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Date: July 14, 2021
Our Ref: 30065717.RPTE3
Subject: Environmental Baseline Study Report
RW-21 Treatment Facility
Operable Unit 3 (Former Grumman Settling Ponds)
Bethpage, New York

Dear Mr. Pelton,

Arcadis of New York, Inc. (Arcadis) prepared this Environmental Baseline Study Report in support of Northrop Grumman's plan to re-use shallow, excess soils excavated during construction of the proposed Building 109 Treatment Facility (site), which is located on Northrop Grumman property. Reused soil would be staged on-site, backfilled in various areas on-site, compacted, and placed under the building foundation or asphalt cover. Reuse of excess soil reduces the effect of construction on the community and is a more sustainable approach in comparison to the off-site transportation/disposal of excavated soils and the import of backfill from an off-site source. As further detailed and discussed below, the data presented in this report have been compared to New York State Department of Environmental Conservation (NYSDEC) soil cleanup objectives (SCOs) for restricted residential use. The plan for reuse also conforms to NYSDEC requirements for reuse as backfill, as specified in NYSDEC DER-10 Section 5.4(d)(4). Northrop Grumman's plan to re-use excess soils during construction therefore is appropriate for the site.

This report provides the validated analytical results of the environmental baseline study performed at the site of the proposed Building 109 Treatment Facility. The work was performed per the Work Plan for Environmental Baseline Study at Treatment Facility for RW-21 Project Area, Operable Unit 3 (Former Grumman Settling Ponds), Bethpage New York (Arcadis 2020) (Work Plan), which was approved by NYSDEC on December 10, 2020.

The work was conducted from December 21, 2020 to December 23, 2020 and included the following tasks:

- Task 1: Soil boring, sampling, and analysis; and
- Task 2: Locating onsite subgrade transite pipe.

Work associated with each task and the findings are summarized below.

DESCRIPTION OF WORK

Task 1: Soil Boring and Sampling

Soil borings, sampling, and laboratory analysis was performed as described in the Work Plan. Arcadis performed field oversight of drilling operations, performed soil lithologic logging, soil sample collection, and submittal of soil samples to the laboratory for analysis. Drilling subcontractor Aquifer Drilling and Testing Co. (ADT/Cascade Environmental) drilled the soil borings using direct-push method (i.e., Geoprobe®). Boring locations were hand

cleared to 5 feet below land surface (ft bls). Continuous soil cores were collected. Down-hole equipment and non-disposable sampling tools were decontaminated prior to use.

Thirteen (13) soil borings (BDG109-EBS1 thru EBS12 except for EBS10, TLR-EBS1 and TLR-EBS2) were drilled and sampled in accordance with the Work Plan, except as noted in Tables 1a and 1b footnotes. Locations of soil borings are shown on **Figure 1**.

Following submittal of the Work Plan, an additional six (6) soil borings (SGBT-10 thru SGBT-15) were drilled and sampled to collect soil samples for geotechnical analysis (e.g., sieve analysis) to support the building foundation design. Geotechnical laboratory analyses were performed by Maser Consulting. Soil samples from Borings SGBT-10 and SGBT-15 were also used to supplement the EBS soil sampling effort (see **Table 1b** for details). Results of the geotechnical analysis will be included in the final design of the RW-21 Project Area Treatment Facility and are not included in this report.

A total of twenty (20) soil samples were collected, including thirteen (13) grab soil samples and seven (7) composite soil samples. Quality assurance/quality control (QA/QC) samples, including trip blank and field blanks, were also collected. The soil samples were submitted to a New York State Department of Health (NYSDOH) accredited laboratory (Eurofins Test America, King of Prussia, Pennsylvania) for analysis of volatile organic compounds (VOCs) (grab samples), semi-volatile organic compounds (SVOCs)/ polychlorinated biphenyls (PCBs)/Pesticides/Herbicides/Metals (composite samples) and for the toxicity characteristic leaching procedure (TCLP) VOCs, SVOCs, Pesticides, PCBs, Herbicides, Metals and Mercury. NYSDEC Category B laboratory reports were provided by the laboratory. Data validation was completed on 20 percent of the samples.

Table 1a and Table 1b summarize the updated grab and composite soil boring locations, respectively. **Table 2** summarizes soil analytical data of the grab samples. **Table 3** summarizes the soil analytical data of the composite samples. **Table 4** summarizes soil analytical data of the waste characterization samples.

Figure 1 shows the soil boring locations.

Task 2: Transite Pipe Location and Sampling

As discussed in the Work Plan, several investigation locations were planned based on historical subgrade utility information provided by Northrop Grumman. Under the oversight of Arcadis, driller subcontractor (ADT/Cascade Environmental) used soft digging method and a mini excavator to expose existing sub-grade transite pipe. Work was performed in accordance with the Work Plan, except as noted on **Figure 2**.

SUMMARY OF FINDINGS

Soil Sampling

Analytical data was compared to Table 375-6.8(b) of NYSDEC 6 NYCRR PART 375 Environmental Remediation Programs Subparts 375-1 to 375- 4 & 375-6, December 14, 2016. There were no exceedances of Restricted Residential, Commercial, or Industrial Soil Cleanup Objectives (SCOs) for VOCs at any sample location or depth for all the 13 grab samples. Two (2) composite samples show exceedances of SVOCs and three (3) samples show exceedances of PCBs as described below in the table. Details of exceedances are provided in **Table 3**.

Range of concentrations identified are summarized in the table below.

Type of Samples	Analyte	Analytical Result (range of concentration)	Number of Samples Exceeding Restricted Residential SCOs	Number of Samples Exceeding Commercial SCOs	Number of Samples Exceeding Restricted Use Industrial SCOs
Grab Samples	VOCs	ND - 720 µg/kg	None	None	None
Composite Samples	SVOCs	ND - 2,500 µg/kg	2 samples	None	None
	PCBs	ND - 5,300 µg/kg	None	3 samples	None
	Metals	ND - 115 mg/kg	None	None	None
	Herbicides	All NDs	None	None	None
	Pesticides	ND - 690 µg/kg	None	None	None

ND - concentrations identified below detection limits.

µg/kg - microgram per kilogram

Transite Pipe Location and Sampling

Obstructions were observed at TP-1a, TP-1b and TP-3. Observations of the obstruction identified at TP-1a and TP-1b were not appeared to be consistent with transite pipe; therefore, the boreholes were backfilled, and no further actions were taken. A concrete structure was observed at TP-3; therefore, no further actions are needed at this location.

Additional investigation south of TP-6 and TP-7 did not reveal presence of transite pipe.

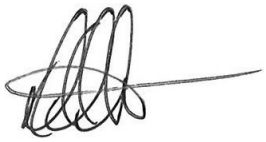
Results of the investigation are summarized in **Figure 2**. No affirmative indication of transite pipe was observed; therefore, samples of transite pipe material were not collected.

Based on the results of the investigation, it was determined that further investigation may be needed to fully delineate the location of sub-surface transite pipe that may conflict with the proposed Building 109 construction site which is beyond the scope of work of this work.

Mr. Jason Pelton
New York State Department of Environmental Conservation
July 14, 2021

Please do not hesitate to contact us if you have any questions.

Sincerely,
Arcadis of New York, Inc.



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Enclosures:

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Table 1a
Grab Soil Sampling Detail, Building 109 EBS Sampling,
Operable Unit 3, RW-21 Project Area
Northrop Grumman, Bethpage, New York

ARCADIS Design & Consultancy for natural and built assets

Soil Boring Identification	Grab Sample Identification	Total Depth(ft bls)
BLD109-EBS1	BLD109-G1 (4-6)	8
BLD109-EBS2	BLD109-G2 (6-8)	8
BLD109-EBS3	BLD109-G3 (8-10)	10
BLD109-EBS4	BLD109-G4 (2-4)	4
BLD109-EBS5	BLD109-G5 (10-12)	12
BLD109-EBS6	BLD109-G6 (4-6)[(1)] BLD109-G6 (8)	8
BLD109-EBS7	BLD109-G7 (4-6)	6
BLD109-EBS8	BLD109-G8 (1-3)	3
BLD109-EBS9	BLD109-G9 (6-8)	8
BLD109-EBS10	BLD109-G10 (NA)	Refusal encountered at 3 ft bls
BLD109-EBS11	BLD109-G11 (6-8)	8
BLD109-EBS12	BLD109-G12 (8-10) [(2)] BLD109-G12 (10-12)	12

Notes and Abbreviations:

[(1)] Samples were collected from referenced depths instead of at 8-10 ft bls and 10-12 ft bls due to refusal at 8 ft bls.

[(2)] Samples were collected from EBS12 since refusal was encountered at 3 ft bls at Boring EBS10.

Grab samples analyzed for VOCs using USEPA Method 8260.
NA Not Applicable
ft bls Feet below land surface

Table 1b
Composite Soil Sampling Detail, Building 109 EBS Sampling
Operable Unit 3, RW-21 Project Area
Northrop Grumman, Bethpage, New York

ARCADIS Design & Consultancy for natural and built assets

Composite Sample Identification	Composite Sample Identification and Depth (ft bls)
BLD109-C1(6-8)[(1)]	BLD109-EBS1(6-8), EBS2(6-8), EBS6(6-8)
BLD109-C2(8-10)[(2)]	BLD109-EBS3(4-6), EBS3(8-10), EBS-5(8-10)
BLD109-C3(4-6)	BLD109-EBS11(4-6), EBS12(4-6)
BLD109-C4(2-4)	BLD109-EBS4(2-4), EBS5(2-4), EBS6(2-4)
BLD109-C5(2-4)	BLD109-EBS7(2-4), EBS8(2-4) and EBS9(2-4)
BLD109-C6(4-6)[(3)]	SGBT-15(4-6) and SGBT-10(4-6)
TLR-C1(0-2)	TLR-EBS1(0-2) and TLR-EBS2(0-2)

Notes and Abbreviations:

[(1)] BLD109-EBS6 (6-8) added to supplement insufficient recovery from samples EBS1 and EBS2

[(2)] BLD109-EBS3(4-6) included with composite instead of BLD109-EBS3(8-10) due to refusal encountered at EBS6 at 8ft bls.

[(3)] SGBT samples used in lieu of EBS9 and EBS12, due to insufficient sample recovery.

Composite samples analyzed for SVOCs (USEPA Method 8270), TAL Metals (USEPA Method 6010/7470), Pesticide/Herbicides (USEPA Method 8081/8151), and PCBs (USEPA Method 8082).

ft bls feet below land surface

Table 2
Analytical Results of Grab Soil Samples
Building 109 EBS Sampling
Operable Unit 3, RW-21 Project Area
Northrop Grumman
Bethpage, New York

Constituents (units in µg/kg)			Location ID:	BLD109-G1	BLD109-G2	BLD109-G3	BLD109-G4	BLD109-G5	BLD109-G6	BLD109-G6	BLD109-G7	BLD109-G8
			Date:	12/21/2020	12/22/2020	12/23/2020	12/21/2020	12/23/2020	12/23/2020	12/23/2020	12/22/2020	12/22/2020
			Sample Depth (ft bls):	4-6	6-8	8-10	2-4	10-12	4-6	8	4-6	1-3
			Sample ID:	BLD109-G1(4-6)	BLD109-G2(6-8)	BLD109-G3(8-10)	BLD109-G4(2-4)	BLD109-G5(10-12)	BLD109-G6(4-6)	BLD109-G6(8)	BLD109-G7(4-6)	BLD109-G8(1-3)
	NYDEC 375-6 Restricted Use Restricted Residential	NYDEC 375-6 Restricted Use Commercial	NYDEC 375-6 Restricted Use Industrial									
1,1,1-Trichloroethane	100000	500000	1000000	< 0.63	< 0.89 J	< 0.84	< 0.57	< 130 J	< 0.92	< 0.83	< 0.95	< 1.0
1,1,2,2-Tetrachloroethane	NA	NA	NA	< 0.63	< 0.89 J	< 0.84	< 0.57	< 130 J	< 0.92	< 0.83	< 0.95	< 1.0
1,1,2-trichloro-1,2,2-trifluoroethane	NA	NA	NA	< 0.63	< 0.89 J	< 0.84	< 0.57	< 130 J	< 0.92	< 0.83	< 0.95	< 1.0
1,1,2-Trichloroethane	NA	NA	NA	< 0.63	< 0.89 J	< 0.84	< 0.57	< 130 J	< 0.92	< 0.83	< 0.95	< 1.0
1,1-Dichloroethane	26000	240000	480000	< 0.63	< 0.89 J	< 0.84	< 0.57	< 130 J	< 0.92	< 0.83	< 0.95	< 1.0
1,1-Dichloroethene	100000	500000	1000000	< 0.63	< 0.89 J	< 0.84	< 0.57	< 130 J	< 0.92	< 0.83	< 0.95	< 1.0
1,2,4-Trichlorobenzene	NA	NA	NA	< 0.63	< 0.89 J	< 0.84	< 0.57	< 130 J	< 0.92	< 0.83	< 0.95	< 1.0
1,2-Dibromo-3-chloropropane	NA	NA	NA	< 0.63	< 0.89 J	< 0.84	< 0.57	< 130 J	< 0.92	< 0.83	< 0.95	< 1.0
1,2-Dibromoethane	NA	NA	NA	< 0.63	< 0.89 J	< 0.84	< 0.57	< 130 J	< 0.92	< 0.83	< 0.95	< 1.0
1,2-Dichlorobenzene	100000	500000	1000000	< 0.63	< 0.89 J	< 0.84	< 0.57	< 130 J	< 0.92	< 0.83	< 0.95	< 1.0
1,2-Dichloroethane	3100	30000	60000	< 0.63	< 0.89 J	< 0.84	< 0.57	< 130 J	< 0.92	< 0.83	< 0.95	< 1.0
1,2-Dichloropropane	NA	NA	NA	< 0.63	< 0.89 J	< 0.84	< 0.57	< 130 J	< 0.92	< 0.83	< 0.95	< 1.0
1,3-Dichlorobenzene	49000	280000	560000	< 0.63	< 0.89 J	< 0.84	< 0.57	< 130 J	< 0.92	< 0.83	< 0.95	< 1.0
1,4-Dichlorobenzene	13000	130000	250000	< 0.63	< 0.89 J	< 0.84	< 0.57	< 130 J	< 0.92	< 0.83	< 0.95	< 1.0
2-Butanone (MEK)	100000	500000	1000000	< 3.2	< 4.4 J	**3.1 J**	**2.4 J**	< 640 J	**3.1 J**	< 4.2	**11**	**12**
4-Methyl-2-Pentanone	NA	NA	NA	< 3.2	< 4.4 J	< 4.2	< 2.9	< 640 J	< 4.6	< 4.2	< 4.8	< 5.2
Acetone	100000	500000	1000000	**14**	**47 J**	**100 J**	**19**	< 640 J	**120 J**	**12**	**140**	**140**
Benzene	4800	44000	89000	< 0.63	< 0.89 J	< 0.84	**0.20 J**	< 130 J	< 0.92	**0.46 J**	**0.53 J**	**0.48 J**
Bromodichloromethane	NA	NA	NA	< 0.63	< 0.89 J	< 0.84	< 0.57	< 130 J	< 0.92	< 0.83	< 0.95	< 1.0
Bromoform	NA	NA	NA	< 0.63	< 0.89 J	< 0.84	< 0.57	< 130 J	< 0.92	< 0.83	< 0.95	< 1.0
Bromomethane	NA	NA	NA	< 1.3	< 1.8 J	< 1.7	< 1.1	< 130 J	< 1.8	< 1.7	< 1.9	< 2.1
Carbon Disulfide	NA	NA	NA	< 0.63	< 0.89 J	< 0.84	**2.0**	< 130 J	< 0.92	< 0.83	**2.1**	< 1.0
Carbon Tetrachloride	2400	22000	44000	< 0.63	< 0.89 J	< 0.84	< 0.57	< 130 J	< 0.92	< 0.83	< 0.95	< 1.0
CFC-11	NA	NA	NA	< 0.63	< 0.89 J	< 0.84	< 0.57	< 130 J	< 0.92	< 0.83	< 0.95	< 1.0
CFC-12	NA	NA	NA	< 0.63	< 0.89 J	< 0.84	< 0.57	< 130 J	< 0.92	< 0.83	< 0.95	< 1.0
Chlorobenzene	100000	500000	1000000	< 0.63	< 0.89 J	< 0.84	< 0.57	< 130 J	< 0.92	< 0.83	< 0.95	< 1.0
Chlorodibromomethane	NA	NA	NA	< 0.63	< 0.89 J	< 0.84	< 0.57	< 130 J	< 0.92	< 0.83	< 0.95	< 1.0
Chloroethane	NA	NA	NA	< 0.63	< 0.89 J	< 0.84	< 0.57	< 130 J	< 0.92	< 0.83	< 0.95	< 1.0
Chloroform	49000	350000	700000	< 0.63	< 0.89 J	< 0.84	< 0.57	< 130 J	< 0.92	< 0.83	< 0.95	< 1.0
Chloromethane	NA	NA	NA	< 0.63	< 0.89 J	< 0.84	< 0.57	< 130 J	< 0.92	< 0.83	< 0.95	< 1.0
cis-1,2-Dichloroethene	100000	500000	1000000	< 0.63	< 0.89 J	< 0.84	< 0.57	< 130 J	< 0.92	< 0.83	< 0.95	**0.61 J**
cis-1,3-Dichloropropene	NA	NA	NA	< 0.63	< 0.89 J	< 0.84	< 0.57	< 130 J	< 0.92	< 0.83	< 0.95	< 1.0
Cyclohexane	NA	NA	NA	< 0.63	< 0.89 J	< 0.84	< 0.57	< 130 J	< 0.92	< 0.83	< 0.95	**0.23 J**
Dichloromethane	100000	500000	1000000	< 1.3	< 1.8 J	< 1.7 J	< 1.1	< 130 J	< 1.8 J	**1.1 J**	< 1.9	< 2.1
Ethylbenzene	41000	390000	780000	< 0.63	< 0.89 J	< 0.84	< 0.57	**200 J**	< 0.92	< 0.83	**0.32 J**	**0.51 J**
Isopropylbenzene	NA	NA	NA	< 0.63	< 0.89 J	< 0.84	< 0.57	< 130 J	< 0.92	< 0.83	< 0.95	< 1.0
m&p-Xylenes	NA	NA	NA	**0.20 J**	< 0.89 J	**0.21 J**	**0.24 J**	**720 J**	**0.19 J**	< 0.83	**1.3**	**1.1**
Methyl Acetate	NA	NA	NA	< 3.2	< 4.4 J	< 4.2	< 2.9	< 640 J	< 4.6	< 4.2	< 4.8	< 5.2
Methyl N-Butyl Ketone (2-Hexanone)	NA	NA	NA	< 3.2	< 4.4 J	< 4.2	< 2.9	< 640 J	< 4.6	< 4.2	< 4.8	< 5.2
Methylcyclohexane	NA	NA	NA	< 0.63	< 0.89 J	< 0.84	< 0.57	< 130 J	< 0.92	< 0.83	< 0.95	**0.75 J**
Methyl-tert-butylether	100000	500000	1000000	< 0.63	< 0.89 J	< 0.84	< 0.57	< 130 J	< 0.92	< 0.83	< 0.95	< 1.0
o-Xylene	NA	NA	NA	**0.17 J**	< 0.89 J	< 0.84	**0.21 J**	**400 J**	< 0.92	< 0.83	**0.67 J**	**1.2**
Styrene (Monomer)	NA	NA	NA	< 0.63	< 0.89 J	< 0.84	< 0.57	< 130 J	< 0.92	< 0.83	< 0.95	< 1.0
Tetrachloroethene	19000	150000	300000	< 0.63	< 0.89 J	< 0.84	< 0.57	< 130 J	< 0.92	**0.27 J**	**0.30 J**	**1.3**
Toluene	100000	500000	1000000	< 0.63	< 0.89 J	**0.26 J**	**0.39 J**	< 130 J	**0.32 J**	**1.9**	**0.99**	**1.3**
trans-1,2-Dichloroethene	100000	500000	1000000	< 0.63	< 0.89 J	< 0.84	< 0.57	< 130 J	< 0.92	< 0.83	< 0.95	< 1.0
trans-1,3-Dichloropropene	NA	NA	NA	< 0.63	< 0.89 J	< 0.84	< 0.57	< 130 J	< 0.92	< 0.83	< 0.95	< 1.0
Trichloroethene	21000	200000	400000	< 0.63	< 0.89 J	< 0.84	< 0.57	< 130 J	< 0.92	< 0.83	**0.78 J**	**4.6**
Vinyl chloride	900	1300	27000	< 0.63	< 0.89 J	< 0.84 J	< 0.57	< 130 J	< 0.92 J	< 0.83 J	< 0.95	< 1.0
TVOC	NA	NA	NA	**14**	**47**	**100**	**24**	**1300**	**120**	**16**	**160**	**160**

Notes and Abbreviations on last page

Table 2
Analytical Results of Grab Soil Samples
Building 109 EBS Sampling
Operable Unit 3, RW-21 Project Area
Northrop Grumman
Bethpage, New York

Constituents (units in µg/kg)			Location ID:	BLD109-G9	BLD109-G11	BLD109-G12	BLD109-G12
			Date:	12/22/2020	12/21/2020	12/23/2020	12/23/2020
			Sample Depth (ft bls):	6-8	6-8	8-10	10-12
			Sample ID:	BLD109-G9(6-8)	BLD109-G11(6-8)	BLD109-G12(8-10)	BLD109-G12(10-12)
	NYDEC 375-6 Restricted Use Restricted Residential	NYDEC 375-6 Restricted Use Commercial	NYDEC 375-6 Restricted Use Industrial				
1,1,1-Trichloroethane	100000	500000	1000000	< 1.1	< 0.67	< 0.98	< 1.0
1,1,2,2-Tetrachloroethane	NA	NA	NA	< 1.1	< 0.67	< 0.98	< 1.0
1,1,2-trichloro-1,2,2-trifluoroethane	NA	NA	NA	< 1.1	< 0.67	< 0.98	< 1.0
1,1,2-Trichloroethane	NA	NA	NA	< 1.1	< 0.67	< 0.98	< 1.0
1,1-Dichloroethane	26000	240000	480000	< 1.1	< 0.67	< 0.98	< 1.0
1,1-Dichloroethene	100000	500000	1000000	< 1.1	< 0.67	< 0.98	< 1.0
1,2,4-Trichlorobenzene	NA	NA	NA	< 1.1	< 0.67	< 0.98	< 1.0
1,2-Dibromo-3-chloropropane	NA	NA	NA	< 1.1	< 0.67	< 0.98	< 1.0
1,2-Dibromoethane	NA	NA	NA	< 1.1	< 0.67	< 0.98	< 1.0
1,2-Dichlorobenzene	100000	500000	1000000	< 1.1	< 0.67	< 0.98	< 1.0
1,2-Dichloroethane	3100	30000	60000	< 1.1	< 0.67	< 0.98	< 1.0
1,2-Dichloropropane	NA	NA	NA	< 1.1	< 0.67	< 0.98	< 1.0
1,3-Dichlorobenzene	49000	280000	560000	< 1.1	< 0.67	< 0.98	< 1.0
1,4-Dichlorobenzene	13000	130000	250000	< 1.1	< 0.67	< 0.98	< 1.0
2-Butanone (MEK)	100000	500000	1000000	**17**	< 3.3	**3.9 J**	< 5.1
4-Methyl-2-Pentanone	NA	NA	NA	< 5.5	< 3.3	< 4.9	< 5.1
Acetone	100000	500000	1000000	**310**	**100**	**150**	< 6.1
Benzene	4800	44000	89000	**1.2**	< 0.67	< 0.98	< 1.0
Bromodichloromethane	NA	NA	NA	< 1.1	< 0.67	< 0.98	< 1.0
Bromoform	NA	NA	NA	< 1.1	< 0.67	< 0.98	< 1.0
Bromomethane	NA	NA	NA	< 2.2	< 1.3	< 2.0	< 2.0
Carbon Disulfide	NA	NA	NA	**0.78 J**	< 0.67	< 0.98	< 1.0
Carbon Tetrachloride	2400	22000	44000	< 1.1	< 0.67	< 0.98	< 1.0
CFC-11	NA	NA	NA	< 1.1	< 0.67	< 0.98	< 1.0
CFC-12	NA	NA	NA	< 1.1	< 0.67	< 0.98	< 1.0
Chlorobenzene	100000	500000	1000000	< 1.1	< 0.67	< 0.98	< 1.0
Chlorodibromomethane	NA	NA	NA	< 1.1	< 0.67	< 0.98	< 1.0
Chloroethane	NA	NA	NA	< 1.1	< 0.67	< 0.98	< 1.0
Chloroform	49000	350000	700000	< 1.1	< 0.67	< 0.98	< 1.0
Chloromethane	NA	NA	NA	< 1.1	< 0.67	< 0.98	< 1.0
cis-1,2-Dichloroethene	100000	500000	1000000	< 1.1	< 0.67	< 0.98	< 1.0
cis-1,3-Dichloropropene	NA	NA	NA	< 1.1	< 0.67	< 0.98	< 1.0
Cyclohexane	NA	NA	NA	**0.44 J**	< 0.67	< 0.98	< 1.0
Dichloromethane	100000	500000	1000000	< 2.2	< 1.3	< 2.0 J	< 2.0 J
Ethylbenzene	41000	390000	780000	**0.29 J**	< 0.67	< 0.98	< 1.0
Isopropylbenzene	NA	NA	NA	< 1.1	< 0.67	< 0.98	< 1.0
m&p-Xylenes	NA	NA	NA	**1.2**	< 0.67	**0.20 J**	< 1.0
Methyl Acetate	NA	NA	NA	< 5.5	< 3.3	< 4.9	< 5.1
Methyl N-Butyl Ketone (2-Hexanone)	NA	NA	NA	< 5.5	< 3.3	< 4.9	< 5.1
Methylcyclohexane	NA	NA	NA	**1.0 J**	< 0.67	< 0.98	< 1.0
Methyl-tert-butylether	100000	500000	1000000	< 1.1	< 0.67	< 0.98	< 1.0
o-Xylene	NA	NA	NA	**0.78 J**	< 0.67	< 0.98	< 1.0
Styrene (Monomer)	NA	NA	NA	< 1.1	< 0.67	< 0.98	< 1.0
Tetrachloroethene	19000	150000	300000	< 1.1	< 0.67	< 0.98	**1.5 J**
Toluene	100000	500000	1000000	**1.3**	< 0.67	**0.28 J**	< 1.0
trans-1,2-Dichloroethene	100000	500000	1000000	< 1.1	< 0.67	< 0.98	< 1.0
trans-1,3-Dichloropropene	NA	NA	NA	< 1.1	< 0.67	< 0.98	< 1.0
Trichloroethene	21000	200000	400000	< 1.1	< 0.67	**0.69 J**	**5.9 J**
Vinyl chloride	900	1300	27000	< 1.1	< 0.67	< 0.98 J	< 1.0 J
TVOC	NA	NA	NA	**330**	**100**	**160**	**7.4**

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Table 2
Analytical Results of Grab Soil Samples
Building 109 EBS Sampling
Operable Unit 3, RW-21 Project Area
Northrop Grumman
Bethpage, New York

Notes and Abbreviations:
Grab Samples were analyzed for the TCL VOCs using USEPA Method 8260
Validation is performed on 20% of the samples
TVOC is rounded up to show two significant numbers

Bold	Constituent detected
NA	Not applicable
TCL	Target Compound List
mg/kg	Milligrams per kilogram
µg/kg	Micrograms per kilogram
<0.50	Constituent not detected above its laboratory detection limit
J	The reported result is an estimate. The value is less than the minimum calibration level but greater than the estimated detection limit
NYDEC 375-6	New York Department of Environmental Conservation Remedial Program Soil Cleanup Objectives

Table 3
Analytical Results of Composite Soil Samples,
Building 109 EBS Sampling
Operable Unit 3, RW-21 Project Area
Northrop Grumman
Bethpage, New York

Constituents			Location ID: Date: Sample Depth (ft bls): Sample ID:	BLD109-C1 12/23/2020 6-8 BLD109-C1(6-8)	BLD109-C2 12/23/2020 8-10 BLD109-C2(8-10)	BLD109-C3 12/23/2020 4-6 BLD109-C3(4-6)	BLD109-C4 12/23/2020 2-4 BLD109-C4(2-4)	BLD109-C5 12/23/2020 2-4 BLD109-C5(2-4)	BLD109-C6 12/23/2020 4-6 BLD109-C6(4-6)	TLR-C1 12/23/2020 0-2 TLR-C1(0-2)
	NYDEC 375-6 Restricted Use Restricted Residential	NYDEC 375-6 Restricted Use Commercial	NYDEC 375-6 Restricted Use Industrial							
SVOCs (units in µg/kg)										
1,1-Biphenyl	NA	NA	NA	< 370 J	**26 J**	< 360	**20 J**	**32 J**	< 360	< 360
1,2,4,5-Tetrachlorobenzene	NA	NA	NA	< 370 J	< 360	< 360	< 370	< 370	< 360	< 360
2,2-Oxybis(1-Chloropropane)	NA	NA	NA	< 370 J	< 360	< 360	< 370	< 370	< 360	< 360
2,3,4,6-Tetrachlorophenol	NA	NA	NA	< 370 J	< 360	< 360	< 370	< 370	< 360	< 360
2,4,5-Trichlorophenol	NA	NA	NA	< 370 J	< 360	< 360	< 370	< 370	< 360	< 360
2,4,6-Trichlorophenol	NA	NA	NA	< 150 J	< 140	< 140	< 150	< 150	< 150	< 150
2,4-Dichlorophenol	NA	NA	NA	< 150 J	< 140	< 140	< 150	< 150	< 150	< 150
2,4-Dimethylphenol	NA	NA	NA	< 370 J	< 360	< 360	< 370	< 370	< 360	< 360
2,4-Dinitrophenol	NA	NA	NA	< 300 J	< 290	< 290	< 300	< 300	< 290	< 290
2,4-Dinitrotoluene	NA	NA	NA	< 74 J	< 72	< 73	< 75	< 74	< 74	< 73
2,6-Dinitrotoluene	NA	NA	NA	-- R	< 72	< 73	< 75	< 74	< 74	< 73
2-Chloronaphthalene	NA	NA	NA	< 370 J	< 360	< 360	< 370	< 370	< 360	< 360
2-Chlorophenol	NA	NA	NA	< 370 J	< 360	< 360	< 370	< 370	< 360	< 360
2-Methyl-4,6-dinitrophenol	NA	NA	NA	< 300 J	< 290	< 290	< 300	< 300	< 290	< 290
2-Methylnaphthalene	NA	NA	NA	**18 J**	**44 J**	< 360	**71 J**	**98 J**	**14 J**	**19 J**
2-Methylphenol	100,000	500,000	1,000,000	< 370 J	< 360	< 360	< 370	< 370	< 360	< 360
2-Nitroaniline	NA	NA	NA	< 370 J	< 360	< 360	< 370	< 370	< 360	< 360
2-Nitrophenol	NA	NA	NA	< 370 J	< 360	< 360	< 370	< 370	< 360	< 360
3,3-Dichlorobenzidine	NA	NA	NA	< 150 J	< 140	< 140	< 150	< 150	< 150	< 150
3-Nitroaniline	NA	NA	NA	< 370 J	< 360	< 360	< 370	< 370	< 360	< 360
4-Bromophenyl phenyl ether	NA	NA	NA	< 370 J	< 360	< 360	< 370	< 370	< 360	< 360
4-Chloro-3-Methylphenol	NA	NA	NA	< 370 J	< 360	< 360	< 370	< 370	< 360	< 360
4-Chlorophenyl phenyl ether	NA	NA	NA	< 370 J	< 360	< 360	< 370	< 370	< 360	< 360
4-Methylphenol	100,000	500,000	1,000,000	< 370 J	< 360	< 360	< 370	< 370	< 360	< 360
4-Nitroaniline	NA	NA	NA	< 370 J	< 360	< 360	< 370	< 370	< 360	< 360
4-Nitrophenol	NA	NA	NA	< 740 J	< 720	< 730	< 750	< 740	< 740	< 730
Acenaphthene	100,000	500,000	1,000,000	**18 J**	**45 J**	**37 J**	**84 J**	**140 J**	**77 J**	**51 J**
Acenaphthylene	100,000	500,000	1,000,000	< 370 J	< 360	< 360	**17 J**	**20 J**	< 360	< 360
Acetophenone	NA	NA	NA	**18 J**	< 360	< 360	**19 J**	**26 J**	< 360	< 360
Anthracene	100,000	500,000	1,000,000	**61 J**	**110 J**	**56 J**	**140 J**	**160 J**	**130 J**	**86 J**
Atrazine	NA	NA	NA	< 150 J	< 140	< 140	< 150	< 150	< 150	< 150
Benz(a)anthracene	1,000	5,600	11,000	**120 J**	**180**	**160**	**340**	**790**	**710**	**420**
Benzaldehyde	NA	NA	NA	< 370 J	< 360 J	< 360 J	< 370 J	< 370 J	< 360 J	< 360 J
Benzo(a)pyrene	1,000	1,000	1,100	**120 J**	**190**	**160**	**360**	**910**	**840**	**560**
Benzo(b)fluoranthene	1,000	5,600	11,000	**140 J**	**230**	**200**	**460**	**1,300**	**1,200**	**830**

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Table 3
Analytical Results of Composite Soil Samples,
Building 109 EBS Sampling
Operable Unit 3, RW-21 Project Area
Northrop Grumman
Bethpage, New York

Constituents			Location ID: Date: Sample Depth (ft bls): Sample ID:	BLD109-C1 12/23/2020 6-8 BLD109-C1(6-8)	BLD109-C2 12/23/2020 8-10 BLD109-C2(8-10)	BLD109-C3 12/23/2020 4-6 BLD109-C3(4-6)	BLD109-C4 12/23/2020 2-4 BLD109-C4(2-4)	BLD109-C5 12/23/2020 2-4 BLD109-C5(2-4)	BLD109-C6 12/23/2020 4-6 BLD109-C6(4-6)	TLR-C1 12/23/2020 0-2 TLR-C1(0-2)
	NYDEC 375-6 Restricted Use Restricted Residential	NYDEC 375-6 Restricted Use Commercial	NYDEC 375-6 Restricted Use Industrial							
SVOCs (units in µg/kg) (continued)										
Benzo(g,h,i)perylene	100,000	500,000	1,000,000	**55 J**	**110 J**	**82 J**	**140 J**	**340 J**	**370**	**270 J**
Benzo(k)fluoranthene	3,900	56,000	110,000	**45 J**	**80**	**76**	**200**	**610**	**490**	**340**
bis(2-Chloroethoxy)methane	NA	NA	NA	< 370 J	< 360	< 360	< 370	< 370	< 360	< 360
bis(2-Chloroethyl)ether	NA	NA	NA	< 37 J	< 36	< 36	< 37	< 37	< 36	< 36
bis(2-Ethylhexyl)phthalate	NA	NA	NA	< 370 J	< 360	< 360	**74 J**	**100 J**	**68 J**	**120 J**
Butyl benzyl phthalate	NA	NA	NA	< 370 J	< 360	**18 J**	< 370	< 370	< 360	**150 J**
Caprolactam	NA	NA	NA	< 370 J	< 360	< 360	< 370	< 370	< 360	< 360
Carbazole	NA	NA	NA	**14 J**	**45 J**	**33 J**	**64 J**	**170 J**	**120 J**	**60 J**
Chrysene	3,900	56,000	110,000	**99 J**	**170 J**	**130 J**	**370**	**1,000**	**830**	**500**
Dibenz(a,h)anthracene	330	560	1,100	< 37 J	< 36	**19 J**	**46**	**110**	**83**	**64**
Dibenzofuran	59,000	350,000	1,000,000	**20 J**	**41 J**	**16 J**	**64 J**	**120 J**	**38 J**	**22 J**
Diethyl phthalate	NA	NA	NA	< 370 J	< 360	< 360	< 370	< 370	< 360	< 360
Dimethyl phthalate	NA	NA	NA	< 370 J	< 360	< 360	< 370	< 370	< 360	< 360
Di-n-butyl phthalate	NA	NA	NA	< 370 J	< 360	< 360	< 370	< 370	< 360	< 360
Di-n-octyl phthalate	NA	NA	NA	< 370 J	< 360	< 360	< 370	< 370	< 360	< 360
Fluoranthene	100,000	500,000	1,000,000	**250 J**	**390**	**360**	**830**	**2,500**	**1,800**	**860**
Fluorene	100,000	500,000	1,000,000	**27 J**	**56 J**	**28 J**	**61 J**	**83 J**	**60 J**	**34 J**
Hexachloro-1,3-butadiene	NA	NA	NA	< 74 J	< 72	< 73	< 75	< 74	< 74	< 73
Hexachlorobenzene	1,200	6,000	12,000	< 37 J	< 36	< 36	< 37	< 37	< 36	< 36
Hexachlorocyclopentadiene	NA	NA	NA	< 370 J	< 360	< 360	< 370	< 370	< 360	< 360
Hexachloroethane	NA	NA	NA	< 37 J	< 36	< 36	< 37	< 37	< 36	< 36
Indeno(1,2,3-cd)pyrene	500	5,600	11,000	**76 J**	**130**	**110**	**180**	**520**	**460**	**360**
Isophorone	NA	NA	NA	< 150 J	< 140	< 140	< 150	< 150	< 150	< 150
Naphthalene	100,000	500,000	1,000,000	**48 J**	**120 J**	< 360	**69 J**	**160 J**	**17 J**	**28 J**
Nitrobenzene	NA	NA	NA	< 37 J	< 36	< 36	< 37	< 37	< 36	< 36
N-Nitrosodi-n-propylamine	NA	NA	NA	< 37 J	< 36	< 36	< 37	< 37	< 36	< 36
N-Nitrosodiphenylamine	NA	NA	NA	< 370 J	< 360	< 360	< 370	< 370	< 360	< 360
p-Chloroaniline	NA	NA	NA	< 370 J	< 360	< 360	< 370	< 370	< 360	< 360
Pentachlorophenol	6,700	6,700	55,000	< 300 J	< 290	< 290	< 300	< 300	< 290	< 290
Phenanthrene	100,000	500,000	1,000,000	**160 J**	**330 J**	**280 J**	**610**	**1,400**	**920**	**410**
Phenol	100,000	500,000	1,000,000	< 370 J	< 360	< 360	< 370	< 370	< 360	< 360
Pyrene	100,000	500,000	1,000,000	**210 J**	**310 J**	**260 J**	**680**	**1,800**	**1,400**	**690**

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Table 3
Analytical Results of Composite Soil Samples,
Building 109 EBS Sampling
Operable Unit 3, RW-21 Project Area
Northrop Grumman
Bethpage, New York

Constituents			Location ID: / Date: / Sample Depth (ft bls): / Sample ID:	BLD109-C1 12/23/2020 6-8 BLD109-C1(6-8)	BLD109-C2 12/23/2020 8-10 BLD109-C2(8-10)	BLD109-C3 12/23/2020 4-6 BLD109-C3(4-6)	BLD109-C4 12/23/2020 2-4 BLD109-C4(2-4)	BLD109-C5 12/23/2020 2-4 BLD109-C5(2-4)	BLD109-C6 12/23/2020 4-6 BLD109-C6(4-6)	TLR-C1 12/23/2020 0-2 TLR-C1(0-2)
	NYDEC 375-6 Restricted Use Restricted Residential	NYDEC 375-6 Restricted Use Commercial	NYDEC 375-6 Restricted Use Industrial							
PCBs (units in µg/kg)										
Aroclor 1016	NA	NA	NA	< 74	< 72	< 73	< 75	< 74	< 74	< 730
Aroclor 1221	NA	NA	NA	< 74	< 72	< 73	< 75	< 74	< 74	< 730
Aroclor 1232	NA	NA	NA	< 74	< 72	< 73	< 75	< 74	< 74	< 730
Aroclor 1242	NA	NA	NA	< 74	< 72	< 73	< 75	< 74	< 74	< 730
Aroclor 1248	NA	NA	NA	< 74	**550**	**1,100**	**260**	**480**	**1,000**	**5,300**
Aroclor 1254	NA	NA	NA	< 74	< 72	< 73	< 75	< 74	< 74	< 730
Aroclor 1260	NA	NA	NA	< 74	< 72	< 73	< 75	< 74	< 74	< 730
Aroclor 1262	NA	NA	NA	< 74	< 72	< 73	< 75	< 74	< 74	< 730
Aroclor 1268	NA	NA	NA	< 74	< 72	< 73	< 75	< 74	< 74	< 730
Total PCBs	1,000	1,000	25,000	< 74	**550**	**1,100**	**260**	**480**	**1,000**	**5,300**
Metals (units in mg/kg)										
Arsenic	16	16	16	**3.2 J**	**3.5**	**2.1 J**	**4.0**	**5.3**	**4.8**	**4.7**
Barium	400	400	10,000	**30.1 J**	**49.4**	**10.6 J**	**60.3**	**52.3**	**35.7 J**	**17.9 J**
Cadmium	4.3	9.3	60	< 0.89	**0.26 J**	**0.61 J**	**0.33 J**	**0.25 J**	**0.48 J**	**3.3**
Chromium	NA	NA	NA	**18.6**	**28.9**	**40.9**	**16.7**	**26.8**	**20.9**	**115**
Lead	400	1,000	3,900	**20.7**	**29.2**	**11.9**	**67.2**	**79.0**	**28.2**	**48.7**
Mercury	0.81	2.8	5.7	**0.046**	**0.044**	**0.034**	**0.11**	**0.061**	**0.042**	**0.082**
Selenium	180	1,500	6,800	< 4.4	< 4.0	< 4.1	< 4.2	< 4.1	< 4.2	< 4.2
Silver	180	1,500	6,800	< 2.2	**1.3 J**	**4.5**	< 2.1	< 2.1	< 2.1	**17.4**
Herbicides (units in µg/kg)										
2,4,5-T	NA	NA	NA	< 37	< 36	< 36	< 37	< 37	< 37	< 36
2,4,5-TP (Silvex)	100,000	500,000	1,000,000	< 37	< 36	< 36	< 37	< 37	< 37	< 36
2,4-D	NA	NA	NA	< 37	< 36	< 36	< 37	< 37	< 37	< 36
Pesticides (units in µg/kg)										
4,4-DDD	13,000	92,000	180,000	< 7.4	< 7.2	< 7.3	< 7.5	< 7.4	< 7.3	< 7.3
4,4-DDE	8,900	62,000	120,000	< 7.4	< 7.2	< 7.3	**15**	**15**	**17**	< 7.3
4,4-DDT	7,900	47,000	94,000	< 7.4	< 7.2	< 7.3	< 7.5	< 7.4	< 7.3	< 7.3
Aldrin	97	680	1,400	< 7.4	< 7.2	< 7.3	< 7.5	**15**	< 7.3	< 7.3
Alpha-BHC	480	3,400	6,800	< 2.2	< 2.2	< 2.2	< 2.2	< 2.2	< 2.2	< 2.2
Beta-BHC	360	3,000	14,000	< 2.2	< 2.2	< 2.2	< 2.2	< 2.2	< 2.2	< 2.2
Chlordane	NA	NA	NA	< 74	< 72	< 73	**330**	**430**	**690**	< 73
Delta-BHC	100,000	500,000	1,000,000	< 2.2	< 2.2	< 2.2	< 2.2	< 2.2	< 2.2	< 2.2
Dieldrin	200	1,400	2,800	< 2.2	< 2.2	< 2.2	**7.2 J**	**13 J**	**19**	< 2.2
Endosulfan I	24,000	200,000	920,000	< 7.4	< 7.2	< 7.3	< 7.5	< 7.4	< 7.3	< 7.3
Endosulfan II	24,000	200,000	920,000	< 7.4	< 7.2	< 7.3	< 7.5	< 7.4	< 7.3	< 7.3
Endosulfan sulfate	24,000	200,000	920,000	< 7.4	< 7.2	< 7.3	< 7.5	< 7.4	< 7.3	< 7.3

Notes and Abbreviations on last page

Table 3
Analytical Results of Composite Soil Samples,
Building 109 EBS Sampling
Operable Unit 3, RW-21 Project Area
Northrop Grumman
Bethpage, New York

Constituents			Location ID: Date: Sample Depth (ft bls): Sample ID:	BLD109-C1 12/23/2020 6-8 BLD109-C1(6-8)	BLD109-C2 12/23/2020 8-10 BLD109-C2(8-10)	BLD109-C3 12/23/2020 4-6 BLD109-C3(4-6)	BLD109-C4 12/23/2020 2-4 BLD109-C4(2-4)	BLD109-C5 12/23/2020 2-4 BLD109-C5(2-4)	BLD109-C6 12/23/2020 4-6 BLD109-C6(4-6)	TLR-C1 12/23/2020 0-2 TLR-C1(0-2)
	NYDEC 375-6 Restricted Use Restricted Residential	NYDEC 375-6 Restricted Use Commercial	NYDEC 375-6 Restricted Use Industrial							
Pesticides (units in µg/kg) (continued)										
Endrin	11,000	89,000	410,000	< 7.4	< 7.2	< 7.3	< 7.5	< 7.4	< 7.3	< 7.3
Endrin aldehyde	NA	NA	NA	< 7.4	< 7.2	< 7.3	< 7.5	< 7.4	< 7.3	< 7.3
Endrin ketone	NA	NA	NA	< 7.4	< 7.2	< 7.3	< 7.5	< 7.4	< 7.3	< 7.3
Gamma-BHC	1,300	9,200	23,000	< 2.2	< 2.2	< 2.2	< 2.2	< 2.2	< 2.2	< 2.2
Heptachlor	2,100	15,000	29,000	< 7.4	< 7.2	< 7.3	< 7.5	< 7.4	< 7.3	< 7.3
Heptachlor epoxide	NA	NA	NA	< 7.4	< 7.2	< 7.3	< 7.5	< 7.4	< 7.3	< 7.3
Methoxychlor	NA	NA	NA	< 7.4	< 7.2	< 7.3	< 7.5	< 7.4	< 7.3	< 7.3
Toxaphene	NA	NA	NA	< 74	< 72	< 73	< 75	< 74	< 73	< 73

Notes and Abbreviations:

Composite Samples were analyzed for SVOCs using EPA Method 8270, Pesticides using EPA Method 8081, PCBs using EPA Method 8082, Herbicides using EPA Method 8151, Metals using EPA Method 6010 and Mercury using EPA Method 7470.

Validation is performed on 20% of the samples

Highlighted Green	Exceeds NYDEC 375-6 Restricted Use - Restricted Residential Standard
Highlighted Yellow	Exceeds NYDEC 375-6 Restricted Use - Commercial Standard
Highlighted Blue	Exceeds NYDEC 375-6 Restricted Use - Industrial
Bold	Constituent detected
NA	Not applicable
TCL	Target Compound List
VOC	Volatile Organic Compound
SVOC	Semi-volatile Organic Compound
PCBs	Polychlorinated Biphenyls
GenChem	General Chemistry
mg/kg	Milligrams per kilogram
µg/kg	Micrograms per kilogram
<0.50	Constituent not detected above its laboratory detection limit
J	The reported result is an estimate. The value is less than the minimum calibration level but greater than the estimated detection limit.
NYDEC 375-6	New York Department of Environmental Conservation Remedial Program Soil Cleanup Objectives

Table 4
TCLP Analytical Resuls of Composite Soil Samples
Building 109 EBS Sampling
Operable Unit 3, RW-21 Project Area
Northrop Grumman
Bethpage, New York

Constituents	Location ID: / Date: / Sample ID:	BLD109-C1 12/23/2020 6-8 BLD109-C1(6-8)	BLD109-C2 12/23/2020 8-10 BLD109-C2(8-10)	BLD109-C3 12/23/2020 4-6 BLD109-C3(4-6)	BLD109-C4 12/23/2020 2-4 BLD109-C4(2-4)	BLD109-C5 12/23/2020 2-4 BLD109-C5(2-4)	BLD109-C6 12/23/2020 4-6 BLD109-C6(4-6)	TLR-C1 12/23/2020 0-2 TLR-C1(0-2)
	RCRA/TSCA Standards							
VOCs (units in µg/L)								
1,1-Dichloroethene	700	< 10	< 10	< 10	< 10	< 10	< 10	< 10
1,2-Dichloroethane	500	< 10	< 10	< 10	< 10	< 10	< 10	< 10
1,4-Dichlorobenzene	7,500	< 10	< 10	< 10	< 10	< 10	< 10	< 10
2-Butanone (MEK)	200,000	< 50	< 50	< 50	< 50	**28 J**	< 50	< 50
Benzene	500	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Carbon Tetrachloride	500	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Chlorobenzene	100,000	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Chloroform	6,000	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Tetrachloroethene	700	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Trichloroethene	500	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Vinyl chloride	200	< 10	< 10	< 10	< 10	< 10	< 10	< 10
SVOCs (units in µg/L)								
1,4-Dichlorobenzene	7,500	< 10	< 10	< 10	< 10	< 10	< 10	< 10
2,4,5-Trichlorophenol	400,000	< 10	< 10	< 10	< 10	< 10	< 10	< 10
2,4,6-Trichlorophenol	2,000	< 10	< 10	< 10	< 10	< 10	< 10	< 10
2,4-Dinitrotoluene	130	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
2-Methylphenol	200,000	< 10	< 10	< 10	< 10	< 10	< 10	< 10
3-Methylphenol, 4-Methylphenol	200,000	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Hexachloro-1,3-butadiene	500	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Hexachlorobenzene	130	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hexachloroethane	3,000	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Nitrobenzene	2,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Pentachlorophenol	100,000	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Pyridine	35,000	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Metals (units in mg/L)								
Arsenic	5	< 0.0750	< 0.0750	< 0.0750	< 0.0750	**0.0235 J**	< 0.0750	< 0.0750
Barium	100	**0.415 J**	**0.364 J**	**0.141 J**	**0.341 J**	**0.239 J**	**0.275 J**	**0.244 J**
Cadmium	1	**0.0027 J**	**0.0092 J**	**0.0076 J**	< 0.0200	< 0.0200	< 0.0200	**0.0922**
Chromium	5	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Lead	5	**0.0743**	**0.0766**	**0.0202 J**	**0.0508**	< 0.0500	**0.0120 J**	**0.183**
Mercury	0.2	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020
Selenium	1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Silver	5	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500

Notes and Abbreviations on last page

Table 4
TCLP Analytical Resuls of Composite Soil Samples
Building 109 EBS Sampling
Operable Unit 3, RW-21 Project Area
Northrop Grumman
Bethpage, New York

Constituents	Location ID: / Date: / Sample ID:	BLD109-C1 12/23/2020 6-8 BLD109-C1(6-8)	BLD109-C2 12/23/2020 8-10 BLD109-C2(8-10)	BLD109-C3 12/23/2020 4-6 BLD109-C3(4-6)	BLD109-C4 12/23/2020 2-4 BLD109-C4(2-4)	BLD109-C5 12/23/2020 2-4 BLD109-C5(2-4)	BLD109-C6 12/23/2020 4-6 BLD109-C6(4-6)	TLR-C1 12/23/2020 0-2 TLR-C1(0-2)
	RCRA/TSCA Standards							
Herbicides (units in µg/L)								
2,4,5-T	NA	< 83	< 83	< 83	< 83	< 83	< 83	< 83
2,4,5-TP (Silvex)	1,000	< 83	< 83	< 83	< 83	< 83	< 83	< 83
2,4-D	10,000	< 83	< 83	< 83	< 83	< 83	< 83	< 83
Pesticides (units in µg/L)								
Chlordane	30	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Endrin	20	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Gamma-BHC	400	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Heptachlor	8	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Heptachlor epoxide	8	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Methoxychlor	10,000	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Toxaphene	500	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Waste Characteristics								
Ignitability (mm/sec)		< 2.20	< 2.20	< 2.20	< 2.20	< 2.20	< 2.20	< 2.20
Cyanide Reactivity (mg/kg)		< 25.0	< 25.0	< 25.0	< 25.0	< 25.0	< 25.0	< 25.0
Sulfide Reactivity (mg/kg)		< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
Corrosivity as pH (s.u.)		**8.9 J**	**10.6 J**	**8.2 J**	**10.9 J**	**11.3 J**	**10.1 J**	**8.1 J**

Notes and Abbreviations on last page

Table 4
TCLP Analytical Resuls of Composite Soil Samples
Building 109 EBS Sampling
Operable Unit 3, RW-21 Project Area
Northrop Grumman
Bethpage, New York

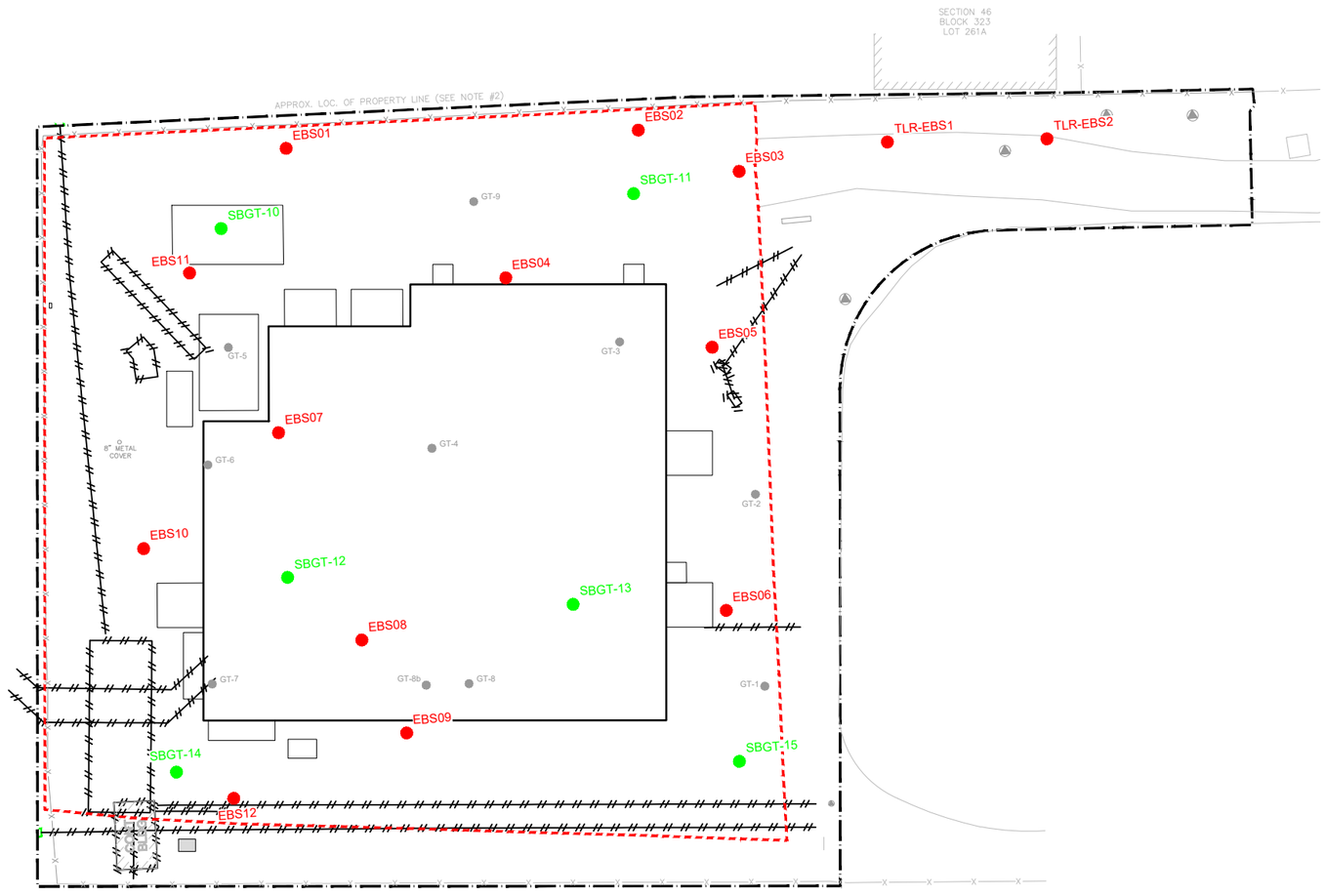
Notes and Abbreviations:

Composite Samples were analyzed for TCLP VOCs using USEPA Method 8260, SVOCs using EPA Method 8270, Pesticides using EPA Method 8081, PCBs using EPA Method 8082, Herbicides using EPA Method 8151, Metals using EPA Method 6010 and Mercury using EPA Method 7470.

Data is not validated in accordance to QAPP

Bold	Constituent detected
NA	Not applicable
TCLP	Toxicity characteristic leaching procedure
VOC	Volatile Organic Compound
SVOC	Semi-volatile Organic Compound
QAPP	Quality Assurance Project Plan
PCBs	Polychlorinated Biphenyls
mg/L	Milligrams per liter
µg/L	Micrograms per liter
mg/kg	Milligrams per kilogram
mm/sec	Millimeter per second
s.u.	Standard unit
<0.50	Constituent not detected above its laboratory detection limit
J	The reported result is an estimate. The value is less than the minimum calibration level but greater than the estimated detection limit
RCRA	Resource Conservation and Recovery Act
TSCA	Toxic Substances Control Act

FIGURES



EXPLANATION

- LIMITS OF DISTURBANCE
- EXISTING UNDERGROUND FEATURE
- LIMITS OF ASPHALT PAVEMENT
- EBS LOCATION
- GEOTECH SAMPLE/ SIEVE ANALYSIS SAMPLE

NOTES:

1. BORINGS WERE FIELD LOCATED USING HAND-HELD GLOBAL POSITIONING SYSTEM (GPS) UNIT.

1"=20' 20' 0 20' 40'

OPERABLE UNIT 3
NORTHROP GRUMMAN SYSTEMS CORPORATION
BETHPAGE, NEW YORK

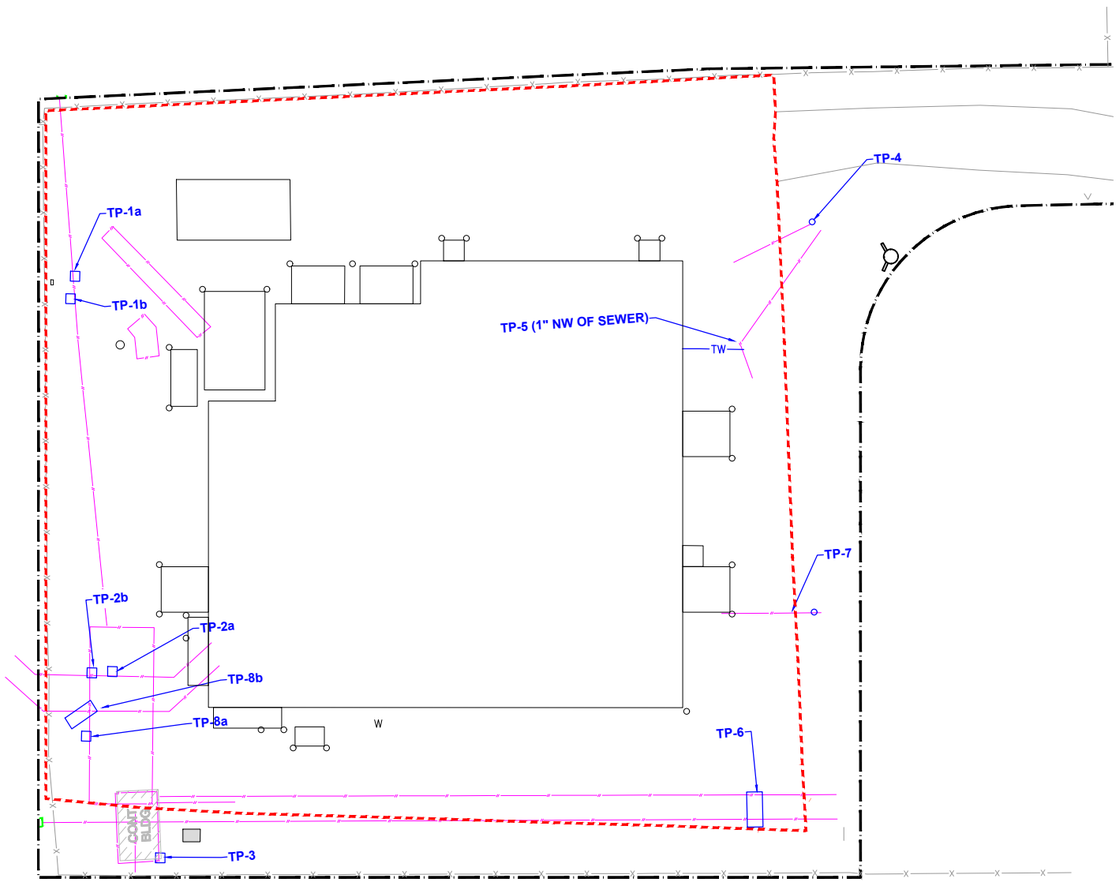
LOCATIONS OF SOIL BORINGS

ARCADIS Design & Consultancy for natural and built assets

FIGURE 1

CITY:SYRACUSE-NY DIV/GROUP:ENV DB:A.SANCHEZ LD:ALS PIC:(Opt) PM:(Reed) TM:(Opt) LYR:(Opt)ON=*;OFF=*REF*
C:\Users\aschilling\BIM 360\Acadis\ANA - Northrop Grumman\Project Files\OU3 RW-21\RDR\ATTREATMENT BUILDING\01-DWG\2020\NG-OU3-RW21-FIG01-SITE PLAN.dwg LAYOUT: 1 SAVED: 2/25/2021 3:44 PM ACADVER: 24.0S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ---- PLOTTED: 2/25/2021 3:46 PM BY: SCHILLING, ADAM
PROJECTNAME: ----
XREFS:
RW-21_SITE_UTILITY_PLAN_06.23.20
X - Buildings-7-2020
Xr-G19103-GL-CF_GrummanLotFINAL1-2021
XR-Treatment building-contours
X-BDR-DL

Table 1: Details of investigation at transite pipe locations				
ID	**Date**	**Description/Comments**	**Rationale for no further investigation**	**Size of test pits (Length xwidth x depth)**
TP-1a	12/21/2020	Found what appeared to be a square concrete structure at TP-1 at 5' bls.	Further intrusive investigations are beyond the scope of this work.	1'x1'x3'
TP-1b	12/23/2020	Found unknown structure at 5' bls	Further intrusive investigations are beyond the scope of this work.	2'x2'x3'
Tp-2a	12/21/2020	No obstruction	Not Applicable	2'x1'x5'
TP-2b	12/23/2020	No obstruction	Not Applicable	2'x1'x5'
TP-3a	12/22/2020	Found concrete at 3' bls.	Not Applicable	2'x2'x3'
TP-6a	12/22/2020	No obstruction	Not Applicable	10'x2'x7'
TP-8a	12/22/2020	No obstruction	Not Applicable	2'x1'x5'
TP-8b	12/23/2020	No obstruction	Not Applicable	10'x2'x10'
Note				
Investigations were not performed at TP-5 due to presence of manhole cover and TP-4 as additional work was required west and south. Additional investigation south of TP-6 and TP-7 did not reveal presence of Transite Pipe.				



EXPLANATION

- LIMITS OF DISTURBANCE
- LIMITS OF ASPHALT PAVEMENT
- APPROXIMATE ASSUMED LOCATION OF TRANSITE PIPE
- TEST PIT (NOT TO SCALE)

20' 0 20' 40'
1"=20'

OPERABLE UNIT 3
NORTHROP GRUMMAN SYSTEMS CORPORATION
BETHPAGE, NEW YORK

ENVIRONMENTAL SITE INVESTIGATIONS - TEST PIT LOCATIONS

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2

CITY:SYRACUSE-NY DIV/GROUP:ENV DB:A.SANCHEZ LD:ALS PIC:(Opt) PM:(Reqd) TM:(Opt) LYR:(Opt)ON=*;OFF=*REF*
C:\Users\aschilling\IBM 360\Arcadis\ANA - Northrop Grumman\Project Files\OU3 RW-21\RDR\A1\TREATMENT BUILDING\01-DWG\20200NG-OU3-RW21-Fig1-EnvSite Invest.dwg LAYOUT: 2 SAVED: 2/1/2021 4:01 PM ACADVER: 24.0S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ---- PLOTTED: 2/4/2021 10:57 AM BY: SCHILLING, ADAM
XREFS:
RW-21_SITE_UTILITY_PLAN_06.23.20
X - Buildings-7-2020
Xr-G19103-GL-CF_GrummanLotFINAL1-2021
X-BDR-DL
PROJECTNAME: ----