



September 26, 2022

978041

Marc Munroe  
3 Phase Line Construction  
490 W Roosevelt Rd., Suite 201  
West Chicago, IL 60185

RE: Thorium Monitoring at 253-306 E. Erie St.  
CDOT Permit # 1721256

Dear Mr. Munroe:

Stan A. Huber Consultants, Inc (SAHCI) was hired by your firm to provide radiation monitoring during excavation for a conduit and pole installation at 253-306 E. Erie St. in Chicago, Illinois. The monitoring was performed by Jeremy Kieser, SAHCI Health Physicist, and Aaron Morris, RSSI Health Physicist on September 7, 2022, and September 12 through 15, 2022.

#### Instrumentation

Surface gamma scans were performed using the following radiation detection instruments:

Utility Pole 9/7/22	Ludlum Model 193 with Ludlum Model 44-10 2"x2" NaI Detector - unshielded with 25' cord. Serial #149073
Trench 9/12/22-9/13/22	Ludlum Model 2221 with Ludlum 44-10 2"x2" NaI Detector – shielded. Serial # 132844
Trench 9/14/22-9/15/22	Ludlum Model 193 with Ludlum Model 44-10 2"x2" NaI Detector – shielded. Serial #149080

The instruments were last calibrated on May 3, 2022. The US Environmental Protection Agency (USEPA) action level of 7.1 picocuries per gram (pCi/g) total thorium for these instruments are as follows:

#149073 = 6,248 counts per minute (cpm)  
#132844 = 8,083 cpm  
#149080 = 7,248 cpm

The background count rate for this location ranged from 1,600 to 1,800 cpm.

#### Soil Gamma Scans – Utility Pole

Gamma surface scans were performed using the Ludlum Model 193 (serial #149073) described above. Survey data was collected by lowering the detector at one-foot intervals

into the pole excavation as the fill material was removed using a vacuum truck. All material was loaded directly into a truck for disposal.

The maximum gamma count rates on the surface and each lift were recorded on the attached Radiation Survey Form. The count rates in the excavation ranged from 2,200 cpm to 3,400 cpm. No count rates were found at any time that exceeded the threshold limit of 6,248 cpm.

#### Soil Gamma Scans – Utility Trench

Gamma surface scans were performed using the Ludlum Model 193 (serial #149080) and Ludlum Model 2221 (serial # 132844) described above. Survey data was collected by entering the trench excavation and measuring the floors and walls after each 18-inch lift to a maximum depth of 54 inches below ground surface.

The maximum gamma count rates on the surface and each lift were recorded on the attached Radiation Survey Forms. The count rates in the excavation ranged from 1,600 cpm to 4,900 cpm. No count rates were found at any time that exceeded the threshold limits of 7,248 cpm and 8,083 cpm, respectively.

#### Additional Monitoring

Since no count rates were identified above the 7.1 pCi/gram threshold limit, no additional soil sampling, air monitoring, or personnel monitoring were performed.

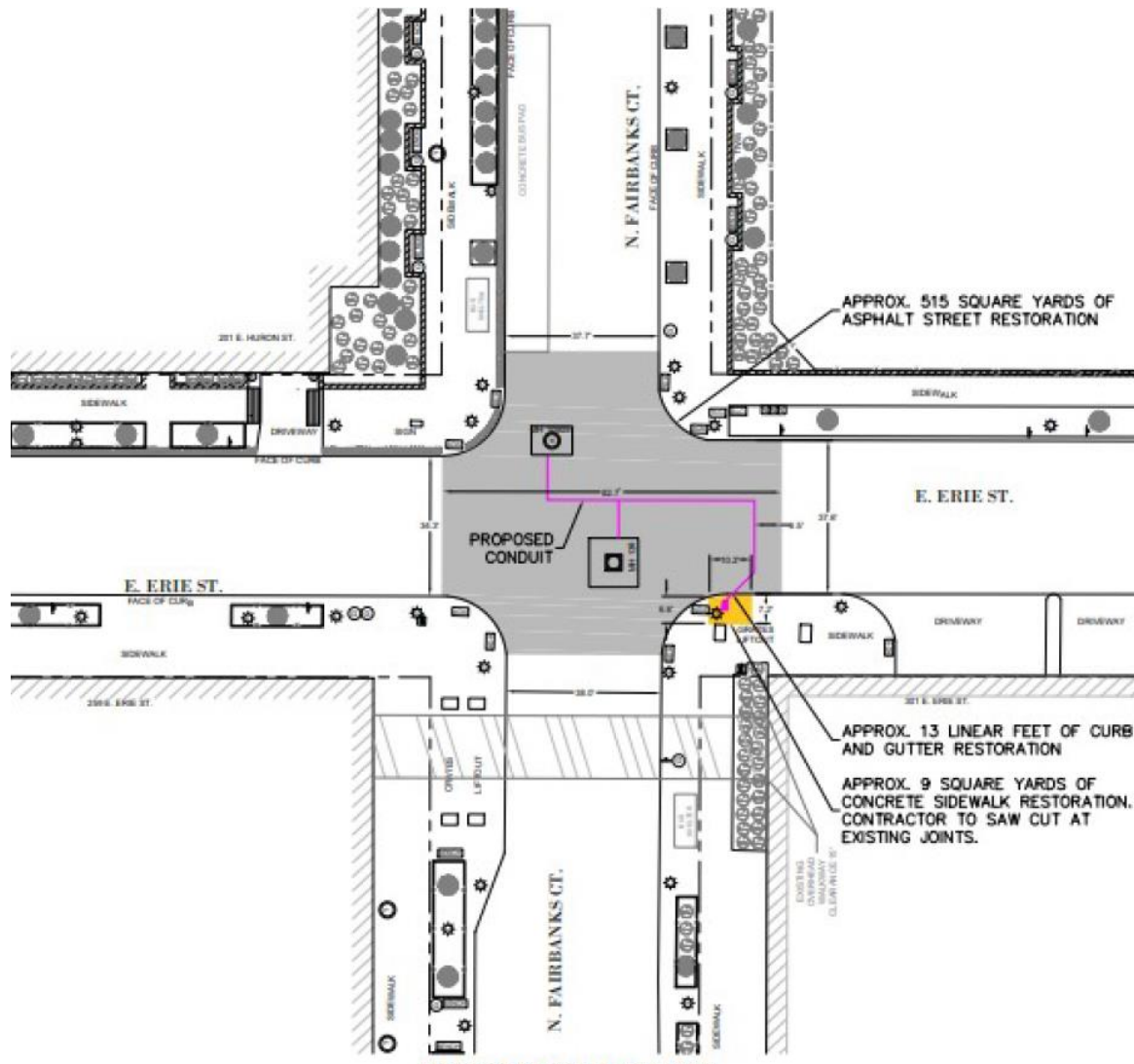
I will be providing a copy of this report to both the City of Chicago Department of Public Health (CDPH) and USEPA, as required.

Thank you for your assistance with this project. If you have any questions or need additional information, please call me at (815) 485-6161.

Sincerely,  
Stan A. Huber Consultants, Inc.



Glenn Huber, CHP  
President



**RESTORATION PLAN VIEW**  
SCALE 1" = 20'

## Radiation Survey Form

Location/ Project ID: 253-306 E. Erie St. CDOT# 1721256

Date: 9/7/22

Technician: Aaron Morris (RSSI)

Inst Model: Ludlum 193

Serial No.: 149073 w/25' cable

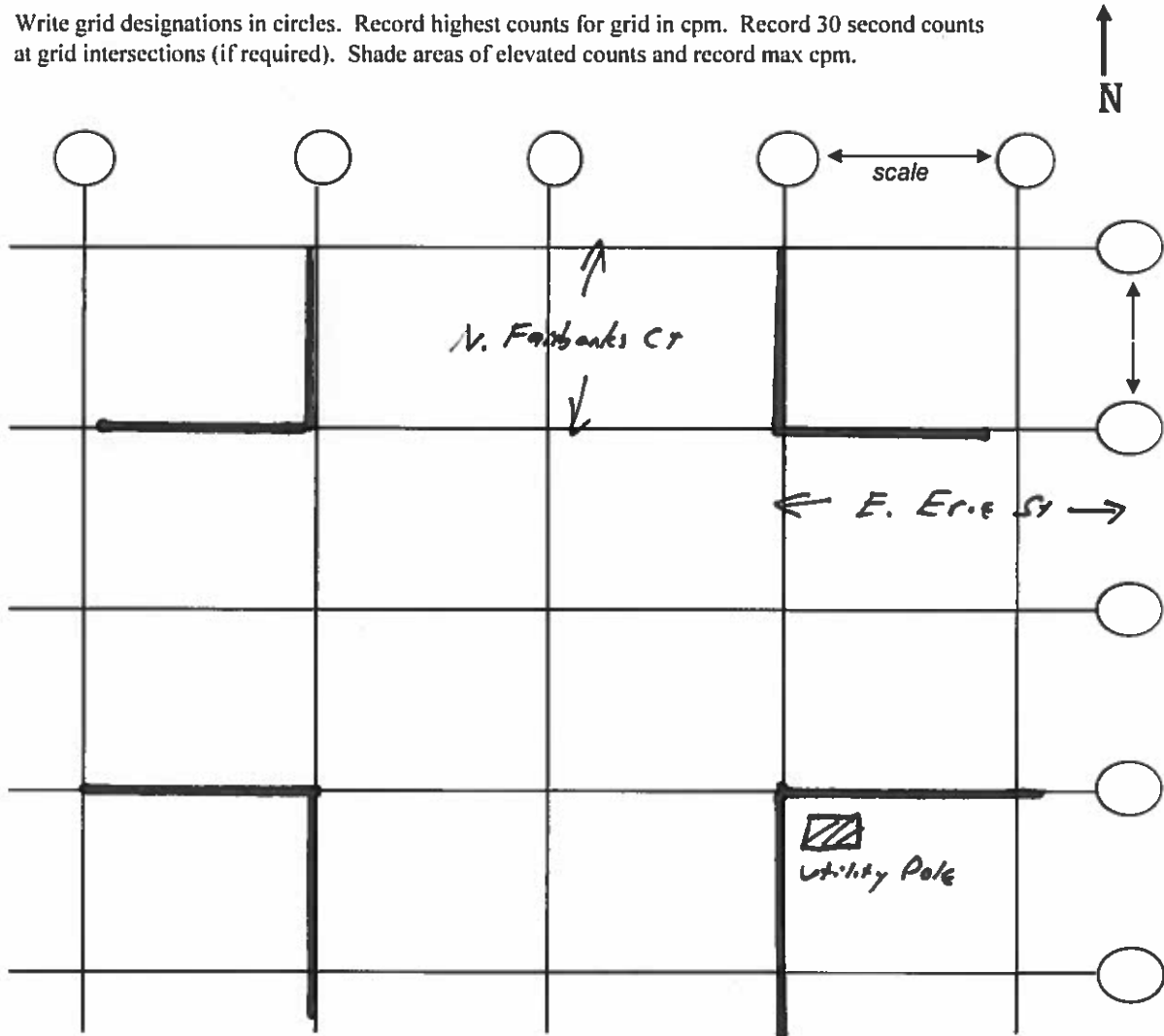
Probe Type: 1"x1" NaI / 2"x2" NaI  
Shielded / Not Shielded

Lift Elevation: surface -> -9' bgs

Background 1,800 cpm

Action Level: 6,248 cpm

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.



Location	subst	-3	-4	-5	-6	-7	-8	-9	
①		2200	3000	2800	3200	3600	3400	3000	2600 (cpm)

Note: Radiation Survey Form created by Glenn Huber based on Aaron Morris field notes 9/7/22. GAH

# Radiation Survey Form

Location/ Project ID: CDOT #1721256

Date: Sept 12 & 13, 2022

Technician: Jeremy Kieser

Inst Model: 2221

Serial No.: SN: 132844

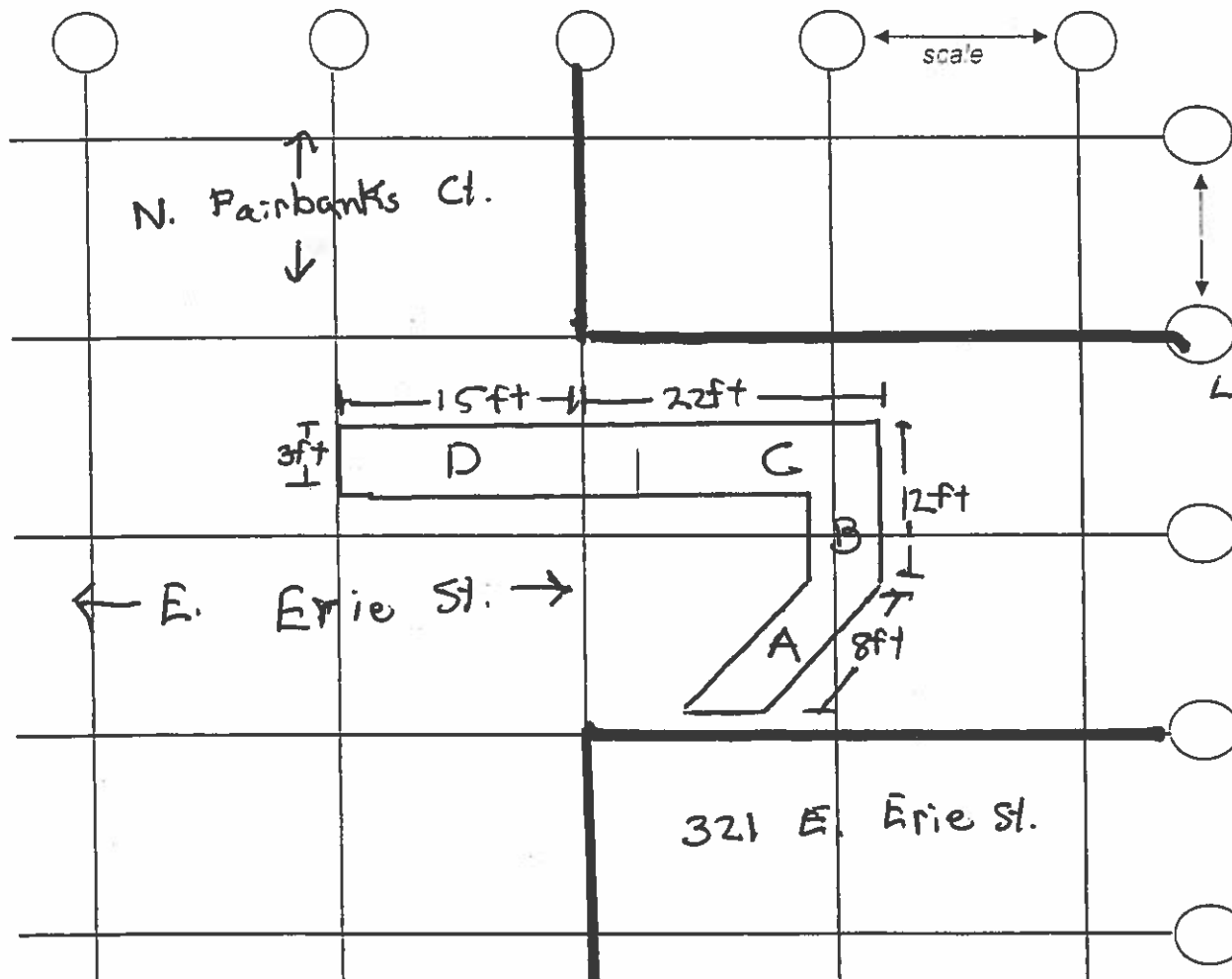
Probe Type: 1"x1" NaI / 2"x2" NaI  
Shielded / Not Shielded

Lift Elevation: Surface to 54 inches

Background 1824 cpm

Action Level: 8083 cpm

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.



Location A:  
Surface: 1800 cpm  
18 inches: 1600 cpm  
30 inches: 2000 cpm

Location B:  
Surface: 1800 cpm  
18 inches: 2100 cpm  
32 inches: 2800 cpm

Location C:  
Surface: 1800 cpm  
18 inches: 3200 cpm  
32 inches: 4900 cpm

Location D:  
Surface: 1800 cpm  
18 inches: 1800 cpm  
36 inches: 3500 cpm  
54 inches: 2200 cpm

## Radiation Survey Form

Location/ Project ID: 253-306 E. Erie St. CDOT# 1721256

Date: 9/14/22 - 9/15/22

Technician: Aaron Morris (RSSI)

Inst Model: Ludlum 193

Serial No. : 149080

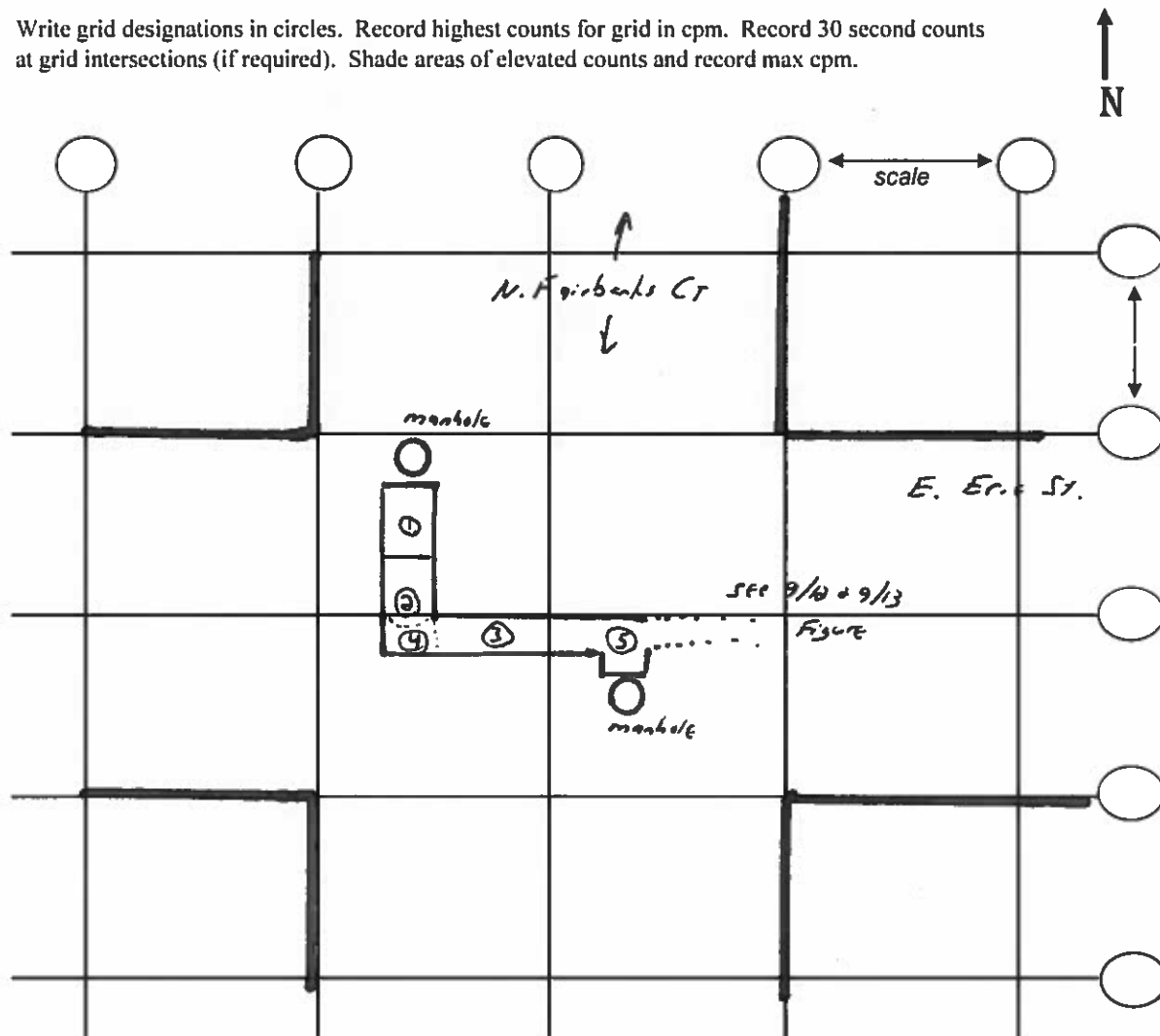
Probe Type: 1"x1" NaI 2"x2" NaI  
Shielded Not Shielded

Lift Elevation: surface -> -48" bgs

Background 1,600-1,800 cpm

Action Level: 7,248 cpm

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.



Location	Subs/ob	18"	36"	48"	
1	2000	2600	4200	3200	(cpm)
2	3400	-	-	-	
3	3200	3200	-	-	
4	2800	2800	-	-	
5	2800	3200	-	-	