



AECOM
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January 9, 2024

Terry Gillespie
LR Contracting Company
350 W. Hubbard St., Suite 300
Chicago, IL 60654

RE: Streeterville Thorium Monitoring Results – Surface Survey & Temporary Electric Trenching
Permit No.: DOT1873256
Permit Address: 400 N Lake Shore Drive

Dear Mr. Gillespie:

Pursuant to conditions specified in the Right of Way (ROW) forms (Attachment 1) issued by the City of Chicago Department of Assets, Information, and Services (AIS), radiation monitoring was required to be performed at the 400 N. Lake Shore Drive site (Site). AECOM Technical Services, Inc. (AECOM) provided the required radiation surveillance on November 15 and December 18, 2023, for the completion of the surface gamma survey for portions of the City of Chicago (City) and Chicago Park District (CPD) between the southern boundary of the Site and the Chicago River. Gamma surveying was also conducted on December 20 and 21, 2023, for installation of the temporary electrical service for the 400 N Lake Shore Drive project. Locations for the temporary electric trench are shown on the map included with the AIS form (Attachment 1). The trench excavation extended a total of approximately 260 feet in length, was 2-4 feet in width, and to various depths as noted in the sections below. The spoils from the trench excavation were used as backfill for the trench.

The monitoring indicated that the fill soils were below the removal action level established by the U.S. Environmental Protection Agency (USEPA) for the Streeterville area of Chicago. The USEPA removal action level for Chicago's Streeterville area is 7.1 picocuries per gram (pCi/g) total radium (Ra-226 + Ra-228). Gamma radiation count measurements for the project were recorded using a Ludlum Model 2221 survey meter and a shielded 2 x 2-inch NaI probe (Model 44-10). For the instrument used to screen the material described herein, the gamma count threshold indicative of the 7.1 pCi/g removal action level is 6,204 (S/N: 326720) counts per minute (cpm) shielded with a long cord, herein referred to as "Instrument Threshold." The background gamma count readings were taken from the southeastern boundary of the Site on exposed soil located 10 feet east of Trench 1 (TR1) and ranged from 1,237 cpm to 1,471 cpm.

Surface Gamma Survey

A gamma surface survey of City and CPD property was conducted along the Chicago River in areas that had not been screened during the previous Shelbourne project in 2006-2007. The 2023 surface survey used a 5x5 meter grid that was based on the previous 2006-2007 survey grid. It should be noted that the original 2006-2007 work was conducted using an unshielded probe (which results in higher gamma counts), while the 2023 work was conducted using a shielded probe. The Instrument Thresholds for both instruments are included on the Attachment 2 Figure. The majority of the 2023 gamma counts were less than 2,500 cpm. The exceptions were some isolated areas composed primarily of red brick debris. The maximum count for the isolated red brick debris was 4,472 cpm, which was still well below the Instrument Threshold (6,204 cpm) for the USEPA removal action level. Based on field observations, there was no indication of the presence of radiologically contaminated fill and/or an exceedance of the USEPA removal action level of 7.1 pCi/g total radium at these surface survey locations. A figure showing the maximum gamma counts for the grid cells is included in Attachment 2.

Temporary Electrical Trench Gamma Survey

A temporary electric trench was installed south of the southern edge of the Site (south of the slurry wall) on the City/CPD property, as shown in Attachment 1. The east-west portion of the temporary electrical trench was installed on City/CPD property that was not previously screened to native sand. At the western end, the trench proceeded north and crossed onto the Site into areas screened to native sand in 2006. Gamma screening was completed for trench areas not previously screened to native sand. The Instrument Threshold equivalent to the 7.1 pCi/g USEPA removal action level was 6,204 cpm (S/N: 326720 – long cord) for the trench excavation surveys. The trench excavation was conducted and screened in sections as described in the paragraphs below. Based on field observations, there was no indication of the presence of radiologically contaminated fill and/or an exceedance of the USEPA removal action level of 7.1 pCi/g total radium at Trench 7.

The TR1 excavation was located east of Site boundary under Lake Shore Drive and adjacent to the bridge structure. This trench began at 4 feet in width and narrowed to 2 feet in width where the temporary electric tie-in line was located. It extended 25 feet in length and reached a depth of 54 inches below the ground surface (bgs). Field gamma measurements within TR1 did not exceed the Instrument Threshold and ranged from 2,216 cpm to a maximum reading of 2,865 cpm (note, only the maximums for each lift are included in the tabulated results).

The Trench 2 (TR2) excavation began on the western end of TR1 and extended 25 feet in length, 2 feet in width, and reached a depth of 54 inches bgs. Field gamma measurements within TR2 did not exceed the Instrument Threshold and ranged from 1,291 cpm to a maximum reading of 2,103 cpm.

The Trench 3 (TR3) excavation began on the western end of TR2 and extended 25 feet in length, 2 feet in width, and reached a depth of 36 inches bgs. Field gamma measurements within TR3 did not exceed the Instrument Threshold and ranged from 1,341 cpm to a maximum reading of 1,654 cpm.

The Trench 4 (TR4) excavation began on the western end of TR3 and extended 25 feet in length, 2 feet in width, and reached a depth of 36 inches bgs. Field gamma measurements within TR4 did not exceed the Instrument Threshold and ranged from 1,410 cpm to a maximum reading of 2,125 cpm.

The Trench 5 (TR5) excavation began on the western end of TR4 and extended 25 feet in length, 2 feet in width, and reached a depth of 36 inches bgs. Field gamma measurements within TR5 did not exceed the Instrument Threshold and ranged from 2,568 cpm to a maximum reading of 2,685 cpm.

The Trench 6 (TR6) excavation began on the western end of TR5 and extended 25 feet in length, 2 feet in width, and reached a depth of 36 inches bgs. Field gamma measurements within TR6 did not exceed the Instrument Threshold and ranged from 2,442 cpm to a maximum reading of 3,061 cpm.

The Trench 7 (TR7) excavation began on the western end of TR6 and extended 25 feet in length, 2 feet in width, and reached a depth of 36 inches bgs. Field gamma measurements within TR7 did not exceed the Instrument Threshold and ranged from 2,387 cpm to a maximum reading of 2,394 cpm.

The Trench 8 (TR8) excavation began on the western end of TR7 and extended 25 feet in length, 2 feet in width, and reached a depth of 18 inches bgs. Field gamma measurements within TR8 did not exceed the Instrument Threshold and reached a maximum reading of 2,823 cpm.

The Trench 9 (TR9) excavation began on the western end of TR8 and extended 25 feet in length, 2 feet in width, and reached a depth of 18 inches bgs. This trench section was excavated to the west for 15 feet, then north for an additional 10 feet. The corner of the trench was located 15 feet from the Chicago River wall and 20 feet from the western site fence. Field gamma measurements within TR9 did not exceed the Instrument Threshold and reached a maximum reading of 2,481 cpm.

The Trench 10 (TR10) excavation began on the northern end of TR9 and extended 10 feet in length, 10 feet in width, and reached a depth of 54 inches bgs. Field gamma measurements within TR10 did not

exceed the Instrument Threshold and ranged from 2,303 cpm to a maximum reading of 3,394 cpm. In the area where 3,394 cpm was detected, the soil consisted of fill material containing red brick rubble.

The Trench 11 (TR11) excavation began on the northern end of TR10 and extended 25 feet in length, 2 feet in width, and reached a depth of 36 inches bgs. TR11 was the final remaining trenched area that had not been previously screened, leading to the temporary electric conex box. Field gamma measurements within TR11 did not exceed the Instrument Threshold and ranged from 2,643 cpm to a maximum reading of 3,691 cpm. Similar to the observed material in TR10, the fill material exhibiting the highest gamma readings was observed to contain red brick rubble. Based on field observations, there was no indication of the presence of radiologically contaminated fill and/or an exceedance of the USEPA removal action level of 7.1 pCi/g total radium at TR11.

A PDF copy of this letter report is being forwarded via email to the AIS, CDPH and USEPA to fulfill the requirements of the AIS form (Attachment 1). Copies of the AIS form, surface gamma results figure, photographs, and the tabulated gamma results are included as attachments to this report.

Please contact us with any questions you have regarding this letter or the reported results.

Regards,



Maggie Nutter
Environmental Engineer II



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

cc: Heidi Keller, AIS
Ahmad Nur, CDPH
Verneta Simon, USEPA

Attachments: Attachment 1 CDPH Permit Form and Maps
Attachment 2 Surface Gamma Survey Results
Attachment 3 Trench Photographs and Tabulated Gamma Results

ATTACHMENT 1

CDPH PERMIT FORMS



DEPARTMENT OF PUBLIC HEALTH
CITY OF CHICAGO

FORM NO. CDPH.ROW.04 (STREETERVILLE Right-of-Way)

Notice is hereby given that the site you have requested a permit for is recorded with the City of Chicago Department of Public Health (CDPH) as potentially having environmental contamination on the site and adjacent right-of-way. This environmental contamination could present a threat to human health and safety in connection with work performed at the site, or in the adjacent right-of-way, if proper safeguards are not employed.

Review all environmental and other information regarding the worksite provided by CDPH. Additional information regarding the aforementioned environmental contamination is available for review at https://www.epa.gov/lindsay-light. This environmental information must be reviewed and the remainder of this form completed before the permit can be issued if the ground will be exposed or excavated. Please note that for some locations, additional health and safety procedures may be required by law.

Please complete the following:

I have reviewed and understand the documents, maintained by CDPH, regarding environmental contamination of the site and adjacent right-of-way. Further, I will ensure that all work at the subject site and adjacent right-of-way, and any monitoring required including but not limited to radiation monitoring, will be performed in a manner that is protective of human health and the environment and in compliance with all applicable local, state, and federal laws, rules, and regulations, especially those pertaining to worker safety and waste management. I will ensure that the results of any radiation monitoring and/or surveying conducted shall be provided to CDPH and the United States Environmental Protection Agency within two (2) weeks of their completion. If any elevated levels of radioactive material are detected, I will immediately contact CDPH at (312) 745-8332 and the United States Environmental Protection Agency at (800) 424-8802.

Applicant Name (print): Donald M. Biernacki Signature: [Handwritten Signature]

Site Address and Work Location (Describe exact site location and attach map): 400 N Lake Shore Drive

Nature of Work: Temporary Electrical service for construction of residential highrise with associated sitework and landscaping

Company Name, Address, Phone No.: LR Contracting Company, 350 W Hubbard St., Suite 300, Chicago, IL 60654

General / Prime Contractor Name, Address, Phone No.: LR Contracting Company, 350 W Hubbard St., Suite 300, Chicago, IL 60654
Include subcontractor information if applicable

Safety Officer / Phone No.:

Radiation Contractor / Phone No. (if applicable): AECOM / Steve Kornder / (262) 515-7700 steve.kornder@aecom.com

Check if City Department Work [] Department Name: AIS

CDOT Permit No.: DOT1873256

Today's Date: 10/30/23 Expected Start Date: 11/6/23

AIS CDPH Approval / Date: [Handwritten Signature] Digitally signed by Heidi Keller Date: 2023.12.12 15:19:54 -06'00'

Please upload this form with detailed drawings as an attachment to the CDOT Public Way Opening Permit Application on the City of Chicago's Permit, Inspection, License, Registration, and 811 Chicago Portal (https://ipi.cityofchicago.org/profile) or send via e-mail to: radiation-monitoring@cityofchicago.org

For CDPH Use Only Work is to be completed under the 10/2023 Remediation ROW and Reimbursement Agreement between the City of Chicago and Related Midwest. Conditional approval for this work was granted on 11/24/2023 via email allowing for utility locates. Risk Management has approved (12/11/2023) the provided COIs and the scope of work can commence with radiation monitoring. HK 12.12.2023 333 SOUTH STATE STREET, ROOM 200 CHICAGO ILLINOIS 60604

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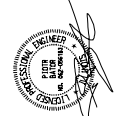
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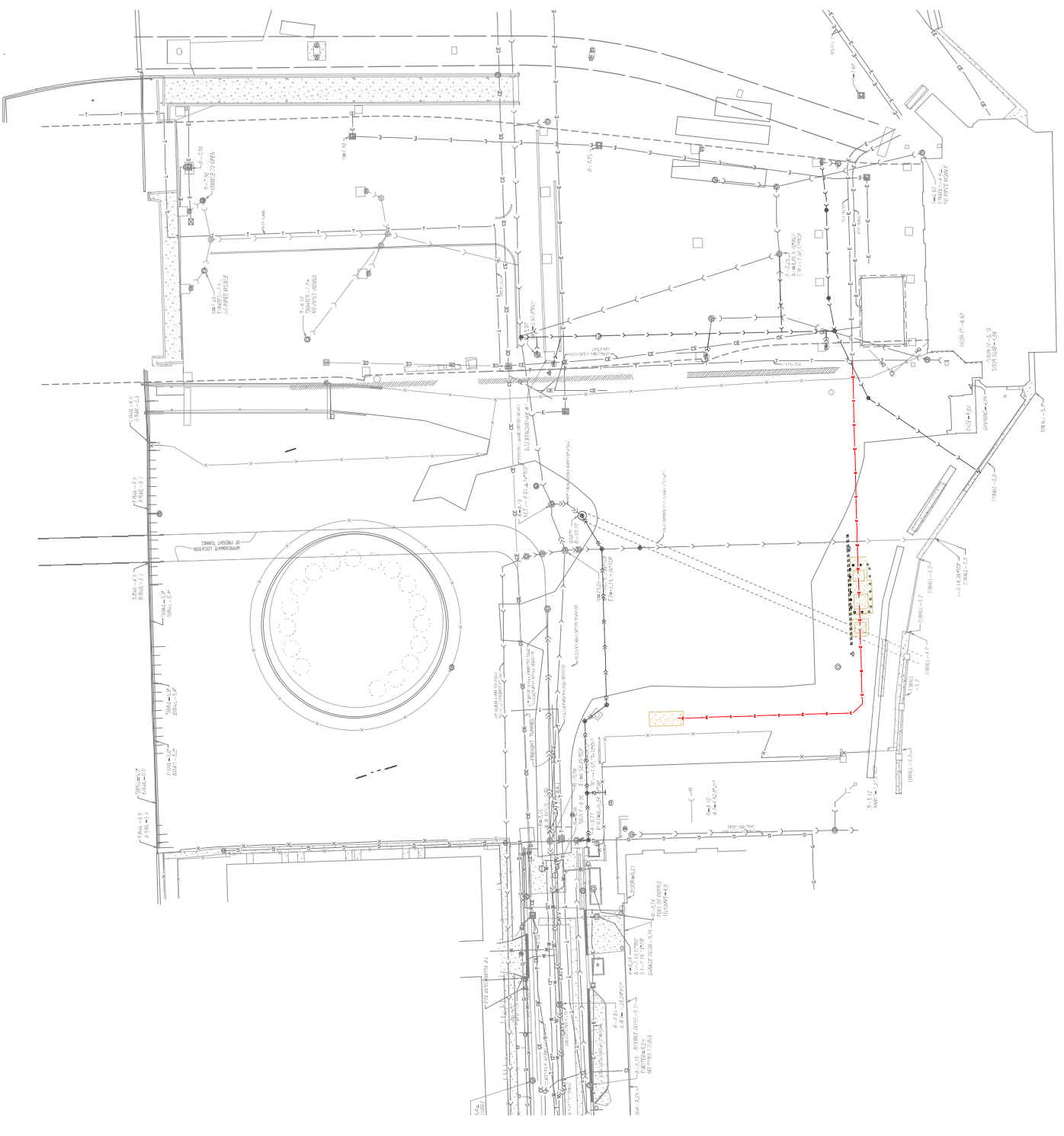
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NO.	DATE	DESCRIPTION
1	10/14/14	ISSUE FOR PERMIT
2	02/26/15	ISSUE FOR PERMIT
3	05/13/15	ISSUE FOR PERMIT
4	05/13/15	ISSUE FOR PERMIT
5	05/13/15	ISSUE FOR PERMIT
6	05/13/15	ISSUE FOR PERMIT
7	05/13/15	ISSUE FOR PERMIT
8	05/13/15	ISSUE FOR PERMIT

PROJECT NO. 141077
JOB NO. 141077
SHEET NO. 141077-03
DATE: 05/13/15
ISSUE FOR PERMIT



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ATTACHMENT 2

SURFACE GAMMA SURVEY RESULTS


**Maximum Surface Gamma Survey Results
(Counts per Minute)
City and Park District Property South of 400 N. Lake Shore Drive**


		GRID COLUMNS																					
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	
GRID ROWS	22	Riverview	Existing River Esplanade	5,629	400 N Lake Shore Drive Property														7,400	6,500	6,500	5,300	
	23			5,657															8,600	10,100	7,200	5,100	
	24			4,087	6,037	5,662	6,294	5,488	5,971	5,678	5,998	5,905	6,151	6,177	6,888	7,857	8,562	7,900	8,700	6,900	6,000		
	25			4,472	5,600	5,900	5,800	6,000	6,000	6,800	6,700	7,600	7,600	7,100	10,800	10,000	10,900	6,500	7,400	6,100	6,900		
	26			2,031	2,135	1,987	1,922	2,223	2,092	2,130	2,227	2,013	2,132	1,597	2,014	2,084	1,903	3,587	3,294	2,525	1,627		
	27			2,066	2,291	2,021	1,915	2,124	2,486	3,363	2,332	2,213	2,231	2,096	2,161	2,292	Bridge Structure						
	28				1,914	2,178	2,497	3,446	2,036	2,377	2,401	2,111	2,322	1,986	1,901								
	29								2,358	2,215	2,105	2,437	2,293	2,706									
	30											2,210	1,995	1,903									
	31												2,389	3,633									
32	Chicago River																						



Survey Grid - 5x5 meters (starts at NW corner of 400 N Lake Shore Site)

 **Area beneath N Lake Shore Drive**

 **Value** 2006-2007 Values measured with Ludlum 2221 Instrument # 172039
(EPA Threshold value of 19,158 cpm unshielded short cord)

 **Value** 2023--2024 Values Measured with Ludlum 2221 Instrument #326720
(EPA Threshold value of 6,204 cpm shielded long cord)

ATTACHMENT 3

**TRENCH PHOTOGRAPHS AND TABULATED GAMMA
RESULTS**

**Gamma Survey Results
400 N Lake Shore Drive**

Survey Equipment

CDOT Nos:	DOT1873256
Ludlum 2221 S/N:	326720
Ludlum Probe S/N	PR360158
Long Cord Cutoff (cpm)	6204
Background (cpm)	1237-1471
Personnel:	M. Nutter, E. Renn
Date of Screening:	12/20/2023 – 12/21/23

Trench Excavation Survey Results

Location	Excavation Area	Depth (inches)	Maximum Readings (cpm)
Trench 1	TR1	0	1903
		18	2316
		36	2865
		54	2216
Trench 2	TR2	0	2292
		18	1359
		36	1291
		54	2103
Trench 3	TR3	0	2231
		18	1341
		36	1654
Trench 4	TR4	0	2332
		18	2125
		36	1410
Trench 5	TR5	0	3363
		18	2685
		36	2568
Trench 6	TR6	0	2486
		18	2442
		36	3061
Trench 7	TR7	0	2124
		18	2387
		36	2394
Trench 8	TR8	0	2021
		18	2823
Trench 9	TR9	0	2291
		18	2418
Trench 10	TR10	0	2135
		18	2303
		36	2418
		54	3394

Trench 11	TR11	0	Previously surface screened
		18	2643
		36	3691

PICTURE 1: VIEW OF TRENCH 4 - 400 N LSD LOOKING NORTH



PICTURE 2: VIEW OF SIDE TRENCH 4 AND EXCAVATION SPOIL MATERIAL COMPOSITION - 400 N LSD LOOKING NORTH



PICTURE 3: VIEW OF TRENCHES 7, 8 AND 9 - 400 N LSD LOOKING SOUTHWEST



PICTURE 4: VIEW OF SIDE TRENCH 5 - 400 N LSD LOOKING WEST



PICTURE 5: VIEW OF TRENCHES 9, 10 AND 11 - 400 N LSD LOOKING SOUTH

