Team Track	--	4	--	4	--	4	--	4	--	4	--	4	--	48	--	48
Total	191	125	428	744	191	97	--	288	268	396	1594	2258	1348	1985	3332	6665

Note: * occurs during the Off-Peak-period (11:00 AM - 2:00 PM) unless otherwise noted

** Peak hour of Flower Market occurs between 5:30 AM and 6:30 AM



Legend

Property Boundary

Direction of Trips

17% Percent of Trips

0 300 600 1200 2400
FEET

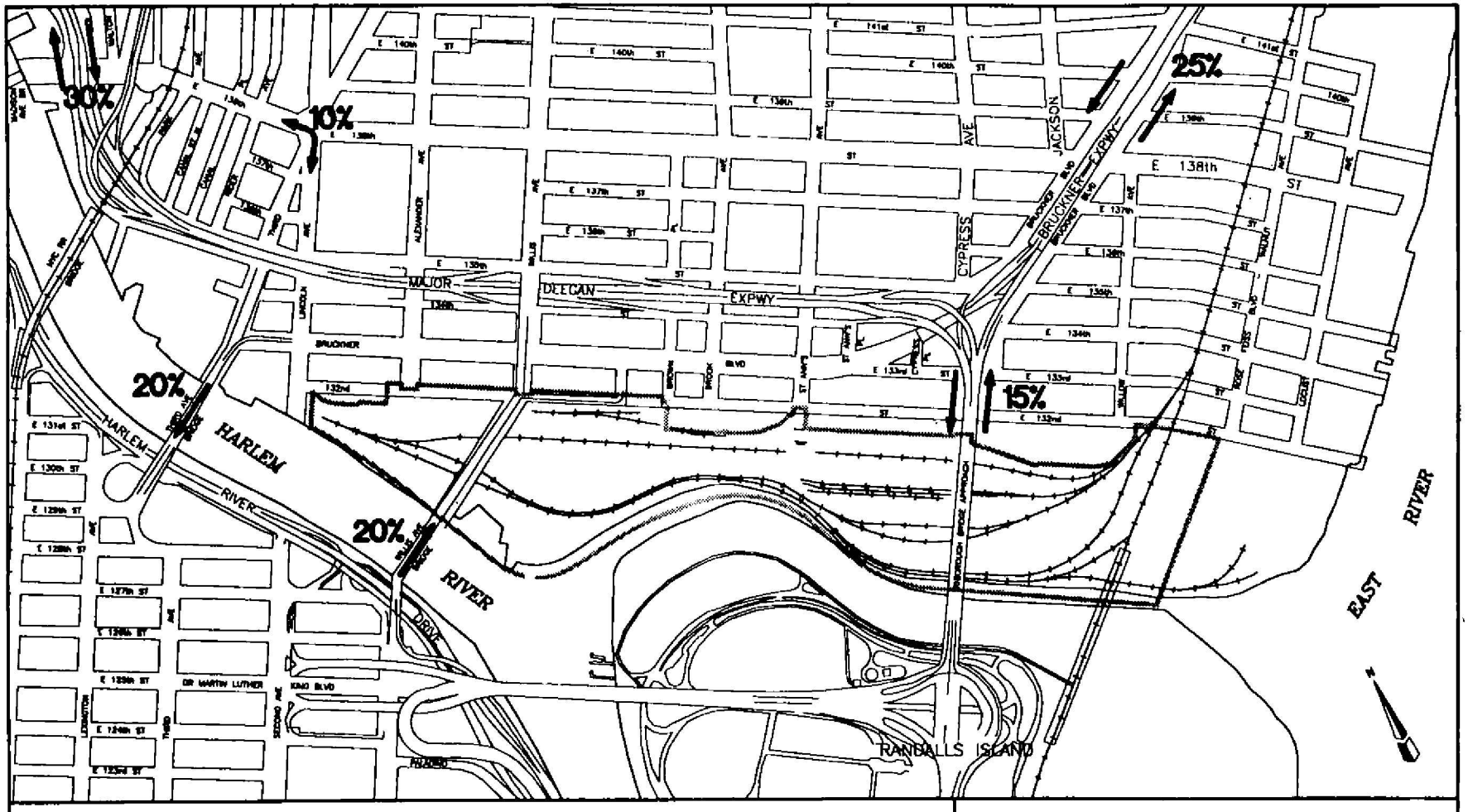
HARLEM RIVER YARD VENTURES INC.
INTERMODAL TRANSPORTATION AND
DISTRIBUTION CENTER

**BUILD TRIP DISTRIBUTION
EMPLOYEES**

DATE:
DEC 14, 1992

TAMS CONSULTANTS, Inc.

Figure 4.6-5



Legend

Property Boundary

Direction of Trips

15% Percent of Trips

0 300 600 1200 2400
FEET

HARLEM RIVER YARD VENTURES INC.
INTERMODAL TRANSPORTATION AND DISTRIBUTION CENTER

BUILD TRIP DISTRIBUTION FLOWER MARKET DELIVERIES

DATE: DEC 14, 1992

TAMS CONSULTANTS, Inc.

Figure 4.6-6

TABLE 4.6-2 (continued)

Warehousing Option

Facility	AM Peak				PM Peak				Peak Hour of Generator*				Daily Trips			
	Autos	Trucks	Vans	Total	Autos	Trucks	Vans	Total	Autos	Trucks	Vans	Total	Autos	Trucks	Vans	Total
3000 TPD Transfer Station	14	50	--	64	14	16	--	30	--	64	--	64	97	450	--	547
Warehouse 80,000 SF	46	--	--	46	46	13	--	59	--	48	--	48	106	284	--	390
Warehouse 100,000 SF	57	--	--	57	57	17	--	74	--	60	--	60	131	357	--	488
Warehouse High Cube 280,000 SF	34	9	--	43	34	9	--	43	--	34	--	34	78	222	--	300
Warehouse 180,000 SF	103	--	--	103	103	30	--	133	--	108	--	108	237	641	--	878
Intermodal Terminal	19	44	--	63	19	44	--	63	--	48	--	48	118	540	--	658
Flower Mart**	--	24	428	452	--	--	--	--	262	166	1594	2022	603	262	3332	4197
Security & Maintenance	6	--	--	6	6	--	--	6	6	--	--	6	35	--	--	35
Team Track	--	4	--	4	--	4	--	4	--	4	--	4	--	48	--	48
Total	279	131	428	838	279	133	--	412	268	532	1594	2394	1405	2804	3332	7541

Note: * occurs during the Off-Peak-period (11:00 AM - 2:00 PM) unless otherwise noted

** Peak hour of Flower Market occurs between 5:30 AM and 6:30 AM

unknown, and no published studies of truck O-D data within the region are available. Consequently, the distribution for project-generated trucks (Figure 4.6-7) was developed considering the regional nature of the trips and the highway system serving the site. Truck trips were assigned to the major through highway routes in the area of the project.

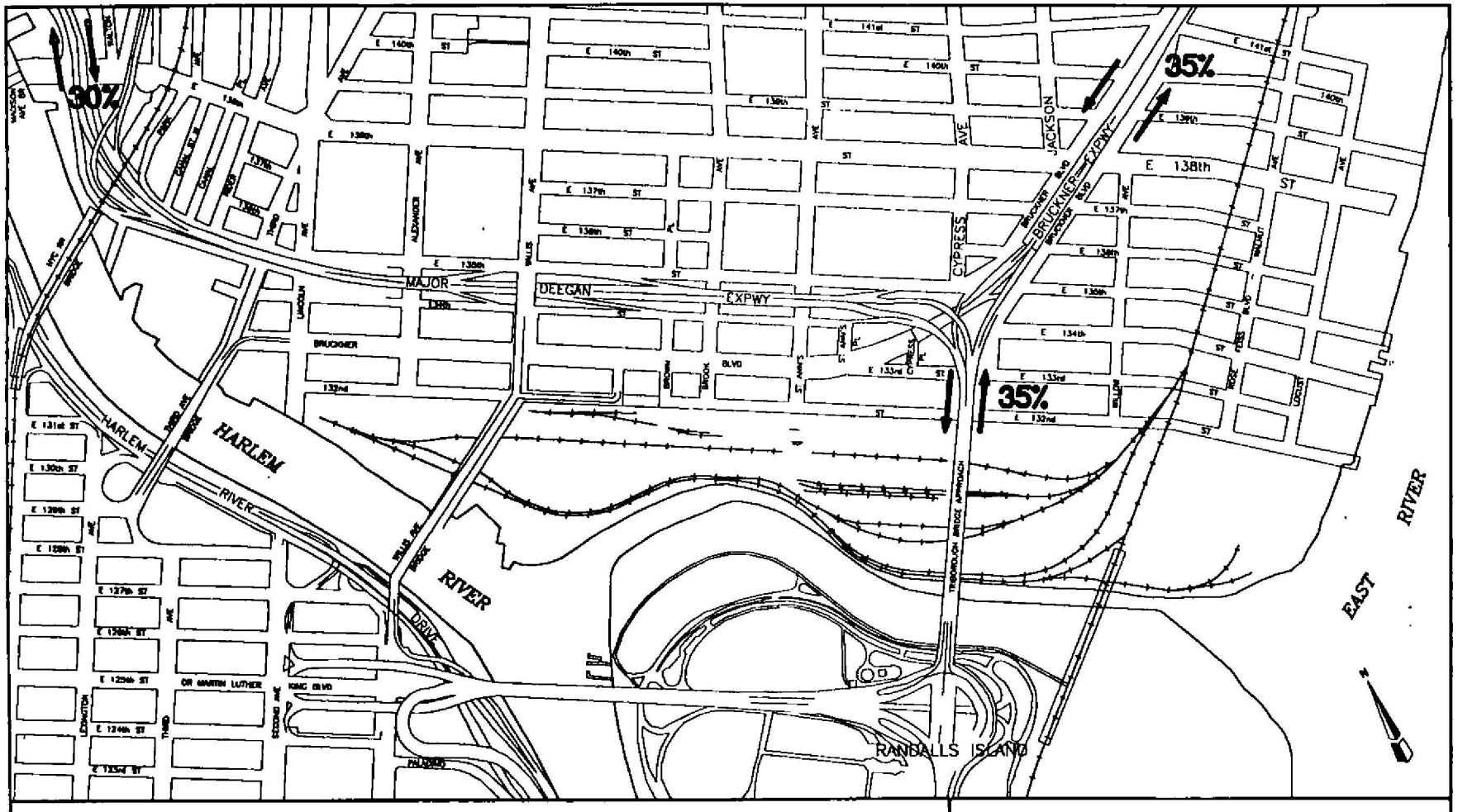
Using this information and the total number of generated trips for each peak period the actual number of trips generated at each intersection was developed. These project generated volumes were applied to the no-build volumes yielding "build" scenario volumes for weekday peak hours (Figures 4.6-8 to 4.6-10).

LOS Analysis

Since the warehouse option generates the greatest number of AM and PM peak hour trips, capacity analysis representing the build condition was completed for this option. Any impacts identified for the Warehouse Option would be less intense for the wastepaper recycling option because it generates fewer peak period trips. Any absence of traffic impacts for the warehouse option would apply equally to the wastepaper recycling option.

The capacity analysis was performed for the same intersections as for the no-build analysis. The results for each time period analyzed are summarized in Table 4.6-3. This table presents intersection approach volumes, volume/capacity ratios, stopped delay and lane group levels of service.

A comparison of this table with Table 4.6-1 for the no build condition indicates that the overall delay of most intersections degrades slightly although the level of service designation generally remains unchanged. The only intersection which experiences considerable impacts is the intersection of Bruckner Boulevard and St. Ann's Avenue. This intersection serves as a major access point for the site. The heavy volume of project-generated turning movements at this location impact both EB and WB approaches of Bruckner Boulevard.



Legend

Property Boundary

Direction of Truck Trips

35% Percent of Truck Trips

0 300 600 1200 2400
FEET

HARLEM RIVER YARD VENTURES INC.
INTERMODAL TRANSPORTATION AND DISTRIBUTION CENTER

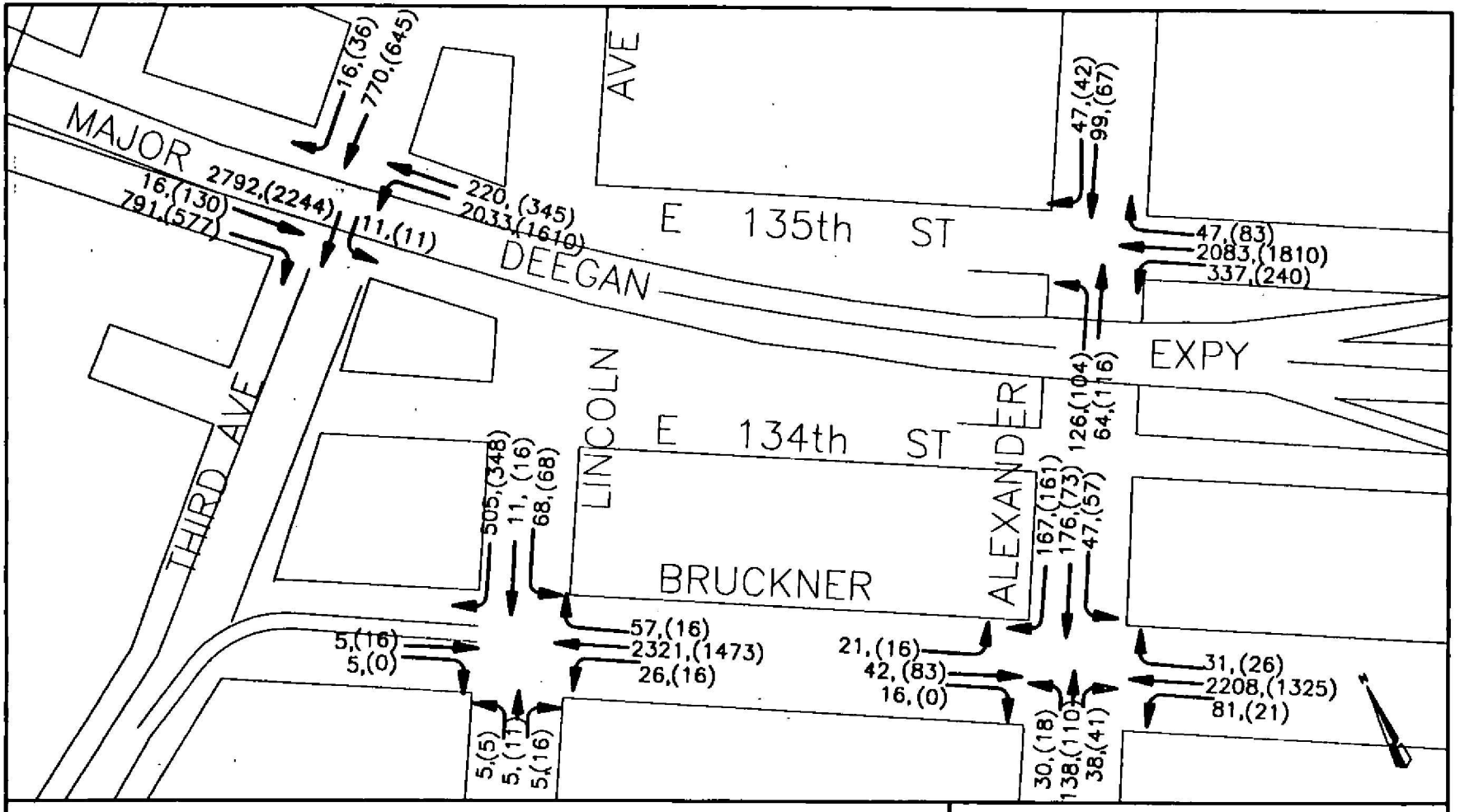
BUILD TRIP DISTRIBUTION
TRUCK TRIPS

WASTE TRANSFER STATION OPTION

DATE:
DEC 14, 1992

TAMS CONSULTANTS, Inc.

Figure 4.6-7



Legend

195 AM Peak Flow Count

(150) PM Peak Flow Count

Traffic Movement

0 300 600

FEET

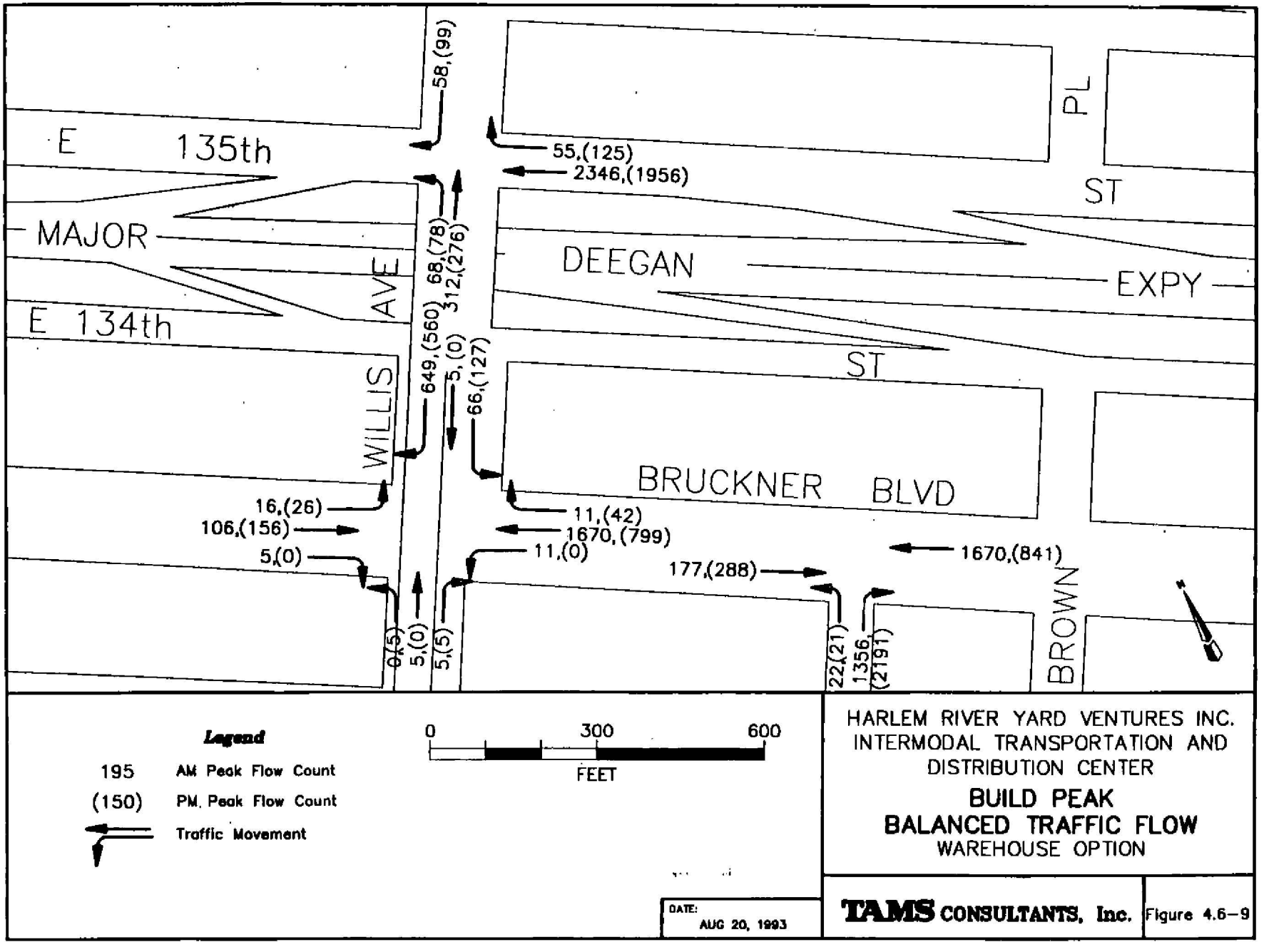
HARLEM RIVER YARD VENTURES INC.
INTERMODAL TRANSPORTATION AND DISTRIBUTION CENTER

BUILD PEAK
BALANCED TRAFFIC FLOW
WAREHOUSE OPTION

DATE: AUG 20, 1993

TAMS CONSULTANTS, Inc.

Figure 4.6-8


E 135th
MAJOR
E 134th
WILLIS AVE
DEEGAN EXPY
BRUCKNER BLVD
PL
ST
ST
BROWN
58,(99)
55,(125)
2346,(1956)
68,(78)
312,(276)
649,(560)
5,(0)
66,(127)
16,(26)
106,(156)
5,(0)
11,(42)
1670,(799)
11,(0)
177,(288)
1670,(841)
0,(5)
5,(0)
5,(5)
22,(21)
1356,(2191)
Legend
195 AM Peak Flow Count
(150) PM. Peak Flow Count
Traffic Movement
0
300
600
FEET
HARLEM RIVER YARD VENTURES INC.
INTERMODAL TRANSPORTATION AND DISTRIBUTION CENTER
BUILD PEAK
BALANCED TRAFFIC FLOW
WAREHOUSE OPTION
DATE:
AUG 20, 1993
TAMS CONSULTANTS, Inc.
Figure 4.6-9

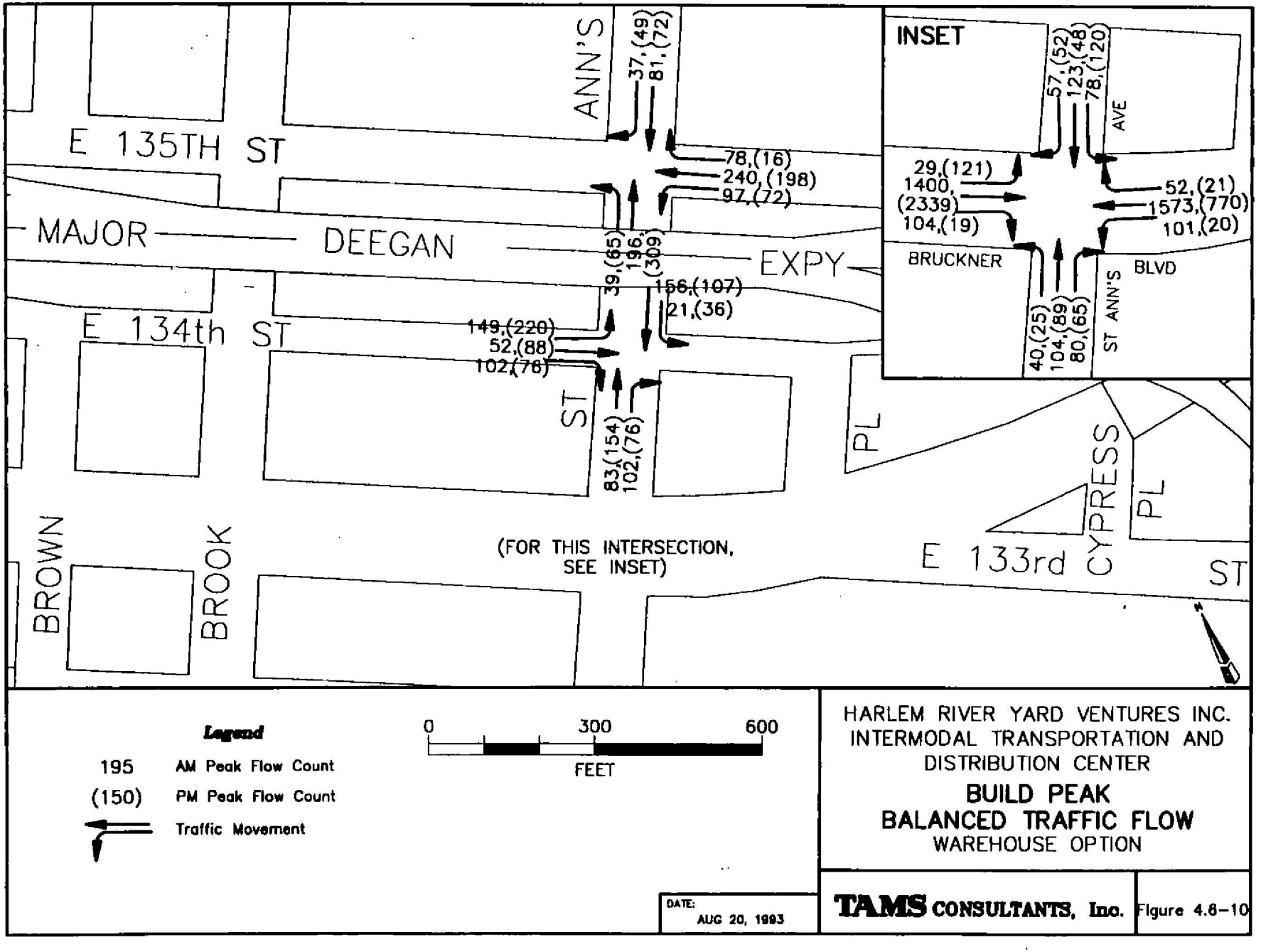

INSET
ANN'S
E 135TH ST
MAJOR
DEEGAN
EXPY
E 134th ST
BROWN
BROOK
(FOR THIS INTERSECTION, SEE INSET)
BRUCKNER
BLVD
ST ANN'S
AVE
PL
CYPRESS
E 133rd ST
37,(49)
81,(72)
78,(16)
240,(198)
97,(72)
39,(65)
196,(309)
156,(107)
21,(36)
149,(220)
52,(88)
102,(76)
83,(154)
102,(76)
57,(52)
123,(48)
78,(120)
29,(121)
1400,(2339)
104,(19)
52,(21)
1573,(770)
101,(20)
40,(25)
104,(89)
80,(65)
Legend
195 AM Peak Flow Count
(150) PM Peak Flow Count
Traffic Movement
0
300
600
FEET
HARLEM RIVER YARD VENTURES INC.
INTERMODAL TRANSPORTATION AND DISTRIBUTION CENTER
BUILD PEAK
BALANCED TRAFFIC FLOW
WAREHOUSE OPTION
DATE:
AUG 20, 1993
TAMS CONSULTANTS, Inc.
Figure 4.6-10

TABLE 4.6-9
SUMMARY OF LOS ANALYSIS
Warehouse Option

Intersection	AM Peak Hour				PM Peak Hour			
	Appr. Volume	V/C Ratio	Stopped Delay	LOS	Appr. Volume	V/C Ratio	Stopped Delay	LOS
E. 135th St. & Third Ave.								
WB L	2033	0.991	32.7	D	1610	0.980	30.3	D
WB LT	220	1.000	35.1	D	345	0.998	34.3	D
SB TR	786	0.315	26.3	D	681	0.308	26.2	D
Overall:		0.802	31.6	D		0.798	30.6	D
E. 135th St. & Alexander Ave.								
WB LTR	2467	0.943	16.6	C	2133	0.781	11.1	B
NB L	126	0.331	8.7	B	104	0.206	8.1	B
NB T	64	0.128	7.8	B	116	0.175	7.9	B
SB TR	146	0.181	8.0	B	109	0.168	7.9	B
Overall:		0.648	15.4	C		0.504	10.6	B
Bruckner Blvd. & Alexander Ave.								
EB L	21	0.789	47.0	E	16	0.563	18.3	C
EB TR	58	0.112	6.9	B	83	0.142	7.0	B
WB LTR	2320	1.173	111.9	F	1372	0.647	11.2	B
NB LTR	206	0.333	23.4	C	169	0.343	23.5	C
SB LTR	390	0.522	25.5	D	291	0.399	24.0	C
Overall:		0.951	89.8	F		0.562	14.6	B
E. 135th St. & Willis Ave.								
WB TR	2401	1.018	31.3	D	2081	0.987	23.6	C
NB L	68	0.201	27.8	D	78	0.219	27.7	D
NB T	312	0.440	29.6	D	276	0.371	28.9	D
SB R	58	0.101	26.9	D	99	0.179	27.4	D
Overall:		0.871	30.9	D		0.830	24.4	C
Bruckner Blvd. & Willis Ave. Exit Ramp								
EB T	177	0.417	32.1	D	288	0.488	32.8	D
WB T	1670	0.783	8.1	B	841	0.348	3.9	A
NB L	22	0.085	29.7	D	23	0.076	29.6	D
NB R	1356	0.700	7.6	B	2191	1.961	19.1	C
Overall:		1.152	9.8	B		1.008	16.7	C
Bruckner Blvd. & Willis Ave.								
EB L	16	0.318	9.1	B	-	-	-	-
EB TR (LTR)	101	0.099	6.8	B	182	0.158	7.1	B
WB LTR	1692	0.978	27.6	D	848	0.467	9.2	B
NB L	10	0.020	20.9	C	5	0.066	21.2	C
NB TR (LTR)	-	-	-	-	5	0.021	20.9	C
SB LTR	720	0.827	32.7	D	687	0.798	31.3	D
Overall		0.926	28.0	D		0.579	17.3	C

TABLE 4.6-3
SUMMARY OF LOS ANALYSIS
Warehouse Option

Intersection	AM Peak Hour				PM Peak Hour			
	Appr. Volume	V/C Ratio	Stopped Delay	LOS	Appr. Volume	V/C Ratio	Stopped Delay	LOS
E. 135th St. & St. Ann's Ave.								
WB LTR	415	0.323	10.4	B	286	0.187	9.8	B
NB LTR	235	0.175	5.5	B	374	0.270	5.8	B
SB TR	118	0.097	5.2	B	121	0.114	5.3	B
Overall:		0.236	8.2	B		0.236	7.1	B
E. 134th St. & St. Ann's Ave.								
EB L	149	0.319	12.0	B	220	0.481	13.1	B
EB TR	154	0.308	11.9	B	164	0.322	12.0	B
NB TR	185	0.129	4.3	A	230	0.166	4.4	A
SB LT	177	0.132	4.3	A	143	0.107	4.2	A
Overall:		0.198	7.5	B		0.277	8.0	B
Bruckner Blvd. & St. Ann's Ave.								
EB L	29	0.564	18.4	C	-	-	-	-
EB TR (LTR)	1504	1.435	*	F	2479	1.737	*	F
WB L	101	2.020	*	F	20	0.373	10.2	B
WB TR	1625	1.584	*	F	791	0.723	13.2	B
NB LTR	224	0.372	23.6	C	179	0.248	22.6	C
SB L	-	-	-	-	120	0.414	24.5	C
SB TR (LTR)	258	0.373	23.6	C	100	0.243	22.6	C
Overall:		1.456	*	F		1.285	*	F
Major Deegan Service Rd. & Third Ave.								
EB TR	807	0.926	36.8	D	707	0.687	25.6	D
NB R	5	0.011	8.0	B	11	0.025	8.0	B
SB L	11	0.012	8.0	B	11	0.014	8.0	B
SB T	2792	0.600	12.3	B	2244	0.530	11.5	B
Overall:		0.725	18.2	C		0.590	14.6	B
Bruckner Blvd. & Lincoln Ave.								
EB TR	10	0.012	4.1	A	16	0.018	4.1	A
WB LTR	2404	1.122	74.3	F	1505	0.705	8.2	B
NB L	5	0.050	18.1	C	-	-	-	-
NB TR (LTR)	10	0.037	18.0	C	32	0.067	18.2	C
SB LTR	584	0.817	27.6	D	432	0.602	22.3	C
Overall:		1.031	64.3	F		0.675	11.5	B

Note: When the V/C ratio exceeds 1.2, the stopped delay calculation is meaningless.

TABLE 4.6-3 (continued)
SUMMARY OF LOS ANALYSIS
Warehouse Option

Intersection	PM Off-Peak Hour			
	Appr. Volume	V/C Ratio	Stopped Delay	LOS
E. 135th St. & Third Ave.				
WB L	1284	0.704	10.5	B
WB LT	237	0.715	10.8	B
SB TR	608	0.259	25.8	D
Overall:		0.583	15.5	C
E. 135th St. & Alexander Ave.				
WB LTR	1716	0.610	9.3	B
NB L	104	0.232	8.2	B
NB T	63	0.119	7.7	B
SB TR	99	0.080	7.6	B
Overall:		0.428	9.1	B
Bruckner Blvd. & Alexander Ave.				
EB L	16	0.625	21.0	C
EB TR	88	0.625	7.1	B
WB LTR	1318	0.625	12.1	B
NB LTR	216	0.325	25.5	D
SB LTR	299	0.325	26.2	D
Overall:		0.655	16.4	C
E. 135th St. & Willis Ave.				
WB TR	1648	0.689	8.1	B
NB L	78	0.235	27.9	D
NB T	416	0.600	31.6	D
SB R	68	0.156	27.3	D
Overall:		0.667	14.2	B
Bruckner Blvd. & Willis Ave. Exit Ramp				
EB T	312	0.638	34.8	D
WB T	742	0.378	4.0	A
NB L	34	0.136	30.0	D
NB R	1639	0.873	12.1	B
Overall:		0.964	13.0	B
Bruckner Blvd. & Willis Ave.				
EB LTR	242	0.179	7.2	B
WB LTR	776	0.423	8.8	B
NB LTR	10	0.020	20.9	C
SB LTR	649	0.812	32.0	D
Overall		0.556	17.4	C

TABLE 4.6-3 (continued)
SUMMARY OF LOS ANALYSIS
Warehouse Option

Intersection	PM Off-Peak Hour			
	Appr. Volume	V/C Ratio	Stopped Delay	LOS
E. 135th St. & St. Ann's Ave.				
WB L	79	0.165	9.7	B
WB TR	172	0.169	9.7	B
NB LTR	284	0.196	5.6	B
SB TR	104	0.078	5.2	B
Overall:		0.184	7.1	B
E. 134th St. & St. Ann's Ave.				
EB LTR	352	0.414	12.4	B
NB TR	271	0.165	4.4	A
SB LT	158	0.125	4.3	A
Overall:		0.253	7.9	B
Bruckner Blvd. & St. Ann's Ave.				
EB LTR	1952	1.468	*	F
WB L	53	1.023	117.8	F
WB TR	676	0.640	11.5	B
NB LTR	310	0.476	24.9	C
SB LTR	249	0.419	24.3	C
Overall:		1.129	*	F
Major Deegan Service Rd. & Third Ave.				
EB TR	624	0.607	24.2	C
NB R	5	0.010	8.0	B
SB L	5	0.006	7.9	B
SB T	1866	0.425	10.6	B
Overall:		0.495	13.7	B
Bruckner Blvd. & Lincoln Ave.				
EB TR	10	0.014	4.1	A
WB LTR	1352	0.634	7.3	B
NB LTR	15	0.031	18.0	C
SB LTR	322	0.437	20.5	C
Overall:		0.575	10.0	B

Note: When the V/C ratio exceeds 1.2, the stopped delay calculation is meaningless.

The existing and no-build operations for these approaches are LOS F. However, the project-generated vehicles further deteriorate this condition.

Truck Traffic/Gate Assignments

The considered options will generate the following truck trips during the AM and PM peak periods, and PM-off-peak periods.

Option	AM Peak	PM Peak	PM Off-Peak
Wastepaper Recycling Option	125	97	396
Warehouse Option	131	133	532

These trips will be added to the regional highway system and the local street network immediately adjacent to the project site. The preceding traffic analysis indicates that total traffic generated by the site (automobiles and trucks) can be accommodated on the local street network without serious impacts, except at the intersection of Bruckner Boulevard and St. Ann's Avenue. Mitigative measures implemented along Bruckner Boulevard, as described in subsequent sections, will improve traffic operations impacted by the project. In addition, the New York State Department of Transportation will be undertaking the reconstruction of Bruckner Boulevard under the Willis Avenue Bridge to improve truck clearances.

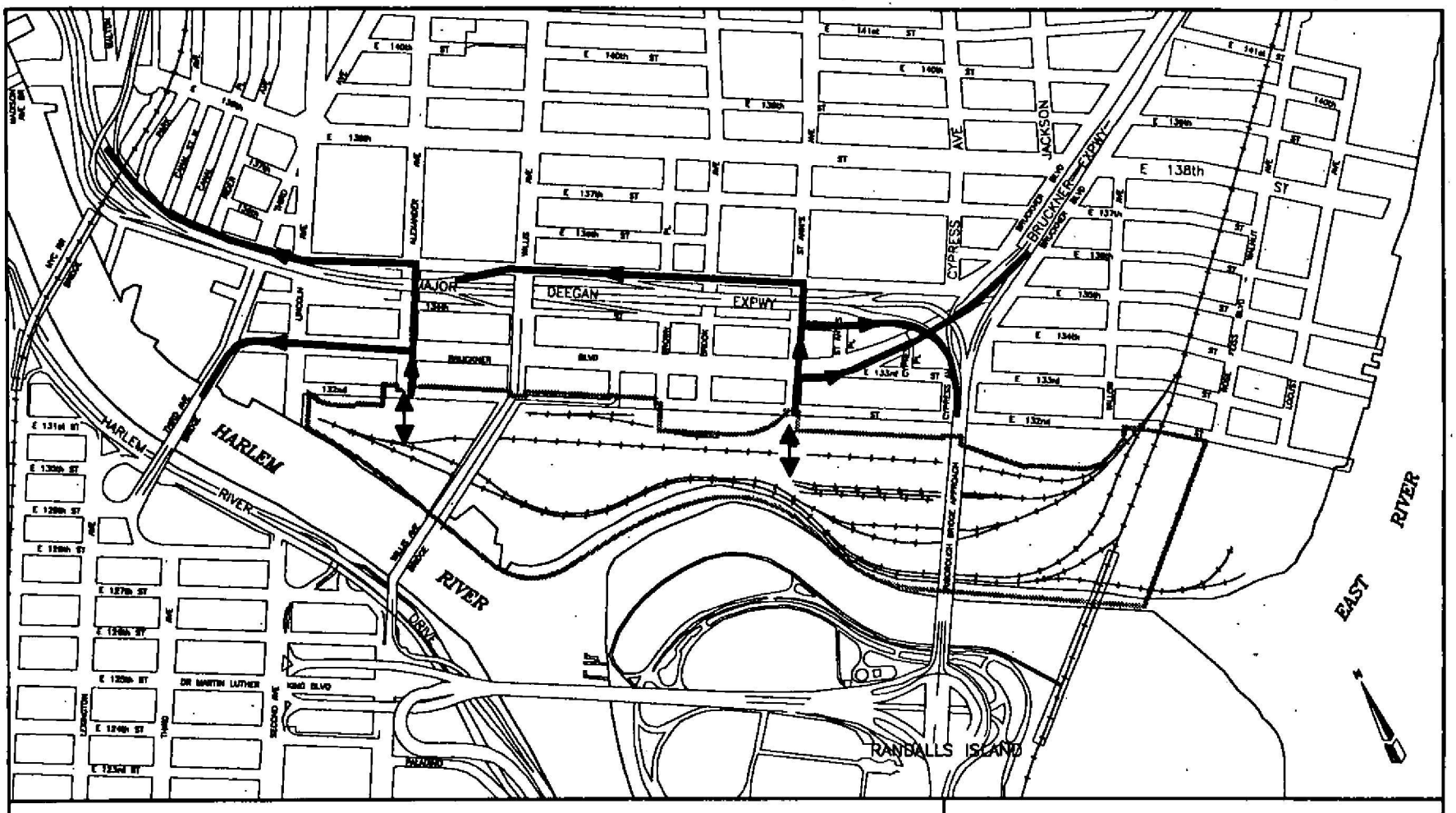
It is expected that truck traffic will utilize existing designated local and through truck routes for the most direct primary access to the site as identified in Figure 4.6-11. Locally oriented truck traffic is expected to utilize designated local truck routes to reach either the Alexander Avenue or the St. Ann's Avenue site access points. While the foregoing represent the most

likely routings of site-generated truck traffic expected for access to and from the site, it should be noted that truck drivers will ultimately chose the routes they feel best serve their needs.

The assignment of site generated truck traffic to the project's entrance/exit gates was based on lease agreements for the transfer station and the intermodal terminal facilities, and expected travel routes developed from the trip origins/destinations for all other site uses. Consequently, it was assumed that all vehicles (trucks and employee cars) destined for the transfer station and the intermodal terminal will only use the Alexander Avenue gate for all entries and exits. One hundred percent of these trips have been assigned to the Alexander Avenue gate.

The remaining uses (paper facility, warehousing, flower market, security and maintenance, and team track) are expected to use either the Alexander Avenue or the St. Ann's Avenue gate for all vehicular entries and exits to the site, depending on general trip origin. Therefore, traffic utilizing the Major Deegan Expressway corridor has been assigned to both the St. Ann's Avenue and Alexander Avenue gates. Traffic using the Bruckner Expressway corridor has been assigned entirely to the St. Ann's Avenue gate. Triboro Bridge truck traffic has been assigned with 40 percent using the Alexander Avenue gate and 60 percent using the St. Ann's Avenue gate during the AM peak period for vehicles exiting the site (30 and 60 percent for the PM peak); all other Triborough Bridge traffic has been assigned to the Alexander Avenue gate for both peak periods. The respective gate assignments are summarized in Table 4.6-4. It should be noted that the auxiliary gates at Lincoln Avenue and Willow Road will only be utilized for emergency access/egress to the site; they will otherwise be closed.

It should also be noted that there are residential land uses within the primary and secondary impact area for this project, along the designated truck routes expected to provide primary access to and from the site. The extensive use of these routes by commercial traffic is an



Legend

- Property Boundary
- Site Entrance
- Outbound Truck Routing

0 300 600 1200 2400
FEET

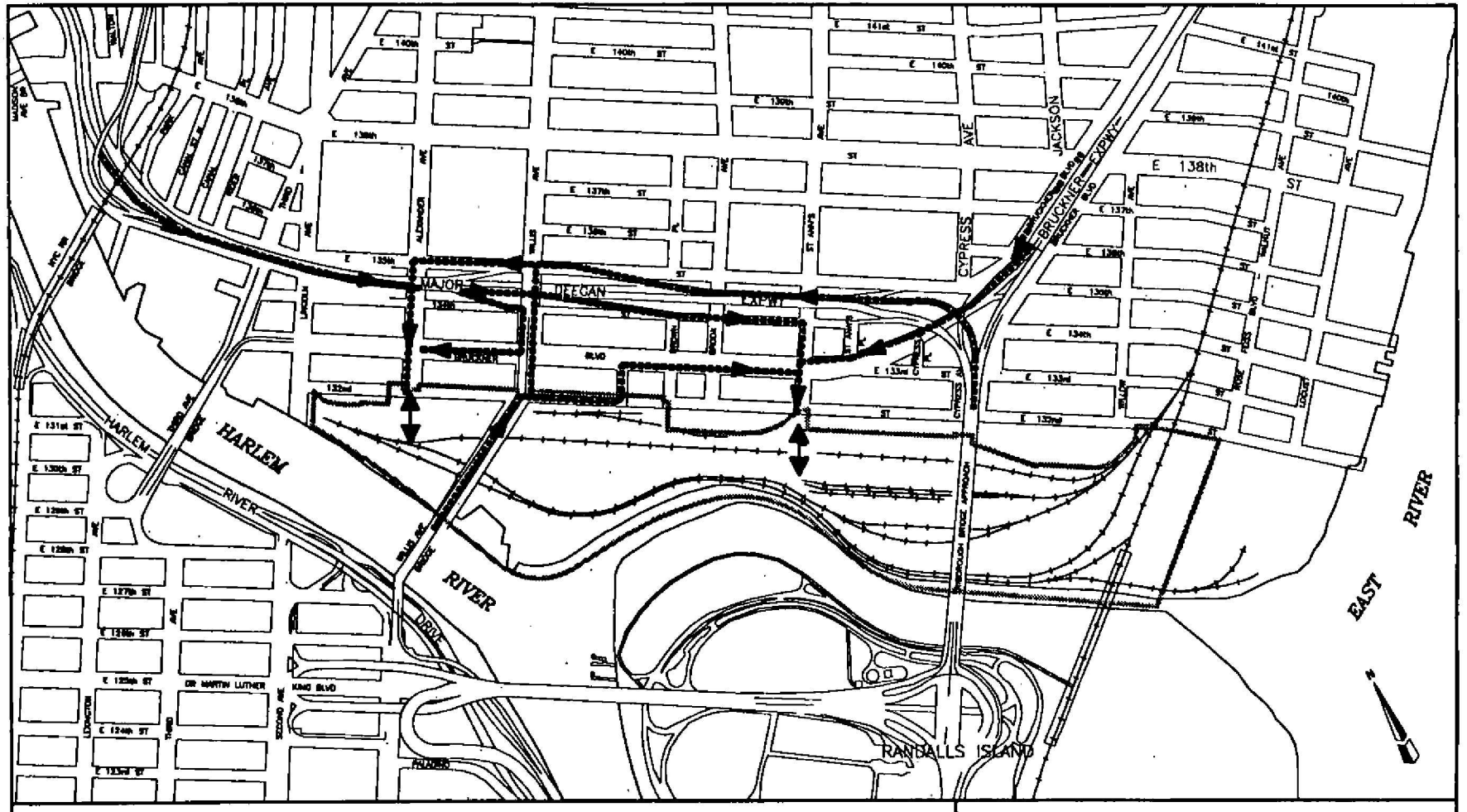
HARLEM RIVER YARD VENTURES INC.
INTERMODAL TRANSPORTATION AND
DISTRIBUTION CENTER

OUTBOUND TRUCK ROUTINGS

DATE:
AUG 04, 1993

TAMS CONSULTANTS, Inc.

Figure 4.6-11


E 138th ST
JACKSON AVE
BRUCKNER EXPWY
CYPRESS AVE
MAJOR DEEGAN EXPWY
HARLEM RIVER
HARLEM RIVER DRIVE
HARLEM RIVER
EAST RIVER
RANDALLS ISLAND
DR MARTIN LUTHER KING BLVD
Legend
Property Boundary
Site Entrance
Inbound Truck Routing
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HARLEM RIVER YARD VENTURES INC.
INTERMODAL TRANSPORTATION AND DISTRIBUTION CENTER
INBOUND TRUCK ROUTINGS
DATE:
AUG 04, 1993
TAMS CONSULTANTS, Inc.
Figure 4.6-11
(continued)

TABLE 4.6-4
GATE ASSIGNMENTS

Assignment	Route	Percent by Gate			
		Alexander Ave.		St. Ann's Ave.	
		AM Peak	PM Peak	AM Peak	PM Peak
INBOUND TRAFFIC					
Transfer Station & Intermodal Terminal	All	100	100	-	-
All Other Uses					
Autos	SB Major Deegan	25	20	75	80
	SB Bruckner Exp	-	-	100	100
	Willis Avenue Bridge	-	-	100	100
	Triborough Bridge	100	100	-	-
	Local Streets	75	75	25	25
Vans (Flower Market)	SB Major Deegan	25	-	75	-
	SB Bruckner Exp	-	-	100	-
	Willis Avenue Bridge	-	-	100	-
	Triborough Bridge	100	-	-	-
	Local Streets	100	-	-	-
Trucks	SB Major Deegan	50	20	50	80
	SB Bruckner Exp	-	-	100	100
	Willis Avenue Bridge	-	-	100	100
	Triborough Bridge	100	100	-	-
	Local Streets	-	-	-	-
OUTBOUND TRAFFIC					
Transfer Station & Intermodal Terminal	All	100	100	-	-
All Other Uses					
Autos	NB Major Deegan	100	70	-	30
	NB Bruckner Exp	-	-	100	100
	Third Avenue Bridge	100	50	-	50
	Triborough Bridge	-	35	100	65
	Local Streets	65	75	35	25
Vans (Flower Market)	NB Major Deegan	100	-	-	-
	NB Bruckner Exp	-	-	100	-
	Third Avenue Bridge	33	-	67	-
	Triborough Bridge	-	-	100	-
	Local Streets	100	-	-	-
Trucks	NB Major Deegan	100	65	-	35
	NB Bruckner Exp	-	-	100	100
	Third Avenue Bridge	100	100	-	-
	Triborough Bridge	40	30	60	70
	Local Streets	-	-	-	-

existing condition. The additional truck traffic generated by the project is not expected to have serious adverse impacts on residential land uses in the study area.

In a regional context, the development of the site as a mix of industrial and commercial land uses in conjunction with an intermodal truck-to-rail transfer facility is expected, in the long run, to reduce annual truck trips and total truck vehicle miles of travel as discussed in detail below.

Rail Freight

The NYSDOT, in a separate but related project, will be constructing the Oak Point rail link along the Harlem River which will provide a direct connection with adequate clearances between Selkirk, NY, and the Oak Point Yard, and eliminate the routing of freight trains through the congested Mott Haven and Melrose Junctions. The construction of this link will greatly improve the operational characteristics, and increase the capacity of the rail freight serving the region.

Rail traffic generated by the project will include a total of 150 containers/day for the 3,000 TPD Transfer Station; 375 tons/day in paper mill wet sludge and 6 rail cars/units in processing chemicals for the paper facility; two complete trains of 128 cars each for the intermodal terminal. Additional rail cars will also be generated by the warehouse and flower market operations.

This rail traffic can easily be absorbed by the reserve capacity of the regional rail system serving the site.

Public Transportation

Transit trips generated by the proposed action will impact the Bx15, Bx17, Bx33, and Bx41 bus lines and the IRT No. 6 subway line. Since the bus routes can serve as feeder routes from the subway, transit trips using the No. 6 line will also impact the bus routes.

Due to the manufacturing and industrial nature of the project, all of the transit trips generated will be by employees. The regional nature of the project coupled with its proximity to major highways will reduce the likely number of transit trips. The employee transit trips which occur during the peak hour are further diminished by the use of several shifts which stagger these trips throughout the day.

As was noted for the no-action condition, there is expected to be available residual capacity on these lines. Therefore the minor passenger increases due to the project will not impact the transit facilities.

Pedestrian Activity

The proposed development will cause a slight increase in pedestrian activity. These pedestrians are employees accessing the site after using the bus or subway. Significant volumes of project generated, walk-only trips are not expected due to the scarcity of residential land uses in the study area and the regional characteristics of the facility. Since low pedestrian volumes are expected into the future, the additional pedestrian activity due to the project will have no adverse impact.

Reduction in Vehicle Miles of Travel

By increasing the proportion of goods shipped in and out of New York City by rail, the proposed development of the Harlem River Yard will alleviate traffic congestion on trans-Hudson crossings (in particular the George Washington Bridge) and reduce vehicle miles

of travel in the region per year by 23.7 million for the wastepaper recycling option, as follows:

- Intermodal Rail Terminal - Under the proposed action 70,000 rail car movements per year will go to Harlem River Yard; 35,000 of these will replace truck trips from Albany, NY. Therefore:

  VMT reduction = 35,000 vehicles x 2 (for round trip) x 150 miles = 10,500,000

  In addition, 35,000 movements will replace truck trips from the New Jersey waterfront (21 miles from Greenville or 9 miles from Hackensack, say 15 miles average trip length).

  VMT reduction = 35,000 vehicles x 2 (rt) x 15 miles = 1,050,000

  Construction of the terminal will also allow for 30,000 car loads of produce to go to the Hunts Point Market, replacing 30,000 truck trips from the New Jersey waterfront (21 miles from Greenville or 9 miles from Hackensack, say 15 miles average trip length).

  VMT reduction = 30,000 vehicles x 2 (rt) x 15 miles = 900,000

- Paper Recycling Facility - Newsprint paper currently comes in by rail to the Bronx, thus there is no VMT savings. However, recycled paper currently is transported from around the City to Port Newark. Transporting the recycled newspaper to the Harlem River Yard instead of Port Newark would save VMT. Using Maspeth, Queens as the center of the City, the distance to Harlem River Yard is 7 miles, to Port Newark 21 miles, a savings of 14 miles. 250 tons of newspaper would be recycled per day, which translates to 13 trucks per day.

  VMT reduction = 13 trucks/day x 300 days/yr x 2 (rt) x 14 miles = 109,000

- Warehouses - Eleven rail cars/day would replace truck movements from Albany, NY.

  VMT reduction = 11 rail cars x 3 trucks/rail car x 250 days/yr x 2 (rt) x 150 miles
  = 2,475,000

- Transfer Station - Use of rail to transport solid waste from the transfer station for disposal would replace both trips to the Fresh Kills Landfill in Staten Island as well as trips to Pennsylvania and Ohio. Using Maspeth as center of the city, the distance to Fresh Kills is 20 miles, to Harrisburg, PA is 187 miles, to Harlem

transfer facility translates to 150 trucks per day. Assuming half the waste goes to Fresh Kills and to Pennsylvania:

VMT reduction = 150 trucks/day x 0.5 x 300 days/yr x 2 (rt) x 13 miles = 585,000

plus

VMT reduction = 150 trucks/day x 0.5 x 300 days/yr x 2 (rt) x 180 miles = 8,100,000

Under the warehouse option, the reduction in VMT is expected to be 26.8 million, which is greater than under the wastepaper recycling option due to the replacement of the wastepaper recycling facility with warehousing.

In addition, the potential spinoff development of increased rail freight traffic to and from Long Island will permit further reductions in regional truck traffic.

Besides reducing trans-Hudson crossings, the proposed development will permit a share of future movements of waste, and bulk construction materials to be diverted from city streets to barges.

4.7 Air Quality

4.7.1 Future Without the Proposed Action

Mobile Sources

The purpose of the microscale air quality analysis was to evaluate the impact under the future no action on local CO levels at receptor sites located along the roadways which are expected to experience the greatest change in traffic volumes. The CO concentrations presented in this analysis are the sum of background concentrations based on representative monitored ambient data, plus traffic-related concentrations determined from an air pollutant dispersion model. Predictions of local concentrations were made for the no action alternative and the proposed action in the year of project completion (1996).

Average hourly CO concentrations were predicted for the peak one-hour traffic periods. These concentrations were multiplied by a persistence factor of 0.7 to determine the eight-hour concentrations.

The receptor sites were the same as those used in the analysis of existing conditions (Figure 3.7-1). Traffic data for the no action alternative and worst case meteorological parameters are discussed in Appendix C. The MOBILE4.1 and CAL3QV2 computer models were used with the inputs described in Appendix C. The highest emission rates for the no action occurred during the AM peak period.

The results of the microscale air quality analysis (Table 4.7-1) show no violations of the one- and eight-hour CO national ambient air quality standards of 35 and 9 ppm for the no action alternative.

TABLE 4.7-1

RESULTS OF MICROSCALE ANALYSIS

Warehouse Option

Receptor	No Action		Proposed Action	
	One Hour (ppm)	Eight Hour (ppm)	One Hour (ppm)	Eight Hour (ppm)
1. Third Ave./E 135th St.	13.8	8.1	14.4	8.5
2. Alexander Ave./E 135th St.	13.5	7.9	14.0	8.2
3. Willis Ave./E 135th St.	12.5	7.2	12.8	7.4
4. Lincoln Ave./Bruckner Blvd.	12.7	7.3	12.9	7.5
5. Willis Ave. Bridge Exit/Bruckner Blvd.	12.5	7.2	12.7	7.3
6. St. Ann's Ave./Bruckner Blvd.	11.3	6.4	13.0	7.5

Note: (1) CO levels include 1996 background concentrations of 5.8 ppm (one-hour) and 2.5 ppm (eight-hour). All values are presented in parts per million (ppm).

Stationary Sources

Under the no action alternative, stationary source emissions would remain comparable to existing emissions, decreasing with any further abandonment of existing uses.

4.7.2 Impacts of the Proposed Action

Mobile Sources - Microscale Analysis

The microscale air quality impacts of the proposed action were evaluated by determining the increase in CO levels due to the development projected to occur under the action, and by comparing respective concentrations predicted for the proposed project and no action alternative to the applicable ambient CO standards.

The receptor sites were the same as those used in the analysis of the no action alternative. The traffic data used (corresponding to the warehouse option) and the worst case meteorological parameters are presented in Appendix C. The MOBILE 4.1 and CAL3QV2 computer models were used with the inputs described in Appendix C.

The results of the microscale air quality analysis (Table 4.7-1) show no violations of the NAAQS for the one-hour or eight-hour periods.

In addition to the federal standard for CO, the City of New York has adopted de minimus criteria to measure the environmental significance of CO impacts. Significant impacts are defined as:

- an increase of 0.5 or more ppm for the eight-hour period, when the baseline concentrations are above 9.0 ppm; or
- an increase of one half the difference between the baseline and the standard concentration (9 ppm) for the eight-hour period when the baseline concentrations are below 9.0 ppm.

Based on the de minimus criteria, the project has no significant impacts at the receptor locations modeled.

Since the paper recycling option generates a lower number of peak hour trips than the warehouse option, the carbon monoxide levels for the warehouse option would be lower.

In future years (e.g., estimated time of completion plus 10 and 20 years) motor vehicle emissions due to activities at Harlem River Yard will decrease due to vehicle turnover (the replacement of older more polluting vehicles with newer lower emitting vehicles) due to per vehicle emission reductions required as part of the Clean Air Act. This will result in lower incremental CO concentrations on local streets due Harlem River Yard operations.

Mobile Sources - Mesoscale Analysis

The reduction in vehicle miles of travel by trucks is estimated to be over 23.7 million miles per year for the wastepaper recycling option (26.8 million miles for the warehouse option), broken down as follows by roadway type:

- local roads - 1 percent (assumed speed of 25 mph);
- arterials - 9 percent (assumed speed of 40 mph);
- freeways - 90 percent (assumed speed of 55 mph).

This reduction in travel of high emissions vehicles (relative to automobiles) has the immediate benefit of reducing motor vehicle related pollutants by (Table 4.7-2) (figures for the warehouse option are shown in parentheses):

- 189 (213) tons per year of carbon monoxide;
- 29 (33) tons per year of hydrocarbons;
- 336 (380) tons per year of nitrogen oxides.

TABLE 4.7-2

AIR POLLUTANT REDUCTIONS

Wastepaper Recycling Option

Pollutant	Roadway Type	VMT	Emission Factor (gr/veh mile)	Emission Reductions (TPY)
Carbon Monoxide	Local	237,000	10.9	2.8
	Arterial	2,133,000	7.1	16.8
	Freeway	21,330,000	7.2	169.7
			Total	189.3
Volatile Organic Compounds	Local	237,000	2.0	0.5
	Arterial	2,133,000	1.3	3.1
	Freeway	21,330,000	1.1	25.7
			Total	29.4
Nitrogen Oxides	Local	237,000	10.2	2.7
	Arterial	2,133,000	10.0	23.4
	Freeway	21,330,000	13.2	310.0
			Total	336.1

TABLE 4.7-2 (continued)

AIR POLLUTANT REDUCTIONS

Warehouse Option

Pollutant	Roadway Type	VMT	Emission Factor (gr/veh mile)	Emission Reductions (TPY)
Carbon Monoxide	Local	268,000	10.9	3.2
	Arterial	2,412,000	7.1	18.9
	Freeway	24,120,000	7.2	191.3
			Total	213.3
Volatile Organic Compounds	Local	268,000	2.0	0.6
	Arterial	2,412,000	1.3	3.5
	Freeway	24,120,000	1.1	29.2
			Total	33.3
Nitrogen Oxides	Local	268,000	10.2	3.0
	Arterial	2,412,000	10.0	26.6
	Freeway	24,120,000	13.2	350.6
			Total	380.2

The reduction in truck traffic also has the secondary benefit of improving the overall flow and speed of the remaining vehicles on the roadways, thus further reducing air pollution.

Stationary Sources - Wastepaper Recycling Facility

Emissions from the wastepaper recycling facility are from two principal sources - the newsprint process itself and the process boiler emissions. Process emissions come from the newsprint machine hood from such sources as solvent cleaning, surfactant cleaning, and clothing passivation. These emissions are estimated at 8.5 tpy.

As mentioned earlier, there are two options for provision of process steam - supply from Con Edison or construction of a natural gas fired on-site boiler plant. There would be no on-site boiler emissions if the Con Edison option is chosen. The amount of emissions from on-site process boilers would be a function of the amount of process steam required and the type of boiler and air pollution control equipment chosen. Based on the range of anticipated steam load (at this time estimated to range from 120,000 to 180,000 lb of steam per hour) and representative emissions factors for uncontrolled boilers (that is, a well designed boiler, but not otherwise equipped with air pollution control devices) annual criteria pollutant emissions are estimated at:

SO_2 -	0 tons/year
PM 10 -	1 ton/year
CO -	12 tons/year
VOC -	3 tons/year
NO_x -	>25 tons/year

Should Ponderosa choose to build its own on-site process steam plant, an air pollution source permit would be required from NYSDEC under Part 201. In addition, a non-attainment review under the Part 231 regulations would also be required since the NYC metropolitan area is considered a severe ozone non-attainment area. (The 1990 Clean Air Act Amendments classify non-attainment areas of the country according to the severity of

existing levels.) For the severe classification, new sources with emissions greater than 25 tons per year of VOCs or NO_x will need to acquire emission offsets and use Lowest Achievable Emission Rate Technology (LAER).

Emission offsets are required at an offset ratio of 1.3:1 plus 10 percent for a community emissions bank, and must be in the New York State portion of the metropolitan area. At the time of permit application, the source of emission offsets for NO_x, if necessary, would be specified. In addition, a dispersion modelling study, if required by NYSDEC, would be conducted and provided with the permit application.

Based on the potential for the NO_x emissions from the proposed Ponderosa process boilers to exceed the 25 ton per year (tpy) criteria for NO_x in severe non-attainment areas for ozone, a brief review was undertaken of available boiler designs and NO_x control technology. The technology assessment consisted of a review of recent reports and papers on NO_x control technology, a computerized search of the USEPA BACT/LAER Information System database to obtain recent data on permitted installations, and several inquiries to boiler and air pollution control equipment manufacturers. Since results vary greatly, several emission scenarios are presented below:

* USEPA Sourcebook: NO_x Control Technology Data. This comprehensive 1991 report presents data, largely from sources in US, Germany, and Japan, on the effectiveness of various NO_x control technologies. Selective catalytic reduction (SCR) technology has been cited in various sources as one of the most effective NO_x control technologies available with reported NO_x reductions of 80 to 90 percent (other sources have reported 70 to 90 percent).

  Selective catalytic reduction technology involves the injection of ammonia (NH_3 in anhydrous form or aqueous solution) into the flue gas upstream of a catalyst bed. There are a wide variety of catalysts including metals (such as titanium), zeolite, and ceramics. The NO_x and NH_3 combine on the catalyst's surface, forming an ammonium salt intermediate that subsequently decomposes to produce elemental nitrogen and water.

  These control devices require that the flue gas entering the system be at approximately 600 to 700 °F. This may prove to be a design problem in that

most of the boiler manufacturers indicated that flue gases would probably be at 350 to 400 °F. Depending on the specific installation, further modifications to the boilers (e.g., to the economizers) may be necessary which would affect the efficiency of the boilers, the amount of emissions, and ultimately the cost of the boiler plant.

The report shows results of 10 to 15 ppm NO_x at 15 percent oxygen (0.036 to 0.054 lb/MMBtu). This would translate to the following annual NO_x emissions for the Ponderosa process boilers:

- @ 180,000 lb steam/hr - 43 to 64 tpy;
- @ 120,000 lb steam/hr - 28 to 43 tpy.

* BACT/LAER Information System (BLIS). The BLIS provides information on recent developments in air pollution control technology and permit requirements. Data is included on Best Available Control Technology (BACT) and Lowest Achievable Emission Rate (LAER) technology. BACT requirements apply to new sources in attainment areas, LAER to those in non-attainment areas. BACT determinations allow for consideration of economic factors; LAER determinations reflect lowest achievable emission rates regardless of cost.

A computer search of the BLIS database provided limited recent data (less than five years old) on experience with LAER NO_x technology for boilers. A review of four sources indicated an average 0.22 lb/MMBtu emission rate for properly designed and operated boilers. Applying an 80 percent SCR control efficiency to this number would result in 34 to 52 tpy NO_x emission (120,000 vs 180,000 lb steam/hr).

Applying the technique of flue gas recirculation (FGR) in addition to SCR would result in emissions of 17 to 26 tpy (120,000 vs 180,000 lb steam/hr). Flue gas recirculation is a technique where 15 to 20 percent of the flue gas is recirculated along with combustion air to the furnace. This lowers the peak flame temperature and cuts thermal NO_x formation, typically resulting in NO_x reductions on the order of 50 percent.

Only one source in the database was shown using SCR technology, along with FGR technology. This one case showed an emission rate of 0.011 lb NO_x/MMBtu (9 ppm @ 3 % oxygen), which for this project would result in 9 to 13 tpy NO_x (120,000 vs 180,000 lb steam/hr).

* Boiler Equipment Vendors. Discussion with three vendors again resulted in a wide range of data as shown in Table 4.9-3. This boiler data would suggest that if SCR technology were applied in addition to the FGR technology, that

annual NO_x emissions would be at or below 25 tpy (assuming 80 percent control efficiency).

TABLE 4.7-3

BOILER EMISSION RATES

Combustion Controls	NO_x Emission Rate	NO_x Emissions (tpy)
Boiler design, FGR or steam injection	0.11 lb/MMBtu 30 ppm @ 15% O_2	85 to 130
Boiler design, low NO_x burner, FGR	0.04 lb/MMBtu 33 ppm @ 3% O2	32 to 47
Boiler design, low NO_x burner, FGR	0.04 lb/MMBtu	32 to 47

The brief technology review conducted indicates that based on real industry average performance data, NO_x emissions from the Ponderosa process steam boilers would not be below the 25 tpy value. However, it appears that when SCR is combined with FGR, it may be technically feasible to achieve an annual NO_x emission rate under 25 tpy (at a cost to be determined), thus avoiding the need for NO_x emission offsets. A final determination cannot be made until:

- the process steam requirements are better defined;
- a detailed design with specific equipment is chosen. As discussed above there is a wide range of data on emission rates from boilers and on the reductions achieved from various NO_x control technologies. Moreover, while it may be technically feasible to achieve the emission reductions cited, it cannot be determined at this time if such air pollution controls are economically feasible for this project.

Another concern is that it is likely that under certain meteorological conditions, the paper recycling facility will produce a visible steam plume from its process operation. This subject will be examined in more detail once the design for the wastepaper recycling facility has

been more fully developed, and, if necessary, the results of the analyses would be included in a supplemental EIS.

Stationary Sources - Other Site Uses

Stationary source emissions from the other project land uses are estimated based on throughput (e.g., pounds of emissions per ton of MSW processed at the transfer station) and on square footage of development for space heating and hot water. Future tenants at the site are:

- 3000 ton per day waste transfer station;
- flower market that includes a building with 170,000 ft^2;
- warehouse - 180,000 ft^2 or 640,000 ft^2;
- intermodal terminal - 25,000 ft^2.

Emissions were calculated on the following basis:

- Waste Transfer Station - Emissions from the waste transfer station are based on emission factors presented in the Solid Waste Management Plan/FEIS for the City of New York (NYC Department of Sanitation, Appendix 6, August 1992). The factors are presented in terms of pound of pollutant per ton of solid waste processed;
- Fuel Combustion - Emissions from commercial and industrial boilers for space heating and hot water usage are estimated on the basis of square footage of development, which then determines annual fuel usage. Annual fuel oil consumption for the flower market, warehouse, and intermodal terminal for space heating and hot water purposes is estimated based on NYCDEP fuel factors (NYCDEP, 1975) reduced by 30 percent in accordance with NYCDEP guidance (Corredor, August 1986). All sources were conservatively assumed to be utilizing #4 fuel resulting in the annual emissions shown below. Annual emissions were calculated using emission factors from AP-42 (USEPA, 1986).

Based on the analyses shown in Table 4.7-4, stationary source emissions from the yard (excluding the wastepaper recycling facility) are estimated at (figures for the warehouse option are shown in parentheses):

SO_2 -	7 (15) tons/year
PM 10 -	6 (7) tons/year
CO -	3 (4) tons/year
VOC -	5 (5) tons/year
NO_x -	9 (18) tons/year

TABLE 4.7-4
ANNUAL STATIONARY SOURCE EMISSIONS

Waterscape Recycling Center

Facility	Sulfur Dioxide		Particulate Matter		Carbon Monoxide		Volatile Organic Cmpds		Nitrogen Oxides	
	Emission Factor	TPY	Emission Factor	TPY	Emission Factor	TPY	Emission Factor	TPY	Emission Factor	TPY
Waste Transfer Station										
3,000 tpd	0.000 lbs/ton waste	0.0	0.009 lbs/ton waste	4.8	0.003 lbs/ton waste	1.9	0.008 lbs/ton waste	4.4	0.001 lbs/ton waste	0.6
Flower Market										
170,000 sq ft 1.1 gal/sqft/yr 0.7 130,900 gal/yr	47.1 lbs/1000 gal	3.1	6.3 lbs/1000 gal	0.4	5.0 lbs/1000 gal	0.3	1.13 lbs/1000 gal	0.1	55.0 lbs/1000 gal	3.6
Warehouses										
180,000 sq ft 1.1 gal/sqft/yr 0.7 138,600 gal/yr	47.1 lbs/1000 gal	3.3	6.3 lbs/1000 gal	0.4	5.0 lbs/1000 gal	0.3	1.13 lbs/1000 gal	0.1	55.0 lbs/1000 gal	3.8
Intermodal Terminal										
25,000 sq ft 1.1 gal/sqft/yr 0.7 19,250 gal/yr	47.1 lbs/1000 gal	0.5	6.3 lbs/1000 gal	0.1	5.0 lbs/1000 gal	0.0	1.13 lbs/1000 gal	0.0	55.0 lbs/1000 gal	0.5
TOTALS		6.6		5.7		2.6		4.6		6.6

TABLE 4.7-4 (continued)

Warehouse Option

Facility		Sulfur Dioxide			Particulate Matter			Carbon Monoxide			Volatile Organic Cmpds			Nitrogen Oxides		
		Emission Factor		TPY	Emission Factor		TPY	Emission Factor		TPY	Emission Factor		TPY	Emission Factor		TPY
Waste Transfer Station																
3,000	tpd	0.000	lbs/ton waste	0.0	0.009	lbs/ton waste	4.8	0.003	lbs/ton waste	1.9	0.008	lbs/ton waste	4.4	0.001	lbs/ton waste	0.6
Flower Market																
170,000	sq ft	47.1	lbs/1000 gal	3.1	6.3	lbs/1000 gal	0.4	5.0	lbs/1000 gal	0.3	1.13	lbs/1000 gal	0.1	55.0	lbs/1000 gal	3.6
1.1	gal/sqft/yr															
0.7																
130,900	gal/yr															
Warehouses																
640,000	sq ft	47.1	lbs/1000 gal	11.6	6.3	lbs/1000 gal	1.6	5.0	lbs/1000 gal	1.2	1.13	lbs/1000 gal	0.3	55.0	lbs/1000 gal	13.6
1.1	gal/sqft/yr															
0.7																
492,800	gal/yr															
Intermodal Terminal																
25,000	sq ft	47.1	lbs/1000 gal	0.5	6.3	lbs/1000 gal	0.1	5.0	lbs/1000 gal	0.0	1.13	lbs/1000 gal	0.0	55.0	lbs/1000 gal	0.5
1.1	gal/sqft/yr															
0.7																
19,250	gal/yr															
TOTALS				15.1			6.8			3.5			4.8			18.3

4.8 Noise

4.8.1 Future Without the Proposed Action

Human response to changes in noise levels depends on a number of factors, including the quality of sound, the magnitude of the change, the time of day at which the changes take place, whether the noise is continuous or intermittent, and the individual's ability to perceive the changes. Human ability to perceive changes in noise levels varies widely with the individual, as does response to the perceived changes. However, the average ability of an individual to perceive changes in noise levels is well documented (Table 4.8-1).

Generally, changes in noise levels less than 3 dBA will be barely perceptible to most listeners, whereas, a 10 dBA change normally is perceived as a doubling (or halving) of noise levels. These guidelines permit direct estimation of an individual's probable perception of changes in noise levels.

The methodology for the prediction of future noise levels is based on the assumption that existing noise levels are dominated by, and are a function of, existing traffic volumes, and that future noise levels can be determined based on the proportional increase in traffic. For example, if the existing volume on a street is 100 vehicles/hour, and if the future traffic was increased by 50 vehicles/hour to a total of 150 vehicles/hour, the noise levels would increase approximately 1.8 decibels. If future traffic was increased by 100 vehicles/hour to a total of 200 vehicles/hour, the noise levels would increase by three decibels.

Future predicted noise levels without the proposed action in the year 1996 are presented in Table 4.8-2 (details are presented in Appendix D). The computations are based on the traffic analyses presented in Section 4.6, which incorporate other major proposed projects as well as an overall traffic growth factor in the development of the year 1996 traffic data.

TABLE 4.8-1

AVERAGE ABILITY TO PERCEIVE CHANGES IN NOISE LEVELS

Change (dBA)	Human Perception of Sound
2-3	Barely perceptible
5	Readily noticeable
10	A doubling or halving of the loudness of sound
20	A "dramatic change"
40	Difference between a faintly audible sound and a very loud sound

Source: Bolt Beranek and Neuman, Inc., June 1973.

TABLE 4.8-2
NO ACTION PREDICTED NOISE LEVELS

Site	Hour	Noise Level (L_{eq} in dBA)		
		Existing	No Action	Net Change
1	AM Peak	62	62	0
	Midday Peak	64	64	0
	PM Peak	65	65	0
	Pre midnight	60	60	0
	Post midnight	59	59	0
	$L_{eq}(24)$	63	63	0
	L_{dn}	67	67	0
2	AM Peak	66	66	0
	Midday Peak	67	67	0
	PM Peak	69	69	0
	Pre midnight	66	66	0
	Post midnight	64	64	0
	$L_{eq}(24)$	67	67	0
	L_{dn}	73	73	0
3	AM Peak	65	65	0
	Midday Peak	66	66	0
	PM Peak	67	67	0
	Pre midnight	62	62	0
	Post midnight	60	60	0
	$L_{eq}(24)$	64	65	1
	L_{dn}	69	70	1
4	AM Peak	66	66	0
	Midday Peak	67	67	0
	PM Peak	69	69	0
	Pre midnight	63	63	0
	Post midnight	62	62	0
	$L_{eq}(24)$	66	66	0
	L_{dn}	71	71	0
5	AM Peak	70	70	0
	Midday Peak	68	68	0
	PM Peak	69	69	0
	Pre midnight	65	65	0
	Post midnight	63	63	0
	$L_{eq}(24)$	67	68	1
	L_{dn}	72	73	1
6	AM Peak	73	73	0
	Midday Peak	71	71	0
	PM Peak	73	73	0
	Pre midnight	69	71	2
	Post midnight	66	66	0
	$L_{eq}(24)$	71	71	0
	L_{dn}	76	76	0

TABLE 4.8-2
NO ACTION PREDICTED NOISE LEVELS (continued)

Site	Hour	Noise Level (L_{eq} in dBA)		
		Existing	No Action	Net Change
7	AM Peak	66	66	0
	Midday Peak	68	68	0
	PM Peak	69	69	0
	Pre midnight	66	66	0
	Post midnight	65	65	0
	$L_{eq}(24)$	68	68	0
	L_{dn}	74	74	0
8	AM Peak	76	76	0
	Midday Peak	75	75	0
	PM Peak	77	77	0
	Pre midnight	72	72	0
	Post midnight	68	68	0
	$L_{eq}(24)$	74	74	0
	L_{dn}	78	78	0
9	AM Peak	75	75	0
	Midday Peak	76	76	0
	PM Peak	77	77	0
	Pre midnight	72	72	0
	Post midnight	69	69	0
	$L_{eq}(24)$	74	74	0
	L_{dn}	79	79	0
10	AM Peak	67	67	0
	Midday Peak	67	67	0
	PM Peak	69	69	0
	Pre midnight	66	66	0
	Post midnight	64	64	0
	$L_{eq}(24)$	67	67	0
	L_{dn}	71	72	1
11	AM Peak	58	58	0
	Midday Peak	59	59	0
	PM Peak	55	55	0
	Pre midnight	54	54	0
	Post midnight	61	61	0
	$L_{eq}(24)$	59	59	0
	L_{dn}	66	66	0

All increases in noise levels from the existing condition to the future no action are less than or equal to one decibel (zero values for net change represent increases of less than one half decibel) except for the pre-midnight period at Site 6, which is two decibels.

4.8.2 Impacts of the Proposed Action

Future noise levels were predicted by considering the contribution of noise generated by (1) vehicles off the site on local streets and (2) activities being conducted in the yard (e.g., crane operations at the intermodal terminal). Yard activities involve outdoor operations (e.g., crane, train, and truck movements) and indoor operations (e.g., waste processing operations at the transfer station and deinking and paper making operations at the paper recycling facility). Any exterior mechanical equipment (e.g., fans, compressors) would be designed to comply with the New York City Department of Buildings Noise Code, Performance Standards of the New York City Zoning Resolution, and the New York City Noise Code. As a result, noise levels from such mechanical equipment at the project site are not expected to be significant.

Off Site Vehicular Noise

Changes in noise levels due to the proposed action were determined by adding the noise due to the projected development generated traffic to noise levels previously obtained for the future no action. A comparable method of computation to that described in Section 4.8.1 was used, which is based on the proportional increase in traffic volumes. However, because the increased proportion of heavy trucks under the proposed action could vary from the existing and future no action conditions, noise levels were calculated using the ratio of traffic volumes as described in Section 4.8.1, but each heavy truck was considered equivalent to 85 automobiles.

On Site Mobile and Stationary Sources

On site noise generators were analyzed as follows (methodology details are presented in Appendix D):

- for each major project component (e.g., waste transfer station), a noise emission level was calculated for the dominant source of noise for a 24-hour period;
- the noise contribution of each major project component was calculated for each receptor;
- the shielding effect of intervening off-site buildings between the Harlem River Yard and each receptor was determined by assuming a 4.5 dB decrease for the first row of structures and 1.5 dB decreases for subsequent rows of structures (up to 9 dB total);
- total sound pressure level at each receptor was calculated by adding the individual contributions from each project component as well as for off-site motor vehicles (where appropriate).

The assumptions used for the various project components were:

- Train Movements - The methodology for this operation included consideration of four train movements. Two trains were directed to the TOFC facility and each train carried a string of 63 cars. The first TOFC train arrives at 12 midnight; the train on site leaves the TOFC site at 1 AM. It was assumed that it takes the train one hour to traverse the site. The daytime TOFC train arrives at 8 AM and the round trip is completed by 10 AM. Two additional trains servicing other tenants within the project site account for an additional 80 cars. Therefore a total of four trains daily service the project site. Each train is assumed to be driven by two 1800-hp diesel engines at a speed of 20 mph.

  In addition to project trains, eight additional trains were calculated to cross the yard on their way to the Oak Point Yard, north of the site. These trains were assumed to have the same size diesel engines driving the project trains and were expected to carry a string of 40 cars each.

- Intermodal Rail Facility - The noise source, other than train noise, modeled for this facility was the straddle crane. A reference noise level was modeled

from an acoustical center of the TOFC rail line that the crane will operate over. It was estimated that the crane would take two minutes to unload each trailer. It was also estimated that the crane could load and unload 126 tractor trailer loads over a seven hour-period. Two seven-hour periods were studied: one during the day time hours and one during night time hours.

- NYC Flower Market - The trains that are associated with this use are accounted for in the rail calculations for train movements. Trucks entering, queuing and leaving the facility were analyzed. No on site equipment noise emissions are expected.

- Refrigerated/Dry Warehouse - The prominent noise source from this operation would be the compressor noise from the refrigerated trucks. Noise emissions from compressors were modeled from the center of the trailer parking area.

- Other Warehousing - The principal source of noise at the warehouses would be the queuing of trucks along the truck docks. For this analysis the total number of trucks on site for each hour of the day was counted as part of the queue.

- Solid Waste Transfer Station - All waste processing operations at the transfer station occurs indoors. The principal source of noise at the site would be the number of waste trucks that queue outside the facility. For this analysis the total number of trucks on site for each hour of the day was counted as part of the queue. The high number of trucks assumed in the queue would give this analysis a worst case scenario.

The results of the noise analysis are presented in Table 4.8-3. They are somewhat conservative in that no shielding effect of on-site structures was considered. The results show that the largest noise level increases occur, in general, between the hours of midnight and 5:00 pm. The NYSDOT considers a noise impact to occur if greater than a 6 dB increase occurs between the existing and proposed action conditions; the NYCDEP uses a figure of greater than a 3 dB increase from the no action to proposed action conditions. Based on these measures of impact, the results on a receptor by receptor basis are as follows:

- Receptor 1 - substantial increases in noise levels occur at this location. However, since these ball fields are utilized primarily during the daytime

TABLE 4.8-3
PREDICTED NOISE LEVELS
Warehouse Option

Site	Hour	Noise Level (L_{eq} in dBA)		
		No Action	Proposed Action	Net Change
1	AM Peak	62	75	13
	Midday Peak	64	76	12
	PM Peak	65	67	2
	Pre midnight	60	60	0
	Post midnight	59	75	16
	$L_{eq}(24)$	63	73	10
	L_{dn}	67	78	11
2	AM Peak	66	75	9
	Midday Peak	67	76	9
	PM Peak	69	71	2
	Pre midnight	66	66	0
	Post midnight	64	74	10
	$L_{eq}(24)$	67	73	6
	L_{dn}	73	79	6
3	AM Peak	65	70	5
	Midday Peak	66	71	5
	PM Peak	67	67	0
	Pre midnight	62	62	0
	Post midnight	60	68	8
	$L_{eq}(24)$	65	68	3
	L_{dn}	70	73	3
4	AM Peak	66	71	5
	Midday Peak	67	75	8
	PM Peak	69	77	8
	Pre midnight	63	64	1
	Post midnight	62	67	5
	$L_{eq}(24)$	66	73	7
	L_{dn}	71	78	7
5	AM Peak	70	71	1
	Midday Peak	68	70	2
	PM Peak	69	69	0
	Pre midnight	65	65	0
	Post midnight	63	67	4
	$L_{eq}(24)$	68	69	1
	L_{dn}	73	73	0
6	AM Peak	73	74	1
	Midday Peak	71	72	1
	PM Peak	73	73	0
	Pre midnight	71	71	0
	Post midnight	66	69	3
	$L_{eq}(24)$	71	72	1
	L_{dn}	76	76	0

TABLE 4.8-3 (continued)
Warehouse Option

Site	Hour	Noise Level (L_{eq} in dBA)		
		No Action	Proposed Action	Net Change
7	AM Peak	66	69	3
	Midday Peak	68	70	2
	PM Peak	69	69	0
	Pre midnight	66	66	0
	Post midnight	65	68	3
	$L_{eq}(24)$	68	69	1
	L_{dn}	74	75	1
8	AM Peak	76	77	1
	Midday Peak	75	78	3
	PM Peak	77	78	1
	Pre midnight	72	72	0
	Post midnight	68	70	2
	$L_{eq}(24)$	74	75	1
	L_{dn}	78	79	1
9	AM Peak	75	76	1
	Midday Peak	76	79	3
	PM Peak	77	78	1
	Pre midnight	72	72	0
	Post midnight	69	70	1
	$L_{eq}(24)$	74	76	2
	L_{dn}	79	80	1
10	AM Peak	67	75	8
	Midday Peak	67	78	11
	PM Peak	69	76	7
	Pre midnight	66	70	3
	Post midnight	64	72	8
	$L_{eq}(24)$	67	74	7
	L_{dn}	72	79	7
11	AM Peak	58	75	17
	Midday Peak	59	75	16
	PM Peak	55	63	8
	Pre midnight	54	54	0
	Post midnight	61	75	14
	$L_{eq}(24)$	59	73	14
	L_{dn}	66	78	12

hours, there will be no noise related impacts to individuals during the late nighttime hours. In fact, active recreation uses are good in such areas. Construction of a barrier would, therefore, not be of particular use and would block views to and from the site;

- Receptor 2 - substantial increases in noise levels occur at this location. However, this receptor is an underutilized, rubble strewn pocket park on Bruckner Boulevard and whose southern boundary is the exit ramp from the Willis Avenue Bridge onto Bruckner Boulevard. Noise levels in this park are already high due to the amount of traffic that passes by daily. While it is conceivable that a wall could be built on the southern end of the park, given the lack of regular human use of the facility, proximity to the bridge exit ramp, and the potential to create an unsafe area with no sight lines into the park, construction of such a wall is not considered necessary;

- Receptor 3 - substantial increases in noise levels occur at this location on East 133rd Street. However, this row of residential structures is a non-conforming use in a M1-2 manufacturing zone;

- Receptor 4 - substantial increases in noise levels occur at this location on Alexander Avenue near Bruckner Boulevard and the Major Deegan Expressway. However, this residential structure is a non-conforming use in a M1-2 manufacturing zone;

- Receptor 5 - using the NYCDEP criteria substantial increases in noise levels occur at this location on Lincoln Avenue near the Major Deegan Expressway between the hours of midnight and 2:00 am (4 dB increases). Using the NYSDOT criteria, there are no substantial increases. In addition, this residential structure is a non-conforming use in a M2-1 manufacturing zone;

- Receptor 6 - located on Bruckner Boulevard, represents the row of residential apartments. These buildings have a direct line of site to yard operations since the block south of Bruckner Boulevard is not fully developed. This square block is full of open yards and scattered one-story commercial buildings. However, it is anticipated that once the yard is operational, this block would develop with ancillary uses that would support the yard. This future development was considered to have a shielding effect and there are no substantial noise increases at this location;

- Receptor 7 - no substantial increases in noise levels occur at this location on East 135th Street;

- Receptor 8 - no substantial increases in noise levels occur at this school location on East 135th Street;

- Receptor 9 - no substantial increases in noise levels occur at this school and playground location on East 135th Street;

- Receptor 10 - substantial increases in noise levels occur at this location on St. Ann's Avenue near Bruckner Boulevard. However, this residential structure is a non-conforming use in a M1-2 manufacturing zone;

- Receptor 11 - the old Willis Avenue Station, contains a residential unit in a small portion of the structure. This is a non-conforming use in a manufacturing zone.

It is important to consider noise impacts in the context of the long-term industrial nature of the area and the proximity of the yard to major noise generating transportation sources (e.g., Triborough Bridge, Willis Avenue Bridge, Bruckner Boulevard). It has been established through the noise measurement program that existing noise levels in the general vicinity of the residential and recreational receptors studied are high and exceed most ambient noise criteria. It should also be noted that all of the residential receptors fall within a manufacturing district and are all presently nonconforming uses. In general, impacts with respect to noise criteria can be summarized as follows:

- The NYC Daytime Noise Quality Criteria Standard of 65 dBA for high density residential land use is exceeded at all sites for most of the daytime hours. The nighttime criteria of 55 dBA for high density residential land use is exceeded at all sites for most of the night time hours, as is true of existing conditions;

- The FHWA Criteria for residential land use, schools and for parks and recreation is 67 dBA. Predicted noise levels exceed the criteria at all sites for most hours of the day and night, as is true of existing conditions;

- The waste transfer station will operate 24 hours a day but will accept truck deliveries for 16 hours a day. The truck queues are the only potential noise source since all other operations at the facility would be conducted indoors. With respect to the Part 360 regulations, however, there are no residentially zoned areas at the boundary of the waste station site and the noise criteria would not apply.

Noise level increases for the wastepaper recycling option would be somewhat lower since the amount of traffic with that option is less than the warehouse option.

4.9 Infrastructure

4.9.1 Future Without the Proposed Action

Under the no action alternative, population in the project area would remain roughly at existing levels. No development would occur on the project site. Consequently, in the project area demands on infrastructure would not change and there would be no significant impacts to infrastructure components in the future without the proposed action. Given the existing capacity problems at the Wards Island WPCP, further details on the City's plans for the plant are provided below.

Sewage Treatment

Because the steps undertaken in the 1989 Consent Order have not brought the Wards Island Plant discharge flows to below the permitted 250 mgd, NYCDEP has negotiated a revised Order on Consent with the NYSDEC that is expected to be fully promulgated in 1993. The Consent Order mandates additional flow reduction measures, including:

- Installation of magnetic hydrant locks on drainage basin hydrants (estimated 2.1 mgd savings);
- Retrofitting NYC Housing Authority buildings in the drainage basin with low flow fixtures (estimated 4.0 mgd savings).

In addition, under the Consent Order, NYCDEP would construct additional facilities at the WPCP site to expand the plant's capacity to 275 mgd by December 1996.

The NYCDEP has estimated that, as a result of these additional flow conservation measures, a savings of 6.1 mgd could be achieved by 1996. It is further expected that the ongoing, citywide metering and low-flow fixture rebate programs would result in savings of 5.9 mgd, which brings the expected flow reduction to 12.0 mgd by 1996.

New development and economic growth resulting in installation of water-consuming appliances in the drainage basin is expected to result in additional flows of 1.1 mgd by 1996. Development requiring discretionary approval would generate approximately 0.1 mgd of flow, bringing the total increase in flow by 1996 to 1.2 mgd. Based on the plant's current annual average dry weather flow, the effect of conservation measures, and expected new development, the plant is estimated to handle an annual average dry weather flow of approximately 247 mgd by 1996. This would be below the plant's current SPDES permit limit of 250 mgd and below its potential expanded capacity of 275 mgd.

4.9.2 Impacts of the Proposed Action

Water Supply

Water mains will be tied in at various connecting points to form two parallel service loops, one serving the east end of the site and one serving the west end of the site. A potable water requirement of approximately 212,000 gpd (424,000 under the warehouse option) is anticipated. Sufficient capacity is available in existing mains to serve these water supply demands. Anticipated service connections range from 6" for typical domestic usage up to 12" for industrial usage for the newsprint deink process.

The major water demand on the site (3 mgd) is related to the newsprint deink process comprised of pulping, screening and washing, steam generation, and employee/facility maintenance. Wastewater generated during the paper forming process is recirculated into the final washing stage of the deink process in order to reduce the amount of potable water required. The 3 mgd of process water would come from either (1) the City's water supply system or (2) from the use of gray water from the Ward's Island Treatment Plant.

Wastewater

Approximately 0.21 mgd (0.42 mgd under the warehouse option) of sanitary wastewater will be discharged to the Wards Island WPCP from Harlem River Yard facilities. With no action flows of 247 mgd anticipated at Wards Island, the incremental sanitary loading from the yard would be readily handled at Wards Island (247 + 0.42 = 247.4 mgd).

In addition to sanitary wastes, the wastepaper recycling facility will discharge approximately 3.0 mgd of industrial wastewater to Wards Island. This water would be pretreated at the recycling facility and its composition would conform to requirements of NYCDEP's Industrial Pretreatment Program (IPP). The following tabulation identifies several constituents expected to be present in the newsprint recycling mill effluent and provides an estimate of the discharge concentration of those constituents:

Parameter	Effluent Concentration
BOD_5 (30-day avg.)	480 mg/l
TSS (30-day avg.)	600 mg/l
pH	5 - 9
Copper	0.08 mg/l
Lead	0.04 mg/l
Zinc	1.0 mg/l

In addition to the listed constituents, it is expected that the wastepaper recycling facility effluent will contain nitrogen compounds (ammonia, for instance), phosphorus, and trace levels of other substances derived from process chemicals. A complete list of effluent constituents will be established when facility operations begin and effluent samples are analyzed.

The 3 mgd of wastepaper recycling facility wastewater would increase total flows to the Wards Island WPCP to approximately 250 mgd, which is equivalent to the plant's current SPDES permit limit, but below the plant's planned expanded capacity of 275 mgd. Additionally, as a conservation measure, the project sponsor, along with the NYCDEP, are considering a plan to use effluent from Wards Island WPCP as a source of process water for the deinking mill. This alternative would involve withdrawing a portion of the treatment plant discharge, passing it through an additional solids removal process, and then chlorinating and pumping the water to the deinking plant.

Use of Wards Island effluent for mill process water would achieve two conservation goals. Principally, if this option were to be implemented, demand on New York City's potable water supply would be reduced by 3 mgd. Secondarily, use of the effluent would reduce discharges by the WPCP to the East River.

Since some additional treatment of Wards Island effluent would be needed before it could be used in the wastepaper recycling process (solids removal and possibly chlorination), there is not expected to be a significant process or other impact resulting from effluent use. For example, Wards Island effluent is already disinfected so as to maintain discharge fecal coliform levels below 200/100 ml (30 day geometric mean). According to NYSDEC's water quality rules (6 NYCRR 703), waters which are intended for primary contact recreation (swimming) must have fecal coliform levels at or below 200/100 ml on a monthly average basis. Thus, use of the effluent would not be expected to have significant health implications for those involved in the recycling process.

Sewer Lines

Storm sewers and culverts will be enhanced to provide adequate drainage of stormwater generated on-site. There is sufficient capacity in existing sanitary and storm sewers to accommodate the new flows expected from the proposed facilities.

Anticipated new storm sewer lines range from 18" to 48" lines; new sanitary sewer lines range in size from 4" to 12". Construction on major culverts is not anticipated to have any significant impact due to protective structures to accommodate crossings or load imposition.

Sanitation/Solid Waste

Generally, solid waste will be generated by employees at the Harlem River Yard. Other solid waste sources include the newsprint deink facility with up to 158 wet tons per day of non-hazardous sludge (79 dry tons per day) comprised mostly of clays from the wastewater pretreatment process, up to 2 tpd of outthrows from the deink process, as well as off-specification merchandise from the flower market and dry/refrigerated warehouses and other wastes associated with materials handling activities (i.e., wooden pallets, and site-wide facility maintenance activities).

Sludge from the deink process will be transported via rail or truck to landfill, compost or other beneficial reuse facility. The sludge has properties that make it an attractive soil conditioner or even as landfill cover. Recyclables generated on-site will be collected for recycling by private carters.

Energy

Electricity will be extended on-site from East 132nd Street to accommodate approximately 12,000 kVA demand for primary feeders for the paper recycling facility and 2,035 kVA demand for secondary feeders for the remaining site facilities. The 12,000 kVA requirement would be eliminated if additional warehousing were substituted for the wastepaper recycling facility, bringing the demand for that option to 3,185 kVA. It is anticipated that two transformers and one service point will be used to download power to the site.

Gas mains run along East 132nd Street north of the site and will need to be extended to on-site facilities. An estimated 4,000 cubic feet per hour is required for building heating as well

as up to 156,000 cubic feet per hour to power the gas-fired boilers for the newsprint deink facility. The need for up to 156,000 cubic feet per hour would be reduced if steam is provided by Con Edison. In this case, back-up boilers would use up to 78,000 cubic feet per hour for a limited time in the event that the Con Ed facility generating the steam breaks down. Under warehouse option, the 156,000 cubic feet per hour requirement is eliminated altogether. The 4,000 cubic feet per hour requirements for facilities heating remains the same. New gas service mains will likely range in size from 2" to 10".

Waterfront

The development plan for the Harlem River Yard does not currently include a working waterfront. Infrastructure improvement plans for the waterfront consist of repair of existing structures that have deteriorated or are unstable, to improve drainage patterns, and to embark on a program of regular maintenance to preserve the integrity of existing and newly repaired structures.

4.10 Natural Environment

4.10.1 Future Without the Proposed Action

No significant change in the natural resources of the site is expected in the future without the proposed action. The site will continue to be colonized by invasive vegetation and will be utilized by typical urban wildlife species.

4.10.2 Impacts of the Proposed Action

Floodplains

Approximately 300,000 cubic yards of fill will be placed around the site with a total depth of one to three feet. Fill will be placed on about 60 percent of the site area a part of the site development. The fill will serve several purposes including the following:

- Provide for improved surface drainage and runoff in paved area;
- Provide for improved vehicular site access and railroad crossings;
- Raise the grade in key building sites above the elevation of the 100-year flood plain;
- Serve as cover material as detailed in the site remediation plan to limit exposure to existing site surface soils.

Construction of the facility would not create major impacts on the floodplain, having little impact on the natural moderation of floods and little impact on water quality maintenance and groundwater recharge.

Ecological Resources

Since there are no significant ecological resources (e.g., wetlands, endangered species) within the Harlem River Yard site, there would be no significant adverse impacts under the proposed action. The development of the project area would have a positive impact on ecological resources to the extent that the proposed action incorporates landscaping in the design.

The project will not impact the nearby littoral zones. No development is planned within these zones or within a 30-foot buffer area. Additionally, the existing littoral zones do not function biologically as tidal wetlands. They are characterized by rip-rap, piers, and bulkheads with few or no natural features remaining.

Stormwater Runoff

Under recent USEPA rule making, the National Pollutant Discharge Elimination System (NPDES) permit program has been modified to include requirements for permits for stormwater discharges. The final rule, which was published in November 1990, implements Sections 301 and 402 of the Clean Water Act. The State of New York modified its SPDES program accordingly to be consistent with the federal program. The regulations cover 11 categories of industrial facilities that discharge stormwater (1) via one or more point sources (2) into the waters of the United States, either directly or through a separate stormwater system. The largest of these categories includes facilities that are engaged in industrial activity. These are defined primarily by Standard Industrial Classification (SIC) codes. Included are most SIC codes pertaining to manufacturing, mining, oil and gas extraction, some transportation activities, and the construction industry.

Several components of the Harlem River Yard development will require stormwater permits for operation of the facility (the entire yard will require a stormwater permit for construction activities - see Section 4.13):

- intermodal yard (SIC 40 - Railroad Transportation);
- waste transfer station (SIC 5093 - Scrap and Waste Materials);
- newsprint recycling facility (pulp, paper, and paperboard, an industrial category that already had NPDES requirements for stormwater discharges).

The regulations mandate the use of Best Available Technology (BAT) and Best Conventional Pollutant Control Technology (BCT), and where necessary, water quality - based controls. The regulations also include requirements for sampling stormwater discharges. The details of the requirements as they relate to components of the Harlem River Yard development will be determined at the time permit applications are submitted to the NYSDEC. Consequently, no significant stormwater impacts are anticipated from development of the Harlem River Yard.

As required by the stormwater regulations, development of the yard will incorporate design and operational features that are specifically geared to the management of stormwater control of erosion and sediment before, during and after the facilities are constructed. For instance, design features will include site grading, construction of drainage ditches and culverts, as well as maintaining all unpaved areas with vegetation. Additional operational practices will include the inspection and maintenance of all stormwater and erosion control devices and adherence to construction and facility pollution prevention plans required by law.

4.11 Hazardous Materials

4.11.1 Future Without the Proposed Action

Under the no action alternative, there would be no impacts with respect to PAHs and other contaminants since this alternative assumes no future development of the yard.

4.11.2 Impacts of the Proposed Action

The findings from Phase I and Phase II indicated that contamination at the site is primarily due to past usage as a rail yard and coal storage yard. Much of the site is covered with varying depths of fill related to this past use, this is the primary contributor to the contamination identified. Semivolatile organics (especially PAHs) and metals (especially lead) are the predominant contaminants detected in the surface and subsurface soils at the site. There is no evidence of surface and subsurface organics affecting the groundwater quality at the site. A localized area of contamination exists in the central portion of the site due to on-going fuel pump operations. The results of the Phase Ib and II findings were generally consistent both in terms of the identity of the contaminants detected and the concentrations at which they were detected.

Recommended Remedial Action Objectives

Based on the Phase I and Phase II investigations, a limited remediation program will be sufficient to mitigate concerns posed by the Harlem River Yard Site.

As noted in the Phase IB Report (TAMS, 1991a), the above ground and underground storage tanks should be removed from the site, along with surrounding petroleum-contaminated soils. This can be accomplished by a competent removal contractor, in accordance with regulatory requirements and agency oversight. Known storage tank locations and areas of adjacent petroleum-contaminated soils were identified in the Phase

IB investigation. The extent of petroleum-contaminated soils requiring removal and disposal will be determined during the tank removal operation by visual observation and confirmatory sampling.

The history of this site as a railroad yard extends back over 100 years, with the existence of coal piles documented in the earliest information obtained for the property (TAMS, 1990). Coal particles are well distributed throughout site soils and are not amenable to physical separation. While semivolatile organic contaminants are present throughout the unsaturated overburden, there is no indication that this contamination is affecting groundwater quality. This is consistent with the relatively low solubility (and thus, leaching potential) of these compounds in water. Given the long history of the use of coal on the site, it is believed that if an effect on groundwater were going to be observed, ample time has elapsed for it to become evident.

The analysis of samples of shallow overburden groundwater showed the presence of inorganic contaminants in excess of class GA criteria, particularly in unfiltered samples. However, the constituents of concern are not consistent with soil contamination found in excess of guidance values. While exceedances of class GA standards for iron, magnesium, manganese, and sodium were observed in the one round of samples collected, it is not clear that this is due to historical activities at the site, since information on local background quality is not available from this investigation. These exceedances are not inconsistent, however, with the historical placement of uncontrolled fill from various sources. Also, tidal influence on groundwater movement in areas adjacent to the Harlem River and the Bronx Kill, may have some minor localized effect on groundwater quality. As an additional observation, the shallow groundwater in the area of the site is not used as a source of drinking water, nor is it likely to be contemplated for such use in the future.

For these reasons, it is not believed that remediation or protection of groundwater from historical contamination in site soils is warranted. The primary concerns in regard to site soils would appear to be related to transport of surficial contamination via fugitive (i.e.,

windborne) dusts, and prolonged, direct contact with site soils by construction or facility workers. In accordance with a remediation plan approved by the NYSDEC, the entire site area will be covered with controlled fill or topsoil, or paved where appropriate for facility operations. Materials or structures used as cover will generally be those used in construction of the facilities - i.e., roadway and parking lot paving materials, building slabs, general fill, railroad bed materials, as well as topsoil for landscaping and lawn areas. Fill areas will subsequently be protected from erosion and other deleterious conditions, and pavement will be maintained in a sound condition, to preserve the effectiveness of these control measures. Proper engineering controls for dust suppression and appropriate personnel protection measures will be observed during construction or demolition activities throughout the life of the lease. Notice of the presence of contamination should be affixed to the deed of the property.

Harlem River Yard Ventures has indicated that development of the eastern portion of the site is likely to occur first, with development west of St Ann's Avenue to be deferred. A human health risk assessment performed for this study indicates that fugitive dusts generated from the underdeveloped portion of the site will not cause unacceptable risks to nearby residents and facility workers over the anticipated deferral period. Therefore, deferral of remediation for this period should not pose a problem as long as the entire site remains secured and conditions and assumptions upon which the risk assessment was based do not change materially.

It is assumed that operation of the Gassman Co. coal pile will be discontinued at some time during the five year period prior to development. In order for conclusions of the risk assessment to remain valid, removal of the coal pile must be performed in a carefully controlled manner, and the earth beneath cleaned up to or maintained at contaminant levels no greater than the remainder of the site. This may be accomplished by removal of contaminated soil matrix, placing cover material over the exposed area, or a combination of the two actions. It should be noted in this context that the existence of the coal pile and potential associated fugitive dust generating capacity were not considered in the risk

assessment, which dealt only with surface soil contamination. The coal storage operation was not evaluated independently by TAMS, but no record of regulatory enforcement problems was discovered during the Phase IA investigation.

This limited remediation program has been reviewed by the NYSDEC. The Hazardous Waste Remediation Bureau has approved the limited remedial action as outlined above, and NYSDEC will not be pursuing any further investigations of this site under the inactive hazardous waste remedial program.

4.12 Energy Use and Conservation

4.12.1 Future Without the Proposed Action

Under the no action alternative, there would be no future development of the yard and therefore no change in energy usage.

4.12.2 Impacts of the Proposed Action

Development of the proposed action would result in increased energy demand for gas and electricity. Cost effective methods to decrease overall energy demand would be employed by the developers of the various project components. These methods could include insulation of walls and roofs, insulating glass and selective use of exterior materials to enhance thermal insulation, and selection of energy efficient heating and cooling systems.

The project would also result in reduced energy consumption due to the significant reduction in vehicle miles of travel (over 23.7 million for the wastepaper recycling option, over 26.8 million for the warehouse option) resulting from the increased use of rail and decreased use of trucks. Assuming an average fuel economy of eight miles per gallon (trucks at 55 miles per hour), the project would result in a fuel savings of nearly three million gallons of fuel oil per year for the wastepaper recycling option (nearly 3.4 million gallons for the warehouse option).

4.13 Construction Impacts

4.13.1 Air Quality

The major air quality concerns during construction are:

- fugitive dust from on-site construction activities;
- asbestos which may need to be removed from buildings that would be demolished;
- mobile source emissions from construction vehicles and equipment and motor vehicles of construction workers.

Fugitive Dust

The following measures, including adherence to the New York City Air Pollution code, would be utilized to prevent fugitive dust from construction and demolition activities from becoming airborne:

- use of water to control dust in the demolition of existing buildings or structures, construction operations, and during the clearing and grading of land;
- application of water to dirt paths, gravel roads, materials, stockpiles, and other surfaces which can give rise to airborne dust over extended periods;
- periodic street sweeping and/or wetting down of paved roadway surfaces.

Asbestos

Asbestos found during demolition of buildings remaining would be removed in accordance with 40 CFR Part 81.22, Emission Standards for Hazardous Air Pollutants. These standards require that anyone undertaking demolition or renovation of most major facilities supply

certain information to the EPA including the location of the facility to be removed, the scheduled starting and completion dates of demolition, and methods of demolition to be employed, an estimate of the amount of asbestos to be removed, and the procedures to be used to meet the other requirements of the emission standards. These requirements include:

- prior removal, where possible, of friable asbestos before demolition;
- wetting of friable asbestos materials not removed prior to demolition;
- wetting of stored asbestos materials that have been removed.

Any removal of asbestos would also be undertaken in accordance with applicable New York City Local Law. The City's laws outline a number of precautionary measures that must be followed in the handling of asbestos including:

- all waste must be wet down so that there is no visible emission of asbestos dust into the air;
- the material must be sealed while wet in two leak-proof polyethylene bags which bear warning labels;
- asbestos by-products must be isolated from all other wastes;
- until the asbestos waste has been properly delivered to an authorized disposal site, all asbestos waste must be inspected at least once every 24 hours to ensure that the containers are intact, and sealed;
- if the asbestos waste is disposed of in New York City, it may only be at authorized facilities.

Mobile Sources

Mobile source emissions would be generated from construction vehicles and equipment and motor vehicles of construction workers. However, these effects would not be significant and would be short-term in nature.

4.13.2 Noise

Impacts on community noise levels during construction of the proposed project include: noise from construction equipment and noise from construction vehicles/delivery vehicles traveling to and from the site.

The level of impact of these noise sources depends on the noise characteristics of the equipment and activities involved, the construction schedule, and the location of potentially sensitive noise receptors.

Noise levels at a given receptor location are dependent on the type and number of pieces of construction equipment being operated, as well as the distance from the construction site. Typical noise levels of construction equipment expected to be employed during the construction process are shown in Table 4.13-1. Noise levels due to construction activities would vary widely, depending on the phase of construction, demolition, land clearing and excavations, foundation and capping, erection of structural steel, construction of exterior wall, etc., and the specific task being undertaken.

All phases of construction would comply with the special directive providing guidance for noise levels during construction, issued by the Division of Noise Abatement, Report #CON-79-001 to keep noise levels at a minimum.

TABLE 4.13-1

TYPICAL NOISE EMISSION LEVELS FOR CONSTRUCTION EQUIPMENT

Type of Equipment	Noise Level at 50 ft (dBA)
Air Compressor	81
Asphalt Spreader (paver)	89
Asphalt truck	88
Backhoe	85
Bulldozer	87
Compactor	80
Concrete Plant	83
Concrete Spreader	89
Concrete Mixer	85
Concrete Vibrator	76
Crane (derrick)	88
Delivery Truck	88
Diamond Saw	90
Dredge	88
Dump Truck	88
Front End Loader	84
Gas-Driven Vibro-compactor	76
Hoist	76
Jackhammer (Paving Breaker)	88
Line Drill	98
Motor Crane	83
Pile Driver/Extractor	101
Pump	76
Roller	80
Shovel	82
Truck	88
Tug	85
Vibratory Pile Driver/Extractor	89

Source: Patterson, et al, 1974.

Increases in noise levels due to the operation of delivery trucks and other construction vehicles would not be significant. Small increases in noise levels are expected to be found near a few defined truck routes, and in the immediate vicinity of the development site.

Construction noise generated by the proposed project is expected to be similar to noise generated by other construction projects in the City. Increased noise levels due to construction activities can be expected to be most significant during the early stages of the construction of each phase, and would be of relatively short duration.

4.13.3 Hazardous Materials

Due to the contamination which has been detected within certain areas of the site, all excavation, surface and subsurface construction activities would be conducted considering, but not limited to, the following basic standards:

- implementation of dust suppression techniques such as water spraying;
- dust monitoring;
- prevention of pedestrian access to the excavation, surface and subsurface construction areas and contact with excavated materials;
- control, containment and proper disposal of contaminated dewatering liquids.

Construction workers would be requested to follow good hygiene practices, such as washing exposed skin surfaces at the completion of work, avoiding smoking and/or eating in excavation and subsurface construction areas, and changing out of work clothes prior to leaving the site. On-site workers would be provided with gloves and long-sleeved overalls or similar clothing to reduce dermal exposure when entering excavation, surface and/or subsurface construction areas associated with elevated contaminant levels.

A construction-related health and safety plan would be implemented during excavation and construction activities to parties on-site, workers and the community from potential significant adverse impacts associated with contaminated risk. This Plan would be submitted to NYSDOT for review and approval prior to implementation.

4.13.4 Stormwater Management

The USEPA initiated national compliance with the Clean Water Act Amendments of 1987 by publishing initial implementing regulations in November, 1990. Those Clean Water Act Amendments mandated that discharges of potentially contaminated stormwater from industries and municipalities be regulated using the mechanism of the NPDES program. The November, 1990 regulations identified the specific sources of stormwater that would be subject to control, the various procedures that dischargers should follow to obtain stormwater permits, and the technical information that would have to be submitted as part of a permit application.

In addition to the requirements described earlier regarding stormwater impacts from operation of certain industrial facilities, the regulations call for permits for any facility when construction is to take place on more than five acres. Thus, a permit will be required for Harlem River Yard construction, which would require the implementation of best management practices during the construction process so as to avoid stormwater impacts.

4.13.5 Transportation

During construction of the proposed action, some minor disruptions to vehicular traffic may occur, but their impacts will be negligible. Heavy, sometimes oversize, construction equipment occasionally will be transported to and from the site. It is expected that these trips will occur during off-peak periods when impacts to regional highway and local street traffic will be minimized.

To the maximum extent possible, the delivery of construction materials, such as steel and fill, will be by rail cars. Other materials such as concrete, will likely be delivered by trucks or barges from nearby concrete plants. However, the volume of material delivery trucks are not expected to result in peak period traffic impacts.

Construction workers will likely use a mix of autos and public transportation to reach the site. Some local hires in the adjacent residential neighborhood may walk to their jobs. However, since the construction workday usually starts and ends outside the established peak hours of the adjacent street system, the volume of construction worker vehicles will have virtually no impact on peak hour traffic conditions.

Construction workers that use buses and the subway to reach the site can easily be absorbed in the off-peak capacity of the individual lines. There are presently no pedestrians that travel to and from the site. The only expected increases in pedestrian traffic will be by local hires walking to work.

CHAPTER 5
ALTERNATIVES TO THE PROPOSED ACTION

The following alternatives to the proposed land use plan have been considered. It should be noted that the proposed land use plan includes options relating to both use and design in connection with the future development. This FEIS considers the impacts associated with these options. Approval of the land use plan, unless otherwise conditioned, would allow development, subject to other regulatory requirements, of the identified options.

5.1 No Action

Under the future no action, no discretionary actions are proposed and therefore no future development in the proposed project site would be expected. The project area would continue to be underutilized and blighted. The conditions and specific impacts associated with the future no action are set forth in Chapter 4.

5.2 Alternatives Considered But Rejected

Development of the Harlem River Yard for uses other than a rail and truck transportation facility (e.g., residential development) was considered and rejected. The key geographic location of the yard in the metropolitan area (both with respect to other transportation facilities and end users), its land use compatibility with the existing area (the proposed use is in keeping with the existing manufacturing zoning), and the critical need to reduce transportation costs and air pollution in the metropolitan area through the increased use of rail, all point to the need to develop this site as proposed by Harlem River Yard Ventures.

5.3 Alternative 1 - Increased Warehousing

An alternative to development of the yard as currently proposed would be the construction of an additional 300,000 sq ft of warehousing in place of and on the proposed site of the flower market and newsprint recycling facility. As described below, there are many instances where Alternative 1 does not differ from the proposed action in its impacts (the term "proposed action" used here means the wastepaper recycling option and the warehouse option).

5.3.1 Zoning and Land Use

Zoning and land use impacts of this alternative are comparable to the proposed action since the entire development of the site would occur in accordance with existing manufacturing zoning.

5.3.2 Urban Design Characteristics

Urban design impacts would be comparable to the proposed action, with the exception that the taller (50-foot high) paper recycling facility would not be constructed.

5.3.3 Socioeconomics

This alternative presumes fewer permanent employees (424), about half of the proposed action. Indirect employment would also be less. Over a four-year construction period, it is estimated about 202 jobs per year would be created, or about a quarter of those created under the proposed action.

State and City tax revenues would, in turn, be less than in the proposed action. Table 5-1 shows these revenue data by source. Total permanent annual revenues for the City are estimated at $1.1 million and $1.7 million for the State.

TABLE 5.1
INCREASE IN ANNUAL CITY AND STATE TAX REVENUES
ALTERNATIVE

		Personal Income ($000)			Corporate Income ($000)			Sales ($000)			Total City	Total State	City & State
		State	City	Total	State	City	Total	State	City	Total	($000)	($000)	($000)
Permanent													
No. of Employees	424	629	309	938	281	228	508	145	130	275	667	1,055	1,722
Avg. Earnings $	33,128												
Indirect													
No. of Employees	254	377	186	563	169	137	305	87	78	165	400	633	1,033
Avg. Earnings $	33,128												
Total Permanent	678	1,006	495	1,501	449	364	814	232	209	440	1,068	1,687	2,755
Direct Temporary													
No. of Employees	202	409	368	777	162	131	293	83	75	159	574	654	1,229
Avg. Earnings $	40,000												
Indirect Temporary													
No. of Employees	81	164	147	311	65	52	117	33	30	63	230	262	492
Avg. Earnings $	40,000												
Total Temporary	283	573	516	1,088	227	183	410	117	105	222	804	916	1,720
Grand Total	962	1,579	1,011	2,590	676	548	1,224	349	314	662	1,872	2,603	4,475

Assumptions: married, four exemptions; 90 % live in City, 100 % in State.

Displacement impacts would be similar to the proposed action because the entire site would still be developed. Any induced development would be proportionately less than the proposed action because of the smaller anticipated employment under this alternative.

5.3.4 Community Resources

Impacts on community resources would generally be less than the proposed action, since there would be fewer employees under this alternative (about one-half). For example, with respect to recreational resources, with a smaller day time worker population in the recreational study area, the requirement for passive open space would be less. In any case, there is more than adequate existing open space in the recreational study area.

5.3.5 Cultural Resources

Cultural resource impacts would be comparable to the proposed action, although there would be less potential to disturb archaeological resources since there would be fewer structures with their associated foundations built on the site.

5.3.6 Transportation

The trip generation data shown in Table 5-2 indicate fewer vehicle trips during the peak hour periods for Alternative 1, especially during the AM peak hour. Total daily trips (2,965) are significantly lower than the 6,665 or 7,541 daily vehicle trips expected from the proposed action because of the elimination of the flower market traffic. With respect to peak hour analyses, this alternative's PM peak period conditions at key intersections would fall between those of the proposed action options. Impacts in the AM peak period would, however, be less than with either option.

TABLE 5-2

PROJECT GENERATED TRIPS

ALTERNATIVE #1

Facility	AM Peak				PM Peak				Daily Trips			
	Autos	Trucks	Vans	Total	Autos	Trucks	Vans	Total	Autos	Trucks	Vans	Total
6000 TPD Transfer Station	29	38	--	67	29	38	--	67	160	600	--	760
Warehouse 80,000 + 220,000 = 300,000 SF	171	--	--	171	171	51	--	222	394	1070	--	1464
Intermodal Terminal	19	44	--	63	19	44	--	63	118	540	--	658
Security & Maintenance	6	--	--	6	6	--	--	6	35	--	--	35
Team Track	--	4	--	4	--	4	--	4	--	48	--	48
Total	225	86	--	311	225	137	--	362	707	2258	--	2965

5.3.7 Air Quality

Air quality levels would differ in several ways from the proposed action:

- since there would be less vehicular trips in the AM and PM peak periods than the proposed action, carbon monoxide levels would be less;
- stationary source emissions would be less than the wastepaper recycling option and comparable to the warehouse option since there would be no wastepaper recycling facility.

5.3.8 Noise

It is anticipated that noise levels of this alternative would be less than those of the proposed action since vehicular movements would be significantly less.

5.3.9 Infrastructure

As is the case for the proposed action, utility services would need to be extended and modified in order to accommodate additional utility requirements. However, water and wastewater requirements would be significantly less than the wastepaper recycling option and more comparable to the warehouse option since this alternative would not include the paper facility which produces 99 percent of the demand for these services. It is anticipated that there is ample capacity in existing infrastructure for new connections. No excessive demands would be placed on existing local infrastructure, and no adverse effects would be expected.

5.3.10 Natural Resources

Impacts on natural resources would be comparable to the proposed action and would not be significant. No wetlands or endangered species have been identified on the site.

Construction in the 100-year floodplain, however, would occur as in the proposed action.

5.3.11 Hazardous Materials

Impacts would be comparable to the proposed action. Once the facility would be operational, no further consideration would need to be given regarding the contaminated site soils unless additional excavation activities take place, in which case, the same engineering control measures would need to be taken. However, no adverse environmental impacts would be expected assuming proper precautions are taken during excavation activities.

5.4 Alternative 2 - Modified Transfer Station

A second alternative to the Harlem River Yard Intermodal/Distribution Center could involve the development of the yard as in the proposed action, however, the 3000 TPD Transfer Station would be replaced with a 2000 TPD Transfer Station and 1000 TPD Materials Recovery Facility (MRF).

5.4.1 Zoning and Land Use

Zoning and land use impacts of this alternative are comparable to the proposed action since the entire development of the site would occur in accordance with existing manufacturing zoning.

5.4.2 Urban Design Characteristics

Urban design impacts of this alternative are comparable to the proposed action.

5.4.3 Socioeconomics

Impacts would be somewhat less than the proposed action since total employment (694) is about 15 percent less than the proposed action. State and City tax revenues would, in turn, be somewhat lower than in the proposed action. Table 5-3 shows these revenue data by source. Total permanent annual revenues for the City are estimated at $1.7 million and $2.8 million for the State.

Displacement impacts would be similar to the proposed action because the entire site would still be developed. Any induced development would be proportionately greater than the proposed action because of the increased employment under this alternative.

5.4.4 Community Resources

Impacts to community resources would be expected to be less than that of the proposed action, since total employment is somewhat lower.

5.4.5 Cultural Resources

Impacts to cultural resources would be expected to be comparable to that of the proposed action, since development is essentially the same for both.

5.4.6 Transportation

Transportation impacts for Alternative 2 are expected to be slightly different than those of the proposed action since the solid waste facility is modified from that in the proposed

TABLE 5-3
INCREASE IN ANNUAL CITY AND STATE TAX REVENUES
ALTERNATIVE

		Personal Income ($000)			Corporate Income ($000)			Sales ($000)			Total City	Total State	City & State
		State	City	Total	State	City	Total	State	City	Total	($000)	($000)	($000)
Permanent													
No. of Employees	694	1,029	507	1,536	460	372	832	237	213	450	1,092	1,726	2,818
Avg. Earnings $	33,128												
Indirect													
No. of Employees	416	618	304	921	276	223	499	142	128	270	655	1,036	1,691
Avg. Earnings $	33,128												
Total Permanent	1,110	1,647	810	2,457	736	596	1,332	379	341	721	1,748	2,762	4,510
Direct Temporary													
No. of Employees	930	1,881	1,693	3,574	744	602	1,346	384	345	729	2,640	3,008	5,649
Avg. Earnings $	40,000												
Indirect Temporary													
No. of Employees	372	752	677	1,429	298	241	539	153	138	291	1,056	1,203	2,259
Avg. Earnings $	40,000												
Total Temporary	1,302	2,633	2,370	5,003	1,041	843	1,885	537	483	1,020	3,697	4,211	7,908
Grand Total	2,412	4,280	3,180	7,460	1,777	1,439	3,216	916	825	1,741	5,444	6,973	12,418

Assumptions: married, four exemptions; 90 % live in City, 100 % in State.

action. Total daily trips would be 6,212, slightly less than those of wastepaper recycling option and approximately 1,300 vehicles less than warehouse option. Total daily truck traffic would be less for this alternative (1,478) than the proposed action, about 500 trucks less than wastepaper recycling option and about half as much as for warehouse option. However, daily automobile traffic for this alternative (1,402 vehicles) would be about the same as for warehouse option (1405 vehicles), and slightly less than wastepaper recycling option (1,348 vehicles). Total peak hour volumes are the same or less than those of the proposed action (Table 5-4).

5.4.7 Air Quality

Carbon monoxide levels are expected to be somewhat less than the proposed action since there are fewer vehicular trips under this alternative. Stationary source emissions would be comparable to the wastepaper recycling option.

5.4.8 Noise

Noise levels from yard activities and off-site mobile source noise levels would be less than the proposed action due to the fewer number of vehicular trips.

5.4.9 Infrastructure

Infrastructure demands are expected to be the same as for the wastepaper recycling option, with very minor differences, because the paper recycling facility is such a large consumer.

5.4.10 Natural Resources

Impacts on natural resources would be comparable to the proposed action and would not be significant. No wetlands or endangered species have been identified on the site.

TABLE 5-4

PROJECT GENERATED TRIPS

ALTERNATIVE #2

Facility	AM Peak				PM Peak				Daily Trips			
	Autos	Trucks	Vans	Total	Autos	Trucks	Vans	Total	Autos	Trucks	Vans	Total
2000 TPD Transfer Station/1000 TPD MRF	51	19	--	70	51	19	--	70	282	300	--	582
Paper Facility	49	3	--	52	49	3	--	52	258	44	--	302
Warehouse 80,000 SF	46	--	--	46	46	13	--	59	106	284	--	390
Intermodal Terminal	19	44	--	63	19	44	--	63	118	540	--	658
Flower Market	--	24	428	452	--	--	--	--	603	262	3332	4197
Security & Maintenance	6	--	--	6	6	--	--	6	35	--	--	35
Team Track	--	4	--	4	--	4	--	4	--	48	--	48
Total	171	94	428	693	171	83	--	254	1402	1478	3332	6212

Construction in the 100-year floodplain, however, would occur as in the proposed action.

5.4.11 Hazardous Materials

Impacts would be comparable to the proposed action. Once the facility would be operational, no further consideration would need to be given regarding the contaminated site soils unless additional excavation activities take place, in which case, the same engineering control measures would need to be taken. However, no adverse environmental impacts would be expected assuming proper precautions are taken during excavation activities.

CHAPTER 6
MITIGATION MEASURES

Mitigation measures are required in several areas (they are the same for both development options).

6.1 Cultural Resources

Based on the conclusions of the Phase 1A literature search and the Phase 1B field testing, no further cultural resource investigations are proposed. However, should project plans be modified such that below ground excavation is required in the vicinity of the Gouvernor Morris I and Lewis Morris house sites, testing would be conducted at that time. Further mitigation field work would be conducted only if the resources are determined significant (i.e., National Register eligible), and only if the project would affect them. At the completion of this review, development could then proceed.

With respect to the Willis Avenue Station, buffer areas as outlined in Chapter 4.5 of this EIS will be provided. Consequently the proposed action would have no significant impacts on the station.

6.2 Traffic

Table 6-1 is a summary of the 1996 build condition with and without the proposed traffic mitigation measures in place. The results indicate that each of the mitigated intersections will operate at improved Levels of Service during the AM and PM peak periods from build conditions without mitigation.

Existing operational deficiencies at the intersection of Bruckner Boulevard and St. Ann's Avenue will deteriorate further through normal traffic growth (No Action) and with the addition of project-related traffic.

TABLE 6-1
SUMMARY OF LOS ANALYSIS - MITIGATED CONDITIONS
Warehouse Option

Intersection	AM Peak Hour - No Mitigation				AM Peak Hour - with Mitigation			
	Appr. Volume	V/C Ratio	Stopped Delay	LOS	Appr. Volume	V/C Ratio	Stopped Delay	LOS
Bruckner Blvd. & Alexander Ave.								
EB L	21	0.769	47.0	E	21	0.610	16.6	C
EB TR	58	0.112	6.9	B	58	0.121	4.4	A
WB L	--	--	--	--	81	0.105	4.4	A
WB TR (LTR)	2320	1.173	111.9	F	2239	1.077	52.4	E
NB LTR	206	0.333	23.4	C	206	0.396	20.3	C
SB LTR	390	0.522	25.5	D	390	0.618	22.6	C
Overall:		0.951	89.8	F		0.941	42.9	E
E. 134th St. & St. Ann's Ave.								
EB L	149	0.319	12.0	B	--	--	--	--
EB TR (LTR)	154	0.308	11.9	B	433	0.467	12.7	B
NB TR	185	0.129	4.3	A	185	0.129	4.3	A
SB LT	177	0.132	4.3	A	177	0.132	4.3	A
Overall:		0.198	7.5	B		0.250	8.6	B
Bruckner Blvd. & St. Ann's Ave.								
EB L	29	0.564	18.4	C	--	--	--	--
EB TR	1504	1.435	*	F	1533	0.598	10.5	B
WB L	101	2.020	*	F	--	--	--	--
WB TR	1625	1.584	*	F	1726	0.685	11.7	B
NB LTR	224	0.372	23.8	C	224	0.394	24.0	C
SB LTR	258	0.373	23.8	C	339	0.471	24.8	C
Overall:		1.456	*	F		0.612	13.2	B
Bruckner Blvd. & Lincoln Ave.								
EB TR	10	0.012	4.1	A	10	0.012	4.1	A
WB LTR	2404	1.122	74.3	F	2404	0.814	9.9	B
NB L	5	0.055	18.1	C	5	0.104	18.4	C
NB TR	10	0.037	18.0	C	10	0.037	18.0	C
SB L	--	--	--	--	79	0.148	18.9	C
SB TR (LTR)	584	0.817	27.6	D	505	0.749	25.3	D
Overall		1.031	64.3	F		0.795	12.7	B
East 135th Street & Alexander Avenue								
WB LTR	2467	0.943	16.6	C	2467	0.733	13.5	B
NB L	126	0.331	8.7	B	126	0.456	23.6	C
NB T	64	0.128	7.8	B	64	0.158	20.4	C
SB TR	146	0.181	8.0	B	146	0.225	20.9	C
Overall:		0.648	15.4	C		0.632	14.7	B

Note: When the V/C ratio exceeds 1.2, the stopped delay calculation is meaningless.

TABLE 6-1 (continued)
SUMMARY OF LOS ANALYSIS - MITIGATED CONDITIONS
Warehouse Option

Intersection	PM Peak Hour - No Mitigation				PM Peak Hour - with Mitigation			
	Appr. Volume	V/C Ratio	Stopped Delay	LOS	Appr. Volume	V/C Ratio	Stopped Delay	LOS
Bruckner Blvd. & Alexander Ave.								
EB L	16	0.563	18.3	C	16	0.421	7.8	B
EB TR	83	0.142	7.0	B	83	0.154	4.5	A
WB L	--	--	--	--	21	0.025	4.1	A
WB TR (LTR)	1372	0.647	11.2	B	1351	0.607	7.1	B
NB LTR	169	0.343	23.5	C	169	0.406	20.3	C
SB LTR	291	0.399	24.0	C	291	0.472	20.9	C
Overall:		0.562	14.6	B		0.567	10.7	B
E. 134th St. & St. Ann's Ave.								
EB L	220	0.481	13.1	B	229	0.501	13.3	B
EB TR	164	0.322	12.0	B	194	0.383	12.3	B
NB TR	230	0.166	4.4	A	230	0.166	4.4	A
SB LT	143	0.107	4.2	A	143	0.107	4.2	A
Overall:		0.277	8.0	B		0.284	8.4	B
Bruckner Blvd. & St. Ann's Ave.								
EB LTR (TR)	2479	1.737	*	F	2479	0.894	17.2	C
WB L	20	0.373	10.2	B	--	--	--	--
WB TR (LTR)	791	0.723	13.2	B	811	0.302	7.9	B
NB LTR	179	0.248	22.6	C	179	0.252	22.7	C
SB L	120	0.414	24.5	C	120	0.415	24.5	C
SB TR	100	0.243	22.6	C	120	0.287	23.0	C
Overall:		1.285	*	F		0.730	15.9	C
Bruckner Blvd. & Lincoln Ave.								
EB TR	16	0.018	4.1	A	16	0.018	4.1	A
WB LTR	1505	0.705	8.2	B	1505	0.512	6.2	B
NB LTR	32	0.067	18.2	C	32	0.092	18.3	C
SB LT	--	--	--	--	84	0.216	19.0	C
SB R (LTR)	432	0.602	22.3	C	348	0.520	21.4	C
Overall		0.675	11.5	B		0.514	9.6	B
East 135th Street & Alexander Avenue								
W LTR	2133	0.781	11.1	B	2133	0.607	11.7	B
NB L	104	0.206	8.1	B	104	0.286	21.5	C
NB T	116	0.175	7.9	B	116	0.217	20.9	C
SB TR	109	0.168	7.9	B	109	0.208	20.8	C
Overall:		0.504	10.6	B		0.489	13.1	B

Note: When the V/C ratio exceeds 1.2, the stopped delay calculation is meaningless.

In order to improve operating conditions at this intersection, it is recommended that regulatory signing prohibiting left turns during the AM peak period (7AM to 9AM) and the PM peak period (4PM to 7PM) be posted in both directions of Bruckner Boulevard at the intersection in conjunction with minor signal timing adjustments. The elimination of the low volume left turns will improve operating conditions for through traffic on Bruckner Boulevard and result in satisfactory intersection levels of service.

Left turns eliminated from Bruckner Boulevard can be accommodated by around-the-block right turns involving East 134th Street and East 132nd Street which will require adequate posting of directional signing that complements the regulatory signing.

East 134th Street is a one-way eastbound, interrupted service road of the Major Deegan Expressway, bordered by mostly industrial land uses, that carries generally light to moderate traffic volumes. Additional improvements should also be provided along East 134th Street involving the reconstruction of the south side curb returns at Alexander Avenue, Brown Place, Brook Avenue, and St. Ann's Avenue to facilitate turning movements by trucks.

East 132nd Street forms a portion of the northern border of the project site. The roadway is presently in very poor physical condition, requiring complete reconstruction. The reconstruction of this street from Alexander Avenue to Con Edison's facilities east of the project site has been submitted by the New York City Department of Transportation, with community board support, to the New York State Department of Transportation for funding. Although neither State nor City funding is currently available for this project, the reconstruction of East 132nd Street between Alexander Avenue and Cypress Avenue should be completed as part of the infrastructure improvements associated with the Harlem River Yards Project.

The existing condition traffic analysis show that westbound traffic movements along Bruckner Boulevard at the intersections of Lincoln and Alexander Avenues currently operate at capacity during the AM peak hour. Normal traffic growth (No Action) will

worsen these conditions even before project-related traffic is introduced at these locations; delays will be considerable. To alleviate this problem, additional capacity is needed to move the Bruckner Boulevard through traffic. Bruckner Boulevard should be restriped to provide three designated travel lanes (two though lanes and one left lane) in the westbound direction at both intersections. Left turns will be allowed in both directions as now exist. Signal timing at the intersection of Bruckner Boulevard and Lincoln Avenue also should be adjusted, but the existing 90-second cycle length retained. Mitigation analysis of the intersection of Bruckner Boulevard and Alexander Avenue shows that this intersection will operate at capacity or better only if the existing 120-second cycle is reduced to 90 seconds. The existing 120-second cycle length will continue to produce extensive delays at this intersection (LOS F), even if the westbound direction is restriped as described above.

6.3 Air Quality

The analysis of carbon monoxide impacts presented in Chapter 4 (without traffic mitigation) showed no violations of the one-hour or eight-hour standards. An analysis of carbon monoxide impacts at the air quality study locations subject to traffic mitigation was undertaken (Table 6-2), also showing no violations of the standards.

TABLE 6-2
RESULTS OF MICROSCALE ANALYSIS WITH MITIGATION
Warehouse Option

Receptor	Proposed Action No Mitigation		Proposed Action With Mitigation	
	One Hour (ppm)	Eight Hour (ppm)	One Hour (ppm)	Eight Hour (ppm)
4. Lincoln Ave./Bruckner Blvd.	12.7	7.3	12.2	7.0
5. Willis Ave. Bridge Exit/Bruckner Blvd.	12.5	7.2	12.3	7.1
6. St. Ann's Ave./Bruckner Blvd.	11.3	6.4	12.4	7.1

Note: (1) CO levels include 1996 background concentrations of 5.8 ppm (one-hour) and 2.5 ppm (eight-hour). All values are presented in parts per million (ppm).

6.4 Noise

While the proposed action is not a highway project, the FWHA noise regulations (23 CFR Part 772, Procedures for Abatement of Highway Traffic Noise) offer a range of noise abatement measures that can be evaluated in the context of the proposed action. The regulations require that feasible and reasonable noise abatement measures be considered to mitigate a noise impact caused by a highway. Several types of noise abatement measures are typically evaluated, of which the following are recognized by FHWA as eligible for federal cost sharing on federally-funded highway projects:

- Installation of noise barriers;
- Traffic management measures;
- Alterations of horizontal and vertical alignment;
- Designation of buffer zones; and
- Noise insulation of public use or non-profit institutional structures.

Traffic noise impacts are defined to occur when the predicted traffic noise levels in the design year due to the project (1) approach or exceed the FHWA noise abatement criteria (e.g., L_{eq} of 67 dBA for Activity Category B, which includes residences, schools, hospitals, etc.) or (2) substantially exceed the existing noise levels (per NYSDOT practice, a "substantial" noise increase is one of 6 dB or more).

Noise Barriers. Several factors are typically considered by highway agencies when evaluating the feasibility of noise barriers as an abatement measure:

- The number of dwelling units benefitted should be large enough such that the barrier cost per receptor is reasonable;
- The structural design of the barrier should be feasible;

- The acceptance of a noise barrier and its aesthetic impacts reflects the opinion of impacted residents and neighboring groups.

Noise barriers are not feasible at the residential receptors studied in this document for several reasons. First, the principal source of noise at these receptors is due to local truck traffic on the streets where the residences are located. It would be impractical to construct barriers along the edge of local city streets since they would create safety problems, be interrupted for driveway access (which would reduce their effectiveness), and would have to be very high to interrupt the line of site from the street level traffic to upper story residential uses.

Traffic Management Measures. Traffic management measures are sometimes feasible for noise abatement. Prohibition of truck traffic -- especially heavy truck traffic -- could produce significant noise benefits. However, such prohibition is not possible on the proposed routes which will serve as major arteries for goods delivery to the site. Time-use restrictions on truck traffic would be similarly impracticable.

Alteration of Alignment. Alignment alteration is not feasible since the roadway network to the site is in place; no new roadways are proposed.

Designation of Buffer Zones. Where unimproved property adjoins the corridor, and adverse noise impacts are forecasted to extend beyond the roadway right-of-way, consideration can be given to establishing a buffer space between the road and impacted receptors. Buffer area is proposed on the southern side of the site and is not feasible (and would be of limited value) on the northern side of the site.

Noise Insulation of Public-Use or Non-profit Institutional Structures. The soundproofing of public use or non-profit institutional structures can be considered as an alternative to barrier construction. However, there are currently no impacted public buildings along the corridor.

6.5 Hazardous Materials

As described in Section 4.11, a remediation plan has been approved by the NYSDEC, which includes a variety of requirements such as (1) the entire site area will be covered with controlled fill or topsoil, or paved where appropriate for facility operations, and (2) proper engineering controls for dust suppression and appropriate personnel protection measures will be observed during construction or demolition activities throughout the life of the lease.

The limited remediation program has been reviewed by the NYSDEC. The Hazardous Waste Remediation Bureau has approved the limited remedial action as outline in Section 4.11, and NYSDEC will not be pursuing any further investigations of this site under the inactive hazardous waste remedial program.

CHAPTER 7

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

While the proposed action would bring important benefits to the Bronx and to New York City, nonrenewable resources would be consumed during the design, construction, and operation of the project. Since the reuse of these resources is impossible, they must be considered irreversibly and irretrievably committed to the development of the project.

The finite resources that would be irretrievably committed by implementation of the proposed action are the expendable materials, such as steel, concrete and glass, and fuel and energy utilized during construction of the development, as well as the supplies and energy resources (in the form of gas and electricity expended in the heating and cooling of the development) necessary to operate and maintain it after construction.

The land use changes associated with the development of the proposed action on the project site may be considered a resource loss. The proposed action constitutes an irreversible and irretrievable commitment of the site as a land resource. Further, private funds committed to the design, construction, and operation of the proposed action are not available for the development of other projects.

The public services to be provided in connection with the proposed action (e.g. police and fire protection services) also constitute resource commitments which might otherwise be used for other programs or projects, although the project would also generate tax revenues to provide additional public funds for such activities.

The human labor expended for development and operation of the proposed action must also be considered irrevocable.

CHAPTER 8

THE RELATIONSHIP BETWEEN SHORT-TERM USES OF THE ENVIRONMENT AND MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

The proposed action would redevelop the site from its presently underutilized and deteriorated condition into a new economically productive development. Construction and operation of this development would generate new jobs, tax revenues, and housing for the city as a whole and would increase the publicly-usable open space of the immediate community. As such, the project would be expected to enhance long-term productivity in the area.

During the construction phase, as discussed in Chapter 4, there would be some short-term adverse impacts on the environment. These would include displacement of businesses within the site, some vehicular and pedestrian traffic disruptions, increased noise levels associated with construction activities including noise from pile driving, and diminution of air quality due to fugitive dust and vehicular emissions.

Longer-term negative impacts, though not significant, would include increases in traffic volumes, and consequent air quality impacts. The project would also increase sewage, water usage, and energy consumption. None of these would be expected to adversely affect long-term productivity.

Positive consequences of the proposed action would include the provision of a significant amount of new rail and truck facilities and a significant reduction in vehicle miles of travel in the region. The completed project would produce new employment opportunities and increase tax revenues and would increase the use of rail in the region.

CHAPTER 9

UNAVOIDABLE ADVERSE IMPACTS

Unavoidable impacts include:

- the direct displacement of a business (Gassman Coal), which, however, would readily relocate to other of its existing facilities in the Bronx, and some remnant activities of Baldwin and New Haven warehousing (which would relocate to an existing facility at East 149th Street) (see Chapter 4);

- noise effects were identified at several residential receptors. However, these receptors represent non-conforming residential uses in a heavy manufacturing zone. Furthermore, a review of potential noise abatement measures revealed them to be neither feasible nor reasonable. Consequently, noise impacts are unavoidable at these locations.

CHAPTER 10

PUBLIC REVIEW PROCESS AND RESPONSE TO COMMENTS

10.1 Public Review Process

10.1.1 Filing and Distribution

The notice of filing of the DEIS appeared in the Environmental Notice Bulletin of June 2, 1993. The DEIS, along with a copy of the public hearing notice, was distributed to agencies and officials of federal, state and local governments, citizen groups and associations, and other interested parties. Copies of the DEIS were also on display at :

- NYSDOT Oak Point Link Field Office at 98 Lincoln Avenue, Bronx, New York 10454 and the New York City Regional Office at Hunter's Point Plaza, 47-20 21st Street, Long Island City 11101;
- Bronx Borough President's Office, 851 Grand Concourse, Bronx 10451 (Contact: Kevin Nunn, 718/590-3514);
- Department of City Planning, 1 Fordham Plaza, Bronx (Contact: Ray Curran, 718/220-8500);
- Community Planning Board #1, 384 East 149th Street, Bronx 10455 (Contact: Adrian Rodriquez, 718/585-7117);
- Mott Haven Public Library, 321 East 140th Street, Bronx, 10455 (Contact: Sally Thompson, 718/665-4878);
- South Bronx Overall Economic Development Corporation, 570 East 149th Street, Bronx 10455 (Contact: Neil W. Pariser, 718/292-3113).

Copies of the FEIS can be found at the same locations.

10.1.2 Public Review Period and Public Hearings

Public review and comment on the DEIS occurred from June 2 through July 12, 1993. During this period, a public hearing was held on June 30 at the Bronx County Office Building. The hearing was conducted in accordance with the State Environmental Quality Review Act regulations.

The complete transcripts of the hearings are available for the cost of reproduction from:

Mr. Bruce A. Blackie
Deputy Assistant Commissioner
Commercial Transport Division
NYS Department of Transportation
1220 Washington Avenue, Building 7A
Albany, NY 12232

Copies are also available for public inspection at libraries in the project area.

10.1.3 Receipt of Comments

Comments on the DEIS were received in three forms: letters, written statements delivered at the hearing, and oral statements made at the hearing. In most cases, oral statements were summaries or verbatim readings of written statements submitted at the hearing or of letters that were sent to the NYSDOT. In all, approximately 140 comments were received from approximately 25 commentors. All substantive comments received as of July 12, 1993 are answered in this FEIS.

10.2 Organization of Comments and Responses

10.2.1 Identification of Comments

Each submission received, whether written or contained only in the transcript of the public hearing, was assigned one of the following letter codes:

F - Federal agencies and officials;
S - State agencies and officials;
L - Local agencies and officials;
G - Groups and associations;
P - Public (Individuals).

The labels were assigned for the convenience of readers and to assist in the organization of this document; priority or special treatment was neither intended nor given in the responses to comments. No comments were received from federal agencies.

Within each of the categories, each submission was then assigned a number, in the order that it was received and processed, such as F-1, S-1, and so on. In addition, each separate comment was assigned its separate sub-number. Thus, if an agency or citizen made three different comments, they are designated as F-1.1, F-1.2, F-1.3 or as P-1.1, P-1.2, P-1.3.

All written submissions have been reprinted in Appendix H. The alphanumeric code associated with each written submission is marked at the top of the first page of each letter; the sub-numbers of the individual comments are marked in the outer margin. Within each appendix, shown below, comment letters or statements are reprinted in numerical order. If a number code appears to be missing in the appendix, it was assigned to an oral comment.

Due to the lengthiness of the written hearing transcript, the entire transcript is not reprinted in the FEIS, but has been made available as noted at 10.1.2. However, excerpts from the

transcript for those agencies, groups, or individuals that made only oral statements at the hearing are included here. All oral comments were coded and treated in the same manner as written comments.

In a few instances, a commentor may appear in the Comment Index more than once, because he/she sent different letters, sent letters different from oral statements or made different oral statements. If an individual spoke for a group and then wrote a letter in his/her own name (or vice-versa), the submissions were coded separately and each appears in the Comment Index.

It was not always clear if a commentor intended to represent an organization/group or simply himself/herself. The reader is advised to examine both the G (Group) listing for the name of the group, firm, or association used on the letterhead of a written submission and the P (Public) list for his/her own name.

10.2.2 Locating Responses to Comments

10.2.2.1 Comment Index

The Comment Index, following this text, contains a complete listing of all commentors and responses to comments. The listing allows readers to find answers to specific questions they have raised. In this format, the index is organized alphabetically by name of commentor. The index provides the following information:

- The first column lists the names of all commentors alphabetically, according to type (federal, state, local, group, private citizen).
- The second column identifies the alphanumeric file code assigned to each comment.
- The third column indicates whether comments were made at the public hearing:

- YO = comments made at hearing - oral only;
- Y = comments made at hearing - oral and written;
- N = no comments made at hearing, written comments were received.

- The fourth column indicates the subject of the comment;

- The fifth column indicates the response to the comment.

10.2.2.2 Kinds of Responses

Responses to comments include the types described below:

- Specific Response to Comment - The comment is answered in the index.

- Reference to FEIS - Revisions/additions to specific sections of the DEIS have been made in this FEIS. The chapter headings and section numbers are the same as those in the DEIS. This type of reference typically states: Refer to FEIS, 2.7, or other appropriate section number.

- Comments Noted - Some commentors acknowledge receipt of the report, express general support or general opposition to the project, or state that they have no comment. Because these kinds of submissions offer no "substantive" comment on the DEIS, no substantive response can be made. This kind of comment has simply been reprinted and is acknowledged by the statement: Comments noted.

The Comment Index follows.

NAME/AGENCY	COMMENT CODE	PUBLIC MEETING	SUBJECT	RESPONSE
Brill, Robert	P- 2. 1	YO	Air Quality	The FEIS analysis of air quality impact from motor vehicles includes trucks. The latest USEPA emissions computer model has been used. Output from that program, combined with the projected regional savings in truck VMT, show that the project would have a positive effect on regional ozone levels since hydrocarbon and nitrogen oxide emissions would be reduced as shown in Chapter 4.7.2.
	P- 2. 2	YO	Rail Usage	See FEIS Chapter 1.
	P- 2. 3	YO	Wastewater	Refer to DEIS Chapter 4.9.2 for a discussion on the wastewater impacts of the deinking facility.
Bronx Boro President Ferrer	L- 1. 1	Y	Waste Transfer	Two new land use options are included in the EIS. Under both options, the 6,000-tpd capacity has been reduced to 3,000 tpd.
	L- 1. 2	Y	Air Quality	There are currently two options for provision of process steam to the paper recycling facility: Con Edison vs. on-site generation. If the Con Edison option is selected, there will be no on-site process boiler emissions. If on-site generation is selected, a Part 201 permit will be required from the NYSDEC. Dispersion modelling, if required, would be done at that time.
	L- 1. 3	Y	Wastewater	See FEIS Chapter 2 and Chapter 4.9 for additional details on Ponderosa effluent. The selection of the preferred alternative disposal method is still being resolved. It should be noted that any of the selected alternatives will require a permit from either the NYCDEP or the NYSDEC before it can be implemented.
	L- 1. 4	Y	Open Space	See FEIS Chapter 4.4.2.
Bronx Solid Waste Advis Board	G- 10. 1	YO	General	Comments noted.
	G- 10. 2	YO	Waste Transfer	See FEIS Chapter 2.3.5. The solid waste facility proposed for the Harlem River Yard responds directly to a rail potential identified in previous studies for the yard carried out by the NYSDOT. As proposed it is unlike most other facilities in the area in that it offers a truck to rail transfer point for solid waste disposal thereby potentially removing about 150 transfer trailers a day from the local streets and the GW bridge.
City-Wide Recycling Advisory	L- 6. 1	Y	General	Comments noted.
Community Board 6	L- 9. 1	YO	Extension	Both the availability of the DEIS and the date for the public hearing for this project were properly noticed in the Environmental Notice Bulletin and in local papers in accordance with SEQRA regulations. The public comment was open for more than 30 days in accordance with the regulations

NAME/AGENCY	COMMENT CODE	PUBLIC MEETING	SUBJECT	RESPONSE
				and no extension in time is warranted. It should be noted that this FEIS will be noticed accordingly and the NYSDOT will not make a final decision on this project for at least 30 days after the FEIS availability is noticed. There is further opportunity for the public to comment on the FEIS prior to the issuance of findings. It should also be noted that during the planning process for this project, Harlem River Yard Ventures met several times with the local community board, the Bronx delegation of the state legislature, as well as with Bronx City Council representatives. As the project proceeds through the permitting process for specific land uses, further opportunity for public involvement will occur (e.g., state air and water permits from the NYSDEC depending on the specifics of the design).
Community Board 6	L- 9. 2	YO	Water Supply	There is no planned land use which would require 10 million gallons per day of water supply. As detailed in section 2 of the FEIS total proposed water use is approximately 3.17 mgd. The majority of this water demand (3.05 mgd) is for process water for the Ponderosa plant. The remaining demand (0.12mgd) is for employee drinking and sanitary supply. Alternative supplies for the Ponderosa process water are currently being studied by the developer in conjunction with the NYCDEP. The use of treated effluent water from the Wards Island treatment plant is one of the options currently being studied. This option if it is deamed feasible would reduce the demand on the NYC water supply to only 0.12mgd. As to "backup water supply" it would not normally be provided for in the design of such a facility. The determination of the actual connection points to the NYC water supply system where the finally determined demand can be met will be made during final design. The costs of such connections will be the responsibility of the developer.
	L- 9. 3	YO	Wastewater	See FEIS Chapter 4.9.2.
	L- 9. 4	YO	Sludge	See FEIS Chapter 2. The sludges are shipped off site for disposal in permitted facilities or as part of beneficial reuse programs where they are much sought after materials because of their high clay content.
	L- 9. 5	YO	Air Quality	Existing and projected air quality in the project area has been extensively discussed in Chapters 3.7 and 4.7. Stationary source emissions from the project would not be fugitive in nature - most

NAME/AGENCY	COMMENT CODE	PUBLIC MEETING	SUBJECT	RESPONSE
				sources are boiler emissions that would be vented through stacks; the small amount of process emissions from the wastepaper recycling facility would be vented as well. Appropriate air permits would be obtained from the NYCDEP and NYSDEC. Little or no fugitive emissions are expected from motor vehicles since the roads on site would be paved. See FEIS Chapter 2 for an additional discussion of sludge.
Community Board 6	L- 9. 6	YO	Sludge	See FEIS Chapter 2.3.2.
	L- 9. 7	YO	Air Quality	All wastes will be fully covered and contained during loading, storage, and shipping.
	L- 9. 8	YO	Fire Services	Infrastructure development for the site will include the construction of a fire protection system which will include alarm and hydrant systems. In addition all buildings constructed on the site will contain sprinkler systems appropriate to their designed use. The water pressure required for the sprinkler systems to function will be achieved by the inclusion of booster pumps within the fire system if needed.
	L- 9. 9	Y	Sludge	See FEIS Chapter 2.3.2.
	L- 9.10	YO	Wastewater	See FEIS Chapters 2.3.2 and 4.9.2 . It should be noted that discharge to the river is a result of only one of the four options being considered for the discharge of the Ponderosa process water.
Comptroller Holtzman	L- 2. 1	Y	Rail Usage	See FEIS Chapter 1.
	L- 2. 2	Y	Employment	See revised employment figures in FEIS Chapters 2 and 4.3.
	L- 2. 3	Y	Traffic	The project will cut the region's reliance on trucks by reducing truck vehicle miles of travel by 23.7 to 26.8 million miles.
	L- 2. 4	Y	Waste Transfer	The 6,000-tpd waste transfer station has been reduced to 3,000 tpd.
	L- 2. 5	Y	Wastewater	See FEIS Chapter 4.9. The options for wastewater disposal from the Ponderosa facility include non Wards Island disposal options as well as unique opportunities to implement waste water reuse with Wards Island. HRYV is working closely with the NYCDEP to select the most mutually beneficial option. Until the matter is resolved and a discharge permit issued by either the NYCDEP or the NYSDEC the Ponderosa plant cannot proceed.
Con Edison	G- 2. 1	Y	General	Comments noted.
Environmental Defense Fund	G- 5. 1	Y	Economics	The economics of the entire land use plan are not dependent on any one of the particular components described in the DEIS. Rather they are dependent on this mix or an alternative mix of rent paying

NAME/AGENCY	COMMENT CODE	PUBLIC MEETING	SUBJECT	RESPONSE
				tenants which will help subsidize the costs of the intermodal yard and provide a return to the NYSDOT and the developer. As can be seen in the FEIS Chapter 2, two optional land use plans are proposed which meet both the NYSDOT's overall objectives for the yard as well as the economic objectives.
Environmental Defense Fund	G- 5. 2	Y	Rail Usage	See FEIS Chapter 1.
	G- 5. 3	Y	Economics	The NYSDOT is currently sponsoring a study to identify rail users for the Oak Point Link and the Harlem River Yard, the results of which will benefit HRYV in marketing the intermodal yard. Other than this study, there is no commitment by the state to help create demand for the intermodal yard.
	G- 5. 4	Y	Public Health	Study of the use of the entire yard for intermodal use is beyond the scope of this EIS and does not conform to the requirements of the RFP for privatization of the yard.
	G- 5. 5	Y	Miscellaneous	The use of the site for intermodal rail does not conflict with other proposed uses. The other proposed uses on the site were sited around the portion of the yard which is essential to the operation of the intermodal yard, the long straight unloading track areas. Access and support areas for these facilities were designed in concert with rail space and operating needs.
	G- 5. 6	Y	Alternatives	This alternative was not included because the land use plans which the DEIS address were developed based on the NYSDOT's accepted RFP response and subsequent lease to HRYV for the development of an Intermodal facility and Distribution Center. The proposal and lease recognize the need for complementary facilities such as distribution warehouses and a truck to rail waste transfer station to subsidize the intermodal rail facility operation.
	G- 5. 7	Y	Waste Transfer	The actual present waste handling capacity of the Bronx cannot be determined. The handling capacity consists of both a NYCDOS transfer station that handles about 1200 tpd and numerous private transfer stations with widely varying (and unreported) throughputs. The waste handling capacity proposed for the Harlem River Yard is different from most (if not all) of the current waste operations in that it is a truck to rail transfer operation. This would help to remove up to 150 transfer trailers a day from the local street and the GW bridge.
	G- 5. 8	Y	Air Quality	The specific source of the NOx offsets has not

NAME/AGENCY	COMMENT CODE	PUBLIC MEETING	SUBJECT	RESPONSE
				been determined at this time. (In fact, it may be possible through the design of the boiler and air pollution control system to eliminate the need for offsets.) If the on-site generation option is chosen, a Part 201 air permit will be required from the NYSDEC. At that time, the need for and amount and source of offsets will be determined in accordance with Part 231 non-attainment area review regulations.
Environmental Defense Fund	G- 5. 9	Y	Air Quality	There are no air emissions from the facility that would have unique effects of the local community. The principal potential emission from the process boiler is NOx, which is a common criteria pollutant emitted from all sources of fuel combustion (e.g., apartment house boilers) in the city.
	G- 5.10	Y	Air Quality	Under the Con Edison steam purchase option, there would be no process boiler emissions from the paper recycling facility (e.g., the NOx emissions would not occur).
	G- 5.11	Y	Air Quality	The mobile source emissions of hydrocarbons and NOx would have effects on a regional level. However, the effect is positive in that regional vehicle miles of travel would be reduced, thus reducing the amounts of these emissions (and carbon monoxide as well) (see Table 4.7-2). Since carbon monoxide effects from mobile sources are experienced on a very local basis, a dispersion modelling study was done of these effects on local streets around the site. The analysis in presented in Table 4.7-1 indicates that the project would not cause any violations of the one- or eight-hour carbon monxide standards.
	G- 5.12	Y	Water Supply	See FEIS Chapter 2 and Chapter 4.9 for a description of the quantities and a description of the use of grey water. The details of the on-site secondary treatment process, should one be necessary, will be determined at the time of project design. To date we have determined the feasibility and discharge standards for the secondary treatment.The system which is chosen will have to comply with best available control technology standards for the industry as determined by the USEPA and with site specific water quality standards determined by the NYSDEC.
	G- 5.13	Y	Wastewater	See response to comment G-5.12.
	G- 5.14	Y	Sludge	See FEIS Chapter 2 regarding the sludge characteristics and the proposed disposal plans.

NAME/AGENCY	COMMENT CODE	PUBLIC MEETING	SUBJECT	RESPONSE
				At this time a hauler for the sludge has not been selected. Ponderosa is committed however to transport the sludge fromm the site by rail, using a permitted hauler and to find a beneficial reuse for the material or if this is not possible to dispose of it in a permitted facility. Whether this facility is in New York or out of state will depend on the availability of sites and the costs at the time of disposal.
Environmental Defense Fund	G- 5.15	Y	Employment	The Ponderosa Project will have 149 full-time employees. The company is committed to hiring local members of the community, to the greatest extent possible, and includes an emphasis on employing people of color and those within the closest proximity of the facility. One mechanism to promote local job creation is through a partnership with The South Bronx Economic Development Corporation (SOBRO). Ponderosa already has a relationship with this group to assist in the necessary outreach and networking that will attract and enable local citizens to be hired during the employment process. In addition, the company will be utilizing the Bronx Borough President's Office of Overall Economic Development (BOEDC), together with other New York City agencies including the TAP Centers, to help identify capable and qualified employees in the local community. It is Ponderosa's intent to work with SOBRO, the BOEDC, and the TAP Centers to create programs that would help employees qualify for potential jobs at the facility before it goes on-line. Informational seminars will be hosted locally to describe what qualifications are associated with each job category. This will assist potential employees in evaluating their weaknesses and help SOBRO and other organizations identify methods to help them become more qualified. For some jobs, computer training or basic skills may be taught prior to starting the formal interviewing process in order to elevate potential candidate to a level that qualifies for employment. Ponderosa will host tours and programs to stimulate interest in the environment. The company would also like to participate in summer intern programs and other part time job opportunities that are inclusive of the younger generation.

NAME/AGENCY	COMMENT CODE	PUBLIC MEETING	SUBJECT	RESPONSE
				Ponderosa's full time employees will enjoy employment benefits including health care. Because this is a major manufacturing facility that is constrained by size limitations at the proposed site, there are no plans at this time to build a day-care facility on the premises.
Frank, Zelda	P- 1. 1	Y	Miscellaneous	See response to comment L-9.1.
	P- 1. 2	Y	Miscellaneous	The DEIS is not in violation of the 1982 EIS. First, there is no federal funding or approvals required for implementation of this proposed action. The project is, therefore, not subject to NEPA. Second, the proposed action represents a revision of a component of the original project, namely the Harlem River Yard component. The EIS prepared under SEQRA represents the only environmental document necessary under federal or state law. The ISTEA act does not pertain at all to this project.
	P- 1. 3	Y	Rail Usage	See FEIS Chapter 1.
	P- 1. 4	Y	Wastewater	See response to comments L-9.10 and L-2.5.
	P- 1. 5	Y	Coastal Zone	The 1982 FEIS indicated that the proposed TOFC facility at HRY would have little impact on the floodplain and was an appropriate facility for construction because there would be no anticipated loss of life, no living quarters would be constructed, most of the area would remain low, and the flooding was not expected to result in severe economic impacts. These same conclusions hold for the 1993 DEIS. The proposed project would place fill to raise all key building sites above the 100-year flood plain (see Chapter 4.10). Thus, the proposed action would not create major impacts on the floodplain, having little impact on the natural moderation of floods. The development of an intermodal transportation park at the site is consistent with existing rail and industrial uses, existing City land use policy and regulation (as in the Zoning Resolution), and the City's proposed "Comprehensive Waterfront Plan" (Department of City Planning, 1992, at page 111). It does not contradict the Coastal Zone Management Act.
	P- 1. 6	Y	Traffic	The traffic and air quality analyses indicate that traffic impacts can be readily mitigated (Chapter 6) by simple techniques such as modifying signal timing and redirecting turning patterns. The traffic air quality analysis shows that the

NAME/AGENCY	COMMENT CODE	PUBLIC MEETING	SUBJECT	RESPONSE
				project causes no violations of the carbon monoxide standards. The Bronx Center development is several miles away from this site. There would be no impacts at that distance away from the project site.
Galiber, Senator Joseph	S- 1. 1	Y	Rail Usage	See FEIS Chapter 1.
	S- 1. 2	Y	Economics	See FEIS Chapter 4.3.2.
	S- 1. 3	Y	Alternatives	The proposed action in this EIS is the approval of a land use plan for the Harlem River Yard site. The study of alternative sites for the paper recycling facility is therefore not within the scope of this EIS.
Local 1199	G- 12. 1	YO	General	Comments noted.
McHugh & Sherman	G- 8. 1	Y	Economics	See response to S1.2.
	G- 8. 2	Y	Economics	See revised analysis in FEIS Chapter 4.3 and response to comment G-8.10.
	G- 8. 3	Y	Employment	See revised employment figures in FEIS Chapters 2 and 4.3.
	G- 8. 4	Y	Alternatives	The no action alternative for EIS purposes is defined as existing conditions remaining in effect at a project site. It is therefore the yardstick against which one measures the potential impacts of a proposed action. It is also conservative in that, for example, traffic impacts are measured against a future baseline condition that results in the analysis of the maximum traffic increase due to the proposed action.
	G- 8. 5	Y	Economics	See response to S1.2.
	G- 8. 6	Y	Rail Usage	See FEIS Chapter 1.
	G- 8. 7	Y	Air Quality	The EIS discusses extensively compliance with the National and State Ambient Air Quality Standards in Chapter 4.7. On a localized basis, compliance with the carbon monoxide standard is determined through a dispersion modelling study. Effects on regional air quality are addressed by the emissions analysis of carbon monoxide, hydrocarbons, and nitrogen oxides - the proposed project reduces regional VMT, which in turn results in a reduction in emissions of these three pollutants.
	G- 8. 8	Y	Miscellaneous	The decision to construct the Oak Point Link was made in 1982 and the requirements of NEPA and SEQR were satisfied by the 1982 Federal FEIS prepared by the United States Coast Guard and the NYSDOT. While the construction of the Oak Point Link was interrupted, contracts to complete the construction of the link were awarded by the NYSDOT in 1992.

NAME/AGENCY	COMMENT CODE	PUBLIC MEETING	SUBJECT	RESPONSE
				It should be noted that the 1982 FEIS considered both the Oak Point Link and the development of the Harlem River Yard. The land use plan that is presently proposed differs from the plan envisioned in 1982. In addition, there have been changes in the surrounding area. For these reasons, the NYSDOT has required that a new EIS be prepared to examine the current proposal. The present development plan the Oak Point Link have independent utility. The decision to complete the Oak Point Link was not dependent on the implementation of the land use plan. Similarly, the proposed land use development was not predicated on the completion of the link. Moreover, the link and the development of the former rail yard are clearly proceeding along independent schedules.
McHugh & Sherman	G- 8. 9	Y	Alternatives	The proposed action in this EIS is the approval of a land use plan for the Harlem River Yard site. The study of alternative sites for non-rail activities is therefore not within the scope of this EIS.
	G- 8.10	Y	Economics	Harlem River Yard Ventures is not receiving a public subsidy for the project. They have applied for infrastructure grants to the Port Authority of New York and New Jersey and the NYC Economic Development Corporation to offset some of the rail and yard infrastructure costs.
	G- 8.11	Y	Traffic	The traffic volumes cited in the comment actually refer to the composite of all vehicles types, i.e. autos, trucks, and vans; they do not comprise only trucks. In addition, the total vehicle movements are separate for each option and should not be added together. The two new options considered in the FEIS will generate an estimated 2,804 daily heavy truck movements for the warehouse option and 1,985 daily heavy truck movements for the wastepaper recycling option By comparison, the 1982 FEIS for the South Bronx-Oak Point Link projected an increase of 1,500 trucks per day for the full build-out of the Hudson River yard TOFC. The discussion on Reduction in Vehicle Miles of Travel in the FEIS indicates that under each of the considered options, the Intermodal Rail Terminal will eliminate approximately 520 daily heavy truck trips as follows: 35,000 trucks/yr (Albany) x 2 (for round trip) x 1 yr/250 days = 280 trucks/day

NAME/AGENCY	COMMENT CODE	PUBLIC MEETING	SUBJECT	RESPONSE
				30,000 trucks/yr (Hunts Point Market) x 2 (rt) x 1 yr/250 days = 240 trucks/day Total = 520 trucks/day In addition, the Refrigerated Dry Warehouse will eliminate another 18 trucks/day from the regional highway network. In a regional context, therefore, truck traffic will be reduced by a total of 538 daily heavy truck trips under each of the options. It is expected that truck traffic generated by the other uses in each option will be relocations of existing truck movements in the region, and result in no net change in regional truck traffic. The traffic analysis indicates that the composite traffic (autos, trucks and vans) generated by each of the options would be spread out over 11 major intersections in the immediate vicinity of the site and critical peak hour traffic impacts could be expected at one location, the intersection of Bruckner Boulevard and St. Anns Avenue. The proposed mitigative measures involving signal timing adjustments and redirected intersection turning patterns will readily ameliorate the impacts of additional traffic at this location which already exhibits capacity deficiencies under existing conditions. Additional mitigative measures on Bruckner Boulevard will help to reduce deficiencies which will begin under No Action conditions in the AM peak hour at Lincoln and Alexander Avenues. The regional highway network (i.e. Major Deegan Expressway, Triborough Bridge) has recognized existing peak period deficiencies that are not related to the proposed action. Addressing such deficiencies is beyond the scope of analysis for the proposed action.
McHugh & Sherman	G- 8.12	Y	Traffic	See response to comment G-8.11.
	G- 8.13	Y	Air Quality	The project does not result in a "massive increase in particulate emissions" since (1) the truck trips are not new trips in the region and (2) the project, in fact, results in a reduction in regional VMT that would, in turn, reduce regional particulate emissions. Furthermore, the project will reduce truck trips on congested Manhattan streets, particularly with respect to flower

NAME/AGENCY	COMMENT CODE	PUBLIC MEETING	SUBJECT	RESPONSE
				market truck trips. This will reduce particulate emissions in Manhattan, which may be declared a PM10 non-attainment area by the USEPA. A quantitative analysis of the reduction in truck particulate emissions would be inappropriate at this time since there is little reliable data on such emissions from trucks.
McHugh & Sherman	G- 8.14	Y	Wastewater	See response to comment L-2.5.
	G- 8.15	Y	Miscellaneous	See FEIS Chapter 1.
	G- 8.16	Y	Economics	See FEIS Chapter 1.
	G- 8.17	Y	Miscellaneous	Since development of Harlem River Yard will involve no federal funding, the provisions of the Intermodal Surface Transportation Efficiency Act of 1991 are not applicable to this project. Nonetheless, Harlem River Yards will provide a needed first step toward developing intermodal facilities in the environmentally restrictive New York City region.
	G- 8.18	Y	Miscellaneous	See FEIS Chapter 2 for the operational plans of the 28-acre yard.
NYC Department of Sanitation	L- 4. 1	Y	General	Comments noted.
NYC Dept of City Planning	L- 3. 1	N	Open Space	See FEIS Chapter 4.4.2.
	L- 3. 2	N	Open Space	The Daily News option has been dropped from further consideration. Any reference to an esplanade/park was a drafting error. This area along the waterfront will serve as a vegetated buffer zone along the water.
NYC Dept of Env Protection	L- 7. 1	N	Miscellaneous	The text has been modified.
	L- 7. 2	N	Miscellaneous	The graphic has been modified.
	L- 7. 3	N	Air Quality	The air quality analysis was done on a link by link basis. Computer printouts will be provided to the department.
	L- 7. 4	N	Air Quality	See revised air quality analysis for the modified proposed action. Printouts will be provided to the department.
	L- 7. 5	N	Air Quality	See response to comment L-7.4.
	L- 7. 6	N	Air Quality	Thermal conditions are outlined in the printouts provided to the department.
	L- 7. 7	N	Air Quality	Backup data will be provided to the department.
	L- 7. 8	N	Air Quality	See response to comment G-8.13.
	L- 7. 9	N	Air Quality	The background concentration has been modified to 7.3 ppm, the latest value calculated by DEP.
	L- 7.10	N	Air Quality	There are currently two options for provision of process steam to the paper recycling facility: Con Edison vs. on-site generation. If the Con Edison option is selected, there will be no

NAME/AGENCY	COMMENT CODE	PUBLIC MEETING	SUBJECT	RESPONSE
				on-site process boiler emissions. If on-site generation is selected, a Part 201 permit will be required from the NYSDEC. Dispersion modelling, if required, would be done at that time.
NYC Dept of Env Protection	L- 7.11	N	Air Quality	Given the options for the provision of process steam, no stationary source modelling is proposed at this time.
	L- 7.12	N	Traffic	The off-peak period was identified from counts of existing intersection traffic as occurring between the hours of 11AM and 2PM, meaning that the highest hourly volumes between the AM and PM peaks occur during those hours. However, all traffic analyses were completed for the one peak-hour during each analysis period considered: AM Peak, PM Off-Peak, and PM Peak.
	L- 7.13	N	Noise	FHWA regulations call for the use of the Leq or L10 noise statistic, not both. Furthermore, the Leq is the preferred noise statistic used by NYSDOT. The Leq noise statistic had to be used in order to add together noise from vehicles, trains, and stationary sources. In general, the L10 values would be roughly three decibels higher than the Leq values shown in the document.
	L- 7.14	N	Noise	See analysis in Chapter 4.8 and Appendix D for the revised proposed action, which utilizes the passenger car equivalents methodology.
	L- 7.15	N	Noise	See additional noise analyses in FEIS Chapter 4.8.
	L- 7.16	N	Noise	No noise mitigation measures are proposed for the reasons outlined in the noise impact analyses in Chapters 4.8 and 6.4.
	L- 7.17	N	Wastewater	Comments noted.
	L- 7.18	N	Alternatives	The proposed action in this EIS is the approval of a land use plan for the Harlem River Yard site. The study of alternative sites for the flower market and paper recycling plant is therefore not within the scope of this EIS.
NYC Dept of Transportation	L- 8. 1	N	Traffic	The Daily News Plant option has been eliminated. See revised Chapter 2 for discussion of new land use plan options.
	L- 8. 2	N	Traffic	See FEIS Chapter 3.6.
	L- 8. 3	N	Traffic	The Bx33 discussion has been added.
	L- 8. 4	N	Traffic	This problem was unique to the NYCDOT document.
	L- 8. 5	N	Traffic	The bulk transfer/team track facilities would generate only four truck trips per hour and have been included in the analysis.
	L- 8. 6	N	Traffic	Two figures have been provided.
	L- 8. 7	N	Traffic	See revised text in FEIS Chapter 4.6.
	L- 8. 8	N	Traffic	See revised discussion in FEIS Chapter 4.6.

NAME/AGENCY	COMMENT CODE	PUBLIC MEETING	SUBJECT	RESPONSE
NYC Dept of Transportation	L- 8. 9	N	Traffic	See revised text in FEIS Chapter 4.13.
	L- 8.10	N	Traffic	Comments noted.
	L- 8.11	N	Traffic	See revised tables in FEIS.
	L- 8.12	N	Traffic	Comments noted.
NYC Economic Development Corp	L- 5. 1	Y	General	Comments noted.
NYS Department of State	S- 2. 1	N	Rail Usage	See FEIS Chapter 2.
	S- 2. 2	N	Coastal Zone	The proposed land use plans both provide for the potential future use of marine to rail transfer at the existing barge dock area. The planned road network and adjacent land uses to the barge dock area provide for ready access to both the main intermodal yard and the bulk transfer /team track. The current plans do not call for the use of the barge dock area because of its current condition and the lack of an identified user or market. Future potential users of this area will be pursued and physical opportunities and constraints considered on a case specific bases.
	S- 2. 3	N	Open Space	See FEIS Chapter 4.4.2.
	S- 2. 4	N	Views	See FEIS Chapter 4.2. Provision of a landscaping or planting plan is premature at this time, but will be developed as the project proceeds into more detailed design.
	S- 2. 5	N	Stormwater	The infrastructure design and construction for the site will include improvements to the existing storm water management system on the site. These will include improved channels, catch basins, outfalls and oil water separators where needed.
	S- 2. 6	N	Ecology	See revised discussion in FEIS Chapters 3.10 and 4.10.
	S- 2. 7	N	Stormwater	As discussed in comment S-2.5 a new stormwater management system is included in the infrastructure improvements for the yard. The remediation plan for the yard provides for covering all contaminated soils with either clean fill, buildings or pavement. This covering of the site will effectively prevent contamination of surrounding waterways from existing on-site contamination.
	S- 2. 8	N	Erosion	See FEIS Chapters 3.9 and 4.9 and response to comment S-2.5.
NYS Office of Parks, Rec...	S- 4. 1	N	Cultural Res.	See FEIS Chapter 4.5.
Port Authority of NY & NJ	S- 3. 1	N	General	Comments noted.
Prof Network for Social Resp	G- 1. 1	Y	Rail Usage	See FEIS Chapter 1.
Recycling Corp of America	G- 3. 1	Y	General	Comments noted.
Regional Plan Association	G- 7. 1	N	Rail Usage	See FEIS Chapter 2 for details on the proposed operating plan for the yard. This plan call for two trains per weekday to be handled at the yard.

NAME/AGENCY	COMMENT CODE	PUBLIC MEETING	SUBJECT	RESPONSE
				On going discussions with Conrail indicate that trains can be delivered to the yard within a schedule that will allow for adequate time to load and unload a train. Makeup of outgoing and cutting of incoming trains for positioning within the yard will require the use of offsite track either at Oak Point yard or between Oak Point and the site.
Regional Plan Association	G- 7. 2	N	Rail Usage	See FEIS Chapter 2.
	G- 7. 3	N	Rail Usage	See FEIS Chapter 2. Comments noted.
	G- 7. 4	N	Traffic	The traffic projections for the flower market were developed from survey data provided by three flower dealers in Manhattan's Flower District. The results of the survey were used to project future trips for the flower market (as discussed in the FEIS) by vehicle type and total building square footage. Regular business hours for the flower dealers are between 5AM and 2PM, and their peak hours of trip generation occur outside the AM and PM peak hours. To provide a conservative assessment of the flower market's impact on AM peak hour traffic conditions, the Market's truck and van trips which occur before 8AM were assigned to the AM peak hours. The flower market's actual impacts on traffic conditions are expected to be less than indicated by the results of the analysis. It should also be noted that the wholesale flower business does not easily lend itself to a transfer from truck and van movements to rail car movements. Typically, the cargo shipments are small and arrive in the region by airline to minimize perishability. In addition, it is expected that existing "walk- in" trips made in the Manhattan Flower District will not be transferred to the Flower Market as vehicle trips. Typically, "walk-in" trips are made between wholesalers, or involve retail sales to customers that live or work in or near the district. Such trips will likely remain in the Manhattan district and be transferred to other vendors.
	G- 7. 5	N	Waste Transfer	An operational plan has not been developed for the rail transfer facility because no operator has been selected. HRYV is committed to making the transfer station a truck to rail transfer and is only entertaining proposals from operators willing to operate such a facility.
	G- 7. 6	N	Miscellaneous	See FEIS Chapter 2.
Riverdale Com for Clean Air	G- 4. 1	Y	Public Health	The types of air pollutants from the Harlem River Yard facilities are those relating to common boiler emissions - CO, VOC, PM, SO2, and NOx.

NAME/AGENCY	COMMENT CODE	PUBLIC MEETING	SUBJECT	RESPONSE
				These are not toxic emissions and are emitted from thousands of sources around the city (e.g., from every apartment house boiler). Process VOC emissions are minor and are emitted only from the Ponderosa facility. A Part 201 permit will be applied for in the future for this emission source. Chlorine is not being used in the wastepaper recycling process.
Riverdale Com for Clean Air	G- 4.2	Y	Sludge	See FEIS Chapter 2.
	G- 4.3	Y	Rail Usage	See FEIS Chapter 1.
	G- 4.4	Y	Economics	The DEIS does present a discussion and assessment of anticipated City and State tax revenues in Section 4.3. Revenue sources estimated are from personal and corporate income taxes and sales taxes. Additional potential tax gains are noted, but not estimated, from a variety of sources including increased real property tax assessments. Lease revenues to the State are also noted. The amount of these payments is as yet undetermined because they are to be a percentage of gross revenues at the facility and, thus, will be a function of the profitability of the project. The NYSDOT does not intend to be involved in the financing of the Intermodal Park, other than indirectly in the improvements to the Oak Point Link presently underway (with benefits distributed to other rail users at Oak Point Yard, Hunts Point Market, and the LIRR).
	G- 4.5	Y	Waste Stream	See FEIS Chapter 2.
	G- 4.6	Y	Sludge	See FEIS Chapter 2. In addition it should be noted that there is no relationship between the proposed Albany facility and the HRY Ponderosa Facility. Ponderosa is committed to beneficially reusing the sludges from the paper facility to the maximum extent practicable.
	G- 4.7	Y	Wastewater	See response to comments L-9.2 and L-4.9.
	G- 4.8	Y	Energy	See FEIS Chapter 2. As described in the FEIS, Ponderosa is still working with Con Ed to provide steam for their plant and aleviate the need for dedicated on-site boilers. Until the need is determined and the facility is actually designed, on-site boiler characteristics cannot be determined. Regarding electrical power, Con Ed's local office has been contacted and their ability to supply electrical power requirements has been confirmed. Actual interconnect points and details will be worked out during final design. The capital costs

NAME/AGENCY	COMMENT CODE	PUBLIC MEETING	SUBJECT	RESPONSE
				for all utilities are discussed in the DEIS and FEIS. They will be the responsibility of the developer.
Riverdale Com for Clean Air	G- 4. 9	Y	Miscellaneous	The proposed land use plan does not include an on-site co-generation facility or an on-site incinerator. The proposed boiler plant is for generation of process steam only for the wastepaper recycling facility. If Con Ed steam is used, there will be no on-site boiler emissions.
	G- 4.10	Y	Water Supply	See response to comment L-9.2. No mention of the Catskill Aqueduct or Water Tunnel No. 1 is made in the DEIS.
	G- 4.11	Y	Fire Services	See response to comment L-9.8.
	G- 4.12	Y	Sludge	See response to comment L-9.4.
	G- 4.13	Y	Economics	See FEIS Chapter 2 and response to comment G-8.10.
	G- 4.14	Y	Miscellaneous	There are no federal actions (permits, subsidies, grants, etc.) required as part of development of the Harlem River Yard. Therefore, NEPA does not apply to this project.
Riverdale Com for Clean Air2	G- 6. 1	Y	Rail Usage	See FEIS Chapter 1.
	G- 6. 2	Y	Public Health	See response to comment G-4.1.
	G- 6. 3	Y	Extension	See response to comment L-9.1.
Sierra Club	G- 11. 1	YO	Rail Usage	See FEIS Chapter 1.
	G- 11. 2	YO	Waste Transfer	See FEIS Chapter 2. The waste transfer station has been located as the western most building within the yard to separate it from the other industrial facilities on the site.
So Bronx Coal for Clean Air	G- 9. 1	Y	Rail Usage	See FEIS Chapter 1.
	G- 9. 2	Y	Water Supply	See response to comment L-9.2.
	G- 9. 3	Y	Open Space	The 1982 EIS did not provide for a four-acre walk.

REFERENCES

American Trucking Trends, 1991-92 Edition.

Andrews and Clark, Inc., South Bronx - Oak Point Link Environmental Assessment: Technical Support Document No. 10 - Railroad Operations Report, New York State Department of Transportation, September 1981.

Association of American Railroads, Railroad Ten-Year Trends: 1979-1988.

Bolt, Beranek, and Neuman, Inc., Fundamentals and Abatement of Highway Traffic Noise, Report No. PB-222-703. Prepared for the Federal Highway Administration, June 1973.

ENO Transportation Foundation, Inc., Transportation in America, 1992 Edition.

Highway Capacity Manual, 1985.

New York Times, July 30, 1993, p. A16.

NYC Department of City Planning, 1993a, Industry Trends Technical Report.

NYC Department of City Planning, 1993b, Transportation Technical Report.

NYC Department of City Planning, NYC Comprehensive Waterfront Plan: Reclaiming the City's Edge, 1992.

NYC Department of City Planning, Waterfront Revitalization: NYC Waterfront Revitalization Program, 1982.

NYC Department of City Planning, Community District Needs Statements, FY 1993, for Bronx and Manhattan.

NYC Department of City Planning, 1990 Census Tapes STF1A, STF3A, and PLF 94-171.

NYC Department of City Planning, New York City Zoning Resolution.

NYC Department of City Planning, Citywide Industry Study, January 1993.

NYC Department of Environmental Protection, Report T.S. #12, Fuel Factors for New York City, September 1975.

NYC Department of Environmental Protection, Future Background CO Levels, memorandum, March 31, 1986.

NYC Office of Environmental Coordination, EAS Guidebook, Draft, 1992.

NYS Department of Labor, Covered Employment, computer files by zipcode, for 1986 and 1991.

NYS Department of Transportation, Manhattan Freight Forwarders/Manhattan TOFC Terminal, 1980.

NYS Department of Transportation, New York City Freight Mobility, September 1990.

Office of Pesticides and Toxic Substances. Guidance for Controlling Asbestos-Containing Materials in Buildings. U.S. Environmental Protection Agency. June 1985.

Patterson, W.N., R.A. Ely, and S.M. Sanson, "Regulation of Construction Activity Noise", Bolt Beranek and Neuman, Inc., Report 2887, for the Environmental Protection Agency, Washington, D.C., November 1974.

Temple, Barker & Sloane, Inc., Harlem River Yard Privatization Study, New York State Department of Transportation, February 1989.

US Bureau of Labor Statistics, Survey of Earnings and Employment in New York City, 1991.

US Department of Commerce, Census of Population and Housing, 1980.

US Environmental Protection Agency, Workbook of Atmospheric Dispersion Estimates, 1970.

US Environmental Protection Agency, AP-42, Compilation of Emission Factors, 1982.