AECOM
303 E. Wacker Drive, Suite 900
Chicago, Illinois 60601

312-938-0300 tel
312-938-1109 fax

September 20, 2013

Mr. Brian Pirok
Public Building Commission of Chicago
Richard J. Daley Center, Room 200
50 West Washington Street
Chicago, IL 60602

RE: Radiological Survey of Right-of-Way Utility Excavation
Permit No.: 372784580
Permit Address: 500-550 East Grand Avenue
AECOM Project No. 60305486

Dear Mr. Pirok:

Pursuant to conditions specified in a permit (see attached) issued by the City of Chicago Department of Public Health (CDOPH), radiation monitoring was required to be performed during the excavation activities at the above referenced site. AECOM Technical Services, Inc. (AECOM) provided the required radiation surveillance during the evening of September 5, 2013 and early morning hours of September 6, 2013. The work involved micro-trenching and excavation in the vicinity of the intersection of East Grand Avenue and Lake Shore Drive to install a fiber optic service line. No indication of the potential presence of radiologically contaminated soil was observed during the field activities. A description of the field methods and results is provided in the paragraphs below.

Surveying was performed for a 43-foot micro-trench and for a 3-foot by 3-foot excavation to a depth of approximately 3-feet below ground surface within the intersection of East Grand Avenue and Lake Shore Drive adjacent to the manhole #57 (refer to the attached annotated drawing). This small excavation was required to route the fiber optical cable from the micro-trench into the vault. At the other end of the micro-trench near the support column, no excavation was required since conduit was able to be utilized to transition the fiber optical cable from the trench up the outside of the column to the underside of the upper Lake Shore Drive deck.

The micro-trench extended from the vault in the street to a Lake Shore Drive support column just east of the sidewalk along the south bound land of Lake Shore Drive. The micro-trenching technique involves the installation of the fiber optics cable within the roadway pavement. Specifically, a 1-inch trench is saw-cut into the pavement to a depth that does not penetrate the entire thickness of the pavement (refer to attached photos). In this case, the micro-trench depth was about 8-inches. Water is also used during the saw-cutting process to cool the blade as well eliminate potential dust issues. Following completion of the trench the fiber optical cable is installed within the micro-trench and the trench re-grouted. This technique offers several advantages including that it is much quicker than traditional trenching methods, does not disturb subsurface fill soil beneath roadway pavement and generates only minimal waste.

From a radiological perspective, another advantage is that the installation of the cable within the pavement does not typically require radiological screening since no soil is disturbed during the micro-trenching process with the roadway. However, for this project the micro-trench also crossed the curb-line and extended east across a several feet of sidewalk to a support column at the southeastern end of the project. Since the pavement of the sidewalk was thinner, this short portion of the micro-trench in the sidewalk may have extended slightly below the pavement and into a gravel sub-grade, which would require radiological screening. Since AECOM was on-site for the soil excavation near the manhole, radiological surveying was also performed for during the saw-cutting of the entire 43-foot by 1-inch micro-trench (see annotated drawing). At the support column, no excavation was required since conduit was utilized to transition the fiber optical cable from the trench up the outside of the column to the underside of the upper Lake Shore Drive deck.

The gamma surveying revealed no indication of potentially contaminated fill soil above the clean-up threshold established by the U. S. Environmental Protection Agency (USEPA) for the Streeterville area of Chicago. The USEPA threshold 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 made using Ludlum Model 2221 survey meter and an unshielded 2 x 2 inch sodium Iodide (Nal) probe (Model 44-10). For the instrument used, the gamma count threshold indicative of the 7.1 pCi/g cleanup value was 17,920 counts per minute (cpm) unshielded. Thus, gamma readings above 17,920 cpm would be considered a potential indication of the presence of radiologically contaminated fill soil.

A field instrument gamma background for the area was measured by AECOM in the vicinity of project site. The field instrument background was determined to be approximately 6,400 cpm unshielded. In general, field gamma measurements greater than twice the background, if observed, represent potential anomalous results that require more cautious and frequent field screening. For this project, no gamma readings greater than twice back were observed.

On August 30, 2013, prior to the start of the field work, a surface walk was conducted by AECOM of the micro-trench and excavation areas in order to prescreen to confirm the absence of potential radiological issues. This prescreening did not observe elevated gamma readings that would be indicative of potential contamination. The field gamma measurements of the surface walk ranged from a minimum of 5,200 cpm to a maximum of 7,000 cpm unshielded. It should be noted that paving, because of its density, can prevent the detection beneath the pavement of low level radiological contamination at or near the USEPA cleanup value. However, prescreening of paved areas is useful in verifying the absence of significantly elevated levels of contamination.

The field gamma measurements on September 5-6, 2013 within the excavation and of the spoil materials generated during the excavation process did not exceed the respective field instrument threshold value of 17,920 cpm. The field gamma readings ranged from a minimum of 5,200 cpm to a maximum of 8,600 cpm unshielded. Field gamma measurements of the cuttings generated during the micro-trenching activities yielded a maximum value of 6,300 cpm. Thus, there was no indication of the presence of radiologically-contaminated fill soil material and/or an exceedance of the USEPA cleanup value of 7.1 pCi/g total radium.

As part of the permit conditions this letter has been forwarded to:

Chicago Department of Public Health
Attention: Ms. Rahmat Begum
333 South State Street, Room 200
Chicago, Illinois 60604

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

Regards,

Brian R. Schmidt
Project Scientist II

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

cc: LeeAnn Tomas-Foster, PBC
Rahmat Begum, Chicago Department of Public Health
Verneta Simon, USEPA

Attachments: Permit, Photos and Drawing

Chicago Department of Public Health ROW Permit

DEPARTMENT OF PUBLIC HEALTH

CITY OF CHICAGO

FORM NO. CDPH.ROW.03 (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.

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 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 the 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 the United States Environmental Protection Agency at (800) 424-8802.

Applicant Name (print): Brian Pirok for the PBC of Chicago Signature: _____

Site Address and Work Location (Describe exact site location and attach map): _____

Between approx. 500-550 E. Grand Ave., Chicago, IL 60611; (41,53,30.79N - 87,36,51.47W)

Nature of Work: Installation of fiber optic cable in existing underground utility raceways and roadway structures along East Grand Avenue between Lake Shore Drive and North Streeter Drive.

Company Name, Address, Phone No.: Public Building Commission of Chicago, 50 W. Washington, 312-744-1700

General / Prime Contractor Name, Address, Phone No.: F.H. Paschen, 5515 N. East River Road, Chicago, 773-444-3474
Include subcontractor information if applicable)

Safety Officer / Phone No. Nick Bilski, 773-444-3474

Radiation Contractor / Phone No. (if applicable) AECOM Technical Services, Steve Kornder, 312-938-0300

Check if City Department Work ☒ Department Name: Office of Emergency Management and Communication

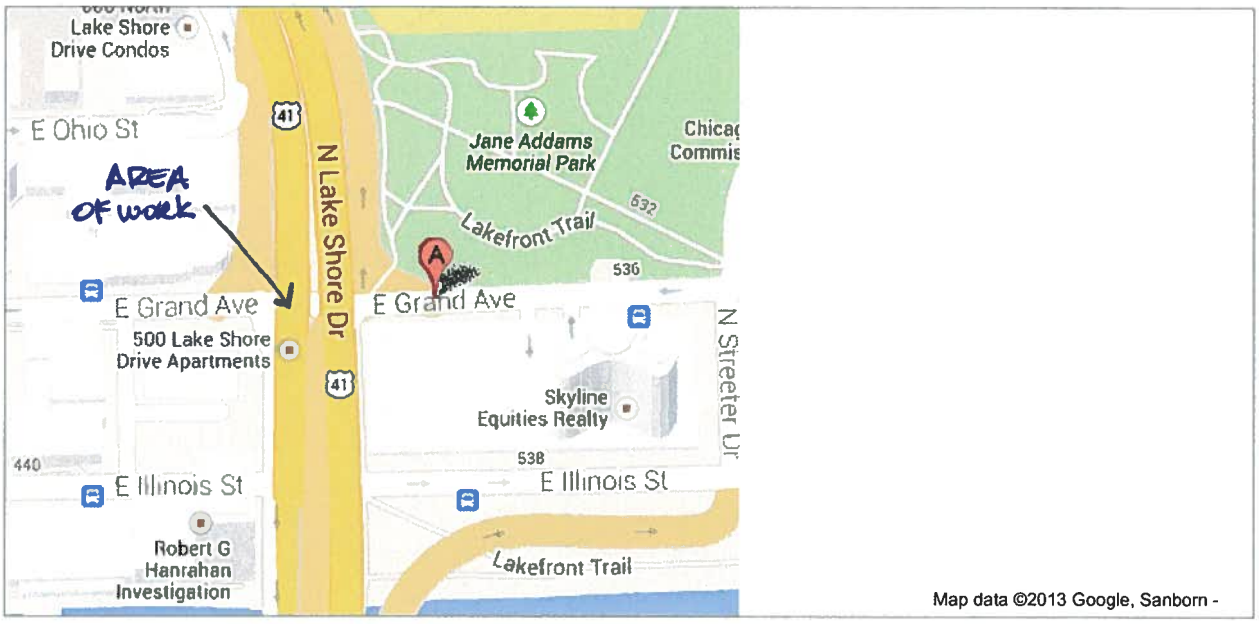
CDOT Permit No.: 372784580

Today's Date: 8/06/13 Expected Start Date: 8/26/13 CDPH Approval / Date Rahmatunisa Begum 8/20/2013

Please return this completed form to the Chicago Department of Transportation, Division of Infrastructure Management, Public Way Permit Office, City Hall – Room 905, 121 N. LaSalle St., Chicago, Illinois 60602 during normal business hours (8:30 AM - 4:30 PM, Monday through Friday)

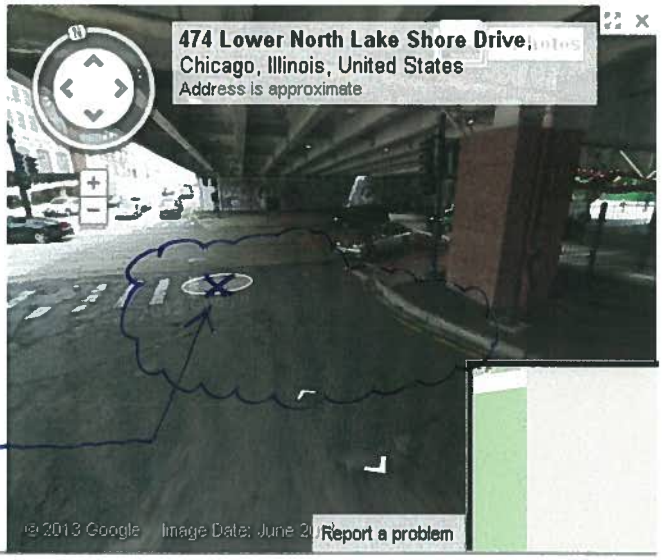
For CDPH Use Only

To see all the details that are visible on the screen, use the "Print" link next to the map.



Google

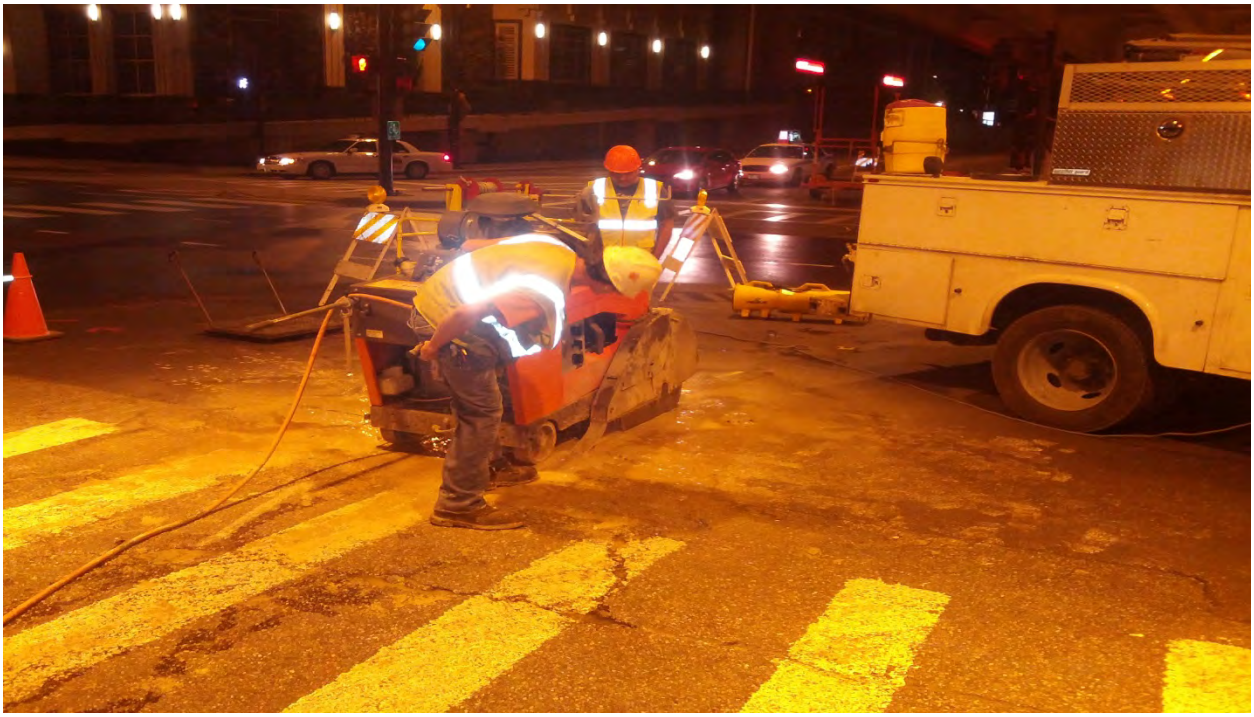
To see all the details that are visible on the screen, use the "Print" link next to the map.



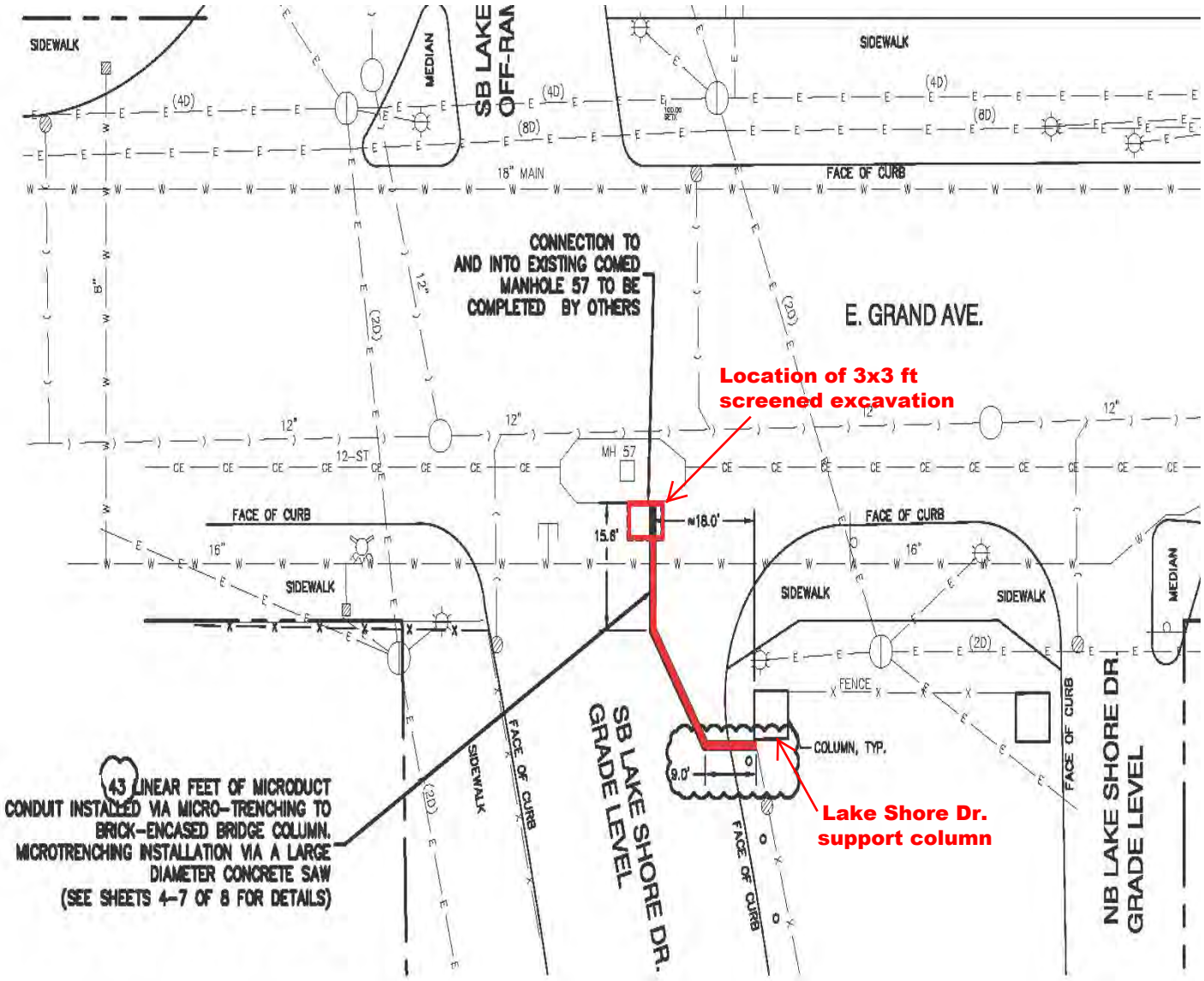
AREA OF WORK

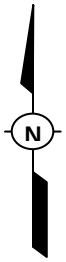
Micro-Trenching Photos

Micro-Trenching Photos (September 5-6, 2013)
500-550 E. Grand Ave. - Permit No.: 372784580



Annotated Drawing





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Vernon Hills, IL 60061
847-279-2500
www.aecom.com

PUBLIC BUILDING COMMISSION OF CHICAGO
500-550 EAST GRAND AVENUE
CHICAGO, IL

RIGHT-OF-WAY EXCAVATION LOCATION MAP

Drawn:	BRS	9/16/2013
Checked:	SCK	9/16/2013
Approved:	SCK	9/16/2013
PROJECT NUMBER	60305486	
FIGURE NUMBER	1	