



March 7, 2022

973954

Angel Camacho
SET Environmental
450 Sumac Road
Wheeling, Illinois 60090

RE: Thorium Monitoring – 233 E. Chicago Riverwalk (Northman)
City of Chicago Dept. of Assets, Information, and Services (AIS)
CDOT Permit: 1645543

Dear Mr. Camacho:

Stan A. Huber Consultants, Inc (SAHCI) was hired by your firm to provide radiation monitoring during excavation for concrete piers and extension of the current concrete slab at 233 E. Chicago Riverwalk (Northman Beer and Cider Garden). Monitoring for the electric conduit installation was performed on March 3, 2022, by Mark Dewald, SAHCI Health Physics Technician. All activities were conducted under the guidance of document *SET General Procedure for Thorium Monitoring*.

Instrumentation

Surface gamma scans were performed using a Ludlum Model 2221 Scaler / Ratemeter (serial no. 127242) with attached Ludlum Model 44-10 2"x2" NaI Detector (w/ 6" collimated lead shield). The instrument was both calibrated on May 5, 2021. The US Environmental Protection Agency (USEPA) action level of 7.1 picocuries per gram (pCi/g) total thorium for this instrument is 6,995 counts per minute (cpm).

The average background count rate for this location was 1,750 cpm.

Soil Gamma Scans

Gamma surface scans were performed using the Ludlum Model 2221 Scaler / Ratemeter described above. Survey data was collected by lowering the detector into the excavations and recording the highest count rate for the floor and walls to a maximum excavation depth of 42 inches below ground surface.

The maximum gamma count rate for each lift was recorded on the attached Radiation Survey Form. The count rates in the excavations ranged from 1,000 cpm to 2,700 cpm. No count rates were found at any time that exceeded the threshold limit of 6,995 cpm.

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 and US Environmental Protection Agency, 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.

A handwritten signature in black ink, appearing to read "Glenn Huber", written in a cursive style.

Glenn Huber, CHP
President

Radiation Survey Form

Location/ Project ID: 233 E. Riverwalk

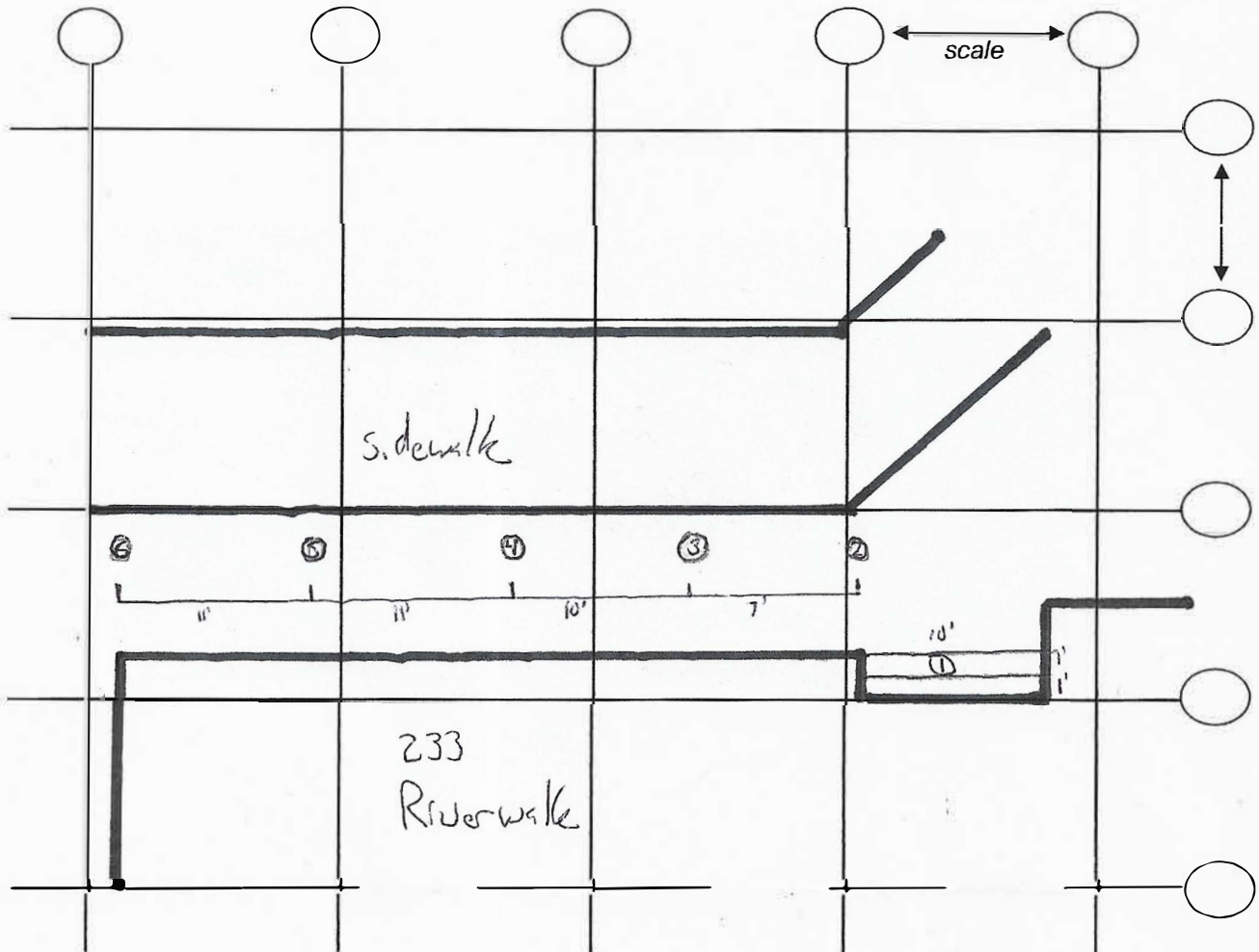
Date: 3/3/2022 Technician: Mark Dewald

Inst Model: Ludlum 2221 Serial No. : 127242

Probe Type: 1"x1" NaI / 2"x2" NaI Lift Elevation: Surface to -42" BGS
 Shielded Not Shielded

Background 1,750 cpm Action Level: 6,995 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.



| | Area 1 | Area 2 | Area 3 | Area 4 | Area 5 | Area 6 |
|--------|--------|--------|--------|--------|--------|--------|
| 0-18" | 1000 | 1700 | 1400 | 1400 | 1500 | 1400 |
| 18-36" | 1300 | 1500 | 1700 | 1600 | 2000 | 1700 |
| 36-54" | 2300 | 2100 | 1700 | 1700 | 2200 | 2600 |
| 42-60" | N/A | N/A | N/A | 2200 | 2400 | 2700 |