



June 27, 2020

revised 7/9/20 GAH

Mike Lanenga
SET Environmental
450 Sumac Road
Wheeling, Illinois 60090

958945

RE: Thorium Monitoring – AIS 233 E. Riverwalk
The Northman Beer and Cider Garden Pergola Footings

Dear Mr. Lanenga:

Stan A. Huber Consultants, Inc (SAHCI) was hired by your firm to provide radiation monitoring during the excavation of 14 footings required for a pergola being constructed at 233 E. Riverwalk in Chicago, Illinois. The monitoring was performed by Mark Dewald, SAHCI Health Physicist, from June 8, 2020 through June 16, 2020. 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. 126496) with attached Ludlum Model 44-10 2"x2" NaI Detector (w/ 6" collimated lead shield). The instrument was calibrated on October 18, 2019. The US Environmental Protection Agency (USEPA) action level of 7.1 picocuries per gram (pCi/g) total thorium for this instrument is 7,102 counts per minute (cpm).

The average background count rate for these locations was measured at 1,698 cpm.

Soil Gamma Scans

Gamma surface scans were performed using the Ludlum Model 2221 Scaler / Ratemeter described above. Survey data was collected by entering each 42" x 42" footing area as it was being excavated and recording the highest count rate for the floor and walls to a maximum depth of 4 feet below ground surface.

The maximum gamma count rate for each 18" lift was recorded on the attached Radiation Survey Form. The count rates in the excavations ranged from 1,700 cpm to 4,300 cpm. No count rates were found at any time that exceeded the threshold limit of 7,102 cpm.

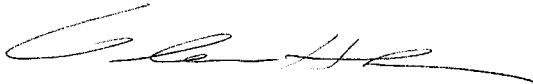
Additional Monitoring

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.

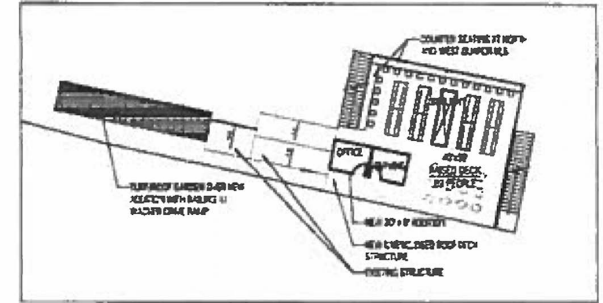
Sincerely,
Stan A. Huber Consultants, Inc.

A handwritten signature in black ink, appearing to read 'Glenn Huber', with a long horizontal flourish extending to the right.

Glenn Huber, CHP
President

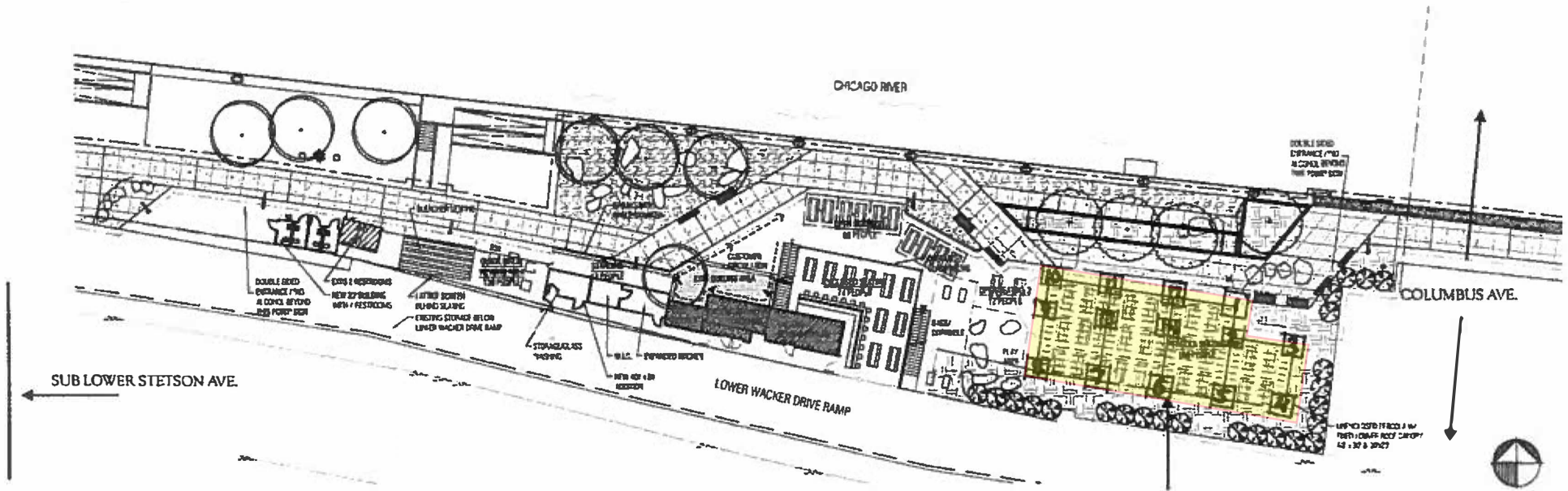
233 E. Riverwalk Thorium Survey Map

Date: 6/8-16/2020 Technician: Mark Dewald
 Inst Model: Ludlum 2221 Serial No.: 126496
 Probe Type: 2x2 NaI, Shielded Lift Elevation: 0-48"
 Background: 1698 cpm Action Level: 7102 cpm



SECOND FLOOR PLAN
 SCALE: 1" = 30'

*All 14 areas are 42"x42" squares, 48" deep



PERGOLA/TESTING SITE AREA

SITE PLAN

0 15' 30' 60'

SCALE: 1" = 30'
 07.02.2019



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THE NORTHMAN BEER AND CIDER GARDEN

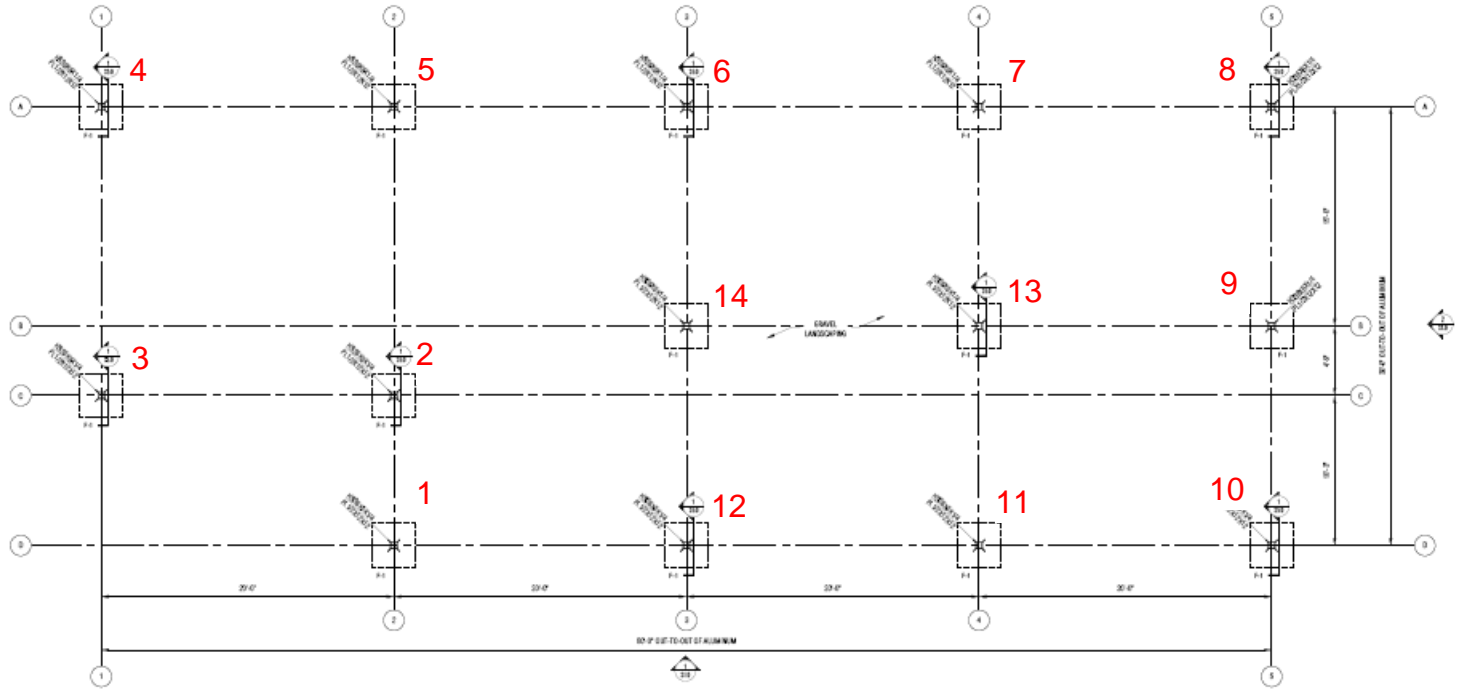
233 E. Lower Wacker Drive Chicago, IL 60601

233 E Riverwalk Survey Data

Date: 6/8/20 - 6/16/20
 Technician: Mark Dewald
 Instrument ID: Ludlum Model 2221 (sn 126496)
 w/ Ludlum Model 44-10 Shielded NaI
 Background: 1698 cpm
 7.1 pCi/g: 7102 cpm

Area	Surface Max CPM	-1.5' Max CPM	-3' Max CPM	-4' Max CPM
1	2000	2800	2400	2000
2	2400	2900	2200	2000
3	3000	4300	2800	2500
4	2900	3100	3400	2800
5	2400	2800	2000	1700
6	2200	2500	1900	1900
7	1800	2200	2700	3300
8	2000	2200	2200	2900
9	1900	2500	3500	3700
10	2000	2800	2200	1900
11	1700	2500	2900	3700
12	2000	2200	2400	2000
13	2100	2500	3600	3700
14	2200	2700	2800	2200

Each Footing Area = 42"x42" squares, 48" deep



1 FOUNDATION PLAN
 S2.0 SCALE: 1/4"=1'-0"