Hunts Point Food Distribution Center Redevelopment Plan

Investigative Scope of Work for Parcel C, Bronx, NY

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INTRODUCTION:

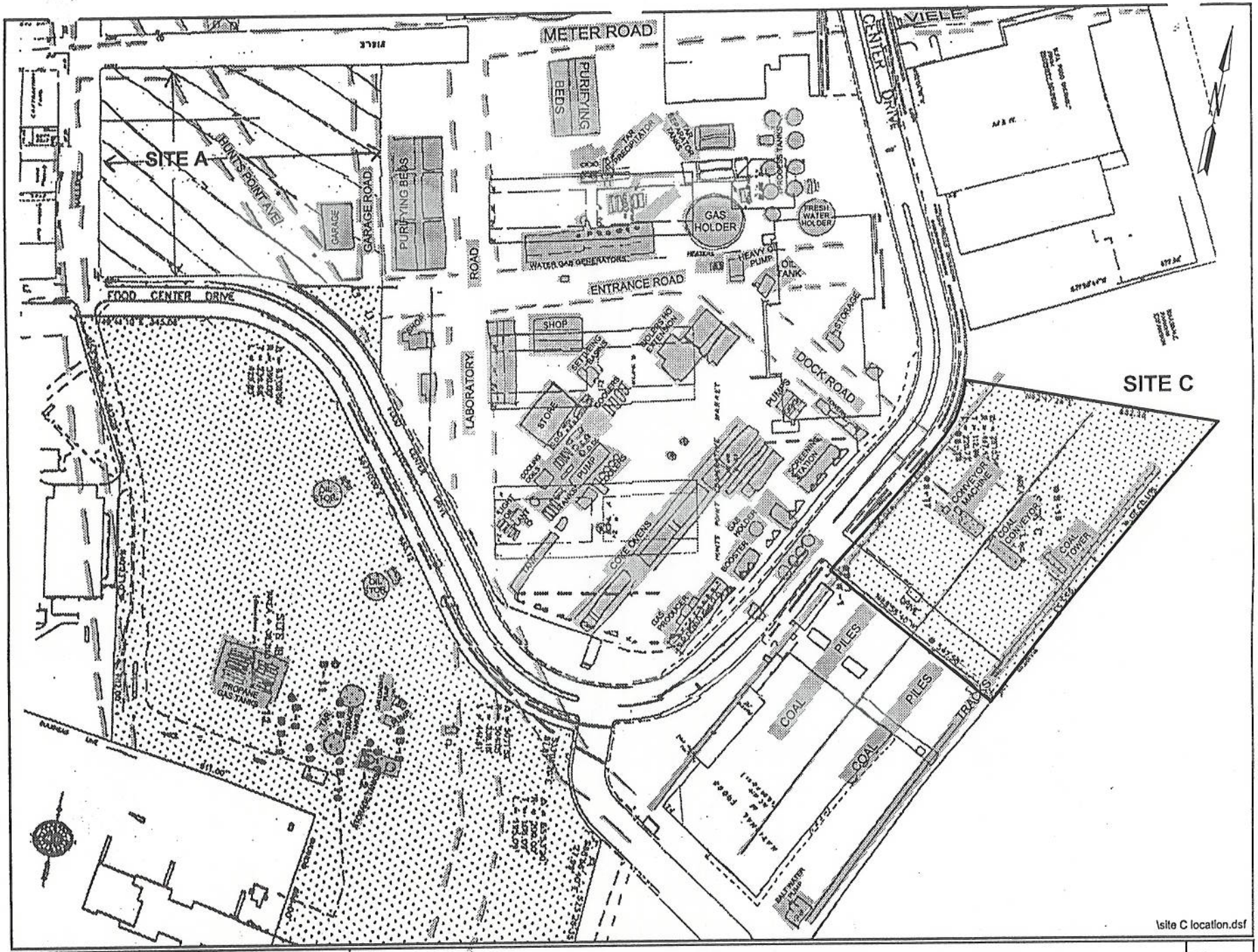
The Scope of Work is for subsurface investigation at Parcel C located along the southeastern edge of the Hunts Point Cooperative Market (Figure 1), between the Bronx River and Food Center Drive. The purpose for the investigation is to assess the area for redevelopment and identify areas that may require more specific attention. Following completion of the SOW, areas not showing free product or gross contamination will be immediately available for the proposed redevelopment. The sites are best described as follows:

SITE C: The total area of Site C is near rectangular in shape and covers approximately 10.2 acres. The Site is bounded on the north and south by adjacent properties, the west by Food Center Drive, and on the east by the Bronx River (Figure 2).

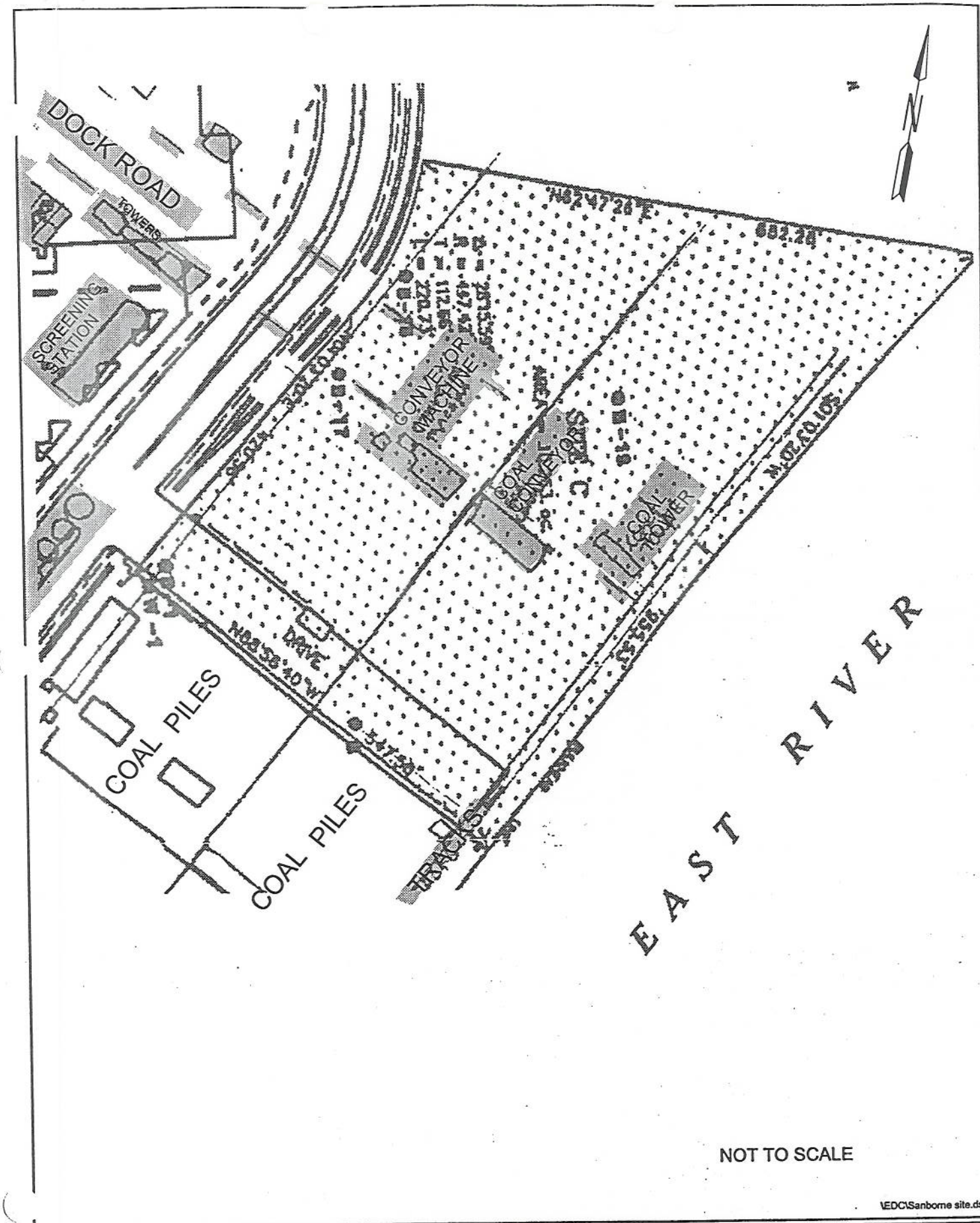
Historic Sanborn and topographic maps have been reviewed and those conditions were used to determine sampling locations shown on Figure 3. Historic aerial photograhs have also been reviewed in order to locate the actual sampling (Figure 4). The intrusive work proposed in this scope takes into account the information shown on these maps and photos.

The Sanborn maps and aerials which were reviewed for Area C show fairly clearly that almost the entire site was used prior to 1956 as a coal storage area. Included it this were rail lines in a very close proximity to the bulkhead and a road identified as "Dock Road" which is situated in the approximate middle of the site. Dock Road was perpendicular to Food Center Drive and extended from Food Center Drive across the site to the bulkhead. Other structures including concrete foundations for coal towers and conveyors may also be encountered as well as any former utilities and drainage lines that were not removed during site closure.

The aerials also show a more recent are of shoreline that was added along the northern end of the site. This appeared to have straightened the previous shore and make it somewhat more even with the existing bulkhead.



LMS Lawler, Matusky & Skelly Engineers LLP One Blue Hill Plaza • Pearl River, New York 10965 ENVIRONMENTAL SCIENCE & ENGINEERING CONSULTANTS	**Site C Location** Hunts Point	Figure 1



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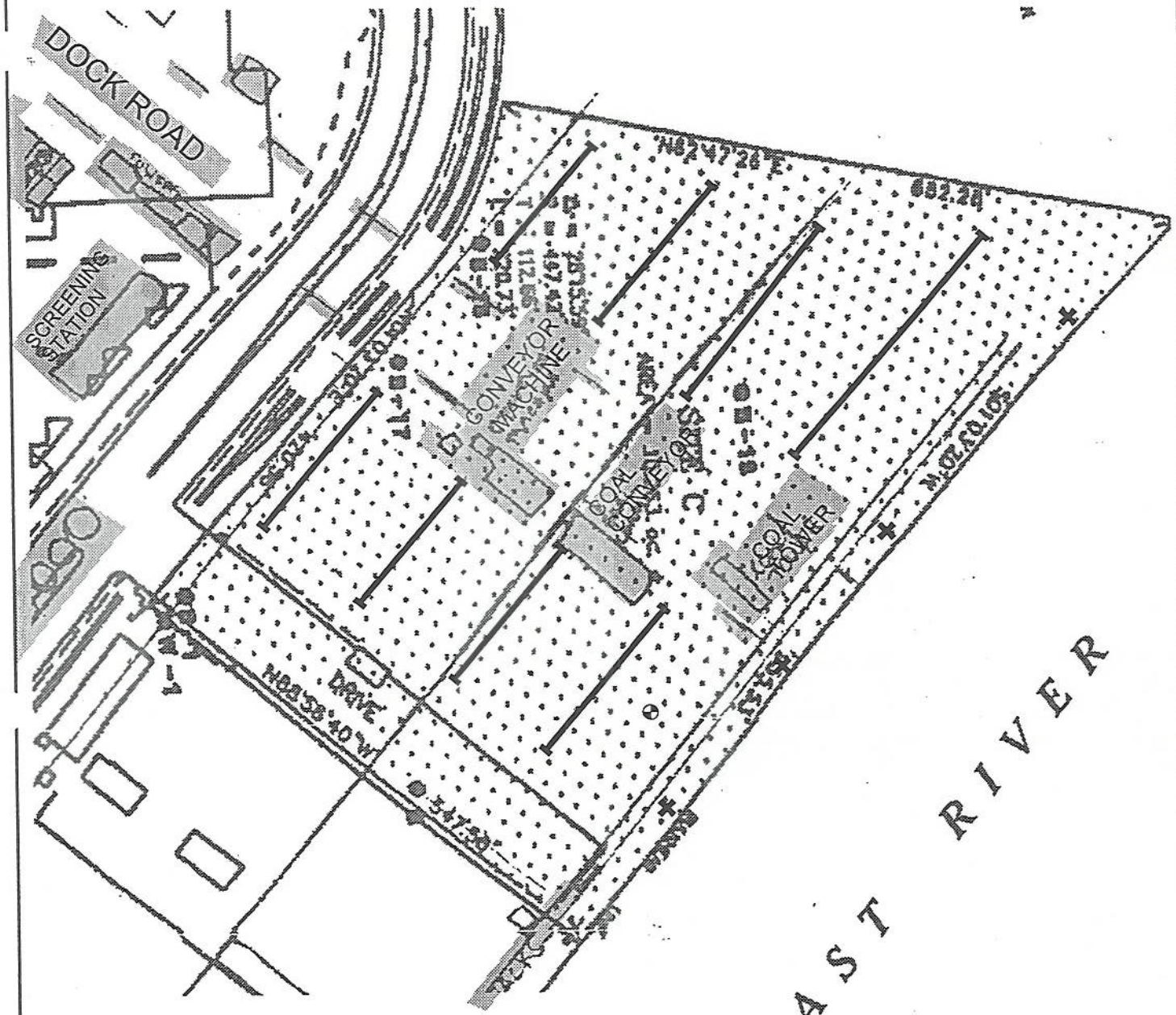

LEGEND

- ✖ Test pit location
- ▬ Test trench location
- ⊕ Proposed boring

NOT TO SCALE

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Hunts Point Site C - 1954 Aerial Photograph

Figure 4

SCOPE OF WORK for Site C:

Approach to Sampling

1) LMS will begin this assignment by conducting a site inspection to identify the health and safety concerns for the site, access limitations, layout of control areas, and confirmation of utilities on the sites with respect to the sampling locations. LMS will also employ the standard utility markout service contractor to attempt to follow any utilities identified in the main thoroughfare (Food Center Drive) into the site. LMS is also using the utility survey maps (9/22/95) supplied by NYCEDC to tentatively locate existing underground utilities. Figure 3 shows rather continuous excavation with the exception of the central portion of the site. Excavations will be broken up into smaller segments in the field based on these utility maps or other information that is made available.

   The shore-line will be inspected at low tide in order to observe any contamination that may be emanating from the site. During the inspection, the shore-line will be disturbed and any resulting sheen that is observed will be recorded in the field notes.

2) Sampling will consist of excavation and visual inspection of material across the site as shown on Figure 3. The inspection will allow for collection of samples across the site in a manner not normally available during the installation of test borings and should allow for a rather extensive site characterization to be performed.

   Based on the conditions encountered at adjacent sites with regard to access and fill conditions, it is proposed that either a tire or track mounted backhoe be used to install trenches and pits. Trenches are proposed to be orientated parallel to groundwater flow (parallel to the shoreline). They will begin near one side of the site and extend across the site to a point reasonably close to the opposite edge.

   A total of four (4) linear trench excavations are proposed for Site C. Figure 3 shows the arrangement as they are orientated parallel to Food Center Drive and the shoreline of the River. There is a break in the central portion of each lateral arrangement in the area of the former location of Dock Road. The purpose for this is the expected location off former underground utilities and drainage conduits that may still remain.

   A total of four (4) test pits will also be excavated along the shoreline in order to assess material condition in close proximity of the seawall.

   The figure at this time is not based on a full boundary survey and the site limits may be adjusted following receipt of this information. The anticipated change in site boundaries would most likely be in the westerly direction. Trenches will be

elongated in that direction with the area shown on the maps as a dead end road on the far west end being avoided because of utilities.

The first trench (closest to Food Center Drive) will be used to establish a relative upgradient condition across the site. A total of four (4) lateral sampling locations are proposed in Site C and one lateral line of test pits as shown on Figure 3. Each is shown to be spaced evenly across the site and alterations in these specific locations may be made in the field based on conditions.

Trench Excavation and Sampling Procedures

Each trench or test pit will extend to a depth at which groundwater interferes with observations, refusal, or 15 ft below grade, whichever comes first. Based on existing information, groundwater is expected to be encountered between the depths of 8 – 10 ft below grade. Material removed from the excavation will be placed as close to the actual excavation as possible while still maintaining protection against collapse. All inspection of material will occur from outside the excavation. LMS will monitor and log each excavation as it is extended with a combustible gas indicator (CGI) and either a photoionization detector (PID), or flameionization detector (FID). Readings will be collected according to depth and location in the excavations and will be used to reconstruct a subsurface profile of the Site. During the excavations, specific attention will be paid in the examination of unearthed structures (piping, vaults, specialized fill material, etc.). It is not the intent of the excavations to delineate and remove piping and remediate contamination and therefore material will only be removed from the backfill stockpile if contamination (petroleum or other obvious contaminants) is encountered in a quantity and condition where it can be reasonably segregated. If any material requires segregation, it will be placed separate from the material to be backfilled on plastic sheeting. Understanding that conditions and material may vary, LMS will extend the trenches in length and depth according to conditions that are encountered. The general procedure would be to open an area equal to the reach of the excavator and remove material in 1ft or 2ft lifts.

During intrusive sampling, LMS will perform air monitoring at each Site as per the Community Air Monitoring Plan portion of this Scope.

LMS proposes to collect four (4) grab and two composite material samples from each trench or horizontal group of test pits at depths above the saturated zone. The general procedure will be to collect four grab samples for volatile organics (VOC) analysis from the four locations in each trench that exhibit the greatest degree of petroleum and/or organic contamination based on observations and meter readings ("worst case" locations). Two (2) worst case composite samples from each trench or group of excavations orientated along a line will also be collected and submitted to a New York State Department of Health (NYSDOH)-

certified laboratory for Target Compound List (TCL) semi-volatile organic compounds (SVOCs), pesticide/PCBs, metals and cyanide.

When groundwater is encountered it will be inspected for obvious contamination and if free phase petroleum or significant contamination is encountered, the bottom of the trench will be backfilled in that location in order to prevent rapid lateral movement of petroleum in the excavation. If excavations are able to be left open to allow for comparison of conditions then sampling will be performed directly from the trench. If conditions do not allow for the trenches to be left open for sampling then upon completion of each trench excavation and prior to complete backfilling, a temporary slotted PVC pipe (2-4 in. ID.) will be placed in the location of greatest obvious groundwater contamination in that trench. The pipe will be kept upright as the trench is backfilled and a temporary cap placed on the top. If no obvious groundwater contamination is encountered then PVC will be installed in the area affording the most available water.

Trenches will be backfilled with material from the same area of the excavation. Upon completion of all of the trenches for each Site, any temporary PVC pipes will be inspected and the locations exhibiting the worst case condition in addition to the expected downgradient (southernmost) locations, will have a groundwater sample taken in that location. Each sample will be collected and submitted for TCL VOC, SVOC, Pesticide/PCB, metals and cyanide. The samples will be filtered through a 0.45 micron membrane filter in the field for metals and cyanide using an inline filtration apparatus and then preserved prior to shipment to the laboratory.

Deep Boring Installation and Sampling Procedures

One (1) deep boring is proposed to be installed at the Site. The initially proposed location is in the southern end of Site C along the trench closest to the East River. The final locations will be modified based on the trenching inspection. LMS proposes to place the boring in a location that exhibits the greatest potential for encountering dense non-aqueous phase liquid (DNAPL). The boring will be advanced using air rotary with an outer casing advancer as the drilling method. This method is preferable to wet rotary in situations such as this since it will not require recirculation of drilling fluid that has contacted and potentially mobilized contamination. All cuttings exit at the top of the boring and stay at the surface. Continuous split spoon samples will be collected to the bottom depth of the boring which will be 50 ft or top of bedrock, whichever comes first. Upon removal of each split spoon, the sample will be closely inspected for physical characteristics including: color, material type and composition, relative grain size and distribution, presence of free moisture, potential confining characteristics, evidence of contamination, and degree and orientation of contaminated bedding. Following completion of each boring, a mixture of Type 1 Portland cement and bentonite will be pumped into the borehole as the casing is removed.

Investigation and Data Report

Following completion of the investigation for both Sites and receipt of the soil and groundwater analyses, LMS will prepare a Report that will include:

1. A description of the work that was performed
2. Any modification from this work scope and the reason for the modifications
3. Conditions that were encountered with respect to MGP contamination and an assessment of the contamination
4. Soil, fill, and groundwater conditions that were observed
5. Analytical data in tabular form comparing results to the most current applicable guidance (TAGM 4046) or standards (DWS)
6. An assessment of any areas of contamination with respect to the proposed development plan and land use
7. Cross sections and data figures which will provide a visual account of the physical and chemical conditions in the subsurface
8. Laboratory analytical data, trench and boring logs for all samples and areas covered by the investigation

Community Air Monitoring Plan

Air monitoring will be performed by LMS in the breathing zone adjacent to the excavation on a continuous basis. Measurements from the work area will be recorded manually as intrusive sampling is performed. If total organic vapors in the work area exceed 5 ppm above background then additional measurements will be collected at the perimeter. If perimeter measurements exceed 5ppm, work activities under the provisions of the Vapor Emissions Response Plan will be performed.

Particulates will be monitored within the work area during intrusive activities. Prior to beginning intrusive work, a background ambient measurement will be taken. If during the work, particulate levels in the work area are 150 ug/m^3 greater than the background level for a period of fifteen (15) minutes, then downwind perimeter measurements will be collected. If measurements remain 150 ug/m^3 above the background then dust suppression techniques will be employed. All readings must be recorded and be available for State (DEC & DOH) personnel to review.

Vapor Emission Response Plan

If the ambient air concentration of organic vapors exceeds 5 ppm above background at the perimeter of the work area, activities will be halted and monitoring continued. If the organic vapor level decreases below 5 ppm above background, work activities

can resume. If the organic vapor levels are greater than 5 ppm over background but less than 25 ppm over background at the perimeter of the work area, activities can resume provided:

- The organic vapor level 200 ft. downwind of the work area or half the distance to the nearest residential or commercial structure, whichever is less, is below 5 ppm over background.

If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown. When work shutdown occurs, downwind air monitoring as directed by the Safety Officer will be implemented to ensure that vapor emission does not impact the nearest residential or commercial structure at levels exceeding those specified in the Major Vapor Emission section.

Major Vapor Emission

If any organic levels greater than 5 ppm over background are identified 200 feet downwind from the work area or half the distance to the nearest residential or commercial property, whichever is less, all work activities must be halted.

If, following the cessation of the work activities, or as the result of an emergency, organic levels persist above 5 ppm above background 200 feet downwind or half the distance to the nearest residential or commercial property from the work area, then the air quality must be monitored within 20 feet of the perimeter of the nearest residential or commercial structure (20 Foot Zone).

If efforts to abate the emission source are unsuccessful and if the following levels persist for more than 30 minutes in the 20 Foot Zone, then the Major Vapor Emission Response Plan shall automatically be placed into effect;

However, the Major Vapor Emission Response Plan shall be immediately placed into effect if organic vapor levels are greater than 10 ppm above background.

Major Vapor Emission Response Plan

Upon activation, the following activities will be undertaken:

1. All Emergency Response Contacts as listed in the Health and Safety Plan of the Work Plan will go into effect.

2. The local police authorities will immediately be contacted by the Safety Officer and advised of the situation.

3. Frequent air monitoring will be conducted at 30-minute intervals within the 20 Foot Zone. If two successive readings below action levels are measured, air monitoring may be halted or modified by the Safety Officer.