
Hunts Point Cooperative Market Redevelopment Plan

Final Engineering Report Site A Operable Unit 1

Bronx, NY



Prepared by:

Lawler, Matusky & Skelly Engineers LLP

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781-037

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EXECUTIVE SUMMARY

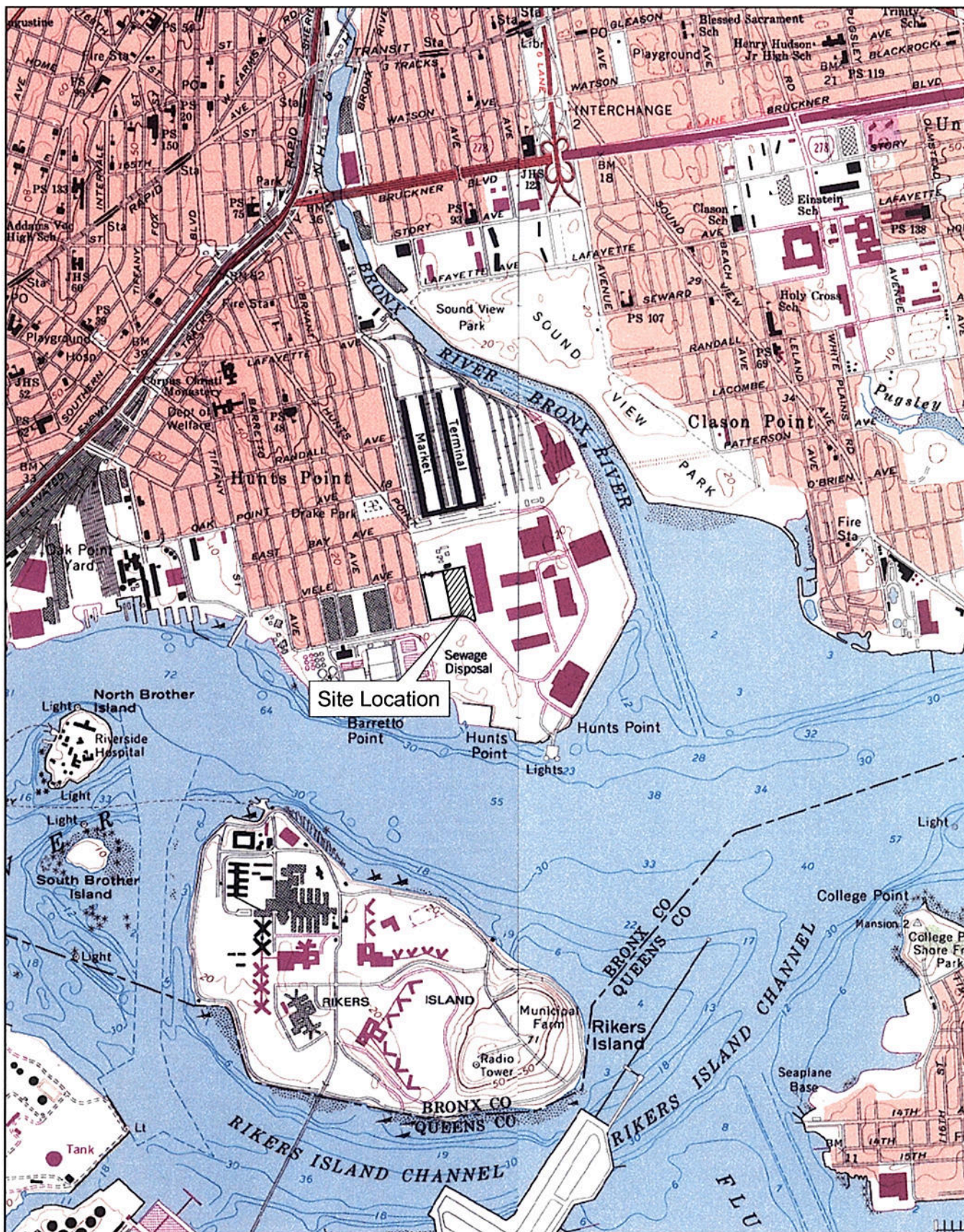
Lawler, Matusky & Skelly Engineers LLP (LMS) is submitting under the provisions and requirements of the New York State Department of Environmental Conservation (NYSDEC) Voluntary Cleanup Agreement (VCA) with the City of New York the Final Engineering Report for the parcel identified under contract to New York City Economic Development Corporation (NYCEDC) as Site A Operable Unit 1 (OU1) located in the Hunts Point Cooperative Market (Figure 1). The Scope of Work (SOW) for the investigation (dated September 1999), Investigation Report (dated January 2000), and Response Plan (dated July 2000), and Draft Engineering Report (dated March 2002) were submitted to NYSDEC, New York State Department of Health (NYSDOH), and New York City Department of Environmental Protection (NYCDEP) for review and approval.

This Final Engineering report is being presented as documentation that the work recommended and approved in the Response Plan has been performed as it was proposed and, in cases where modifications were made to the Plan, that they are described with recommendations.

OU-1 covers the eastern portion of Site A (Figure 1). The Site (approximately 7.65 acres) is bounded on the north by Viele Avenue, the east by a line that runs through the Meat Market, the south by Food Center Drive, and the west by Operable Unit 2 of Site A (SOU). The July 2000 Response Plan included recommendations for containing and preventing both exposure of soil to people working on the Site and exposure of the soil to continued precipitation. The remedy presented in the draft Engineering Report (March 2002) consisted of an asphalt parking lot/cap across the site as shown on the Aerial Photograph presented as Figure 2, where the parking area has been completed on the southern portion of the site and the limits of the paved area over the northern part of the site are indicated by the site plan overlay.

The remedy selection was based on a review of, and comparison to, the following criteria stated in 6 NYCRR Part 375-1.10 (c):

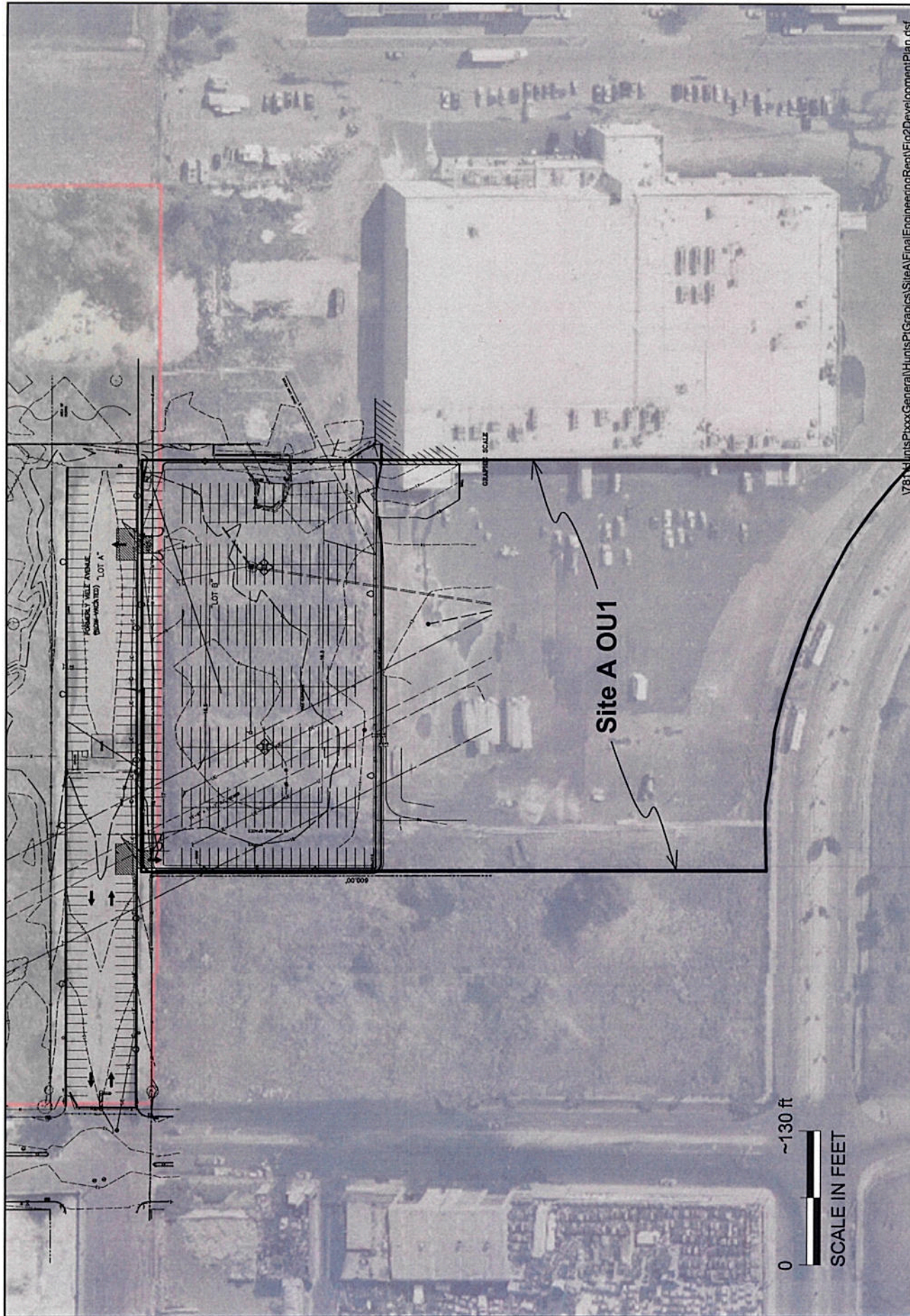
- A) Standards, criteria, and guidance
- B) Overall protectiveness of public health and the environment
- C) Short-term effectiveness
- D) Long-term effectiveness
- E) Reduction of toxicity, mobility, and volume with treatment
- F) Feasibility



0 2000 ft
~SCALE: 2000' = 1"

Map source: USGS 7.5 minute quadrangle series,
Central Park, NY-NJ, 1966, photorevised 1988.

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PROPOSED REMEDY

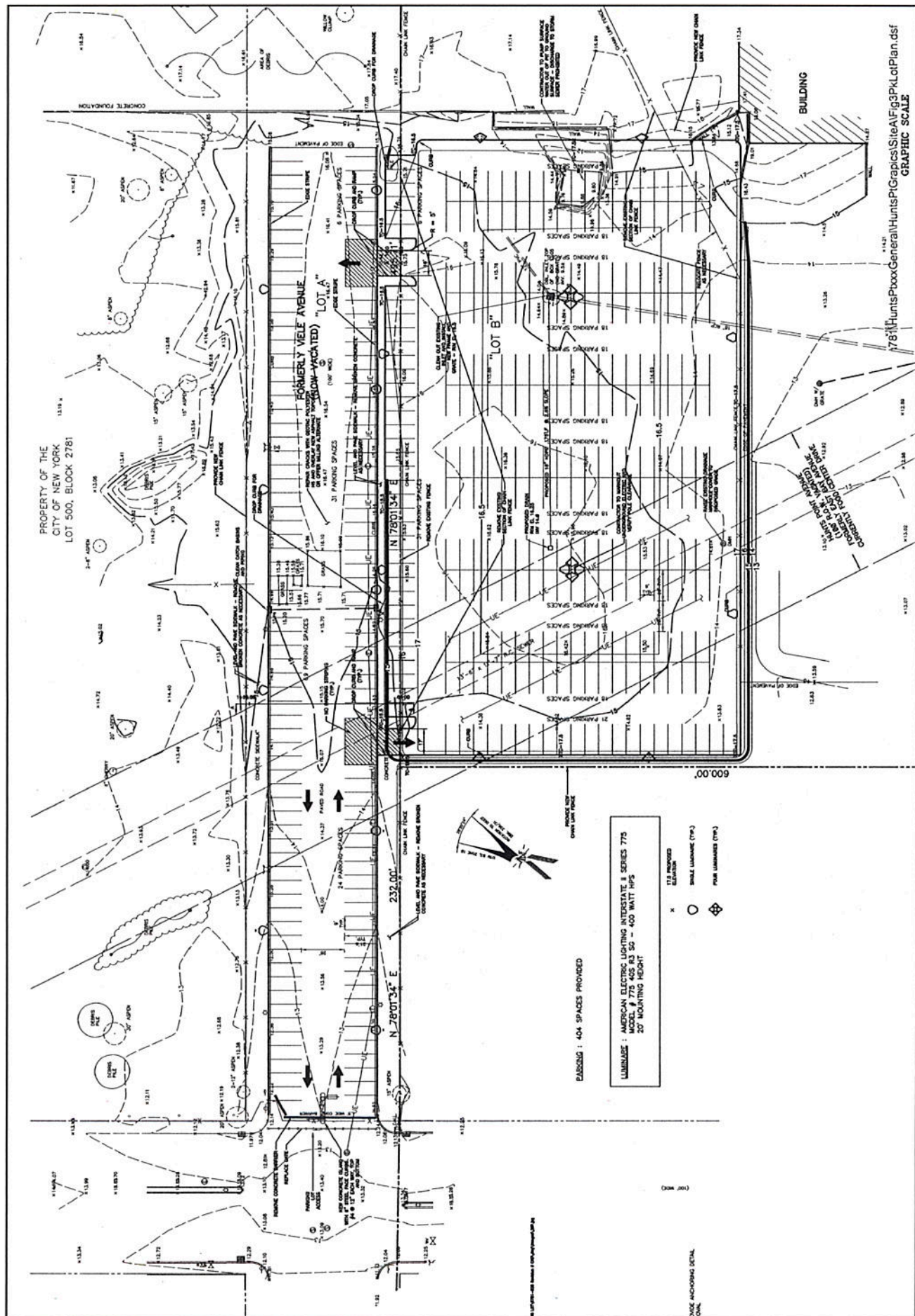
The Investigation Report and Response Plan provided information that indicated a layer of soil and fill that extended to a depth of approximately 10 ft below grade was present across the Site. This layer consisted of varying amounts of sooty coal, ash, slag, mixed unclassified garbage, glass, wood, and soil. A clay layer was typically encountered below the fill across the majority of the Site. The fill material was fairly consistent across the Site, which provided a good opportunity for the implementation of a Development Plan. The initial Development Plan for the entire Operable Unit 1 consisted of a singular paved parking area that covered nearly the entire site. A 15-20ft wide grass strip was located at the extreme southern border along the fence and adjacent to Food Center Drive. This parking lot was initially proposed to service a new meat packing facility that was also proposed to be constructed (the construction of the building and parking was completed in 2002).

The initial Development Plan was modified only to split the parking lot into two pieces. The southern (approximate two-thirds) was started (and completed as initially proposed) to service the Meat Market. The northern third remained undeveloped until plans were completed in 2004 to construct the remaining parking area to function as the employee parking area lot for the newly constructed Fulton Fish Market (located on what is known as Site B). Both parking lots cover nearly the entire Fish Market piece of the Site with a minimum 6 in. asphalt and gravel layer. One unpaved grass area is located adjacent to Food Center Drive, just inside of the Site A OU 1 fence. This unpaved area begins behind an 8 inch high curb and was brought up an elevation to the top of the curb with imported fill material. The area adjacent to the roadway and Food Center Drive sidewalk was historically slightly lower than the adjacent road and the elevation was raised with imported fill to the curb height. No as-built drawings were available to identify the thickness of this fill layer, however test holes were excavated in the fill to a depth of 16 in. and historic site fill was not encountered. The final grading and planting material is composed of light colored rounded gravel, sand, gravel, loam and processed demolition material which is very dissimilar from historic site fill. The grass area is level and is being mowed.

The new northern lot was expanded to include the mapped dead-end street known as Viele Avenue. Figure 2 shows an aerial view of the completed meat market and parking area for the southern two-thirds of Site A OU-1 and an overlay of the parking lot design drawing on the northern one-third, both are now completed. Figure 3 shows the engineering design layout for the northern parking lot that covers both Site A OU-1 and Viele Avenue.

This report will reference the parking lot now constructed on all of A OU-1 as two distinct pieces: 1) the northern Fish Market parking lot and 2) being the southern Meat Market parking lot.

Two monitoring wells installed during the investigation were decommissioned during the initial phase of the construction. Each well was over drilled and the borehole grouted to the surface.



Parking Lot Plan

The Investigative and Response Plan portions of this project were completed in a relatively short period of time (the investigation began in July 1999 and the Response Plan was approved by NYSDEC in June 2000).

MODIFICATIONS TO THE PROPOSED WORK

During the performance of the project, several issues were identified that required modifications to the proposed remedy. These are believed to be minor changes that do not in any way affect the approved remedy or its effectiveness. This Section describes those items that LMS considers to be modifications; it is followed by a recommendation Section for additional proposed actions.

Modification 1: Full-Time On-site Presence

The Site grading on the Meat Market parking lot was performed prior to completing the supplemental portion of the investigation (monitoring well installation). During the time that LMS was preparing the draft Response Plan (February 2000), the Meat Market Site was under initial construction. This included preparation of the areas adjacent (east) to and just inside of the boundary of the Site A OU-1 Meat Market parking lot for footings, grade beams and foundations, as well as laying out the initial courses and elevations for the parking lot. The remedy (consisting only of grading and capping) discussed immediately after the Investigation Report was submitted to NYSDEC and approved. Since no waste was found that required specific removal and off site disposal (other than excess material removal for construction), actual parking lot construction began immediately. LMS received Response Plan approval from NYSDEC on June 22, 2000, during which time general site work was underway. On November 7, 2000, LMS received from NYSDEC the documentation that the public comment period had expired and that no issues needed to be addressed prior to completion of the cap. In that correspondence, NYSDEC stated that the Engineering Report would require a certification with specific language that indicated the Response Plan and all construction activities were personally witnessed by the Engineer or someone under his/her direct supervision.

NYSDEC was immediately notified by LMS that, since there were no specific "remedial" steps being undertaken other than the construction itself, there was not a full-time on-site presence. LMS made a number of visits to the site during the construction and met with the contractor and his subcontractors to insure that the outcome of the remedy was as effective as it was proposed. This Engineering Report is signed and stamped by a professional engineer; however, the language included in the November 7, 2000, letter is modified.

Modification 2: Open Areas and Additional Material

Open areas

The Response Plan indicated that several small areas across Site A would have landscaping and would contain 1 ft of clean material, as defined in the Plan. The final constructed parking lot does not include any open landscaped areas within the

parking lot and, therefore, no cover material was necessary. Figure 4 shows the site prior to remediation as a "pre-developed" site. Figure 5 shows a late 2001 aerial view of the parking area west of the meat market building. This parking lot covers (as previously described) the southern two thirds of Site A OU-1.

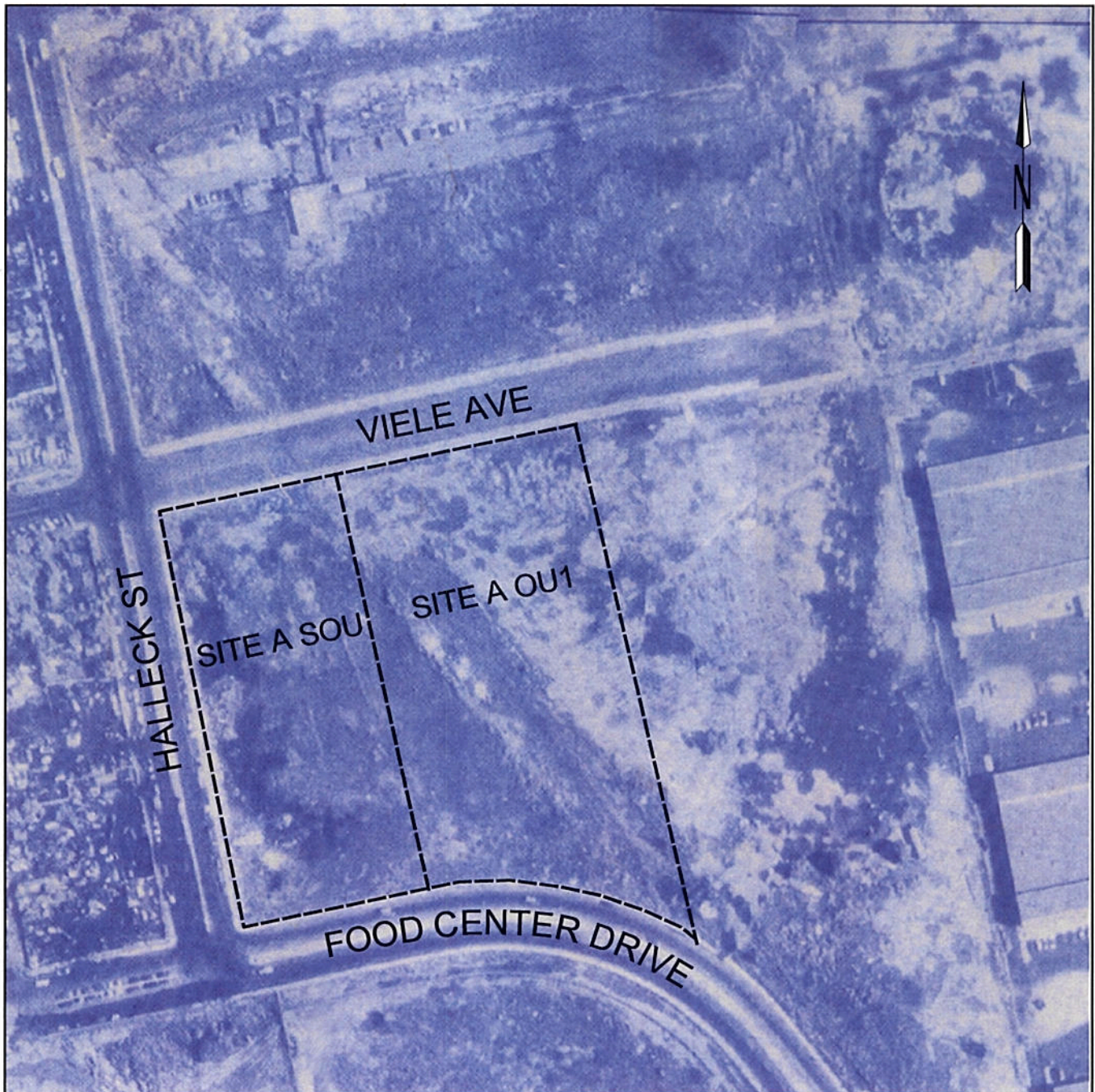
Additional Material

The proposed development drawing submitted (Figure 3) indicated that the paved parking lot would extend to the northern extent of the site, adjacent to and including Viele Avenue. The northernmost portion of Site A OU-1 was not developed during the building or first phase of parking lot construction and was used as the staging location for excess fill material. The aerial photograph also shows a disturbed and partially vegetated zone approximately 200 ft wide at the northernmost end of Site A OU- that extends from the edge of the Meat Market parking lot to Viele Avenue and runs the width of the site. This area was paved as a second phase of parking lot construction.

During the meat market construction planning, LMS met with the contractor and discussed the final grades for the site and the cut and fill requirements. It was determined at that time that the Site would require importation of material and that there would be very little additional material generated during construction. However, during the actual grading and excavation of building structures and parking lot/loading dock ramps, it was determined that much of this material did not meet the structural requirements for compaction. A November 6, 2000, letter from the architect indicated the composition of "the material appears to be a mixture of top soil, inorganic construction debris, rocks, and sandy clay soil. The material seems suitable for non structural fill." As the ability to use this material only for nonstructural purposes became more apparent, it was necessary to locate a secure area on the Site to hold the excess material. The area at the northern end of the site (Fish Market parking lot) beyond the shadow of the building footprint was chosen for this. A chain link fence with a locking gate was later constructed around the perimeter to prevent additional material from being added and to prevent unauthorized removal of material.

Although a reference in the Response Plan indicates excess material would be placed on a plastic liner, it was decided based on several factors that it would not be in the best interest of workers and general practice to do so. Those factors included the following:

- Work was being performed during the outbreak of West Nile virus in and around NYC, and a plastic liner on the ground would cause an accumulation of standing water; which would be a potential breeding ground for mosquitoes.
- Since the project did extend into the winter months, the contractors might have a slip problem where snow covered the exposed liner. Photo 1





Site A - 2001 Aerial Photo

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shows the storage area in the winter just prior to the installation of the fence.

- The panoramic photographs show that there was a large "L"-shaped berm of soil that was generated from material under the basic building footprint located on the parcel adjacent to Site A OU1.
- The existing ground surface of Site A OU1 was exposed fill of virtually the same composition as that of the material in the berm. Photo 2 shows the general composition of the material in the "L"-shaped berm as the same type of fill encountered in other portions of the area where investigations were performed.

During the course of the meat market construction, LMS periodically inspected the staging area and photographically documented the conditions to determine if the procedures and requirements that were discussed with the contractors were being performed. Photo 3 (looking south) shows the fence line between Site A OU1 and the Meat Market prior to the Site Investigation. The building footprint is located completely off the Site A OU 1 (left side of picture) side of this fence. Photo 4 was taken from within the material storage area and shows the continuous chain link fence that was installed around the staged excess material. The staging area was also surveyed by the contractor on two separate occasions using a NYS licensed surveyor to provide an ongoing documentation of the amount of material present. This was to insure that there was no additional material being placed.

The survey information from the material was supplied on two separate occasions. The first was completed and information supplied in November 2000. An initial survey indicated that the berm contained just over 4100 cubic yards of fill. A subsequent survey confirmed that the "L"-shaped berm area contained 3740 cubic yards (Figure 6). The difference was determined to be the grade reference points on the pile. The more open area that contained smaller piles was also surveyed and found to contain approximately 3100 cubic yards (Figure 6). The total amount of stockpiled material was estimated to be just under 7000 cubic yards.

RECOMMENDATIONS

This Final Engineering Report provides written confirmation that the actions recommended in the Response Plan were completed for all of Site A OU 1. It also indicates any modifications to work that took place during the two separate phases of parking lot construction. As the recommendations have now been completed, NYCEDC requests NYSDEC and NYSDOH approval for a No Further Action (NFA) sign-off.



Photo 1. Panoramic view of staging area in winter 2000.



Photo 2. Photo showing stockpile composition.



Photo 3. Preinvestigation photo of east end of Site A. (looking south)



Photo 4. Interior photo of east end of Site A.



LEGEND

- Chain link fence
- L-shaped berm
- Remaining stockpiled material

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PROPOSED REMEDY

The Investigation Report and Response Plan provided information that indicated a layer of soil and fill that extended to a depth of approximately 10 ft below grade was present across the Site. This layer consisted of varying amounts of sooty coal, ash, slag, mixed unclassified garbage, glass, wood, and soil. A clay layer was typically encountered below the fill across the majority of the Site. The fill material was fairly consistent across the Site, which provided a good opportunity for the implementation of a Development Plan. The initial Development Plan for the entire Operable Unit 1 to consist of a paved parking area that covered nearly the entire site. A 15-20ft wide grass strip was located at the extreme southern border along the fence and adjacent to Food Center Drive. This parking lot was initially proposed to service a new meat packing facility that was also proposed to be constructed (the construction of the adjacent Meat Market building and parking was completed in 2002).

The initial Development Plan was modified only to split the parking lot into two pieces. The southern (approximate two-thirds) was started (and completed as initially proposed) to service the meat market. The northern third remained undeveloped until plans were completed in 2004 to construct the remaining parking area to function as the employee parking area lot for the newly constructed Fulton Fish Market (located south on what is known as Site B). Both parking lots (Meat and Fish Markets) cover nearly the entire area within Site A with a minimum 6 in. asphalt and gravel layer. The singular unpaved grass area is located along the southern perimeter, adjacent to Food Center Drive and just inside of the Site A OU-1 fence. This unpaved area begins behind an 8 inch high curb. This area was historically lower than the adjacent road and has been built up using imported fill material. No as-built drawings were available to identify the thickness of this fill layer, however test holes were excavated in the fill to a depth of 16 in. and historic site fill was not encountered. The final grading and planting material is composed of light colored rounded gravel, sand, gravel, loam and processed demolition material which is very dissimilar from historic site fill. The grass area is level and is maintained as a mowed area.

Modification 1: Full-Time On-site Presence

LMS is submitting the Final Report with a Professional Engineers seal with the following clarification regarding the November 7 2000 NYSDEC letter; this report was prepared for the southern meat market portion as follows: numerous site visits, attendance of construction related meetings and correspondence with the construction team were conducted. LMS does believe that based on the initial investigatory work, sampling, and information from the construction team that the Response Plan has been carried out. We also believe that the remedy which consisted of a paved parking lot and narrow area covered with imported fill to essentially "cap" the site is and will continue to be an effective remedy for this site.

Regarding the northern fish market parking lot, LMS was present on-site during grading, utility installation and final paving to witness that handling, movement of material and construction were completed to "cap" the site and complete the approved remedy.

Modification 2: Open Areas and Additional Material

Open Area

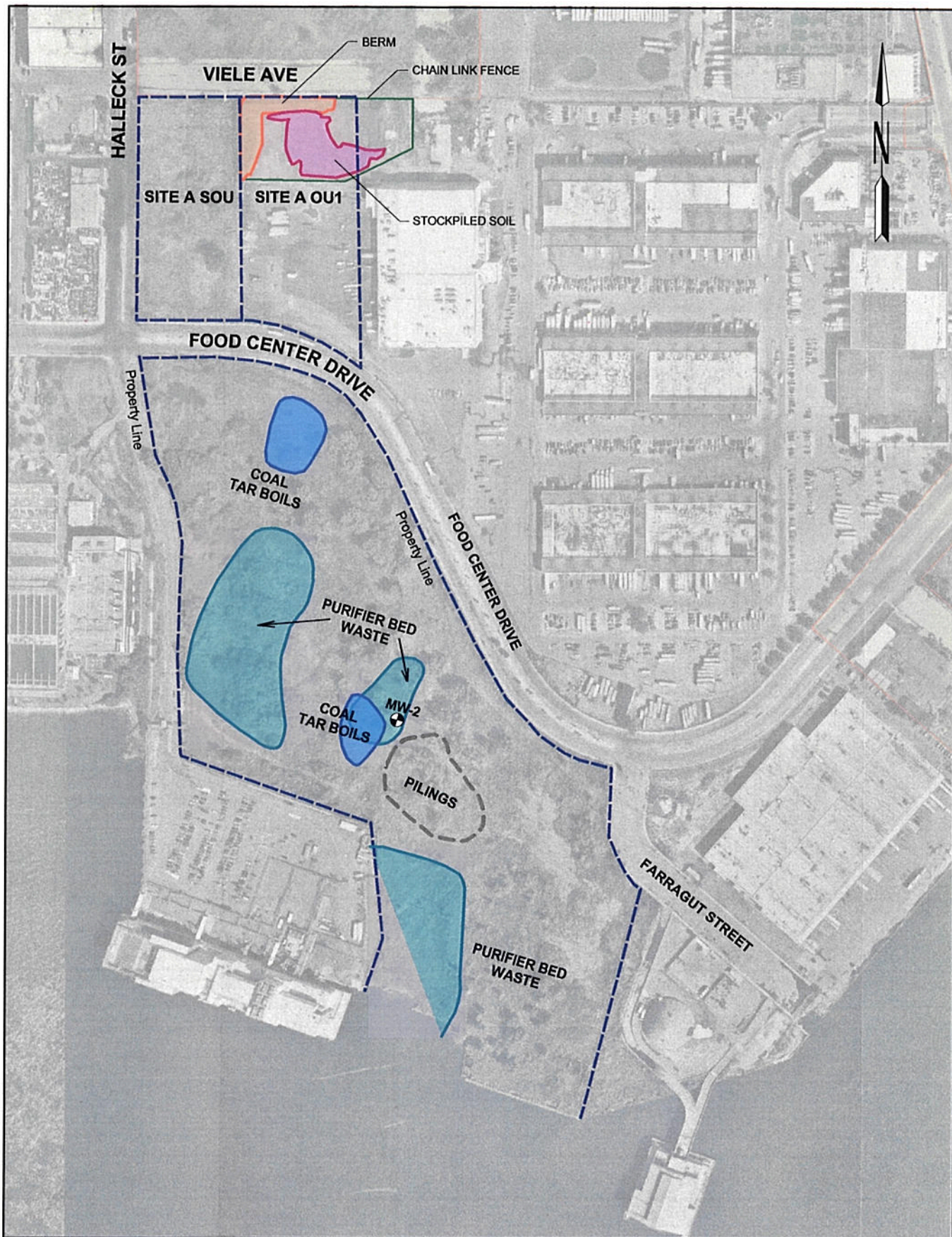
For the initial phase of parking lot construction, several small open areas (less than 1% total) were proposed to be landscaped. These open spaces were almost entirely either paved or eliminated from the final design. There is one narrow area adjacent to the southern Site Fence along Food Center Drive where imported fill material was used to raise the elevation above the parking lot grade. This area has been covered with grass and is maintained as a mowed area. The area is used for a buffer to prevent trucks from backing into the perimeter fence. The remainder of the Site is capped with asphalt parking for both the meat and fish markets.

Additional Material

Just under 7000 cubic yards of material was placed in an area at the north end of Site A OU-1 (Fish Market employee parking lot) during the Meat Market construction phase (1999). In order to complete the Fish Market parking lot, the stockpiled material was relocated to the north end of Site A SOU with the consent of NYSDEC in March 2003. The material is maintained inside a locked chain link fence that was erected specifically to control the security of this material. LMS received written confirmation from the architect on the project that the material originated from the rough grading of the parking lot (where the grade was lowered approximately 3 ft), pile caps, excess material from the storm drainage system, and material that existed on the meat market site at the beginning of that project.

The architect also stated that during the Meat Market construction, no material came from off site and there was full-time security present to monitor the area. The single distinction that should be made in regard to the architects reference to "Site" is that the project Site defined for the Meat Market construction project includes the area of the building as well (east of A OU-1). The Site as defined by this report includes only Site A OU-1 (that excludes the Meat Market building). Therefore, some of the material within the storage area did originate from the adjacent parcel (Meat Market) immediately east of Site A OU-1. LMS inspected the piles and compared the general content of the material to that of material that has been seen in each of the different investigations performed at Hunts Point (Sites A, B, C, and E). There is no outstanding difference between this material and that of shallow soil and fill around Site A OU-1.

Prior to construction of the Fish Market Parking lot, the material was moved to the northern portion of Site A SOU and combined with similar additional fill from the





LEGEND

- Former stockpile area
- Current stockpiled material
- Location of reuse material

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Photo 5. Parking area during building construction.



Photo 6. Parking area after building completion.

completed construction at Site E OU-1 (several hundred feet to the northeast). This material is slated to be used as fill material to replace coal tar and purifier waste that has been proposed to be removed during the remediation of Site A SOU (Figure 7). The Site A SOU investigation Report and Response Plans have been submitted to NYSDEC/NYSDOH and approved. The remedy includes the removal of residual waste (coal tar and purifier waste).

Figure 8 shows the location on the Site A SOU where the material is currently stockpiled and also shows where backfill will be required on Site A SOU. Photos 5 and 6 show the Meat Market parking area during and after construction. These two photos show the Site A SOU in the foreground (grassy areas beyond the Site A OU-1 fence).

Regarding the long-term portion of the remedy, the Site will have the specific requirements approved in the Response Plan that will include:

1. A Deed Restriction attached to the tenant documents and contract. The Deed Restriction will include the requirements set forth in Section X of the Voluntary Cleanup Agreement D3-0004-99-04 under which this Plan was prepared. In addition, the Deed Restriction will require that the tenant notify the Owner (City of New York) which in turn will notify NYSDEC of any intrusive work (utility, drainage additions, repairs or modifications) planned on the Site. The person or office in NYSDEC listed as the contact for this notification will be provided by NYSDEC upon completion of the remedy. Since the facility has been constructed and is currently occupied, a meeting will be held with the tenant to present the approved Engineering Report and identify the restrictions and requirements to a representative of the facility.
2. In the anticipation of future intrusive work that may be performed on the Site that would penetrate the top 1 ft of imported material or the asphalt layer, two documents will be prepared as an addendum to this Engineering Report. They will be a Site Management Plan (SMP) and Site Safety Plan (SFP). Each will be implemented by the "persons" or Contractor conducting the work. The Plan will serve to provide information and outline procedures used by workers to protect them from being exposed to contaminants in subsurface material. The Site Safety Plan will be reviewed by the Owner prior to the initiation of work. The SMP will be used to properly handle and dispose of material generated during site work.
3. During the performance of any intrusive work, which does require the implementation of a Site Safety Plan, care will be taken with any excess material such that it will be handled and disposed of in accordance with applicable State regulations. Procedures for this will be outlined in the Site Management Plan.