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May 15, 2013

Ms. Verneta Simon, On-Scene Coordinator
US Environmental Protection Agency - Region 5
77 W. Jackson Blvd., SE-5J
Chicago, Illinois 60604-3590

RE: Radiologically-contaminated Soil Remediation in the North New Street Rights-of Way
Permit No.: 354480750
Permit Address: 434-436 North New Street, Chicago, Illinois
AECOM Project No. 60241812

Dear Ms. Simon:

AECOM Technical Services, Inc. (AECOM) is providing a letter report for the radiological remediation activities conducted in at the rights-of-way (ROW) adjacent to the project site (455 North Park Street). The letter report is being provided so that the results can be documented on the United States Environmental Protection Agency's (USEPA) web site along with other ROW projects. The site and ROW surveying and remediation work was conducted in accordance with USEPA Order on Consent for Removal Action (Docket No. V-W-12-C-996) and the approved Work Plan. The paragraphs below describe the activities undertaken during the course of remediation.

AECOM provided the required radiation surveillance starting on March 7, 2013 for an excavation to install a sewer service line for the property. Surveying was performed for the soil removed from a 5-foot wide by 100-foot trench excavation in the middle of New Street to a depth of about 6.5-feet below ground surface and for a 5-foot wide by 29-foot trench excavation from the middle of New Street to the site (Figure 1) to a depth of 6.5-feet below ground surface. The trench excavation was required for installation of the sewer service for the property located at 455 North Park Street.

The USEPA cleanup threshold for Chicago's Streeterville area is 7.1 picocuries per gram (pCi/g total radium (Ra-226 + Ra-228). Gamma radiation count measurements were made using Ludlum Model 2221 survey meter and a 2-inch x 2-inch Nal probe (Model 44-10). For the instrument used, the gamma count equivalent to the 7.1 pCi/g threshold was 17,920 counts per minute (cpm) unshielded and 6,425 cpm shielded. The field gamma background for the area was measured at approximately 6,700 cpm unshielded.

On March 15, 2013 during the sewer service trench excavation, AECOM personnel identified fill soil areas within the trench exceeding the USEPA threshold near the top of the excavation just beneath the concrete. It was determined that an area approximately 53-feet long by 5-feet wide contained radiologically-contaminated fill soil at or near the surface to a depth of about 6-feet or base of the trench excavation (Figure 1). This area of contaminated fill soil was located within the former Ogden slip boundaries.

Remediation activities for radiologically-contaminated soils were initiated on March 19, 2013 and completed on April 1, 2013. Figure 1 shows the extent of the remediation activities conducted for the trench area that contained the contaminated fill soil. The only individual to perform screening work in the exclusion zone was the health physicist Glenn Huber (SAHCI). However, once the depth of the trench reached about 3-4 feet, surveying and remediation activities were conducted from outside of the trench (i.e., screening of spoil in the excavator bucket). With the exception of the excavator bucket, the

remainder of the personnel and equipment were kept outside of the exclusion zone during remediation. Radiologically contaminated fill soil removed from the trench was placed directly into super-sacks holding approximately 3.5 cubic yards each. Excavation suggested that the contaminated fill soils were found between depths ranging between 1 to 6 feet below ground surface.

At the end of each work day, the excavation/trench was covered with steel street plates in accordance with Chicago Department of Transportation (CDOT) protocols. The super-sacks were closed and placed at a designated staging area onsite to await removal to the designated waste facility. The appropriate radiological placards were applied to the fencing around the super-sacks.

A maximum unshielded gamma value was recorded for each super-sack filled to get a general idea of soil contamination activities encountered during the remediation. Values from within the trench (base or sidewalls) generally could not be recorded since the majority of remediation screening was performed by checking fill soil in the excavator bucket due to the depth of the trench prohibiting safe entry. Maximum unshielded fill soil gamma values for each bag (Nos. 92-100) ranged from 24,000 to 78,000 cpm (Figure 1). These values can be used to determine the probable level of radiological contamination that still exists in the general vicinity of the trench excavation.

A total of 9 (3.5 cubic yard) super-sacks of radiologically-contaminated fill soil were loaded during this removal action. Composite soil samples for each super-sack were collected during the remediation process and analyzed by Glenn Huber (SAHCI) using the NUTRANL analysis methodology to document the activity of the contaminated fill soil. The NUTRANL analyses for the composite samples for each super-sack are presented in Table 1. NUTRANL analyses for each super-sack were also used to document activities for profile and manifesting purposes. The NUTRANL results for the individual super-sacks averaged 28.91 pCi/g total radium with a maximum activity of 38.16 pCi/g total radium. Soils removed consisted of brown-black fill soil with small amounts of brick/concrete debris. Dimensions and the location of the contaminated fill soil exposed during the excavation can be found on the attached figure. It should be recognized that no attempt was made to delineate the horizontal or vertical extent of the contamination beneath North New Street during the sewer project.

Table 1
Gamma Survey and NUTRANL Results

Bag No.	Size (yd^3)	Maximum Gamma Reading (cpm)	Nutranl - Total Ra (pCi/g)
92	3.5	48,000	21.83
93	3.5	64,000	37.77
94	3.5	78,000	25.74
95	3.5	92,000	35.95
96	3.5	54,000	26.66
97	3.5	71,000	38.16
98	3.5	58,000	34.43
99	3.5	47,000	20.19
100	3.5	24,000	19.45
Average			**28.91**

Pursuant with discussions with the USEPA, in order for sewer installation work to continue within the ROW, the contractor placed a 4-inch layer of gravel subgrade along the floor of the trench as well as use a trench box and geotextile/landscape fabric along the walls of the trench excavation. These additional safety measurements were performed so that the workers inside the trench were kept out of direct

contact with remaining radiologically-contaminated fill soil left inside the trench. AECOM personnel monitored these safety precautions for the remainder of the sewer service installation activities.

Excavating equipment used in the excavation of radiologically-contaminated fill was required to be surveyed (released) to confirm the equipment was free of radiological contaminants prior to being released from the sewer excavation project. This equipment that came in direct contact with the contaminated fill soil was limited to the excavator bucket. The remainder of the excavator was not used within the exclusion zones. To confirm the absence of impacts the treads and other portions of the equipment were surveyed for contamination.

The weight of the radiologically contaminated fill soil was estimated to be about 3.8 tons per 3.5 cubic yard bag based on weights measured for prior to shipments. As such, an estimated 34.2 tons of contaminated fill soil from the sewer project was shipped off-site on April 24, 2013 for disposal to US Ecology in Grand View, Idaho. The remainder of the containerized fill soil from the project site (about 8.5 cubic yards) was also shipped for disposal at the same time. Therefore, no radiologically contaminated fill soil remains at the project site.

Please contact us if there are any questions regarding this report.

Sincerely,

Brian R. Schmidt
Project Scientist II

Steven C. Kornder, Ph.D.
Senior Project Geochemist

Attachments: Figure 1 – Thorium Contaminated Soil Location Drawings

cc:

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C. Martwick, USEPA
E. Jablonowski, USEPA
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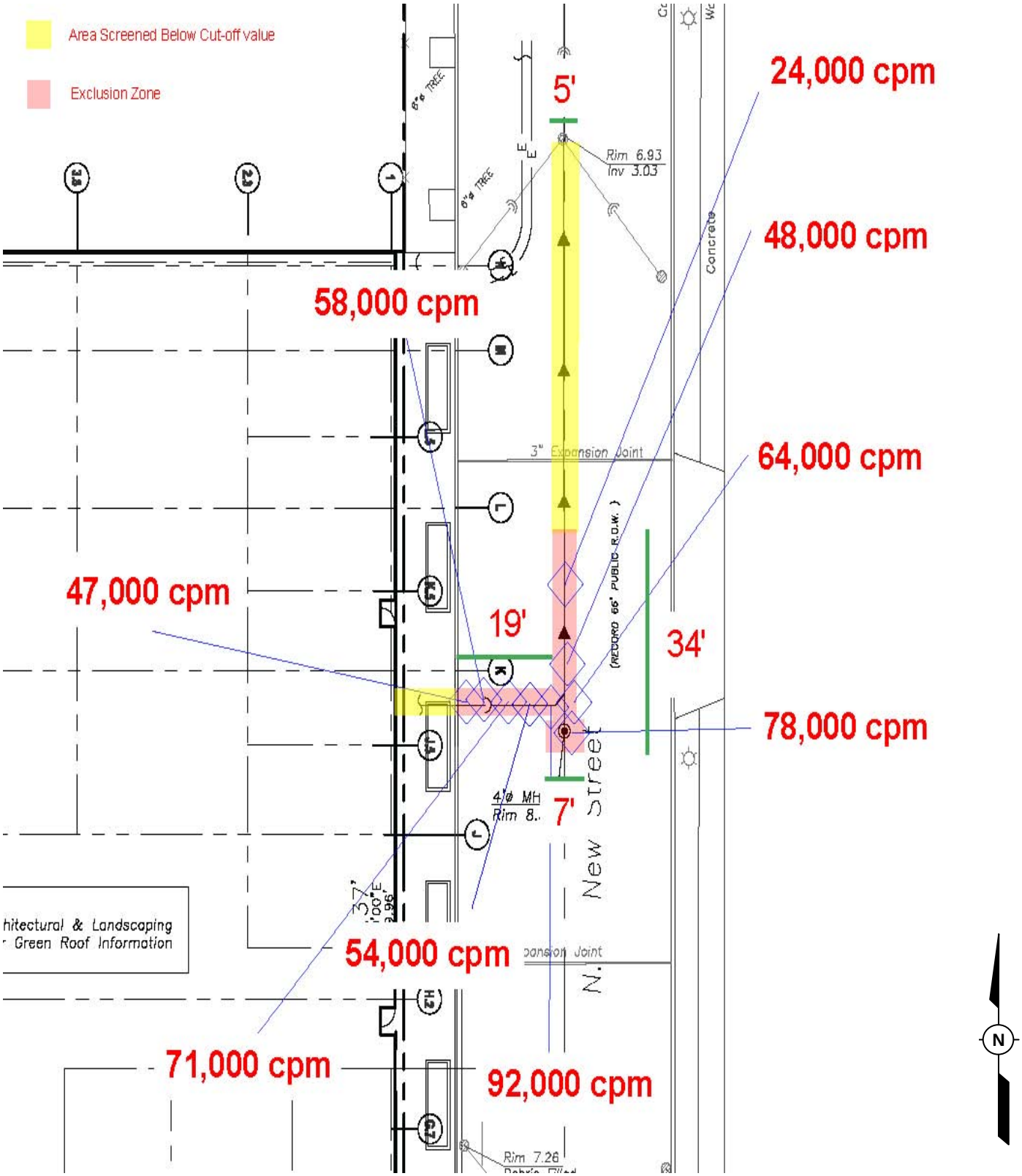

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455 NORTH PARK ST
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THORIUM CONTAMINATED SOIL LOCATION DRAWING

Drawn:	BRS	4/3/2013
Checked:	SCK	4/3/2013
Approved:	SCK	4/3/2013
PROJECT NUMBER	60241812	
FIGURE NUMBER	1	