



Oak Ridge
Associated Universities
Post Office Box 117
Oak Ridge, Tennessee 37831-0117

NY 26-6

NY #3
NY 26
Energy
Environment
Systems Division

January 29, 1992

11222

Dr. Alexander Williams
Designation and Certification Manager
Off-Site Branch
Division of Eastern Area Programs
Office of Environmental Restoration
U.S. Department of Energy
Washington, DC 20555

SUBJECT: FORMER AMF SITE; BROOKLYN, NEW YORK

Dear Mr. Williams:

During the early 1950's (approximately 1951-1954) the American Machine and Foundry Company (AMF) performed machining of natural uranium for the Atomic Energy Commission (AEC) at their facilities in Brooklyn, NY. Although AMF occupied several facilities in the Brooklyn area at that time, record reviews and a discussion with a former AMF employee at that site, identified the facility at 5502 Second Avenue as the one where uranium was machined. The machining and other finishing processes were initially conducted in several areas of the main building; the operation was later relocated to a small separate building known as the "G.E. Building" or "Radar Building". Uranium was stored in the basement of the main building and in the open yard area in front of that building. Some burning of uranium chips may have occurred in this yard area.

All structures, except the main building, have been demolished. The main building was "gutted" internally and completely renovated to prepare it for use by the current occupant, the Lutheran Medical Center. The yard area where storage and some burning occurred is now the entrance to the Medical Center and includes landscaped and paved areas.

It is highly unlikely, based on the extent of renovations, that any residual activity would remain on building interior surfaces. Due to the reports of chips burning and material storage in the yard area, this was considered the portion of the facility where residual activity, if any, might be present. The Department of Energy's Office of Environmental Restoration determined that additional information, regarding the current radiological status of the former AMF site, was necessary to make a determination whether further investigations are warranted under the Formerly Utilized Sites Remedial Action Program (FUSRAP). The Environmental Survey and Site Assessment Program (ESSAP) of ORISE, was requested by DOE to obtain this additional information.

On January 22, 1992, limited radiological monitoring was performed at the former AMF site. Survey activities consisted of gamma scans of the entrance area, using NaI(Tl) scintillation detectors, and collection of surface soil samples from eight (8) locations in landscaped portions of this area (Figures 1 and 2). Gamma scans identified several locations with direct radiation levels from 2 to 4 times the ambient background rates. These locations (Figure 3) contained either decorative brick, added as part of the Medical Center construction, or blocks of granite in planters. All other surfaces had gamma levels in the range of area background.

Soil samples were analyzed by gamma spectrometry for U-235 and U-238 content; results of the analyses are presented in Table 1. Concentrations are comparable to those naturally occurring in soil. The maximum U-235 and U-238 concentrations are 0.3 pCi/g and 5.9 pCi/g, respectively; these levels would equate to approximately 12 pCi/g of total uranium. No guidelines for residual uranium activity in soil have been established for this site. For comparison purposes, however, the guidelines used at other DOE formerly utilized sites have been in the range of 30 to 75 pCi/g of U-238 or 60 to 150 pCi/g of total uranium. Concentrations of uranium in the samples from the former AMF site were well below such levels.

Results of these limited survey activities do not indicate the presence of residual uranium, attributable to Atomic Energy Commission operations at the former AMF site.

Questions concerning this information may be directed to me at FTS 626-3305 or Michele Landis at FTS 626-2908.

Sincerely,



James D. Berger, Director
Environmental Survey and
Site Assessment Program

JDB:ttc

Attachment

cc: M. Landis, ORAU
File: AMF/362

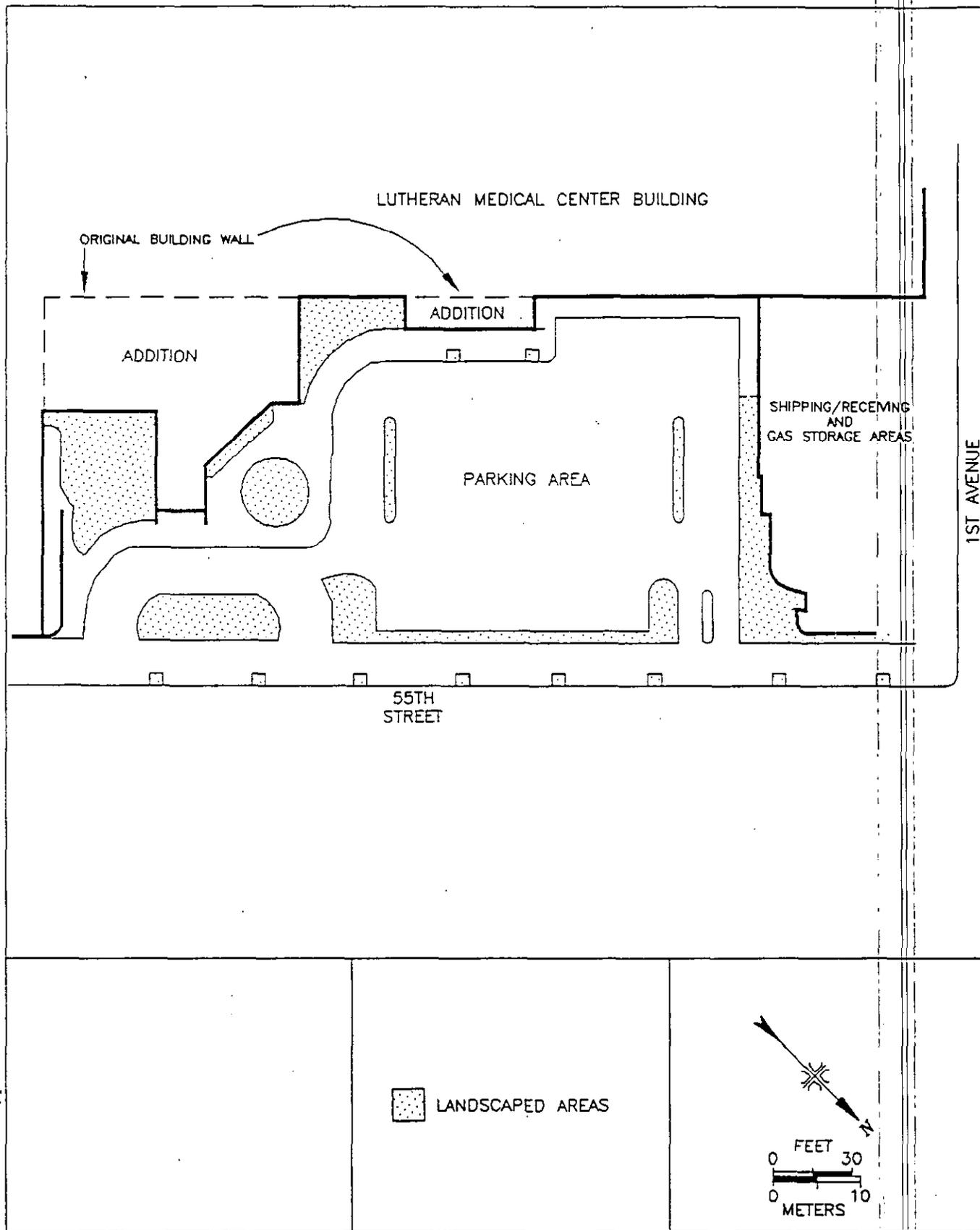


FIGURE 1: Plot Plan of Front Entrance to Lutheran Medical Center

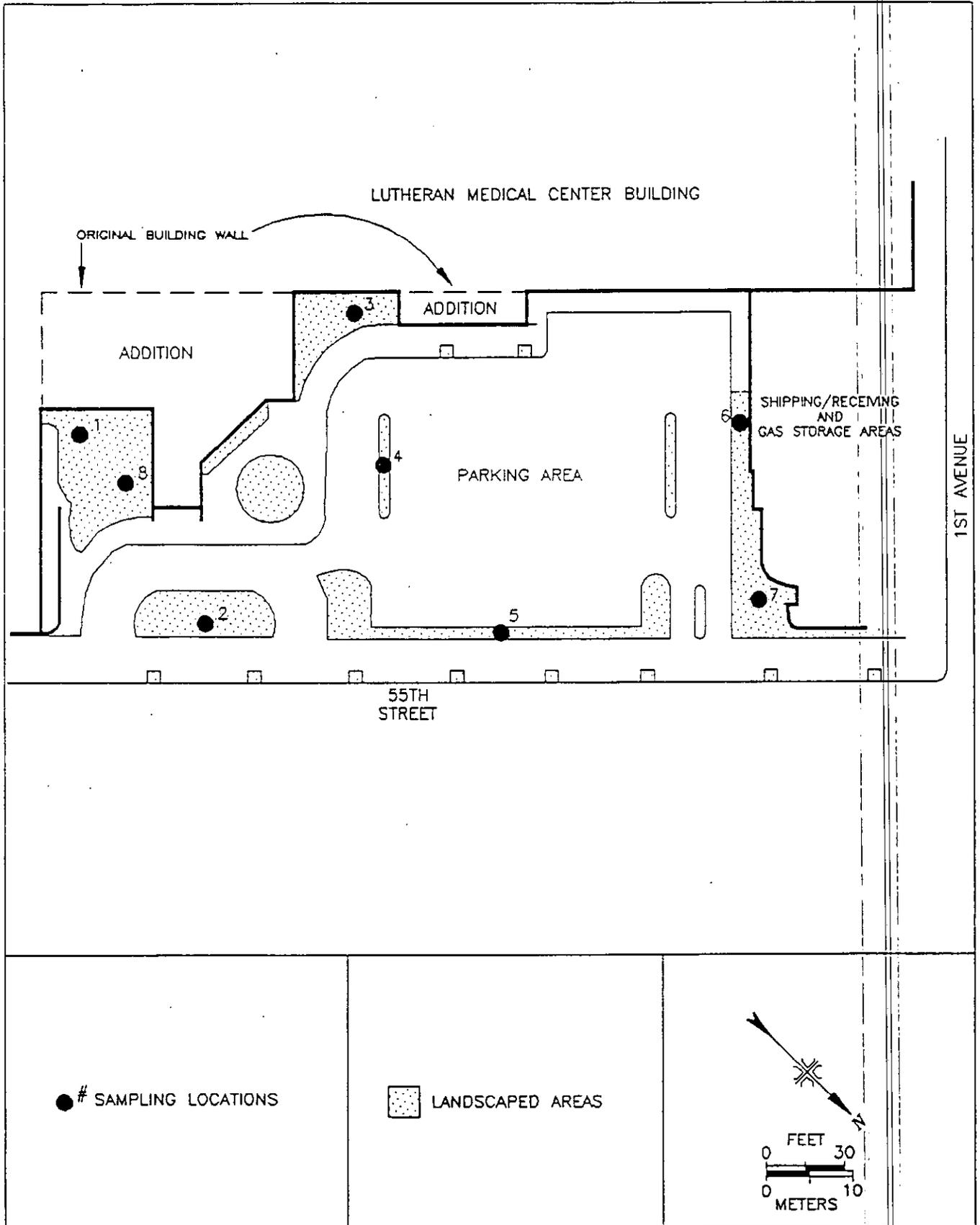


FIGURE 2: Sampling Locations - Lutheran Medical Center

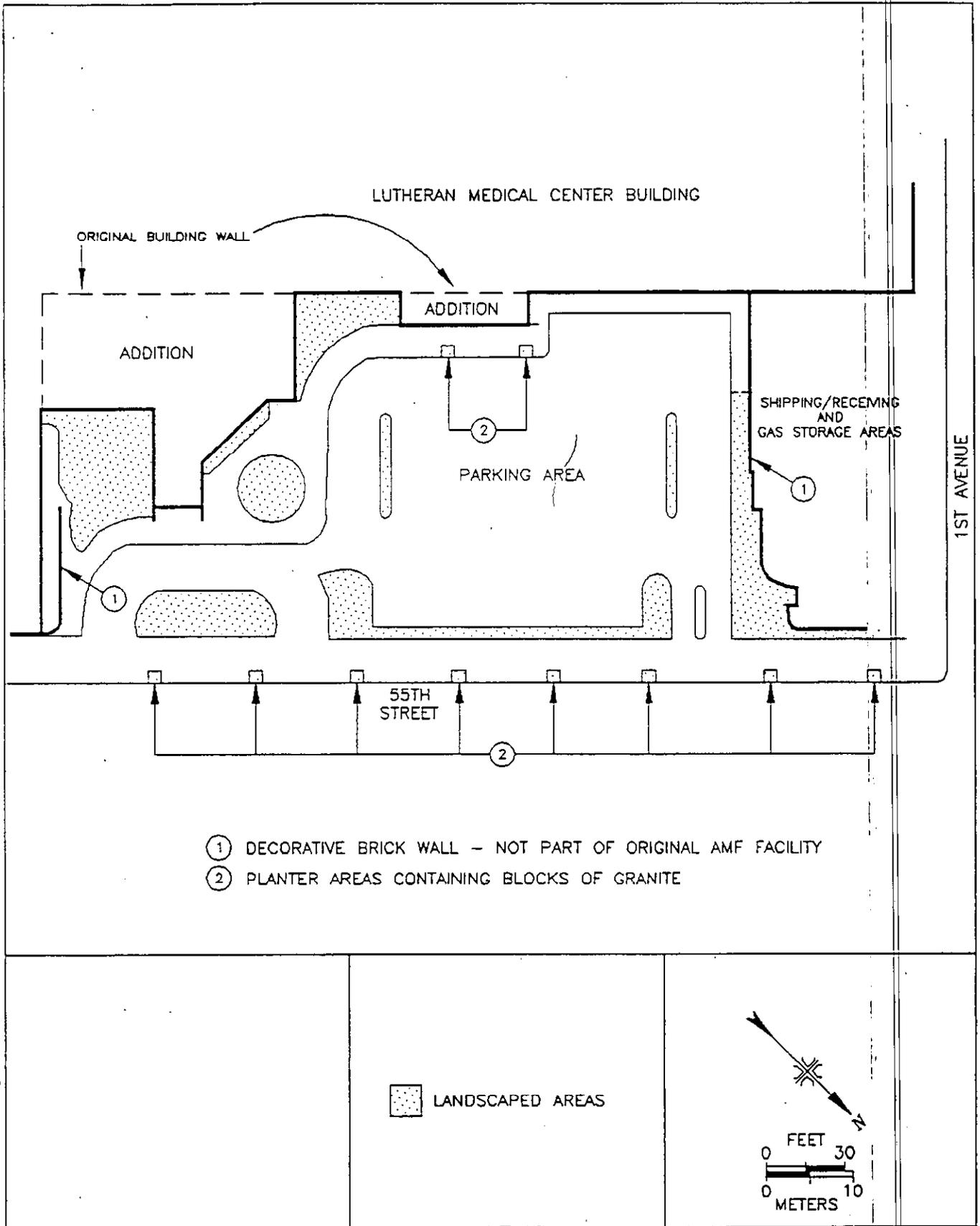


FIGURE 3: Locations of Elevated Gamma Radiation

TABLE 1
 URANIUM CONCENTRATIONS IN SURFACE SOIL SAMPLES
 FORMER AMF SITE
 BROOKLYN, NEW YORK

Location ^a	Uranium Concentrations (pCi/g)	
	U-235	U-238
1	0.2 ± 0.1 ^b	1.6 ± 1.2
2	0.3 ± 0.1	3.4 ± 2.0
3	0.2 ± 0.1	1.5 ± 1.0
4	0.3 ± 0.1	4.2 ± 2.1
5	0.1 ± 0.1	3.0 ± 1.4
6	0.2 ± 0.2	2.4 ± 1.6
7	0.3 ± 0.2	5.9 ± 3.1
8	0.3 ± 0.1	1.9 ± 1.6

^a Refer to Figure 2.

^b Uncertainties represent the 95% confidence levels, based only on counting statistics.