AECOM
303 E. Wacker Drive, Suite 1400
Chicago, Illinois 60606

312-939-1000 tel
312-939-4198 fax

January 19, 2022

Mr. Sudhir Mantri
Integrated Environmental Solutions, Inc.
1333 Burr Ridge Parkway, Suite 200
Burr Ridge, IL 60527

RE: Streeterville Thorium Monitoring Results - Chicago Lock North Pier Repair
Contract No.: W912P619C0009
Permit Address: 108 N. Streeter Dr., Chicago, Illinois
AECOM Project No. 60629926

Dear Mr. Mantri:

Pursuant to conditions specified in the Private Property Form (attached) issued by the City of Chicago Department of Public Health (CDPH), radiation monitoring was required to be performed at the above referenced site for excavation activities. AECOM Technical Services, Inc. (AECOM) provided the required radiation surveillance for excavation activities necessary to install the new seawall system, and upgrade infrastructure as necessary, within the parking lot area. The location is identified in the drawing attached to the CDPH form (Attachment A).

The monitoring did not indicate that the excavated fill soils were above 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 Ludlum Model 2221 survey meters with shielded 2 x 2 inch NaI probes. Several instruments were utilized for the field screening work. The serial numbers of the gamma instruments used, and their respective thresholds equivalent to removal action level of 7.1 pCi/g, are included in the tabulated results presented in Attachment B.

Field instrument fill soil background measurements were recorded at five locations in the work area prior to the initial excavation for the large sheeting and tie-rod portion of the project. These background values ranged from 2,107 to 2,872 cpm with an average of 2,585 cpm. Additional background counts were recorded during the project in the vicinity of smaller excavations (refer to tabulated results).

Sheeting Trench – June 2020

The installation of sheeting for a deadman required the excavation of a trench to remove potential obstructions. The trench was located along the northern edge (approximately the center of the parking lot area – refer to drawing in Attachment B). Work on the trench was initiated at the eastern end of the parking lot on June 15, 2020 and completed on June 16, 2020. The length of the sheeting trench was approximately 160-feet and 20-feet wide. The excavation was deepest at the center (approx. 8-feet) and benched to the north and south which allowed safe access for gamma surveying in 18-inch lift intervals. For gamma surveying purposes, the length of trench was divided into six approximately equal sections. The first section (#1) was on the east side and the last section (#6) on the western end. The six sections were also split into northern and southern halves with maximum gamma counts recorded for each half section.

The results for the sheeting trench have been tabulated and are presented in Attachment B. The instrument threshold equivalent to the USEPA removal action level for the sheeting trench surveying was 6,620 cpm shielded. The results ranged from a minimum of 1,061 cpm to a maximum of 4,689 cpm shielded. The average gamma count for the fill in the sheeting trench was 2,665 cpm shielded. Therefore, the gamma surveying for the sheeting trench did not observe an indication of potential thorium contamination.

Tie-Rod Installation

Excavation for the installation of tie-rods south of the deadman sheeting (refer to drawings in Attachment A) was initiated on June 25, 2020. Excavation work was initiated on the western end of the deadman. The gamma surveying utilized the same section numbering system used for the installation of the sheeting. Reiterating, the length excavation was divided into six approximately equal sections for gamma surveying starting with first section (#1) on the east side and the last section (#6) on the western end. Excavation was conducted in a phased approach with the excavation, tie-rod installation and backfill being completed before the next section was excavated. As a result, excavation was not continuous, but was completed on July 17, 2020. Each of the gamma survey sections was approximately 30-feet long, 30-feet wide and 7 to 8 feet deep.

The results for the tie-rod excavation area have been tabulated and are presented in Attachment B. The instrument thresholds equivalent to the USEPA removal action level for the surveying were 6,620 cpm and 6,818 cpm shielded. The results ranged from a minimum of 1,030 cpm to a maximum of 4,289 cpm shielded. The average gamma count for the fill in the tie-rod excavation area was 2,900 cpm shielded. Therefore, the gamma surveying of the excavation conducted for the installation of the tie-rods did not find an indication of potential thorium contamination.

ComEd Vault

Excavation for the installation of a new ComEd vault was conducted on November 9 and 10, 2020. The location of the vault is shown on the annotated drawing in Attachment B. Tabulated gamma results are summarized following the drawing in Attachment B. The excavation was approximately 15 x 26 feet with a depth of 10.5-feet. The excavation was completed in 18-inch lifts. A layer of sand, potentially native, was present at a depth of 9-feet.

The instrument threshold equivalent to the USEPA removal action level for the surveying was 6,933 cpm shielded. The field instrument background in the immediate area of the excavation was 1,996 cpm shielded. The results ranged from a minimum of 2,200 cpm to a maximum of 3,689 cpm shielded with an average gamma count of 2,994 cpm shielded. Therefore, the gamma surveying of the excavation conducted for the installation of the vault did not find an indication of potential thorium contamination.

April 2021 Utility Trenches

Excavation for the installation of two new utility trench was conducted on April 26 and 27, 2021. The location of the trenches is shown on the annotated drawing in Attachment B. The trenches were divided in approximately equal sections for the collection of gamma counts. Tabulated gamma results are summarized following the drawing in Attachment B. The gamma surveying was completed in 18-inch lifts to a depth of 4-5 feet for the trenches.

The instrument threshold equivalent to the USEPA removal action level for the surveying was 7,020 cpm shielded. The field instrument background in the immediate area of the excavation was an average of 1,457 cpm shielded. The trench surveying results ranged from a minimum of 900 cpm to a maximum of 3,400 cpm shielded. Therefore, the gamma surveying of the trench excavations did not observe an indication of potential thorium contamination.

Utility Potholing - May and October 2021

Potholing to determine the location of utilities was conducted on May 27, 2021 and October 19, 2021. Locations are shown on the annotated drawing in Attachment B with the tabulated gamma results summarized following the drawing.

The instrument threshold equivalent to the USEPA removal action level for the surveying was 6,534 cpm shielded with a long probe cord for the May 2021 work. The field instrument background in the area of the excavations was 1,207 cpm shielded. Potholing survey results ranged from a minimum of 1,200 cpm to a maximum of 3,100 cpm shielded. The October 2021 instrument threshold equivalent to the USEPA removal action level for the surveying was 6,615 cpm shielded with a long probe cord. The field instrument background in the area of the excavation was 1,473 cpm shielded. Survey results for the excavation around water manhole in October 2021 ranged from a minimum of 1,118 cpm to a maximum of 5,705 cpm shielded. There was no indication of potential thorium contamination observed during the potholing work.

Utility Trench Excavation – July and August 2021

Excavation for a utility trench along the northern edge of the property was conducted between July 22 and August 2, 2021. The location of the trench is shown on the annotated drawing in Attachment B. The trench was divided into sections and the associated gamma survey results are tabulated and presented following the drawing in Attachment B. Gamma surveying was completed in 18-inch lifts to the final trench depth.

The instrument threshold equivalent to the USEPA removal action level for the surveying was 6,615 cpm shielded. The field instrument background in the immediate area of the excavation ranged from 1,096 to 2,090 cpm shielded. The trench surveying results ranged from a minimum of 1,100 cpm to a maximum of 4,619 cpm shielded. Therefore, gamma surveying of the trench excavation did not observe an indication of potential thorium contamination.

Water Utility Trenching – November 2021

A utility trench for water lines was excavated between November 16 and 18, 2021. The trench location is shown on the annotated drawing in Attachment B. The trench was divided into approximately equal sections and the associated gamma survey results are tabulated following the drawing. The southern section of trench ran east-west (gamma results for areas A through G). A second north-south trench section was also excavated. The results for this section are tabulated in areas H through N. Gamma surveying was completed in 18-inch lifts to the final depth, which ranged from 4-5 feet.

The instrument threshold equivalent to the USEPA removal action level for the surveying was 7,000 cpm shielded. The field instrument background in the area of the excavation was 1,153 cpm shielded. Trench survey results ranged from a minimum of 900 cpm to a maximum of 2,579 cpm shielded. Therefore, the gamma surveying did not observe an indication of potential thorium contamination.

Conclusions

Gamma survey activities were conducted periodically from June 15, 2020 through November 18, 2021 during the excavation of fill soils within the parking lot area. The results of these gamma surveys did not reveal gamma counts above the instrument thresholds equivalent to the USEPA removal action level of 7.1 pCi/g. Therefore, there was no indication of potential thorium contaminated fill soils.

A PDF copy of this letter report has been forwarded to CDPH and Verneta Simon (USEPA) via email to fulfill the requirements of the CDPH form conditions.

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

Regards,

Eric Sulita, P.E.
Environmental Engineer III

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

cc: Terry Sheahan, CDPH
Ahmad Nur, CDPH
Verneta Simon, USEPA

Attachments: Attachment A - CDPH Permit and Drawings
Attachment B – Annotated Drawings and Tabulated Gamma Results

ATTACHMENT A

CDPH PERMIT FORM AND DRAWINGS

DEPARTMENT OF PUBLIC HEALTH
CITY OF CHICAGO

(STREETERVILLE - Private Property)

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. This environmental contamination could present a threat to human health and safety in connection with work performed at the site, if proper safeguards are not employed.

A file containing detailed information regarding the aforementioned environmental contamination is available for review at CDPH at 333 S. State St., Room 200, Chicago, Illinois 60604 during normal business hours (8:30AM-4:30PM, Monday through Friday). Contact (312) 745-3152 for an appointment. This file must be reviewed and the remainder of this form completed before the permit can be issued if the ground is 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. Further, I will ensure that all work at the subject site, 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 (USEPA) **within two (2) weeks of their completion**. If any elevated levels of radioactive material are detected, I will immediately contact the United States Environmental Protection Agency at (800) 424-8802.

Applicant Name (print): Integrated Environmental Solutions, Inc. Signature: Sahar Mantri

Site Address and Work Location (Describe exact site location and **attach map**): 108 North Streeter Drive, Chicago, Illinois, to the north of the existing structure and the Chicago Harbor Lock and controlling works. A small portion of the project will include the parking area for the Chicago Harbor Lock, which is part of a large thorium monitoring area that is associated with past contamination from the Lindsay Light Site.

Nature of Work: Chicago Lock North Pier Repairs Project (Contract No. W912P6-19-C-0009)

Company Name, Address, Phone No.: U.S. Army Corps of Engineers - Chicago District, 231 South LaSalle Street, Suite 1500, Chicago, Illinois 60604-1437, Project Engineer (847) 688-4431

General / Prime Contractor Name, Address, Phone No.: Integrated Environmental Solutions, Inc., 13435 Kolmar Avenue, Crestwood, Illinois 60145-1442, (708) 926-9588
Include subcontractor information if applicable)

Safety Officer / Phone No. Chetan Kale/(708) 926-9588 (office) (630) 853-2533 (cell)

Radiation Contractor / Phone No. and email address (if applicable) AECOM/Steve Korndner (262) 515-7700 steve.kornder@aecom.com

Check if City Department Work ☐ Department Name: _____

CDOT Permit No. or Developer Services No..: _____

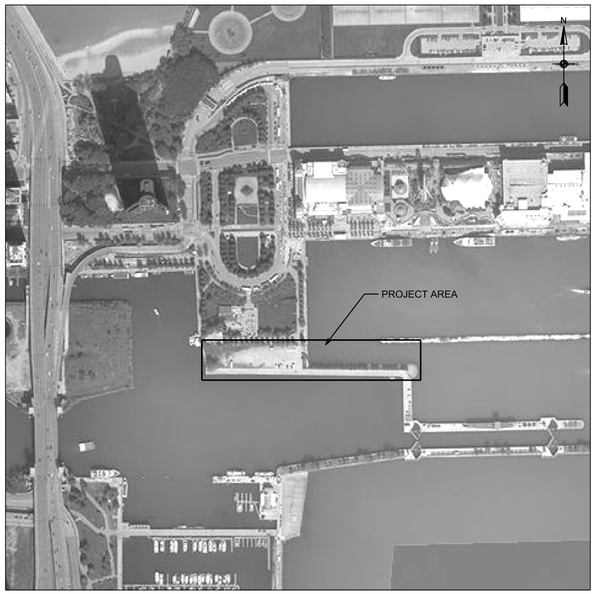
Today's Date: _____ Expected Start Date: February 3, 2020 CDPH Approval / Date _____

Please return this completed form along with maps showing exact site location to CDPH at 333 S. State St., Room 200, Chicago, Illinois 60604 during normal business hours (8:30 AM - 4:30 PM, Monday through Friday)

For CDPH Use Only

US Army Corps of Engineers®
CHICAGO DISTRICT

CHICAGO LOCK
NORTH PIER REPAIRS
CHICAGO, ILLINOIS



LOCATION MAP
(N.T.S.)

VICINITY MAP
(N.T.S.)

SOLICITATION NO.: W912P6-19-B-0007
CONTRACT NO.: W912P6-19-C-0009
ISSUE DATE: 5 AUGUST 2019
AS-AWARDED CERTIFIED FINAL - W912P6-19-C-0009

SHEET INDEX

THIS PROJECT WAS DESIGNED BY THE CHICAGO DISTRICT CORPS OF ENGINEERS. THE INITIALS OR SIGNATURES AND REGISTRATION DESIGNATIONS OF INDIVIDUALS APPEAR ON THESE PROJECT DOCUMENTS WITHIN THE SCOPE OF THEIR EMPLOYMENT AS REQUIRED BY ER 1110-1-8152. SIGNATURES INDICATE OFFICIAL RECOMMENDATION OF ALL DRAWINGS IN THIS SET.

REVIEWED BY:

/S/ FRANK LEWANDOWSKI, P.E. 5/1/2019
ATR TEAM LEADER DATE

SIGNATURE AFFIXED BELOW INDICATE OFFICAL RECOMMENDATION AND APPROVAL FOR ALL DRAWINGS CONTAINED IN THE SHEET INDEX.

APPROVAL RECOMMENDED BY:

/S/ MIKE NGUYEN 6/6/2019
PROJECT MANAGER DATE

APPROVED BY:

/S/ JOHN GROBOSKI, P.E. 6/6/2019
CHIEF, DESIGN BRANCH DATE

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: WITOLD KLUZA
DRAWN BY: D. BANKHEAD
CHECKED BY: D. SCHIEMANN
SUBMITTED BY: RANA MISHRA, P.E.
QC'D BY:
ANSI D

ISSUE DATE: 5 AUGUST 2019
SOLICITATION NO.: W912P6-19-B-0007
CONTRACT NO.: W912P6-19-C-0009
PROJECT ID: 114419
FILE NAME: 114419_G-001.dgn

U.S. ARMY CORPS OF ENGINEERS
CHICAGO DISTRICT
231 S. LASALLE ST., SUITE 1500
CHICAGO, ILLINOIS 60604

CHICAGO LOCK
NORTH PIER REPAIRS
CHICAGO, ILLINOIS

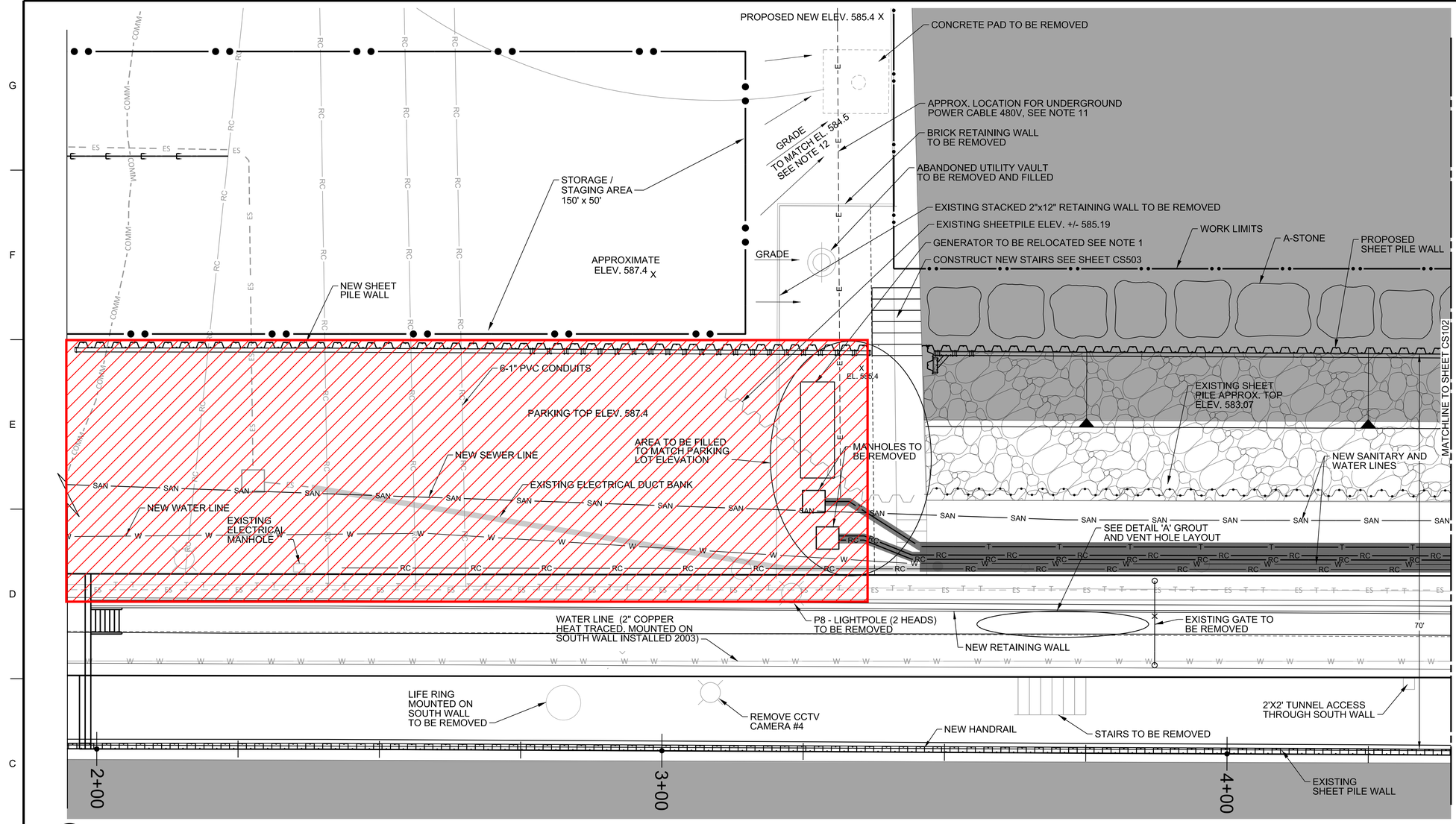
LOCATION, VICINITY MAP AND SHEET INDEX

SHEET ID
G-001

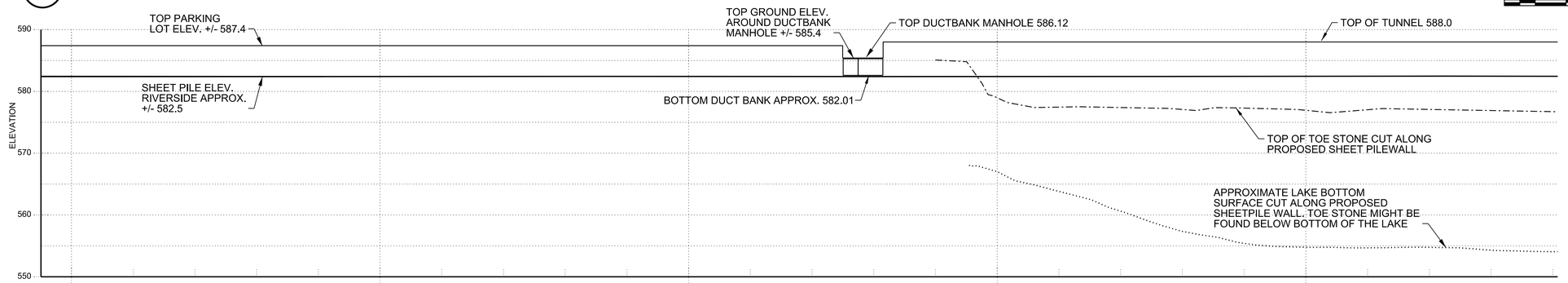
ATTACHMENT B

TABULATED GAMMA RESULTS AND ANNOTATED DRAWINGS

SHEETING AND TIE-RODS
JUNE 15 – JULY 17, 2020



B1 SITE PLAN
SCALE: 1" = 10'

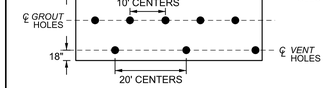


A1 EXISTING CONDITIONS - PROFILE
SCALE: 1" = 10'
0 10' 20'

GENERAL NOTES

1. GENERATOR IS NOT CONNECTED TO POWER LINES DURING INSTALLATION OF SHEET PILE WALL IT WILL HAVE TO BE RELOCATED TEMPORARY WITHIN WORKLIMITS TO COMPLETE THE WORK.
2. ANY UTILITIES WILL HAVE TO BE BRACED TEMPORARY DURING CONSTRUCTION IF ENCOUNTERED.
3. PARKING STORAGE/STAGING AREA TO BE SHARED WITH ANOTHER CONTRACTOR WORKING ON SITE UNDER DIFFERENT CONTRACT.
4. PARKING/PIER TO BE SHARED WITH USACE EMPLOYEE WORK IN THE LOCK 24-HOURS A DAY.
5. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL UTILITIES PRIOR TO CONSTRUCTION.
6. WATER SERVICE TIE-IN LOCATION: THE NEW 2" COPPER WATER SERVICE LINE SHALL BE CONNECTED TO THE EXISTING 2" COPPER WATER SERVICE LINE COMING FROM THE CITY AT THIS LOCATION. SEE SPECIFICATION SECTION 33 11 00. AND SHEET CS503 FOR DETAILS. REMOVE EXISTING WATER SERVICE LINE PENETRATING THE TUNNEL.
7. SANITARY FORCE MAIN TIE-IN LOCATION: THE NEW 4" DUCTILE IRON SANITARY FORCE MAIN IS TO BE CONNECTED TO THE EXISTING 4" DUCTILE IRON SANITARY FORCE MAIN. (SEE SPECIFICATION SECTION 33 31 23.0010 AND SHEET CS-503 FOR DETAILS). REMOVE EXISTING SANITARY FORCE MAIN PENETRATING THE TUNNEL.
8. WATER SERVICE AND SANITARY FORCE MAIN TO DAYLIGHT VERTICALLY ABOVE GROUND. SEE SHEET CS307, SECTION D1.
9. CONTRACTOR SHALL COORDINATE LOCATIONS FOR THE TIE-IN WITH THE COR. LOCATIONS PROVIDED ARE BASED ON THE BEST INFORMATION AVAILABLE. CONDITIONS MAY VARY IN THE FIELD.
10. ALL WATER SERVICE AND SANITARY FORCE MAIN TIE-INS MUST MATCH THE EXISTING PIPE SIZES, MATERIAL, AND INSULATION. IF THE EXISTING PIPE SIZES ARE FIELD VERIFIED TO DIFFER FROM PROPOSED SIZES DELINEATED IN THE DRAWINGS, THE CONTRACTOR MUST MATCH THE LARGER SIZE.
11. POWER LINE APPROXIMATE LOCATION, THE CONTRACTOR TO FIELD VERIFY. IT POWERS THE ENTRANCE GATE, IT WILL BE REMOVED / RELOCATED FOR MORE DETAILS SEE ELECTRICAL DRAWINGS.
12. AFTER RETAINING WALL WILL BE REMOVED, THE AREA WILL NEED TO BE GRADED TO MATCH EXISTING CONCRETE SIDEWALK. TOPSOIL FILL WILL BE SEEDED WITH GRASS MIX.

DETAIL "A"



DETAIL 'A' - TYPICAL GROUT AND VENT HOLE LAYOUT STATIONS 2+00 TO STA. 8+25

ALIGNMENT TABLE		
STA.	EASTING	NORTHING
0+00	1180993.41	1903068.78
1+00	1181093.41	1903068.99
2+00	1181193.40	1903068.34
3+00	1181293.40	1903068.03
4+00	1181393.39	1903067.47
5+00	1181493.39	1903066.83
6+00	1181593.39	1903066.37
7+00	1181693.39	1903066.02
7+90	1181783.98	1903065.61
7+92	1181786.08	1903067.27
8+00	1181793.21	1903067.89
8+30	1181822.57	1903070.42
8+42	1181834.01	1903069.64
8+47	1181840.09	1903072.12
8+50	1181841.40	1903074.25

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY:	WITOLD KLUZA
DRAWN BY:	D. BANKHEAD
CHECKED BY:	D. SCHIEMANN
SUBMITTED BY:	RANA MISHRA, P.E.
DATE:	ANSI D

ISSUE DATE: 5 AUGUST 2019
SOLICITATION NO.: W912P6-19-B-0007
CONTRACT NO.: W912P6-19-C-0009
PROJECT ID: 114419
FILE NAME: 114419_CS101.dgn

U.S. ARMY CORPS OF ENGINEERS
CHICAGO DISTRICT
231 S. LASALLE ST. SUITE 1500
CHICAGO, ILLINOIS 60604

CHICAGO LOCK
NORTH PIER REPAIRS
CHICAGO, ILLINOIS

SITE PLAN

SHEET ID
CS101

...\Chicago Lock North Pier Repair - 114419\40 - Geospatial Data\Drawings\CAD_BIM_Sheets\SITE PLAN 1
10:26:09 AM 10/1/2019 PD: AEC_pdf.pltcfg DS: AEC_Screen.dscript

Chicago Locks - Gamma Survey Results

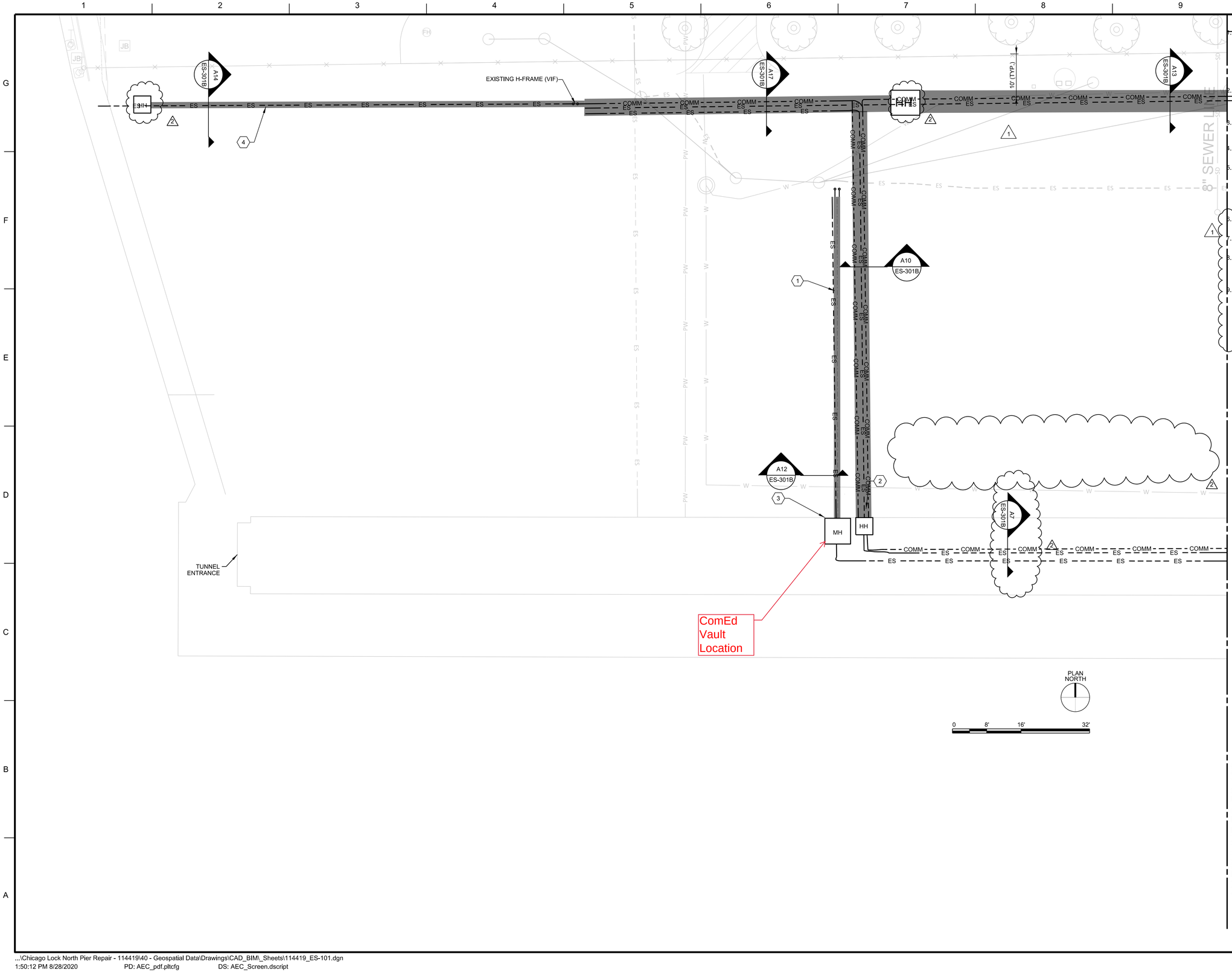
Ludlum 2221 S/N:	172039 & 326726
Shielded Cutoff:	6,620 & 6,818 cpm
Shielded Background:	1,117 to 2,650 cpm
Personnel:	J. Nagle & E. Sulita
Date of Screening:	June 15 - July 17, 2020

Sheeting Trench				
Location	Depth (inches)	Maximum Gamma Readings (cpm)		Survey Dates
		South	North	
1	0-18	1,326	1,061	June 15 and 16, 2020
	18-36	3,316	4,322	
	36-54	3,714	4,689	
	54-72	3,443	3,800	
2	0-18	3,693	1,351	
	18-36	3,728	2,014	
	36-54	4,092	1,306	
	54-72	2,923	2,432	
	72-90	2,681	3,186	
	90-108	4,629	2,974	
3	0-18	1,095	2,230	
	18-36	2,063	2,718	
	36-54	3,211	2,164	
	54-72	2,404	3,036	
	72-90	2,203	2,882	
	90-108	3,002	3,270	
4	0-18	2,026	1,213	
	18-36	2,455	3,419	
	36-54	1,846	2,792	
	54-72	3,352	2,673	
	72-90	2,761	1,908	
	90-108	2,446	2,354	
5	0-18	1,215	1,992	
	18-36	2,634	2,007	
	36-54	2,895	2,468	
	54-72	2,685	2,538	
	72-90	2,954	2,764	
	90-108	3,506	3,501	
6	0-18	1,062	1,754	
	18-36	1,685	2,648	
	36-54	2,763	2,573	
	54-72	2,074	2,707	
	72-90	2,981	2,020	
	90-108	3,640	3,955	

Tie-rod Sections			
Location	**Depth (inches)**	**Maximum Gamma Readings (cpm)**	**Date Surveyed**
1	0-18	2,414	June 25 - July 17, 2020
	18-36	3,482	
	36-54	4,289	
	54-72	4,087	
	72-90	3,852	
	90-108	3,604	
2	0-18	2,954	
	18-36	2,365	
	36-54	3,399	
	54-72	3,710	
	72-90	3,860	
	90-108	4,218	
3*	0-18	1,870	
	18-36	1,830	
	36-54	1,780	
	54-72	1,480	
	72-90	2,080	
	90-108	3,940	
4	0-18	1,920	
	18-36	2,842	
	36-54	4,157	
	54-72	3,614	
	72-90	3,370	
5	0-18	1,244	
	18-36	1,970	
	36-54	2,231	
	54-72	3,640	
	72-90	3,678	
6	0-18	1,030	
	18-36	2,061	
	36-54	3,170	
	54-72	3,844	
	72-90	1,710	

Notes: * - Ludlum cutoff 6,818 cpm shielded

COMED VAULT
NOVEMBER 9-10, 2020



KEY NOTES

1. ~~PROVIDE COMED PRIMARY FEEDER~~ DUCT-BANK IN ACCORDANCE WITH COMED SYSTEM STANDARDS 'C4050 CONDUIT RUN TRENCH PREPARATION', 'C4171 CONDUIT RUN INSTALLATION' AND 'C4090 CONDUIT RUN FORMATIONS'. RE-FEED NEW 12KV CABLE (PRIMARY DISTRIBUTION).
2. RELOCATED CONCRETE PRECAST HAND HOLE FOR TELECOM AND LOW VOLTAGE POWER. REFER TO SHEET ED-102 FOR REMOVAL LOCATION.
3. PROVIDE PRECAST MANHOLE FOR COMED 12.47KV PRIMARY FEEDER PER COMED REQUIREMENTS.
4. NEW CIRCUIT FOR NEW ELECTRICAL LIGHT POLES. VERIFY EXTENT IN FIELD.
5. CONTRACTOR TO FIELD VERIFY AND INCLUDE IN BID NUMBER AND SIZE OF CABLES FOR RE-ROUTING OF 480/277V. ALSO FIELD VERIFY SOURCE/STARTING AND TERMINATION/ENDING POINTS AND INCLUDE IN BID. SAME FOR TELECOM AND ELECTRONIC SECURITY/GATE CONTROL.
6. LIGHTPOLE HANDHOLES SHALL BE APPROX 156' APART.
7. HANDHOLE SHALL INTERCEPT LIGHT POLE DUCT BANK.
8. LIGHTPOLE HANDHOLE DIMENSIONS SHALL BE 12"W X 12" L X 12" D, AND HANDHOLE SHALL BE STACKABLE WITH OPEN BOTTOM, AND TIER 22 RATED.
9. HANDHOLE MUST ALIGN WITH FUTURE LIGHT POLES AT COORDINATES:
   -1903196.46
   -1180846.34

   -1903198.44
   -1181002.33

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE
2	ELECTRICAL REVISIONS	08/2020
1	ELECTRICAL REVISIONS	05/2020

DESIGNED BY:	ISSUE DATE:
MAJDI ARMAN	5 AUGUST 2019
DRAWN BY:	SOLICITATION NO.:
KPC	W912P6-19-B-0007
CHECKED BY:	CONTRACT NO.:
FL	W912P6-19-C-0009
SUBMITTED BY:	PROJECT ID:
DATE LEFT FILE:	114419
SIZE: FILE NAME:	
ANSI D	114419_ES-101.dgn

U.S. ARMY CORPS OF ENGINEERS
CHICAGO DISTRICT
231 S. LASALLE ST., SUITE 1500
CHICAGO, ILLINOIS 60604

CHICAGO LOCK
NORTH PIER REPAIRS
CHICAGO, ILLINOIS

ELECTRICAL SITE PLAN

SHEET ID

ES-101

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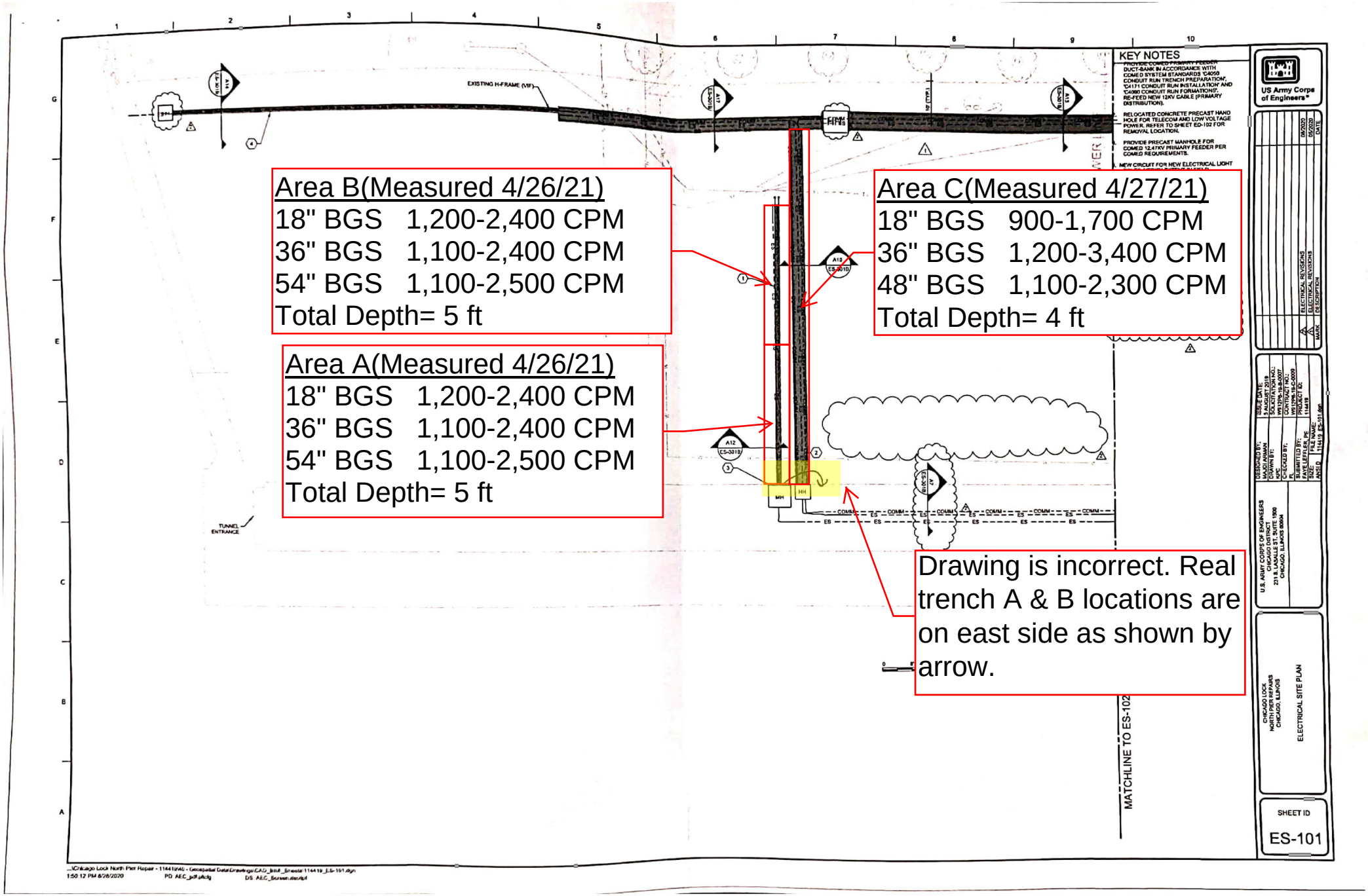
1:50:12 PM 8/28/2020 PD: AEC_pdf.pltcfg DS: AEC_Screen.dscript

Chicago Locks - Gamma Survey Results

Ludlum 2221 S/N:	172039
Shielded Cutoff:	6,933 cpm
Shielded Background:	2,034 cpm
Personnel:	S. Kornder
Date of Screening:	November 9 & 10, 2020

ComEd Vault		
Location	**Depth (inches)**	**Maximum Gamma Readings (cpm)**
Vault	0-18	2,200
	18-36	2,481
	36-54	3,194
	54-72	3,245
	72-90	3,689
	90-108	2,979
	108-126	3,173

UTILITY TRENCHING
APRIL 26 AND 27, 2021

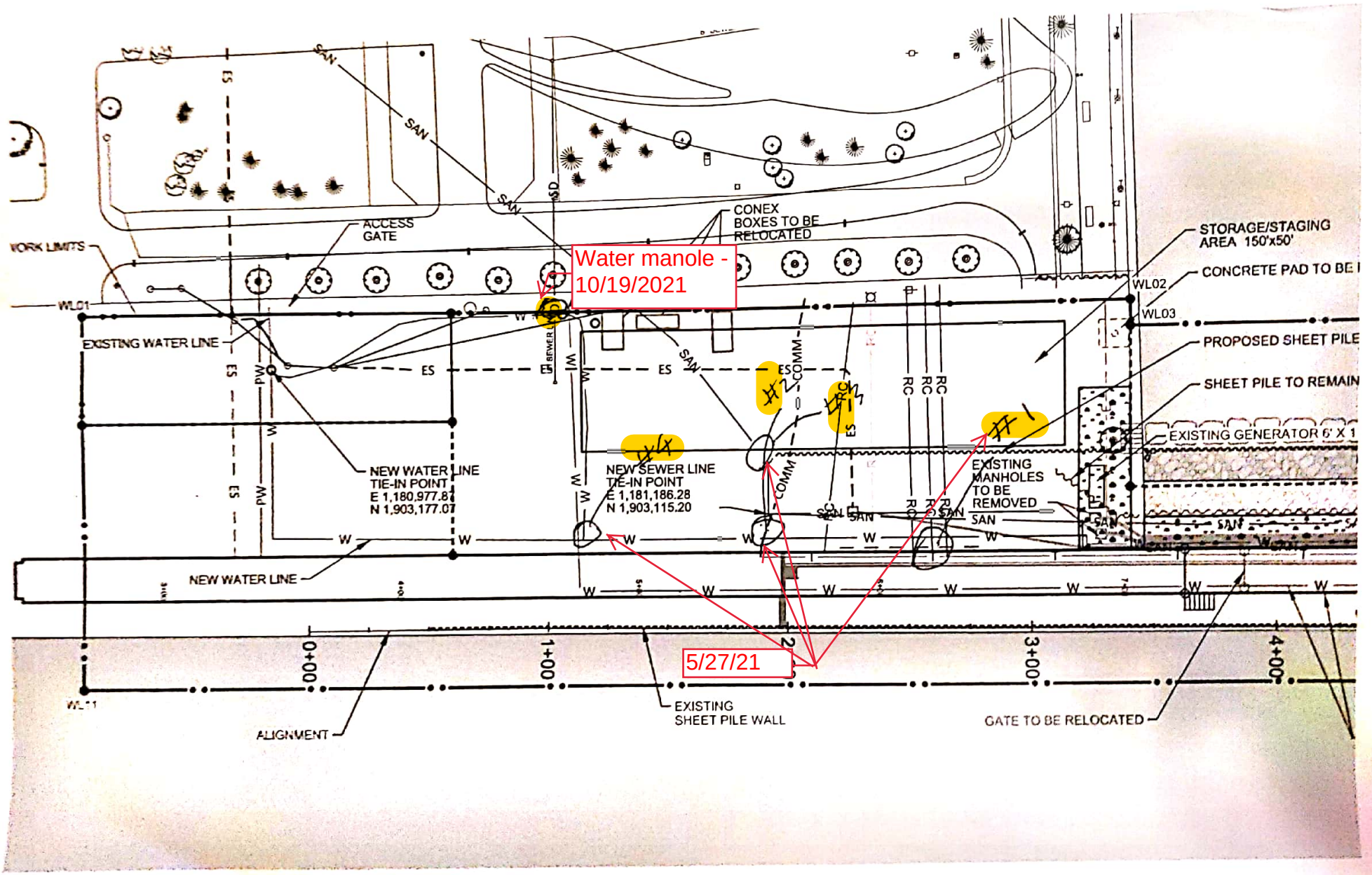

Area B(Measured 4/26/21)
18" BGS 1,200-2,400 CPM
36" BGS 1,100-2,400 CPM
54" BGS 1,100-2,500 CPM
Total Depth= 5 ft
Area A(Measured 4/26/21)
18" BGS 1,200-2,400 CPM
36" BGS 1,100-2,400 CPM
54" BGS 1,100-2,500 CPM
Total Depth= 5 ft
Area C(Measured 4/27/21)
18" BGS 900-1,700 CPM
36" BGS 1,200-3,400 CPM
48" BGS 1,100-2,300 CPM
Total Depth= 4 ft
Drawing is incorrect. Real trench A & B locations are on east side as shown by arrow.
KEY NOTES
EXISTING H-FRAME (VIF)
TUNNEL ENTRANCE
MATCHLINE TO ES-102
ELECTRICAL SITE PLAN
SHEET ID
ES-101

Chicago Locks - Gamma Survey Results

Ludlum 2221 S/N:	326720
Shielded Cutoff (long cord):	7,020 cpm
Shielded Background:	1,409 and 1,506
Personnel:	D. Domino
Date of Screening:	4/26-27/21

Utility Trenches		
Location	**Depth (inches)**	**Maximum Gamma Readings (cpm)**
A	0-18	1,200
	18-36	2,400
	36-54	2,400
	54-72	2,400
B	0-18	1,200
	18-36	2,400
	36-54	2,400
	54-72	2,400
C	0-18	900
	18-36	1,700
	36-48	3,400
	48	2,300

UTILITY POTHOLING
MAY 27 AND OCTOBER 19, 2021



Chicago Locks - Gamma Survey Results

Ludlum 2221 S/N:	172039
Shielded Cutoff (long cord):	6,534 cpm
Shielded Background:	1,207
Personnel:	D. Domino
Date of Screening:	5/27/2021

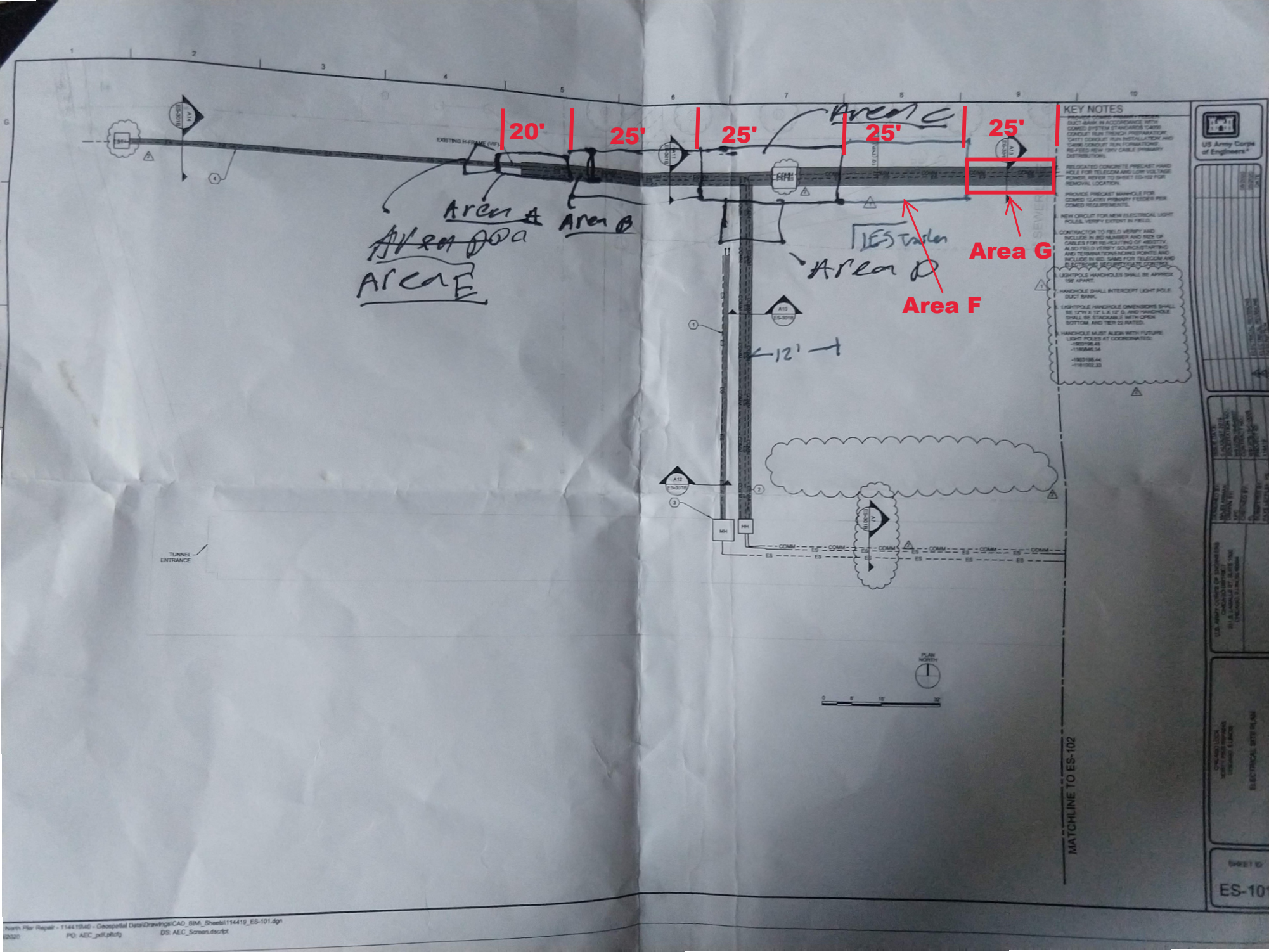
Utility Potholing		
Location	**Depth (inches)**	**Maximum Gamma Readings (cpm)**
#1	0-18	1,200
	18-36	2,300
	36-54	1,200
	54-72	2,400
#2	0-18	1,200
	18-36	2,400
#3	0-18	2,300
	18-36	2,300
	36-54	2,500
	54-72	3,100
#4	0-18	2,500
	18-36	2,500
	36-54	2,800
	54-72	2,800

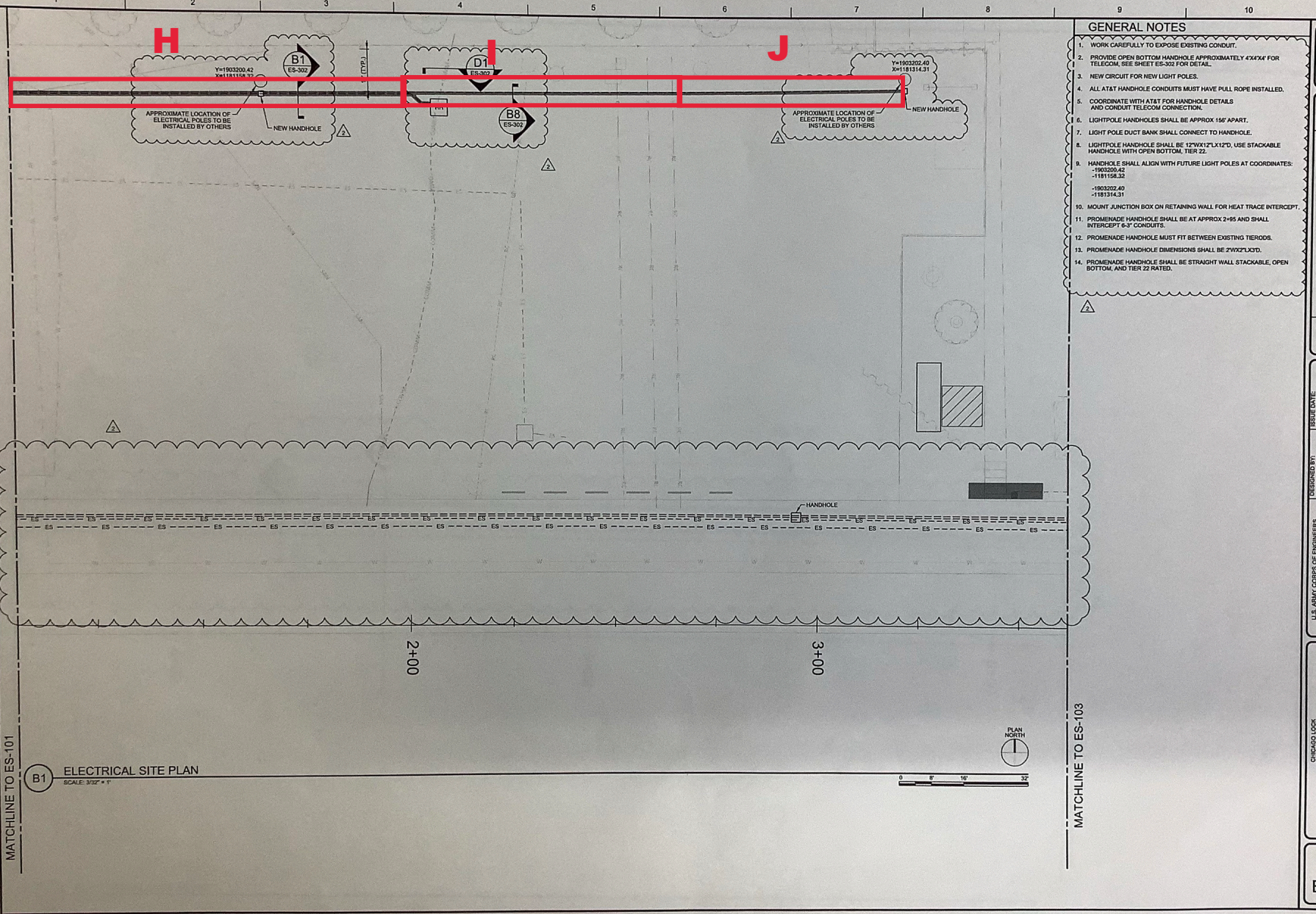
Chicago Locks - Gamma Survey Results

Ludlum 2221 S/N:	172039
Shielded Cutoff (long cord):	6,615 cpm
Shielded Background:	1,473 cpm
Personnel:	E. Sulita
Date of Screening:	10/19/2021

Water Manhole Potholing		
Location	**Depth (inches)**	**Maximum Gamma Readings (cpm)**
manhole (6' dia around manhole)	0-18	1,118
	18-36	2,017
	36-54	1,819
	52	4,400
6' long trench south of manhole	0-18	1,118
	18-36	1,620
	36-54	2,558
	52	5,705

UTILITY TRENCHES
JULY 22 – AUGUST 2, 2020


20'
25'
25'
25'
25'
Area A
Area B
Area C
Area D
Area E
Area F
Area G
12'
KEY NOTES
TUNNEL ENTRANCE
MATCHLINE TO ES-102
US Army Corps of Engineers
ELECTRICAL SITE PLAN
ES-101



B1 ELECTRICAL SITE PLAN
SCALE: 3/32" = 1'

GENERAL NOTES

1. WORK CAREFULLY TO EXPOSE EXISTING CONDUIT.
2. PROVIDE OPEN BOTTOM HANDHOLE APPROXIMATELY 4'X4'X4' FOR TELECOM, SEE SHEET ES-302 FOR DETAIL.
3. NEW CIRCUIT FOR NEW LIGHT POLES.
4. ALL AT&T HANDHOLE CONDUITS MUST HAVE PULL ROPE INSTALLED.
5. COORDINATE WITH AT&T FOR HANDHOLE DETAILS AND CONDUIT TELECOM CONNECTION.
6. LIGHTPOLE HANDHOLES SHALL BE APPROX 156' APART.
7. LIGHT POLE DUCT BANK SHALL CONNECT TO HANDHOLE.
8. LIGHTPOLE HANDHOLE SHALL BE 12'WX12'LX12'D, USE STACKABLE HANDHOLE WITH OPEN BOTTOM, TIER 22.
9. HANDHOLE SHALL ALIGN WITH FUTURE LIGHT POLES AT COORDINATES:
   -1903200.42
   -1181158.32
   -1903202.40
   -1181314.31
10. MOUNT JUNCTION BOX ON RETAINING WALL FOR HEAT TRACE INTERCEPT.
11. PROMENADE HANDHOLE SHALL BE AT APPROX 2+95 AND SHALL INTERCEPT 6-3" CONDUITS.
12. PROMENADE HANDHOLE MUST FIT BETWEEN EXISTING TIERODS.
13. PROMENADE HANDHOLE DIMENSIONS SHALL BE 2'WX2'LX3'D.
14. PROMENADE HANDHOLE SHALL BE STRAIGHT WALL STACKABLE, OPEN BOTTOM, AND TIER 22 RATED.

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE
2	ELECTRICAL REVISIONS	09/2020
1	ELECTRICAL REVISIONS	05/2020

U.S. ARMY CORPS OF ENGINEERS
CHICAGO DISTRICT
231 S. LASALLE ST. SUITE 1500
CHICAGO, ILLINOIS 60604

DESIGNED BY: MAJOR ARMAN
DRAWN BY: JOHN C.
CHECKED BY:
SUBMITTED BY: FAYE LEFFLER, PE
SIZE: ANSI D

ISSUE DATE: 5 AUGUST 2019
SOLICITATION NO.: W912PL-19-R-0007
CONTRACT NO.: W912PL-19-C-0009
PROJECT ID: 114419
FILE NAME: 114419_ES-102.dgn

CHICAGO LOCK
NORTH PIER REPAIRS
CHICAGO, ILLINOIS

ELECTRICAL SITE PLAN

SHEET ID
ES-102

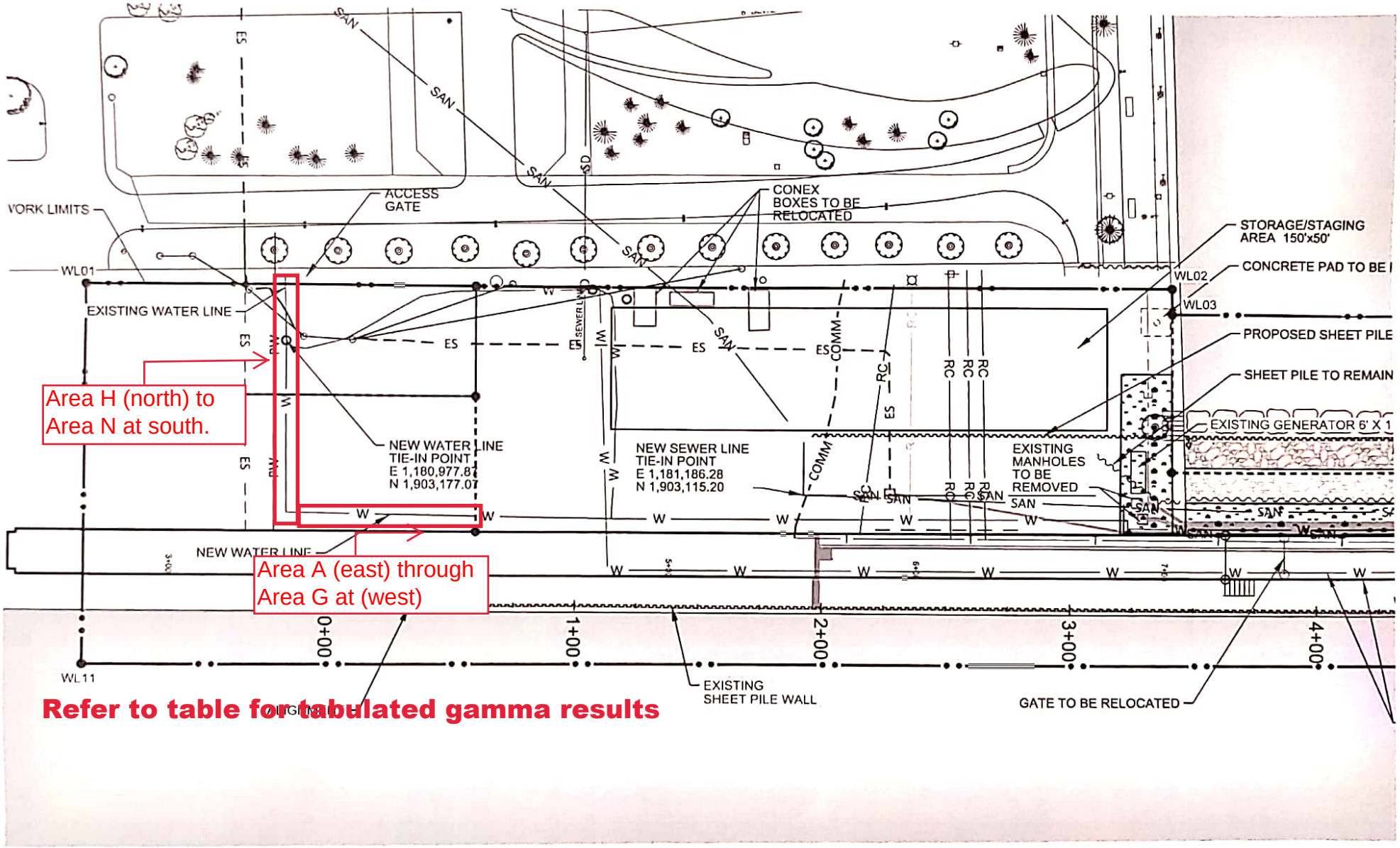
\Chicago Lock North Pier Repair - 114419\40 - Geospatial Data\Drawings\CAD_BIM_Sheets\114419_ES-102.dgn
8:24:57 AM 8/17/2020 PD: AEC_pdf.pltcfg DS: AEC_Screen.dscript

Chicago Locks - Gamma Survey Results

Ludlum 2221 S/N:	326720 & 172039
Shielded Cutoff:	326720 - 7,140 cpm, 172039 - 6,615 cpm
Shielded Background:	1,096, 1,400 & 2,090
Personnel:	D. Domino, S. He & E. Sulita
Date of Screening:	7/22/21 - 8/2/21

Utility Trenching			
Location	**Depth (inches)**	**Maximum Gamma Readings (cpm)**	**Date**
A	0-18	1,100	7/22/2021
	18-36	4,018	
	36-48	3,834	
B	0-18	1,600	7/23/2021
	18-36	2,300	
	36-54	2,800	
C	0-18	1,800	7/26/2021
	18-36	1,800	
	36-54	2,300	
D	0-18	1,800	7/26/2021
	18-36	3,100	
	36-54	4,500	
E	0-18	2,100	7/26/2021
	18-36	2,100	
	36-54	3,800	
F	0-18	1,871	7/28/2021 (Ludlum 172039)
	18-36	3,290	
	36-48	3,586	
	48	3,910	
G	0-18	1,912	7/28/2021 (Ludlum 172039)
	18-36	2,160	
	36-48	3,777	
	48	4,619	
H	0-18	1,300	7/29/2021
	18-36	2,400	
	36-54	4,500	
I	0-18	1,600	7/30/2021
	18-36	2,500	
	36-54	4,100	
J	0-18	1,200	8/2/2021
	18-36	2,500	
	36-54	2,900	

WATER LINE TRENCH
NOVEMBER 16-18, 2021



Chicago Locks - Gamma Survey Results

Ludlum 2221 S/N:	172039
Shielded Cutoff:	7,000 cpm
Shielded Background:	1,153 cpm
Personnel:	S. Birmingham
Date of Screening:	7/22/21 - 8/2/21

Water Utility Trenching			
Location	**Depth (inches)**	**Maximum Gamma Readings (cpm)**	**Date**
A (East End)	0-18	993	8/16/2021
	18-36	1,067	
	36-48	1,200	
B	0-18	900	8/16/2021
	18-36	1,596	
	36-48	1,590	
C	0-18	1,000	8/16/2021
	18-36	1,596	
	36-48	1,963	
D	0-18	1,805	8/16/2021
	18-36	2,020	
	36-48	2,579	
E	0-18	1,900	8/16/2021
	18-36	2,076	
	36-48	2,100	
F	0-18	2,100	8/16/2021
	18-36	2,040	
	36-48	1,933	
G (West End)	0-18	2,100	8/18/2021
	18-36	2,040	
	36-48	1,933	
H (North End)	0-18	1,000	8/16/2021
	18-36	1,800	
	36-48	2,017	
	48-60	2,100	
I	0-18	1,500	8/18/2021
	18-36	1,725	
	36-48	1,800	
J	0-18	1,510	8/18/2021
	18-36	1,720	
	36-48	2,010	
K	0-18	1,560	8/18/2021
	18-36	1,780	
	36-48	2,020	
L	0-18	1,810	8/18/2021
	18-36	1,780	
	36-48	1,870	
M	0-18	1,730	8/18/2021
	18-36	1,310	
	36-48	2,020	
N (South End - Intersects with Area G)	0-18	1,790	8/18/2021
	18-36	1,820	
	36-48	2,029	