CPB Site

QUEENS COUNTY, NEW YORK

Periodic Review Report

NYSDEC Site Number: BCP # C241158

Prepared for:

Corporation of the Presiding Bishop of The
Church of Jesus Christ of Latter-Day Saints, a Utah Corporation Sole
50 East North Temple Street
Salt Lake City, Utah 84150

Prepared by:

TRC Environmental Corporation
41 Spring Street, Suite 102, New Providence, New Jersey
(908) 988-1700

MAY 2018

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PERIODIC REVIEW REPORT

1.0 SITE OVERVIEW

Corporation of the Presiding Bishop of The Church of Jesus Christ of Latter-Day Saints, a Utah Corporation Sole, entered into a Brownfield Cleanup Agreement (BCA) with the New York State Department of Environmental Conservation (NYSDEC) on May 30, 2014 to investigate and remediate a 1.1-acre property located in Far Rockaway, Queens, New York (Figure 1). The property was remediated to restricted residential use.

Site Description:

The Site is located at 3229 Far Rockaway Boulevard, Far Rockaway, the County of Queens, New York and is identified as Section 60 Block 15950 and Lot 29 on the New York City Tax Map. The Site is situated on an approximately 1.1-acre area bounded by Far Rockaway Boulevard to the north, Rockaway Freeway to the south, Lot 42R to the east, and Lot 24 to the west (see Figure 2).

The Site is zoned residential (R6) with a commercial (C2-4) overlay. It is a vacant lot, with no site occupants. The properties adjoining and surrounding the Site primarily include commercial and residential properties. The properties immediately south of the Site are residential properties; the properties immediately north are commercial properties; the property immediately east is vacant; and the property immediately west is a residential apartment building currently under construction.

Nature and Extent of Contamination Prior to Remediation:

Previous Site Investigations (SI) indicated that a structure was formerly located in the southwestern portion of the Site. The structure was reportedly used as a garage and plumbing supply house. In connection with its pre-purchase due diligence in 2002, the CPB uncovered evidence of a pre-existing release of petroleum product (heating oil) on-Site. The petroleum release was reported to the NYSDEC. As a result, NYSDEC assigned Spill # 02-07599 to the Site.

Chronology of the Main Features of the Remedial Program:

Between June and November 2004, Anson Environmental, Ltd. (Anson) of Huntington, New York implemented the NYSDEC approved soil excavation at the Site. During the soil excavation, two underground storage tanks (USTs), 1,500 and 300 gallons

in capacity, were uncovered and removed. Upon inspection, the USTs were determined not to be leaking. However, based on observations of petroleum stains and odor, the excavation was expanded to an area of approximately 11,000 square feet (ft^2) and to a depth of approximately 8 feet below ground surface (bgs). An impacted area of chlorinated volatile organic compounds (CVOCs) was observed during the excavation near the southwestern property quadrant. The CVOC impacted soils were also excavated. Accordingly, the CPB excavated and disposed of 13,882 tons of petroleum impacted soils, 12,430 gallons of an oil-water mixture, and 418 tons of CVOC impacted soils in 2004. Post-excavation soil sampling results confirmed that the remaining soil along the perimeter of the excavation meets the NYSDEC Restricted Use Soil Cleanup Objectives (RSCO). Groundwater petroleum and CVOC impacts, however, remained above NYSDEC standards. The CVOCs included trichloroethylene (TCE) and its breakdown daughter products, cis-1,2 dichloroethylene (cis-1,2 DCE) and vinyl chloride (VC).

On May 7, 2007, NYSDEC requested that the CPB focus the remediation on the removal of the CVOC source. As explained by NYSDEC: "*Once the source is gone, the processes of dilution, dispersion and biodegradation that are already evident at this Site should attenuate the aqueous plume that has developed down gradient of the soil contamination*." CPB concurred with NYSDEC's request.

In August 2008, TRC conducted an In-Situ Chemical Oxidation (ISCO) pilot test using activated percarbonate (Regenox™) in an area of approximately 200 ft^2 within the former CVOC source area. The pilot test results demonstrated that the effectiveness of ISCO was limited due to the high and variable oxidant demand and short oxidant half-life.

An investigation program was implemented in 2009 to delineate the extent of onsite petroleum impacts observed in a shallow monitoring well located in the southwestern portion of the Site. Consequently, TRC excavated 80 tons of petroleum impacted soils and removed approximately 445 gallons of a petroleum/water mixture in March 2009, and excavated 20 tons of petroleum impacted soils and removed 1,830 gallons of a petroleum/water mixture in April 2009.

The results of the 2009 investigation altered the understanding of the conceptual site model and Site impacts, which necessitated a reconsideration and a modification of the 2008 ISCO/Enhanced In-Situ Bioremediation (EISB) Remedial Plan. The investigation results indicated that the area of the petroleum impacts of approximately 11,560 square feet was larger than previously assumed. This petroleum impacted area encompassed the CVOC impacted area, which was approximately 680 square feet. The

larger treatment area, coupled with the high natural oxidant demand at the Site made ISCO an inefficient remedial strategy. Similarly, the proposed anaerobic EISB program (for CVOCs) would have been largely ineffective at treating the petroleum impacts, as the preferred biological remediation path for petroleum hydrocarbons is aerobic.

On June 25, 2009, TRC submitted a detailed memorandum to NYSDEC summarizing four remedial alternatives to address the petroleum and CVOC impacts at the Site. These alternatives were discussed with NYSDEC, and in August 2009, TRC submitted an In-Situ Thermal Treatment (ISTT) Work Plan to NYSDEC. Pursuant to the NYSDEC approved ISTT Work Plan, electrical resistance heating (ERH) was conducted at the Site from November 2010 to December 2011 to remediate soil and groundwater impacts from CVOCs and petroleum products.

A comprehensive, active remediation program was completed at the Site and included excavation and off-site disposal of contaminated soil and ISTT of contaminated groundwater. These measures substantially reduced the environmental impacts at the Site. The approved remedial actions to address the limited residual soil impacts consist of institutional and engineering controls (ICs/ECs). The residual soil impacts marginally exceed the RSCO for the secondary parameters of manganese, mercury and semi-volatile organic compounds (SVOCs). The engineering controls consist of two asphalt caps for residual soil impacts. Should a building be constructed at the Site, potential vapor intrusion will be addressed with a Sub-Slab Depressurization System (SSDS) as governed by the Site Management Plan (SMP) for the Site.

2.0 REMEDY PERFORMANCE, EFFECTIVENESS, AND PROTECTIVENESS

Since soil with limited residual concentrations above the RSCO remain at the Site after completion of the Remedial Action, ICs/ECs are required to protect human health and the environment. These ICs/ECs are described in the following sections. Long-term management of these ICs/EC is performed under the SMP approved by the NYSDEC.

An IC consisting of an Environmental Easement for the Site was executed by the New York State Department of Environmental Conservation on October 21, 2015, and filed with the New York City Department of City Planning on December 22, 2015. The City Register File No. for this filing is 2015000447636.

The Site remedy requires that an Environmental Easement be placed on the property to (1) implement, maintain and monitor the ECs; (2) prevent future exposure to remaining contamination by controlling disturbances of the subsurface contamination; and, (3) limit the use and development of the Site to restricted residential, commercial and industrial uses only.

ECs implemented to address, and prevent human exposure to, residual secondary soil/fill impacts consist of asphalt caps that were constructed over two separate areas of the Site (Figure 3). The caps consist of a geotextile liner for demarcation (over the existing fill), a four-inch layer of recycled concrete aggregate (RCA) (provided by a licensed Subchapter 375 vendor, Parts 360-16.4 and 360-1.15) and a two-inch thick layer of asphalt. Cap Area 1 covers approximately 5,400 sf^2 and Cap Area 2 covers approximately 9,900 sf^2 (Figure 3).

A Site inspection was conducted to confirm the performance, effectiveness, and protectiveness of the remedy as described below.

3.0 IC/EC PLAN COMPLIANCE REPORT

IC/EC Requirements and Compliance:

According to the Environmental Easement, the Site may be used for:

- Restricted Residential as described in 6 NYCRR Part 375-1.8(g)(2)(ii);
- Commercial as described in 6 NYCRR Part 375-1.8(g)(2)(iii);
- Industrial as described in 6 NYCRR Part 375-1.8(g)(2)(iv);
- Notwithstanding, the Environmental Easement does not create a restriction of the potential use of the property for purposes of a church meetinghouse, if such use is consistent with local zoning law and is approved by the New York City Department of City Planning; and
- The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the New York City Department of Health and Mental Hygiene to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department.

The Environmental Easement also stipulates that all ECs must be operated, maintained, and inspected as specified in the SMP for the Site. The ECs (caps) prevent

human exposure to remaining contaminated soil/fill remaining at the site. A sub-slab depressurization system (SSDS) will be required if a building is constructed at the site.

A Site Inspection was conducted on May 10, 2018 to determine if there has been any change in use at the Site, and to confirm that the ECs (caps) are still in place and undamaged. Site use is restricted to Restricted Residential, Commercial, Industrial, and a Groundwater Use Restriction. The Site is currently vacant; therefore, the Site Inspection was conducted to determine if the use has changed from vacant to an approved restricted use or other unauthorized use. The condition of the asphalt capping systems was also determined during the Site Inspections. Photos documenting the inspection are included as Appendix A. A completed Site Inspection Checklist is included as Appendix B.

IC/EC Certification:

Based on the foregoing information, a completed NYSDEC Institutional and Engineering Controls Certification Form is included as Appendix C. The form includes certifications by the Site Owner for Boxes 1, 2, and 3. A New York State licensed professional engineer has certified Box 7.

4.0 CONCLUSIONS AND RECCOMNEDATIONS

Based on the results of a Site Inspection, there has been no change in use at the Site. The Site remains vacant and groundwater is not being used. Both asphalt capping systems were inspected, and no damage (substantial cracks, pot-holes, missing pieces, exposed base material or colored geotextile) was observed. In addition, no buildings have been constructed at the site, therefore no SSDS is required at this time. Accordingly, the ICs and constructed ECs remain in place and effective.

CPB also recommends a change in the frequency of PRR submittal from annual to once every 5 years. Based on the recent inspection, the integrity of the caps remains unchanged from the time of installation. Because the caps are new and there is no activity at this vacant site, it is unlikely that the cap effectiveness will be affected over the next 5 years. The frequency of inspections will be revisited during future PRR submittals.

LIST OF FIGURES

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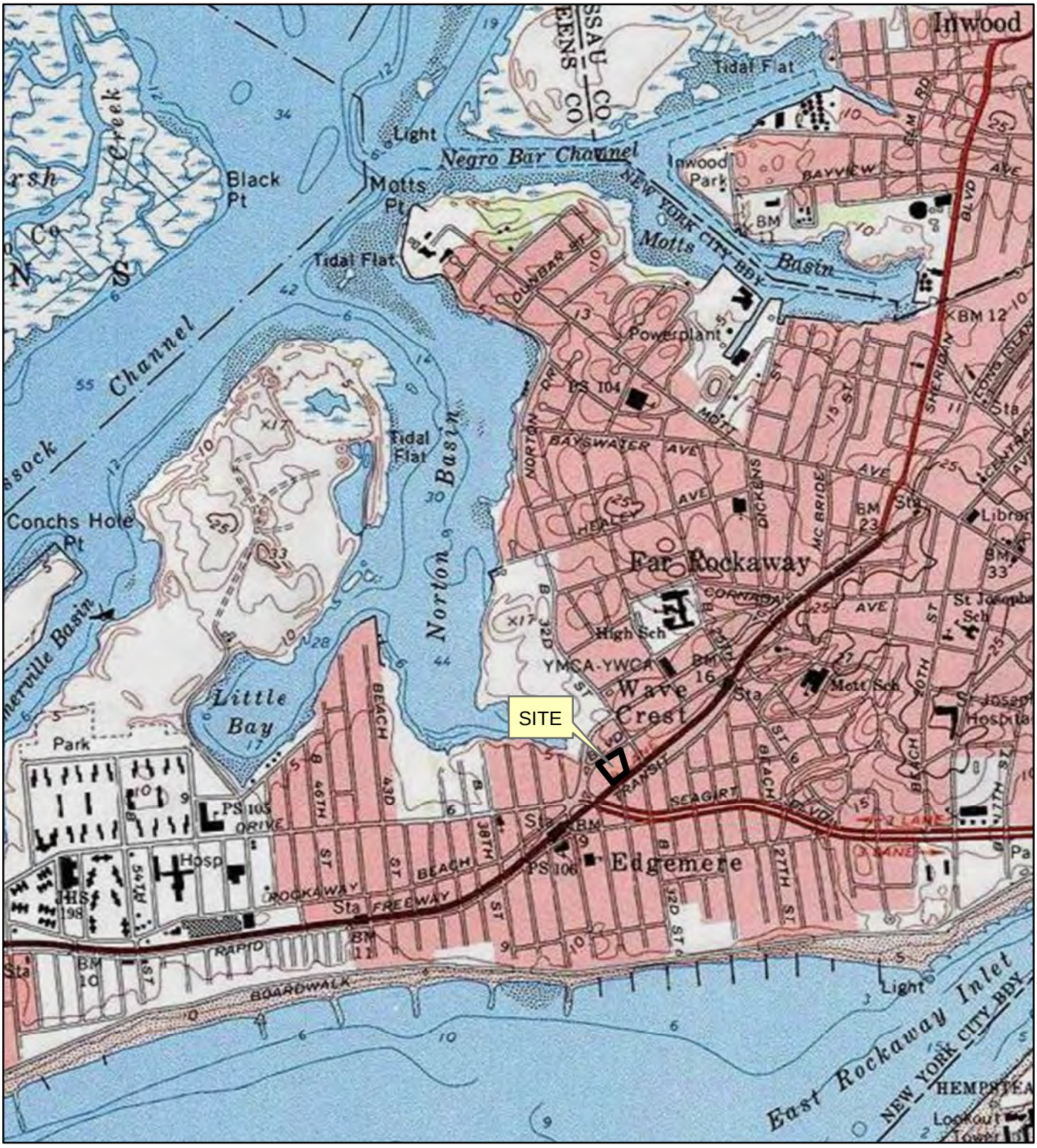
FIGURES



BASE MAP FROM USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLE SERIES.

N

0 750 1,500 3,000 FEET

TRC

TRC - GIS

PROJECT:

CPB SITE
FAR ROCKAWAY, NEW YORK

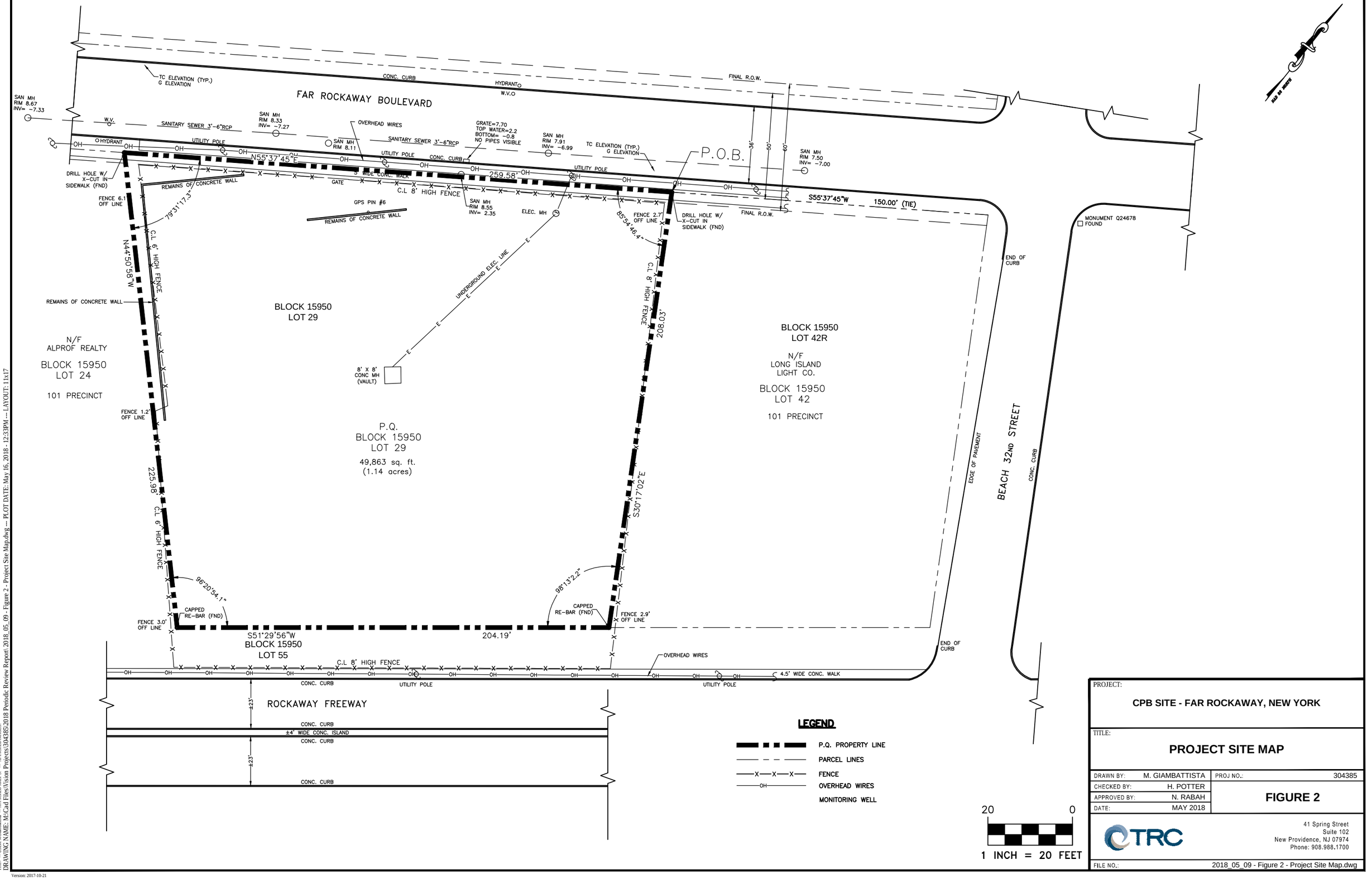
TITLE:

SITE LOCATION MAP

DRAWN BY:	M. GIAMBATTISTA
CHECKED BY:	H. POTTER
APPROVED BY:	N. RABAH
DATE:	MAY 2018
PROJ. NO.:	304385
FILE:	2018-05-09 - Figure 1 - SLM.mxd

FIGURE 1

M:\ArcGIS Files\304385\2018 Periodic Reveiw Report\2018-05-09 - Figure 1 - SLM.mxd -- Saved By: MGIAMBATTISTA on 5/9/2018, 13:02:20 PM



PROJECT:

CPB SITE - FAR ROCKAWAY, NEW YORK

TITLE:

PROJECT SITE MAP

DRAWN BY:	M. GIAMBATTISTA	PROJ NO.:	304385
CHECKED BY:	H. POTTER		**FIGURE 2**
APPROVED BY:	N. RABAH		
DATE:	MAY 2018		

TRC
41 Spring Street
Suite 102
New Providence, NJ 07974
Phone: 908.988.1700

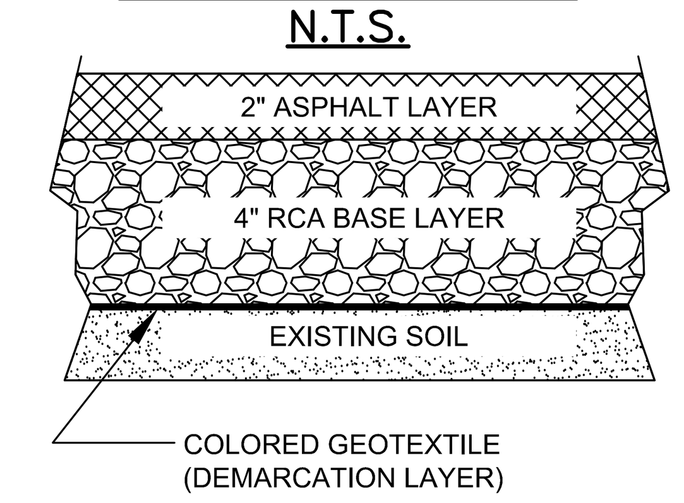
FILE NO.: 2018_05_09 - Figure 2 - Project Site Map.dwg

FAR ROCKAWAY BOULEVARD
FINAL R.O.W.
SANITARY SEWER 3'-6"RCP
CONC. CURB
HYDRANT
OVERHEAD WIRES
UTILITY POLE
P.O.B.
S55°37'45"W
150.00' (TIE)
NAD 83 NORTH
SAN MH RIM 8.67 INV= -7.33
SAN MH RIM 7.50 INV= -7.00
DRILL HOLE W/ X-CUT IN SIDEWALK (FND)
FENCE 6.1' OFF LINE
N44°50'58"W
REMAINS OF CONCRETE WALL
C.L 6' HIGH FENCE
C.L 8' HIGH FENCE
AMBIENT AIR SAMPLE COLLECTION
UNDERGROUND ELEC. LINE
N/F ALPROF REALTY
BLOCK 15950
LOT 24
101 PRECINCT
P.Q.
BLOCK 15950
LOT 29
49,863 sq. ft.
(1.14 acres)
N/F LONG ISLAND LIGHT CO.
BLOCK 15950
LOT 42
101 PRECINCT
MONUMENT Q24678 FOUND
END OF CURB
EDGE OF PAVEMENT
BEACH 32ND STREET
CONC. CURB
208.03'
225.98'
FENCE 1.2' OFF LINE
FENCE 3.0' OFF LINE
FENCE 2.9' OFF LINE
CAPPED RE-BAR (FND)
S51°29'56"W
204.19'
OVERHEAD WIRES
4.5' WIDE CONC. WALK
UTILITY POLE
ROCKAWAY FREEWAY
±4' WIDE CONC. ISLAND
±23'

LEGEND

Symbol	Description
(heavy dash-dot line)	P.Q. PROPERTY LINE
(dashed line)	PARCEL LINES
—X—X—X—	FENCE
—OH—	OVERHEAD WIRES
(gas line)	GAS LINE
(dotted line)	LIGHTLY WOODED AREA LIMIT LINE
92.76 / 92.32	TOP OF CURB ELEVATION / BOTTOM OF CURB ELEVATION
× 80.40	SPOT ELEVATIONS
○	FOUND PROPERTY CORNER MARKERS
(well symbol)	MONITORING WELL
(hatched box)	ASPHALT CAP SYSTEM LOCATION

ASPHALT CAP DETAIL
N.T.S.



IMPERIAL GRAPHIC SCALE

20 0 10 20 40 80

1 INCH = 20 FEET

METRIC GRAPHIC SCALE

2.40 0 2.40 4.80 9.60 19.20

PROJECT:	CPB SITE - FAR ROCKAWAY, NEW YORK
TITLE:	AS-BUILT PLAN OF CAPPED AREAS
DRAWN BY:	M. GIAMBATTISTA
PROJ. NO.:	304385
CHECKED BY:	H. POTTER
APPROVED BY:	N. RABAH
DATE:	MAY 2018
	FIGURE 3

TRC
41 Spring Street
Suite 102
New Providence, NJ 07974
Phone: 908.988.1700

FILE NO.: 2018_05_09 - Figure 3 - As-Built plan of capped areas.dwg

APPENDICES

APPENDIX A

SITE INSPECTION PHOTO LOG
CPB SITE
FAR ROCKAWAY, NEW YORK
MAY 10, 2018

Photo 1 – Capped Area #1 – Looking West

Photo 2 – Capped Area #1 – Southern End Looking West

TRC Project Number:	Photographs Taken By:	Client:	Type of Site:
304385	HP	CPB	Vacant

SITE INSPECTION PHOTO LOG
CPB SITE
FAR ROCKAWAY, NEW YORK
MAY 10, 2018

Photo 3 – Capped Area #1 – Northern End Looking North

Photo 4 – Capped Area #2 – Looking Southeast

TRC Project Number:	Photographs Taken By:	Client:	Type of Site:
304385	HP	CPB	Vacant

SITE INSPECTION PHOTO LOG
CPB SITE
FAR ROCKAWAY, NEW YORK
MAY 10, 2018

Photo 5 – Capped Area #2 – Northern End Looking South

Photo 6 – Capped Area #2 – Northern End Looking East

TRC Project Number:	Photographs Taken By:	Client:	Type of Site:
304385	HP	CPB	Vacant

SITE INSPECTION PHOTO LOG
CPB SITE
FAR ROCKAWAY, NEW YORK
MAY 10, 2018

Photo 7 – Capped Area #2 – Middle Section Looking South

Photo 8 – Capped Area #2 – Southern End Looking South

TRC Project Number:	Photographs Taken By:	Client:	Type of Site:
304385	HP	CPB	Vacant

APPENDIX B

SITE INSPECTION CHECKLIST

CPB SITE, FAR ROCKAWAY, QUEENS NEW YORK

Inspector: _Heath Potter_____ Date: _May 10, 2018_____

Review the previous inspection checklist for issues identified in the previous inspection. Verify that any previously identified issues have been satisfactorily addressed. Answer the following and **take photographs of any observed damage** to the items listed. Provide additional pages/sketches as needed.

General Site Inspection

☒ Walk along the perimeter of the chain link fence.

☒ Look for evidence of damage along entire length of perimeter fence due to vandalism, falling trees or other means. Watch for places where vandals may have cut through the fencing.

☐ No Damage ☒ The following damage was observed: _A fallen tree has damaged the fence near the southwest corner of the property. _____

☐ Other Observations: _____

☒ Inspect the lock on the gate at the main entrance to the site for evidence of damage due to vandalism or other means.

☒ No Damage ☐ The following damage was observed: _____

☒ Other Observations: __It does not appear that a TRC lock is present on the main entrance to the Site. _____

Cap Inspection

☐ Inspect Cap Area 1 (south-west corner of site) for evidence of cracking in the asphalt, damage or pot-holes. Look for exposed base material or colored geotextile suggesting that the impacted shallow soils are exposed.

☒ No Damage ☐ The following damage was observed: _____

☐ Other Observations: _____

☐ Inspect Cap Area 2 (eastern side of site) for evidence of cracking in the asphalt, damage or pot-holes. Look for exposed base material or colored geotextile suggesting that the impacted shallow soils are exposed.

☒ No Damage ☐ The following damage was observed: _____

☐ Other Observations: _____

Provide a description of any items checked off above:

__The perimeter fence is not an Engineering control for the Site. May want to consider repairing to prevent unauthorized access to the Site. __

APPENDIX C

Enclosure 2
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Site Management Periodic Review Report Notice
Institutional and Engineering Controls Certification Form

Site Details **Box 1**

Site No. **C241158**

Site Name CPB Site

Site Address: 3229 Far Rockaway Boulevard Zip Code: 11691
City/Town: Far Rockaway
County: Queens
Site Acreage: 1.1

Reporting Period: December 16, 2016 to April 16, 2018

	YES	NO
1. Is the information above correct?	☒	☐
If NO, include handwritten above or on a separate sheet.		
2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?	☐	☒
3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?	☐	☒
4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?	☐	☒
If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.		
5. Is the site currently undergoing development?	☐	☒

Box 2

	YES	NO
6. Is the current site use consistent with the use(s) listed below? Restricted-Residential, Commercial, and Industrial	☒	☐
7. Are all ICs/ECs in place and functioning as designed?	☒	☐

IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

Signature of Owner, Remedial Party or Designated Representative Date

Box 2A

	YES	NO
8. Has any new information revealed that assumptions made in the Qualitative Exposure Assessment regarding offsite contamination are no longer valid?	☐	☒

If you answered YES to question 8, include documentation or evidence that documentation has been previously submitted with this certification form.

9. Are the assumptions in the Qualitative Exposure Assessment still valid? (The Qualitative Exposure Assessment must be certified every five years)	☒	☐

If you answered NO to question 9, the Periodic Review Report must include an updated Qualitative Exposure Assessment based on the new assumptions.

SITE NO. C241158 **Box 3**

Description of Institutional Controls

Parcel	Owner	Institutional Control
60-15950-29	Corp of Presiding Bishop of the CJCLDS	Ground Water Use Restriction Soil Management Plan Landuse Restriction Site Management Plan

Environmental Easement requiring public water and restricted residential, commercial or industrial use if the property is not used for a meeting house

Box 4

Description of Engineering Controls

Parcel	Engineering Control
60-15950-29	Vapor Mitigation Cover System Alternate Water Supply

Evaluate need for SSDS and design when property is developed, public water supply and soil cover. Soil cover completed on 10/31/2016.

Box 5

Periodic Review Report (PRR) Certification Statements

1. I certify by checking "YES" below that:

   a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

   b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and the information presented is accurate and compete.

YES	NO
☒	☐

2. If this site has an IC/EC Plan (or equivalent as required in the Decision Document), for each Institutional or Engineering control listed in Boxes 3 and/or 4, I certify by checking "YES" below that all of the following statements are true:

   (a) the Institutional Control and/or Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

   (b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

   (c) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control;

   (d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and

   (e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

YES	NO
☒	☐

IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

Signature of Owner, Remedial Party or Designated Representative

Date

IC CERTIFICATIONS
SITE NO. C241158

Box 6

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

I certify that all information and statements in Boxes 1,2, and 3 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Grant Cooper, Jr., Ph.D., P.E. at Corp. of Presiding Bishop of the CJCLDS,
print name print business address

am certifying as Owner (Owner or Remedial Party)

for the Site named in the Site Details Section of this form.

Grant A Cooper 5-15-2018

Signature of Owner, Remedial Party, or Designated Representative Date
Rendering Certification

IC/EC CERTIFICATIONS

Box 7

Professional Engineer Signature

I certify that all information in Boxes 4 and 5 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Nidal Rabah at TRC Environmental Corporation,
print name print business address

am certifying as a Professional Engineer for the Owner
(Owner or Remedial Party)

Signature of Professional Engineer, for the Owner or Remedial Party, Rendering Certification

Stamp (Required for PE)

05/11/2018
Date