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Project Location: Durham, CT | Sample Description: | Work Order: 21C1116

Date Received: 3/22/2021

Field Sample #: T4-2C (0-6) | Sampled: 3/19/2021 13:20

Sample ID: 21C1116-06

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.0024	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 1:58	SFM
Aroclor-1221 [1]	ND	0.0024	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 1:58	SFM
Aroclor-1232 [1]	ND	0.0024	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 1:58	SFM
Aroclor-1242 [1]	ND	0.0024	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 1:58	SFM
Aroclor-1248 [1]	ND	0.0024	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 1:58	SFM
Aroclor-1254 [2]	0.014	0.0024	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 1:58	SFM
Aroclor-1260 [2]	0.0034	0.0024	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 1:58	SFM
Aroclor-1262 [1]	ND	0.0024	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 1:58	SFM
Aroclor-1268 [1]	ND	0.0024	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 1:58	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	81.3	30-150		4/8/21 1:58
Decachlorobiphenyl [2]	69.3	30-150		4/8/21 1:58
Tetrachloro-m-xylene [1]	69.1	30-150		4/8/21 1:58
Tetrachloro-m-xylene [2]	60.9	30-150		4/8/21 1:58

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Project Location: Durham, CT | Sample Description: | Work Order: 21C1116

Date Received: 3/22/2021

Field Sample #: T4-2C (0-6) | Sampled: 3/19/2021 13:20

Sample ID: 21C1116-06

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	81.6		% Wt	1		SM 2540G	3/23/21	3/24/21 9:05	JS
Total Organic Carbon	4900	100	mg/Kg	1		SW 846 9060A	3/26/21	3/26/21 17:00	DJM

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Project Location: Durham, CT | Sample Description: | Work Order: 21C1116

Date Received: 3/22/2021

Field Sample #: T4-2W (0-6) | Sampled: 3/19/2021 13:10

Sample ID: 21C1116-07

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.11	mg/Kg dry	4		SW-846 8082A	3/27/21	3/29/21 14:58	JMB
Aroclor-1221 [1]	ND	0.11	mg/Kg dry	4		SW-846 8082A	3/27/21	3/29/21 14:58	JMB
Aroclor-1232 [1]	ND	0.11	mg/Kg dry	4		SW-846 8082A	3/27/21	3/29/21 14:58	JMB
Aroclor-1242 [1]	ND	0.11	mg/Kg dry	4		SW-846 8082A	3/27/21	3/29/21 14:58	JMB
Aroclor-1248 [1]	ND	0.11	mg/Kg dry	4		SW-846 8082A	3/27/21	3/29/21 14:58	JMB
Aroclor-1254 [1]	0.20	0.11	mg/Kg dry	4		SW-846 8082A	3/27/21	3/29/21 14:58	JMB
Aroclor-1260 [1]	ND	0.11	mg/Kg dry	4		SW-846 8082A	3/27/21	3/29/21 14:58	JMB
Aroclor-1262 [1]	ND	0.11	mg/Kg dry	4		SW-846 8082A	3/27/21	3/29/21 14:58	JMB
Aroclor-1268 [1]	ND	0.11	mg/Kg dry	4		SW-846 8082A	3/27/21	3/29/21 14:58	JMB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	78.4	30-150		3/29/21 14:58
Decachlorobiphenyl [2]	69.4	30-150		3/29/21 14:58
Tetrachloro-m-xylene [1]	79.3	30-150		3/29/21 14:58
Tetrachloro-m-xylene [2]	76.8	30-150		3/29/21 14:58

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Project Location: Durham, CT | Sample Description: | Work Order: 21C1116

Date Received: 3/22/2021

Field Sample #: T4-2W (0-6) | Sampled: 3/19/2021 13:10

Sample ID: 21C1116-07

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	71.8		% Wt	1		SM 2540G	3/23/21	3/24/21 9:06	JS
Total Organic Carbon	17000	100	mg/Kg	1		SW 846 9060A	3/26/21	3/26/21 17:25	DJM

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Project Location: Durham, CT | Sample Description: | Work Order: 21C1116

Date Received: 3/22/2021

Field Sample #: T4-2W (6-12) | Sampled: 3/19/2021 13:15

Sample ID: 21C1116-08

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.0026	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 2:15	SFM
Aroclor-1221 [1]	ND	0.0026	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 2:15	SFM
Aroclor-1232 [1]	ND	0.0026	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 2:15	SFM
Aroclor-1242 [1]	ND	0.0026	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 2:15	SFM
Aroclor-1248 [1]	ND	0.0026	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 2:15	SFM
Aroclor-1254 [2]	0.047	0.0026	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 2:15	SFM
Aroclor-1260 [1]	0.0066	0.0026	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 2:15	SFM
Aroclor-1262 [1]	ND	0.0026	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 2:15	SFM
Aroclor-1268 [1]	ND	0.0026	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 2:15	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	95.5	30-150		4/8/21 2:15
Decachlorobiphenyl [2]	75.2	30-150		4/8/21 2:15
Tetrachloro-m-xylene [1]	89.6	30-150		4/8/21 2:15
Tetrachloro-m-xylene [2]	69.6	30-150		4/8/21 2:15

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Project Location: Durham, CT | Sample Description: | Work Order: 21C1116

Date Received: 3/22/2021

Field Sample #: T4-2W (6-12) | Sampled: 3/19/2021 13:15

Sample ID: 21C1116-08

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	77.6		% Wt	1		SM 2540G	3/23/21	3/24/21 9:06	JS
Total Organic Carbon	5900	100	mg/Kg	1	MS-07	SW 846 9060A	3/26/21	3/26/21 17:46	DJM

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Project Location: Durham, CT | Sample Description: | Work Order: 21C1116
Date Received: 3/22/2021
Field Sample #: T5-1E (0-6) | Sampled: 3/19/2021 10:50
Sample ID: 21C1116-09
Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.0025	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 2:33	SFM
Aroclor-1221 [1]	ND	0.0025	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 2:33	SFM
Aroclor-1232 [1]	ND	0.0025	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 2:33	SFM
Aroclor-1242 [1]	ND	0.0025	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 2:33	SFM
Aroclor-1248 [1]	ND	0.0025	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 2:33	SFM
Aroclor-1254 [2]	0.020	0.0025	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 2:33	SFM
Aroclor-1260 [1]	0.0052	0.0025	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 2:33	SFM
Aroclor-1262 [1]	ND	0.0025	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 2:33	SFM
Aroclor-1268 [1]	ND	0.0025	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 2:33	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	96.6	30-150		4/8/21 2:33
Decachlorobiphenyl [2]	75.2	30-150		4/8/21 2:33
Tetrachloro-m-xylene [1]	94.5	30-150		4/8/21 2:33
Tetrachloro-m-xylene [2]	71.4	30-150		4/8/21 2:33

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Project Location: Durham, CT | Sample Description: | Work Order: 21C1116

Date Received: 3/22/2021

Field Sample #: T5-1E (0-6) | Sampled: 3/19/2021 10:50

Sample ID: 21C1116-09

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	78.8		% Wt	1		SM 2540G	3/23/21	3/24/21 9:06	JS
Total Organic Carbon	5500	100	mg/Kg	1		SW 846 9060A	3/26/21	3/26/21 21:01	DJM

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Project Location: Durham, CT | Sample Description: | Work Order: 21C1116

Date Received: 3/22/2021

Field Sample #: T5-1C (0-6) | Sampled: 3/19/2021 11:00

Sample ID: 21C1116-10

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.0024	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 2:50	SFM
Aroclor-1221 [1]	ND	0.0024	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 2:50	SFM
Aroclor-1232 [1]	ND	0.0024	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 2:50	SFM
Aroclor-1242 [1]	ND	0.0024	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 2:50	SFM
Aroclor-1248 [1]	ND	0.0024	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 2:50	SFM
Aroclor-1254 [2]	0.018	0.0024	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 2:50	SFM
Aroclor-1260 [1]	0.0059	0.0024	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 2:50	SFM
Aroclor-1262 [1]	ND	0.0024	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 2:50	SFM
Aroclor-1268 [1]	ND	0.0024	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 2:50	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	95.9	30-150		4/8/21 2:50
Decachlorobiphenyl [2]	75.0	30-150		4/8/21 2:50
Tetrachloro-m-xylene [1]	92.1	30-150		4/8/21 2:50
Tetrachloro-m-xylene [2]	70.4	30-150		4/8/21 2:50

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Project Location: Durham, CT | Sample Description: | Work Order: 21C1116

Date Received: 3/22/2021

Field Sample #: T5-1C (0-6) | Sampled: 3/19/2021 11:00

Sample ID: 21C1116-10

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	81.2		% Wt	1		SM 2540G	3/23/21	3/24/21 9:06	JS
Total Organic Carbon	8100	100	mg/Kg	1		SW 846 9060A	3/26/21	3/26/21 21:21	DJM

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Project Location: Durham, CT | Sample Description: | Work Order: 21C1116

Date Received: 3/22/2021

Field Sample #: T5-1W (0-6) | Sampled: 3/19/2021 11:10

Sample ID: 21C1116-11

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.0032	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 3:07	SFM
Aroclor-1221 [1]	ND	0.0032	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 3:07	SFM
Aroclor-1232 [1]	ND	0.0032	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 3:07	SFM
Aroclor-1242 [1]	ND	0.0032	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 3:07	SFM
Aroclor-1248 [1]	ND	0.0032	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 3:07	SFM
Aroclor-1254 [1]	0.023	0.0032	mg/Kg dry	1	P-02	SW-846 8082A	3/24/21	4/8/21 3:07	SFM
Aroclor-1260 [1]	0.010	0.0032	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 3:07	SFM
Aroclor-1262 [1]	ND	0.0032	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 3:07	SFM
Aroclor-1268 [1]	ND	0.0032	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 3:07	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual				
Decachlorobiphenyl [1]	106	30-150				4/8/21 3:07	
Decachlorobiphenyl [2]	80.0	30-150				4/8/21 3:07	
Tetrachloro-m-xylene [1]	101	30-150				4/8/21 3:07	
Tetrachloro-m-xylene [2]	74.5	30-150				4/8/21 3:07	



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Project Location: Durham, CT | Sample Description: | Work Order: 21C1116

Date Received: 3/22/2021

Field Sample #: T5-1W (0-6) | Sampled: 3/19/2021 11:10

Sample ID: 21C1116-11

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	63.4		% Wt	1		SM 2540G	3/23/21	3/24/21 9:06	JS
Total Organic Carbon	19000	100	mg/Kg	1	MS-07A	SW 846 9060A	3/29/21	3/29/21 17:24	DJM

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Project Location: Durham, CT | Sample Description: | Work Order: 21C1116

Date Received: 3/22/2021

Field Sample #: T5-2E (0-6) | Sampled: 3/19/2021 10:00

Sample ID: 21C1116-12

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.0025	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 3:25	SFM
Aroclor-1221 [1]	ND	0.0025	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 3:25	SFM
Aroclor-1232 [1]	ND	0.0025	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 3:25	SFM
Aroclor-1242 [1]	ND	0.0025	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 3:25	SFM
Aroclor-1248 [1]	ND	0.0025	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 3:25	SFM
Aroclor-1254 [2]	0.023	0.0025	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 3:25	SFM
Aroclor-1260 [1]	0.0081	0.0025	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 3:25	SFM
Aroclor-1262 [1]	ND	0.0025	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 3:25	SFM
Aroclor-1268 [1]	ND	0.0025	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 3:25	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	101	30-150		4/8/21 3:25
Decachlorobiphenyl [2]	77.7	30-150		4/8/21 3:25
Tetrachloro-m-xylene [1]	94.3	30-150		4/8/21 3:25
Tetrachloro-m-xylene [2]	71.6	30-150		4/8/21 3:25

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Project Location: Durham, CT | Sample Description: | Work Order: 21C1116

Date Received: 3/22/2021

Field Sample #: T5-2E (0-6) | Sampled: 3/19/2021 10:00

Sample ID: 21C1116-12

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	79.8		% Wt	1		SM 2540G	3/23/21	3/24/21 9:06	JS
Total Organic Carbon	13000	100	mg/Kg	1		SW 846 9060A	3/26/21	3/26/21 22:02	DJM

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Project Location: Durham, CT | Sample Description: | Work Order: 21C1116

Date Received: 3/22/2021

Field Sample #: T5-2C (0-6) | Sampled: 3/19/2021 09:50

Sample ID: 21C1116-13

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.0024	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 4:46	SFM
Aroclor-1221 [1]	ND	0.0024	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 4:46	SFM
Aroclor-1232 [1]	ND	0.0024	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 4:46	SFM
Aroclor-1242 [1]	ND	0.0024	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 4:46	SFM
Aroclor-1248 [1]	ND	0.0024	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 4:46	SFM
Aroclor-1254 [2]	0.0067	0.0024	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 4:46	SFM
Aroclor-1260 [1]	0.0033	0.0024	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 4:46	SFM
Aroclor-1262 [1]	ND	0.0024	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 4:46	SFM
Aroclor-1268 [1]	ND	0.0024	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 4:46	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	102	30-150		4/8/21 4:46
Decachlorobiphenyl [2]	76.3	30-150		4/8/21 4:46
Tetrachloro-m-xylene [1]	91.4	30-150		4/8/21 4:46
Tetrachloro-m-xylene [2]	70.0	30-150		4/8/21 4:46



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Project Location: Durham, CT | Sample Description: | Work Order: 21C1116

Date Received: 3/22/2021

Field Sample #: T5-2C (0-6) | Sampled: 3/19/2021 09:50

Sample ID: 21C1116-13

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	84.1		% Wt	1		SM 2540G	3/23/21	3/24/21 9:06	JS
Total Organic Carbon	7500	100	mg/Kg	1		SW 846 9060A	3/29/21	3/29/21 18:40	DJM

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Project Location: Durham, CT | Sample Description: | Work Order: 21C1116

Date Received: 3/22/2021

Field Sample #: T5-2W (0-6) | Sampled: 3/19/2021 09:55

Sample ID: 21C1116-14

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.0025	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 5:03	SFM
Aroclor-1221 [1]	ND	0.0025	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 5:03	SFM
Aroclor-1232 [1]	ND	0.0025	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 5:03	SFM
Aroclor-1242 [1]	ND	0.0025	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 5:03	SFM
Aroclor-1248 [1]	ND	0.0025	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 5:03	SFM
Aroclor-1254 [2]	0.0037	0.0025	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 5:03	SFM
Aroclor-1260 [1]	ND	0.0025	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 5:03	SFM
Aroclor-1262 [1]	ND	0.0025	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 5:03	SFM
Aroclor-1268 [1]	ND	0.0025	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 5:03	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	96.9	30-150		4/8/21 5:03
Decachlorobiphenyl [2]	75.1	30-150		4/8/21 5:03
Tetrachloro-m-xylene [1]	93.0	30-150		4/8/21 5:03
Tetrachloro-m-xylene [2]	72.8	30-150		4/8/21 5:03



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Project Location: Durham, CT | Sample Description: | Work Order: 21C1116

Date Received: 3/22/2021

Field Sample #: T5-2W (0-6) | Sampled: 3/19/2021 09:55

Sample ID: 21C1116-14

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	78.6		% Wt	1		SM 2540G	3/23/21	3/24/21 9:06	JS
Total Organic Carbon	6100	100	mg/Kg	1		SW 846 9060A	3/29/21	3/29/21 18:57	DJM

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Project Location: Durham, CT | Sample Description: | Work Order: 21C1116

Date Received: 3/22/2021

Field Sample #: T6-1E (0-6) | Sampled: 3/19/2021 09:30

Sample ID: 21C1116-15

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.0025	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 5:21	SFM
Aroclor-1221 [1]	ND	0.0025	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 5:21	SFM
Aroclor-1232 [1]	ND	0.0025	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 5:21	SFM
Aroclor-1242 [1]	ND	0.0025	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 5:21	SFM
Aroclor-1248 [1]	ND	0.0025	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 5:21	SFM
Aroclor-1254 [1]	0.010	0.0025	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 5:21	SFM
Aroclor-1260 [1]	ND	0.0025	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 5:21	SFM
Aroclor-1262 [1]	ND	0.0025	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 5:21	SFM
Aroclor-1268 [1]	ND	0.0025	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 5:21	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	101	30-150		4/8/21 5:21
Decachlorobiphenyl [2]	76.3	30-150		4/8/21 5:21
Tetrachloro-m-xylene [1]	92.2	30-150		4/8/21 5:21
Tetrachloro-m-xylene [2]	70.6	30-150		4/8/21 5:21

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Project Location: Durham, CT | Sample Description: | Work Order: 21C1116

Date Received: 3/22/2021

Field Sample #: T6-1E (0-6) | Sampled: 3/19/2021 09:30

Sample ID: 21C1116-15

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	78.8		% Wt	1		SM 2540G	3/23/21	3/24/21 9:07	JS
Total Organic Carbon	16000	100	mg/Kg	1		SW 846 9060A	3/29/21	3/29/21 19:21	DJM

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Project Location: Durham, CT | Sample Description: | Work Order: 21C1116

Date Received: 3/22/2021

Field Sample #: T6-1C (0-6) | Sampled: 3/19/2021 09:20

Sample ID: 21C1116-16

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.0023	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 5:38	SFM
Aroclor-1221 [1]	ND	0.0023	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 5:38	SFM
Aroclor-1232 [1]	ND	0.0023	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 5:38	SFM
Aroclor-1242 [1]	ND	0.0023	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 5:38	SFM
Aroclor-1248 [1]	ND	0.0023	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 5:38	SFM
Aroclor-1254 [2]	0.0053	0.0023	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 5:38	SFM
Aroclor-1260 [1]	ND	0.0023	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 5:38	SFM
Aroclor-1262 [1]	ND	0.0023	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 5:38	SFM
Aroclor-1268 [1]	ND	0.0023	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 5:38	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual				
Decachlorobiphenyl [1]	99.0	30-150				4/8/21 5:38	
Decachlorobiphenyl [2]	75.6	30-150				4/8/21 5:38	
Tetrachloro-m-xylene [1]	92.0	30-150				4/8/21 5:38	
Tetrachloro-m-xylene [2]	70.4	30-150				4/8/21 5:38	



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Project Location: Durham, CT | Sample Description: | Work Order: 21C1116

Date Received: 3/22/2021

Field Sample #: T6-1C (0-6) | Sampled: 3/19/2021 09:20

Sample ID: 21C1116-16

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	85.3		% Wt	1		SM 2540G	3/23/21	3/24/21 9:07	JS
Total Organic Carbon	4900	100	mg/Kg	1		SW 846 9060A	3/29/21	3/29/21 20:48	DJM

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Project Location: Durham, CT | Sample Description: | Work Order: 21C1116

Date Received: 3/22/2021

Field Sample #: T6-1W (0-6) | Sampled: 3/19/2021 09:10

Sample ID: 21C1116-17

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.0029	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 5:55	SFM
Aroclor-1221 [1]	ND	0.0029	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 5:55	SFM
Aroclor-1232 [1]	ND	0.0029	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 5:55	SFM
Aroclor-1242 [1]	ND	0.0029	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 5:55	SFM
Aroclor-1248 [1]	ND	0.0029	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 5:55	SFM
Aroclor-1254 [2]	0.019	0.0029	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 5:55	SFM
Aroclor-1260 [1]	0.0048	0.0029	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 5:55	SFM
Aroclor-1262 [1]	ND	0.0029	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 5:55	SFM
Aroclor-1268 [1]	ND	0.0029	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 5:55	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	108	30-150		4/8/21 5:55
Decachlorobiphenyl [2]	80.0	30-150		4/8/21 5:55
Tetrachloro-m-xylene [1]	98.4	30-150		4/8/21 5:55
Tetrachloro-m-xylene [2]	74.2	30-150		4/8/21 5:55

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Project Location: Durham, CT | Sample Description: | Work Order: 21C1116

Date Received: 3/22/2021

Field Sample #: T6-1W (0-6) | Sampled: 3/19/2021 09:10

Sample ID: 21C1116-17

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	66.9		% Wt	1		SM 2540G	3/23/21	3/24/21 9:07	JS
Total Organic Carbon	27000	100	mg/Kg	1		SW 846 9060A	3/29/21	3/29/21 21:11	DJM

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Project Location: Durham, CT | Sample Description: | Work Order: 21C1116

Date Received: 3/22/2021

Field Sample #: T7-1E (0-6) | Sampled: 3/17/2021 18:45

Sample ID: 21C1116-18

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.0027	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 6:13	SFM
Aroclor-1221 [1]	ND	0.0027	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 6:13	SFM
Aroclor-1232 [1]	ND	0.0027	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 6:13	SFM
Aroclor-1242 [1]	ND	0.0027	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 6:13	SFM
Aroclor-1248 [1]	ND	0.0027	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 6:13	SFM
Aroclor-1254 [2]	0.026	0.0027	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 6:13	SFM
Aroclor-1260 [1]	0.0086	0.0027	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 6:13	SFM
Aroclor-1262 [1]	ND	0.0027	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 6:13	SFM
Aroclor-1268 [1]	ND	0.0027	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 6:13	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	91.5	30-150		4/8/21 6:13
Decachlorobiphenyl [2]	75.5	30-150		4/8/21 6:13
Tetrachloro-m-xylene [1]	90.3	30-150		4/8/21 6:13
Tetrachloro-m-xylene [2]	70.2	30-150		4/8/21 6:13

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Project Location: Durham, CT | Sample Description: | Work Order: 21C1116

Date Received: 3/22/2021

Field Sample #: T7-1E (0-6) | Sampled: 3/17/2021 18:45

Sample ID: 21C1116-18

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	71.9		% Wt	1		SM 2540G	3/23/21	3/24/21 9:07	JS
Total Organic Carbon	29000	100	mg/Kg	1		SW 846 9060A	3/29/21	3/29/21 21:36	DJM

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Project Location: Durham, CT | Sample Description: | Work Order: 21C1116

Date Received: 3/22/2021

Field Sample #: T7-1C (0-6) | Sampled: 3/17/2021 18:30

Sample ID: 21C1116-19

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.0026	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 6:30	SFM
Aroclor-1221 [1]	ND	0.0026	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 6:30	SFM
Aroclor-1232 [1]	ND	0.0026	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 6:30	SFM
Aroclor-1242 [1]	ND	0.0026	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 6:30	SFM
Aroclor-1248 [1]	ND	0.0026	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 6:30	SFM
Aroclor-1254 [1]	0.021	0.0026	mg/Kg dry	1	P-02	SW-846 8082A	3/24/21	4/8/21 6:30	SFM
Aroclor-1260 [2]	0.024	0.0026	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 6:30	SFM
Aroclor-1262 [1]	ND	0.0026	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 6:30	SFM
Aroclor-1268 [1]	ND	0.0026	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 6:30	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual		
Decachlorobiphenyl [1]	98.2	30-150		4/8/21 6:30	
Decachlorobiphenyl [2]	77.0	30-150		4/8/21 6:30	
Tetrachloro-m-xylene [1]	95.0	30-150		4/8/21 6:30	
Tetrachloro-m-xylene [2]	71.8	30-150		4/8/21 6:30	

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Project Location: Durham, CT | Sample Description: | Work Order: 21C1116

Date Received: 3/22/2021

Field Sample #: T7-1C (0-6) | Sampled: 3/17/2021 18:30

Sample ID: 21C1116-19

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	73.5		% Wt	1		SM 2540G	3/23/21	3/24/21 9:07	JS
Total Organic Carbon	30000	100	mg/Kg	1		SW 846 9060A	3/29/21	3/29/21 21:54	DJM

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Project Location: Durham, CT | Sample Description: | Work Order: 21C1116

Date Received: 3/22/2021

Field Sample #: T7-1W (0-6) | Sampled: 3/17/2021 18:20

Sample ID: 21C1116-20

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.0031	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 6:47	SFM
Aroclor-1221 [1]	ND	0.0031	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 6:47	SFM
Aroclor-1232 [1]	ND	0.0031	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 6:47	SFM
Aroclor-1242 [1]	ND	0.0031	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 6:47	SFM
Aroclor-1248 [1]	ND	0.0031	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 6:47	SFM
Aroclor-1254 [1]	0.021	0.0031	mg/Kg dry	1	P-02	SW-846 8082A	3/24/21	4/8/21 6:47	SFM
Aroclor-1260 [1]	0.012	0.0031	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 6:47	SFM
Aroclor-1262 [1]	ND	0.0031	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 6:47	SFM
Aroclor-1268 [1]	ND	0.0031	mg/Kg dry	1		SW-846 8082A	3/24/21	4/8/21 6:47	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	92.0	30-150		4/8/21 6:47
Decachlorobiphenyl [2]	75.1	30-150		4/8/21 6:47
Tetrachloro-m-xylene [1]	92.8	30-150		4/8/21 6:47
Tetrachloro-m-xylene [2]	70.8	30-150		4/8/21 6:47



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Project Location: Durham, CT | Sample Description: | Work Order: 21C1116

Date Received: 3/22/2021

Field Sample #: T7-1W (0-6) | Sampled: 3/17/2021 18:20

Sample ID: 21C1116-20

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	63.1		% Wt	1		SM 2540G	3/23/21	3/24/21 9:07	JS
Total Organic Carbon	39000	100	mg/Kg	1		SW 846 9060A	3/29/21	3/29/21 22:10	DJM

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Sample Extraction Data

Prep Method: % Solids **Analytical Method: SM 2540G**

Lab Number [Field ID]	Batch	Date
21C1116-01 [Reoccupy T4E (6-12)]	B278615	03/23/21
21C1116-02 [T4-1E (0-6)]	B278615	03/23/21
21C1116-04 [T4-1W (0-6)]	B278615	03/23/21
21C1116-05 [T4-2E (0-6)]	B278615	03/23/21
21C1116-06 [T4-2C (0-6)]	B278615	03/23/21
21C1116-07 [T4-2W (0-6)]	B278615	03/23/21
21C1116-08 [T4-2W (6-12)]	B278615	03/23/21
21C1116-09 [T5-1E (0-6)]	B278615	03/23/21
21C1116-10 [T5-1C (0-6)]	B278615	03/23/21
21C1116-11 [T5-1W (0-6)]	B278615	03/23/21
21C1116-12 [T5-2E (0-6)]	B278615	03/23/21
21C1116-13 [T5-2C (0-6)]	B278615	03/23/21
21C1116-14 [T5-2W (0-6)]	B278615	03/23/21
21C1116-15 [T6-1E (0-6)]	B278615	03/23/21
21C1116-16 [T6-1C (0-6)]	B278615	03/23/21
21C1116-17 [T6-1W (0-6)]	B278615	03/23/21
21C1116-18 [T7-1E (0-6)]	B278615	03/23/21
21C1116-19 [T7-1C (0-6)]	B278615	03/23/21
21C1116-20 [T7-1W (0-6)]	B278615	03/23/21

SW 846 9060A

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
21C1116-01 [Reoccupy T4E (6-12)]	B278837	1.00	1.00	03/26/21
21C1116-02 [T4-1E (0-6)]	B278837	1.00	1.00	03/26/21
21C1116-04 [T4-1W (0-6)]	B278837	1.00	1.00	03/26/21
21C1116-05 [T4-2E (0-6)]	B278837	1.00	1.00	03/26/21
21C1116-06 [T4-2C (0-6)]	B278837	1.00	1.00	03/26/21
21C1116-07 [T4-2W (0-6)]	B278837	1.00	1.00	03/26/21
21C1116-08 [T4-2W (6-12)]	B278837	1.00	1.00	03/26/21
21C1116-09 [T5-1E (0-6)]	B278837	1.00	1.00	03/26/21
21C1116-10 [T5-1C (0-6)]	B278837	1.00	1.00	03/26/21
21C1116-12 [T5-2E (0-6)]	B278837	1.00	1.00	03/26/21

SW 846 9060A

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
21C1116-11 [T5-1W (0-6)]	B278949	1.00	1.00	03/29/21
21C1116-13 [T5-2C (0-6)]	B278949	1.00	1.00	03/29/21
21C1116-14 [T5-2W (0-6)]	B278949	1.00	1.00	03/29/21
21C1116-15 [T6-1E (0-6)]	B278949	1.00	1.00	03/29/21
21C1116-16 [T6-1C (0-6)]	B278949	1.00	1.00	03/29/21
21C1116-17 [T6-1W (0-6)]	B278949	1.00	1.00	03/29/21
21C1116-18 [T7-1E (0-6)]	B278949	1.00	1.00	03/29/21
21C1116-19 [T7-1C (0-6)]	B278949	1.00	1.00	03/29/21
21C1116-20 [T7-1W (0-6)]	B278949	1.00	1.00	03/29/21

Prep Method: SW-846 3540C **Analytical Method: SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
21C1116-01 [Reoccupy T4E (6-12)]	B278710	10.1	1.00	03/24/21

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Sample Extraction Data

Prep Method: SW-846 3540C **Analytical Method: SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
21C1116-02 [T4-1E (0-6)]	B278710	10.0	1.00	03/24/21
21C1116-06 [T4-2C (0-6)]	B278710	10.3	1.00	03/24/21
21C1116-08 [T4-2W (6-12)]	B278710	10.1	1.00	03/24/21
21C1116-09 [T5-1E (0-6)]	B278710	10.3	1.00	03/24/21
21C1116-10 [T5-1C (0-6)]	B278710	10.1	1.00	03/24/21
21C1116-11 [T5-1W (0-6)]	B278710	10.0	1.00	03/24/21
21C1116-12 [T5-2E (0-6)]	B278710	10.0	1.00	03/24/21
21C1116-13 [T5-2C (0-6)]	B278710	10.0	1.00	03/24/21
21C1116-14 [T5-2W (0-6)]	B278710	10.1	1.00	03/24/21
21C1116-15 [T6-1E (0-6)]	B278710	10.1	1.00	03/24/21
21C1116-16 [T6-1C (0-6)]	B278710	10.2	1.00	03/24/21
21C1116-17 [T6-1W (0-6)]	B278710	10.2	1.00	03/24/21
21C1116-18 [T7-1E (0-6)]	B278710	10.2	1.00	03/24/21
21C1116-19 [T7-1C (0-6)]	B278710	10.4	1.00	03/24/21
21C1116-20 [T7-1W (0-6)]	B278710	10.1	1.00	03/24/21

Prep Method: SW-846 3540C **Analytical Method: SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
21C1116-04RE1 [T4-1W (0-6)]	B278938	10.0	10.0	03/27/21
21C1116-07RE1 [T4-2W (0-6)]	B278938	10.2	10.0	03/27/21

Prep Method: SW-846 3540C **Analytical Method: SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
21C1116-05RE1 [T4-2E (0-6)]	B279616	10.1	1.00	03/27/21

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QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B278710 - SW-846 3540C										
Blank (B278710-BLK1)				Prepared: 03/24/21 Analyzed: 04/08/21						
Aroclor-1016	ND	0.0020	mg/Kg wet							
Aroclor-1016 [2C]	ND	0.0020	mg/Kg wet							
Aroclor-1221	ND	0.0020	mg/Kg wet							
Aroclor-1221 [2C]	ND	0.0020	mg/Kg wet							
Aroclor-1232	ND	0.0020	mg/Kg wet							
Aroclor-1232 [2C]	ND	0.0020	mg/Kg wet							
Aroclor-1242	ND	0.0020	mg/Kg wet							
Aroclor-1242 [2C]	ND	0.0020	mg/Kg wet							
Aroclor-1248	ND	0.0020	mg/Kg wet							
Aroclor-1248 [2C]	ND	0.0020	mg/Kg wet							
Aroclor-1254	ND	0.0020	mg/Kg wet							
Aroclor-1254 [2C]	ND	0.0020	mg/Kg wet							
Aroclor-1260	ND	0.0020	mg/Kg wet							
Aroclor-1260 [2C]	ND	0.0020	mg/Kg wet							
Aroclor-1262	ND	0.0020	mg/Kg wet							
Aroclor-1262 [2C]	ND	0.0020	mg/Kg wet							
Aroclor-1268	ND	0.0020	mg/Kg wet							
Aroclor-1268 [2C]	ND	0.0020	mg/Kg wet							
Surrogate: Decachlorobiphenyl	*0.203*		mg/Kg wet	0.200		101	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.153*		mg/Kg wet	0.200		76.6	30-150			
Surrogate: Tetrachloro-m-xylene	*0.181*		mg/Kg wet	0.200		90.7	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.137*		mg/Kg wet	0.200		68.7	30-150			
LCS (B278710-BS1)				Prepared: 03/24/21 Analyzed: 03/29/21						
Aroclor-1016	0.19	0.020	mg/Kg wet	0.200		93.9	40-140			
Aroclor-1016 [2C]	0.18	0.020	mg/Kg wet	0.200		90.2	40-140			
Aroclor-1260	0.17	0.020	mg/Kg wet	0.200		86.4	40-140			
Aroclor-1260 [2C]	0.17	0.020	mg/Kg wet	0.200		85.7	40-140			
Surrogate: Decachlorobiphenyl	*0.201*		mg/Kg wet	0.200		100	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.207*		mg/Kg wet	0.200		103	30-150			
Surrogate: Tetrachloro-m-xylene	*0.183*		mg/Kg wet	0.200		91.7	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.183*		mg/Kg wet	0.200		91.3	30-150			
LCS Dup (B278710-BSD1)				Prepared: 03/24/21 Analyzed: 03/29/21						
Aroclor-1016	0.19	0.020	mg/Kg wet	0.200		92.6	40-140	1.36	30	
Aroclor-1016 [2C]	0.18	0.020	mg/Kg wet	0.200		88.4	40-140	2.01	30	
Aroclor-1260	0.17	0.020	mg/Kg wet	0.200		86.9	40-140	0.557	30	
Aroclor-1260 [2C]	0.17	0.020	mg/Kg wet	0.200		86.7	40-140	1.17	30	
Surrogate: Decachlorobiphenyl	*0.203*		mg/Kg wet	0.200		101	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.209*		mg/Kg wet	0.200		104	30-150			
Surrogate: Tetrachloro-m-xylene	*0.184*		mg/Kg wet	0.200		91.9	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.182*		mg/Kg wet	0.200		91.2	30-150			

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QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B278710 - SW-846 3540C										
Matrix Spike (B278710-MS1)	**Source: 21C1116-08**			Prepared: 03/24/21 Analyzed: 03/29/21						
Aroclor-1016	0.26	0.10	mg/Kg dry	0.258	ND	99.9	40-140			
Aroclor-1016 [2C]	0.25	0.10	mg/Kg dry	0.258	ND	95.6	40-140			
Aroclor-1260	0.24	0.10	mg/Kg dry	0.258	ND	94.3	40-140			
Aroclor-1260 [2C]	0.23	0.10	mg/Kg dry	0.258	ND	88.3	40-140			
Surrogate: Decachlorobiphenyl	*0.239*		mg/Kg dry	0.258		92.8	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.240*		mg/Kg dry	0.258		93.1	30-150			
Surrogate: Tetrachloro-m-xylene	*0.240*		mg/Kg dry	0.258		93.0	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.239*		mg/Kg dry	0.258		92.7	30-150			
Matrix Spike (B278710-MS2)	**Source: 21C1116-11**			Prepared: 03/24/21 Analyzed: 03/29/21						
Aroclor-1016	0.32	0.13	mg/Kg dry	0.315	ND	102	40-140			
Aroclor-1016 [2C]	0.31	0.13	mg/Kg dry	0.315	ND	98.2	40-140			
Aroclor-1260	0.30	0.13	mg/Kg dry	0.315	ND	93.5	40-140			
Aroclor-1260 [2C]	0.30	0.13	mg/Kg dry	0.315	ND	93.6	40-140			
Surrogate: Decachlorobiphenyl	*0.298*		mg/Kg dry	0.315		94.4	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.298*		mg/Kg dry	0.315		94.4	30-150			
Surrogate: Tetrachloro-m-xylene	*0.284*		mg/Kg dry	0.315		90.0	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.285*		mg/Kg dry	0.315		90.2	30-150			
Matrix Spike Dup (B278710-MSD1)	**Source: 21C1116-08**			Prepared: 03/24/21 Analyzed: 03/29/21						
Aroclor-1016	0.23	0.10	mg/Kg dry	0.258	ND	88.7	40-140	11.8	50	
Aroclor-1016 [2C]	0.22	0.10	mg/Kg dry	0.258	ND	86.4	40-140	10.1	50	
Aroclor-1260	0.24	0.10	mg/Kg dry	0.258	ND	93.9	40-140	0.421	50	
Aroclor-1260 [2C]	0.23	0.10	mg/Kg dry	0.258	ND	88.0	40-140	0.363	50	
Surrogate: Decachlorobiphenyl	*0.238*		mg/Kg dry	0.258		92.4	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.239*		mg/Kg dry	0.258		92.8	30-150			
Surrogate: Tetrachloro-m-xylene	*0.195*		mg/Kg dry	0.258		75.7	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.196*		mg/Kg dry	0.258		76.1	30-150			
Matrix Spike Dup (B278710-MSD2)	**Source: 21C1116-11**			Prepared: 03/24/21 Analyzed: 03/29/21						
Aroclor-1016	0.32	0.13	mg/Kg dry	0.315	ND	100	40-140	2.05	50	
Aroclor-1016 [2C]	0.31	0.13	mg/Kg dry	0.315	ND	97.0	40-140	1.31	50	
Aroclor-1260	0.30	0.13	mg/Kg dry	0.315	ND	95.9	40-140	2.51	50	
Aroclor-1260 [2C]	0.30	0.13	mg/Kg dry	0.315	ND	93.7	40-140	0.0918	50	
Surrogate: Decachlorobiphenyl	*0.309*		mg/Kg dry	0.315		97.9	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.310*		mg/Kg dry	0.315		98.3	30-150			
Surrogate: Tetrachloro-m-xylene	*0.271*		mg/Kg dry	0.315		86.0	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.272*		mg/Kg dry	0.315		86.1	30-150			
Batch B278938 - SW-846 3540C										
Blank (B278938-BLK1)				Prepared: 03/27/21 Analyzed: 03/29/21						
Aroclor-1016	ND	0.020	mg/Kg wet							
Aroclor-1016 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1221	ND	0.020	mg/Kg wet							
Aroclor-1221 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1232	ND	0.020	mg/Kg wet							
Aroclor-1232 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1242	ND	0.020	mg/Kg wet							
Aroclor-1242 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1248	ND	0.020	mg/Kg wet							
Aroclor-1248 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1254	ND	0.020	mg/Kg wet							

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QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B278938 - SW-846 3540C										
Blank (B278938-BLK1)				Prepared: 03/27/21 Analyzed: 03/29/21						
Aroclor-1254 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1260	ND	0.020	mg/Kg wet							
Aroclor-1260 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1262	ND	0.020	mg/Kg wet							
Aroclor-1262 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1268	ND	0.020	mg/Kg wet							
Aroclor-1268 [2C]	ND	0.020	mg/Kg wet							
Surrogate: Decachlorobiphenyl	*0.146*		mg/Kg wet	0.200		72.9	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.126*		mg/Kg wet	0.200		63.1	30-150			
Surrogate: Tetrachloro-m-xylene	*0.166*		mg/Kg wet	0.200		83.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.157*		mg/Kg wet	0.200		78.6	30-150			
LCS (B278938-BS1)				Prepared: 03/27/21 Analyzed: 03/29/21						
Aroclor-1016	0.17	0.020	mg/Kg wet	0.200		84.6	40-140			
Aroclor-1016 [2C]	0.16	0.020	mg/Kg wet	0.200		78.9	40-140			
Aroclor-1260	0.15	0.020	mg/Kg wet	0.200		73.8	40-140			
Aroclor-1260 [2C]	0.13	0.020	mg/Kg wet	0.200		67.5	40-140			
Surrogate: Decachlorobiphenyl	*0.170*		mg/Kg wet	0.200		84.9	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.148*		mg/Kg wet	0.200		74.1	30-150			
Surrogate: Tetrachloro-m-xylene	*0.178*		mg/Kg wet	0.200		89.0	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.167*		mg/Kg wet	0.200		83.6	30-150			
LCS Dup (B278938-BSD1)				Prepared: 03/27/21 Analyzed: 03/29/21						
Aroclor-1016	0.17	0.020	mg/Kg wet	0.200		85.6	40-140	1.16	30	
Aroclor-1016 [2C]	0.16	0.020	mg/Kg wet	0.200		80.3	40-140	1.78	30	
Aroclor-1260	0.15	0.020	mg/Kg wet	0.200		75.2	40-140	1.91	30	
Aroclor-1260 [2C]	0.14	0.020	mg/Kg wet	0.200		68.8	40-140	1.96	30	
Surrogate: Decachlorobiphenyl	*0.171*		mg/Kg wet	0.200		85.3	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.148*		mg/Kg wet	0.200		74.0	30-150			
Surrogate: Tetrachloro-m-xylene	*0.176*		mg/Kg wet	0.200		88.2	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.166*		mg/Kg wet	0.200		83.0	30-150			
Batch B279616 - SW-846 3540C										
Blank (B279616-BLK1)				Prepared: 03/27/21 Analyzed: 04/06/21						
Aroclor-1016	ND	0.0020	mg/Kg wet							
Aroclor-1016 [2C]	ND	0.0020	mg/Kg wet							
Aroclor-1221	ND	0.0020	mg/Kg wet							
Aroclor-1221 [2C]	ND	0.0020	mg/Kg wet							
Aroclor-1232	ND	0.0020	mg/Kg wet							
Aroclor-1232 [2C]	ND	0.0020	mg/Kg wet							
Aroclor-1242	ND	0.0020	mg/Kg wet							
Aroclor-1242 [2C]	ND	0.0020	mg/Kg wet							
Aroclor-1248	ND	0.0020	mg/Kg wet							
Aroclor-1248 [2C]	ND	0.0020	mg/Kg wet							
Aroclor-1254	ND	0.0020	mg/Kg wet							
Aroclor-1254 [2C]	ND	0.0020	mg/Kg wet							
Aroclor-1260	ND	0.0020	mg/Kg wet							
Aroclor-1260 [2C]	ND	0.0020	mg/Kg wet							
Aroclor-1262	ND	0.0020	mg/Kg wet							
Aroclor-1262 [2C]	ND	0.0020	mg/Kg wet							
Aroclor-1268	ND	0.0020	mg/Kg wet							
Aroclor-1268 [2C]	ND	0.0020	mg/Kg wet							



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QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B279616 - SW-846 3540C										
Blank (B279616-BLK1)				Prepared: 03/27/21 Analyzed: 04/06/21						
Surrogate: Decachlorobiphenyl	*0.165*		mg/Kg wet	0.200		82.3	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.140*		mg/Kg wet	0.200		69.8	30-150			
Surrogate: Tetrachloro-m-xylene	*0.160*		mg/Kg wet	0.200		79.8	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.150*		mg/Kg wet	0.200		75.0	30-150			
LCS (B279616-BS1)				Prepared: 03/27/21 Analyzed: 03/29/21						
Aroclor-1016	0.17	0.020	mg/Kg wet	0.200		84.6	40-140			
Aroclor-1016 [2C]	0.16	0.020	mg/Kg wet	0.200		78.9	40-140			
Aroclor-1260	0.15	0.020	mg/Kg wet	0.200		73.8	40-140			
Aroclor-1260 [2C]	0.13	0.020	mg/Kg wet	0.200		67.5	40-140			
Surrogate: Decachlorobiphenyl	*0.170*		mg/Kg wet	0.200		84.9	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.148*		mg/Kg wet	0.200		74.1	30-150			
Surrogate: Tetrachloro-m-xylene	*0.178*		mg/Kg wet	0.200		89.0	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.167*		mg/Kg wet	0.200		83.6	30-150			
LCS Dup (B279616-BSD1)				Prepared: 03/27/21 Analyzed: 03/29/21						
Aroclor-1016	0.17	0.020	mg/Kg wet	0.200		85.6	40-140	1.16	30	
Aroclor-1016 [2C]	0.16	0.020	mg/Kg wet	0.200		80.3	40-140	1.78	30	
Aroclor-1260	0.15	0.020	mg/Kg wet	0.200		75.2	40-140	1.91	30	
Aroclor-1260 [2C]	0.14	0.020	mg/Kg wet	0.200		68.8	40-140	1.96	30	
Surrogate: Decachlorobiphenyl	*0.171*		mg/Kg wet	0.200		85.3	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.148*		mg/Kg wet	0.200		74.0	30-150			
Surrogate: Tetrachloro-m-xylene	*0.176*		mg/Kg wet	0.200		88.2	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.166*		mg/Kg wet	0.200		83.0	30-150			

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QUALITY CONTROL

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B278837 - SW 846 9060A											
Blank (B278837-BLK1)				Prepared & Analyzed: 03/26/21							
Total Organic Carbon	ND	100	mg/Kg								
LCS (B278837-BS1)				Prepared & Analyzed: 03/26/21							
Total Organic Carbon	654	100	mg/Kg	750		87.1		65.8-127			
LCS Dup (B278837-BSD1)				Prepared & Analyzed: 03/26/21							
Total Organic Carbon	656	100	mg/Kg	750		87.5		65.8-127	0.427	11.4	
Duplicate (B278837-DUP1)	**Source: 21C1116-08**			Prepared & Analyzed: 03/26/21							
Total Organic Carbon	8980	100	mg/Kg		5920				41.1	57.3	
Matrix Spike (B278837-MS1)	**Source: 21C1116-08**			Prepared & Analyzed: 03/26/21							
Total Organic Carbon	4060	100	mg/Kg	750	5920	**-247**	*	85-115			MS-07
Matrix Spike Dup (B278837-MSD1)	**Source: 21C1116-08**			Prepared & Analyzed: 03/26/21							
Total Organic Carbon	4580	100	mg/Kg	750	5920	**-179**	*	85-115	11.9	20	MS-07
Batch B278949 - SW 846 9060A											
Blank (B278949-BLK1)				Prepared & Analyzed: 03/29/21							
Total Organic Carbon	ND	100	mg/Kg								
LCS (B278949-BS1)				Prepared & Analyzed: 03/29/21							
Total Organic Carbon	730	100	mg/Kg	750		97.4		65.8-127			
LCS Dup (B278949-BSD1)				Prepared & Analyzed: 03/29/21							
Total Organic Carbon	691	100	mg/Kg	750		92.2		65.8-127	5.50	11.4	
Duplicate (B278949-DUP1)	**Source: 21C1116-11**			Prepared & Analyzed: 03/29/21							
Total Organic Carbon	20900	100	mg/Kg		18500				12.0	57.3	
Matrix Spike (B278949-MS1)	**Source: 21C1116-11**			Prepared & Analyzed: 03/29/21							
Total Organic Carbon	11800	100	mg/Kg	750	18500	**-898**	*	85-115			MS-07A
Matrix Spike Dup (B278949-MSD1)	**Source: 21C1116-11**			Prepared & Analyzed: 03/28/21							
Total Organic Carbon	14000	100	mg/Kg	750	18500	**-601**	*	85-115	17.3	20	MS-07A

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Reoccupy T4E (6-12)

Lab Sample ID: 21C1116-01 Date(s) Analyzed: 04/08/2021 04/08/2021

Instrument ID (1): ECD10 Instrument ID (2): ECD10

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	-0.030	0.030	0.022	
	2	0.000	-0.030	0.030	0.026	16.7
Aroclor-1260	1	0.000	-0.030	0.030	0.011	
	2	0.000	-0.030	0.030	0.011	0.0

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

T4-1E (0-6)

Lab Sample ID: 21C1116-02 Date(s) Analyzed: 04/08/2021 04/08/2021

Instrument ID (1): ECD10 Instrument ID (2): ECD10

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	-0.030	0.030	0.016	
	2	0.000	-0.030	0.030	0.023	35.9
Aroclor-1260	1	0.000	-0.030	0.030	0.0038	
	2	0.000	-0.030	0.030	0.0037	2.7

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

T4-1W (0-6)

Lab Sample ID: 21C1116-04RE1 Date(s) Analyzed: 03/29/2021 03/29/2021

Instrument ID (1): ECD4 Instrument ID (2): ECD4

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	-0.030	0.030	0.50	
	2	0.000	-0.030	0.030	0.44	12.8

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

T4-2E (0-6)

Lab Sample ID: 21C1116-05RE1 Date(s) Analyzed: 04/06/2021 04/06/2021

Instrument ID (1): ECD 4 Instrument ID (2): ECD 4

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	-0.030	0.030	0.025	
	2	0.000	-0.030	0.030	0.028	11.3
Aroclor-1260	1	0.000	-0.030	0.030	0.0069	
	2	0.000	-0.030	0.030	0.0065	6.0

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

T4-2C (0-6)

Lab Sample ID: 21C1116-06 Date(s) Analyzed: 04/08/2021 04/08/2021

Instrument ID (1): ECD10 Instrument ID (2): ECD10

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	-0.030	0.030	0.013	
	2	0.000	-0.030	0.030	0.014	7.4
Aroclor-1260	1	0.000	-0.030	0.030	0.0032	
	2	0.000	-0.030	0.030	0.0034	6.1

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

T4-2W (0-6)

Lab Sample ID: 21C1116-07RE1 Date(s) Analyzed: 03/29/2021 03/29/2021

Instrument ID (1): ECD4 Instrument ID (2): ECD4

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	-0.030	0.030	0.20	
	2	0.000	-0.030	0.030	0.18	10.5

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

T4-2W (6-12)

Lab Sample ID: 21C1116-08 Date(s) Analyzed: 04/08/2021 04/08/2021

Instrument ID (1): ECD10 Instrument ID (2): ECD10

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	-0.030	0.030	0.046	
	2	0.000	-0.030	0.030	0.047	2.2
Aroclor-1260	1	0.000	-0.030	0.030	0.0066	
	2	0.000	-0.030	0.030	0.0066	0.0

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

T5-1E (0-6)

Lab Sample ID: 21C1116-09 Date(s) Analyzed: 04/08/2021 04/08/2021

Instrument ID (1): ECD10 Instrument ID (2): ECD10

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	-0.030	0.030	0.019	
	2	0.000	-0.030	0.030	0.020	0.0
Aroclor-1260	1	0.000	-0.030	0.030	0.0052	
	2	0.000	-0.030	0.030	0.0050	3.9

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

T5-1C (0-6)

Lab Sample ID: 21C1116-10 Date(s) Analyzed: 04/08/2021 04/08/2021

Instrument ID (1): ECD10 Instrument ID (2): ECD10

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	-0.030	0.030	0.015	
	2	0.000	-0.030	0.030	0.018	18.2
Aroclor-1260	1	0.000	-0.030	0.030	0.0059	
	2	0.000	-0.030	0.030	0.0055	8.7

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

T5-1W (0-6)

Lab Sample ID: 21C1116-11 Date(s) Analyzed: 04/08/2021 04/08/2021

Instrument ID (1): ECD10 Instrument ID (2): ECD10

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	-0.030	0.030	0.023	
	2	0.000	-0.030	0.030	0.037	46.7
Aroclor-1260	1	0.000	-0.030	0.030	0.010	
	2	0.000	-0.030	0.030	0.0087	13.9

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

T5-2E (0-6)

Lab Sample ID: 21C1116-12 Date(s) Analyzed: 04/08/2021 04/08/2021

Instrument ID (1): ECD10 Instrument ID (2): ECD10

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	-0.030	0.030	0.018	
	2	0.000	-0.030	0.030	0.023	24.4
Aroclor-1260	1	0.000	-0.030	0.030	0.0081	
	2	0.000	-0.030	0.030	0.0080	1.2

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

T5-2C (0-6)

Lab Sample ID: 21C1116-13 Date(s) Analyzed: 04/08/2021 04/08/2021

Instrument ID (1): ECD10 Instrument ID (2): ECD10

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	-0.030	0.030	0.0048	
	2	0.000	-0.030	0.030	0.0067	33.0
Aroclor-1260	1	0.000	-0.030	0.030	0.0033	
	2	0.000	-0.030	0.030	0.0027	20.0

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

T5-2W (0-6)

Lab Sample ID: 21C1116-14 Date(s) Analyzed: 04/08/2021 04/08/2021

Instrument ID (1): ECD10 Instrument ID (2): ECD10

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	-0.030	0.030	0.0030	
	2	0.000	-0.030	0.030	0.0037	20.9

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

T6-1E (0-6)

Lab Sample ID: 21C1116-15 Date(s) Analyzed: 04/08/2021 04/08/2021

Instrument ID (1): ECD10 Instrument ID (2): ECD10

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	-0.030	0.030	0.010	
	2	0.000	-0.030	0.030	0.010	0.0

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

T6-1C (0-6)

Lab Sample ID: 21C1116-16 Date(s) Analyzed: 04/08/2021 04/08/2021

Instrument ID (1): ECD10 Instrument ID (2): ECD10

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	-0.030	0.030	0.0048	
	2	0.000	-0.030	0.030	0.0053	9.9

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

T6-1W (0-6)

Lab Sample ID: 21C1116-17 Date(s) Analyzed: 04/08/2021 04/08/2021

Instrument ID (1): ECD10 Instrument ID (2): ECD10

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	-0.030	0.030	0.018	
	2	0.000	-0.030	0.030	0.019	5.4
Aroclor-1260	1	0.000	-0.030	0.030	0.0048	
	2	0.000	-0.030	0.030	0.0047	2.1

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

T7-1E (0-6)

Lab Sample ID: 21C1116-18 Date(s) Analyzed: 04/08/2021 04/08/2021

Instrument ID (1): ECD10 Instrument ID (2): ECD10

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	-0.030	0.030	0.021	
	2	0.000	-0.030	0.030	0.026	21.3
Aroclor-1260	1	0.000	-0.030	0.030	0.0086	
	2	0.000	-0.030	0.030	0.0083	3.6

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

T7-1C (0-6)

Lab Sample ID: 21C1116-19 Date(s) Analyzed: 04/08/2021 04/08/2021

Instrument ID (1): ECD10 Instrument ID (2): ECD10

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	-0.030	0.030	0.021	
	2	0.000	-0.030	0.030	0.036	52.6
Aroclor-1260	1	0.000	-0.030	0.030	0.024	
	2	0.000	-0.030	0.030	0.024	0.0

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

T7-1W (0-6)

Lab Sample ID: 21C1116-20 Date(s) Analyzed: 04/08/2021 04/08/2021

Instrument ID (1): ECD10 Instrument ID (2): ECD10

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	-0.030	0.030	0.021	
	2	0.000	-0.030	0.030	0.034	47.3
Aroclor-1260	1	0.000	-0.030	0.030	0.012	
	2	0.000	-0.030	0.030	0.011	8.7

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B278710-BS1 Date(s) Analyzed: 03/29/2021 03/29/2021

Instrument ID (1): ECD10 Instrument ID (2): ECD10

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.19	
	2	0.000	-0.030	0.030	0.18	5.4
Aroclor-1260	1	0.000	-0.030	0.030	0.17	
	2	0.000	-0.030	0.030	0.17	0.0

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B278710-BSD1 Date(s) Analyzed: 03/29/2021 03/29/2021

Instrument ID (1): ECD10 Instrument ID (2): ECD10

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.19	
	2	0.000	-0.030	0.030	0.18	5.4
Aroclor-1260	1	0.000	-0.030	0.030	0.17	
	2	0.000	-0.030	0.030	0.17	0.0

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike

Lab Sample ID: B278710-MS1 Date(s) Analyzed: 03/29/2021 03/29/2021

Instrument ID (1): ECD10 Instrument ID (2): ECD10

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.26	
	2	0.000	-0.030	0.030	0.25	3.9
Aroclor-1260	1	0.000	-0.030	0.030	0.24	
	2	0.000	-0.030	0.030	0.23	4.3

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike

Lab Sample ID: B278710-MS2 Date(s) Analyzed: 03/29/2021 03/29/2021

Instrument ID (1): ECD10 Instrument ID (2): ECD10

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.32	
	2	0.000	-0.030	0.030	0.31	3.2
Aroclor-1260	1	0.000	-0.030	0.030	0.30	
	2	0.000	-0.030	0.030	0.30	0.0

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike Dup

Lab Sample ID: B278710-MSD1 Date(s) Analyzed: 03/29/2021 03/29/2021

Instrument ID (1): ECD10 Instrument ID (2): ECD10

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.23	
	2	0.000	-0.030	0.030	0.22	4.4
Aroclor-1260	1	0.000	-0.030	0.030	0.24	
	2	0.000	-0.030	0.030	0.23	4.3

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike Dup

Lab Sample ID: B278710-MSD2 Date(s) Analyzed: 03/29/2021 03/29/2021

Instrument ID (1): ECD10 Instrument ID (2): ECD10

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.32	
	2	0.000	-0.030	0.030	0.31	3.2
Aroclor-1260	1	0.000	-0.030	0.030	0.30	
	2	0.000	-0.030	0.030	0.30	0.0

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B278938-BS1 Date(s) Analyzed: 03/29/2021 03/29/2021

Instrument ID (1): ECD4 Instrument ID (2): ECD4

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.17	
	2	0.000	-0.030	0.030	0.16	6.1
Aroclor-1260	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.13	14.3

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B278938-BSD1 Date(s) Analyzed: 03/29/2021 03/29/2021

Instrument ID (1): ECD4 Instrument ID (2): ECD4

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.17	
	2	0.000	-0.030	0.030	0.16	6.1
Aroclor-1260	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.14	6.9

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B279616-BS1 Date(s) Analyzed: 03/29/2021 03/29/2021

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.17	
	2	0.000	-0.030	0.030	0.16	6.1
Aroclor-1260	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.13	14.3

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B279616-BSD1 Date(s) Analyzed: 03/29/2021 03/29/2021

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.17	
	2	0.000	-0.030	0.030	0.16	6.1
Aroclor-1260	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.14	6.9

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
MS-07	Matrix spike recovery is outside of control limits. Analysis is in control based on laboratory fortified blank recovery.Possibility of sample matrix effects that lead to low bias for reported result or non-homogeneous sample aliquot cannot be eliminated.
MS-07A	Matrix spike and spike duplicate recovery is outside of control limits. Analysis is in control based on laboratory fortified blank recovery. Possibility of matrix effects that lead to low bias or non-homogeneous sample aliquot cannot be eliminated.
P-02	Sample RPD between primary and confirmatory analysis exceeded 40%. Per EPA method 8000, the lower value was reported due to obvious chromatographic interference on the column with the higher result.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW 846 9060A in Soil	
Total Organic Carbon	NY,CT,ME,VA,NH
SW-846 8082A in Soil	
Aroclor-1016	CT,NH,NY,ME,NC,VA,PA
Aroclor-1016 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1262	NY,NC,VA,PA
Aroclor-1262 [2C]	NY,NC,VA,PA
Aroclor-1268	NY,NC,VA,PA
Aroclor-1268 [2C]	NY,NC,VA,PA

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2017	100033	03/1/2022
MA	Massachusetts DEP	M-MA100	06/30/2021
CT	Connecticut Department of Publilc Health	PH-0165	12/31/2022
NY	New York State Department of Health	10899 NELAP	04/1/2022
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2022
RI	Rhode Island Department of Health	LAO00112	12/30/2021
NC	North Carolina Div. of Water Quality	652	12/31/2021
NJ	New Jersey DEP	MA007 NELAP	06/30/2021
FL	Florida Department of Health	E871027 NELAP	06/30/2021
VT	Vermont Department of Health Lead Laboratory	LL720741	07/30/2021
ME	State of Maine	MA00100	06/9/2021
VA	Commonwealth of Virginia	460217	12/14/2021
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2021
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2021
NC-DW	North Carolina Department of Health	25703	07/31/2021
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2021
MI	Dept. of Env, Great Lakes, and Energy	9100	09/6/2021

21C1116

con-test ANALYTICAL LABORATORY

Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com

http://www.contestlabs.com

CHAIN OF CUSTODY RECORD

39 Spruce Street
East Longmeadow, MA 01028

Doc # 381 Rev 2_06262019

Page 1 of 3

Company Name: Weston & Sampson
Address: Bocky Hill CT
Phone: 800-SAMPSON
Project Name: Eversource - Durham ER
Project Location: Durham, CT
Project Number:
Project Manager: Jeff Willson
Con-Test Quote Name/Number:
Invoice Recipient: Jeff Willson
Sampled By: Chris Beaniaume

Required Turnaround Time: 7-Day [X] 10-Day [ ] PFAS 10-Day (std) [ ] Due Date:
RUSH Approval Required: 1-Day [ ] 3-Day [ ] 2-Day [ ] 4-Day [ ]
Dissolved Metals Samples: [ ] Field Filtered [ ] Lab to Filter
Aqueous Metals Samples: [ ] Field Filtered [ ] Lab to Filter
Data Delivery: Format: PDF [ ] EXCEL [X]
Other: EnviroData
CLP Like Data Pkg Required: [ ]
Email To: WillsonJC@wseinc.com
Fax To #:

ANALYSIS REQUESTED

Con-Test Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs w/ Sox	LMS/MSD	HOLD	TOC	LMS/MSD
1	Preoccupy T4E (6-12)	3/19/21	1510	G	S	U		1				X			X	
2	T4-1E (0-6)		1440					2				X			X	
3	T4-1C (0-6)		1450					1				X			X	
	T4-1C (6-12)		1455					1						X		
4	T4-1W (0-6)		1500					1				X			X	
	T4-1W (6-12)		1505					1						X		
5	T4-2E (0-6)		1330									X			X	
	T4-2E (6-12)		1335											X		
6	T4-2C (0-6)		1320									X			X	
7	T4-2W (0-6)		1310									X			X	

Total Number Of: VIALS 1, GLASS 7, PLASTIC, BACTERIA, ENCORE

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N
*Contest is not responsible for missing samples from prepacked coolers

[1] Matrix Codes: GW = Ground Water, WW = Waste Water, DW = Drinking Water, A = Air, S = Soil, SL = Sludge, SOL = Solid, O = Other (please define)

[2] Preservation Codes: I = Iced, H = HCL, M = Methanol, N = Nitric Acid, S = Sulfuric Acid, B = Sodium Bisulfate, X = Sodium Hydroxide, T = Sodium Thiosulfate, O = Other (please define)

Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time: 3/22/21 1:05
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time: 3/22/21 6:35
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time: 3.4 3/22/21 1835
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:

Client Comments: Eversource project- ES rates no sales tax

Reporting Limit Requirements: MA [ ] 0.004 mg/kg [ ]
Special Requirements: MA MCP Required [ ] MCP Certification Form Required [ ] CT RCP Required [X] CT RCP Certification Form Required [ ] NH State DW Required [ ] PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above: H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity: Government [ ] Municipality [ ] MWRA [ ] WRTA [ ] Federal [ ] 21 J [ ] School [ ] City [ ] Brownfield [ ] MBTA [ ]

Other: Chromatogram [ ] AIHA-LAP,LLC

PCB ONLY: Soxhlet [X] Non Soxhlet [ ]

Comments:
Hold samples on wo#21c1118, client notified sample -03 was received broken 3/23/21 mmk

Disclaimer: Con-Test Labs is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Con-Test values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

21C1116

con-test ANALYTICAL LABORATORY

Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com

http://www.contestlabs.com

CHAIN OF CUSTODY RECORD

39 Spruce Street
East Longmeadow, MA 01028

Doc # 381 Rev 2_06262019

Page 2 of 3

Company Name:	Weston & Sampson
Address:	Rocky Hill CT
Phone:	800-SAMPSON
Project Name:	Eversource - Durham ER
Project Location:	Durham, CT
Project Number:	
Project Manager:	Jeff Willson
Con-Test Quote Name/Number:	
Invoice Recipient:	Jeff Willson
Sampled By:	Chris Berthiaume

Turnaround Requirements
7-Day: X
10-Day:
PFAS 10-Day (std):
Due Date:

Rush Approval Required
1-Day:
2-Day:
3-Day:
4-Day:

Data Deliverables
Format: PDF X EXCEL X
Other: EnviroData
CLP Like Data Pkg Required:
Email To: WillsonJC@wsp.com
Fax To #:

Dissolved Metals Samples
Field Filtered
Lab to Filter

Total Metals Samples
Field Filtered
Lab to Filter

ANALYSIS REQUESTED

Con-Test Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs Soxhlet	LMS/MSD	HOLD	TOC	LMS/MSD
8	T4-2W (6-12)	3/9/21	1315	G	S	U		3				X	X		X	X
9	T5-1E (0-6)		1050					1				X			X	
	T5-1E (6-9)		1055					2						X		
10	T5-1C (0-6)		1100					1 WCB				X			X	
11	T5-1W (0-6)		1110					5				X	X		X	X
	T5-1W (6-10)		1115 BS					2						X		
12	T5-2E (0-6)		1000					1				X			X	
13	T5-2C (0-6)		0950					1				X			X	
14	T5-2W (0-6)		0955					1				X			X	
	T5-2W (6-10)		0940					1						X		

Relinquished by: (signature) — Date/Time:
Received by: (signature) — Date/Time: 3/22/21 1:05
Relinquished by: (signature) — Date/Time: 3/22/21 6:35
Received by: (signature) — Date/Time: 3/22/21 1835
Relinquished by: (signature) — Date/Time:
Received by: (signature) — Date/Time:
Relinquished by: (signature) — Date/Time:
Received by: (signature) — Date/Time:

Client Comments: Eversource project - ES rates
no sales tax

Reporting Limit Requirements
RL: 0.004 mg/kg
Other:

Special Requirements
MA MCP Required
MCP Certification Form Required
X CT RCP Required
RCP Certification Form Required
MA Drinking Water Required
PWSID #:

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government
Federal
City
Municipality
21 J
Brownfield
MWRA
School
MBTA
WRTA

Other
Chromatogram
AIHA-LAP,LLC

PCB ONLY
X Soxhlet
Non Soxhlet

[2] Preservation Code

Container Type and Preservative

Total Number Of:
VIALS 18
GLASS
PLASTIC
BACTERIA
ENCORE

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N
*Contest is not responsible for missing samples from prepacked coolers

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Comments:

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CHAIN OF CUSTODY RECORD

21C1116

con-test ANALYTICAL LABORATORY

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Doc # 381 Rev 2_06262019

Page 3 of 3

Company Name:	Weston & Sampson
Address:	Rocky Hill, CT
Phone:	800-SAMPSON
Project Name:	Eversource-Durham ER
Project Location:	Durham, CT
Project Number:	
Project Manager:	Jeff Wilson
Con-Test Quote Name/Number:	
Invoice Recipient:	Jeff Wilson
Sampled By:	Chris Berthiaume

Turnaround Time Requested (TAT)
7-Day: X | 10-Day:
PFAS 10-Day (std): | Due Date:

Rush Approval Required
1-Day: | 3-Day:
2-Day: | 4-Day:

Data Delivery
Format: PDF X EXCEL X
Other: EnviroData
CLP Like Data Pkg Required:
Email To: WillsonJ@wseinc.com
Fax To #:

Preliminary Results
Field Filtered
Lab to Filter

Final Results
Field Filtered
Lab to Filter

ANALYSIS REQUESTED

Con-Test Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs w/ SOX	L MS/MSD	HOLD		TOC	L MS/MSD				
15	T6-1E (0-6)	3/19/21	0930	G	S	M		1				x				x					
16	T6-1C (0-6)		0920					1				x				x					
	T6-1C (6-12)		0925					1						x							
17	T6-1W (0-6)		0910					1				x				x					
18	T7-1E (0-6)	OS 3/17/21	1845					1				x				x					
	T7-1E (6-12)		1850					1						x							
19	T7-1C (0-6)		1830					1				x				x					
	T7-1C (6-12)		1835					1						x							
20	T7-1W (0-6)		1820					1				x				x					
	T7-1W (6-12)		1825					1						x							

[2] Preservation Code

Container Info/Pack

Total Number Of:
VIALS
GLASS 10
PLASTIC
BACTERIA
ENCORE

Glassware in the fridge? Y / N

Glassware in freezer? Y / N

Prepackaged Cooler? Y / N

*Contest is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time: 3/22/21 1:45
Relinquished by: (signature)	Date/Time: 3/22/21 6:35
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments: Eversource project - ES rates
no sales tax

Detection Limit Requirements
PCB: 0.004 mg/kg

Special Requirements
MA MCP Required
MCP Certification Form Required
CT RCP Required: X
RCP Certification Form Required
MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government | Municipality | MWRA | WRTA
Federal | 21 J | School
City | Brownfield | MBTA

Other: Chromatogram | AIHA-LAP,LLC

PCB ONLY: X Soxhlet | Non Soxhlet

Comments:

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I Have Not Confirmed Sample Container Numbers With Lab Staff Before Relinquishing Over Samples_____

con-test® ANALYTICAL LABORATORY

Doc# 277 Rev 5 2017

Login Sample Receipt Checklist - (Rejection Criteria Listing - Using Acceptance Policy) Any False Statement will be brought to the attention of the Client - State True or False

Client WTS

Received By [signature] Date 3/22/21 Time 1835

How were the samples received? In Cooler T No Cooler _____ On Ice T No Ice _____
Direct from Sampling _____ Ambient _____ Melted Ice _____

Were samples within Temperature? 2-6°C T By Gun # 2 Actual Temp - 3.4
By Blank # _____ Actual Temp - _____

Was Custody Seal Intact? n/a Were Samples Tampered with? n/a
Was COC Relinquished ? T Does Chain Agree With Samples? T
Are there broken/leaking/loose caps on any samples? T
Is COC in ink/ Legible? T Were samples received within holding time? T
Did COC include all pertinent Information? Client T Project T Analysis T ID's T Sampler Name T Collection Dates/Times T
Are Sample labels filled out and legible? T
Are there Lab to Filters? F Who was notified? _____
Are there Rushes? F Who was notified? _____
Are there Short Holds? F Who was notified? _____
Is there enough Volume? T
Is there Headspace where applicable? n/a MS/MSD? T
Proper Media/Containers Used? T Is splitting samples required? F
Were trip blanks received? F On COC? F
Do all samples have the proper pH? Acid n/a Base n/a

Vials	#	Containers:	#		#		#
Unp-		1 Liter Amb.		1 Liter Plastic		16 oz Amb.	
HCL-		500 mL Amb.		500 mL Plastic		8oz Amb/Clear	21
Meoh-		250 mL Amb.		250 mL Plastic		4oz Amb/Clear	6
Bisulfate-		Flashpoint		Col./Bacteria		2oz Amb/Clear	
DI-		Other Glass		Other Plastic		Encore	
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:	
Sulfuric-		Perchlorate		Ziplock			

Unused Media

Vials	#	Containers:	#		#		#
Unp-		1 Liter Amb.		1 Liter Plastic		16 oz Amb.	
HCL-		500 mL Amb.		500 mL Plastic		8oz Amb/Clear	
Meoh-		250 mL Amb.		250 mL Plastic		4oz Amb/Clear	
Bisulfate-		Col./Bacteria		Flashpoint		2oz Amb/Clear	
DI-		Other Plastic		Other Glass		Encore	
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:	
Sulfuric-		Perchlorate		Ziplock			

Comments:

Sample TH-1C (0-6) received broken.

REASONABLE CONFIDENCE PROTOCOL
LABORATORY ANALYSIS QA/QC CERTIFICATION FORM

Laboratory Name: Con-Test, a Pace Analytical Laboratory

Client: Weston & Sampson

Project Location: Durham, CT

Project Number: 21C1116

Laboratory Sample ID(s):

21C1116-01 thru 21C1116-20

Sample Date(s):

03/17/2021,
03/19/2021

List RCP Methods Used:

SW-846 8082A

1	For each analytical method referenced in this laboratory report package, were all specified QA/QC performance criteria followed, including the requirement to explain any criteria falling outside of acceptable guidelines, as specified in the CTDEP method-specific Reasonable Confidence Protocol documents?	☑ Yes ☐ No
1A	Were the method specified preservation and holding time requirements met?	☑ Yes ☐ No
1B	VPH and EPH Methods only: Was the VPH and EPH method conducted without significant modifications (see Section 11.3 of respective RCP methods)?	☐ Yes ☐ No ☑ N/A
2	Were all samples received by the laboratory in a condition consistent with that described on the associated chain-of-custody document(s)?	☑ Yes ☐ No
3	Were samples received at an appropriate temperature (< 6 degrees C.)?	☑ Yes ☐ No ☐ N/A
4	Were all QA/QC performance criteria specified in the CTDEP Reasonable Confidence Protocol documents achieved?	☐ Yes ☑ No
5A	Were reporting limits specified or referenced on the chain-of-custody?	☑ Yes ☐ No
5B	Were these reporting limits met?	☐ Yes ☑ No
6	For each analytical method referenced in this laboratory report package, were results reported for all constituents identified in the method-specific analyte lists presented in the Reasonable Confidence Protocol documents?	☑ Yes ☐ No
7	Are project-specific matrix spikes and laboratory duplicates included in this data set?	☑ Yes ☐ No

Notes: For all questions to which the response was "No" (with the exception of question #7), additional information must be provided in an attached narrative. If the answer to question #1, #1A, or #1B is "No", the data package does not meet the requirements for "Reasonable Confidence."
This form may not be altered and all questions must be answered.

Lisa A. Worthington

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete.

Authorized Signature: Lisa Worthington **Position:** Technical Representative

Printed Name: Lisa A. Worthington **Date:** 04/09/21

Name of Laboratory: Con-Test, a Pace Analytical Laboratory

This certification form is to be used for RCP methods only.

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April 7, 2021

Jeff Willson
Weston & Sampson
712 Brook Street, Suite 103
Rocky Hill, CT 06067

Project Location: Durham, CT
Client Job Number:
Project Number: [none]
Laboratory Work Order Number: 21C1118

Enclosed are results of analyses for samples received by the laboratory on March 22, 2021. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Michelle M. Koch
Project Manager

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Weston & Sampson
712 Brook Street, Suite 103
Rocky Hill, CT 06067
ATTN: Jeff Willson

REPORT DATE: 4/7/2021

PURCHASE ORDER NUMBER:

PROJECT NUMBER: [none]

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 21C1118

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: Durham, CT

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
T4-1C (6-12)	21C1118-01	Soil		SM 2540G	
				SW 846 9060A	
				SW-846 8082A	
T4-2E (6-12)	21C1118-03	Soil		SM 2540G	
				SW 846 9060A	
				SW-846 8082A	
T5-1E (6-9)	21C1118-04	Soil		SM 2540G	
				SW 846 9060A	
				SW-846 8082A	
T5-1W (6-10)	21C1118-05	Soil		SM 2540G	
				SW 846 9060A	
				SW-846 8082A	
T5-2W (6-10)	21C1118-06	Soil		SM 2540G	
				SW 846 9060A	
				SW-846 8082A	
T6- 1C (6-12)	21C1118-07	Soil		SM 2540G	
				SW 846 9060A	
				SW-846 8082A	

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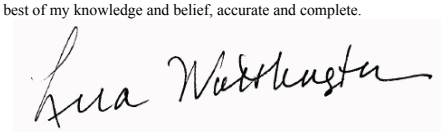
CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Lisa A. Worthington
Technical Representative

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Project Location: Durham, CT | Sample Description: | Work Order: 21C1118

Date Received: 3/22/2021

Field Sample #: T4-1C (6-12) | Sampled: 3/19/2021 14:55

Sample ID: 21C1118-01

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.024	mg/Kg dry	10		SW-846 8082A	4/1/21	4/6/21 18:52	JMB
Aroclor-1221 [1]	ND	0.024	mg/Kg dry	10		SW-846 8082A	4/1/21	4/6/21 18:52	JMB
Aroclor-1232 [1]	ND	0.024	mg/Kg dry	10		SW-846 8082A	4/1/21	4/6/21 18:52	JMB
Aroclor-1242 [1]	ND	0.024	mg/Kg dry	10		SW-846 8082A	4/1/21	4/6/21 18:52	JMB
Aroclor-1248 [1]	ND	0.024	mg/Kg dry	10		SW-846 8082A	4/1/21	4/6/21 18:52	JMB
Aroclor-1254 [2]	0.13	0.024	mg/Kg dry	10		SW-846 8082A	4/1/21	4/6/21 18:52	JMB
Aroclor-1260 [1]	ND	0.024	mg/Kg dry	10		SW-846 8082A	4/1/21	4/6/21 18:52	JMB
Aroclor-1262 [1]	ND	0.024	mg/Kg dry	10		SW-846 8082A	4/1/21	4/6/21 18:52	JMB
Aroclor-1268 [1]	ND	0.024	mg/Kg dry	10		SW-846 8082A	4/1/21	4/6/21 18:52	JMB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	68.2	30-150		4/6/21 18:52
Decachlorobiphenyl [2]	72.6	30-150		4/6/21 18:52
Tetrachloro-m-xylene [1]	65.8	30-150		4/6/21 18:52
Tetrachloro-m-xylene [2]	70.8	30-150		4/6/21 18:52

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Project Location: Durham, CT | Sample Description: | Work Order: 21C1118

Date Received: 3/22/2021

Field Sample #: T4-1C (6-12) | Sampled: 3/19/2021 14:55

Sample ID: 21C1118-01

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	80.5		% Wt	1		SM 2540G	4/5/21	4/5/21 17:49	AVF
Total Organic Carbon	2800	100	mg/Kg	1		SW 846 9060A	4/2/21	4/2/21 11:00	AYK

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Project Location: Durham, CT | Sample Description: | Work Order: 21C1118

Date Received: 3/22/2021

Field Sample #: T4-2E (6-12) | Sampled: 3/19/2021 13:35

Sample ID: 21C1118-03

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.0029	mg/Kg dry	1		SW-846 8082A	4/1/21	4/6/21 15:53	JMB
Aroclor-1221 [1]	ND	0.0029	mg/Kg dry	1		SW-846 8082A	4/1/21	4/6/21 15:53	JMB
Aroclor-1232 [1]	ND	0.0029	mg/Kg dry	1		SW-846 8082A	4/1/21	4/6/21 15:53	JMB
Aroclor-1242 [1]	ND	0.0029	mg/Kg dry	1		SW-846 8082A	4/1/21	4/6/21 15:53	JMB
Aroclor-1248 [1]	ND	0.0029	mg/Kg dry	1		SW-846 8082A	4/1/21	4/6/21 15:53	JMB
Aroclor-1254 [2]	0.046	0.0029	mg/Kg dry	1		SW-846 8082A	4/1/21	4/6/21 15:53	JMB
Aroclor-1260 [2]	0.0086	0.0029	mg/Kg dry	1		SW-846 8082A	4/1/21	4/6/21 15:53	JMB
Aroclor-1262 [1]	ND	0.0029	mg/Kg dry	1		SW-846 8082A	4/1/21	4/6/21 15:53	JMB
Aroclor-1268 [1]	ND	0.0029	mg/Kg dry	1		SW-846 8082A	4/1/21	4/6/21 15:53	JMB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	33.5	30-150		4/6/21 15:53
Decachlorobiphenyl [2]	65.2	30-150		4/6/21 15:53
Tetrachloro-m-xylene [1]	35.9	30-150		4/6/21 15:53
Tetrachloro-m-xylene [2]	68.5	30-150		4/6/21 15:53

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Project Location: Durham, CT | Sample Description: | Work Order: 21C1118

Date Received: 3/22/2021

Field Sample #: T4-2E (6-12) | Sampled: 3/19/2021 13:35

Sample ID: 21C1118-03

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	69.7		% Wt	1		SM 2540G	4/5/21	4/5/21 17:49	AVF
Total Organic Carbon	23000	100	mg/Kg	1		SW 846 9060A	4/2/21	4/2/21 10:43	AYK

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Project Location: Durham, CT | Sample Description: | Work Order: 21C1118
Date Received: 3/22/2021
Field Sample #: T5-1E (6-9) | Sampled: 3/19/2021 10:55
Sample ID: 21C1118-04
Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.0031	mg/Kg dry	1		SW-846 8082A	4/1/21	4/6/21 19:10	JMB
Aroclor-1221 [1]	ND	0.0031	mg/Kg dry	1		SW-846 8082A	4/1/21	4/6/21 19:10	JMB
Aroclor-1232 [1]	ND	0.0031	mg/Kg dry	1		SW-846 8082A	4/1/21	4/6/21 19:10	JMB
Aroclor-1242 [1]	ND	0.0031	mg/Kg dry	1		SW-846 8082A	4/1/21	4/6/21 19:10	JMB
Aroclor-1248 [1]	ND	0.0031	mg/Kg dry	1		SW-846 8082A	4/1/21	4/6/21 19:10	JMB
Aroclor-1254 [2]	0.0073	0.0031	mg/Kg dry	1		SW-846 8082A	4/1/21	4/6/21 19:10	JMB
Aroclor-1260 [1]	ND	0.0031	mg/Kg dry	1		SW-846 8082A	4/1/21	4/6/21 19:10	JMB
Aroclor-1262 [1]	ND	0.0031	mg/Kg dry	1		SW-846 8082A	4/1/21	4/6/21 19:10	JMB
Aroclor-1268 [1]	ND	0.0031	mg/Kg dry	1		SW-846 8082A	4/1/21	4/6/21 19:10	JMB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	35.0	30-150		4/6/21 19:10
Decachlorobiphenyl [2]	68.9	30-150		4/6/21 19:10
Tetrachloro-m-xylene [1]	37.3	30-150		4/6/21 19:10
Tetrachloro-m-xylene [2]	73.3	30-150		4/6/21 19:10

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Project Location: Durham, CT | Sample Description: | Work Order: 21C1118

Date Received: 3/22/2021

Field Sample #: T5-1E (6-9) | Sampled: 3/19/2021 10:55

Sample ID: 21C1118-04

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	64.7		% Wt	1		SM 2540G	4/5/21	4/5/21 17:50	AVF
Total Organic Carbon	22000	100	mg/Kg	1		SW 846 9060A	4/2/21	4/2/21 9:53	AYK

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Project Location: Durham, CT | Sample Description: | Work Order: 21C1118

Date Received: 3/22/2021

Field Sample #: T5-1W (6-10) | Sampled: 3/19/2021 11:15

Sample ID: 21C1118-05

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.0026	mg/Kg dry	1		SW-846 8082A	4/1/21	4/6/21 16:11	JMB
Aroclor-1221 [1]	ND	0.0026	mg/Kg dry	1		SW-846 8082A	4/1/21	4/6/21 16:11	JMB
Aroclor-1232 [1]	ND	0.0026	mg/Kg dry	1		SW-846 8082A	4/1/21	4/6/21 16:11	JMB
Aroclor-1242 [1]	ND	0.0026	mg/Kg dry	1		SW-846 8082A	4/1/21	4/6/21 16:11	JMB
Aroclor-1248 [1]	ND	0.0026	mg/Kg dry	1		SW-846 8082A	4/1/21	4/6/21 16:11	JMB
Aroclor-1254 [2]	ND	0.0026	mg/Kg dry	1		SW-846 8082A	4/1/21	4/6/21 16:11	JMB
Aroclor-1260 [1]	ND	0.0026	mg/Kg dry	1		SW-846 8082A	4/1/21	4/6/21 16:11	JMB
Aroclor-1262 [1]	ND	0.0026	mg/Kg dry	1		SW-846 8082A	4/1/21	4/6/21 16:11	JMB
Aroclor-1268 [1]	ND	0.0026	mg/Kg dry	1		SW-846 8082A	4/1/21	4/6/21 16:11	JMB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	34.9	30-150		4/6/21 16:11
Decachlorobiphenyl [2]	66.2	30-150		4/6/21 16:11
Tetrachloro-m-xylene [1]	35.7	30-150		4/6/21 16:11
Tetrachloro-m-xylene [2]	64.5	30-150		4/6/21 16:11

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Project Location: Durham, CT | Sample Description: | Work Order: 21C1118

Date Received: 3/22/2021

Field Sample #: T5-1W (6-10) | Sampled: 3/19/2021 11:15

Sample ID: 21C1118-05

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	75.6		% Wt	1		SM 2540G	4/5/21	4/5/21 17:50	AVF
Total Organic Carbon	14000	100	mg/Kg	1		SW 846 9060A	4/2/21	4/2/21 10:09	AYK

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Project Location: Durham, CT | Sample Description: | Work Order: 21C1118

Date Received: 3/22/2021

Field Sample #: T5-2W (6-10) | Sampled: 3/19/2021 09:40

Sample ID: 21C1118-06

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.0024	mg/Kg dry	1		SW-846 8082A	4/1/21	4/6/21 16:29	JMB
Aroclor-1221 [1]	ND	0.0024	mg/Kg dry	1		SW-846 8082A	4/1/21	4/6/21 16:29	JMB
Aroclor-1232 [1]	ND	0.0024	mg/Kg dry	1		SW-846 8082A	4/1/21	4/6/21 16:29	JMB
Aroclor-1242 [1]	ND	0.0024	mg/Kg dry	1		SW-846 8082A	4/1/21	4/6/21 16:29	JMB
Aroclor-1248 [1]	ND	0.0024	mg/Kg dry	1		SW-846 8082A	4/1/21	4/6/21 16:29	JMB
Aroclor-1254 [2]	0.0069	0.0024	mg/Kg dry	1		SW-846 8082A	4/1/21	4/6/21 16:29	JMB
Aroclor-1260 [1]	ND	0.0024	mg/Kg dry	1		SW-846 8082A	4/1/21	4/6/21 16:29	JMB
Aroclor-1262 [1]	ND	0.0024	mg/Kg dry	1		SW-846 8082A	4/1/21	4/6/21 16:29	JMB
Aroclor-1268 [1]	ND	0.0024	mg/Kg dry	1		SW-846 8082A	4/1/21	4/6/21 16:29	JMB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	33.8	30-150		4/6/21 16:29
Decachlorobiphenyl [2]	66.8	30-150		4/6/21 16:29
Tetrachloro-m-xylene [1]	35.7	30-150		4/6/21 16:29
Tetrachloro-m-xylene [2]	66.1	30-150		4/6/21 16:29

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Project Location: Durham, CT | Sample Description: | Work Order: 21C1118

Date Received: 3/22/2021

Field Sample #: T5-2W (6-10) | Sampled: 3/19/2021 09:40

Sample ID: 21C1118-06

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	81.6		% Wt	1		SM 2540G	4/5/21	4/5/21 17:50	AVF
Total Organic Carbon	4000	100	mg/Kg	1		SW 846 9060A	4/2/21	4/2/21 9:18	AYK

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Project Location: Durham, CT | Sample Description: | Work Order: 21C1118

Date Received: 3/22/2021

Field Sample #: T6- 1C (6-12) | Sampled: 3/19/2021 09:25

Sample ID: 21C1118-07

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.0024	mg/Kg dry	1		SW-846 8082A	4/1/21	4/6/21 2:55	TG
Aroclor-1221 [1]	ND	0.0024	mg/Kg dry	1		SW-846 8082A	4/1/21	4/6/21 2:55	TG
Aroclor-1232 [1]	ND	0.0024	mg/Kg dry	1		SW-846 8082A	4/1/21	4/6/21 2:55	TG
Aroclor-1242 [1]	ND	0.0024	mg/Kg dry	1		SW-846 8082A	4/1/21	4/6/21 2:55	TG
Aroclor-1248 [1]	ND	0.0024	mg/Kg dry	1		SW-846 8082A	4/1/21	4/6/21 2:55	TG
Aroclor-1254 [1]	0.0038	0.0024	mg/Kg dry	1		SW-846 8082A	4/1/21	4/6/21 2:55	TG
Aroclor-1260 [1]	0.0034	0.0024	mg/Kg dry	1		SW-846 8082A	4/1/21	4/6/21 2:55	TG
Aroclor-1262 [1]	ND	0.0024	mg/Kg dry	1		SW-846 8082A	4/1/21	4/6/21 2:55	TG
Aroclor-1268 [1]	ND	0.0024	mg/Kg dry	1		SW-846 8082A	4/1/21	4/6/21 2:55	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	77.8	30-150		4/6/21 2:55
Decachlorobiphenyl [2]	65.7	30-150		4/6/21 2:55
Tetrachloro-m-xylene [1]	42.5	30-150		4/6/21 2:55
Tetrachloro-m-xylene [2]	40.0	30-150		4/6/21 2:55

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Project Location: Durham, CT | Sample Description: | Work Order: 21C1118

Date Received: 3/22/2021

Field Sample #: T6- 1C (6-12) | Sampled: 3/19/2021 09:25

Sample ID: 21C1118-07

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	81.2		% Wt	1		SM 2540G	4/5/21	4/5/21 17:50	AVF
Total Organic Carbon	5700	100	mg/Kg	1		SW 846 9060A	4/2/21	4/2/21 8:55	AYK

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Sample Extraction Data

Prep Method: % Solids **Analytical Method: SM 2540G**

Lab Number [Field ID]	Batch	Date
21C1118-01 [T4-1C (6-12)]	B279433	04/05/21
21C1118-03 [T4-2E (6-12)]	B279433	04/05/21
21C1118-04 [T5-1E (6-9)]	B279433	04/05/21
21C1118-05 [T5-1W (6-10)]	B279433	04/05/21
21C1118-06 [T5-2W (6-10)]	B279433	04/05/21
21C1118-07 [T6- 1C (6-12)]	B279433	04/05/21

SW 846 9060A

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
21C1118-01 [T4-1C (6-12)]	B279222	1.00	1.00	04/02/21
21C1118-03 [T4-2E (6-12)]	B279222	1.00	1.00	04/02/21
21C1118-04 [T5-1E (6-9)]	B279222	1.00	1.00	04/02/21
21C1118-05 [T5-1W (6-10)]	B279222	1.00	1.00	04/02/21
21C1118-06 [T5-2W (6-10)]	B279222	1.00	1.00	04/02/21
21C1118-07 [T6- 1C (6-12)]	B279222	1.00	1.00	04/02/21

Prep Method: SW-846 3540C **Analytical Method: SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
21C1118-04 [T5-1E (6-9)]	B279234	10.1	1.00	04/01/21

Prep Method: SW-846 3540C **Analytical Method: SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
21C1118-01 [T4-1C (6-12)]	B279237	10.4	1.00	04/01/21
21C1118-03 [T4-2E (6-12)]	B279237	10.0	1.00	04/01/21
21C1118-05 [T5-1W (6-10)]	B279237	10.2	1.00	04/01/21
21C1118-06 [T5-2W (6-10)]	B279237	10.3	1.00	04/01/21
21C1118-07 [T6- 1C (6-12)]	B279237	10.2	1.00	04/01/21

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QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B279234 - SW-846 3540C										
Blank (B279234-BLK1)				Prepared: 04/01/21 Analyzed: 04/03/21						
Aroclor-1016	ND	0.0020	mg/Kg wet							
Aroclor-1016 [2C]	ND	0.0020	mg/Kg wet							
Aroclor-1221	ND	0.0020	mg/Kg wet							
Aroclor-1221 [2C]	ND	0.0020	mg/Kg wet							
Aroclor-1232	ND	0.0020	mg/Kg wet							
Aroclor-1232 [2C]	ND	0.0020	mg/Kg wet							
Aroclor-1242	ND	0.0020	mg/Kg wet							
Aroclor-1242 [2C]	ND	0.0020	mg/Kg wet							
Aroclor-1248	ND	0.0020	mg/Kg wet							
Aroclor-1248 [2C]	ND	0.0020	mg/Kg wet							
Aroclor-1254	ND	0.0020	mg/Kg wet							
Aroclor-1254 [2C]	ND	0.0020	mg/Kg wet							
Aroclor-1260	ND	0.0020	mg/Kg wet							
Aroclor-1260 [2C]	ND	0.0020	mg/Kg wet							
Aroclor-1262	ND	0.0020	mg/Kg wet							
Aroclor-1262 [2C]	ND	0.0020	mg/Kg wet							
Aroclor-1268	ND	0.0020	mg/Kg wet							
Aroclor-1268 [2C]	ND	0.0020	mg/Kg wet							
Surrogate: Decachlorobiphenyl	*0.0708*		mg/Kg wet	0.200		35.4	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.142*		mg/Kg wet	0.200		70.8	30-150			
Surrogate: Tetrachloro-m-xylene	*0.0767*		mg/Kg wet	0.200		38.3	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.142*		mg/Kg wet	0.200		71.2	30-150			
LCS (B279234-BS1)				Prepared: 04/01/21 Analyzed: 04/03/21						
Aroclor-1016	0.16	0.020	mg/Kg wet	0.200		79.3	40-140			
Aroclor-1016 [2C]	0.16	0.020	mg/Kg wet	0.200		78.8	40-140			
Aroclor-1260	0.15	0.020	mg/Kg wet	0.200		72.5	40-140			
Aroclor-1260 [2C]	0.15	0.020	mg/Kg wet	0.200		73.5	40-140			
Surrogate: Decachlorobiphenyl	*0.166*		mg/Kg wet	0.200		83.1	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.178*		mg/Kg wet	0.200		89.1	30-150			
Surrogate: Tetrachloro-m-xylene	*0.158*		mg/Kg wet	0.200		78.8	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.165*		mg/Kg wet	0.200		82.4	30-150			
LCS Dup (B279234-BSD1)				Prepared: 04/01/21 Analyzed: 04/03/21						
Aroclor-1016	0.14	0.020	mg/Kg wet	0.200		70.5	40-140	11.8	30	
Aroclor-1016 [2C]	0.14	0.020	mg/Kg wet	0.200		67.9	40-140	14.8	30	
Aroclor-1260	0.14	0.020	mg/Kg wet	0.200		68.0	40-140	6.44	30	
Aroclor-1260 [2C]	0.14	0.020	mg/Kg wet	0.200		68.4	40-140	7.28	30	
Surrogate: Decachlorobiphenyl	*0.156*		mg/Kg wet	0.200		77.8	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.165*		mg/Kg wet	0.200		82.7	30-150			
Surrogate: Tetrachloro-m-xylene	*0.127*		mg/Kg wet	0.200		63.5	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.133*		mg/Kg wet	0.200		66.4	30-150			

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QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B279237 - SW-846 3540C										
Blank (B279237-BLK1)				Prepared: 04/01/21 Analyzed: 04/06/21						
Aroclor-1016	ND	0.0020	mg/Kg wet							
Aroclor-1016 [2C]	ND	0.0020	mg/Kg wet							
Aroclor-1221	ND	0.0020	mg/Kg wet							
Aroclor-1221 [2C]	ND	0.0020	mg/Kg wet							
Aroclor-1232	ND	0.0020	mg/Kg wet							
Aroclor-1232 [2C]	ND	0.0020	mg/Kg wet							
Aroclor-1242	ND	0.0020	mg/Kg wet							
Aroclor-1242 [2C]	ND	0.0020	mg/Kg wet							
Aroclor-1248	ND	0.0020	mg/Kg wet							
Aroclor-1248 [2C]	ND	0.0020	mg/Kg wet							
Aroclor-1254	ND	0.0020	mg/Kg wet							
Aroclor-1254 [2C]	ND	0.0020	mg/Kg wet							
Aroclor-1260	ND	0.0020	mg/Kg wet							
Aroclor-1260 [2C]	ND	0.0020	mg/Kg wet							
Aroclor-1262	ND	0.0020	mg/Kg wet							
Aroclor-1262 [2C]	ND	0.0020	mg/Kg wet							
Aroclor-1268	ND	0.0020	mg/Kg wet							
Aroclor-1268 [2C]	ND	0.0020	mg/Kg wet							
Surrogate: Decachlorobiphenyl	*0.146*		mg/Kg wet	0.200		72.9	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.119*		mg/Kg wet	0.200		59.5	30-150			
Surrogate: Tetrachloro-m-xylene	*0.123*		mg/Kg wet	0.200		61.7	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.115*		mg/Kg wet	0.200		57.3	30-150			
LCS (B279237-BS1)				Prepared: 04/01/21 Analyzed: 04/06/21						
Aroclor-1016	0.16	0.020	mg/Kg wet	0.200		78.9	40-140			
Aroclor-1016 [2C]	0.15	0.020	mg/Kg wet	0.200		73.2	40-140			
Aroclor-1260	0.14	0.020	mg/Kg wet	0.200		71.3	40-140			
Aroclor-1260 [2C]	0.13	0.020	mg/Kg wet	0.200		64.9	40-140			
Surrogate: Decachlorobiphenyl	*0.163*		mg/Kg wet	0.200		81.4	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.139*		mg/Kg wet	0.200		69.6	30-150			
Surrogate: Tetrachloro-m-xylene	*0.156*		mg/Kg wet	0.200		77.8	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.147*		mg/Kg wet	0.200		73.5	30-150			
LCS Dup (B279237-BSD1)				Prepared: 04/01/21 Analyzed: 04/06/21						
Aroclor-1016	0.17	0.020	mg/Kg wet	0.200		84.8	40-140	7.29	30	
Aroclor-1016 [2C]	0.16	0.020	mg/Kg wet	0.200		79.9	40-140	8.76	30	
Aroclor-1260	0.15	0.020	mg/Kg wet	0.200		75.4	40-140	5.65	30	
Aroclor-1260 [2C]	0.14	0.020	mg/Kg wet	0.200		68.9	40-140	5.95	30	
Surrogate: Decachlorobiphenyl	*0.169*		mg/Kg wet	0.200		84.3	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.143*		mg/Kg wet	0.200		71.7	30-150			
Surrogate: Tetrachloro-m-xylene	*0.170*		mg/Kg wet	0.200		85.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.160*		mg/Kg wet	0.200		80.1	30-150			

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QUALITY CONTROL

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B279222 - SW 846 9060A										
Blank (B279222-BLK1)				Prepared & Analyzed: 04/02/21						
Total Organic Carbon	ND	100	mg/Kg							
LCS (B279222-BS1)				Prepared & Analyzed: 04/02/21						
Total Organic Carbon	641	100	mg/Kg	750		85.5	65.8-127			
LCS Dup (B279222-BSD1)				Prepared & Analyzed: 04/02/21						
Total Organic Carbon	631	100	mg/Kg	750		84.2	65.8-127	1.54	11.4	

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

T4-1C (6-12)

Lab Sample ID: 21C1118-01 Date(s) Analyzed: 04/06/2021 04/06/2021

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	-0.030	0.030	0.11	
	2	0.000	-0.030	0.030	0.13	16.7

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

T4-2E (6-12)

Lab Sample ID: 21C1118-03 Date(s) Analyzed: 04/06/2021 04/06/2021

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	-0.030	0.030	0.042	
	2	0.000	-0.030	0.030	0.046	9.1
Aroclor-1260	1	0.000	-0.030	0.030	0.0076	
	2	0.000	-0.030	0.030	0.0086	12.3

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

T5-1E (6-9)

Lab Sample ID: 21C1118-04 Date(s) Analyzed: 04/06/2021 04/06/2021

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	-0.030	0.030	0.0054	
	2	0.000	-0.030	0.030	0.0073	29.9

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

T5-2W (6-10)

Lab Sample ID: 21C1118-06 Date(s) Analyzed: 04/06/2021 04/06/2021

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	-0.030	0.030	0.0049	
	2	0.000	-0.030	0.030	0.0069	33.9

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

T6- 1C (6-12)

Lab Sample ID: 21C1118-07 Date(s) Analyzed: 04/06/2021 04/06/2021

Instrument ID (1): ECD 4 Instrument ID (2): ECD 4

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	-0.030	0.030	0.0038	
	2	0.000	-0.030	0.030	0.0032	17.1
Aroclor-1260	1	0.000	-0.030	0.030	0.0034	
	2	0.000	-0.030	0.030	0.0029	18.8

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B279234-BS1 Date(s) Analyzed: 04/03/2021 04/03/2021

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.16	
	2	0.000	-0.030	0.030	0.16	0.0
Aroclor-1260	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.15	0.0

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B279234-BSD1 Date(s) Analyzed: 04/03/2021 04/03/2021

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.14	
	2	0.000	-0.030	0.030	0.14	0.0
Aroclor-1260	1	0.000	-0.030	0.030	0.14	
	2	0.000	-0.030	0.030	0.14	0.0

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B279237-BS1 Date(s) Analyzed: 04/06/2021 04/06/2021

Instrument ID (1): ECD 4 Instrument ID (2): ECD 4

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.16	
	2	0.000	-0.030	0.030	0.15	6.5
Aroclor-1260	1	0.000	-0.030	0.030	0.14	
	2	0.000	-0.030	0.030	0.13	7.4

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B279237-BSD1 Date(s) Analyzed: 04/06/2021 04/06/2021

Instrument ID (1): ECD 4 Instrument ID (2): ECD 4

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.17	
	2	0.000	-0.030	0.030	0.16	6.1
Aroclor-1260	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.14	6.9

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level

Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.

No results have been blank subtracted unless specified in the case narrative section.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW 846 9060A in Soil	
Total Organic Carbon	NY,CT,ME,VA,NH
SW-846 8082A in Soil	
Aroclor-1016	CT,NH,NY,ME,NC,VA,PA
Aroclor-1016 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1262	NY,NC,VA,PA
Aroclor-1262 [2C]	NY,NC,VA,PA
Aroclor-1268	NY,NC,VA,PA
Aroclor-1268 [2C]	NY,NC,VA,PA

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2017	100033	03/1/2022
MA	Massachusetts DEP	M-MA100	06/30/2021
CT	Connecticut Department of Publilc Health	PH-0165	12/31/2022
NY	New York State Department of Health	10899 NELAP	04/1/2022
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2022
RI	Rhode Island Department of Health	LAO00112	12/30/2021
NC	North Carolina Div. of Water Quality	652	12/31/2021
NJ	New Jersey DEP	MA007 NELAP	06/30/2021
FL	Florida Department of Health	E871027 NELAP	06/30/2021
VT	Vermont Department of Health Lead Laboratory	LL720741	07/30/2021
ME	State of Maine	MA00100	06/9/2021
VA	Commonwealth of Virginia	460217	12/14/2021
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2021
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2021
NC-DW	North Carolina Department of Health	25703	07/31/2021
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2021
MI	Dept. of Env, Great Lakes, and Energy	9100	09/6/2021

21C1118

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Fax: 413-525-6405
Email: info@contestlabs.com

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CHAIN OF CUSTODY RECORD

39 Spruce Street
East Longmeadow, MA 01028

Doc # 381 Rev 2_06262019

Page 1 of 3

Company / Name: Weston & Sampson
Address: Boxley Hill CT
Phone: 800-SAMPSON
Project Name: Eversource - Durham ER
Project Location: Durham, CT
Project Number:
Project Manager: Jeff Willson
Con-Test Quote Name/Number:
Invoice Recipient: Jeff Willson
Sampled By: Chris Berthiaume

Requested Turnaround Time: 7-Day [X] 10-Day [ ] PFAS 10-Day (std) [ ] Due Date:
Rush Approval Required: 1-Day [ ] 3-Day [ ] 2-Day [ ] 4-Day [ ]
Dissolved Metals Samples: [O] Field Filtered [O] Lab to Filter
Organic/Inorganic Samples: [O] Field Filtered [O] Lab to Filter
Data Delivery: Format: PDF [ ] EXCEL [X]
Other: EnviroData
CLP Like Data Pkg Required: [ ]
Email To: WillsonJC@wsiinc.com
Fax To #:

ANALYSIS REQUESTED

Con-Test Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs w/ SOX LMS/MSD	HOLD	TOC LMS/MSD
	Preserve T4E (6-12)	3/19/21	1510	G	S	U		1				X		X
	T4-1E (0-6)		1440					2				X		X
	T4-1C (0-6)		1450					1				X		X
1	T4-1C (6-12)		1455					1					X	
	T4-1W (0-6)		1500					1				X		X
-2	T4-1W (6-12)		1505					1					X	
	T4-2E (0-6)		1330									X		X
3	T4-2E (6-12)		1335										X	
	T4-2C (0-6)		1320									X		X
	T4-2W (0-6)		1310									X		X

Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time: 3/22/21 1:05
Relinquished by: (signature) Date/Time: 3/22/21 1635
Received by: (signature) Date/Time: 3.4 3/23/21 0835
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:

Client Comments: Eversource project - ES rates no sales tax

Detection Limit Requirements: MA
RCP: 0.004 mg/kg
Other:

Special Requirements: MA MCP Required; MCP Certification Form Required; CT RCP Required; RCP Certification Form Required; [X]; GW-1 Standards (Y/N) Required; PWSID #:

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity: Government [ ] Federal [ ] City [ ] Municipality [ ] 21 J [ ] Brownfield [ ] MWRA [ ] School [ ] MBTA [ ] WRTA [ ]

Other: [ ] Chromatogram [ ] AIHA-LAP,LLC

Comments: Samples that are running on 21C1116 and client notified -02 arrived broken - 3/23/21 mmk

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[2] Preservation Code

Courier Use Only

Total Number Of:
VIALS
GLASS 7
PLASTIC
BACTERIA
ENCORE

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N
*Contest is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

PCB ONLY
[X] Soxhlet
[ ] Non Soxhlet

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2101118

con-test ANALYTICAL LABORATORY

Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com

http://www.contestlabs.com

CHAIN OF CUSTODY RECORD

39 Spruce Street
East Longmeadow, MA 01028

Doc # 381 Rev 2_06262019

Page 2 of 3

Company Name:	Weston & Sampson
Address:	Rocky Hill, CT
Phone:	800-SAMPSON
Project Name:	Eversource - Durham ER
Project Location:	Durham, CT
Project Number:	
Project Manager:	Jeff Willson
Con-Test Quote Name/Number:	
Invoice Recipient:	Jeff Willson
Sampled By:	Chris Bechtiaume

Requested Turnaround Time
7-Day [X] 10-Day [ ]
PFAS 10-Day (std) [ ] Due Date:

Rush approval Required
1-Day [ ] 3-Day [ ]
2-Day [ ] 4-Day [ ]

Data Delivery
Format: PDF [X] EXCEL [X]
Other: EnviroData
CLP Like Data Pkg Required: [ ]
Email To: WillsonJC@wsp.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Dissolved Phase Samples
○ Field Filtered
○ Lab to Filter

ANALYSIS REQUESTED

Con-Test Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	Soil PCBs 3 LMS/MSD	HOLD	TOC	Soil LMS/MSD				
	T4-2W (6-12)	3/19/21	1315	G	S	U		3				X X		X	X				
	T5-1E (0-6)		1050					1				X		X					
4	T5-1E (6-9)		1055					2					X						
	T5-1C (0-6)		1100					1 MS/MSD				X		X					
	T5-1W (0-6)		1110					5				X X		X	X				
5	T5-1W (6-10)		1115 MS/MSD					2					X						
	T5-2E (0-6)		1000					1				X		X					
	T5-2C (0-6)		0950					1				X		X					
	T5-2W (0-6)		0955					1				X		X					
6	T5-2W (6-10)		0940					1					X						

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS 18
GLASS
PLASTIC
BACTERIA
ENCORE

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N
*Contest is not responsible for missing samples from prepacked coolers

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time: 3/22/21 1:05
Received by: (signature)	Date/Time: 3/22/21 6:35
Relinquished by: (signature) 3.4	Date/Time: 3/22/21 1835
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments: Eversource project - ES rates
no sales tax

Detection Limit Requirements
MA
GW 0.004 mg/kg
Other:

Special Requirements
MA MCP Required [ ]
CT RCP Required [ ]
GW Standards Required [ ]
PWSID # [ ]

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government [ ] Municipality [ ] MWRA [ ] WRTA [ ]
Federal [ ] 21 J [ ] School [ ]
City [ ] Brownfield [ ] MBTA [ ]

Other
Chromatogram [ ]
AIHA-LAP,LLC

PCB ONLY
Soxhlet [X]
Non Soxhlet [ ]

Comments:

Disclaimer: Con-Test Labs is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Con Test values your partnership on each project and will try to assist with missing information, but will not b held accountable.

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CHAIN OF CUSTODY RECORD

Doc # 381 Rev 2_06262019

39 Spruce Street
East Longmeadow, MA 01028

Page 3 of 3

Company Name:	Weston & Sampson
Address:	Rocky Hill, CT
Phone:	800-SAMPSON
Project Name:	Eversource-Durham ER
Project Location:	Durham, CT
Project Number:	
Project Manager:	Jeff Wilson
Con-Test Quote Name/Number:	
Invoice Recipient:	Jeff Wilson
Sampled By:	Chris Berthiaume

Requested Turnaround Time
7-Day [X] 10-Day [ ]
PFAS 10-Day (std) [ ] Due Date:

Rush Approval Required
1-Day [ ] 3-Day [ ]
2-Day [ ] 4-Day [ ]

Drinking Water Samples
○ Field Filtered
○ Lab to Filter

Other Non-Drinking Water Samples
○ Field Filtered
○ Lab to Filter

Data Delivery
Format: PDF [X] EXCEL [X]
Other: EnviroData
CLP Like Data Pkg Required: [ ]
Email To: WilsonJ@wsginc.com
Fax To #:

ANALYSIS REQUESTED

Con-Test Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	I: PCBs w/ Sox	I: L MS/MSD	I	I: HOLD	I	I: TOC L MS/MSD				
	T6-1E (0-6)	3/19/21	0930	G	S	M		1				X					X				
	T6-1C (0-6)		0920					1				X					X				
7	T6-1C (6-12)		0925					1							X						
	T6-1W (0-6)		0910					1				X					X				
	T7-1E (0-6)	3/17/21	1845					1				X					X				
8	T7-1E (6-12)		1850					1							X						
	T7-1C (0-6)		1830					1				X					X				
9	T7-1C (6-12)		1835					1							X						
	T7-1W (0-6)		1820					1				X					X				
10	T7-1W (6-12)		1825					1							X						

[2] Preservation Code

Course Use Only
Total Number Of:
VIALS
GLASS 10
PLASTIC
BACTERIA
ENCORE

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N
*Contest is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time: 3/22/21 1:15
Relinquished by: (signature)	Date/Time: 3/22/21 1635
Received by: (signature)	Date/Time: 3/22/21 1835
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments: Eversource project - ES rates
no sales tax

Detection Limit Requirements
MA
CT 0.004 mg/kg

Special Requirements
MA MCP Required [ ]
MCP Certificate Form Required [ ]
CT RCP Required [X]
RCP Certificate Form Required [ ]
Other State DW Required [ ]
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government [ ] Municipality [ ] MWRA [ ] WRTA [ ]
Federal [ ] 21 J [ ] School [ ]
City [ ] Brownfield [ ] MBTA [ ]

Other
[ ] Chromatogram
[ ] AIHA-LAP,LLC

[1] Matrix Codes:
GW = Ground Water
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SOL = Solid
O = Other (please define)

[2] Preservation Codes:
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X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

PCB ONLY
[X] Soxhlet
[ ] Non Soxhlet

Comments:

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I Have Not Confirmed Sample Container Numbers With Lab Staff Before Relinquishing Over Samples_____

con-test® ANALYTICAL LABORATORY

Doc# 277 Rev 5 2017

Login Sample Receipt Checklist - (Rejection Criteria Listing - Using Acceptance Policy) Any False Statement will be brought to the attention of the Client - State True or False

Client WTS

Received By _____ Date 3/22/24 Time 1835

How were the samples received? In Cooler T No Cooler _____ On Ice T No Ice _____
Direct from Sampling _____ Ambient _____ Melted Ice _____

Were samples within Temperature? 2-6°C T By Gun # 2 Actual Temp - 3.4
By Blank # _____ Actual Temp - _____

Was Custody Seal Intact? n/a Were Samples Tampered with? n/a
Was COC Relinquished ? T Does Chain Agree With Samples? T
Are there broken/leaking/loose caps on any samples? T
Is COC in ink/ Legible? T Were samples received within holding time? T
Did COC include all Client T Analysis T Sampler Name T
pertinent Information? Project T ID's T Collection Dates/Times T
Are Sample labels filled out and legible? T
Are there Lab to Filters? F Who was notified? _____
Are there Rushes? F Who was notified? _____
Are there Short Holds? F Who was notified? _____
Is there enough Volume? T
Is there Headspace where applicable? n/a MS/MSD? F
Proper Media/Containers Used? T Is splitting samples required? F
Were trip blanks received? F On COC? F
Do all samples have the proper pH? Acid n/a Base n/a

Vials	#	Containers:	#		#		#
Unp-		1 Liter Amb.		1 Liter Plastic		16 oz Amb.	
HCL-		500 mL Amb.		500 mL Plastic		8oz Amb/Clear	8
Meoh-		250 mL Amb.		250 mL Plastic		4oz Amb/Clear	4
Bisulfate-		Flashpoint		Col./Bacteria		2oz Amb/Clear	
DI-		Other Glass		Other Plastic		Encore	
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:	
Sulfuric-		Perchlorate		Ziplock			

Unused Media

Vials	#	Containers:	#		#		#
Unp-		1 Liter Amb.		1 Liter Plastic		16 oz Amb.	
HCL-		500 mL Amb.		500 mL Plastic		8oz Amb/Clear	
Meoh-		250 mL Amb.		250 mL Plastic		4oz Amb/Clear	
Bisulfate-		Col./Bacteria		Flashpoint		2oz Amb/Clear	
DI-		Other Plastic		Other Glass		Encore	
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:	
Sulfuric-		Perchlorate		Ziplock			

Comments:

Sample T4-1W (6-12) received broken.

Meghan Kelley

From: Berthiaume, Christopher <BerthiaumeC@wseinc.com> on behalf of Berthiaume, Christopher
Sent: Wednesday, March 31, 2021 3:08 PM
To: Meghan Kelley; Jim Georgantas; michelle.koch@contestlabs.com
Cc: Willson, Jeffrey
Subject: RE: Durham - Rush Request?

Thanks for the update Meghan.

As a result, Jeff and I would like to request that all held samples collected on 3/19/21 for "Eversource – Durham, CT" be extracted for total PCBs and analyzed for TOC such that the samples will be reported within hold time. The samples in the request are as follows:

- Samples 21C1113-1 through 21C1113-3, inclusive.
- All samples on 21C1115 (note: no TOCs – PCBs only).
- All samples on 21C1118.

Please let me know if there may be any issues with this request.

Thank you,
Christopher Berthiaume, EIT
ENGINEER II
direct: 860-956-6914
mobile: 860-966-0173

Weston & Sampson *(We've Moved!)*
712 Brook Street, Suite 103 | Rocky Hill, CT 06067
tel: 860-513-1473
westonandsampson.com

Facebook | Twitter | LinkedIn

From: Meghan Kelley <mkelley@contestlabs.com>
Sent: Wednesday, March 31, 2021 3:03 PM
To: Berthiaume, Christopher <BerthiaumeC@wseinc.com>; Jim Georgantas <jgeorgantas@contestlabs.com>; michelle.koch@contestlabs.com
Cc: Willson, Jeffrey <willsonj@wseinc.com>
Subject: RE: Durham - Rush Request?

Hi Chris,

I spoke to the lab we will do our best to get data for Friday, latest Monday.

-Meghan

From: Berthiaume, Christopher [mailto:BerthiaumeC@wseinc.com]
Sent: Wednesday, March 31, 2021 1:25 PM
To: Jim Georgantas <jgeorgantas@contestlabs.com>; michelle.koch@contestlabs.com

Cc: Willson, Jeffrey <willsonj@wseinc.com>
Subject: Durham - Rush Request?

Hi Jim and Michelle,

Would it be possible to turn a sample currently being analyzed into a rush sample? In particular, I am thinking about the two samples being analyzed under WO# 21C1426. Would it be possible to expedite the remainder of the analysis so that results would be available on Friday? The two samples tie into held samples whose final day within the hold time is Friday.

Thank you,
Christopher Berthiaume, EIT
ENGINEER II
direct: 860-956-6914
mobile: 860-966-0173

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712 Brook Street, Suite 103 | Rocky Hill, CT 06067
tel: 860-513-1473
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REASONABLE CONFIDENCE PROTOCOL
LABORATORY ANALYSIS QA/QC CERTIFICATION FORM

Laboratory Name: Con-Test, a Pace Analytical Laboratory

Client: Weston & Sampson

Project Location: Durham, CT

Project Number: 21C1118

Laboratory Sample ID(s):

21C1118-01 thru 21C1118-07

Sample Date(s):

03/19/2021

List RCP Methods Used:

SW-846 8082A

1	For each analytical method referenced in this laboratory report package, were all specified QA/QC performance criteria followed, including the requirement to explain any criteria falling outside of acceptable guidelines, as specified in the CTDEP method-specific Reasonable Confidence Protocol documents?	☑ Yes ☐ No
1A	Were the method specified preservation and holding time requirements met?	☑ Yes ☐ No
1B	VPH and EPH Methods only: Was the VPH and EPH method conducted without significant modifications (see Section 11.3 of respective RCP methods)?	☐ Yes ☐ No ☑ N/A
2	Were all samples received by the laboratory in a condition consistent with that described on the associated chain-of-custody document(s)?	☑ Yes ☐ No
3	Were samples received at an appropriate temperature (< 6 degrees C.)?	☑ Yes ☐ No ☐ N/A
4	Were all QA/QC performance criteria specified in the CTDEP Reasonable Confidence Protocol documents achieved?	☐ Yes ☑ No
5A	Were reporting limits specified or referenced on the chain-of-custody?	☑ Yes ☐ No
5B	Were these reporting limits met?	☐ Yes ☑ No
6	For each analytical method referenced in this laboratory report package, were results reported for all constituents identified in the method-specific analyte lists presented in the Reasonable Confidence Protocol documents?	☑ Yes ☐ No
7	Are project-specific matrix spikes and laboratory duplicates included in this data set?	☐ Yes ☑ No

Notes: For all questions to which the response was "No" (with the exception of question #7), additional information must be provided in an attached narrative. If the answer to question #1, #1A, or #1B is "No", the data package does not meet the requirements for "Reasonable Confidence."
This form may not be altered and all questions must be answered.

Lisa A. Worthington

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete.

Authorized Signature: Lisa Worthington **Position:** Technical Representative

Printed Name: Lisa A. Worthington **Date:** 04/07/21

Name of Laboratory: Con-Test, a Pace Analytical Laboratory

This certification form is to be used for RCP methods only.

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

April 5, 2021

Jeff Willson
Weston & Sampson
712 Brook Street, Suite 103
Rocky Hill, CT 06067

Project Location: Durham, CT
Client Job Number:
Project Number: [none]
Laboratory Work Order Number: 21C1426

Enclosed are results of analyses for samples received by the laboratory on March 29, 2021. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Michelle M. Koch
Project Manager

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B279111 12

B279118 12

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A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Weston & Sampson
712 Brook Street, Suite 103
Rocky Hill, CT 06067
ATTN: Jeff Willson

REPORT DATE: 4/5/2021

PURCHASE ORDER NUMBER:

PROJECT NUMBER: [none]

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 21C1426

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: Durham, CT

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
SED-1 (0-6)	21C1426-01	Soil		SM 2540G	
				SW 846 9060A	
				SW-846 8082A	
T4-1C (0-6)	21C1426-02	Soil		SM 2540G	
				SW 846 9060A	
				SW-846 8082A	

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

SW 846 9060A

Qualifications:

MS-11

Matrix spike recovery outside of control limits. Possibility of sample matrix effects that lead to a high bias for reported result or non-homogeneous sample aliquots cannot be eliminated.

Analyte & Samples(s) Qualified:

Total Organic Carbon
B279118-MS1, B279118-MSD1

R-05

Laboratory fortified blank duplicate RPD is outside of control limits. Reduced precision is anticipated for any reported value for this compound.

Analyte & Samples(s) Qualified:

Total Organic Carbon
B279118-BSD1

SW-846 8082A

Qualifications:

S-01

The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

Analyte & Samples(s) Qualified:

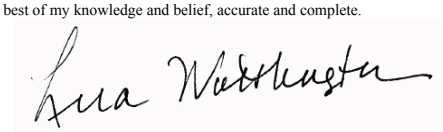
Decachlorobiphenyl
21C1426-02[T4-1C (0-6)]

Decachlorobiphenyl [2C]
21C1426-02[T4-1C (0-6)]

Tetrachloro-m-xylene
21C1426-02[T4-1C (0-6)]

Tetrachloro-m-xylene [2C]
21C1426-02[T4-1C (0-6)]

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Lisa A. Worthington
Technical Representative

con-test®
A Pace Analytical® Laboratory
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Durham, CT | Sample Description: | Work Order: 21C1426

Date Received: 3/29/2021

Field Sample #: SED-1 (0-6) | Sampled: 3/24/2021 10:00

Sample ID: 21C1426-01

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.0023	mg/Kg dry	1		SW-846 8082A	3/31/21	4/2/21 13:43	SFM
Aroclor-1221 [1]	ND	0.0023	mg/Kg dry	1		SW-846 8082A	3/31/21	4/2/21 13:43	SFM
Aroclor-1232 [1]	ND	0.0023	mg/Kg dry	1		SW-846 8082A	3/31/21	4/2/21 13:43	SFM
Aroclor-1242 [1]	ND	0.0023	mg/Kg dry	1		SW-846 8082A	3/31/21	4/2/21 13:43	SFM
Aroclor-1248 [1]	ND	0.0023	mg/Kg dry	1		SW-846 8082A	3/31/21	4/2/21 13:43	SFM
Aroclor-1254 [1]	ND	0.0023	mg/Kg dry	1		SW-846 8082A	3/31/21	4/2/21 13:43	SFM
Aroclor-1260 [1]	ND	0.0023	mg/Kg dry	1		SW-846 8082A	3/31/21	4/2/21 13:43	SFM
Aroclor-1262 [1]	ND	0.0023	mg/Kg dry	1		SW-846 8082A	3/31/21	4/2/21 13:43	SFM
Aroclor-1268 [1]	ND	0.0023	mg/Kg dry	1		SW-846 8082A	3/31/21	4/2/21 13:43	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	91.9	30-150		4/2/21 13:43
Decachlorobiphenyl [2]	99.6	30-150		4/2/21 13:43
Tetrachloro-m-xylene [1]	94.6	30-150		4/2/21 13:43
Tetrachloro-m-xylene [2]	94.5	30-150		4/2/21 13:43

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Project Location: Durham, CT | Sample Description: | Work Order: 21C1426

Date Received: 3/29/2021

Field Sample #: SED-1 (0-6) | Sampled: 3/24/2021 10:00

Sample ID: 21C1426-01

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	80.0		% Wt	1		SM 2540G	3/30/21	3/31/21 9:50	js
Total Organic Carbon	5600	100	mg/Kg	1		SW 846 9060A	3/31/21	3/31/21 12:48	DJM

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Project Location: Durham, CT | Sample Description: | Work Order: 21C1426

Date Received: 3/29/2021

Field Sample #: T4-1C (0-6) | Sampled: 3/24/2021 10:15

Sample ID: 21C1426-02

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.30	mg/Kg dry	100		SW-846 8082A	3/31/21	4/2/21 15:29	SFM
Aroclor-1221 [1]	ND	0.30	mg/Kg dry	100		SW-846 8082A	3/31/21	4/2/21 15:29	SFM
Aroclor-1232 [1]	ND	0.30	mg/Kg dry	100		SW-846 8082A	3/31/21	4/2/21 15:29	SFM
Aroclor-1242 [1]	ND	0.30	mg/Kg dry	100		SW-846 8082A	3/31/21	4/2/21 15:29	SFM
Aroclor-1248 [1]	ND	0.30	mg/Kg dry	100		SW-846 8082A	3/31/21	4/2/21 15:29	SFM
Aroclor-1254 [1]	1.2	0.30	mg/Kg dry	100		SW-846 8082A	3/31/21	4/2/21 15:29	SFM
Aroclor-1260 [1]	ND	0.30	mg/Kg dry	100		SW-846 8082A	3/31/21	4/2/21 15:29	SFM
Aroclor-1262 [1]	ND	0.30	mg/Kg dry	100		SW-846 8082A	3/31/21	4/2/21 15:29	SFM
Aroclor-1268 [1]	ND	0.30	mg/Kg dry	100		SW-846 8082A	3/31/21	4/2/21 15:29	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	4/2/21 15:29
Decachlorobiphenyl [2]	*	30-150	S-01	4/2/21 15:29
Tetrachloro-m-xylene [1]	*	30-150	S-01	4/2/21 15:29
Tetrachloro-m-xylene [2]	*	30-150	S-01	4/2/21 15:29

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Project Location: Durham, CT | Sample Description: | Work Order: 21C1426

Date Received: 3/29/2021

Field Sample #: T4-1C (0-6) | Sampled: 3/24/2021 10:15

Sample ID: 21C1426-02

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	65.6		% Wt	1		SM 2540G	3/30/21	3/31/21 9:50	js
Total Organic Carbon	32000	100	mg/Kg	1		SW 846 9060A	3/31/21	3/31/21 13:54	DJM

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Sample Extraction Data

Prep Method: % Solids **Analytical Method: SM 2540G**

Lab Number [Field ID]	Batch	Date
21C1426-01 [SED-1 (0-6)]	B279111	03/30/21
21C1426-02 [T4-1C (0-6)]	B279111	03/30/21

SW 846 9060A

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
21C1426-01 [SED-1 (0-6)]	B279118	1.00	1.00	03/31/21
21C1426-02 [T4-1C (0-6)]	B279118	1.00	1.00	03/31/21

Prep Method: SW-846 3540C **Analytical Method: SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
21C1426-01 [SED-1 (0-6)]	B279156	10.7	1.00	03/31/21
21C1426-02 [T4-1C (0-6)]	B279156	10.2	1.00	03/31/21

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QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B279156 - SW-846 3540C										
Blank (B279156-BLK1)				Prepared: 03/31/21 Analyzed: 04/02/21						
Aroclor-1016	ND	0.0020	mg/Kg wet							
Aroclor-1016 [2C]	ND	0.0020	mg/Kg wet							
Aroclor-1221	ND	0.0020	mg/Kg wet							
Aroclor-1221 [2C]	ND	0.0020	mg/Kg wet							
Aroclor-1232	ND	0.0020	mg/Kg wet							
Aroclor-1232 [2C]	ND	0.0020	mg/Kg wet							
Aroclor-1242	ND	0.0020	mg/Kg wet							
Aroclor-1242 [2C]	ND	0.0020	mg/Kg wet							
Aroclor-1248	ND	0.0020	mg/Kg wet							
Aroclor-1248 [2C]	ND	0.0020	mg/Kg wet							
Aroclor-1254	ND	0.0020	mg/Kg wet							
Aroclor-1254 [2C]	ND	0.0020	mg/Kg wet							
Aroclor-1260	ND	0.0020	mg/Kg wet							
Aroclor-1260 [2C]	ND	0.0020	mg/Kg wet							
Aroclor-1262	ND	0.0020	mg/Kg wet							
Aroclor-1262 [2C]	ND	0.0020	mg/Kg wet							
Aroclor-1268	ND	0.0020	mg/Kg wet							
Aroclor-1268 [2C]	ND	0.0020	mg/Kg wet							
Surrogate: Decachlorobiphenyl	*0.154*		mg/Kg wet	0.200		77.0	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.133*		mg/Kg wet	0.200		66.5	30-150			
Surrogate: Tetrachloro-m-xylene	*0.146*		mg/Kg wet	0.200		73.2	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.140*		mg/Kg wet	0.200		70.2	30-150			
LCS (B279156-BS1)				Prepared: 03/31/21 Analyzed: 04/02/21						
Aroclor-1016	0.14	0.020	mg/Kg wet	0.200		69.1	40-140			
Aroclor-1016 [2C]	0.14	0.020	mg/Kg wet	0.200		70.3	40-140			
Aroclor-1260	0.11	0.020	mg/Kg wet	0.200		57.3	40-140			
Aroclor-1260 [2C]	0.12	0.020	mg/Kg wet	0.200		58.7	40-140			
Surrogate: Decachlorobiphenyl	*0.128*		mg/Kg wet	0.200		64.0	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.126*		mg/Kg wet	0.200		63.1	30-150			
Surrogate: Tetrachloro-m-xylene	*0.146*		mg/Kg wet	0.200		72.9	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.151*		mg/Kg wet	0.200		75.6	30-150			
LCS Dup (B279156-BSD1)				Prepared: 03/31/21 Analyzed: 04/02/21						
Aroclor-1016	0.16	0.020	mg/Kg wet	0.200		79.7	40-140	14.2	30	
Aroclor-1016 [2C]	0.16	0.020	mg/Kg wet	0.200		80.1	40-140	13.0	30	
Aroclor-1260	0.14	0.020	mg/Kg wet	0.200		68.3	40-140	17.6	30	
Aroclor-1260 [2C]	0.14	0.020	mg/Kg wet	0.200		70.5	40-140	18.3	30	
Surrogate: Decachlorobiphenyl	*0.156*		mg/Kg wet	0.200		78.2	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.152*		mg/Kg wet	0.200		76.2	30-150			
Surrogate: Tetrachloro-m-xylene	*0.155*		mg/Kg wet	0.200		77.6	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.158*		mg/Kg wet	0.200		79.2	30-150			

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QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B279156 - SW-846 3540C										
Matrix Spike (B279156-MS2)	**Source: 21C1426-01**			Prepared: 03/31/21 Analyzed: 04/02/21						
Aroclor-1016	0.24	0.097	mg/Kg dry	0.243	ND	97.3	40-140			
Aroclor-1016 [2C]	0.23	0.097	mg/Kg dry	0.243	ND	94.5	40-140			
Aroclor-1260	0.21	0.097	mg/Kg dry	0.243	ND	85.4	40-140			
Aroclor-1260 [2C]	0.20	0.097	mg/Kg dry	0.243	ND	82.6	40-140			
Surrogate: Decachlorobiphenyl	*0.220*		mg/Kg dry	0.243		90.5	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.203*		mg/Kg dry	0.243		83.7	30-150			
Surrogate: Tetrachloro-m-xylene	*0.219*		mg/Kg dry	0.243		90.3	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.215*		mg/Kg dry	0.243		88.4	30-150			



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QUALITY CONTROL

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD		RPD Limit	Notes
Batch B279111 - % Solids												
Duplicate (B279111-DUP1)	**Source: 21C1426-02**			Prepared: 03/30/21 Analyzed: 03/31/21								
% Solids	63.9		% Wt		65.6				2.66		10	
Batch B279118 - SW 846 9060A												
Blank (B279118-BLK1)				Prepared & Analyzed: 03/31/21								
Total Organic Carbon	ND	100	mg/Kg									
LCS (B279118-BS1)				Prepared & Analyzed: 03/31/21								
Total Organic Carbon	542	100	mg/Kg	750		72.2		65.8-127				
LCS Dup (B279118-BSD1)				Prepared & Analyzed: 03/31/21								
Total Organic Carbon	638	100	mg/Kg	750		85.1		65.8-127	**16.3**	*	11.4	R-05
Matrix Spike (B279118-MS1)	**Source: 21C1426-01**			Prepared & Analyzed: 03/31/21								
Total Organic Carbon	6990	100	mg/Kg	750	5640	**179**	*	85-115				MS-11
Matrix Spike Dup (B279118-MSD1)	**Source: 21C1426-01**			Prepared & Analyzed: 03/31/21								
Total Organic Carbon	7290	100	mg/Kg	750	5640	**219**	*	85-115	4.25		20	MS-11

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

T4-1C (0-6)

Lab Sample ID: 21C1426-02 Date(s) Analyzed: 04/02/2021 04/02/2021

Instrument ID (1): ECD 4 Instrument ID (2): ECD 4

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	-0.030	0.030	1.2	
	2	0.000	-0.030	0.030	1.2	0.0

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B279156-BS1 Date(s) Analyzed: 04/02/2021 04/02/2021

Instrument ID (1): ECD 4 Instrument ID (2): ECD 4

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.14	
	2	0.000	-0.030	0.030	0.14	0.0
Aroclor-1260	1	0.000	-0.030	0.030	0.11	
	2	0.000	-0.030	0.030	0.12	0.0

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B279156-BSD1 Date(s) Analyzed: 04/02/2021 04/02/2021

Instrument ID (1): ECD 4 Instrument ID (2): ECD 4

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.16	
	2	0.000	-0.030	0.030	0.16	0.0
Aroclor-1260	1	0.000	-0.030	0.030	0.14	
	2	0.000	-0.030	0.030	0.14	0.0

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike

Lab Sample ID: B279156-MS2 Date(s) Analyzed: 04/02/2021 04/02/2021

Instrument ID (1): ECD 4 Instrument ID (2): ECD 4

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.24	
	2	0.000	-0.030	0.030	0.23	4.3
Aroclor-1260	1	0.000	-0.030	0.030	0.21	
	2	0.000	-0.030	0.030	0.20	4.9

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
MS-11	Matrix spike recovery outside of control limits. Possibility of sample matrix effects that lead to a high bias for reported result or non-homogeneous sample aliquots cannot be eliminated.
R-05	Laboratory fortified blank duplicate RPD is outside of control limits. Reduced precision is anticipated for any reported value for this compound.
S-01	The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW 846 9060A in Soil	
Total Organic Carbon	NY,CT,ME,VA,NH
SW-846 8082A in Soil	
Aroclor-1016	CT,NH,NY,ME,NC,VA,PA
Aroclor-1016 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1262	NY,NC,VA,PA
Aroclor-1262 [2C]	NY,NC,VA,PA
Aroclor-1268	NY,NC,VA,PA
Aroclor-1268 [2C]	NY,NC,VA,PA

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2017	100033	03/1/2022
MA	Massachusetts DEP	M-MA100	06/30/2021
CT	Connecticut Department of Publilc Health	PH-0165	12/31/2022
NY	New York State Department of Health	10899 NELAP	04/1/2021
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2022
RI	Rhode Island Department of Health	LAO00112	12/30/2021
NC	North Carolina Div. of Water Quality	652	12/31/2021
NJ	New Jersey DEP	MA007 NELAP	06/30/2021
FL	Florida Department of Health	E871027 NELAP	06/30/2021
VT	Vermont Department of Health Lead Laboratory	LL720741	07/30/2021
ME	State of Maine	MA00100	06/9/2021
VA	Commonwealth of Virginia	460217	12/14/2021
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2021
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2021
NC-DW	North Carolina Department of Health	25703	07/31/2021
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2021
MI	Dept. of Env, Great Lakes, and Energy	9100	09/6/2021

21C1426

con-test ANALYTICAL LABORATORY

Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com

http://www.contestlabs.com

CHAIN OF CUSTODY RECORD

39 Spruce Street
East Longmeadow, MA 01028

Doc # 381 Rev 2_06262019

Page 1 of 1

Company Name: Weston & Sampson
Address: Rocky Hill, CT
Phone: 800-SAMPSON
Project Name: Eversource - Durham ER
Project Location: Durham, CT
Project Number:
Project Manager: Jeff Willson
Con-Test Quote Name/Number:
Invoice Recipient: Jeff Willson
Sampled By: Chris Berthiaume

Requested Turnaround Time: 7-Day X; 10-Day; PFAS 10-Day (std); Due Date:
Data Approval Required: 1-Day; 2-Day; 3-Day; 4-Day
Data Delivery: Format: PDF X EXCEL X; Other: EnviroData; CLP Like Data Pkg Required:; Email To: WillsonJ@wseinc.com, BerthiaumeC@wseinc.com; Fax To #:
Dissolved Metals Samples: Field Filtered; Lab to Filter
Orthophosphate Samples: Field Filtered; Lab to Filter

ANALYSIS REQUESTED

Con-Test Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1] Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs w/ SOX	TOC MS/MSD	TOC	TOC MS/MSD	HOLD
1	SED-1 (0-6)	3/24/21	1000	G	S	U		6				X	X	X	X	
2	T4-1C (0-6)	"	1015	G	S	U		2				X		X		
	T4-1W (6-12)	↓	1030	G	S	U		2								X

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS
GLASS
PLASTIC
BACTERIA
ENCORE

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N
*Contest is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time: 3/29/2021 1045
Relinquished by: (signature)	Date/Time: 3/29/2021 1330
Received by: (signature)	Date/Time: 3/30/21 1230
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments: Eversource project - use ES rates
no sales tax

Detection Limit Requirements: MA; RCP; Other: 0.004 mg/kg

Special Requirements: MA MCP Required; MCP Certification Form Required; CT RCP Required X; RCP Certification Form Required; MA State DW Required; PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity: Government; Federal; City; Municipality; 21 J; Brownfield; MWRA; School; MBTA; WRTA

Other: Chromatogram; AIHA-LAP,LLC

PCB ONLY: Soxhlet X; Non Soxhlet

Comments:
On hold sample on WO#21C1427
3/30/21 mmk

Disclaimer: Con-Test Labs is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine wha analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Cor Test values your partnership on each project and will try to assist with missing information, but will not b held accountable.

Table of Contents

I Have Not Confirmed Sample Container Numbers With Lab Staff Before Relinquishing Over Samples_____

con-test® ANALYTICAL LABORATORY

Doc# 277 Rev 5 2017

Login Sample Receipt Checklist - (Rejection Criteria Listing - Using Acceptance Policy) Any False Statement will be brought to the attention of the Client - State True or False

Client W+S

Received By VR Date 3/25/21 Time 1230

How were the samples received? In Cooler T No Cooler ____ On Ice T No Ice ____ Direct from Sampling ____ Ambient ____ Melted Ice ____

Were samples within Temperature? 2-6°C T By Gun # 2 Actual Temp - 2.2 By Blank # ____ Actual Temp - ____

Was Custody Seal Intact? NA Were Samples Tampered with? NA

Was COC Relinquished ? T Does Chain Agree With Samples? T

Are there broken/leaking/loose caps on any samples? F

Is COC in ink/ Legible? T Were samples received within holding time? T

Did COC include all pertinent Information? Client T Analysis T Sampler Name T Project T ID's T Collection Dates/Times T

Are Sample labels filled out and legible? T

Are there Lab to Filters? F Who was notified? ____

Are there Rushes? F Who was notified? ____

Are there Short Holds? F Who was notified? ____

Is there enough Volume? T

Is there Headspace where applicable? NA MS/MSD? VR FT

Proper Media/Containers Used? T Is splitting samples required? F

Were trip blanks received? F On COC? F

Do all samples have the proper pH? NA Acid ____ Base ____

Vials	#	Containers:	#		#		#
Unp-		1 Liter Amb.		1 Liter Plastic		16 oz Amb.	
HCL-		500 mL Amb.		500 mL Plastic		8oz Amb/Clear	
Meoh-		250 mL Amb.		250 mL Plastic		4oz Amb/Clear	8
Bisulfate-		Flashpoint		Col./Bacteria		2oz Amb/Clear	
DI-		Other Glass		Other Plastic		Encore	
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:	
Sulfuric-		Perchlorate		Ziplock			

Unused Media

Vials	#	Containers:	#		#		#
Unp-		1 Liter Amb.		1 Liter Plastic		16 oz Amb.	
HCL-		500 mL Amb.		500 mL Plastic		8oz Amb/Clear	
Meoh-		250 mL Amb.		250 mL Plastic		4oz Amb/Clear	
Bisulfate-		Col./Bacteria		Flashpoint		2oz Amb/Clear	
DI-		Other Plastic		Other Glass		Encore	
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:	
Sulfuric-		Perchlorate		Ziplock			

Comments:

REASONABLE CONFIDENCE PROTOCOL
LABORATORY ANALYSIS QA/QC CERTIFICATION FORM

Laboratory Name: Con-Test, a Pace Analytical Laboratory

Client: Weston & Sampson

Project Location: Durham, CT

Project Number: 21C1426

Laboratory Sample ID(s):

21C1426-01 thru 21C1426-02

Sample Date(s):

03/24/2021

List RCP Methods Used:

SW-846 8082A

1	For each analytical method referenced in this laboratory report package, were all specified QA/QC performance criteria followed, including the requirement to explain any criteria falling outside of acceptable guidelines, as specified in the CTDEP method-specific Reasonable Confidence Protocol documents?	☑ Yes ☐ No
1A	Were the method specified preservation and holding time requirements met?	☑ Yes ☐ No
1B	VPH and EPH Methods only: Was the VPH and EPH method conducted without significant modifications (see Section 11.3 of respective RCP methods)?	☐ Yes ☐ No ☑ N/A
2	Were all samples received by the laboratory in a condition consistent with that described on the associated chain-of-custody document(s)?	☑ Yes ☐ No
3	Were samples received at an appropriate temperature (< 6 degrees C.)?	☑ Yes ☐ No ☐ N/A
4	Were all QA/QC performance criteria specified in the CTDEP Reasonable Confidence Protocol documents achieved?	☐ Yes ☑ No
5A	Were reporting limits specified or referenced on the chain-of-custody?	☑ Yes ☐ No
5B	Were these reporting limits met?	☐ Yes ☑ No
6	For each analytical method referenced in this laboratory report package, were results reported for all constituents identified in the method-specific analyte lists presented in the Reasonable Confidence Protocol documents?	☑ Yes ☐ No
7	Are project-specific matrix spikes and laboratory duplicates included in this data set?	☑ Yes ☐ No

Notes: For all questions to which the response was "No" (with the exception of question #7), additional information must be provided in an attached narrative. If the answer to question #1, #1A, or #1B is "No", the data package does not meet the requirements for "Reasonable Confidence."
This form may not be altered and all questions must be answered.

Lisa A. Worthington

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete.

Authorized Signature: Lisa Worthington **Position:** Technical Representative

Printed Name: Lisa A. Worthington **Date:** 04/05/21

Name of Laboratory: Con-Test, a Pace Analytical Laboratory

This certification form is to be used for RCP methods only.

ANALYTICAL REPORT

Lab Number:	L2114132
Client:	Weston & Sampson Engineers, Inc. 273 Dividend Rd. Rocky Hill, CT 06067
ATTN:	Jeff Wilson
Phone:	(860) 513-1473
Project Name:	EVERSOURCE-DURHAM ER
Project Number:	Not Specified
Report Date:	04/06/21

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0141), DoD (L2474), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NJ (MA015), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-17-00150), USFWS (Permit #206964).

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: EVERSOURCE-DURHAM ER
Project Number: Not Specified

Lab Number: L2114132
Report Date: 04/06/21

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2114132-01	SED-1 (0-6)	SOIL	DURHAM, CT	03/19/21 15:20	03/22/21
L2114132-02	SED-1 (6-12)	SOIL	DURHAM, CT	03/19/21 15:25	03/22/21
L2114132-03	SED-2 (0-6)	SOIL	DURHAM, CT	03/19/21 14:30	03/22/21
L2114132-04	SED-3 (0-6)	SOIL	DURHAM, CT	03/19/21 12:30	03/22/21
L2114132-05	SED-3 (6-12)	SOIL	DURHAM, CT	03/19/21 12:35	03/22/21
L2114132-06	SED-4 (0-6)	SOIL	DURHAM, CT	03/19/21 08:45	03/22/21
L2114132-07	SED-4 (6-12)	SOIL	DURHAM, CT	03/19/21 08:50	03/22/21
L2114132-08	SED-5 (0-6)	SOIL	DURHAM, CT	03/17/21 18:00	03/22/21
L2114132-09	SED-6 (0-6)	SOIL	DURHAM, CT	03/17/21 14:00	03/22/21
L2114132-10	SED-6 (6-12)	SOIL	DURHAM, CT	03/17/21 14:05	03/22/21
L2114132-11	SED-7 (0-6)	SOIL	DURHAM, CT	03/17/21 14:10	03/22/21
L2114132-12	SED-7 (6-12)	SOIL	DURHAM, CT	03/17/21 14:15	03/22/21
L2114132-13	SED-8 (0-6)	SOIL	DURHAM, CT	03/17/21 11:15	03/22/21
L2114132-14	SED-8 (6-12)	SOIL	DURHAM, CT	03/17/21 11:20	03/22/21
L2114132-15	SED-9 (0-6)	SOIL	DURHAM, CT	03/17/21 12:05	03/22/21
L2114132-16	SED-9 (6-12)	SOIL	DURHAM, CT	03/17/21 12:10	03/22/21
L2114132-17	SED-10 (0-6)	SOIL	DURHAM, CT	03/17/21 16:30	03/22/21
L2114132-18	SED-10 (6-12)	SOIL	DURHAM, CT	03/17/21 16:35	03/22/21
L2114132-19	SED-11 (0-6)	SOIL	DURHAM, CT	03/17/21 16:40	03/22/21
L2114132-20	SED-11 (6-12)	SOIL	DURHAM, CT	03/17/21 16:45	03/22/21
L2114132-21	REOCCUPY T4E (6-12)	SOIL	DURHAM, CT	03/19/21 15:10	03/22/21
L2114132-22	T4-1E (0-6)	SOIL	DURHAM, CT	03/19/21 14:40	03/22/21
L2114132-23	T4-1C (0-6)	SOIL	DURHAM, CT	03/19/21 14:50	03/22/21
L2114132-24	T4-1C (6-12)	SOIL	DURHAM, CT	03/19/21 14:55	03/22/21

Serial_No:04062114:43

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2114132-25	T4-1W (0-6)	SOIL	DURHAM, CT	03/19/21 15:00	03/22/21
L2114132-26	T4-1W (6-12)	SOIL	DURHAM, CT	03/19/21 15:05	03/22/21
L2114132-27	T4-2E (0-6)	SOIL	DURHAM, CT	03/19/21 13:30	03/22/21
L2114132-28	T4-2E (6-12)	SOIL	DURHAM, CT	03/19/21 13:35	03/22/21
L2114132-29	T4-2C (0-6)	SOIL	DURHAM, CT	03/19/21 13:20	03/22/21
L2114132-30	T4-2W (0-6)	SOIL	DURHAM, CT	03/19/21 13:10	03/22/21
L2114132-31	T4-2W (6-12)	SOIL	DURHAM, CT	03/19/21 13:15	03/22/21
L2114132-32	T5-1E (0-6)	SOIL	DURHAM, CT	03/19/21 10:50	03/22/21
L2114132-33	T5-1E (6-9)	SOIL	DURHAM, CT	03/19/21 10:55	03/22/21
L2114132-34	T5-1C (0-6)	SOIL	DURHAM, CT	03/19/21 11:00	03/22/21
L2114132-35	T5-1W (0-6)	SOIL	DURHAM, CT	03/19/21 11:10	03/22/21
L2114132-36	T5-1W (6-10)	SOIL	DURHAM, CT	03/19/21 11:15	03/22/21
L2114132-37	T5-2E (0-6)	SOIL	DURHAM, CT	03/19/21 10:00	03/22/21
L2114132-38	T5-2C (0-6)	SOIL	DURHAM, CT	03/19/21 09:50	03/22/21
L2114132-39	T5-2W (0-6)	SOIL	DURHAM, CT	03/19/21 09:55	03/22/21
L2114132-40	T5-2W (6-10)	SOIL	DURHAM, CT	03/19/21 09:40	03/22/21
L2114132-41	T6-1E (0-6)	SOIL	DURHAM, CT	03/19/21 09:30	03/22/21
L2114132-42	T6-1C (0-6)	SOIL	DURHAM, CT	03/19/21 09:20	03/22/21
L2114132-43	T6-1C (6-12)	SOIL	DURHAM, CT	03/19/21 09:25	03/22/21
L2114132-44	T6-1W (0-6)	SOIL	DURHAM, CT	03/19/21 09:10	03/22/21
L2114132-45	T7-1E (0-6)	SOIL	DURHAM, CT	03/17/21 18:45	03/22/21
L2114132-46	T7-1E (6-12)	SOIL	DURHAM, CT	03/17/21 18:50	03/22/21
L2114132-47	T7-1C (0-6)	SOIL	DURHAM, CT	03/17/21 18:30	03/22/21
L2114132-48	T7-1C (6-12)	SOIL	DURHAM, CT	03/17/21 18:35	03/22/21
L2114132-49	T7-1W (0-6)	SOIL	DURHAM, CT	03/17/21 18:20	03/22/21
L2114132-50	T7-1W (6-12)	SOIL	DURHAM, CT	03/17/21 18:25	03/22/21

Project Name:	EVERSOURCE-DURHAM ER	**Lab Number:**	L2114132
Project Number:	Not Specified	**Report Date:**	04/06/21

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	EVERSOURCE-DURHAM ER	**Lab Number:**	L2114132
Project Number:	Not Specified	**Report Date:**	04/06/21

Case Narrative (continued)

Sample Receipt

L2114132-43: The sample identified as "T6-1 (6-12)" on the chain of custody was identified as "T6-1C (6-12)" on the container label. At the client's request, the sample is reported as "T6-1C (6-12)".

Grain Size Analysis

The WG1478719-1 Laboratory Duplicate RPDs for % fine gravel (49%), % total gravel (30%) and % fine sand (25%), performed on L2114132-03, are outside the acceptance criteria. The elevated RPDs have been attributed to the non-homogeneous nature of the native sample.

The WG1478721-1 Laboratory Duplicate RPD for % total fines (25%), performed on L2114132-04, is outside the acceptance criteria. The elevated RPD has been attributed to the non-homogeneous nature of the native sample.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Susan E O'Neil Susan O' Neil

Title: Technical Director/Representative Date: 04/06/21

INORGANICS
&
MISCELLANEOUS

Project Name: EVERSOURCE-DURHAM ER
Project Number: Not Specified
Lab Number: L2114132
Report Date: 04/06/21

SAMPLE RESULTS

Lab ID: L2114132-01
Client ID: SED-1 (0-6)
Sample Location: DURHAM, CT
Sample Depth:
Matrix: Soil

Date Collected: 03/19/21 15:20
Date Received: 03/22/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Grain Size Analysis - Mansfield Lab										
Cobbles	ND		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Coarse Gravel	ND		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Fine Gravel	21.4		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Total Gravel	21.4		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Coarse Sand	10.6		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Medium Sand	24.5		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Fine Sand	28.5		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Total Sand	63.6		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Total Fines	15.0		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM

Project Name: EVERSOURCE-DURHAM ER
Project Number: Not Specified
Lab Number: L2114132
Report Date: 04/06/21

SAMPLE RESULTS

Lab ID: L2114132-03
Client ID: SED-2 (0-6)
Sample Location: DURHAM, CT
Sample Depth:
Matrix: Soil

Date Collected: 03/19/21 14:30
Date Received: 03/22/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Grain Size Analysis - Mansfield Lab										
Cobbles	ND		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Coarse Gravel	5.80		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Fine Gravel	26.6		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Total Gravel	32.4		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Coarse Sand	13.8		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Medium Sand	30.1		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Fine Sand	19.5		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Total Sand	63.4		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Total Fines	4.20		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM

Project Name: EVERSOURCE-DURHAM ER
Project Number: Not Specified
Lab Number: L2114132
Report Date: 04/06/21

SAMPLE RESULTS

Lab ID: L2114132-04
Client ID: SED-3 (0-6)
Sample Location: DURHAM, CT
Sample Depth:
Matrix: Soil

Date Collected: 03/19/21 12:30
Date Received: 03/22/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Grain Size Analysis - Mansfield Lab										
Cobbles	ND		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Coarse Gravel	ND		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Fine Gravel	29.6		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Total Gravel	29.6		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Coarse Sand	15.3		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Medium Sand	26.8		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Fine Sand	19.0		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Total Sand	61.1		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Total Fines	9.30		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM

Project Name: EVERSOURCE-DURHAM ER
Project Number: Not Specified
Lab Number: L2114132
Report Date: 04/06/21

SAMPLE RESULTS

Lab ID: L2114132-06
Client ID: SED-4 (0-6)
Sample Location: DURHAM, CT
Sample Depth:
Matrix: Soil

Date Collected: 03/19/21 08:45
Date Received: 03/22/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Grain Size Analysis - Mansfield Lab										
Cobbles	ND		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Coarse Gravel	4.90		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Fine Gravel	61.1		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Total Gravel	66.0		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Coarse Sand	13.0		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Medium Sand	10.8		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Fine Sand	7.00		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Total Sand	30.8		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Total Fines	3.20		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM

Project Name: EVERSOURCE-DURHAM ER
Project Number: Not Specified
Lab Number: L2114132
Report Date: 04/06/21

SAMPLE RESULTS

Lab ID: L2114132-08
Client ID: SED-5 (0-6)
Sample Location: DURHAM, CT
Sample Depth:
Matrix: Soil

Date Collected: 03/17/21 18:00
Date Received: 03/22/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Grain Size Analysis - Mansfield Lab										
Cobbles	ND		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Coarse Gravel	ND		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Fine Gravel	37.5		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Total Gravel	37.5		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Coarse Sand	13.0		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Medium Sand	18.5		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Fine Sand	17.2		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Total Sand	48.7		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Total Fines	13.8		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM

Serial_No:04062114:43

Project Name: EVERSOURCE-DURHAM ER
Project Number: Not Specified
Lab Number: L2114132
Report Date: 04/06/21

SAMPLE RESULTS

Lab ID: L2114132-09
Client ID: SED-6 (0-6)
Sample Location: DURHAM, CT
Sample Depth:
Matrix: Soil

Date Collected: 03/17/21 14:00
Date Received: 03/22/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Grain Size Analysis - Mansfield Lab										
Cobbles	ND		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Coarse Gravel	ND		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Fine Gravel	4.10		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Total Gravel	4.10		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Coarse Sand	18.7		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Medium Sand	42.9		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Fine Sand	21.3		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Total Sand	82.9		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Total Fines	13.0		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM

Project Name: EVERSOURCE-DURHAM ER
Project Number: Not Specified
Lab Number: L2114132
Report Date: 04/06/21

SAMPLE RESULTS

Lab ID: L2114132-11
Client ID: SED-7 (0-6)
Sample Location: DURHAM, CT
Sample Depth:
Matrix: Soil

Date Collected: 03/17/21 14:10
Date Received: 03/22/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Grain Size Analysis - Mansfield Lab										
Cobbles	ND		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Coarse Gravel	ND		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Fine Gravel	5.00		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Total Gravel	5.00		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Coarse Sand	17.4		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Medium Sand	56.0		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Fine Sand	20.0		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Total Sand	93.4		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Total Fines	1.60		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM

Project Name: EVERSOURCE-DURHAM ER
Project Number: Not Specified
Lab Number: L2114132
Report Date: 04/06/21

SAMPLE RESULTS

Lab ID: L2114132-13
Client ID: SED-8 (0-6)
Sample Location: DURHAM, CT
Sample Depth:
Matrix: Soil

Date Collected: 03/17/21 11:15
Date Received: 03/22/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Grain Size Analysis - Mansfield Lab										
Cobbles	ND		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Coarse Gravel	ND		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Fine Gravel	12.4		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Total Gravel	12.4		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Coarse Sand	19.0		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Medium Sand	40.0		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Fine Sand	18.3		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Total Sand	77.3		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Total Fines	10.3		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM

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Project Name: EVERSOURCE-DURHAM ER
Project Number: Not Specified
Lab Number: L2114132
Report Date: 04/06/21

SAMPLE RESULTS

Lab ID: L2114132-15
Client ID: SED-9 (0-6)
Sample Location: DURHAM, CT
Sample Depth:
Matrix: Soil

Date Collected: 03/17/21 12:05
Date Received: 03/22/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Grain Size Analysis - Mansfield Lab										
Cobbles	ND		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Coarse Gravel	ND		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Fine Gravel	10.0		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Total Gravel	10.0		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Coarse Sand	29.6		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Medium Sand	35.8		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Fine Sand	13.8		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Total Sand	79.2		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Total Fines	10.8		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM

Project Name: EVERSOURCE-DURHAM ER
Project Number: Not Specified
Lab Number: L2114132
Report Date: 04/06/21

SAMPLE RESULTS

Lab ID: L2114132-17
Client ID: SED-10 (0-6)
Sample Location: DURHAM, CT
Sample Depth:
Matrix: Soil

Date Collected: 03/17/21 16:30
Date Received: 03/22/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Grain Size Analysis - Mansfield Lab										
Cobbles	ND		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Coarse Gravel	ND		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Fine Gravel	2.70		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Total Gravel	2.70		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Coarse Sand	12.3		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Medium Sand	49.9		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Fine Sand	25.3		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Total Sand	87.5		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Total Fines	9.80		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM

Project Name: EVERSOURCE-DURHAM ER
Project Number: Not Specified
Lab Number: L2114132
Report Date: 04/06/21

SAMPLE RESULTS

Lab ID: L2114132-19
Client ID: SED-11 (0-6)
Sample Location: DURHAM, CT
Sample Depth:
Matrix: Soil

Date Collected: 03/17/21 16:40
Date Received: 03/22/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Grain Size Analysis - Mansfield Lab										
Cobbles	ND		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Coarse Gravel	ND		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Fine Gravel	9.40		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Total Gravel	9.40		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Coarse Sand	25.7		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Medium Sand	45.2		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Fine Sand	15.7		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Total Sand	86.6		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Total Fines	4.00		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM

Project Name: EVERSOURCE-DURHAM ER
Project Number: Not Specified
Lab Number: L2114132
Report Date: 04/06/21

SAMPLE RESULTS

Lab ID: L2114132-21
Client ID: REOCCUPY T4E (6-12)
Sample Location: DURHAM, CT
Sample Depth:
Matrix: Soil

Date Collected: 03/19/21 15:10
Date Received: 03/22/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Grain Size Analysis - Mansfield Lab										
Cobbles	ND		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Coarse Gravel	ND		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Fine Gravel	14.4		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Total Gravel	14.4		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Coarse Sand	7.30		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Medium Sand	21.1		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Fine Sand	32.9		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Total Sand	61.3		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Total Fines	24.3		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM

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Project Name: EVERSOURCE-DURHAM ER
Project Number: Not Specified
Lab Number: L2114132
Report Date: 04/06/21

SAMPLE RESULTS

Lab ID: L2114132-22
Client ID: T4-1E (0-6)
Sample Location: DURHAM, CT
Sample Depth:
Matrix: Soil

Date Collected: 03/19/21 14:40
Date Received: 03/22/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Grain Size Analysis - Mansfield Lab										
Cobbles	ND		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Coarse Gravel	ND		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Fine Gravel	36.6		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Total Gravel	36.6		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Coarse Sand	10.8		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Medium Sand	23.7		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Fine Sand	22.4		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Total Sand	56.9		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Total Fines	6.50		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM

Project Name: EVERSOURCE-DURHAM ER
Project Number: Not Specified
Lab Number: L2114132
Report Date: 04/06/21

SAMPLE RESULTS

Lab ID: L2114132-23
Client ID: T4-1C (0-6)
Sample Location: DURHAM, CT
Sample Depth:
Matrix: Soil

Date Collected: 03/19/21 14:50
Date Received: 03/22/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Grain Size Analysis - Mansfield Lab										
Cobbles	ND		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Coarse Gravel	11.1		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Fine Gravel	14.4		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Total Gravel	25.5		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Coarse Sand	10.1		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Medium Sand	27.2		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Fine Sand	26.4		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Total Sand	63.7		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Total Fines	10.8		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM

Project Name: EVERSOURCE-DURHAM ER
Project Number: Not Specified
Lab Number: L2114132
Report Date: 04/06/21

SAMPLE RESULTS

Lab ID: L2114132-25
Client ID: T4-1W (0-6)
Sample Location: DURHAM, CT
Sample Depth:
Matrix: Soil

Date Collected: 03/19/21 15:00
Date Received: 03/22/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Grain Size Analysis - Mansfield Lab										
Cobbles	ND		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Coarse Gravel	ND		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Fine Gravel	21.8		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Total Gravel	21.8		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Coarse Sand	4.70		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Medium Sand	19.4		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Fine Sand	34.5		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Total Sand	58.6		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Total Fines	19.6		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM

Project Name: EVERSOURCE-DURHAM ER
Project Number: Not Specified
Lab Number: L2114132
Report Date: 04/06/21

SAMPLE RESULTS

Lab ID: L2114132-27
Client ID: T4-2E (0-6)
Sample Location: DURHAM, CT
Sample Depth:
Matrix: Soil

Date Collected: 03/19/21 13:30
Date Received: 03/22/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Grain Size Analysis - Mansfield Lab										
Cobbles	ND		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Coarse Gravel	ND		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Fine Gravel	24.4		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Total Gravel	24.4		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Coarse Sand	11.0		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Medium Sand	30.2		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Fine Sand	26.7		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Total Sand	67.9		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Total Fines	7.70		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM

Project Name: EVERSOURCE-DURHAM ER
Project Number: Not Specified
Lab Number: L2114132
Report Date: 04/06/21

SAMPLE RESULTS

Lab ID: L2114132-29
Client ID: T4-2C (0-6)
Sample Location: DURHAM, CT
Sample Depth:
Matrix: Soil

Date Collected: 03/19/21 13:20
Date Received: 03/22/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Grain Size Analysis - Mansfield Lab										
Cobbles	ND		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Coarse Gravel	4.80		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Fine Gravel	42.5		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Total Gravel	47.3		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Coarse Sand	18.7		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Medium Sand	23.9		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Fine Sand	7.90		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Total Sand	50.5		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Total Fines	2.20		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM

Project Name: EVERSOURCE-DURHAM ER
Project Number: Not Specified
Lab Number: L2114132
Report Date: 04/06/21

SAMPLE RESULTS

Lab ID: L2114132-30
Client ID: T4-2W (0-6)
Sample Location: DURHAM, CT
Sample Depth:
Matrix: Soil

Date Collected: 03/19/21 13:10
Date Received: 03/22/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Grain Size Analysis - Mansfield Lab										
Cobbles	ND		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Coarse Gravel	ND		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Fine Gravel	21.8		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Total Gravel	21.8		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Coarse Sand	13.9		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Medium Sand	33.9		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Fine Sand	25.8		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Total Sand	73.6		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Total Fines	4.60		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM

Project Name: EVERSOURCE-DURHAM ER
Project Number: Not Specified
Lab Number: L2114132
Report Date: 04/06/21

SAMPLE RESULTS

Lab ID: L2114132-32
Client ID: T5-1E (0-6)
Sample Location: DURHAM, CT
Sample Depth:
Matrix: Soil

Date Collected: 03/19/21 10:50
Date Received: 03/22/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Grain Size Analysis - Mansfield Lab										
Cobbles	ND		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Coarse Gravel	ND		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Fine Gravel	28.1		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Total Gravel	28.1		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Coarse Sand	12.6		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Medium Sand	37.7		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Fine Sand	17.2		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Total Sand	67.5		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Total Fines	4.40		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM

Project Name: EVERSOURCE-DURHAM ER
Project Number: Not Specified
Lab Number: L2114132
Report Date: 04/06/21

SAMPLE RESULTS

Lab ID: L2114132-34
Client ID: T5-1C (0-6)
Sample Location: DURHAM, CT
Sample Depth:
Matrix: Soil

Date Collected: 03/19/21 11:00
Date Received: 03/22/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Grain Size Analysis - Mansfield Lab										
Cobbles	ND		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Coarse Gravel	ND		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Fine Gravel	34.1		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Total Gravel	34.1		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Coarse Sand	11.6		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Medium Sand	32.5		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Fine Sand	17.8		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Total Sand	61.9		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM
% Total Fines	4.00		%	0.100	NA	1	-	03/25/21 11:33	12,D6913/D7928	SM

Project Name: EVERSOURCE-DURHAM ER
Project Number: Not Specified
Lab Number: L2114132
Report Date: 04/06/21

SAMPLE RESULTS

Lab ID: L2114132-35
Client ID: T5-1W (0-6)
Sample Location: DURHAM, CT
Sample Depth:
Matrix: Soil

Date Collected: 03/19/21 11:10
Date Received: 03/22/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Grain Size Analysis - Mansfield Lab										
Cobbles	ND		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Coarse Gravel	ND		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Fine Gravel	11.1		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Total Gravel	11.1		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Coarse Sand	3.60		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Medium Sand	30.9		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Fine Sand	41.9		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Total Sand	76.4		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Total Fines	12.5		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM

Project Name: EVERSOURCE-DURHAM ER
Project Number: Not Specified
Lab Number: L2114132
Report Date: 04/06/21

SAMPLE RESULTS

Lab ID: L2114132-37
Client ID: T5-2E (0-6)
Sample Location: DURHAM, CT
Sample Depth:
Matrix: Soil

Date Collected: 03/19/21 10:00
Date Received: 03/22/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Grain Size Analysis - Mansfield Lab										
Cobbles	ND		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Coarse Gravel	7.60		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Fine Gravel	37.2		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Total Gravel	44.8		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Coarse Sand	15.9		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Medium Sand	21.3		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Fine Sand	14.2		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Total Sand	51.4		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Total Fines	3.80		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM

Serial_No:04062114:43

Project Name: EVERSOURCE-DURHAM ER
Project Number: Not Specified
Lab Number: L2114132
Report Date: 04/06/21

SAMPLE RESULTS

Lab ID: L2114132-38
Client ID: T5-2C (0-6)
Sample Location: DURHAM, CT
Sample Depth:
Matrix: Soil

Date Collected: 03/19/21 09:50
Date Received: 03/22/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Grain Size Analysis - Mansfield Lab										
Cobbles	ND		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Coarse Gravel	ND		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Fine Gravel	31.8		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Total Gravel	31.8		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Coarse Sand	20.0		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Medium Sand	32.6		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Fine Sand	12.4		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Total Sand	65.0		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Total Fines	3.20		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM

Project Name: EVERSOURCE-DURHAM ER
Project Number: Not Specified
Lab Number: L2114132
Report Date: 04/06/21

SAMPLE RESULTS

Lab ID: L2114132-39
Client ID: T5-2W (0-6)
Sample Location: DURHAM, CT
Sample Depth:
Matrix: Soil

Date Collected: 03/19/21 09:55
Date Received: 03/22/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Grain Size Analysis - Mansfield Lab										
Cobbles	ND		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Coarse Gravel	ND		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Fine Gravel	28.1		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Total Gravel	28.1		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Coarse Sand	15.5		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Medium Sand	32.6		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Fine Sand	19.4		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Total Sand	67.5		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Total Fines	4.40		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM

Project Name: EVERSOURCE-DURHAM ER
Project Number: Not Specified
Lab Number: L2114132
Report Date: 04/06/21

SAMPLE RESULTS

Lab ID: L2114132-41
Client ID: T6-1E (0-6)
Sample Location: DURHAM, CT
Sample Depth:
Matrix: Soil

Date Collected: 03/19/21 09:30
Date Received: 03/22/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Grain Size Analysis - Mansfield Lab										
Cobbles	ND		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Coarse Gravel	6.20		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Fine Gravel	43.4		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Total Gravel	49.6		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Coarse Sand	14.1		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Medium Sand	22.4		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Fine Sand	11.6		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Total Sand	48.1		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Total Fines	2.30		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM

Project Name: EVERSOURCE-DURHAM ER
Project Number: Not Specified
Lab Number: L2114132
Report Date: 04/06/21

SAMPLE RESULTS

Lab ID: L2114132-42
Client ID: T6-1C (0-6)
Sample Location: DURHAM, CT
Sample Depth:
Matrix: Soil

Date Collected: 03/19/21 09:20
Date Received: 03/22/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Grain Size Analysis - Mansfield Lab										
Cobbles	ND		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Coarse Gravel	ND		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Fine Gravel	39.3		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Total Gravel	39.3		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Coarse Sand	18.7		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Medium Sand	31.2		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Fine Sand	8.90		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Total Sand	58.8		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Total Fines	1.90		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM

Project Name: EVERSOURCE-DURHAM ER
Project Number: Not Specified
Lab Number: L2114132
Report Date: 04/06/21

SAMPLE RESULTS

Lab ID: L2114132-44
Client ID: T6-1W (0-6)
Sample Location: DURHAM, CT
Sample Depth:
Matrix: Soil

Date Collected: 03/19/21 09:10
Date Received: 03/22/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Grain Size Analysis - Mansfield Lab										
Cobbles	ND		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Coarse Gravel	ND		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Fine Gravel	38.5		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Total Gravel	38.5		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Coarse Sand	20.0		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Medium Sand	20.6		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Fine Sand	16.5		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Total Sand	57.1		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Total Fines	4.40		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM

Project Name: EVERSOURCE-DURHAM ER
Project Number: Not Specified
Lab Number: L2114132
Report Date: 04/06/21

SAMPLE RESULTS

Lab ID: L2114132-45
Client ID: T7-1E (0-6)
Sample Location: DURHAM, CT
Sample Depth:
Matrix: Soil

Date Collected: 03/17/21 18:45
Date Received: 03/22/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Grain Size Analysis - Mansfield Lab										
Cobbles	ND		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Coarse Gravel	ND		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Fine Gravel	24.5		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Total Gravel	24.5		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Coarse Sand	17.1		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Medium Sand	22.1		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Fine Sand	24.9		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Total Sand	64.1		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Total Fines	11.4		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM

Project Name: EVERSOURCE-DURHAM ER
Project Number: Not Specified
Lab Number: L2114132
Report Date: 04/06/21

SAMPLE RESULTS

Lab ID: L2114132-47
Client ID: T7-1C (0-6)
Sample Location: DURHAM, CT
Sample Depth:
Matrix: Soil

Date Collected: 03/17/21 18:30
Date Received: 03/22/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Grain Size Analysis - Mansfield Lab										
Cobbles	ND		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Coarse Gravel	ND		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Fine Gravel	38.2		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Total Gravel	38.2		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Coarse Sand	18.9		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Medium Sand	24.5		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Fine Sand	16.5		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Total Sand	59.9		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Total Fines	1.90		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM

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Project Name: EVERSOURCE-DURHAM ER
Project Number: Not Specified
Lab Number: L2114132
Report Date: 04/06/21

SAMPLE RESULTS

Lab ID: L2114132-49
Client ID: T7-1W (0-6)
Sample Location: DURHAM, CT
Sample Depth:
Matrix: Soil

Date Collected: 03/17/21 18:20
Date Received: 03/22/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Grain Size Analysis - Mansfield Lab										
Cobbles	ND		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Coarse Gravel	ND		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Fine Gravel	13.7		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Total Gravel	13.7		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Coarse Sand	14.1		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Medium Sand	27.4		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Fine Sand	29.7		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Total Sand	71.2		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM
% Total Fines	15.1		%	0.100	NA	1	-	03/25/21 11:34	12,D6913/D7928	SM

Lab Duplicate Analysis

Batch Quality Control

Project Name: EVERSOURCE-DURHAM ER
Project Number: Not Specified

Lab Number: L2114132
Report Date: 04/06/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Grain Size Analysis - Mansfield Lab Associated sample(s): 01,03,06,08-09,11,13,15,17,19,21-23,25,27,29-30,32,34 QC Batch ID: WG1478719-1 QC Sample: L2114132-03 Client ID: SED-2 (0-6)						
Cobbles	ND	ND	%	NC		20
% Coarse Gravel	5.80	ND	%	NC		20
% Fine Gravel	26.6	43.8	%	**49**	Q	20
% Total Gravel	32.4	43.8	%	**30**	Q	20
% Coarse Sand	13.8	11.9	%	15		20
% Medium Sand	30.1	25.6	%	16		20
% Fine Sand	19.5	15.2	%	**25**	Q	20
% Total Sand	63.4	52.7	%	18		20
% Total Fines	4.20	3.50	%	18		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: EVERSOURCE-DURHAM ER
Project Number: Not Specified

Lab Number: L2114132
Report Date: 04/06/21

Parameter	Native Sample	Duplicate Sample	Units	RPD		RPD Limits
Grain Size Analysis - Mansfield Lab Associated sample(s): 04,35,37-39,41-42,44-45,47,49 QC Batch ID: WG1478721-1 QC Sample: L2114132-04 Client ID: SED-3 (0-6)						
Cobbles	ND	ND	%	NC		20
% Coarse Gravel	ND	ND	%	NC		20
% Fine Gravel	29.6	30.1	%	2		20
% Total Gravel	29.6	30.1	%	2		20
% Coarse Sand	15.3	12.6	%	19		20
% Medium Sand	26.8	25.1	%	7		20
% Fine Sand	19.0	20.2	%	6		20
% Total Sand	61.1	57.9	%	5		20
% Total Fines	9.30	12.0	%	**25**	Q	20

Serial_No:04062114:43

Project Name: EVERSOURCE-DURHAM ER
Project Number: Not Specified

Lab Number: L2114132
Report Date: 04/06/21

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	***Custody Seal***
A	Absent

Container Information

Container ID	***Container Type***	***Cooler***	***Initial pH***	***Final pH***	***Temp deg C***	***Pres***	***Seal***	***Frozen Date/Time***	***Analysis(*)***
L2114132-01A	Bag	A	NA		22.1	Y	Absent		A2-HYDRO-TFINE(),A2-HYDRO-FSAND(),A2-HYDRO-CGRAVEL(),A2-HYDRO-MSAND(),A2-HYDRO-TGRAVEL(),A2-HYDRO-CSAND(),A2-HYDRO-TSAND(),A2-HYDRO-COBBLES(),A2-HYDRO-FGRAVEL()
L2114132-02A	Bag	A	NA		22.1	Y	Absent		HOLD-WETCHEM()
L2114132-03A	Bag	A	NA		22.1	Y	Absent		A2-HYDRO-TFINE(),A2-HYDRO-CGRAVEL(),A2-HYDRO-FSAND(),A2-HYDRO-MSAND(),A2-HYDRO-TGRAVEL(),A2-HYDRO-CSAND(),A2-HYDRO-TSAND(),A2-HYDRO-COBBLES(),A2-HYDRO-FGRAVEL()
L2114132-04A	Bag	A	NA		22.1	Y	Absent		A2-HYDRO-TFINE(),A2-HYDRO-CGRAVEL(),A2-HYDRO-FSAND(),A2-HYDRO-MSAND(),A2-HYDRO-TGRAVEL(),A2-HYDRO-CSAND(),A2-HYDRO-TSAND(),A2-HYDRO-COBBLES(),A2-HYDRO-FGRAVEL()
L2114132-05A	Bag	A	NA		22.1	Y	Absent		HOLD-WETCHEM()
L2114132-06A	Bag	A	NA		22.1	Y	Absent		A2-HYDRO-TFINE(),A2-HYDRO-CGRAVEL(),A2-HYDRO-FSAND(),A2-HYDRO-MSAND(),A2-HYDRO-TGRAVEL(),A2-HYDRO-CSAND(),A2-HYDRO-TSAND(),A2-HYDRO-FGRAVEL(),A2-HYDRO-COBBLES()
L2114132-07A	Bag	A	NA		22.1	Y	Absent		HOLD-WETCHEM()
L2114132-08A	Bag	A	NA		22.1	Y	Absent		A2-HYDRO-TFINE(),A2-HYDRO-CGRAVEL(),A2-HYDRO-FSAND(),A2-HYDRO-MSAND(),A2-HYDRO-TGRAVEL(),A2-HYDRO-CSAND(),A2-HYDRO-TSAND(),A2-HYDRO-FGRAVEL(),A2-HYDRO-COBBLES()
L2114132-09A	Bag	A	NA		22.1	Y	Absent		A2-HYDRO-TFINE(),A2-HYDRO-CGRAVEL(),A2-HYDRO-FSAND(),A2-HYDRO-MSAND(),A2-HYDRO-TGRAVEL(),A2-HYDRO-CSAND(),A2-HYDRO-TSAND(),A2-HYDRO-FGRAVEL(),A2-HYDRO-COBBLES()
L2114132-10A	Bag	A	NA		22.1	Y	Absent		HOLD-WETCHEM()

*Values in parentheses indicate holding time in days

Serial_No:04062114:43

Project Name: EVERSOURCE-DURHAM ER
Project Number: Not Specified

Lab Number: L2114132
Report Date: 04/06/21

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2114132-11A	Bag	A	NA		22.1	Y	Absent		A2-HYDRO-TFINE(),A2-HYDRO-FSAND(),A2-HYDRO-CGRAVEL(),A2-HYDRO-MSAND(),A2-HYDRO-TGRAVEL(),A2-HYDRO-CSAND(),A2-HYDRO-TSAND(),A2-HYDRO-FGRAVEL(),A2-HYDRO-COBBLES()
L2114132-12A	Bag	A	NA		22.1	Y	Absent		HOLD-WETCHEM()
L2114132-13A	Bag	A	NA		22.1	Y	Absent		A2-HYDRO-TFINE(),A2-HYDRO-CGRAVEL(),A2-HYDRO-FSAND(),A2-HYDRO-MSAND(),A2-HYDRO-TGRAVEL(),A2-HYDRO-CSAND(),A2-HYDRO-TSAND(),A2-HYDRO-FGRAVEL(),A2-HYDRO-COBBLES()
L2114132-14A	Bag	A	NA		22.1	Y	Absent		HOLD-WETCHEM()
L2114132-15A	Bag	A	NA		22.1	Y	Absent		A2-HYDRO-TFINE(),A2-HYDRO-FSAND(),A2-HYDRO-CGRAVEL(),A2-HYDRO-MSAND(),A2-HYDRO-TGRAVEL(),A2-HYDRO-CSAND(),A2-HYDRO-TSAND(),A2-HYDRO-COBBLES(),A2-HYDRO-FGRAVEL()
L2114132-16A	Bag	A	NA		22.1	Y	Absent		HOLD-WETCHEM()
L2114132-17A	Bag	A	NA		22.1	Y	Absent		A2-HYDRO-TFINE(),A2-HYDRO-FSAND(),A2-HYDRO-CGRAVEL(),A2-HYDRO-MSAND(),A2-HYDRO-TGRAVEL(),A2-HYDRO-CSAND(),A2-HYDRO-TSAND(),A2-HYDRO-FGRAVEL(),A2-HYDRO-COBBLES()
L2114132-18A	Bag	A	NA		22.1	Y	Absent		HOLD-WETCHEM()
L2114132-19A	Bag	A	NA		22.1	Y	Absent		A2-HYDRO-TFINE(),A2-HYDRO-CGRAVEL(),A2-HYDRO-FSAND(),A2-HYDRO-MSAND(),A2-HYDRO-TGRAVEL(),A2-HYDRO-CSAND(),A2-HYDRO-TSAND(),A2-HYDRO-COBBLES(),A2-HYDRO-FGRAVEL()
L2114132-20A	Bag	A	NA		22.1	Y	Absent		HOLD-WETCHEM()
L2114132-21A	Bag	A	NA		22.1	Y	Absent		A2-HYDRO-TFINE(),A2-HYDRO-FSAND(),A2-HYDRO-CGRAVEL(),A2-HYDRO-MSAND(),A2-HYDRO-TGRAVEL(),A2-HYDRO-CSAND(),A2-HYDRO-TSAND(),A2-HYDRO-COBBLES(),A2-HYDRO-FGRAVEL()
L2114132-22A	Bag	A	NA		22.1	Y	Absent		A2-HYDRO-TFINE(),A2-HYDRO-CGRAVEL(),A2-HYDRO-FSAND(),A2-HYDRO-MSAND(),A2-HYDRO-TGRAVEL(),A2-HYDRO-CSAND(),A2-HYDRO-TSAND(),A2-HYDRO-FGRAVEL(),A2-HYDRO-COBBLES()
L2114132-23A	Bag	A	NA		22.1	Y	Absent		A2-HYDRO-TFINE(),A2-HYDRO-FSAND(),A2-HYDRO-CGRAVEL(),A2-HYDRO-MSAND(),A2-HYDRO-TGRAVEL(),A2-HYDRO-CSAND(),A2-HYDRO-TSAND(),A2-HYDRO-FGRAVEL(),A2-HYDRO-COBBLES()

*Values in parentheses indicate holding time in days

Serial_No:04062114:43

Project Name: EVERSOURCE-DURHAM ER
Project Number: Not Specified

Lab Number: L2114132
Report Date: 04/06/21

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2114132-24A	Bag	A	NA		22.1	Y	Absent		HOLD-WETCHEM()
L2114132-25A	Bag	A	NA		22.1	Y	Absent		A2-HYDRO-TFINE(),A2-HYDRO-CGRAVEL(),A2-HYDRO-FSAND(),A2-HYDRO-MSAND(),A2-HYDRO-TGRAVEL(),A2-HYDRO-CSAND(),A2-HYDRO-TSAND(),A2-HYDRO-FGRAVEL(),A2-HYDRO-COBBLES()
L2114132-26A	Bag	A	NA		22.1	Y	Absent		HOLD-WETCHEM()
L2114132-27A	Bag	A	NA		22.1	Y	Absent		A2-HYDRO-TFINE(),A2-HYDRO-FSAND(),A2-HYDRO-CGRAVEL(),A2-HYDRO-MSAND(),A2-HYDRO-TGRAVEL(),A2-HYDRO-CSAND(),A2-HYDRO-TSAND(),A2-HYDRO-FGRAVEL(),A2-HYDRO-COBBLES()
L2114132-28A	Bag	A	NA		22.1	Y	Absent		HOLD-WETCHEM()
L2114132-29A	Bag	A	NA		22.1	Y	Absent		A2-HYDRO-TFINE(),A2-HYDRO-CGRAVEL(),A2-HYDRO-FSAND(),A2-HYDRO-MSAND(),A2-HYDRO-TGRAVEL(),A2-HYDRO-CSAND(),A2-HYDRO-TSAND(),A2-HYDRO-COBBLES(),A2-HYDRO-FGRAVEL()
L2114132-30A	Bag	A	NA		22.1	Y	Absent		A2-HYDRO-TFINE(),A2-HYDRO-CGRAVEL(),A2-HYDRO-FSAND(),A2-HYDRO-MSAND(),A2-HYDRO-TGRAVEL(),A2-HYDRO-CSAND(),A2-HYDRO-TSAND(),A2-HYDRO-FGRAVEL(),A2-HYDRO-COBBLES()
L2114132-31A	Bag	A	NA		22.1	Y	Absent		HOLD-WETCHEM()
L2114132-32A	Bag	A	NA		22.1	Y	Absent		A2-HYDRO-TFINE(),A2-HYDRO-CGRAVEL(),A2-HYDRO-FSAND(),A2-HYDRO-MSAND(),A2-HYDRO-TGRAVEL(),A2-HYDRO-CSAND(),A2-HYDRO-TSAND(),A2-HYDRO-COBBLES(),A2-HYDRO-FGRAVEL()
L2114132-33A	Bag	A	NA		22.1	Y	Absent		HOLD-WETCHEM()
L2114132-34A	Bag	A	NA		22.1	Y	Absent		A2-HYDRO-TFINE(),A2-HYDRO-CGRAVEL(),A2-HYDRO-FSAND(),A2-HYDRO-MSAND(),A2-HYDRO-TGRAVEL(),A2-HYDRO-CSAND(),A2-HYDRO-TSAND(),A2-HYDRO-FGRAVEL(),A2-HYDRO-COBBLES()
L2114132-35A	Bag	A	NA		22.1	Y	Absent		A2-HYDRO-TFINE(),A2-HYDRO-FSAND(),A2-HYDRO-CGRAVEL(),A2-HYDRO-MSAND(),A2-HYDRO-TGRAVEL(),A2-HYDRO-CSAND(),A2-HYDRO-TSAND(),A2-HYDRO-FGRAVEL(),A2-HYDRO-COBBLES()
L2114132-36A	Bag	A	NA		22.1	Y	Absent		HOLD-WETCHEM()

*Values in parentheses indicate holding time in days

Serial_No:04062114:43

Project Name: EVERSOURCE-DURHAM ER
Project Number: Not Specified

Lab Number: L2114132
Report Date: 04/06/21

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2114132-37A	Bag	A	NA		22.1	Y	Absent		A2-HYDRO-TFINE(),A2-HYDRO-FSAND(),A2-HYDRO-CGRAVEL(),A2-HYDRO-MSAND(),A2-HYDRO-TGRAVEL(),A2-HYDRO-CSAND(),A2-HYDRO-TSAND(),A2-HYDRO-COBBLES(),A2-HYDRO-FGRAVEL()
L2114132-38A	Bag	A	NA		22.1	Y	Absent		A2-HYDRO-TFINE(),A2-HYDRO-CGRAVEL(),A2-HYDRO-FSAND(),A2-HYDRO-MSAND(),A2-HYDRO-TGRAVEL(),A2-HYDRO-CSAND(),A2-HYDRO-TSAND(),A2-HYDRO-COBBLES(),A2-HYDRO-FGRAVEL()
L2114132-39A	Bag	A	NA		22.1	Y	Absent		A2-HYDRO-TFINE(),A2-HYDRO-CGRAVEL(),A2-HYDRO-FSAND(),A2-HYDRO-MSAND(),A2-HYDRO-TGRAVEL(),A2-HYDRO-CSAND(),A2-HYDRO-TSAND(),A2-HYDRO-FGRAVEL(),A2-HYDRO-COBBLES()
L2114132-40A	Bag	A	NA		22.1	Y	Absent		HOLD-WETCHEM()
L2114132-41A	Bag	A	NA		22.1	Y	Absent		A2-HYDRO-TFINE(),A2-HYDRO-FSAND(),A2-HYDRO-CGRAVEL(),A2-HYDRO-MSAND(),A2-HYDRO-TGRAVEL(),A2-HYDRO-CSAND(),A2-HYDRO-TSAND(),A2-HYDRO-COBBLES(),A2-HYDRO-FGRAVEL()
L2114132-42A	Bag	A	NA		22.1	Y	Absent		A2-HYDRO-TFINE(),A2-HYDRO-FSAND(),A2-HYDRO-CGRAVEL(),A2-HYDRO-MSAND(),A2-HYDRO-TGRAVEL(),A2-HYDRO-CSAND(),A2-HYDRO-TSAND(),A2-HYDRO-COBBLES(),A2-HYDRO-FGRAVEL()
L2114132-43A	Bag	A	NA		22.1	Y	Absent		HOLD-WETCHEM()
L2114132-44A	Bag	A	NA		22.1	Y	Absent		A2-HYDRO-TFINE(),A2-HYDRO-FSAND(),A2-HYDRO-CGRAVEL(),A2-HYDRO-MSAND(),A2-HYDRO-TGRAVEL(),A2-HYDRO-CSAND(),A2-HYDRO-TSAND(),A2-HYDRO-FGRAVEL(),A2-HYDRO-COBBLES()
L2114132-45A	Bag	A	NA		22.1	Y	Absent		A2-HYDRO-TFINE(),A2-HYDRO-FSAND(),A2-HYDRO-CGRAVEL(),A2-HYDRO-MSAND(),A2-HYDRO-TGRAVEL(),A2-HYDRO-CSAND(),A2-HYDRO-TSAND(),A2-HYDRO-COBBLES(),A2-HYDRO-FGRAVEL()
L2114132-46A	Bag	A	NA		22.1	Y	Absent		HOLD-WETCHEM()
L2114132-47A	Bag	A	NA		22.1	Y	Absent		A2-HYDRO-TFINE(),A2-HYDRO-FSAND(),A2-HYDRO-CGRAVEL(),A2-HYDRO-MSAND(),A2-HYDRO-TGRAVEL(),A2-HYDRO-CSAND(),A2-HYDRO-TSAND(),A2-HYDRO-FGRAVEL(),A2-HYDRO-COBBLES()
L2114132-48A	Bag	A	NA		22.1	Y	Absent		HOLD-WETCHEM()

*Values in parentheses indicate holding time in days

Serial_No:04062114:43

Project Name: EVERSOURCE-DURHAM ER
Project Number: Not Specified

Lab Number: L2114132
Report Date: 04/06/21

Container Information

Container ID	*Container Type*	*Cooler*	*Initial pH*	*Final pH*	*Temp deg C*	*Pres*	*Seal*	*Frozen Date/Time*	*Analysis(*)*
L2114132-49A	Bag	A	NA		22.1	Y	Absent		A2-HYDRO-TFINE(),A2-HYDRO-CGRAVEL(),A2-HYDRO-FSAND(),A2-HYDRO-MSAND(),A2-HYDRO-TGRAVEL(),A2-HYDRO-CSAND(),A2-HYDRO-TSAND(),A2-HYDRO-COBBLES(),A2-HYDRO-FGRAVEL()
L2114132-50A	Bag	A	NA		22.1	Y	Absent		HOLD-WETCHEM()

*Values in parentheses indicate holding time in days

Project Name:	EVERSOURCE-DURHAM ER	**Lab Number:**	L2114132
Project Number:	Not Specified	**Report Date:**	04/06/21

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	EVERSOURCE-DURHAM ER	**Lab Number:**	L2114132
Project Number:	Not Specified	**Report Date:**	04/06/21

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. (Note: 'PFAS, Total (6)' is applicable to MassDEP DW compliance analysis only.). If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where

Project Name:	EVERSOURCE-DURHAM ER	**Lab Number:**	L2114132
Project Number:	Not Specified	**Report Date:**	04/06/21

Data Qualifiers

the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Project Name: EVERSOURCE-DURHAM ER **Lab Number:** L2114132
Project Number: Not Specified **Report Date:** 04/06/21

REFERENCES

12 Annual Book of ASTM Standards. (American Society for Testing and Materials) ASTM International.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

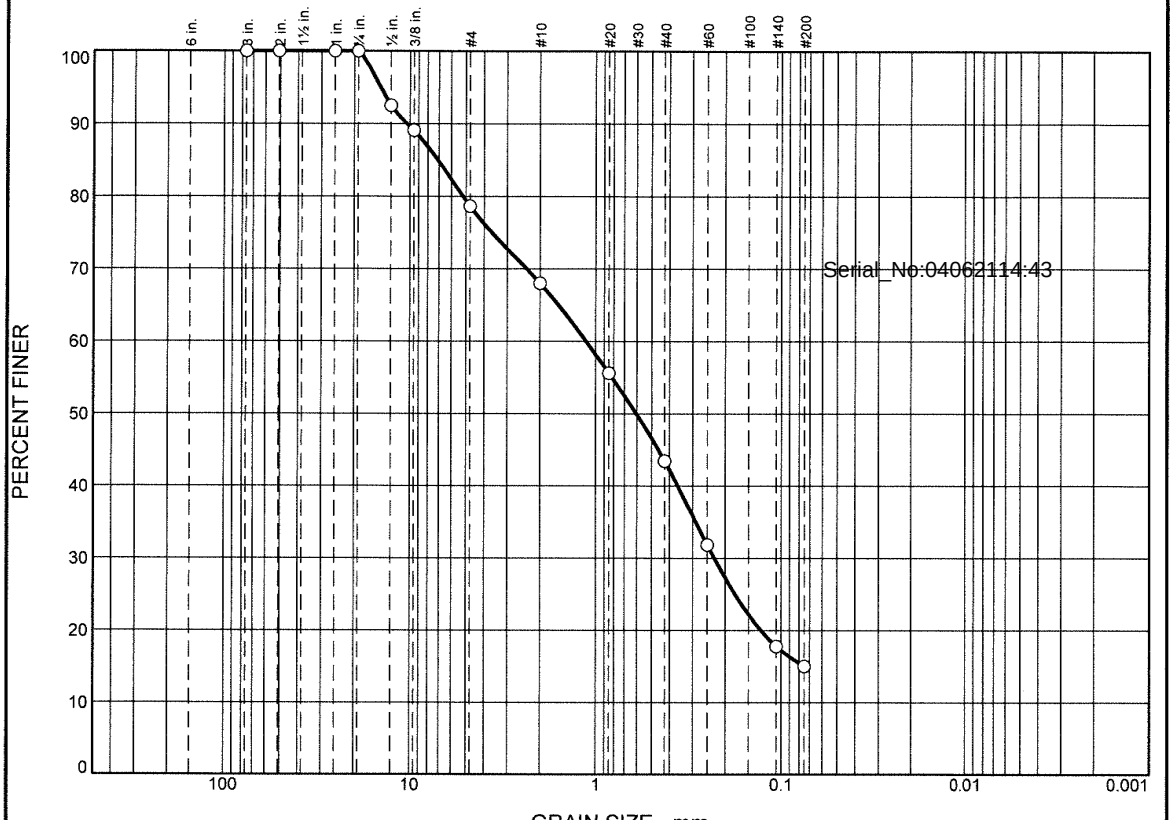
We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Serial_No:04062114:43

ASTM D6913/D7928

GRAIN SIZE ANALYSIS

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	21.4	10.6	24.5	28.5	15.0	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			7.0873	1.1279	0.6030	0.2288				

	Material Description	USCS	AASHTO
○			

Project No. **Client:**
Project:

○ **Source of Sample:** SED-1 (0-6) **Sample Number:** L2114132-01

Alpha Analytical

Mansfield, MA

Remarks:

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

4/6/2021

Location: SED-1 (0-6)

Sample Number: L2114132-01

Sieve Test Data

Post #200 Wash Test Weights (grams): **Dry Sample and Tare =** 296.82
Tare Wt. = 0.00
Minus #200 from wash = 0.0%

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
296.82	0.00	3"	0.00	0.00	100.0
		2"	0.00	0.00	100.0
		1"	0.00	0.00	100.0
		0.75"	0.00	0.00	100.0
		0.50"	22.23	0.00	92.5
		0.375"	10.21	0.00	89.1
		#4	30.99	0.00	78.6
		#10	31.50	0.00	68.0
		#20	36.85	0.00	55.6
		#40	36.00	0.00	43.5
		#60	34.47	0.00	31.9
		#140	41.78	0.00	17.8
		#200	8.21	0.00	15.0

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Fractional Components

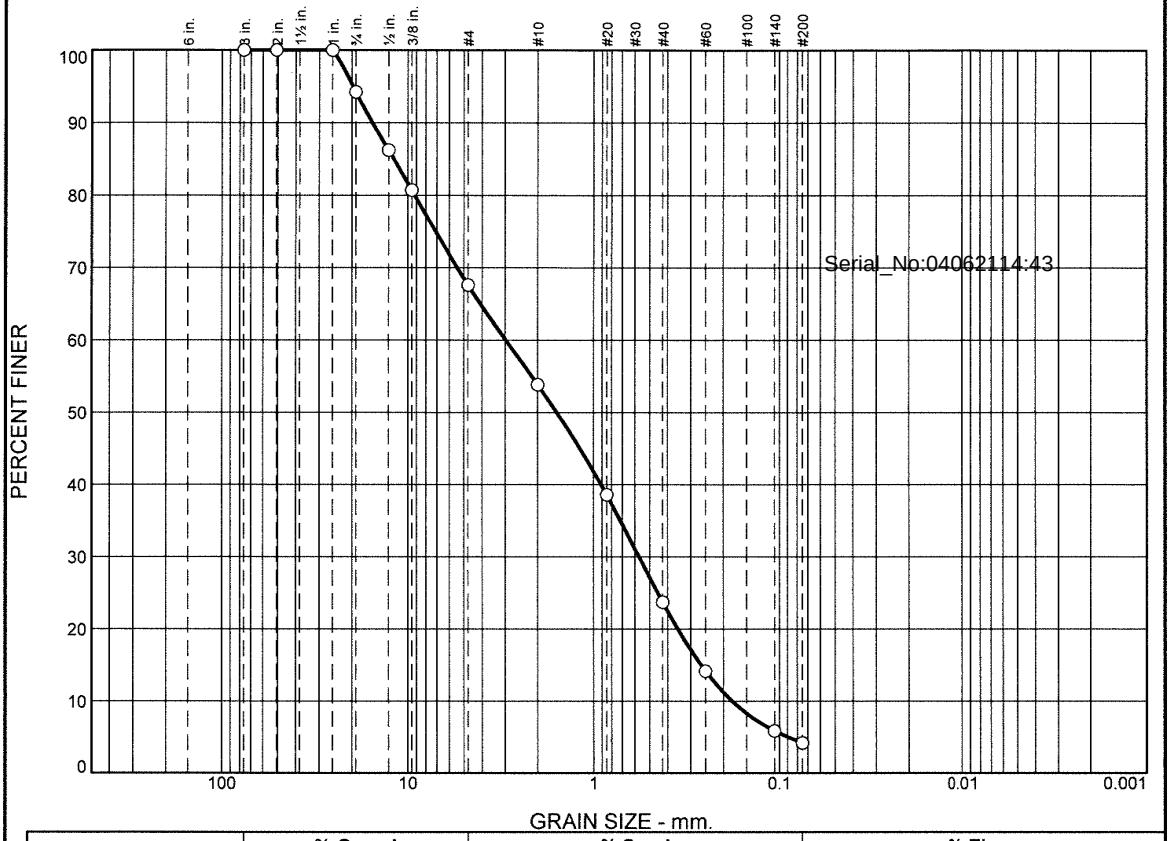
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	21.4	21.4	10.6	24.5	28.5	63.6			15.0

D_5	D_{10}	D_{15}	D_{20}	D_{30}	D_{40}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
			0.1281	0.2288	0.3611	0.6030	1.1279	5.1949	7.0873	10.4049	14.4058

Fineness Modulus
2.94

Alpha Analytical

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	5.8	26.6	13.8	30.1	19.5	4.2	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			11.9014	2.9741	1.5791	0.5697	0.2640	0.1795	0.61	16.57

	Material Description	USCS	AASHTO
○		SP	

Project No. **Client:**
Project:

○ **Source of Sample:** SED-2 (0-6) **Sample Number:** L2114132-03

Remarks:

Alpha Analytical

Mansfield, MA

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

4/6/2021

Location: SED-2 (0-6)
Sample Number: L2114132-03
USCS Classification: SP

Sieve Test Data

Post #200 Wash Test Weights (grams): **Dry Sample and Tare =** 130.40
Tare Wt. = 0.00
Minus #200 from wash = 0.0%

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
130.40	0.00	3"	0.00	0.00	100.0
		2"	0.00	0.00	100.0
		1"	0.00	0.00	100.0
		0.75"	7.52	0.00	94.2
		0.50"	10.43	0.00	86.2
		0.375"	7.21	0.00	80.7
		#4	17.09	0.00	67.6
		#10	17.94	0.00	53.8
		#20	19.90	0.00	38.6
		#40	19.36	0.00	23.7
		#60	12.47	0.00	14.2
		#140	10.84	0.00	5.9
		#200	2.17	0.00	4.2

Serial_No:04062114:43

Fractional Components

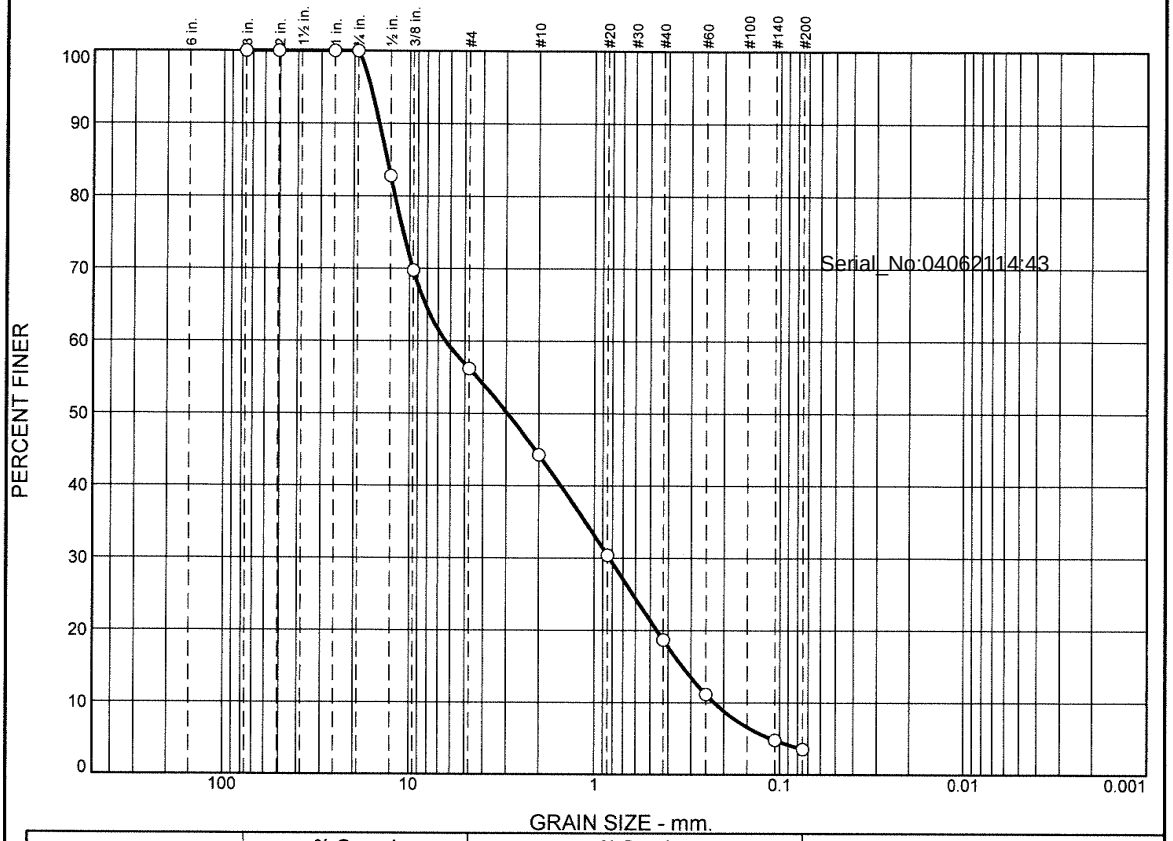
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	5.8	26.6	32.4	13.8	30.1	19.5	63.4			4.2

D_5	D_{10}	D_{15}	D_{20}	D_{30}	D_{40}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.0896	0.1795	0.2640	0.3520	0.5697	0.9118	1.5791	2.9741	9.1854	11.9014	15.4857	19.7230

Fineness Modulus	C_u	C_c
4.00	16.57	0.61

Alpha Analytical

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	43.8	11.9	25.6	15.2	3.5	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			13.2562	6.3823	2.9509	0.8298	0.3346	0.2257	0.48	28.28

	Material Description	USCS	AASHTO
○		SP	

Project No. **Client:**
Project:

○ **Source of Sample:** SED-2 (0-6) **Sample Number:** WG1478719-1

Remarks:

Alpha Analytical

Mansfield, MA

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

4/6/2021

Location: SED-2 (0-6)
Sample Number: WG1478719-1
USCS Classification: SP

Sieve Test Data

Post #200 Wash Test Weights (grams): **Dry Sample and Tare =** 129.92
Tare Wt. = 0.00
Minus #200 from wash = 0.0%

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
129.92	0.00	3"	0.00	0.00	100.0
		2"	0.00	0.00	100.0
		1"	0.00	0.00	100.0
		0.75"	0.00	0.00	100.0
		0.50"	22.40	0.00	82.8
		0.375"	16.88	0.00	69.8
		#4	17.62	0.00	56.2
		#10	15.48	0.00	44.3
		#20	18.03	0.00	30.4
		#40	15.22	0.00	18.7
		#60	9.83	0.00	11.1
		#140	8.25	0.00	4.8
		#200	1.65	0.00	3.5

Serial_No:04062114:43

Fractional Components

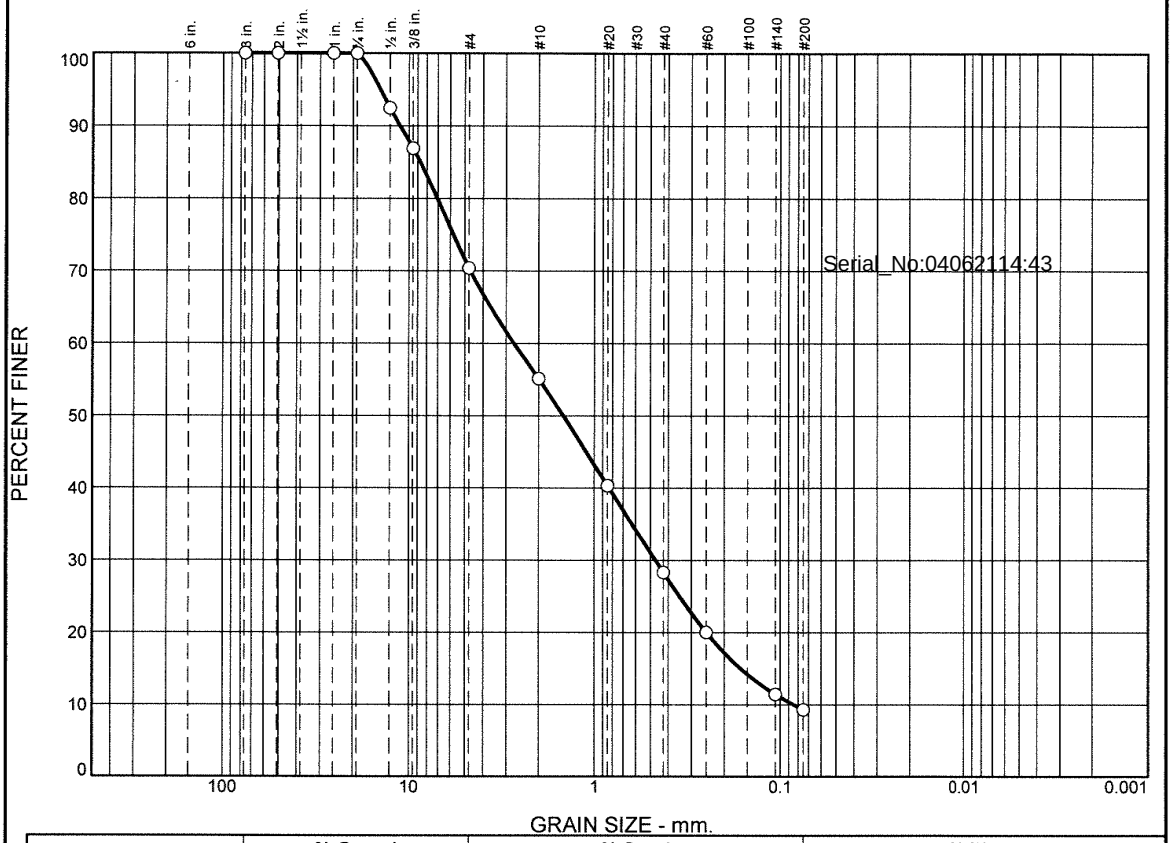
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	43.8	43.8	11.9	25.6	15.2	52.7			3.5

D_5	D_{10}	D_{15}	D_{20}	D_{30}	D_{40}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.1115	0.2257	0.3346	0.4605	0.8298	1.5193	2.9509	6.3823	12.0296	13.2562	14.5920	16.2287

Fineness Modulus	C_u	C_c
4.47	28.28	0.48

Alpha Analytical

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	29.6	15.3	26.8	19.0	9.3	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			8.7008	2.7127	1.4729	0.4687	0.1629	0.0847	0.96	32.04

	Material Description	USCS	AASHTO
○			

Project No. **Client:**
Project:

○ **Source of Sample:** SED-3 (0-6) **Sample Number:** L2114132-04

Alpha Analytical

Mansfield, MA

Remarks:

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

4/6/2021

Location: SED-3 (0-6)
Sample Number: L2114132-04

Sieve Test Data

Post #200 Wash Test Weights (grams): **Dry Sample and Tare =** 116.68
Tare Wt. = 0.00
Minus #200 from wash = 0.0%

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
116.68	0.00	3"	0.00	0.00	100.0
		2"	0.00	0.00	100.0
		1"	0.00	0.00	100.0
		0.75"	0.00	0.00	100.0
		0.50"	8.79	0.00	92.5
		0.375"	6.47	0.00	86.9
		#4	19.27	0.00	70.4
		#10	17.83	0.00	55.1
		#20	17.25	0.00	40.3
		#40	14.00	0.00	28.3
		#60	9.71	0.00	20.0
		#140	10.02	0.00	11.4
		#200	2.51	0.00	9.3

Serial_No:04062114:43

Fractional Components

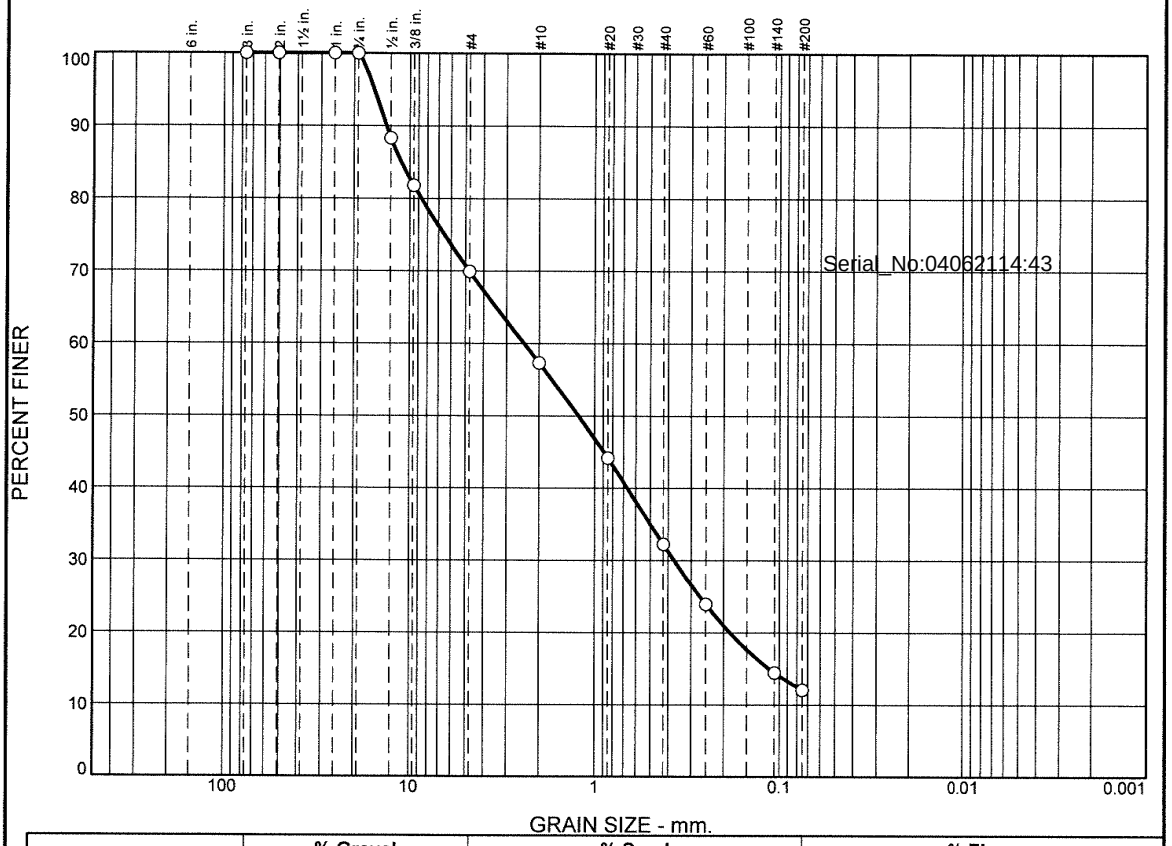
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	29.6	29.6	15.3	26.8	19.0	61.1			9.3

D_5	D_{10}	D_{15}	D_{20}	D_{30}	D_{40}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
	0.0847	0.1629	0.2496	0.4687	0.8337	1.4729	2.7127	7.0453	8.7008	11.1947	14.2578

Fineness Modulus	C_u	C_c
3.68	32.04	0.96

Alpha Analytical

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	30.1	12.6	25.1	20.2	12.0	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			11.1622	2.4104	1.2217	0.3712	0.1132			

	Material Description	USCS	AASHTO
○			

Project No. **Client:**
Project:

○ **Source of Sample:** SED-3 (0-6) **Sample Number:** WG1478721-1

Alpha Analytical

Mansfield, MA

Remarks:

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

4/6/2021

Location: SED-3 (0-6)
Sample Number: WG1478721-1

Sieve Test Data

Post #200 Wash Test Weights (grams): **Dry Sample and Tare =** 115.27
Tare Wt. = 0.00
Minus #200 from wash = 0.0%

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
115.27	0.00	3"	0.00	0.00	100.0
		2"	0.00	0.00	100.0
		1"	0.00	0.00	100.0
		0.75"	0.00	0.00	100.0
		0.50"	13.45	0.00	88.3
		0.375"	7.55	0.00	81.8
		#4	13.66	0.00	69.9
		#10	14.53	0.00	57.3
		#20	15.15	0.00	44.2
		#40	13.76	0.00	32.2
		#60	9.56	0.00	24.0
		#140	10.94	0.00	14.5
		#200	2.79	0.00	12.0

Serial_No:04062114:43

Fractional Components

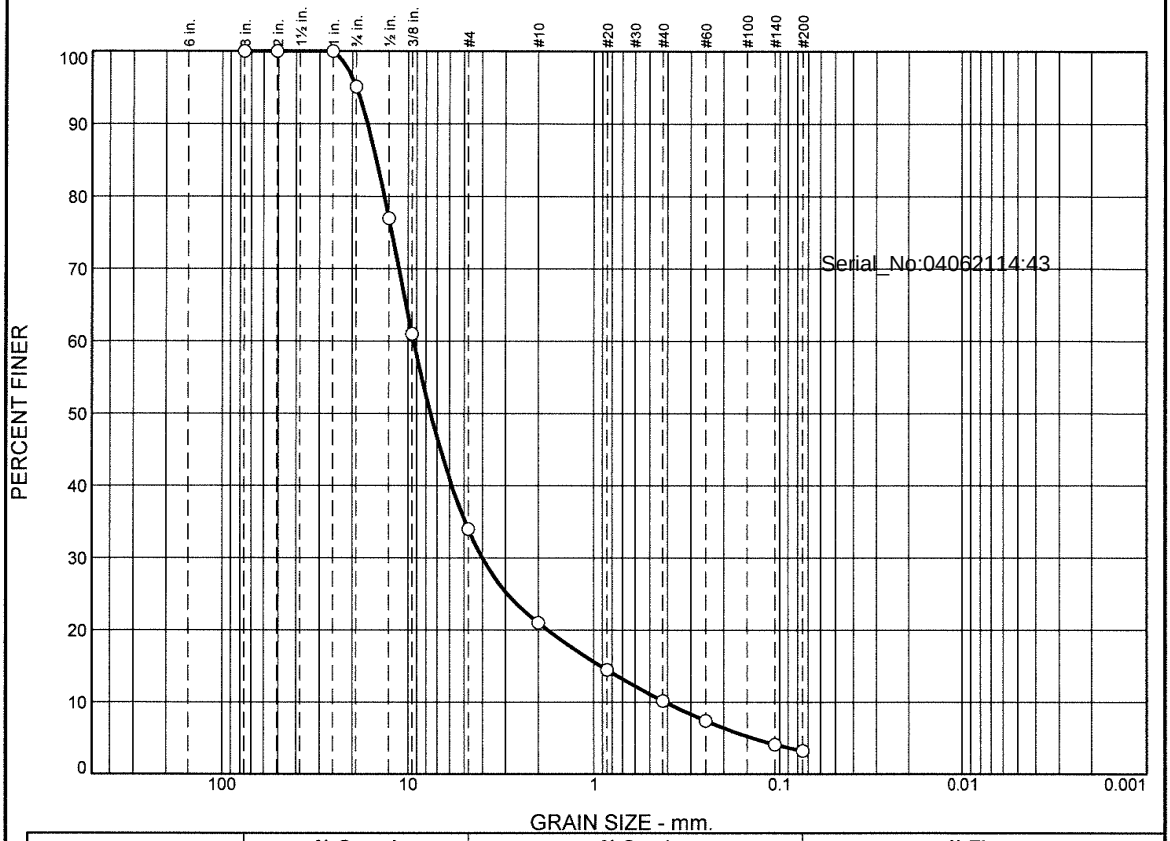
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	30.1	30.1	12.6	25.1	20.2	57.9			12.0

D_5	D_{10}	D_{15}	D_{20}	D_{30}	D_{40}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
		0.1132	0.1847	0.3712	0.6654	1.2217	2.4104	8.6549	11.1622	13.3973	15.5542

Fineness Modulus
3.57

Alpha Analytical

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	4.9	61.1	13.0	10.8	7.0	3.2	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			14.8055	9.3421	7.5697	3.9920	0.9174	0.4126	4.13	22.64

	Material Description	USCS	AASHTO
○		GP	

Project No. **Client:**
Project:

○ **Source of Sample:** SED-4 (0-6) **Sample Number:** L2114132-06

Remarks:

Alpha Analytical

Mansfield, MA

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

4/6/2021

Location: SED-4 (0-6)
Sample Number: L2114132-06
USCS Classification: GP

Sieve Test Data

Post #200 Wash Test Weights (grams): **Dry Sample and Tare =** 160.41
Tare Wt. = 0.00
Minus #200 from wash = 0.0%

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
160.41	0.00	3"	0.00	0.00	100.0
		2"	0.00	0.00	100.0
		1"	0.00	0.00	100.0
		0.75"	7.87	0.00	95.1
		0.50"	29.09	0.00	77.0
		0.375"	25.58	0.00	61.0
		#4	43.37	0.00	34.0
		#10	20.80	0.00	21.0
		#20	10.47	0.00	14.5
		#40	6.92	0.00	10.2
		#60	4.43	0.00	7.4
		#140	5.29	0.00	4.1
		#200	1.42	0.00	3.2

Serial_No:04062114:43

Fractional Components

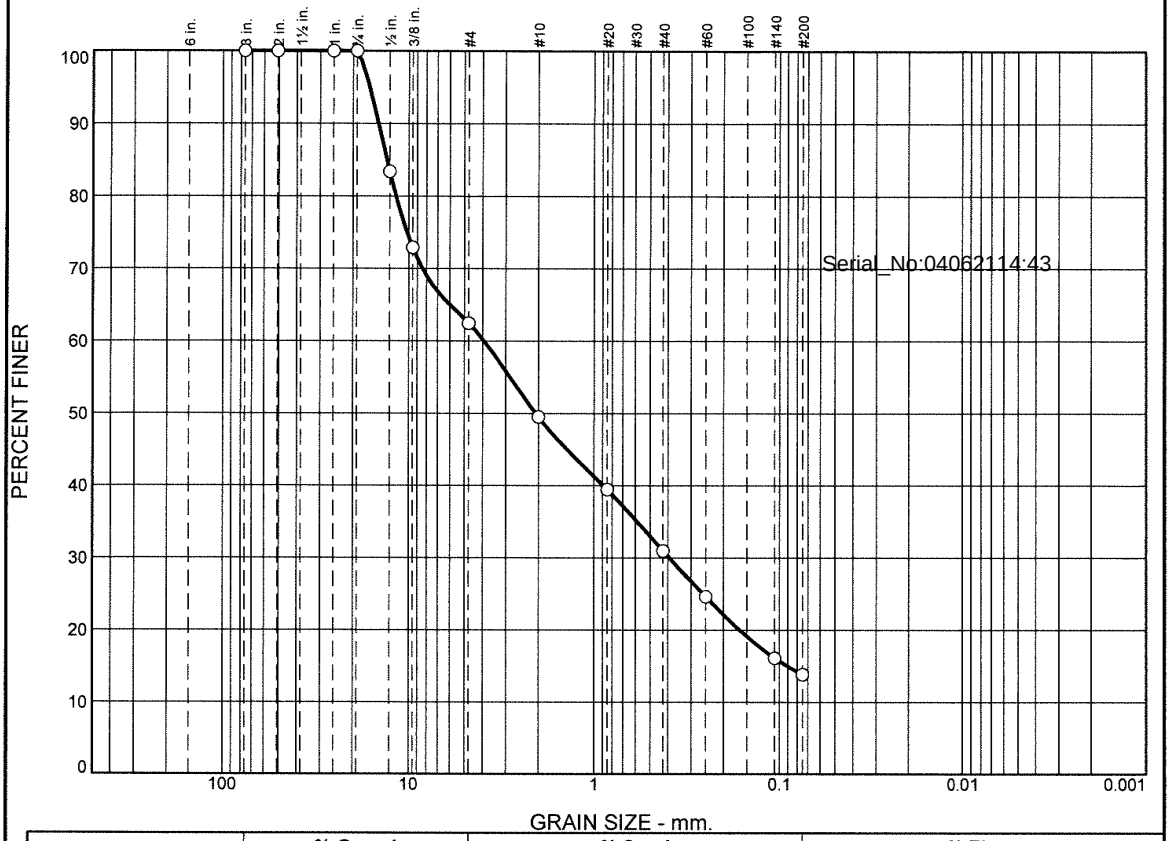
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	4.9	61.1	66.0	13.0	10.8	7.0	30.8			3.2

D_5	D_{10}	D_{15}	D_{20}	D_{30}	D_{40}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.1401	0.4126	0.9174	1.7794	3.9920	5.8271	7.5697	9.3421	13.4318	14.8055	16.5207	18.9889

Fineness Modulus	C_u	C_c
5.45	22.64	4.13

Alpha Analytical

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	37.5	13.0	18.5	17.2	13.8	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			13.1482	3.9324	2.0682	0.3920	0.0903			

	Material Description	USCS	AASHTO
○			

Project No. **Client:**
Project:

○ **Source of Sample:** SED-5 (0-6) **Sample Number:** L2114132-08

Remarks:

Alpha Analytical

Mansfield, MA

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

4/6/2021

Location: SED-5 (0-6)
Sample Number: L2114132-08

Sieve Test Data

Post #200 Wash Test Weights (grams): **Dry Sample and Tare =** 202.56
Tare Wt. = 0.00
Minus #200 from wash = 0.0%

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
202.56	0.00	3"	0.00	0.00	100.0
		2"	0.00	0.00	100.0
		1"	0.00	0.00	100.0
		0.75"	0.00	0.00	100.0
		0.50"	33.67	0.00	83.4
		0.375"	21.21	0.00	72.9
		#4	21.12	0.00	62.5
		#10	26.26	0.00	49.5
		#20	20.34	0.00	39.5
		#40	17.17	0.00	31.0
		#60	12.87	0.00	24.6
		#140	17.26	0.00	16.1
		#200	4.66	0.00	13.8

Serial_No:04062114:43

Fractional Components

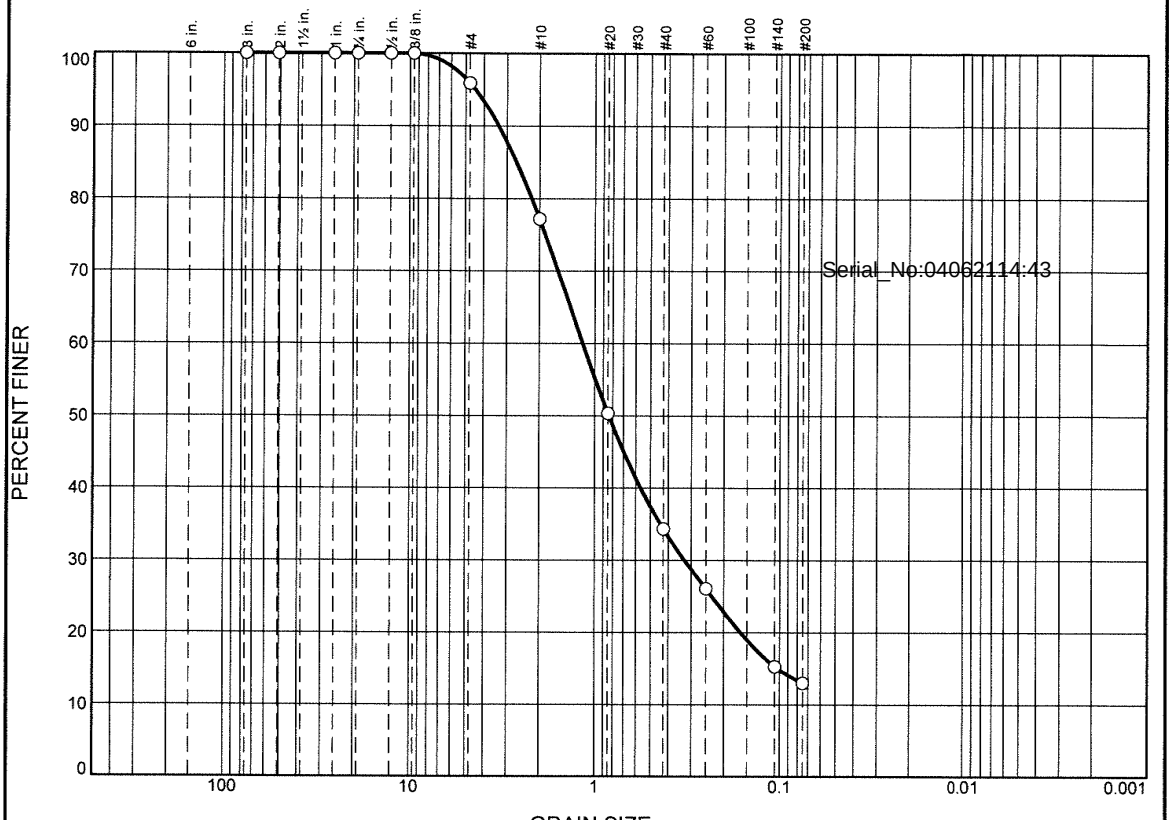
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	37.5	37.5	13.0	18.5	17.2	48.7			13.8

D_5	D_{10}	D_{15}	D_{20}	D_{30}	D_{40}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
		0.0903	0.1635	0.3920	0.8904	2.0682	3.9324	11.7439	13.1482	14.5688	16.2433

Fineness Modulus
3.88

Alpha Analytical

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	4.1	18.7	42.9	21.3	13.0	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			2.6681	1.1636	0.8391	0.3264	0.1023			

	Material Description	USCS	AASHTO
○			

Project No. **Client:**
Project:

○ **Source of Sample:** SED-6 (0-6) **Sample Number:** L2114132-09

Alpha Analytical

Mansfield, MA

Remarks:

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

4/6/2021

Location: SED-6 (0-6)

Sample Number: L2114132-09

Sieve Test Data

Post #200 Wash Test Weights (grams): **Dry Sample and Tare =** 9.55
Tare Wt. = 0.00
Minus #200 from wash = 0.0%

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
9.55	0.00	3"	0.00	0.00	100.0
		2"	0.00	0.00	100.0
		1"	0.00	0.00	100.0
		0.75"	0.00	0.00	100.0
		0.50"	0.00	0.00	100.0
		0.375"	0.00	0.00	100.0
		#4	0.39	0.00	95.9
		#10	1.79	0.00	77.2
		#20	2.56	0.00	50.4
		#40	1.53	0.00	34.3
		#60	0.79	0.00	26.1
		#140	1.03	0.00	15.3
		#200	0.22	0.00	13.0

Serial_No:04062114:43

Fractional Components

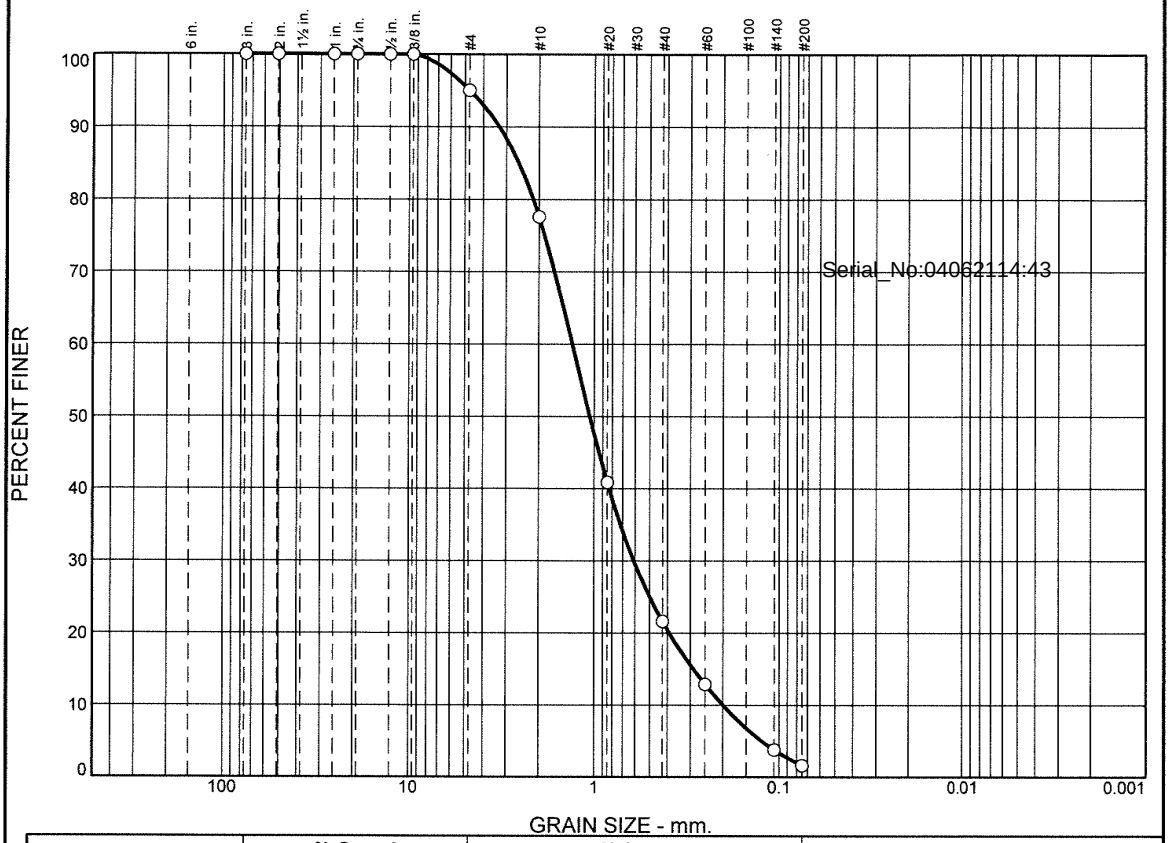
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	4.1	4.1	18.7	42.9	21.3	82.9			13.0

D_5	D_{10}	D_{15}	D_{20}	D_{30}	D_{40}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
		0.1023	0.1625	0.3264	0.5640	0.8391	1.1636	2.2070	2.6681	3.3280	4.4358

Fineness Modulus
2.73

Alpha Analytical

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	5.0	17.4	56.0	20.0	1.6	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			2.5729	1.3150	1.0565	0.6094	0.2892	0.2002	1.41	6.57

	Material Description	USCS	AASHTO
○		SW	

Project No. **Client:**
Project:

○ **Source of Sample:** SED-7 (0-6) **Sample Number:** L2114132-11

Alpha Analytical

Mansfield, MA

Remarks:

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

4/6/2021

Location: SED-7 (0-6)
Sample Number: L2114132-11
USCS Classification: SW

Sieve Test Data

Post #200 Wash Test Weights (grams): **Dry Sample and Tare =** 5.04
Tare Wt. = 0.00
Minus #200 from wash = 0.0%

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
5.04	0.00	3"	0.00	0.00	100.0
		2"	0.00	0.00	100.0
		1"	0.00	0.00	100.0
		0.75"	0.00	0.00	100.0
		0.50"	0.00	0.00	100.0
		0.375"	0.00	0.00	100.0
		#4	0.25	0.00	95.0
		#10	0.88	0.00	77.6
		#20	1.85	0.00	40.9
		#40	0.97	0.00	21.6
		#60	0.44	0.00	12.9
		#140	0.46	0.00	3.8
		#200	0.11	0.00	1.6

Serial_No:04062114:43

Fractional Components

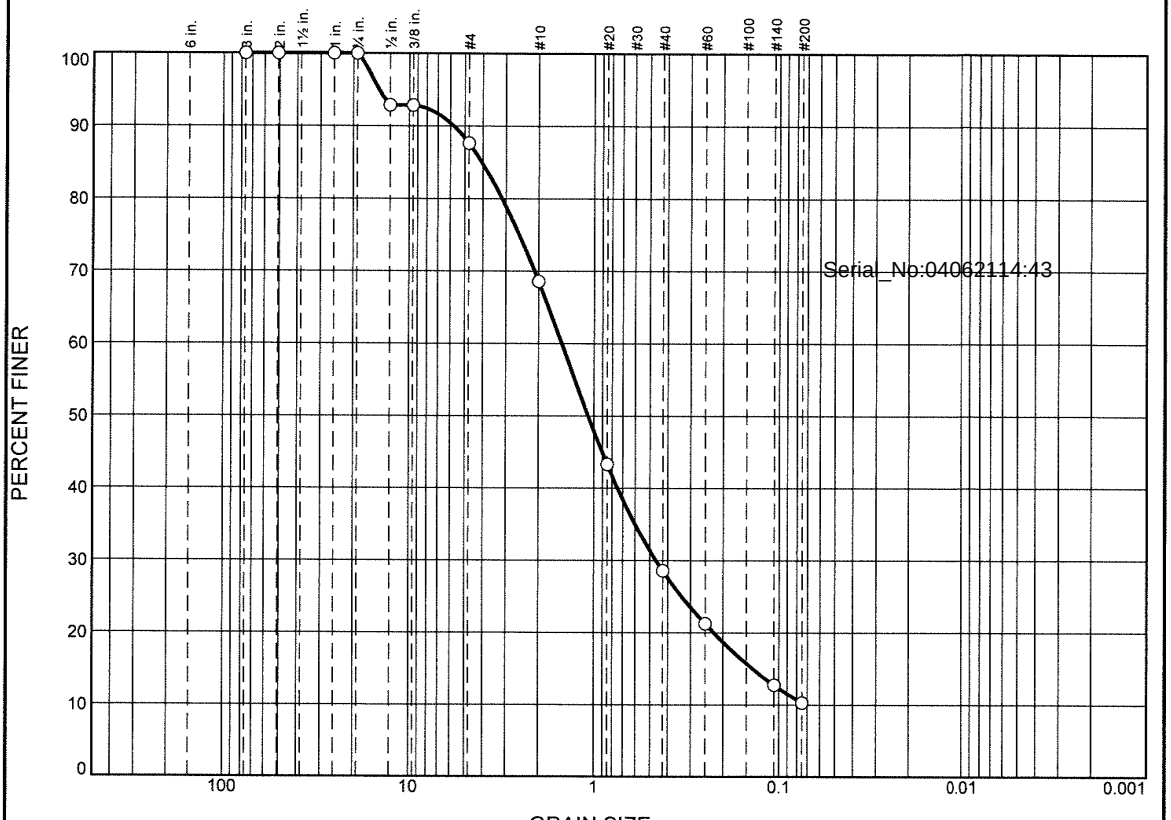
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	5.0	5.0	17.4	56.0	20.0	93.4			1.6

D_5	D_{10}	D_{15}	D_{20}	D_{30}	D_{40}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.1239	0.2002	0.2892	0.3904	0.6094	0.8307	1.0565	1.3150	2.1510	2.5729	3.2810	4.7332

Fineness Modulus	C_u	C_c
3.15	6.57	1.41

Alpha Analytical

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	12.4	19.0	40.0	18.3	10.3	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			4.0533	1.4964	1.0767	0.4624	0.1386			

Material Description	USCS	AASHTO
○		

Project No. **Client:**
Project:

○ **Source of Sample:** SED-8 (0-6) **Sample Number:** L2114132-13

Alpha Analytical

Mansfield, MA

Remarks:

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

4/6/2021

Location: SED-8 (0-6)
Sample Number: L2114132-13

Sieve Test Data

Post #200 Wash Test Weights (grams): **Dry Sample and Tare =** 10.92
Tare Wt. = 0.00
Minus #200 from wash = 0.0%

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
10.92	0.00	3"	0.00	0.00	100.0
		2"	0.00	0.00	100.0
		1"	0.00	0.00	100.0
		0.75"	0.00	0.00	100.0
		0.50"	0.78	0.00	92.9
		0.375"	0.00	0.00	92.9
		#4	0.57	0.00	87.6
		#10	2.08	0.00	68.6
		#20	2.76	0.00	43.3
		#40	1.61	0.00	28.6
		#60	0.80	0.00	21.2
		#140	0.93	0.00	12.7
		#200	0.27	0.00	10.3

Serial_No:04062114:43

Fractional Components

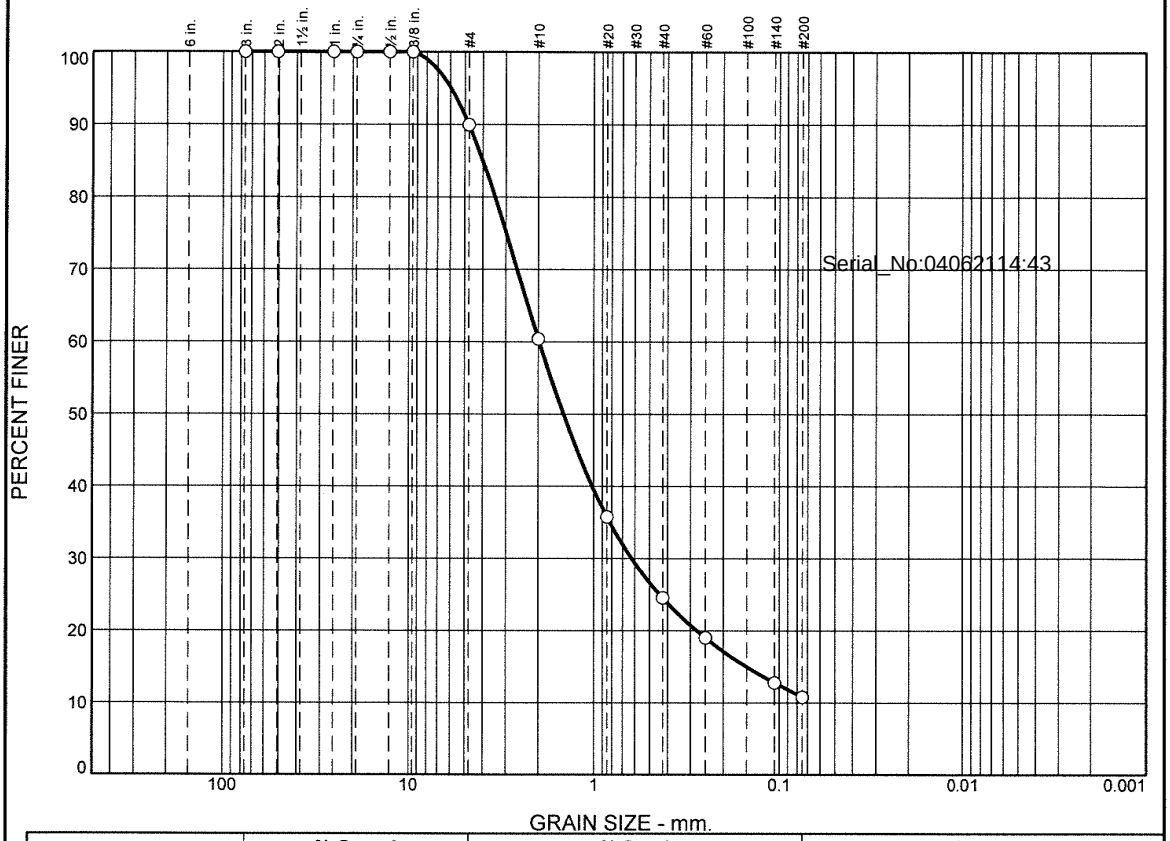
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	12.4	12.4	19.0	40.0	18.3	77.3			10.3

D_5	D_{10}	D_{15}	D_{20}	D_{30}	D_{40}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
		0.1386	0.2248	0.4624	0.7465	1.0767	1.4964	3.1522	4.0533	5.7679	14.5513

Fineness Modulus
3.19

Alpha Analytical

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	10.0	29.6	35.8	13.8	10.8	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			4.0009	1.9776	1.4605	0.6247	0.1501			

	Material Description	USCS	AASHTO
○			

Project No. **Client:**
Project:

○ **Source of Sample:** SED-9 (0-6) **Sample Number:** L2114132-15

Remarks:

Alpha Analytical

Mansfield, MA

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

4/6/2021

Location: SED-9 (0-6)
Sample Number: L2114132-15

Sieve Test Data

Post #200 Wash Test Weights (grams): **Dry Sample and Tare =** 21.21
Tare Wt. = 0.00
Minus #200 from wash = 0.0%

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
21.21	0.00	3"	0.00	0.00	100.0
		2"	0.00	0.00	100.0
		1"	0.00	0.00	100.0
		0.75"	0.00	0.00	100.0
		0.50"	0.00	0.00	100.0
		0.375"	0.00	0.00	100.0
		#4	2.13	0.00	90.0
		#10	6.27	0.00	60.4
		#20	5.22	0.00	35.8
		#40	2.38	0.00	24.6
		#60	1.18	0.00	19.0
		#140	1.32	0.00	12.8
		#200	0.42	0.00	10.8

Serial_No:04062114:43

Fractional Components

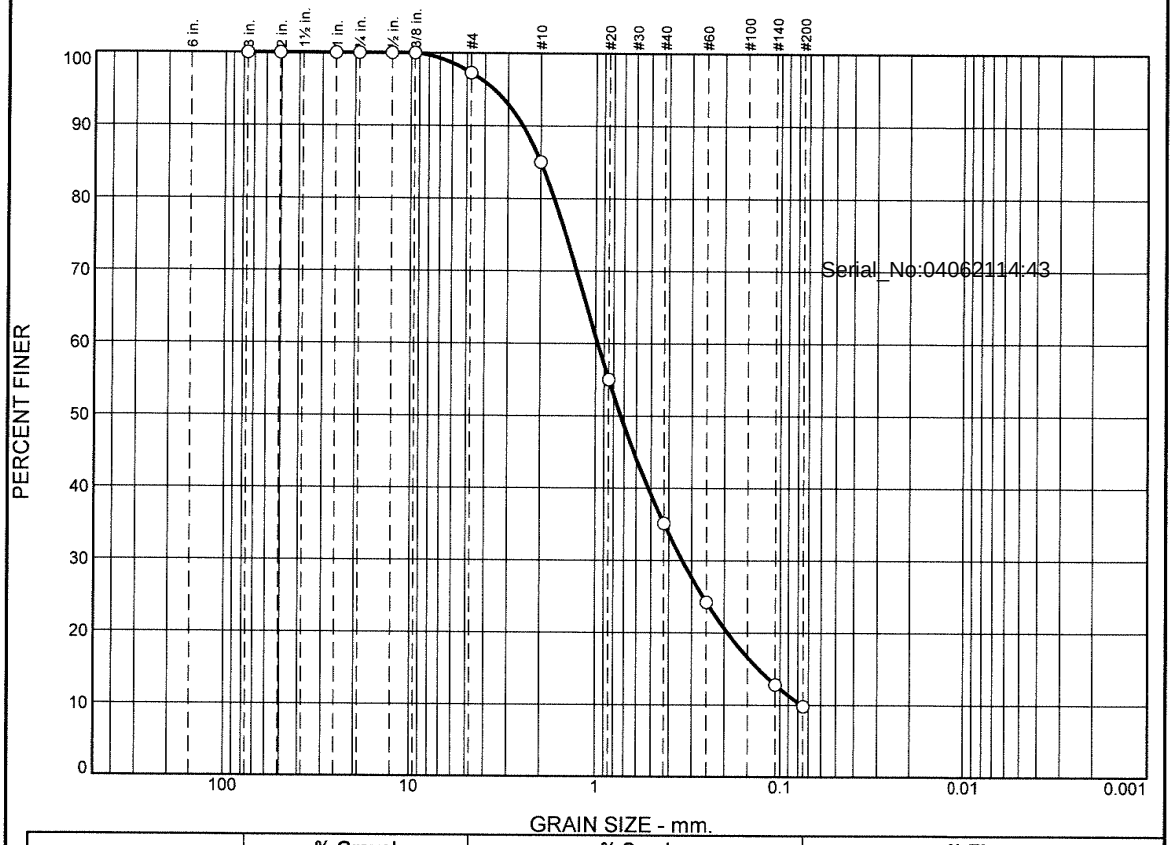
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	10.0	10.0	29.6	35.8	13.8	79.2			10.8

D_5	D_{10}	D_{15}	D_{20}	D_{30}	D_{40}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
		0.1501	0.2786	0.6247	1.0198	1.4605	1.9776	3.4377	4.0009	4.7577	5.9515

Fineness Modulus
3.35

Alpha Analytical

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	2.7	12.3	49.9	25.3	9.8	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			1.9990	0.9754	0.7306	0.3372	0.1309	0.0768	1.52	12.71

	Material Description	USCS	AASHTO
○			

Project No. **Client:**
Project:

○ **Source of Sample:** SED-10 (0-6) **Sample Number:** L2114132-17

Alpha Analytical

Mansfield, MA

Remarks:

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

4/6/2021

Location: SED-10 (0-6)
Sample Number: L2114132-17

Sieve Test Data

Post #200 Wash Test Weights (grams): **Dry Sample and Tare =** 3.67
Tare Wt. = 0.00
Minus #200 from wash = 0.0%

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
3.67	0.00	3"	0.00	0.00	100.0
		2"	0.00	0.00	100.0
		1"	0.00	0.00	100.0
		0.75"	0.00	0.00	100.0
		0.50"	0.00	0.00	100.0
		0.375"	0.00	0.00	100.0
		#4	0.10	0.00	97.3
		#10	0.45	0.00	85.0
		#20	1.10	0.00	55.0
		#40	0.73	0.00	35.1
		#60	0.40	0.00	24.3
		#140	0.42	0.00	12.8
		#200	0.11	0.00	9.8

Serial_No:04062114:43

Fractional Components

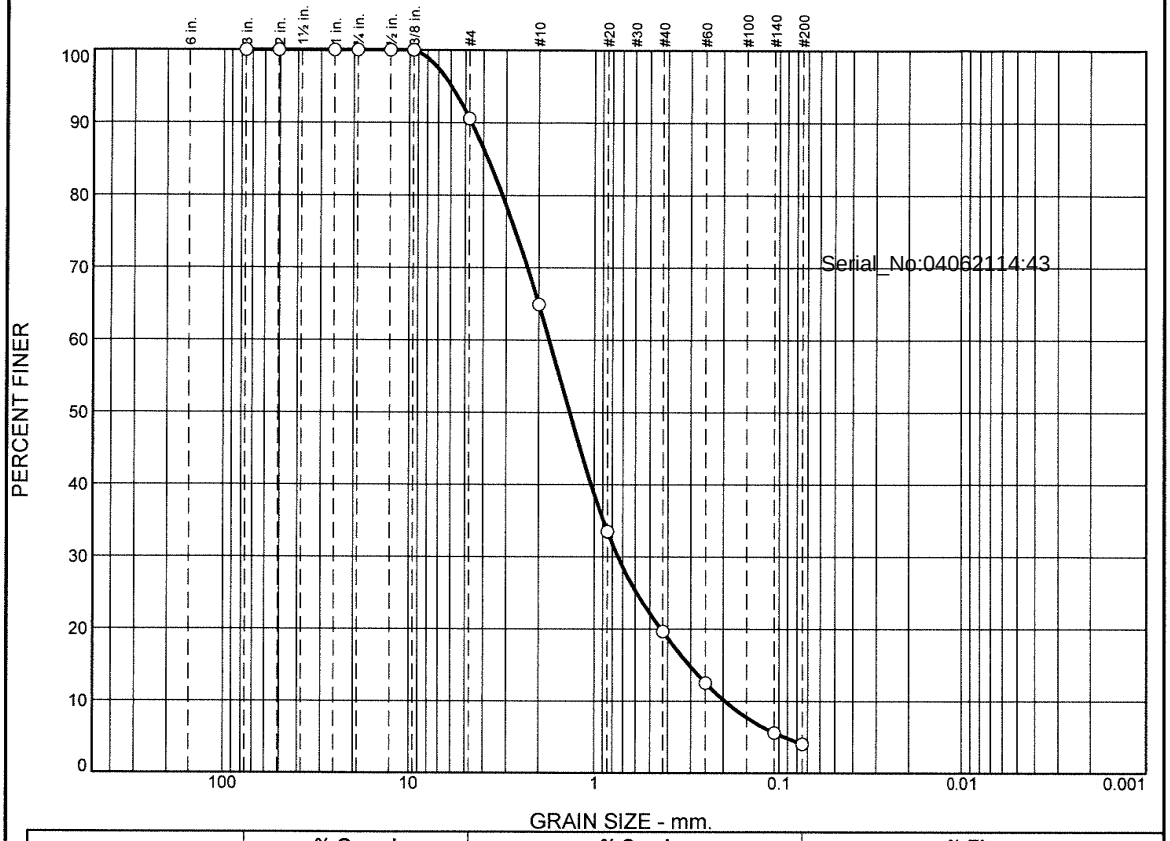
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	2.7	2.7	12.3	49.9	25.3	87.5			9.8

D_5	D_{10}	D_{15}	D_{20}	D_{30}	D_{40}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
	0.0768	0.1309	0.1922	0.3372	0.5167	0.7306	0.9754	1.6887	1.9990	2.4962	3.5749

Fineness Modulus	C_u	C_c
2.58	12.71	1.52

Alpha Analytical

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	9.4	25.7	45.2	15.7	4.0	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_C	C_U
○			3.7701	1.7564	1.3607	0.7443	0.3056	0.1963	1.61	8.95

	Material Description	USCS	AASHTO
○		SW	

Project No. **Client:**
Project:

○ **Source of Sample:** SED-11 (0-6) **Sample Number:** L2114132-19

Alpha Analytical

Mansfield, MA

Remarks:

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

4/6/2021

Location: SED-11 (0-6)
Sample Number: L2114132-19
USCS Classification: SW

Sieve Test Data

Post #200 Wash Test Weights (grams): **Dry Sample and Tare =** 5.19
Tare Wt. = 0.00
Minus #200 from wash = 0.0%

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
5.19	0.00	3"	0.00	0.00	100.0
		2"	0.00	0.00	100.0
		1"	0.00	0.00	100.0
		0.75"	0.00	0.00	100.0
		0.50"	0.00	0.00	100.0
		0.375"	0.00	0.00	100.0
		#4	0.49	0.00	90.6
		#10	1.33	0.00	64.9
		#20	1.63	0.00	33.5
		#40	0.72	0.00	19.7
		#60	0.37	0.00	12.5
		#140	0.36	0.00	5.6
		#200	0.08	0.00	4.0

Serial_No:04062114:43

Fractional Components

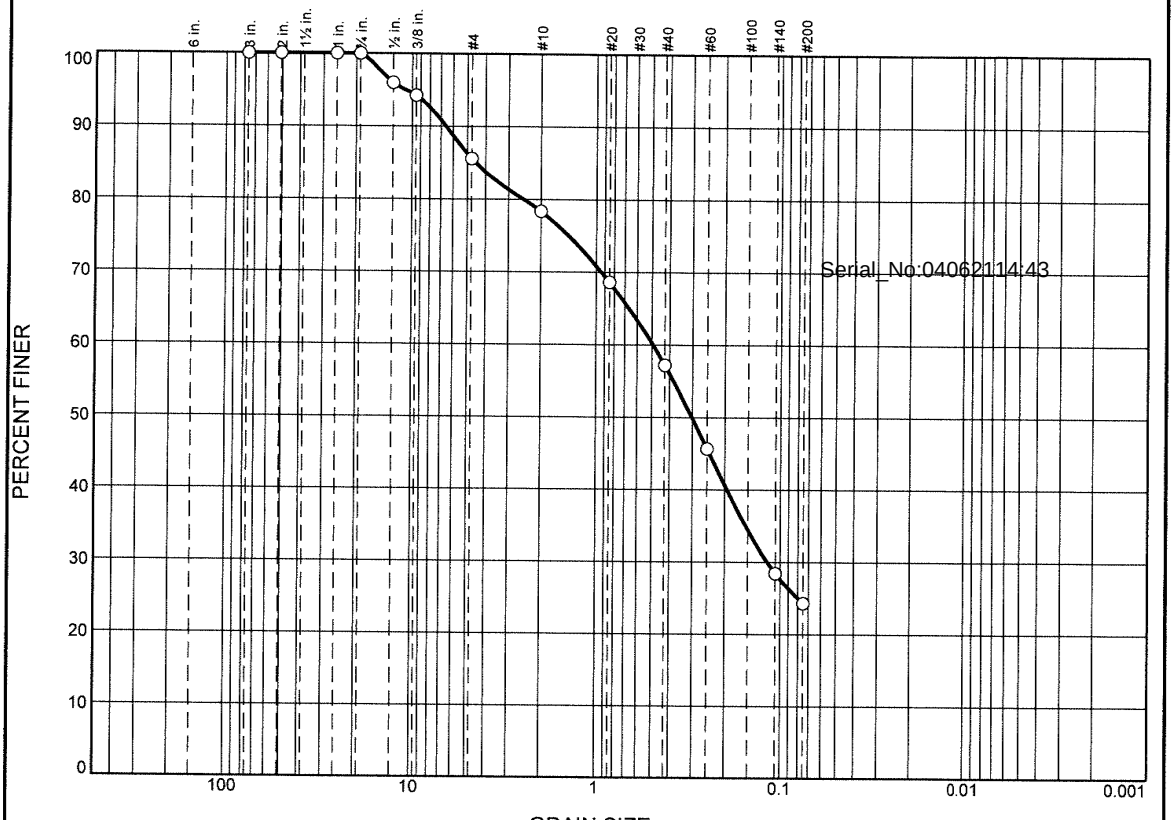
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	9.4	9.4	25.7	45.2	15.7	86.6			4.0

D_5	D_{10}	D_{15}	D_{20}	D_{30}	D_{40}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.0938	0.1963	0.3056	0.4350	0.7443	1.0404	1.3607	1.7564	3.1479	3.7701	4.6320	5.9504

Fineness Modulus	C_u	C_c
3.46	8.95	1.61

Alpha Analytical

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	14.4	7.3	21.1	32.9	24.3	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			4.5246	0.4925	0.3025	0.1173				

Material Description	USCS	AASHTO
○		

Project No. **Client:**
Project:

○ **Source of Sample:** REOCCUPY T4E (6-12) **Sample Number:** L2114132-21

Alpha Analytical

Mansfield, MA

Remarks:

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

4/6/2021

Location: REOCCUPY T4E (6-12)
Sample Number: L2114132-21

Sieve Test Data

Post #200 Wash Test Weights (grams): **Dry Sample and Tare =** 136.79
Tare Wt. = 0.00
Minus #200 from wash = 0.0%

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
136.79	0.00	3"	0.00	0.00	100.0
		2"	0.00	0.00	100.0
		1"	0.00	0.00	100.0
		0.75"	0.00	0.00	100.0
		0.50"	5.51	0.00	96.0
		0.375"	2.38	0.00	94.2
		#4	11.85	0.00	85.6
		#10	9.89	0.00	78.3
		#20	13.30	0.00	68.6
		#40	15.59	0.00	57.2
		#60	15.79	0.00	45.7
		#140	23.56	0.00	28.5
		#200	5.66	0.00	24.3

Serial_No:04062114:43

Fractional Components

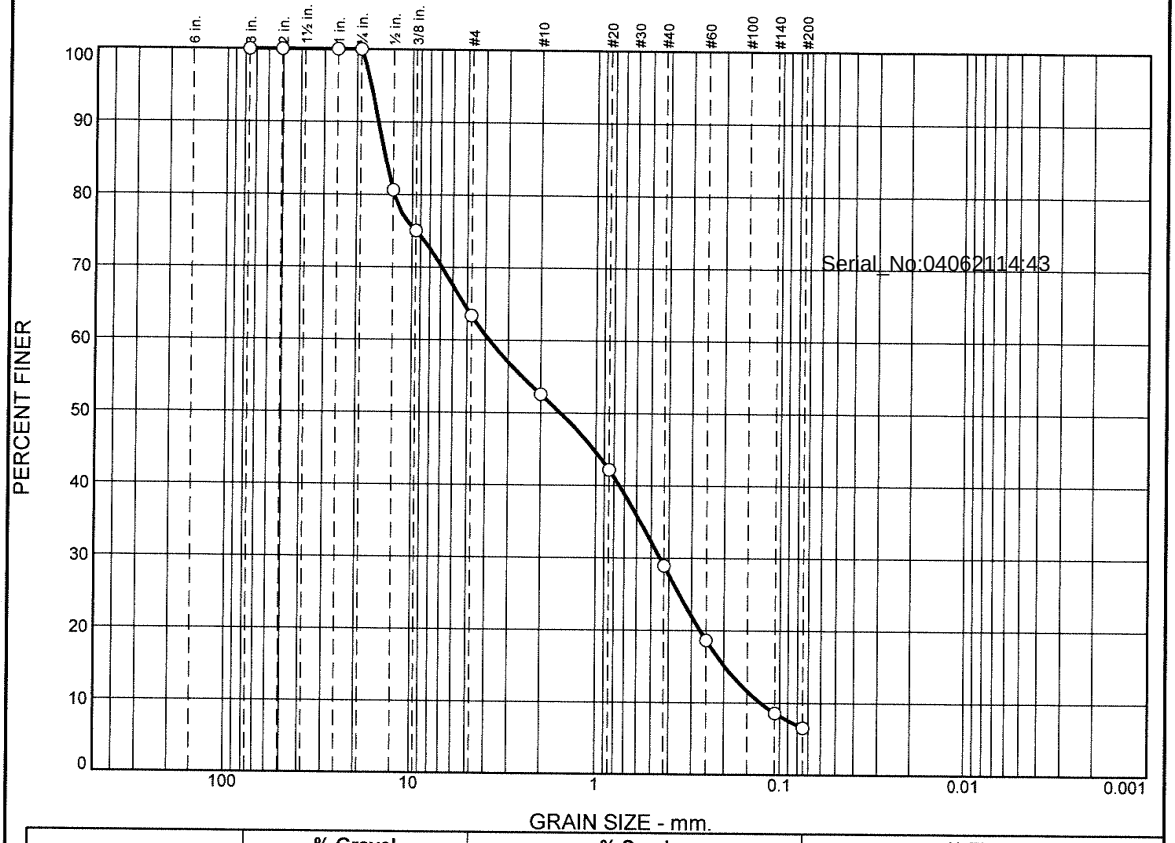
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	14.4	14.4	7.3	21.1	32.9	61.3			24.3

D_5	D_{10}	D_{15}	D_{20}	D_{30}	D_{40}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
				0.1173	0.1946	0.3025	0.4925	2.4880	4.5246	6.5680	10.8754

Fineness Modulus
2.20

Alpha Analytical

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	36.6	10.8	23.7	22.4	6.5	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			13.9585	3.8018	1.5644	0.4473	0.1976	0.1271	0.41	29.92

	Material Description	USCS	AASHTO
○			

Project No. **Client:**
Project:

○ **Source of Sample:** T4-1E (0-6) **Sample Number:** L2114132-22

Alpha Analytical

Mansfield, MA

Remarks:

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

4/6/2021

Location: T4-1E (0-6)

Sample Number: L2114132-22

Sieve Test Data

Post #200 Wash Test Weights (grams): **Dry Sample and Tare =** 131.08
Tare Wt. = 0.00
Minus #200 from wash = 0.0%

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
131.08	0.00	3"	0.00	0.00	100.0
		2"	0.00	0.00	100.0
		1"	0.00	0.00	100.0
		0.75"	0.00	0.00	100.0
		0.50"	25.40	0.00	80.6
		0.375"	7.32	0.00	75.0
		#4	15.27	0.00	63.4
		#10	14.19	0.00	52.6
		#20	13.61	0.00	42.2
		#40	17.35	0.00	28.9
		#60	13.51	0.00	18.6
		#140	13.20	0.00	8.6
		#200	2.66	0.00	6.5

Serial_No:04062114:43

Fractional Components

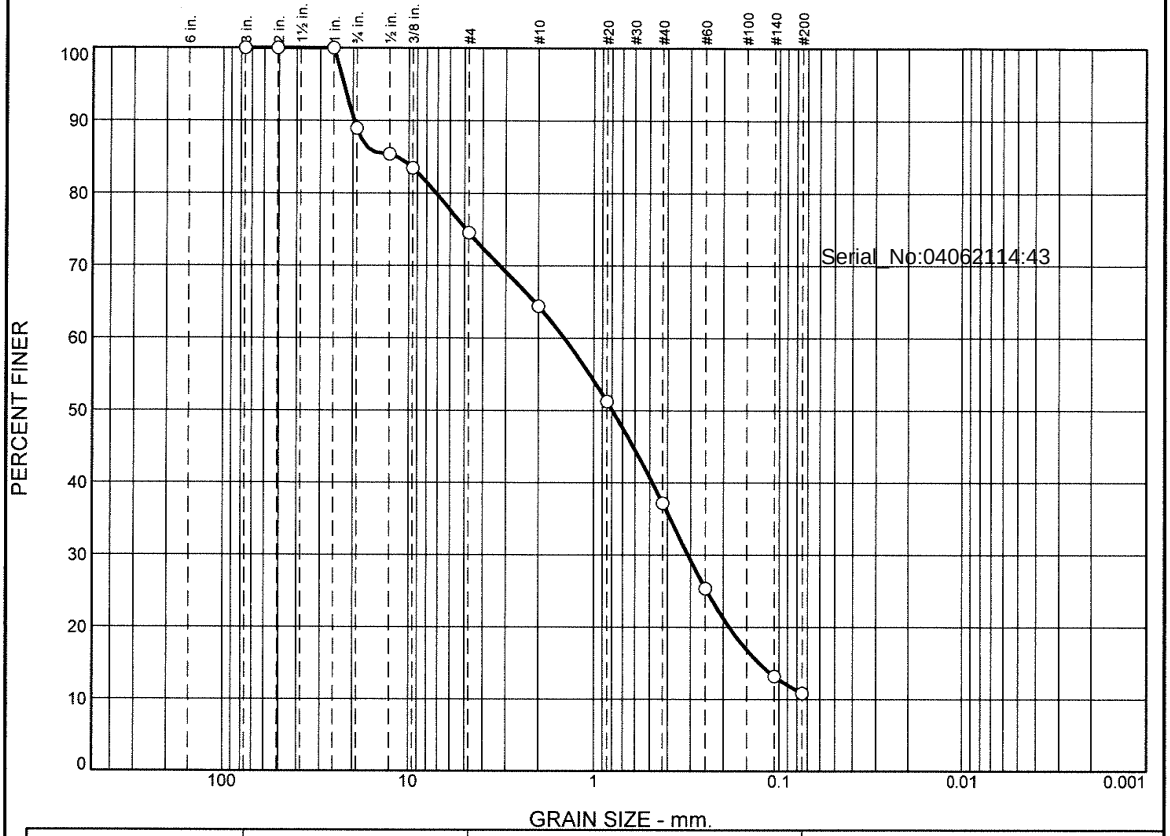
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	36.6	36.6	10.8	23.7	22.4	56.9			6.5

D_5	D_{10}	D_{15}	D_{20}	D_{30}	D_{40}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
	0.1271	0.1976	0.2702	0.4473	0.7465	1.5644	3.8018	12.4850	13.9585	15.2777	16.7552

Fineness Modulus	C_u	C_c
3.91	29.92	0.41

Alpha Analytical

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	11.1	14.4	10.1	27.2	26.4	10.8	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			11.5514	1.4463	0.7938	0.3099	0.1282			

	Material Description	USCS	AASHTO
○			

Project No. **Client:**
Project:

○ **Source of Sample:** T4-1C (0-6) **Sample Number:** L2114132-23

Alpha Analytical

Mansfield, MA

Remarks:

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

4/6/2021

Location: T4-1C (0-6)

Sample Number: L2114132-23

Sieve Test Data

Post #200 Wash Test Weights (grams): **Dry Sample and Tare =** 105.92
Tare Wt. = 0.00
Minus #200 from wash = 0.0%

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
105.92	0.00	3"	0.00	0.00	100.0
		2"	0.00	0.00	100.0
		1"	0.00	0.00	100.0
		0.75"	11.72	0.00	88.9
		0.50"	3.77	0.00	85.4
		0.375"	2.04	0.00	83.4
		#4	9.44	0.00	74.5
		#10	10.71	0.00	64.4
		#20	13.95	0.00	51.3
		#40	14.90	0.00	37.2
		#60	12.51	0.00	25.4
		#140	12.93	0.00	13.2
		#200	2.49	0.00	10.8

Serial_No:04062114:43

Fractional Components

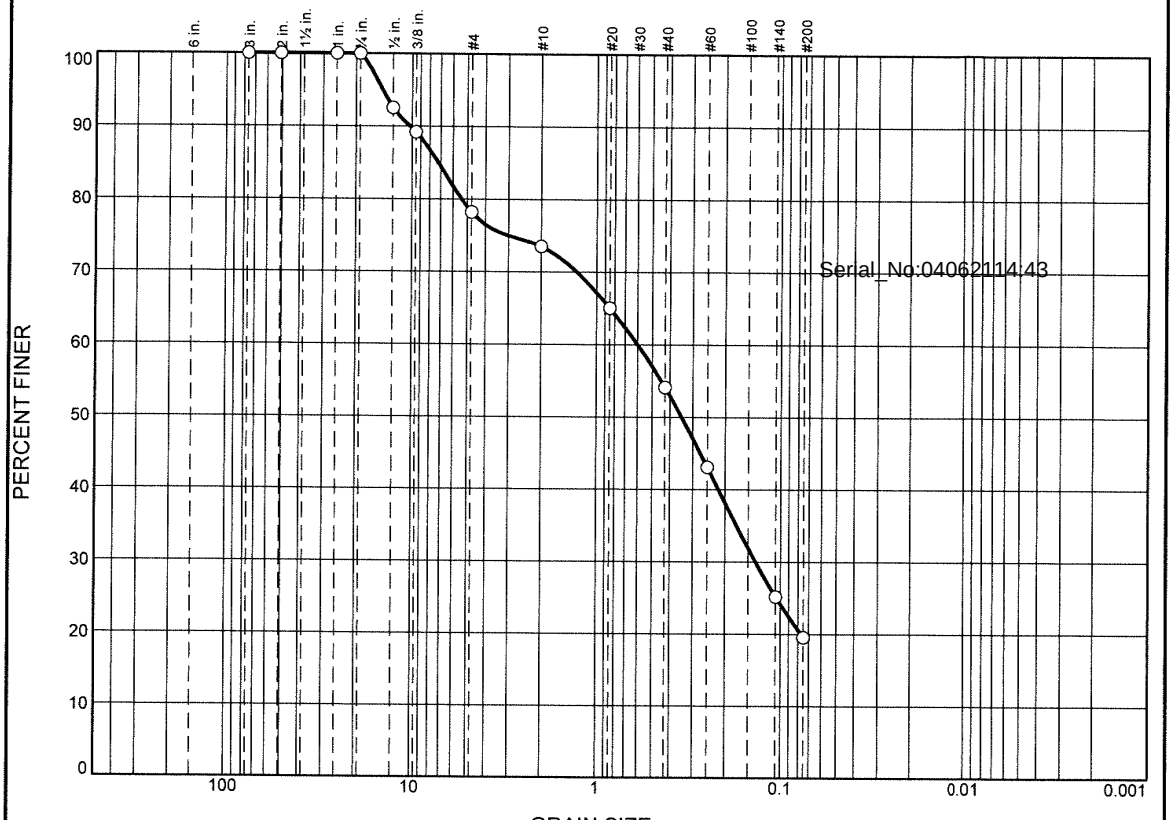
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	11.1	14.4	25.5	10.1	27.2	26.4	63.7			10.8

D_5	D_{10}	D_{15}	D_{20}	D_{30}	D_{40}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
		0.1282	0.1859	0.3099	0.4828	0.7938	1.4463	7.1200	11.5514	19.6900	22.3075

Fineness Modulus
3.39

Alpha Analytical

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	21.8	4.7	19.4	34.5	19.6	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_C	C_U
○			7.2085	0.5991	0.3447	0.1364				

Material Description	USCS	AASHTO
○		

Project No. **Client:**
Project:

○ **Source of Sample:** T4-1W (0-6) **Sample Number:** L2114132-25

Alpha Analytical

Mansfield, MA

Remarks:

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

4/6/2021

Location: T4-1W (0-6)
Sample Number: L2114132-25

Sieve Test Data

Post #200 Wash Test Weights (grams): **Dry Sample and Tare =** 79.86
Tare Wt. = 0.00
Minus #200 from wash = 0.0%

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
79.86	0.00	3"	0.00	0.00	100.0
		2"	0.00	0.00	100.0
		1"	0.00	0.00	100.0
		0.75"	0.00	0.00	100.0
		0.50"	5.97	0.00	92.5
		0.375"	2.65	0.00	89.2
		#4	8.78	0.00	78.2
		#10	3.75	0.00	73.5
		#20	6.77	0.00	65.0
		#40	8.71	0.00	54.1
		#60	8.81	0.00	43.1
		#140	14.30	0.00	25.2
		#200	4.50	0.00	19.6

Serial_No:04062114:43

Fractional Components

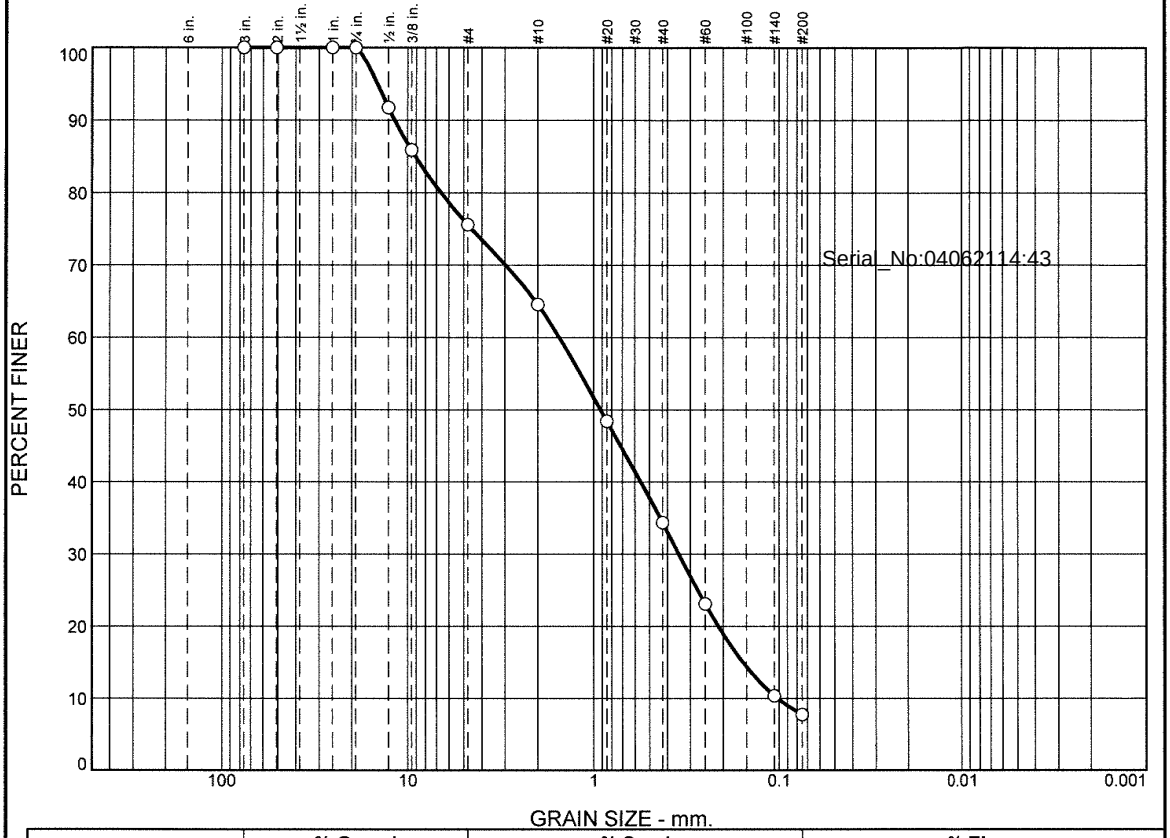
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	21.8	21.8	4.7	19.4	34.5	58.6			19.6

D_5	D_{10}	D_{15}	D_{20}	D_{30}	D_{40}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
			0.0771	0.1364	0.2173	0.3447	0.5991	5.3890	7.2085	10.2631	14.4223

Fineness Modulus
2.50

Alpha Analytical

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	24.4	11.0	30.2	26.7	7.7	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			9.0622	1.5304	0.9187	0.3465	0.1563	0.1019	0.77	15.02

	Material Description	USCS	AASHTO
○			

Project No. **Client:**
Project:

○ **Source of Sample:** T4-2E (0-6) **Sample Number:** L2114132-27

Alpha Analytical

Mansfield, MA

Remarks:

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

4/6/2021

Location: T4-2E (0-6)

Sample Number: L2114132-27

Sieve Test Data

Post #200 Wash Test Weights (grams): **Dry Sample and Tare =** 141.30
Tare Wt. = 0.00
Minus #200 from wash = 0.0%

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
141.30	0.00	3"	0.00	0.00	100.0
		2"	0.00	0.00	100.0
		1"	0.00	0.00	100.0
		0.75"	0.00	0.00	100.0
		0.50"	11.68	0.00	91.7
		0.375"	8.27	0.00	85.9
		#4	14.54	0.00	75.6
		#10	15.58	0.00	64.6
		#20	22.79	0.00	48.4
		#40	19.82	0.00	34.4
		#60	15.95	0.00	23.1
		#140	18.04	0.00	10.4
		#200	3.72	0.00	7.7

Serial_No:04062114:43

Fractional Components

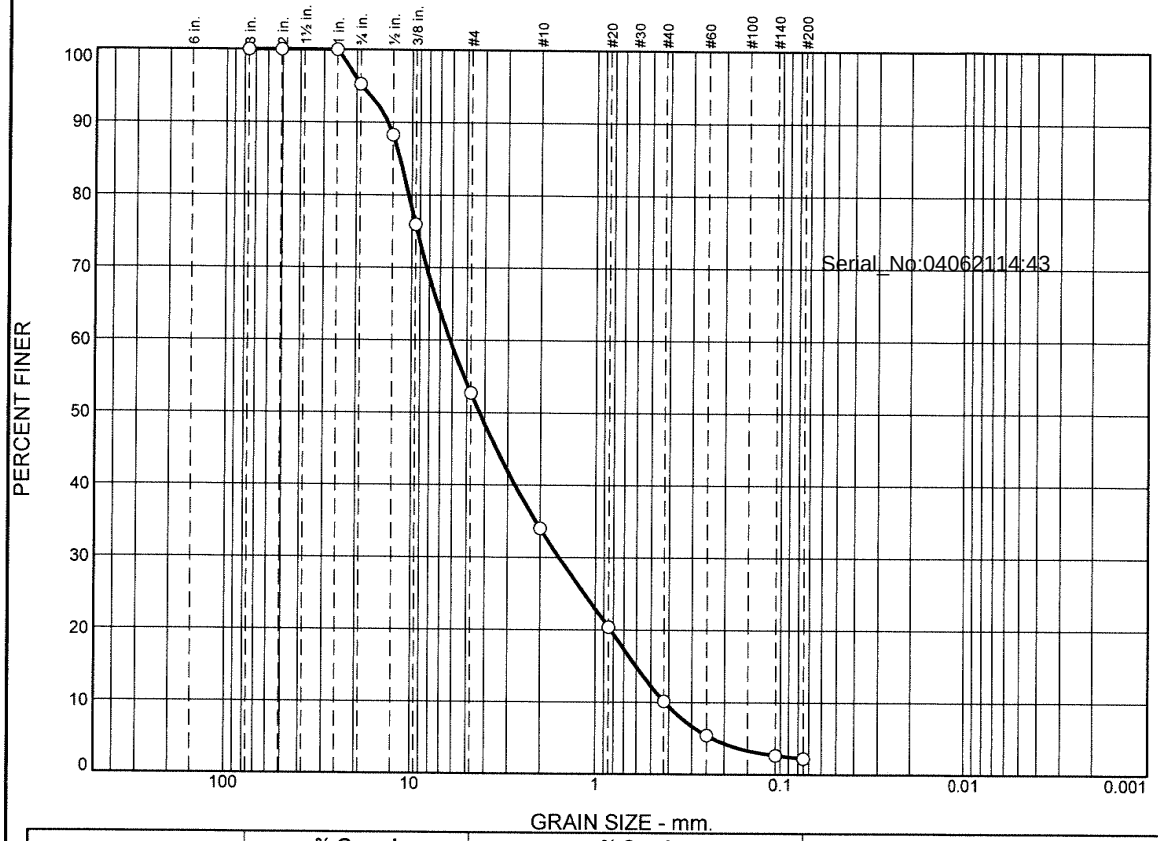
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	24.4	24.4	11.0	30.2	26.7	67.9			7.7

D_5	D_{10}	D_{15}	D_{20}	D_{30}	D_{40}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
	0.1019	0.1563	0.2122	0.3465	0.5571	0.9187	1.5304	6.6124	9.0622	11.7575	14.5236

Fineness Modulus	C_u	C_c
3.34	15.02	0.77

Alpha Analytical

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	4.8	42.5	18.7	23.9	7.9	2.2	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			11.6281	6.1788	4.2654	1.5776	0.6033	0.4207	0.96	14.69

	Material Description	USCS	AASHTO
○		SP	

Project No. **Client:**
Project:

○ **Source of Sample:** T4-2C (0-6) **Sample Number:** L2114132-29

Alpha Analytical

Mansfield, MA

Remarks:

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

4/6/2021

Location: T4-2C (0-6)
Sample Number: L2114132-29
USCS Classification: SP

Sieve Test Data

Post #200 Wash Test Weights (grams): **Dry Sample and Tare =** 193.35
Tare Wt. = 0.00
Minus #200 from wash = 0.0%

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
193.35	0.00	3"	0.00	0.00	100.0
		2"	0.00	0.00	100.0
		1"	0.00	0.00	100.0
		0.75"	9.19	0.00	95.2
		0.50"	13.47	0.00	88.3
		0.375"	23.84	0.00	76.0
		#4	44.93	0.00	52.7
		#10	36.13	0.00	34.0
		#20	26.38	0.00	20.4
		#40	19.84	0.00	10.1
		#60	9.13	0.00	5.4
		#140	5.30	0.00	2.7
		#200	0.85	0.00	2.2

Serial_No:04062114:43

Fractional Components

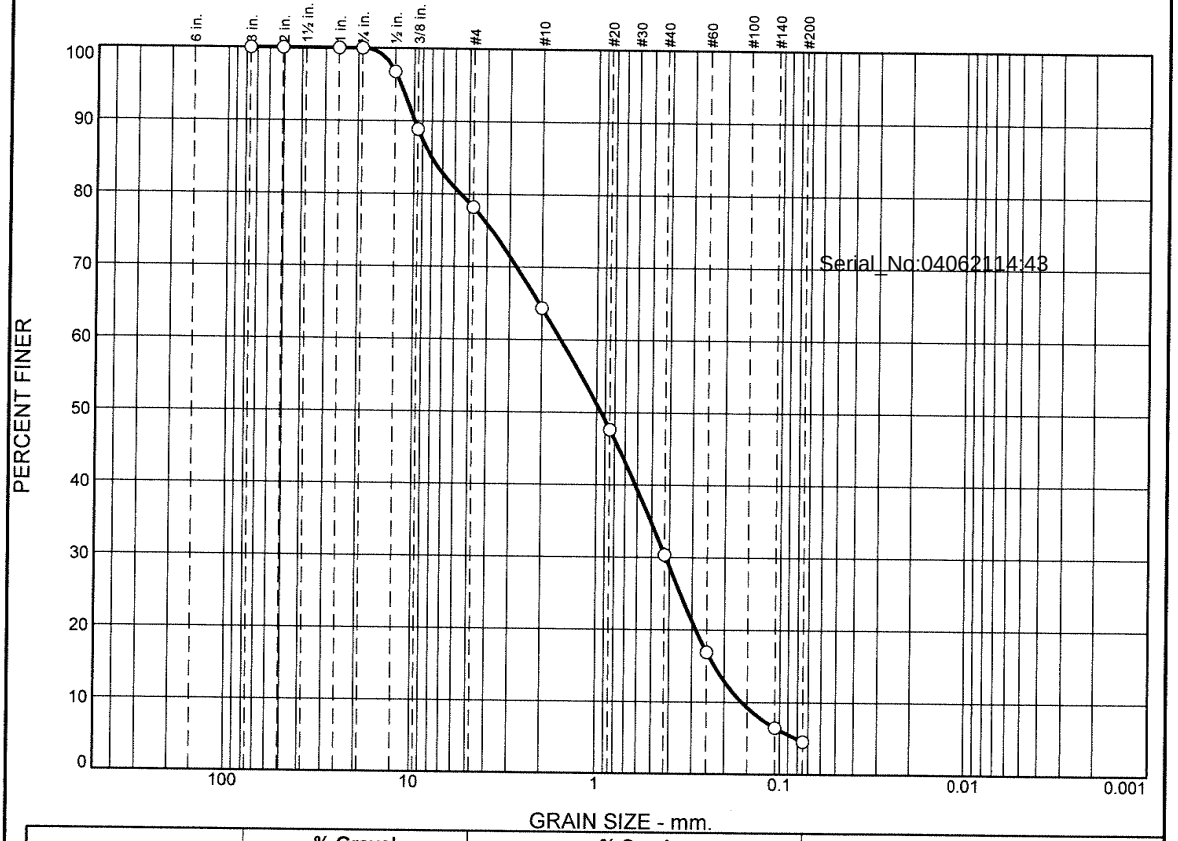
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	4.8	42.5	47.3	18.7	23.9	7.9	50.5			2.2

D_5	D_{10}	D_{15}	D_{20}	D_{30}	D_{40}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.2332	0.4207	0.6033	0.8295	1.5776	2.7348	4.2654	6.1788	10.3976	11.6281	13.4980	18.7266

Fineness Modulus	C_u	C_c
4.89	14.69	0.96

Alpha Analytical

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	21.8	13.9	33.9	25.8	4.6	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			8.0129	1.5753	0.9471	0.4191	0.2267	0.1609	0.69	9.79

	Material Description	USCS	AASHTO
○		SP	

Project No. **Client:**
Project:

○ **Source of Sample:** T4-2W (0-6) **Sample Number:** L2114132-30

Alpha Analytical

Mansfield, MA

Remarks:

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

4/6/2021

Location: T4-2W (0-6)
Sample Number: L2114132-30
USCS Classification: SP

Sieve Test Data

Post #200 Wash Test Weights (grams): **Dry Sample and Tare =** 105.61
Tare Wt. = 0.00
Minus #200 from wash = 0.0%

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
105.61	0.00	3"	0.00	0.00	100.0
		2"	0.00	0.00	100.0
		1"	0.00	0.00	100.0
		0.75"	0.00	0.00	100.0
		0.50"	3.40	0.00	96.8
		0.375"	8.36	0.00	88.9
		#4	11.26	0.00	78.2
		#10	14.63	0.00	64.3
		#20	17.64	0.00	47.6
		#40	18.24	0.00	30.4
		#60	14.21	0.00	16.9
		#140	11.03	0.00	6.5
		#200	2.03	0.00	4.6

Serial_No:04062114:43

Fractional Components

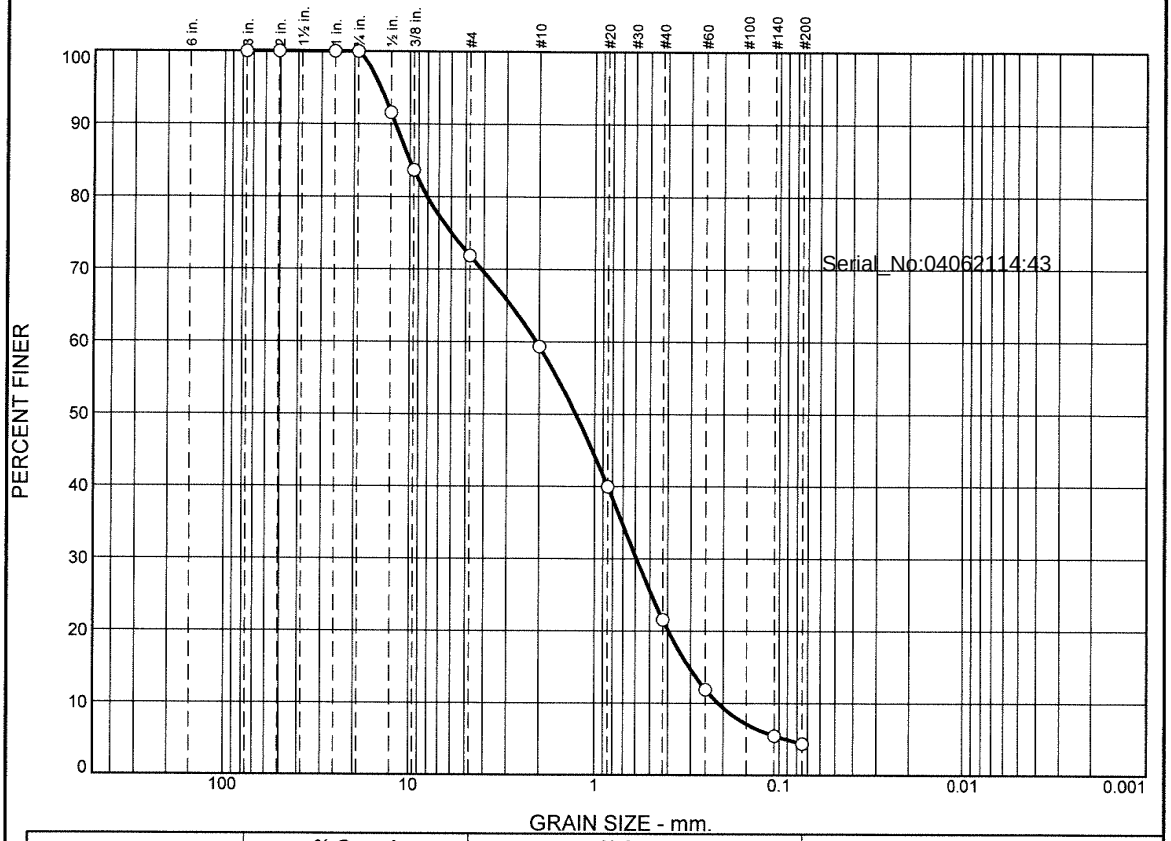
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	21.8	21.8	13.9	33.9	25.8	73.6			4.6

D_5	D_{10}	D_{15}	D_{20}	D_{30}	D_{40}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.0817	0.1609	0.2267	0.2865	0.4191	0.6151	0.9471	1.5753	5.5643	8.0129	9.9238	11.7975

Fineness Modulus	C_u	C_c
3.41	9.79	0.69

Alpha Analytical

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	28.1	12.6	37.7	17.2	4.4	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			10.0290	2.0766	1.2696	0.5909	0.3068	0.2135	0.79	9.72

	Material Description	USCS	AASHTO
○		SP	

Project No. **Client:**
Project:

○ **Source of Sample:** T5-1E (0-6) **Sample Number:** L2114132-32

Alpha Analytical

Mansfield, MA

Remarks:

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

4/6/2021

Location: T5-1E (0-6)
Sample Number: L2114132-32
USCS Classification: SP

Sieve Test Data

Post #200 Wash Test Weights (grams): **Dry Sample and Tare =** 177.35
Tare Wt. = 0.00
Minus #200 from wash = 0.0%

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
177.35	0.00	3"	0.00	0.00	100.0
		2"	0.00	0.00	100.0
		1"	0.00	0.00	100.0
		0.75"	0.00	0.00	100.0
		0.50"	14.95	0.00	91.6
		0.375"	13.98	0.00	83.7
		#4	20.90	0.00	71.9
		#10	22.29	0.00	59.3
		#20	34.31	0.00	40.0
		#40	32.68	0.00	21.6
		#60	17.16	0.00	11.9
		#140	11.40	0.00	5.5
		#200	1.92	0.00	4.4

Serial_No:04062114:43

Fractional Components

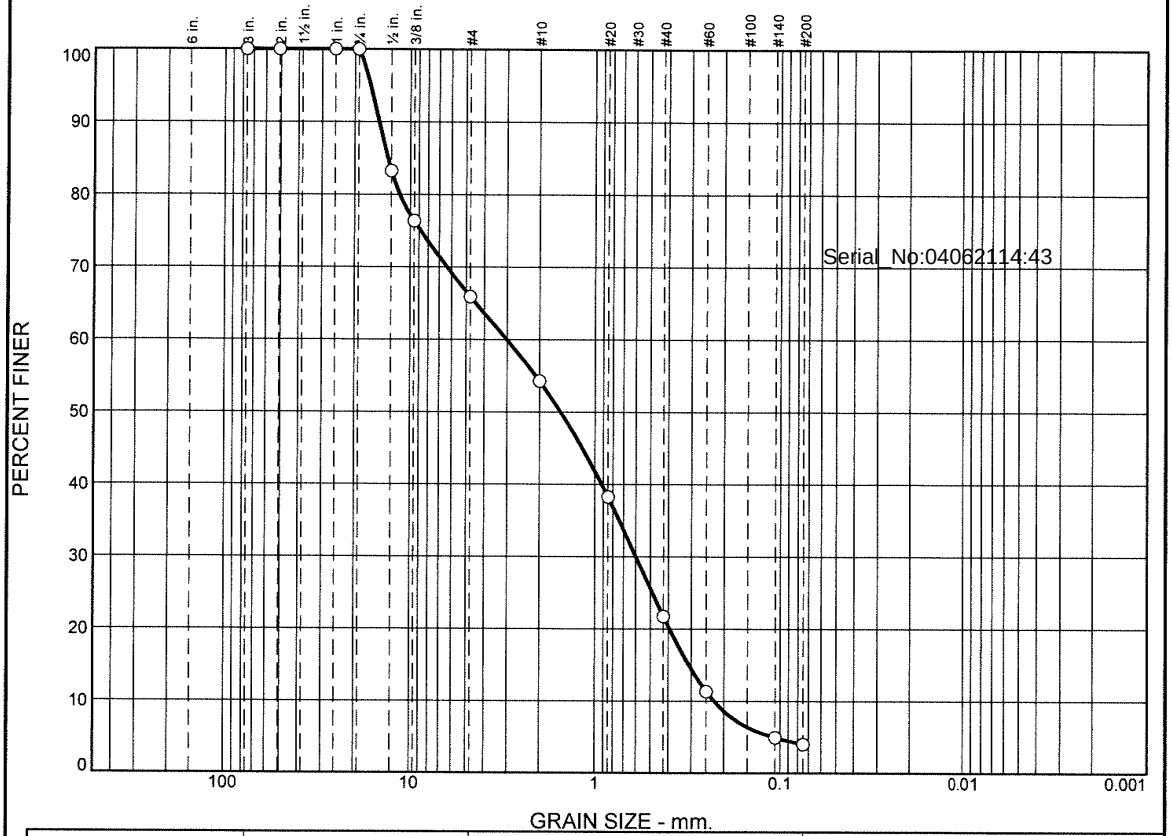
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	28.1	28.1	12.6	37.7	17.2	67.5			4.4

D_5	D_{10}	D_{15}	D_{20}	D_{30}	D_{40}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.0925	0.2135	0.3068	0.3966	0.5909	0.8504	1.2696	2.0766	8.0631	10.0290	12.0144	14.4196

Fineness Modulus	C_u	C_c
3.82	9.72	0.79

Alpha Analytical

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	34.1	11.6	32.5	17.8	4.0	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			13.2576	3.0177	1.5372	0.5996	0.3100	0.2268	0.53	13.30

	Material Description	USCS	AASHTO
○		SP	

Project No. **Client:**
Project:

○ **Source of Sample:** T5-1C (0-6) **Sample Number:** L2114132-34

Alpha Analytical

Mansfield, MA

Remarks:

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

4/6/2021

Location: T5-1C (0-6)
Sample Number: L2114132-34
USCS Classification: SP

Sieve Test Data

Post #200 Wash Test Weights (grams): **Dry Sample and Tare =** 130.24
Tare Wt. = 0.00
Minus #200 from wash = 0.0%

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
130.24	0.00	3"	0.00	0.00	100.0
		2"	0.00	0.00	100.0
		1"	0.00	0.00	100.0
		0.75"	0.00	0.00	100.0
		0.50"	21.80	0.00	83.3
		0.375"	9.00	0.00	76.4
		#4	13.58	0.00	65.9
		#10	15.19	0.00	54.3
		#20	20.84	0.00	38.3
		#40	21.50	0.00	21.8
		#60	13.58	0.00	11.3
		#140	8.33	0.00	4.9
		#200	1.22	0.00	4.0

Serial_No:04062114:43

Fractional Components

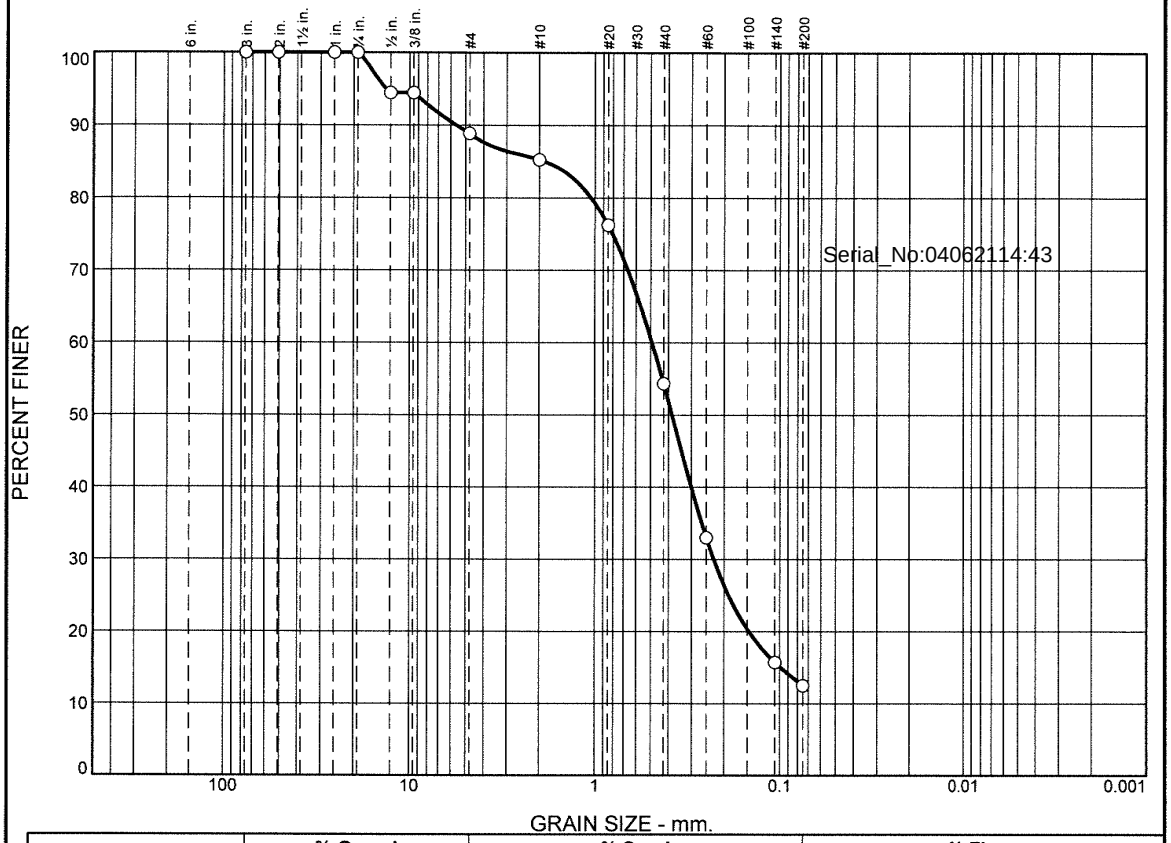
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	34.1	34.1	11.6	32.5	17.8	61.9			4.0

D_5	D_{10}	D_{15}	D_{20}	D_{30}	D_{40}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.1084	0.2268	0.3100	0.3936	0.5996	0.9195	1.5372	3.0177	11.4420	13.2576	14.7596	16.4151

Fineness Modulus	C_u	C_c
4.05	13.30	0.53

Alpha Analytical

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	11.1	3.6	30.9	41.9	12.5	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			1.8696	0.4916	0.3824	0.2278	0.0989			

Material Description	USCS	AASHTO
○		

Project No. **Client:**
Project:

○ **Source of Sample:** T5-1W (0-6) **Sample Number:** L2114132-35

Alpha Analytical

Mansfield, MA

Remarks:

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

4/6/2021

Location: T5-1W (0-6)

Sample Number: L2114132-35

Sieve Test Data

Post #200 Wash Test Weights (grams): **Dry Sample and Tare =** 105.75
Tare Wt. = 0.00
Minus #200 from wash = 0.0%

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
105.75	0.00	3"	0.00	0.00	100.0
		2"	0.00	0.00	100.0
		1"	0.00	0.00	100.0
		0.75"	0.00	0.00	100.0
		0.50"	5.88	0.00	94.4
		0.375"	0.00	0.00	94.4
		#4	5.88	0.00	88.9
		#10	3.83	0.00	85.3
		#20	9.53	0.00	76.2
		#40	23.15	0.00	54.4
		#60	22.58	0.00	33.0
		#140	18.28	0.00	15.7
		#200	3.43	0.00	12.5

Serial_No:04062114:43

Fractional Components

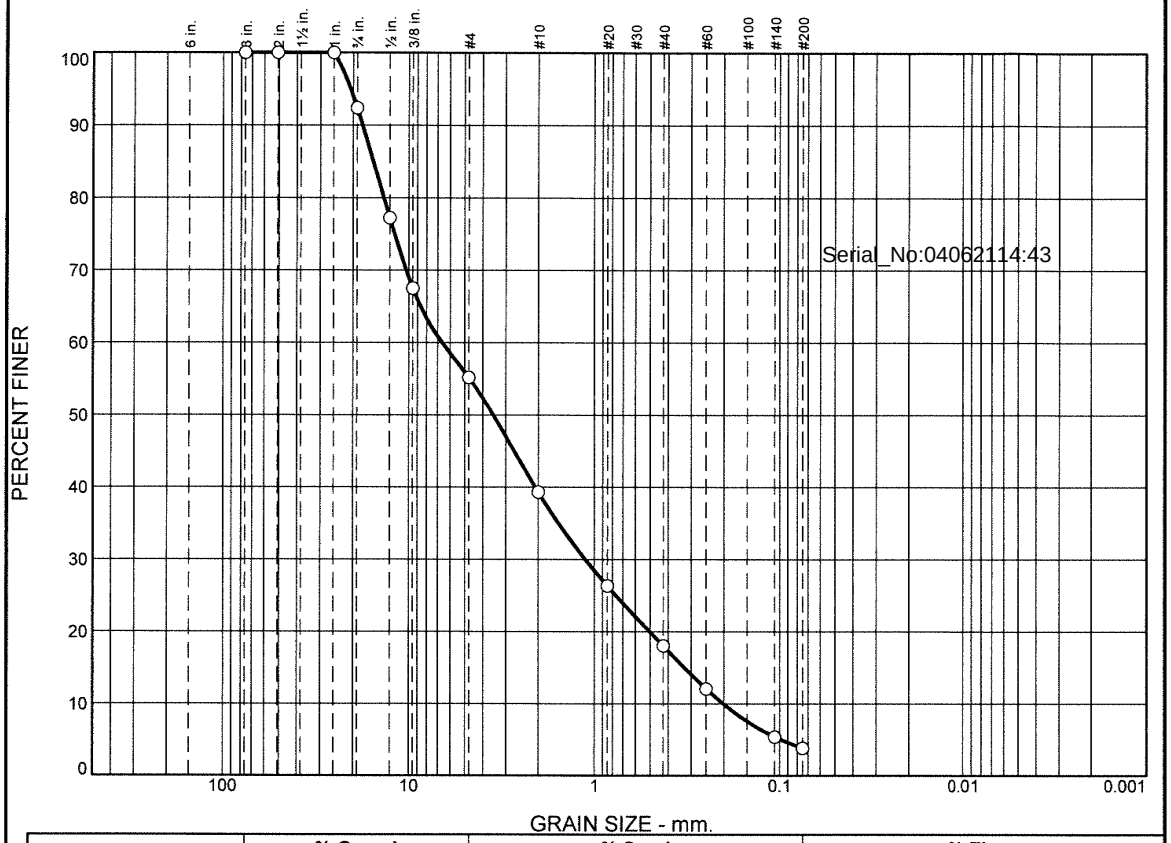
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	11.1	11.1	3.6	30.9	41.9	76.4			12.5

D_5	D_{10}	D_{15}	D_{20}	D_{30}	D_{40}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
		0.0989	0.1468	0.2278	0.3010	0.3824	0.4916	1.0475	1.8696	5.6143	13.4718

Fineness Modulus
2.22

Alpha Analytical

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	7.6	37.2	15.9	21.3	14.2	3.8	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			15.5486	6.6255	3.5056	1.1154	0.3274	0.2019	0.93	32.81

	Material Description	USCS	AASHTO
○		SP	

Project No. **Client:**
Project:

○ **Source of Sample:** T5-2E (0-6) **Sample Number:** L2114132-37

Alpha Analytical

Mansfield, MA

Remarks:

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

4/6/2021

Location: T5-2E (0-6)
Sample Number: L2114132-37
USCS Classification: SP

Sieve Test Data

Post #200 Wash Test Weights (grams): **Dry Sample and Tare =** 161.52
Tare Wt. = 0.00
Minus #200 from wash = 0.0%

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
161.52	0.00	3"	0.00	0.00	100.0
		2"	0.00	0.00	100.0
		1"	0.00	0.00	100.0
		0.75"	12.28	0.00	92.4
		0.50"	24.49	0.00	77.2
		0.375"	15.69	0.00	67.5
		#4	19.92	0.00	55.2
		#10	25.64	0.00	39.3
		#20	20.94	0.00	26.3
		#40	13.44	0.00	18.0
		#60	9.64	0.00	12.1
		#140	10.77	0.00	5.4
		#200	2.56	0.00	3.8

Serial_No:04062114:43

Fractional Components

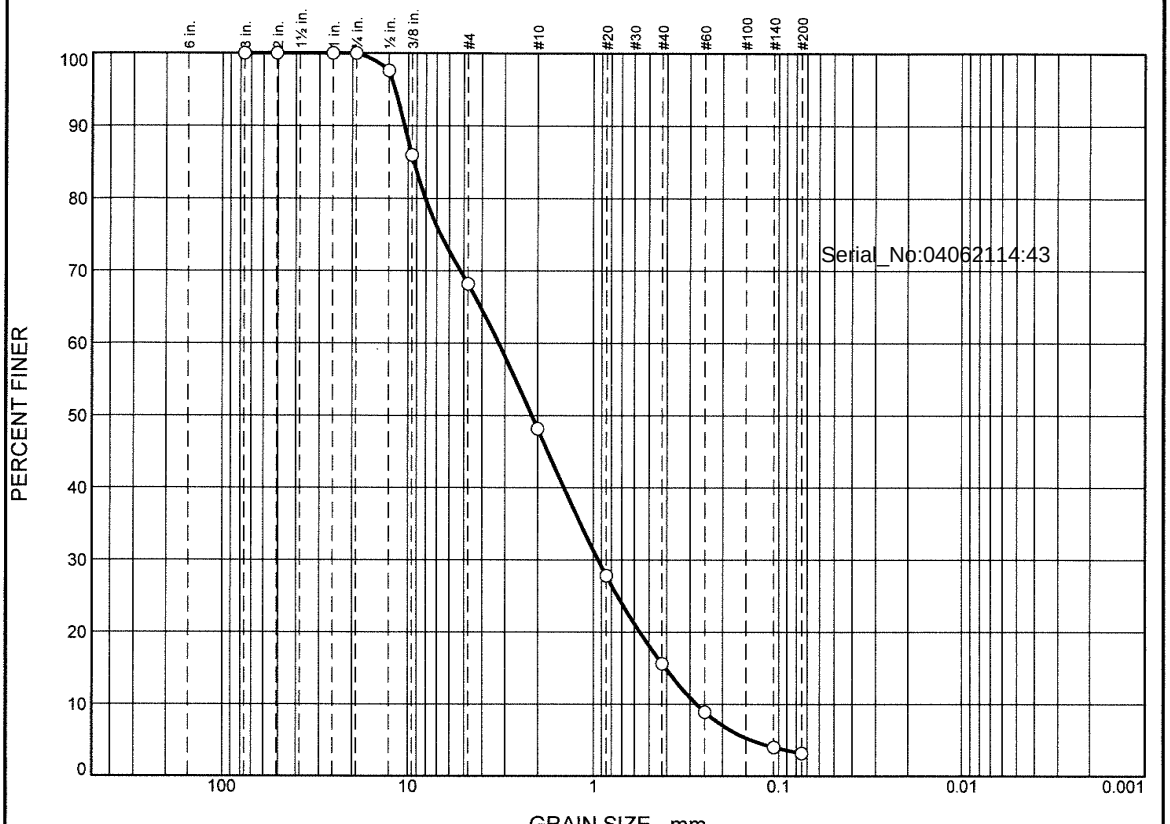
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	7.6	37.2	44.8	15.9	21.3	14.2	51.4			3.8

D_5	D_{10}	D_{15}	D_{20}	D_{30}	D_{40}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.0981	0.2019	0.3274	0.5033	1.1154	2.0766	3.5056	6.6255	13.6553	15.5486	17.7843	20.6528

Fineness Modulus	C_u	C_c
4.68	32.81	0.93

Alpha Analytical

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	31.8	20.0	32.6	12.4	3.2	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			9.3028	3.2473	2.1504	0.9412	0.4080	0.2775	0.98	11.70

	Material Description	USCS	AASHTO
○		SP	

Project No. **Client:**
Project:

○ **Source of Sample:** T5-2C (0-6) **Sample Number:** L2114132-38

Alpha Analytical

Mansfield, MA

Remarks:

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

4/6/2021

Location: T5-2C (0-6)
Sample Number: L2114132-38
USCS Classification: SP

Sieve Test Data

Post #200 Wash Test Weights (grams): **Dry Sample and Tare =** 139.61
Tare Wt. = 0.00
Minus #200 from wash = 0.0%

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
139.61	0.00	3"	0.00	0.00	100.0
		2"	0.00	0.00	100.0
		1"	0.00	0.00	100.0
		0.75"	0.00	0.00	100.0
		0.50"	3.34	0.00	97.6
		0.375"	16.26	0.00	86.0
		#4	24.81	0.00	68.2
		#10	27.93	0.00	48.2
		#20	28.43	0.00	27.8
		#40	17.06	0.00	15.6
		#60	9.34	0.00	8.9
		#140	6.85	0.00	4.0
		#200	1.17	0.00	3.2

Serial_No:04062114:43

Fractional Components

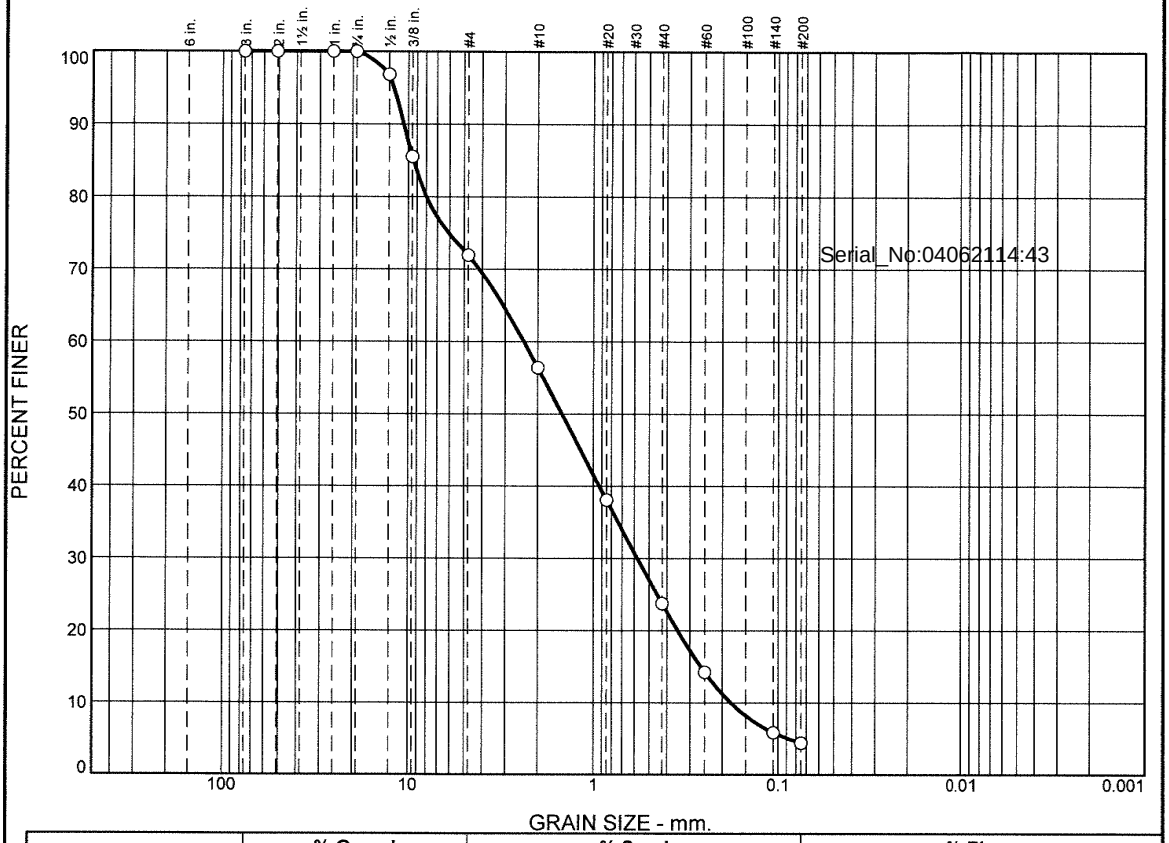
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	31.8	31.8	20.0	32.6	12.4	65.0			3.2

D_5	D_{10}	D_{15}	D_{20}	D_{30}	D_{40}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.1406	0.2775	0.4080	0.5609	0.9412	1.4413	2.1504	3.2473	8.0685	9.3028	10.4448	11.7457

Fineness Modulus	C_u	C_c
4.21	11.70	0.98

Alpha Analytical

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	28.1	15.5	32.6	19.4	4.4	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			9.3928	2.3791	1.4788	0.5781	0.2628	0.1802	0.78	13.20

	Material Description	USCS	AASHTO
○		SP	

Project No. **Client:**
Project:

○ **Source of Sample:** T5-2W (0-6) **Sample Number:** L2114132-39

Alpha Analytical

Mansfield, MA

Remarks:

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

4/6/2021

Location: T5-2W (0-6)
Sample Number: L2114132-39
USCS Classification: SP

Sieve Test Data

Post #200 Wash Test Weights (grams): **Dry Sample and Tare =** 150.92
Tare Wt. = 0.00
Minus #200 from wash = 0.0%

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
150.92	0.00	3"	0.00	0.00	100.0
		2"	0.00	0.00	100.0
		1"	0.00	0.00	100.0
		0.75"	0.00	0.00	100.0
		0.50"	4.74	0.00	96.9
		0.375"	17.10	0.00	85.5
		#4	20.54	0.00	71.9
		#10	23.40	0.00	56.4
		#20	27.66	0.00	38.1
		#40	21.59	0.00	23.8
		#60	14.42	0.00	14.2
		#140	12.65	0.00	5.8
		#200	2.19	0.00	4.4

Serial_No:04062114:43

Fractional Components

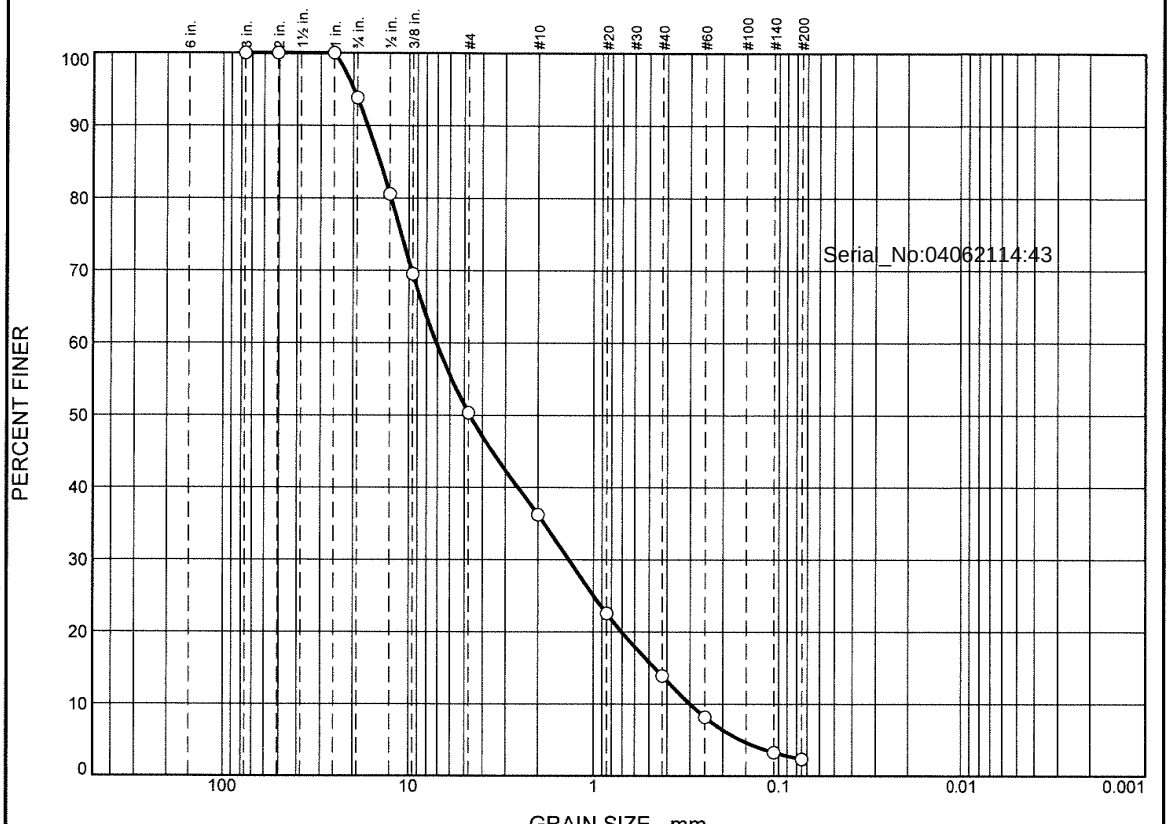
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	28.1	28.1	15.5	32.6	19.4	67.5			4.4

D_5	D_{10}	D_{15}	D_{20}	D_{30}	D_{40}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.0880	0.1802	0.2628	0.3497	0.5781	0.9296	1.4788	2.3791	7.9846	9.3928	10.6060	11.9933

Fineness Modulus	C_u	C_c
3.81	13.20	0.78

Alpha Analytical

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	6.2	43.4	14.1	22.4	11.6	2.3	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			14.3507	7.0893	4.6650	1.3615	0.4674	0.3009	0.87	23.56

	Material Description	USCS	AASHTO
○		GP	

Project No. **Client:**
Project:

○ **Source of Sample:** T6-1E (0-6) **Sample Number:** L2114132-41

Alpha Analytical

Mansfield, MA

Remarks:

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

4/6/2021

Location: T6-1E (0-6)
Sample Number: L2114132-41
USCS Classification: GP

Sieve Test Data

Post #200 Wash Test Weights (grams): **Dry Sample and Tare =** 162.72
Tare Wt. = 0.00
Minus #200 from wash = 0.0%

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
162.72	0.00	3"	0.00	0.00	100.0
		2"	0.00	0.00	100.0
		1"	0.00	0.00	100.0
		0.75"	10.01	0.00	93.8
		0.50"	21.61	0.00	80.6
		0.375"	17.94	0.00	69.5
		#4	31.21	0.00	50.4
		#10	22.95	0.00	36.3
		#20	22.29	0.00	22.6
		#40	14.10	0.00	13.9
		#60	9.32	0.00	8.2
		#140	7.96	0.00	3.3
		#200	1.54	0.00	2.3

Serial_No:04062114:43

Fractional Components

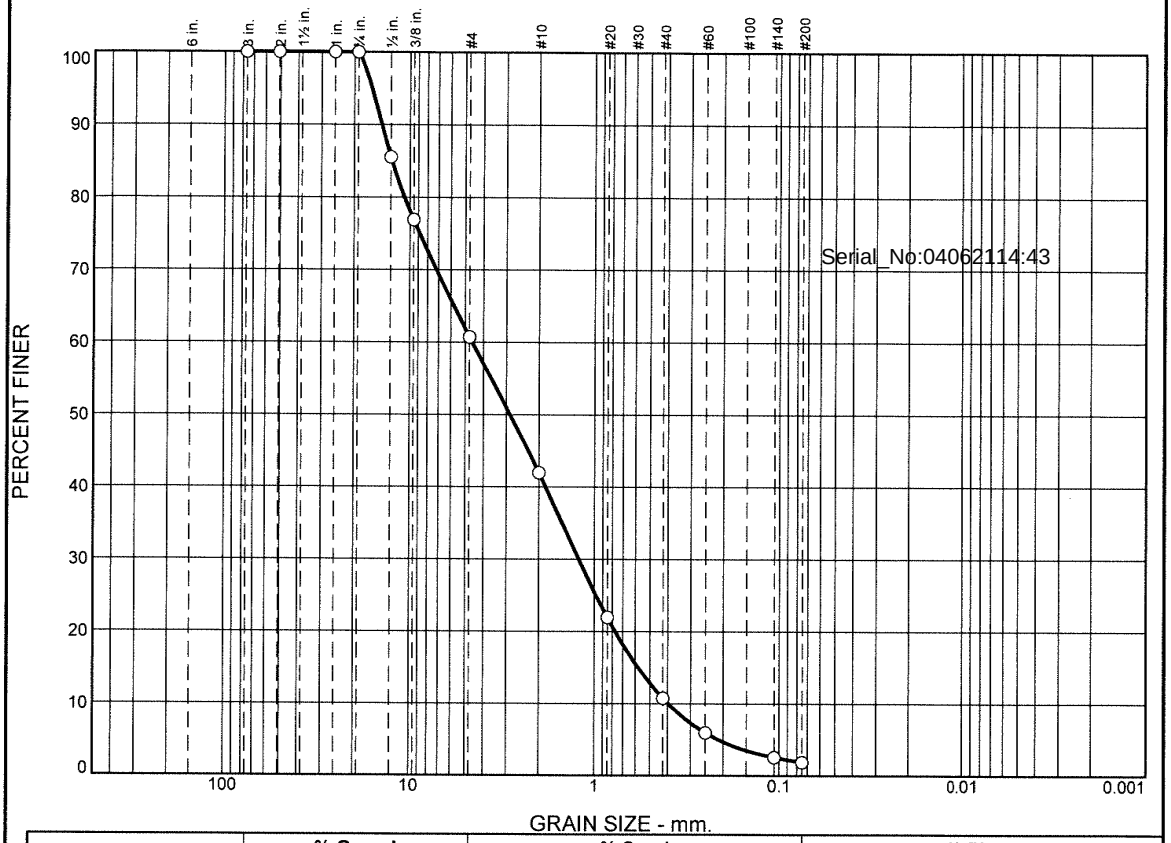
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	6.2	43.4	49.6	14.1	22.4	11.6	48.1			2.3

D_5	D_{10}	D_{15}	D_{20}	D_{30}	D_{40}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.1601	0.3009	0.4674	0.7051	1.3615	2.5610	4.6650	7.0893	12.5107	14.3507	16.7011	19.8877

Fineness Modulus	C_u	C_c
4.87	23.56	0.87

Alpha Analytical

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	39.3	18.7	31.2	8.9	1.9	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			12.5235	4.5920	2.8684	1.2161	0.5789	0.3976	0.81	11.55

	Material Description	USCS	AASHTO
○		SP	

Project No. **Client:**
Project:

○ **Source of Sample:** T6-1C (0-6) **Sample Number:** L2114132-42

Alpha Analytical

Mansfield, MA

Remarks:

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

4/6/2021

Location: T6-1C (0-6)
Sample Number: L2114132-42
USCS Classification: SP

Sieve Test Data

Post #200 Wash Test Weights (grams): **Dry Sample and Tare =** 146.34
Tare Wt. = 0.00
Minus #200 from wash = 0.0%

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
146.34	0.00	3"	0.00	0.00	100.0
		2"	0.00	0.00	100.0
		1"	0.00	0.00	100.0
		0.75"	0.00	0.00	100.0
		0.50"	21.19	0.00	85.5
		0.375"	12.60	0.00	76.9
		#4	23.68	0.00	60.7
		#10	27.44	0.00	42.0
		#20	29.32	0.00	21.9
		#40	16.36	0.00	10.8
		#60	7.03	0.00	6.0
		#140	4.99	0.00	2.5
		#200	0.99	0.00	1.9

Serial_No:04062114:43

Fractional Components

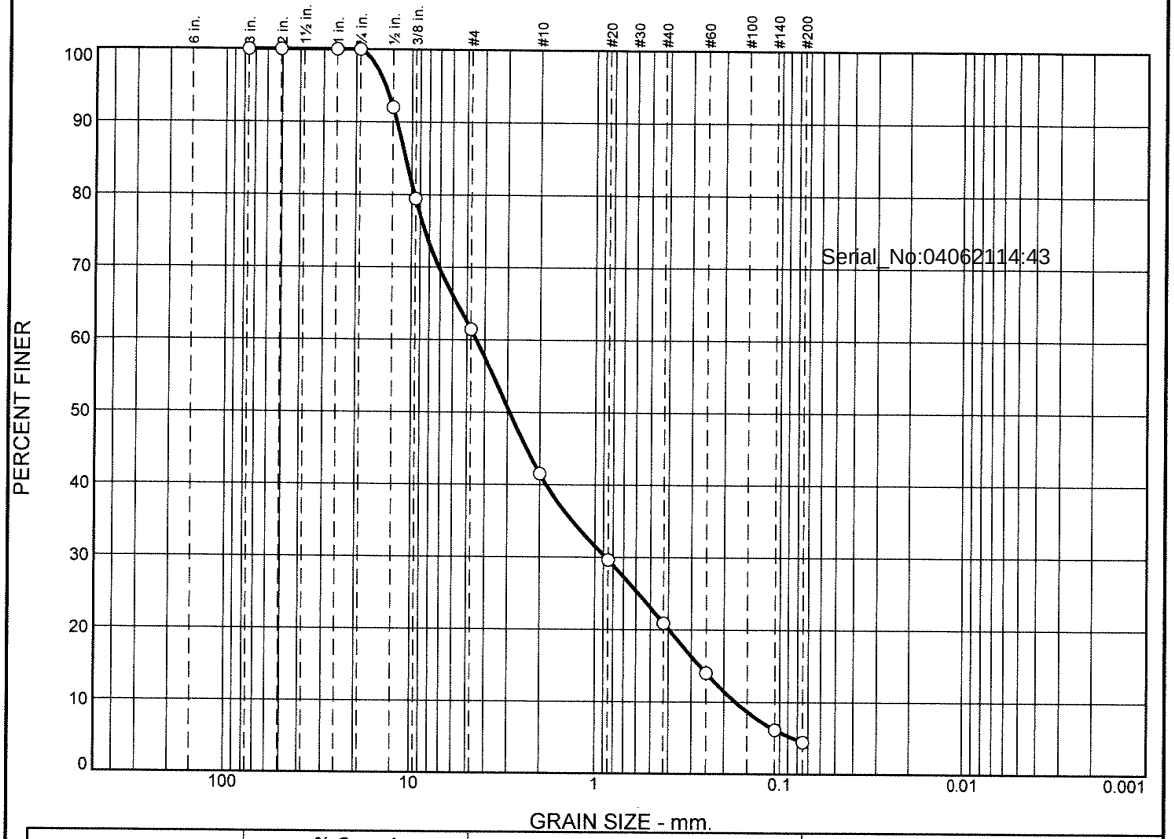
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	39.3	39.3	18.7	31.2	8.9	58.8			1.9

D_5	D_{10}	D_{15}	D_{20}	D_{30}	D_{40}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.2129	0.3976	0.5789	0.7712	1.2161	1.8390	2.8684	4.5920	10.7038	12.5235	14.1801	16.0157

Fineness Modulus	C_u	C_c
4.61	11.55	0.81

Alpha Analytical

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	38.5	20.0	20.6	16.5	4.4	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			10.7923	4.4412	2.9200	0.8772	0.2711	0.1733	1.00	25.63

	Material Description	USCS	AASHTO
○		SP	

Project No. **Client:**
Project:

○ **Source of Sample:** T6-1W (0-6) **Sample Number:** L2114132-44

Alpha Analytical

Mansfield, MA

Remarks:

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

4/6/2021

Location: T6-1W (0-6)
Sample Number: L2114132-44
USCS Classification: SP

Sieve Test Data

Post #200 Wash Test Weights (grams): **Dry Sample and Tare =** 89.97
Tare Wt. = 0.00
Minus #200 from wash = 0.0%

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
89.97	0.00	3"	0.00	0.00	100.0
		2"	0.00	0.00	100.0
		1"	0.00	0.00	100.0
		0.75"	0.00	0.00	100.0
		0.50"	7.18	0.00	92.0
		0.375"	11.32	0.00	79.4
		#4	16.18	0.00	61.5
		#10	17.93	0.00	41.5
		#20	10.70	0.00	29.6
		#40	7.85	0.00	20.9
		#60	6.21	0.00	14.0
		#140	7.08	0.00	6.1
		#200	1.54	0.00	4.4

Serial_No:04062114:43

Fractional Components

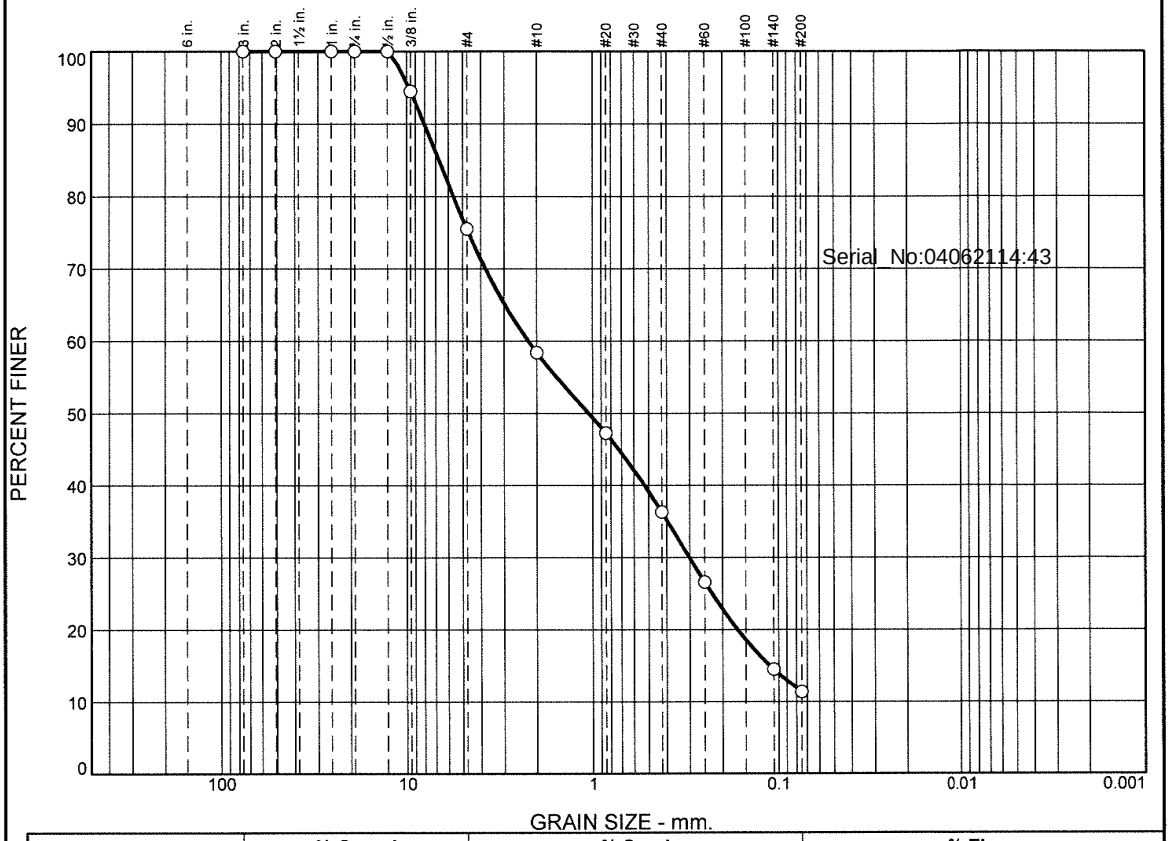
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	38.5	38.5	20.0	20.6	16.5	57.1			4.4

D_5	D_{10}	D_{15}	D_{20}	D_{30}	D_{40}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.0852	0.1733	0.2711	0.3970	0.8772	1.8430	2.9200	4.4412	9.6537	10.7923	12.0720	13.9017

Fineness Modulus	C_u	C_c
4.30	25.63	1.00

Alpha Analytical

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	24.5	17.1	22.1	24.9	11.4	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			6.7147	2.2194	1.0489	0.3016	0.1116			

Material Description	USCS	AASHTO
○		

Project No. **Client:**
Project:

○ **Source of Sample:** T7-1E (0-6) **Sample Number:** L2114132-45

Alpha Analytical

Mansfield, MA

Remarks:

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

4/6/2021

Location: T7-1E (0-6)
Sample Number: L2114132-45

Sieve Test Data

Post #200 Wash Test Weights (grams): **Dry Sample and Tare =** 137.60
Tare Wt. = 0.00
Minus #200 from wash = 0.0%

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
137.60	0.00	3"	0.00	0.00	100.0
		2"	0.00	0.00	100.0
		1"	0.00	0.00	100.0
		0.75"	0.00	0.00	100.0
		0.50"	0.00	0.00	100.0
		0.375"	7.60	0.00	94.5
		#4	26.09	0.00	75.5
		#10	23.54	0.00	58.4
		#20	15.34	0.00	47.3
		#40	15.08	0.00	36.3
		#60	13.34	0.00	26.6
		#140	16.71	0.00	14.5
		#200	4.25	0.00	11.4

Serial_No:04062114:43

Fractional Components

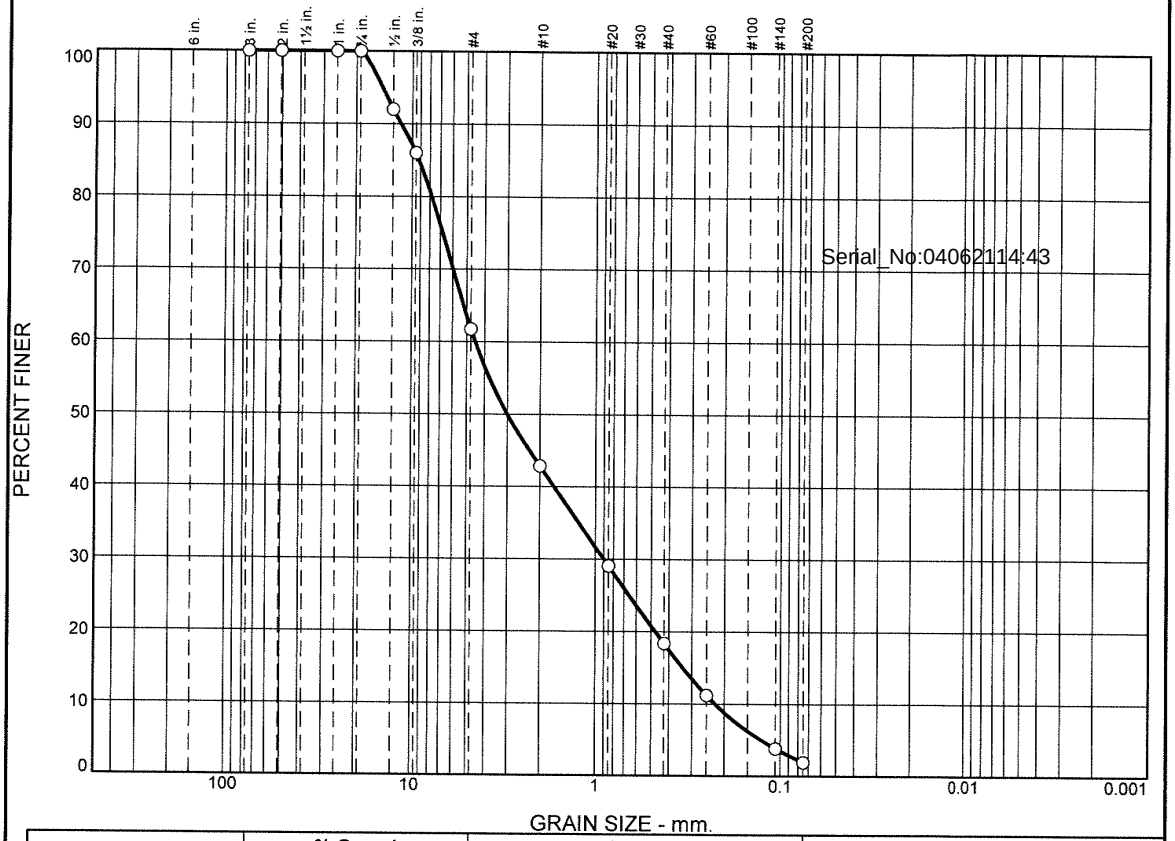
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	24.5	24.5	17.1	22.1	24.9	64.1			11.4

D_5	D_{10}	D_{15}	D_{20}	D_{30}	D_{40}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
		0.1116	0.1658	0.3016	0.5265	1.0489	2.2194	5.6175	6.7147	8.0335	9.7278

Fineness Modulus
3.27

Alpha Analytical

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	38.2	18.9	24.5	16.5	1.9	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			9.1641	4.4966	3.0091	0.9010	0.3366	0.2254	0.80	19.95

	Material Description	USCS	AASHTO
○		SP	

Project No. **Client:**
Project:

○ **Source of Sample:** T7-1C (0-6) **Sample Number:** L2114132-47

Alpha Analytical

Mansfield, MA

Remarks:

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

4/6/2021

Location: T7-1C (0-6)
Sample Number: L2114132-47
USCS Classification: SP

Sieve Test Data

Post #200 Wash Test Weights (grams): **Dry Sample and Tare =** 115.78
Tare Wt. = 0.00
Minus #200 from wash = 0.0%

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
115.78	0.00	3"	0.00	0.00	100.0
		2"	0.00	0.00	100.0
		1"	0.00	0.00	100.0
		0.75"	0.00	0.00	100.0
		0.50"	9.28	0.00	92.0
		0.375"	6.92	0.00	86.0
		#4	28.08	0.00	61.8
		#10	21.88	0.00	42.9
		#20	15.96	0.00	29.1
		#40	12.41	0.00	18.4
		#60	8.32	0.00	11.2
		#140	8.49	0.00	3.8
		#200	2.24	0.00	1.9

Serial_No:04062114:43

Fractional Components

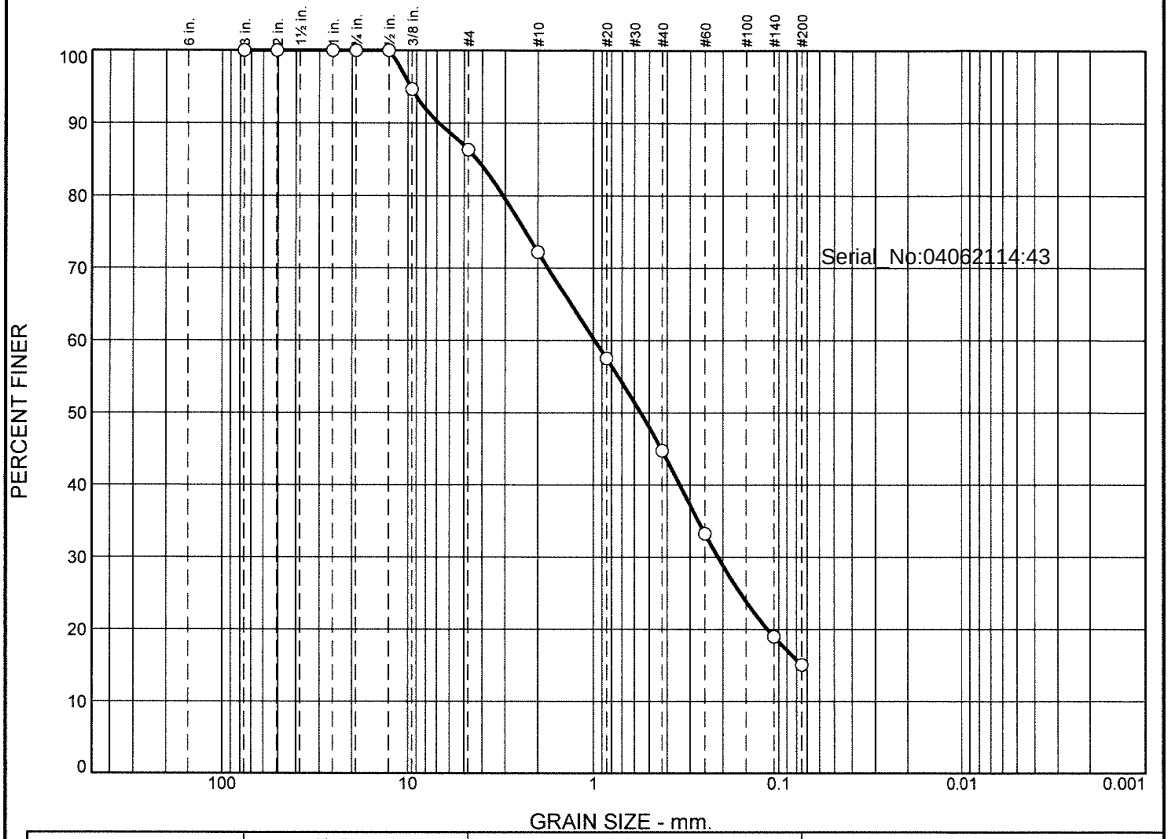
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	38.2	38.2	18.9	24.5	16.5	59.9			1.9

D_5	D_{10}	D_{15}	D_{20}	D_{30}	D_{40}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.1269	0.2254	0.3366	0.4745	0.9010	1.6769	3.0091	4.4966	7.8050	9.1641	11.5068	14.4852

Fineness Modulus	C_u	C_c
4.29	19.95	0.80

Alpha Analytical

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	13.7	14.1	27.4	29.7	15.1	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			4.2637	0.9823	0.5546	0.2124				

	Material Description	USCS	AASHTO
○			

Project No. **Client:**
Project:

○ **Source of Sample:** T7-1W (0-6) **Sample Number:** L2114132-49

Remarks:

Alpha Analytical

Mansfield, MA

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

4/6/2021

Location: T7-1W (0-6)

Sample Number: L2114132-49

Sieve Test Data

Post #200 Wash Test Weights (grams): **Dry Sample and Tare =** 100.04
Tare Wt. = 0.00
Minus #200 from wash = 0.0%

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
100.04	0.00	3"	0.00	0.00	100.0
		2"	0.00	0.00	100.0
		1"	0.00	0.00	100.0
		0.75"	0.00	0.00	100.0
		0.50"	0.00	0.00	100.0
		0.375"	5.33	0.00	94.7
		#4	8.33	0.00	86.3
		#10	14.12	0.00	72.2
		#20	14.69	0.00	57.5
		#40	12.79	0.00	44.8
		#60	11.50	0.00	33.3
		#140	14.31	0.00	19.0
		#200	3.89	0.00	15.1

Serial_No:04062114:43

Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	13.7	13.7	14.1	27.4	29.7	71.2			15.1

D_5	D_{10}	D_{15}	D_{20}	D_{30}	D_{40}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
			0.1149	0.2124	0.3408	0.5546	0.9823	3.0847	4.2637	6.8354	9.6857

Fineness Modulus
2.68

Alpha Analytical

Serial_No:04062114:43

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

Serial_No:04062114:43

CHAIN OF CUSTODY

PAGE 1 OF 5

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 3/22/21

ALPHA Job #: L2114132

Client Information
Client: Weston & Sampson
Address: 712 Brook St, Suite 103
Rocky Hill, CT
Phone: 800-SAMPSON
Fax:
Email: WillsonJ@wseinc.com
☐ These samples have been previously analyzed by Alpha

Project Information
Project Name: Eversource - Durham ER
Project Location: Durham, CT
Project #:
Project Manager: Jeff Willson
ALPHA Quote #:

Turn-Around Time
☒ Standard ☐ RUSH (only confirmed if pre-approved)
Date Due: Time:

Report Information - Data Deliverables
☐ FAX ☒ EMAIL
☒ ADEx ☒ Add'l Deliverables

Billing Information
☐ Same as Client info PO #:
EnviroData

Regulatory Requirements/Report Limits
State /Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	ANALYSIS: Grain Size by ASTM D6913	HOLD	SAMPLE HANDLING	Sample Specific Comments	TOTAL # BOTTLES
L2114132-01	SED-1 (0-6)	3/19/21	1520	S	CB	X				1
-02	SED-1 (6-12)		1525				X			1
-03	SED-2 (0-6)		1430			X				1
-04	SED-3 ~~(6-12)~~ CB (0-6)		1230			X				1
-05	SED-3 ~~(0-6)~~ CB (6-12)		1235				X			1
-06	SED-4 (0-6)		0845			X				1
-07	SED-4 (6-12)		0850				X			1
-08	SED-5 (0-6)	3/17/21	1800			X				1
-09	SED-6 (0-6)		1400			X				1
-10	SED-6 (6-12)		1405				X			1

SAMPLE HANDLING
Filtration
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

Container Type	Bag
Preservative	None

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	3/20/21 1845	[signature]	3/22/21 1157
[signature]	3/22/21 1900	[signature]	3/22/21 1805
[signature]	3/22/21 2015	[signature]	3/22/21 1900
		[signature]	3/22/21 2015

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 19-OCT-07)

Serial_No:04062114:43

CHAIN OF CUSTODY

PAGE 2 OF 5

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 3/22/21

ALPHA Job #: L2114130

Client Information
Client: Weston & Sampson
Address: 712 Brook St, Suite 103 Rocky Hill, CT
Phone: 800-SAMPSON
Fax:
Email: WillsonJ@wseinc.com
☐ These samples have been previously analyzed by Alpha

Project Information
Project Name: Eversource - Durham ER
Project Location: Durham, CT
Project #:
Project Manager: Jeff Willson
ALPHA Quote #:

Turn-Around Time
☒ Standard ☐ RUSH (only confirmed if pre-approved)
Date Due: Time:

Report Information - Data Deliverables
☐ FAX ☒ EMAIL
☒ ADEx ☒ Add'l Deliverables

Billing Information
☐ Same as Client info PO #:
EnviroData

Regulatory Requirements/Report Limits
State /Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

ANALYSIS: Grain Size by ASTM D6913; HOLD

SAMPLE HANDLING
Filtration
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Grain Size by ASTM D6913	HOLD	Sample Specific Comments	TOTAL # BOTTLES
-11	SED-7 (0-6)	3/17/21	1410	S	CB	X			1
-12	SED-7 (6-12)		1415				X		1
-13	SED-8 (0-6)		1115			X			1
-14	SED-8 (6-12)		1120				X		1
-15	SED-9 (0-6)		1205			X			1
-16	SED-9 (6-12)		1210				X		1
-17	SED-10 (0-6)		1630			X			1
-18	SED-10 (6-12)		1635				X		1
-19	SED-11 (0-6)		1640			X			1
-20	SED-11 (6-12)		1645				X		1

Container Type: Bag
Preservative: None

Relinquished By:	Date/Time	Received By:	Date/Time
[illegible]	3/22/21 1005	[illegible]	3/22/21 1157
[illegible]	3/22/21 1900	[illegible]	3/22/21 1805
[illegible]	3/22/21 2015	[illegible]	3/22/21 1900

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

Serial_No:04062114:43

CHAIN OF CUSTODY

PAGE 3 OF 5

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 3/22/21

ALPHA Job #: L2114132

Client Information
Client: Weston & Sampson
Address: 712 Brook St, Suite 103 Rocky Hill, CT
Phone: 800-SAMPSON
Fax:
Email: WillsonJ@wseinc.com
☐ These samples have been previously analyzed by Alpha

Project Information
Project Name: Eversource - Durham ER
Project Location: Durham, CT
Project #:
Project Manager: Jeff Willson
ALPHA Quote #:

Turn-Around Time
☒ Standard ☐ RUSH (only confirmed if pre-approved)
Date Due: Time:

Report Information - Data Deliverables
☐ FAX ☒ EMAIL
☒ ADEx ☒ Add'l Deliverables

Billing Information
☐ Same as Client info PO #:
EnviroData

Regulatory Requirements/Report Limits
State /Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	ANALYSIS: Grain Size by ASTM D6913	HOLD	SAMPLE HANDLING	Sample Specific Comments	TOTAL # BOTTLES
-21	Reoccupy T4E (6-12)	3/19/21	1510	S	CB	X				1
-22	T4-1E (0-6)		1440			X				1
-23	T4-1C (0-6)		1450			X				1
-24	T4-1C (6-12)		1455				X			1
-25	T4-1W (0-6)		1520			X				1
-26	T4-1W (6-12)		1505				X			1
-27	T4-2E (0-6)		1330			X				1
-28	T4-2E (6-12)		1335				X			1
-29	T4-2C (0-6)		1320			X				1
-30	T4-2W (0-6)		1310			X				1

SAMPLE HANDLING
Filtration
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

Container Type: Bag
Preservative: None

Relinquished By:	Date/Time	Received By:	Date/Time
	3/20/21 1050		3/20/21 1157
	3/22/21 1900		3/22/21 1805
	3/22/21 2015		3/22/21 1900

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO. 01-01 (rev. 1-OCT-07)

CHAIN OF CUSTODY

PAGE 4 OF 5

Date Rec'd in Lab: 3/22/21

ALPHA Job #: L2114132

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Client Information

Client: Weston & Sampson
Address: 712 Brook St, Suite 103
Rocky Hill, CT
Phone: 800-SAMPSON
Fax:
Email: WillsonJ@wseinc.com
☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Eversource - Durham ER
Project Location: Durham, CT
Project #:
Project Manager: Jeff Willson
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved)
Date Due: Time:

Report Information - Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☒ Add'l Deliverables

Billing Information

☐ Same as Client info PO #:
EnviroData

Regulatory Requirements/Report Limits

State /Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

SAMPLE HANDLING
Filtration
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	ANALYSIS: Grain Size by ASTM D6913	ANALYSIS: Hold D	Sample Specific Comments	TOTAL # BOTTLES
-31	T4-2W (6-12)	3/19/21	1315	S	CB		X		1
-32	T5-1E (0-6)		1050			X			1
-33	T5-1E (6-9)		1055				X		1
-34	T5-1C (0-6)		1100			X			1
-35	T5-1W (0-6)		1110			X			1
-36	T5-1W (6-10)		1115				X		1
-37	T5-2E (0-6)		1000			X			1
-38	T5-2C (0-6)		0956			X			1
-39	T5-2W (0-6)		0955			X			1
-40	T5-2W (6-10)		0940				X		1

Container Type: Bag
Preservative: None

Relinquished By:	Date/Time	Received By:	Date/Time
	3/22/21 1557		3/22/21 1157
	3/22/21 1900		3/22/21 1805
	3/22/21 2015	AAL	3/22/21 1900
			3/22/21 2015

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

Serial_No:04062114:43

CHAIN OF CUSTODY

PAGE 5 OF 5

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 3/22/21

ALPHA Job #: L2114132

Client Information
Client: Weston & Sampson
Address: 712 Brook St, Suite 103 Rocky Hill, CT
Phone: 800-SAMPSON
Fax:
Email: WillsonJ@wseinc.com
☐ These samples have been previously analyzed by Alpha

Project Information
Project Name: Eversource - Durham ER
Project Location: Durham, CT
Project #:
Project Manager: Jeff Willson
ALPHA Quote #:

Turn-Around Time
☒ Standard ☐ RUSH (only confirmed if pre-approved)
Date Due: Time:

Report Information - Data Deliverables
☐ FAX ☒ EMAIL
☒ ADEx ☒ Add'l Deliverables

Billing Information
☐ Same as Client info PO #:
EnviroData

Regulatory Requirements/Report Limits
State /Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	ANALYSIS: Grain Size by ASTM D6913	ANALYSIS: HOLD	SAMPLE HANDLING	TOTAL # BOTTLES	Sample Specific Comments
-41	T6-1 (0-6)	3/19/21	0930	S	CB	X			1	
-42	T6-1 (0-6)		0920			X			1	
-43	T6-1 (6-12)		0925				X		1	
-44	T6-1 (0-6)		0910			X			1	
-45	T7-1E (0-6)	3/17/21	1845			X			1	
-46	T7-1E (6-12)		1850				X		1	
-47	T7-1C (0-6)		1830			X			1	
-48	T7-1C (6-12)		1885				X		1	
-49	T7-1W (0-6)		1820			X			1	
-50	T7-1W (6-12)		1825				X		1	

Container Type: Bag
Preservative: None

Relinquished By:	Date/Time	Received By:	Date/Time
[illegible]	3/22/21 1505	[illegible]	3/22/21 1152
[illegible]	3/22/21 1900	[illegible]	3/22/21 1805
[illegible]	3/22/21 2015	[illegible]	3/22/21 1900

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 19-OCT-07)

WASTE CHARACTERIZATION SAMPLE

(November 2024)

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102

Analysis Report

November 12, 2024

FOR: Attn:Paul Saccente
Strategic Environmental Services, Inc.
27 Kreiger Lane, Unit 10
Glastonbuty, CT 06033

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		11/01/24	12:30
Location Code:	STRATEGIC-CT	Received by:	SR1	11/05/24	11:50
Rush Request:	48 Hour	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCR99481
Phoenix ID: CR99481

Project ID: EVERSOURCE-PARSONS-LANE
Client ID: WC-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.54	0.54	mg/Kg	1	11/06/24	TH	SW6010D
Arsenic	3.9	1.1	mg/Kg	1	11/06/24	TH	SW6010D
Barium	134	0.54	mg/Kg	1	11/06/24	TH	SW6010D
Cadmium	0.93	0.54	mg/Kg	1	11/06/24	TH	SW6010D
Chromium	31.4	0.54	mg/Kg	1	11/06/24	TH	SW6010D
Mercury	< 0.04	0.04	mg/Kg	2	11/06/24	ZT	SW7471B
Lead	104	0.54	mg/Kg	1	11/06/24	TH	SW6010D
Selenium	< 2.1	2.1	mg/Kg	1	11/06/24	TH	SW6010D
TCLP Silver	< 0.10	0.10	mg/L	1	11/11/24	TH	SW846 1311/6010
TCLP Arsenic	< 0.10	0.10	mg/L	1	11/11/24	TH	SW846 1311/6010
TCLP Barium	0.76	0.10	mg/L	1	11/11/24	TH	SW846 1311/6010
TCLP Cadmium	< 0.050	0.050	mg/L	1	11/11/24	TH	SW846 1311/6010
TCLP Chromium	< 0.10	0.10	mg/L	1	11/11/24	TH	SW846 1311/6010
TCLP Mercury	< 0.0002	0.0002	mg/L	1	11/11/24	ZT	SW846 1311/7470
TCLP Lead	0.13	0.10	mg/L	1	11/11/24	TH	SW846 1311/6010
TCLP Selenium	< 0.10	0.10	mg/L	1	11/11/24	TH	SW846 1311/6010D
TCLP Metals Digestion	Completed				11/11/24	AK/AK	SW3010A
Percent Solid	63		%		11/05/24	CV	SW846-%Solid
Mercury Digestion	Completed				11/06/24	AC1/AC1	SW7471B
Soil Extraction for PCB	Completed				11/05/24	R/H/F	SW3546
TCLP Digestion Mercury	Completed				11/11/24	AK/AK	SW7470A
TCLP Extraction for Metals	Completed				11/08/24	AK	SW1311
Total Metals Digest	Completed				11/05/24	B/AG	SW3050B
Polychlorinated Biphenyls							
PCB-1016	ND	520	ug/Kg	10	11/07/24	SC	SW8082A
PCB-1221	ND	520	ug/Kg	10	11/07/24	SC	SW8082A

Project ID: EVERSOURCE-PARSONS-LANE
Client ID: WC-1

Phoenix I.D.: CR99481

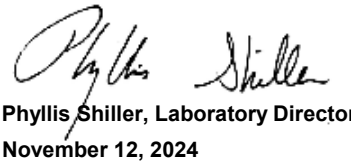
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
PCB-1232	ND	520	ug/Kg	10	11/07/24	SC	SW8082A
PCB-1242	ND	520	ug/Kg	10	11/07/24	SC	SW8082A
PCB-1248	ND	520	ug/Kg	10	11/07/24	SC	SW8082A
PCB-1254	ND	520	ug/Kg	10	11/07/24	SC	SW8082A
PCB-1260	ND	520	ug/Kg	10	11/07/24	SC	SW8082A
PCB-1262	ND	520	ug/Kg	10	11/07/24	SC	SW8082A
PCB-1268	ND	520	ug/Kg	10	11/07/24	SC	SW8082A
QA/QC Surrogates							
% DCBP	64		%	10	11/07/24	SC	30 - 150 %
% DCBP (Confirmation)	73		%	10	11/07/24	SC	30 - 150 %
% TCMX	60		%	10	11/07/24	SC	30 - 150 %
% TCMX (Confirmation)	63		%	10	11/07/24	SC	30 - 150 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
November 12, 2024
Official Report Release To Follow

Tuesday, November 12, 2024

Sample Criteria Exceedances Report

GCR99481 - STRATEGIC-CT

Criteria: None
State: CT

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

Cooler: Yes ☑ No ☐
Coolant: IPK ☑ ICE ☐ No ☐

PHOENIX
Environmental Laboratories, Inc.

CT/MA/RI CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: makrina@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-1102

Temp 2.0 °C Pg of

Data Delivery/Contact Options:
☐ Fax:
☐ Phone: Sirotnak@wse.inc.com
☑ Email: psaccente@strategic-es.com

Customer: Weston + SAMPSON For SES
Address: 712 Brook St
Rocky Hill, CT 06067

Project: Eversource-Parsons-LANE
Report to: Will Sirotnak + Paul Saccente
Invoice to: Paul Saccente-(Psaccente
Quote # Strategic-es.com)

Project P.O:

This section MUST be completed with Bottle Quantities.

Sampler's Signature: _____ Date: 11/1/24

Client Sample - Information - Identification

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil
B=Bulk **L**=Liquid **X** = _____(Other)

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	*MS/MSD (May be billable at analysis unit rate)	RCRA 8 metals	PCBs (total)	GL Amber 8 oz. [ ] w/H_2SO_4 [ ] $NaHSO_4$	Soil VOA Vials [ ] methanol [ ] H_2O	GL Soil container ( ) oz	GL Soil container ( ) oz	40 ml VOA Vial [ ] As is [ ] HCl	GL Amber 1000ml [ ] As is [ ] H_2SO_4	PL As is [ ] 250ml [ ] 500ml [ ] 1000ml	PL H_2SO_4 [ ] 250ml [ ] 500ml	PL HNO_3 250ml	PL NaOH 250ml	Bacteria Bottle w/thio	Bacteria Bottle as is
99981	WC - 1	S	11/1/24	1230	X	X					2								

Relinquished by:	Accepted by:	Date:	Time:
		11/2/24	11:15
		11/5/24	11:50

Comments, Special Requirements or Regulations:
Invoice to Strategic Environmental
Paul Saccente - psaccente@Strategic-es.com
Hold extra soil for possible TCLP

Turnaround Time:
☐ 1 Day* ☐ Standard
☑ 2 Days* ☐ Other
☐ 3 Days*
☐ 4 Days*
☐ 5 Days*

*MS/MSD are considered site samples and will be billed as such in accordance with the prices quoted.

* SURCHARGES MAY APPLY

RI
☐ RES DEC
☐ I/C DEC
☐ GA Leachability
☐ GB Leachability
☐ GA -GW Objectives
☐ GB -GW Objectives
☐ Other

CT
☐ RCP Cert
☐ GWPC
☐ SWPC
☐ GA PMC
☐ GB PMC
☐ SWPC
☐ RES DEC
☐ I/C DEC

MA
☐ MCP Certification
☐ GW-1 ☐ RCS-1 / RCGW-1
☐ GW-2 ☐ RCS-2 / RCGW-2
☐ GW-3 ☐ S-1 Calc.
☐ S-1
☐ S-2
☐ S-3 ☐ _____
☐ SW Protection

State where samples were collected: CT

Data Format
☑ Excel
☑ PDF
☐ GIS/Key
☐ EQuIS
☐ Other

Data Package
☐ Tier II Checklist*
☐ Full Data Package*
☑ Phoenix Std
☐ Other

* SURCHARGE APPLIES

Form PEL-126 Rev. 9/23

Sarah Bell

From: Paul Saccente <psaccente@strategic-es.com>
Sent: Friday, November 08, 2024 3:30 PM
To: Sarah Bell
Subject: RE: EVERSOURCE-PARSONS-LANE GCR99481

Yes please!

From: Sarah Bell <sarah@phoenixlabs.com>
Sent: Friday, November 8, 2024 2:14 PM
To: Paul Saccente <psaccente@strategic-es.com>
Subject: RE: EVERSOURCE-PARSONS-LANE GCR99481

Hi Paul
Do you want TCLP RCRA 8?

Sarah Bell
Project Manager
Phoenix Environmental Laboratories
587 East Middle Turnpike
Sarah@phoenixlabs.com
860-812-0270
Website: www.phoenixlabs.com

From: Paul Saccente <psaccente@strategic-es.com>
Sent: Friday, November 08, 2024 12:16 PM
To: Sarah Bell <sarah@phoenixlabs.com>
Subject: RE: EVERSOURCE-PARSONS-LANE GCR99481

Hi! Can we run TCLP for the metals please? Thanks! Paul

From: Sarah Bell <sarah@phoenixlabs.com>
Sent: Thursday, November 7, 2024 1:49 PM
To: Paul Saccente <psaccente@strategic-es.com>
Subject: EVERSOURCE-PARSONS-LANE GCR99481

APPENDIX D

Waste Disposal Documentation

Please print or type. Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: 40CFRPART761 | 2. Page 1 of: 1 | 3. Emergency Response Phone: 800 535 5053 | 4. Manifest Tracking Number: 020790204 JK

5. Generator's Name and Mailing Address: The Connecticut Light & Power dba Eversource Energy, Attn Andrew Blichar, 107 Selden St, BMN2, Berlin CT 06037
Generator's Phone: 860 665 5751
Generator's Site Address (if different than mailing address): CL&P dba Eversource Energy, 27 Parsons Lane, Durham CT 06422

6. Transporter 1 Company Name: Strategic Environmental Services, Inc. | U.S. EPA ID Number: MAC300102423

7. Transporter 2 Company Name: RED Technologies LLC | U.S. EPA ID Number: CTR000059 5P

8. Designated Facility Name and Site Address: Wayne Disposal, Inc. Site #2 Landfill, 49350 North I-94 Service Drive, Belleville MI 48111
Facility's Phone: 800 592-5489 | U.S. EPA ID Number: MID048090633

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ UN3432, Polychlorinated biphenyls, solid, 9, PGIII	002	DM	544	K	CR01 PCB6
X	2. RQ UN3432, Polychlorinated biphenyls, solid, 9, PGIII	002	DM	182	K	CR01 PCB6
	3.					
	4.					

14. Special Handling Instructions and Additional Information: 1)K23-8436-WDI 55gl ERG#171 2)K23-8140-WDI TSCA PPE/Poly 55gl ERG#171 STORAGE DATE: 10/04/2023 Unique Dr#'s STORAGE DATE: 10/04/2023

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: DREW BLICHARZ (AS AGENT FOR EVERSOURCE) | Signature | Month 12 | Day 05 | Year 23

INT'L
16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit: Date leaving U.S.:
Transporter signature (for exports only):

TRANSPORTER
17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Jamie Dingle | Signature | Month 12 | Day 05 | Year 23
Transporter 2 Printed/Typed Name: Chris Wingle | Signature | Month 12 | Day 06 | Year 23

DESIGNATED FACILITY
18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) | U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) | Month | Day | Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H132	H132		

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Sara Lyle | Signature | Month 12 | Day 18 | Year 23

EPA Form 8700-22 (Rev. 12-17) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

CERTIFICATE OF DISPOSAL

FOR MANIFESTED PCB WASTE

This certificate is to verify the wastes identified as PCB SOLID

and specified on Manifest # 020790204 JJK, Line Item 1 has been landfilled on

December 18, 23 in accordance with all local, state and federal regulations by:

Wayne Disposal, Inc

(EPA I.D. # MID048090633)

49350 N. I-94 Service Drive, Belleville, Michigan 48111
Telephone: 800-592-5489
Fax: 800-593-5329

Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy. I certify as the company official having supervisory responsibility for the persons who are acting under my direct instructions made the verification that this information is true accurate and complete.

Authorized Signature: Bmunon

REPUBLIC SERVICES

Goulet 2524 71640 165

Please print or type. Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: 40CFRPART761
2. Page 1 of: 1
3. Emergency Response Phone: 800 [illegible]
4. Manifest Tracking Number: 016608671 FLE

GENERATOR

5. Generator's Name and Mailing Address
The Connecticut Light & Power Co. dba Eversource Energy
Att: Andrew Blicharz
107 Selden St
Berlin CT 06037
Generator's Phone: 860 665 5751

Generator's Site Address (if different than mailing address)
CL&P dba Eversource Energy
27 Parsons Lane
Durham CT 06422

6. Transporter 1 Company Name: Goulet Trucking
U.S. EPA ID Number: MAC 300006038

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
Wayne Disposal, Inc. Site #2 Landfill
49350 North I-94 Service Drive
Belleville MI 48111
Facility's Phone: 800 592-5489
U.S. EPA ID Number: MID048090633

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ UN3432, Polychlorinated biphenyls, solid 9, PGII	001	CM	15,000	K	CR01 PCB1
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1)C24-0225-WDI TSCA Soil Storage Date: 11/1/2024 WEIGHT IS ESTIMATED ERG#171
Rolloff # SES0366 Job#24-0387 INFOTRAC CN#110775

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: DREW BLICHARZ
Signature: [signature]
Month 12 Day 26 Year 24

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Bob Lagoo
Signature: [signature]
Month 12 Day 26 Year 24

Transporter 2 Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☒ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Actual 11800# ok per Alicia Tooley w/ Strategic EM 12-31-24
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H132 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: [illegible]
Signature: [signature]
Month 12 Day 30 Year 24

EPA Form 8700-22 (Rev. 12-17) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

CERTIFICATE OF DISPOSAL

FOR MANIFESTED PCB WASTE

This certificate is to verify the wastes identified as PCB Solids

and specified on Manifest # 016608671FLE, Line Item 1 has been landfilled on

12/30, 2024 in accordance with all local, state and federal regulations by:

Wayne Disposal, Inc

(EPA I.D. # MID048090633)

49350 N. I-94 Service Drive, Belleville, Michigan 48111
Telephone: 800-592-5489
Fax: 800-593-5329

Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy. I certify as the company official having supervisory responsibility for the persons who are acting under my direct instructions made the verification that this information is true accurate and complete.

Authorized Signature: _____

REPUBLIC SERVICES

404926

Please print or type. Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: 40CFRPART761
2. Page 1 of: 1
3. Emergency Response Phone: 800 [illegible]
4. Manifest Tracking Number: 016600672 FLE

GENERATOR

5. Generator's Name and Mailing Address
The Connecticut Light & Power Co. dba Eversource Energy
Attn: Andrew Bilmaz
107 Selden St
Berlin CT 06037
Generator's Phone: 860 665 5751

Generator's Site Address (if different than mailing address)
CL&P dba Eversource Energy
27 Parsons Lane
Durham CT 06422

6. Transporter 1 Company Name: Goulet Trucking — U.S. EPA ID Number: MAR 30000603K

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address
Wayne Disposal Inc. dba Republic Services
49350 North I-94 Service Drive
Belleville MI 48111
Facility's Phone: 800 592-5489 — U.S. EPA ID Number: MID048090633

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. RQ UN3432, Polychlorinated biphenyls, solid, 9, PGII	001	CM	15,000	K	CR01	PCB1	
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information
TPC24-0225-WDI TSCA Soil Storage Date: 11/1/2024 WEIGHT IS ESTIMATED ERG#171
Rolloff # TB25-0363 Job#24-0387 INFOTRAC CN#110775
Goulet 2431 gross 58980

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: DREW BLICHARZ — Signature: [signature] — Month 12 Day 30 Year 24

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: William Wasilefsky — Signature: [signature] — Month 12 Day 30 Year 24

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☒ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Actual weight as per Alina Sticky at Strategic on 12/31/24 Manifest Reference Number:

18b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H132			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: HOPE SMITH — Signature: [signature] — Month 1 Day 1 Year 25

EPA Form 8700-22 (Rev. 12-17) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

CERTIFICATE OF DISPOSAL

FOR MANIFESTED PCB WASTE

This certificate is to verify the wastes identified as PCB Solids

and specified on Manifest # 016608672FLE, Line Item 1 has been landfilled on

12/31, 2024 in accordance with all local, state and federal regulations by:

Wayne Disposal, Inc

(EPA I.D. # MID048090633)

49350 N. I-94 Service Drive, Belleville, Michigan 48111
Telephone: 800-592-5489
Fax: 800-593-5329

Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy. I certify as the company official having supervisory responsibility for the persons who are acting under my direct instructions made the verification that this information is true accurate and complete.

Authorized Signature: QR

REPUBLIC SERVICES

APPENDIX E

Screening Level Ecological Risk Assessment and Supporting Documents

CT DEEP NDDB REVIEW #1

(July 2019)

Connecticut Department of
Energy & Environmental Protection
Bureau of Natural Resources
Wildlife Division

CPPU USE ONLY

App #:_____

Doc #:_____

Check #: No fee required

Program: **Natural Diversity Database**
Endangered Species

Hardcopy _____ **Electronic** _____

Request for Natural Diversity Data Base (NDDB) State Listed Species Review

Please complete this form in accordance with the instructions (DEEP-INST-007) to ensure proper handling of your request.
There are no fees associated with NDDB Reviews.

Part I: Preliminary Screening & Request Type

Before submitting this request, you must review the most current Natural Diversity Data Base "State and Federal Listed Species and Significant Natural Communities Maps" found on the DEEP website. These maps are updated twice a year, usually in June and December.

Does your site, including all affected areas, fall in an NDDB Area according to the map instructions:

☒ Yes ☐ No **Enter the date** of the map reviewed for pre-screening: **December 2018**

This form is being submitted for a :

☒ *New* NDDB request ☐ *Renewal/Extension* of a NDDB Request, ***without*** *modifications and within* ***two years*** *of issued NDDB determination* (no attachments required) [*CPPU Use Only - NDDB-Listed Species Determination #* 1736]	☐ *New* **Safe Harbor Determination** (optional) must be associated with an application for a GP for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities ☐ *Renewal/Extension* of an existing Safe Harbor Determination ☐ With modifications ☐ Without modifications (no attachments required) [*CPPU Use Only - NDDB-Safe Harbor Determination #* 1736]
Enter NDDB Determination Number for Renewal/Extension:	Enter Safe Harbor Determination Number for Renewal/Extension:

Part II: Requester Information

***If the requester is a corporation, limited liability company, limited partnership, limited liability partnership, or a statutory trust, it must be registered with the Secretary of State. If applicable, the name shall be stated **exactly** as it is registered with the Secretary of State. Please note, for those entities registered with the Secretary of State, the registered name will be the name used by DEEP. This information can be accessed at the Secretary of the State's database CONCORD.* (www.concord-sots.ct.gov/CONCORD/index.jsp)

If the requester is an individual, provide the legal name (include suffix) in the following format: First Name; Middle Initial; Last Name; Suffix (Jr, Sr., II, III, etc.).

If there are any changes or corrections to your company/facility or individual mailing or billing address or contact information, please complete and submit the Request to Change company/Individual Information to the address indicated on the form.

1. Requester*

Company Name: **Eversource Energy Service Company**

Contact Name: **Drew Blicharz**

Address: **107 Selden Street**

City/Town: **Berlin** State: **CT** Zip Code: **06037**

Business Phone: **(860) 665-5751** ext.

E-mail: **drew.blicharz@eversource.com

**By providing this email address you are agreeing to receive official correspondence from the department, at this electronic address, concerning this request. Please remember to check your security settings to be sure you can receive emails from "ct.gov" addresses. Also, please notify the department if your e-mail address changes

a) Requester can best be described as:

☐ Individual ☐ Federal Agency ☐ State agency ☐ Municipality ☐ Tribal

☒ *business entity (* if a business entity complete i through iii):

i) Check type ☒ corporation ☐ limited liability company ☐ limited partnership
☐ limited liability partnership ☐ statutory trust ☐ Other:

ii) Provide Secretary of the State Business ID #: 0033981 This information can be accessed at the Secretary of the State's database (CONCORD). (www.concord-sots.ct.gov/CONCORD/index.jsp)

iii) ☒ Check here if your business is **NOT** registered with the Secretary of State's office.

b) Acting as (Affiliation), pick one:

☐ Property owner ☐ Consultant ☐ Engineer ☐ Facility owner ☒ Applicant
☐ Biologist ☐ Pesticide Applicator ☐ Other representative:

2. List Primary Contact to receive Natural Diversity Data Base correspondence and inquiries, if different from requester.

Company Name: **Anchor QEA**

Contact Person: **Amy Nelson** Title: **Managing Scientist**

Mailing Address: **9 Water Street, First Floor**

City/Town: **Amesbury** State: **MA** Zip Code: **01913**

Business Phone: **978-378-6215** ext.

E-mail: **anelson@anchorqea.com

Part III: Site Information

This request can only be completed for one site. A separate request must be filed for each additional site.

1. SITE NAME AND LOCATION

Site Name or Project Name: **Ecological Risk Support for #27 Parson Lane, Durham, CT**

Town(s): **Durham, CT**

Street Address or Location Description:
#27 Parson Lane, Durham, CT

Size in acres, or site dimensions:

Latitude and longitude of the center of the site in decimal degrees (e.g., 41.23456 -71.68574):

Latitude: **41.490560** Longitude: **-72.684213**

Method of coordinate determination (check one):

☐ GPS ☐ Photo interpolation using CTECO map viewer ☒ Other (specify): **google earth**

2a. Describe the current land use and land cover of the site.

Land use for #27 Parson Lane is light manufacturing, warehouse, and multi-use office with asphalt parking per the Durham, CT Assessors Database as of 2/21/2019. There is a utility right-of-way which crosses the site. The area adjacent to and immediately behind #27 Parson Lane leads to the Coginchaug River.

b. Check all that apply and enter the size in acres or % of area in the space after each checked category.

☒ Industrial/Commercial 80%	☐ Residential _____	☐ Forest _____
☒ Wetland 10%	☐ Field/grassland _____	☐ Agricultural _____
☐ Water _____	☒ Utility Right-of-way 10%	
☐ Transportation Right-of-way _____	☐ Other (specify): _____	

Part IV: Project Information

1. PROJECT TYPE:

Choose Project Type: Site assessment , If other describe: _____

2. Is the subject activity limited to the maintenance, repair, or improvement of an existing structure within the existing footprint? ☐ Yes ☒ No If yes, explain.

Part IV: Project Information (continued)

3. Give a detailed description of the activity which is the subject of this request and describe the methods and equipment that will be used. Include a description of steps that will be taken to minimize impacts to any known listed species.

   The proposed activity is to conduct an ecological assessment of a watercourse adjacent to and downstream of #27 Parsons Lane, Durham, CT. At this point, the assessment is strictly looking to identify species that exist or could potentially exist in the site area. This assessment is a first step to evaluate the potential for adverse ecological effects associated with a spill

4. If this is a renewal or extension of an existing Safe Harbor request *with* modifications, explain what about the project has changed.

   no

5. Provide a contact for questions about the project details if different from Part II primary contact.

   Name:

   Phone:

   E-mail:

Part V: Request Requirements and Associated Application Types

Check *one* box from either Group 1, Group 2 *or* Group 3, indicating the appropriate category for this request.

Group 1. If you check one of these boxes, complete Parts I – VII of this form and submit the required attachments A and B.

- ☐ Preliminary screening was negative but an NDDB review is still requested
- ☐ Request regards a municipally regulated or unregulated activity (no state permit/certificate needed)
- ☒ Request regards a preliminary site assessment or project feasibility study
- ☐ Request relates to land acquisition or protection
- ☐ Request is associated with a *renewal* of an existing permit or authorization, with no modifications

Group 2. If you check one of these boxes, complete Parts I – VII of this form and submit required attachments A, B, *and* C.

- ☐ Request is associated with a *new* state or federal permit or authorization application or registration
- ☐ Request is associated with modification of an existing permit or other authorization
- ☐ Request is associated with a permit enforcement action
- ☐ Request regards site management or planning, requiring detailed species recommendations
- ☐ Request regards a state funded project, state agency activity, or CEPA request

☐ **Group 3.** If you are requesting a **Safe Harbor Determination**, complete Parts I-VII and submit required attachments A, B, and D. Safe Harbor determinations can only be requested if you are applying for a GP for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities

If you are filing this request as part of a state or federal permit application(s) enter the application information below.

Permitting Agency and Application Name(s): _____

Related State DEEP Permit Number(s), if applicable: _____

State DEEP Enforcement Action Number, if applicable: _____

State DEEP Permit Analyst(s)/Engineer(s), if known: _____

Is this request related to a previously submitted NDDB request? ☐ Yes ☒ No

If yes, provide the previous NDDB Determination Number(s), if known: _____

Part VI: Supporting Documents

Check each attachment submitted as verification that *all* applicable attachments have been supplied with this request form. Label each attachment as indicated in this part (e.g., Attachment A, etc.) and be sure to include the requester's name, site name and the date. **Please note that Attachments A and B are required for all new requests and Safe Harbor renewals/extensions with modifications.** Renewals/Extensions with no modifications do not need to submit any attachments. Attachments C and D are supplied at the end of this form.

☒ Attachment A:	**Overview Map:** an 8 1/2" X 11" print/copy of the relevant portion of a USGS Topographic Quadrangle Map clearly indicating the exact location of the site.
☒ Attachment B:	**Detailed Site Map:** fine scaled map showing site boundary and area of work details on aerial imagery with relevant landmarks labeled. (Site and work boundaries in GIS [ESRI ArcView shapefile, in NAD83, State Plane, feet] format can be substituted for detailed maps, see instruction document)
☐ Attachment C:	**Supplemental Information, Group 2 requirement (attached, DEEP-APP-007C)** ☐ Section i: Supplemental Site Information and supporting documents ☐ Section ii: Supplemental Project Information and supporting documents
☐ Attachment D:	**Safe Harbor Report Requirements, Group 3 (attached, DEEP-APP-007D)**

Part VII: Requester Certification

The requester *and* the individual(s) responsible for actually preparing the request must sign this part. A request will be considered incomplete unless all required signatures are provided.

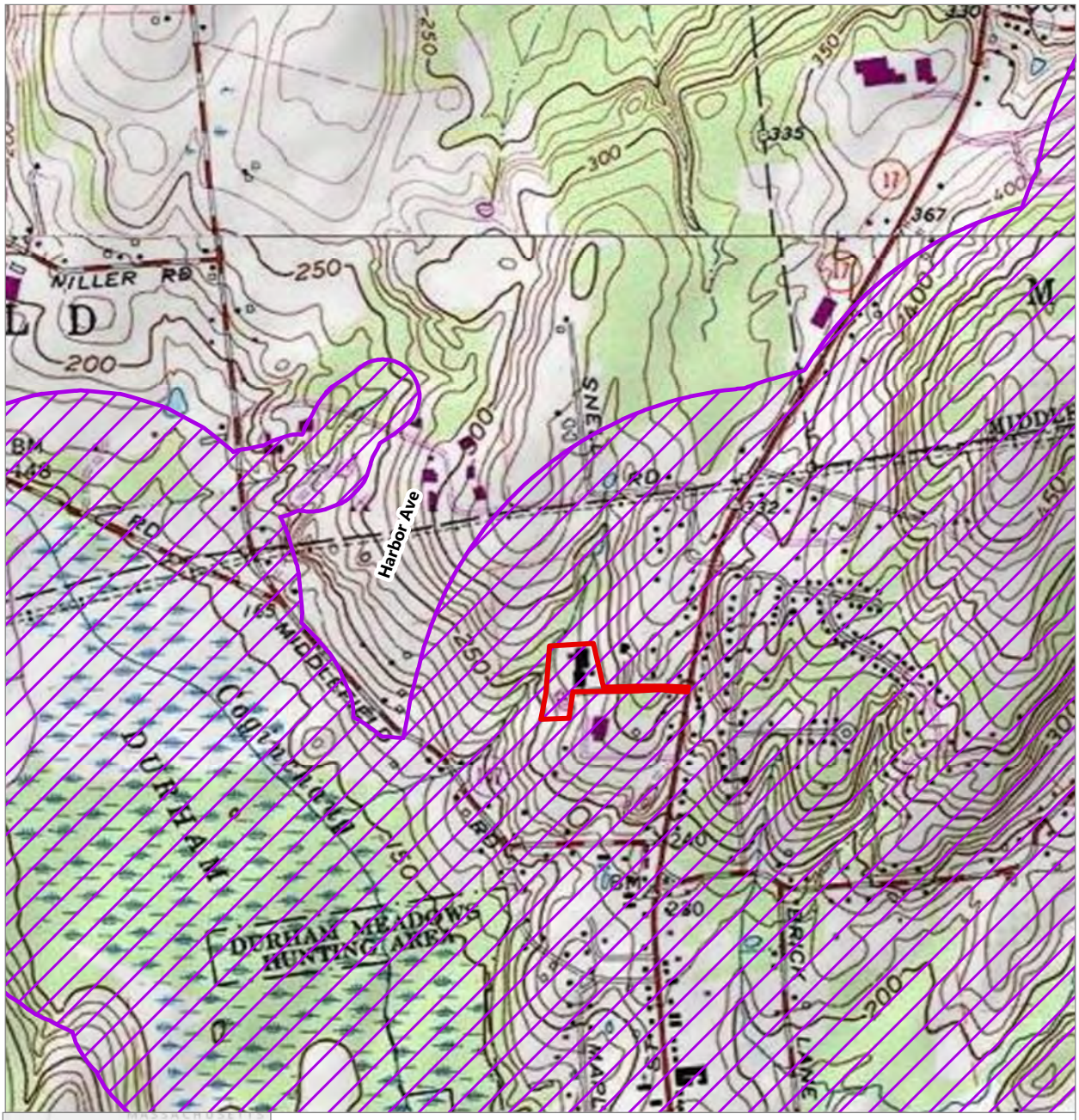
"I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that based on reasonable investigation, including my inquiry of the individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief."

Drew Blicharz Signature of Requester (a typed name will substitute for a handwritten signature)	7/9/19 Date
Drew Blicharz Name of Requester (print or type)	**Environmental Specialist** Title (if applicable)
Amy Nelson Signature of Preparer (if different than above)	7/9/19 Date
Amy Nelson Name of Preparer (print or type)	**Managing Scientist** Title (if applicable)

Note: Please submit the completed Request Form and all Supporting Documents to:

CENTRAL PERMIT PROCESSING UNIT
DEPARTMENT OF ENERGY & ENVIRONMENTAL PROTECTION
79 ELM STREET
HARTFORD, CT 06106-5127

Or email request to: deep.nddbrequest@ct.gov



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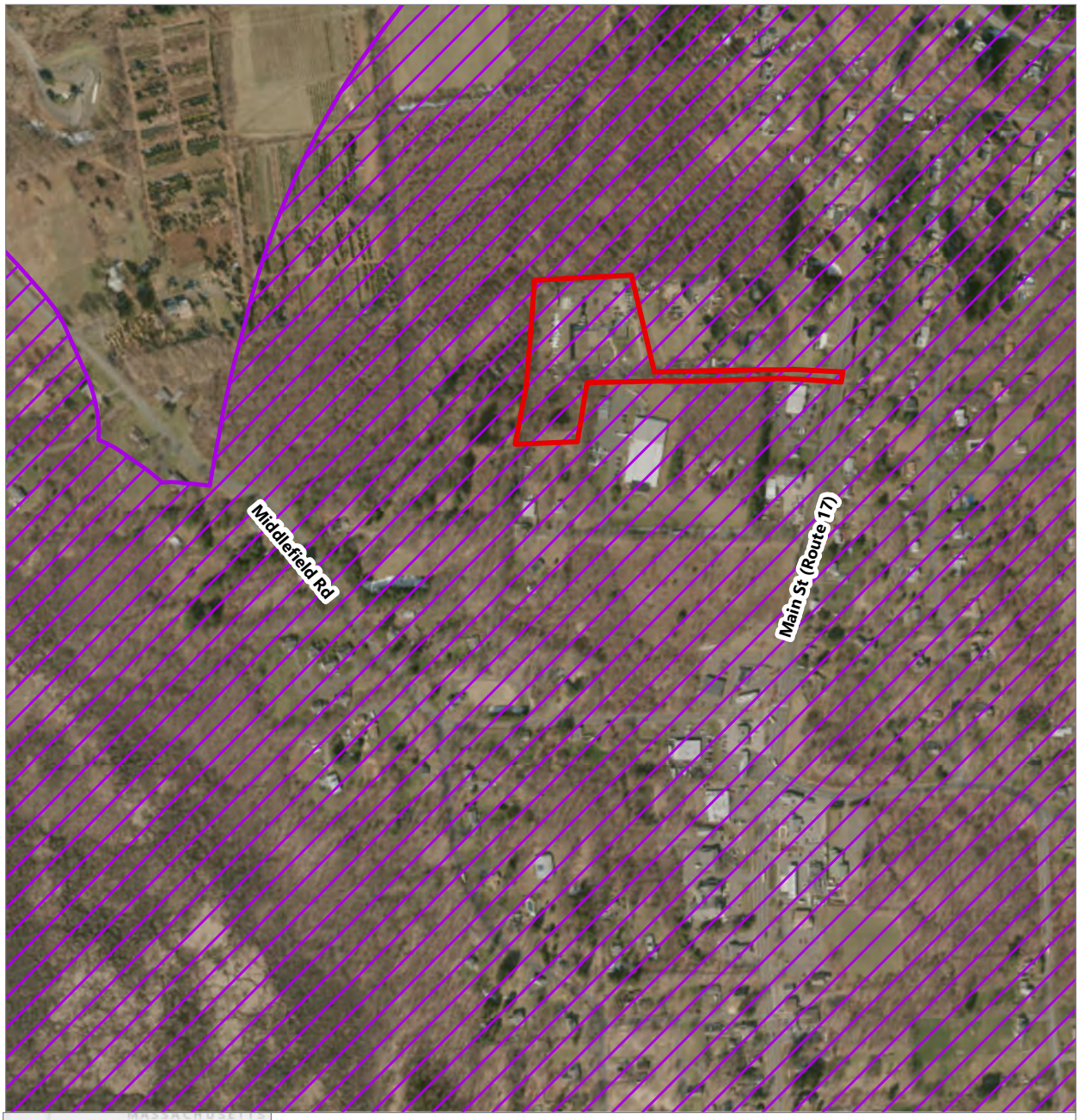
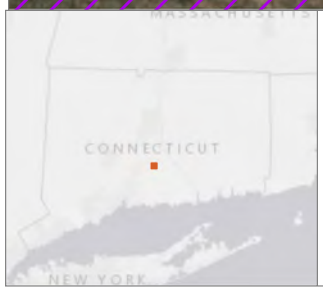
Filepath: \\amesbury1\Greenleaf\GIS\WestonSampson\Eversource\DurhamCT\Durham_Eversource_NDDB_A.mxd

ANCHOR QEA

Figure A
Ecological Risk Support for #27 Parson Lane





LEGEND:

- Approximate Parcel Boundary
- Natural Diversity Area

NOTES:

1. Parcel boundary for #27 Parson Lane has been approximated from Durham, CT online AxisGIS.
2. National Diversity Area version dated December 2017 downloaded from CTDEEP on 7/1/2019.
3. Aerial imagery acquired from Esri and its data suppliers (2019).

0 500
Feet

Publish Date: 2019/07/01, 1:55 PM | User: mwheeler
Filepath: \\amesbury1\Greenleaf\GIS\WestonSampson\Eversource\DurhamCT\Durham_Eversource_NDDB_B.mxd

ANCHOR QEA

Figure B
Ecological Risk Support for #27 Parson Lane

Connecticut Department of
ENERGY &
ENVIRONMENTAL
PROTECTION

79 Elm Street • Hartford, CT 06106-5127 www.ct.gov/deep Affirmative Action/Equal Opportunity Employer

July 18, 2019

Amy Nelson
Anchor QEA
9 Water St, 1st Fl
Amesbury, MA 01913
anelson@anchorqea.com

Project: Ecological Risk Assessment for 27 Parson Lane in Durham, CT
NDDB Preliminary Assessment No.: 201908278

Dear Ms. Nelson,

I have reviewed Natural Diversity Database maps and files regarding the area delineated on the map provided for a preliminary assessment of 27 Parson Lane in Durham, Connecticut.

According to our records there are known extant populations of State Listed Species that occur downstream of this property and primarily associated with the Durham Meadows wetland complex. I have attached a list of species known from this area. Please be advised that this is a preliminary review and not a final determination. A more detailed review will be necessary to move forward with any environmental permit applications submitted to DEEP for the proposed project. **This preliminary assessment letter cannot be used or submitted with permit applications at DEEP**. This letter is valid for one year.

To prevent impacts to State-listed species, field surveys of the site should be performed by a qualified biologist with the appropriate scientific collecting permits at a time when these target species are identifiable. A report summarizing the results of such surveys should include:

1. Survey date(s) and duration
2. Site descriptions and photographs
3. List of component vascular plant and animal species within the survey area (including scientific binomials)
4. Data regarding population numbers and/or area occupied by State-listed species
5. Detailed maps of the area surveyed including the survey route and locations of State listed species
6. Conservation strategies or protection plans that indicate how impacts may be avoided for all state listed species present on the site
7. Statement/résumé indicating the biologist's qualifications. Please be sure when you hire a consulting qualified biologist to help conduct this site survey that they have the proper experience with target taxon and have a CT scientific collectors permit to work with state listed species for this specific project.

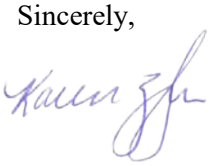
The site surveys report should be sent to our CT DEEP-NDDB Program (deep.nddbrequest@ct.gov) for further review by our program biologists along with an updated request for another NDDB review. Incomplete reports may not be accepted.

If you do not intend to do site surveys to determine the presence or absence of state-listed species, then you should presume species are present and let us know how you will protect the state-listed species from being impacted by this project. You may submit these best management practices or protection plans with your new request for an NDDB review. After reviewing your new NDDB request form and the documents describing how you will protect this species from project impacts we will make a final determination and provide you with a letter from our program to use with DEEP-Permits.

Natural Diversity Database information includes all information regarding critical biological resources available to us at the time of the request. This information is a compilation of data collected over the years by the Department of Energy and Environmental Protection's Natural History Survey, cooperating units of DEEP, landowners, private conservation groups and the scientific community. This information is not necessarily the result of comprehensive or site-specific field investigations. Consultations with the NDDB should not be substitutes for onsite surveys necessary for a thorough environmental impact assessment. The result of this review does not preclude the possibility that listed species may be encountered on site and that additional action may be necessary to remain in compliance with certain state permits.

Please contact me if you have further questions at (860) 424-3378, or karen.zyko@ct.gov . Thank you for consulting the Natural Diversity Data Base.

Sincerely,



Karen Zyko
Environmental Analyst

Species List for NDDB Request

Scientific Name	Common Name	State Status
Vertebrate Animal		
Clemmys guttata	Spotted turtle	SC
Glyptemys insculpta	Wood turtle	SC
Rana pipiens	Northern leopard frog	SC
Botaurus lentiginosus	American bittern	E
Dolichonyx oryzivorus	Bobolink	SC
Empidonax alnorum	Alder flycatcher	SC
Ixobrychus exilis	Least bittern	T
Rallus elegans	King Rail	E
Invertebrate Animal		
Lycaena hyllus	Bronze copper	SC
Vascular Plant		
Scutellaria integrifolia	Hyssop skullcap	E
Critical Habitat		
Alluvial swamp		

E = State Endangered, T = State Threatened, SC = State Special Concern
FE = Federally Endangered, FT = Federally Threatened

ERA WORK PLAN & CORRESPONDENCE

(December 2021)

Weston & Sampson℠

westonandsampson.com

273 Dividend Road
Rocky Hill, CT 06067
tel: 860.513.1473

ECOLOGICAL RISK ASSESSMENT WORK PLAN



November 2019

Eversource Energy Services Company

27 Parsons Lane
Durham, Connecticut
Eversource Spill Number CWC-18-00543



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Figure 4……...Sediment and Surface Water Sample Locations: Stream Transects 5-6 and Proposed

Figure 5……...Sediment and Surface Water Sample Locations: Stream Transects 7-8 and Proposed

Figure 6…..... Sediment and Surface Water Sample Locations: Proposed

LIST OF TABLES

Table 1.....Project Team

Table 2..... Sampling Locations and Analyses

1.0 INTRODUCTION AND BACKGROUND

Weston & Sampson, Inc. (Weston and Sampson) has prepared this Ecological Risk Assessment (ERA) Work Plan (Plan) on behalf of The Connecticut Light and Power Company (CL&P) doing business as (dba) Eversource Energy Services Company (Eversource), as part of an ongoing investigation to obtain additional data to support an ERA and define the nature and extent of polychlorinated biphenyl (PCB) impacts to an unnamed intermittent stream associated with a release of mineral oil dielectric fluid (MODF) at 27 Parsons Lane in Durham, Connecticut (See Figure 1 - Site Locus Map). Results of initial sediment and surface water sampling has identified PCB impacts to stream sediment caused by the release.

The development of this Plan was a collaborative effort between Weston & Sampson and its subcontracted ecological risk expert Anchor QEA (Anchor). The purpose of the Plan is to outline the proposed activities to be conducted to further evaluate sediment and surface water quality along the length of the intermittent stream extending from the spill site (27 Parsons Lane) to the interception with the Coginchaug River. The objectives of the Plan are to: 1) provide additional data to assess risk to the ecological receptors including additional data specifically obtained with lower detection limits for surface water, 2) provide assessment of potential impacts to aquatic resources associated with the Coginchaug River (not previously evaluated), and 3) further define the horizontal and vertical extent of PCBs within sediment. This Plan summarizes proposed sampling locations, sampling methods, and sampling approach. When the Plan is implemented, Weston & Sampson will perform the field sampling and Anchor QEA will provide field oversight and data interpretation. A table summarizing the project team and roles is included in Table 1.

The unnamed, northeast to southwest trending stream extends approximately 2,600 feet from the western property boundary of the spill Site to the Coginchaug River. The unnamed stream traverses through three or four residential properties before discharging to the Coginchaug River. An aerial view of the Site, neighboring parcels, unnamed stream and Coginchaug River is presented in Figure 2.

2.0 SAMPLING METHODS

A summary of proposed sediment and surface water sampling methods to be completed along the unnamed stream and the Coginchaug River is provided below. A summary of sample identifications (IDs), objectives, sample media type and analysis are provided in Table 2. Previous and proposed sediment and surface water sampling locations are presented in Figures 3 through 6.

Surface Water
Weston & Sampson and Anchor propose collecting surface water samples at five locations, designated SW-1 to SW-5. In addition, Quality Assurance/Quality Control (QA/QC) samples will be collected and include a blind field duplicate and matrix spike/matrix spike duplicate sample. The following surface water sampling methods are proposed:

- Use a global positioning system (GPS) to identify and record sampling locations.
- Fasten a new, clean unpreserved laboratory container to an extendable pole. Immerse the container directly into the water column near the center of the water channel, taking care not let the container encounter sediment,
- Record the time of sample collection and physical characteristics of the stream or river at each sample location. Physical characteristics include channel width, approximate water depth, turbulent or laminar flow.
- Label each sample with an adhesive plastic or waterproof label. Record the following information on each label: 1) sample ID, 2) date and time of collection, 3) preservation type if applicable, and 4) analysis to be performed.
- Prepare a chain of custody (COC) to include the sample IDs, date, time, desired analysis and turnaround time.
- Place the sample containers in a cooler with ice prior to transport to the laboratory for analysis.

Sediment
Weston & Sampson and Anchor propose collecting sediment samples from 30 locations. These locations include 11 new single point sediment locations, designated SED-1 to SED-11, one sample location along previous Transect 4, designated Reoccupy T4-E and 18 sample locations along 6 new stream transects, designated Transects 4-1, 4-2, 5-1, 5-2, 6-1 and 7-1. Sediment samples will be collected from each new transect along the west (W), center (C) and east (E) sides. Two sample depths (0.0-0.5' and 0.5-1.0') will be collected from each sediment sampling location except for Reoccupy T4-E. Only the 0.5-1.0' sampling interval will be collected at this location for the purpose of resampling at this location and specific depth. The same QA/QC samples proposed for surface water will be collected for sediment. The following sediment sampling methods are proposed:

- Use a GPS to identify and record sampling locations.
- Push a new, dedicated 3-inch polycarbonate core tube into the sediment. A rubber mallet or small hammer may be used to drive the tube into the sediment. If possible, drive the tube in to the sediment approximately 18 inches to recover a minimum of 12 inches of sediment. If the top of the core tube is damaged during penetration, cut the top of the core tube off with a hacksaw to provide a smooth end, then cap, and pull the tube out of the sediment. Place a cap on the bottom of the tube before the bottom of the tube breaks the water surface. A similar procedure will be followed if another samples device is utilized.
- Decant the water above the sediment in the tube prior to processing. Lay the core down, remove the end caps, and extrude the top 0.5 feet of sediment into a new aluminum pan, photograph

and record the physical characteristics of the samples. Homogenize the sediment with a disposal tool and place in a laboratory container. Repeat the process for the 0.5-1.0' sampling interval. Return any unused sediment at the point of collection. Use a new pan and tool for each core.

- Record the time of sample collection, general penetration resistance (i.e. soft, hard bottom), penetration depth, length of recovered sediment and water depth at each location.
- Label each sample with an adhesive plastic or waterproof label. Record the following information on each label: 1) sample ID, 2) date and time of collection, 3) preservation type if applicable, and 4) analysis to be performed.
- Prepare a COC to include the sample IDs, date, time, and desired analysis and turnaround time.
- Place the sample containers in a cooler with ice prior to transport to the laboratory for analysis.

3.0 SAMPLING APPROACH AND DATA EVALUATION

Weston and Sampson and Anchor propose to collect samples from the downstream to upstream direction (beginning at the northernmost location in the Coginchaug River) to minimize downstream sediment sample fouling prior to collection. Surface water sampling should be conducted prior to sediment sample collection to minimize the potential for introducing PCBs to the water columns as a result of sediment resuspension. The surface water samples will be collected from the surface of the water column, near the center of the channel. As stated in the sampling method, the sample containers will be immersed directly into the water to minimize disturbance of sediment as much as possible. Surface water samples will be submitted for PCB analysis by EPA method 8082 and Total Organic Carbon (TOC) via EPA 9060. Sediment samples will be collected as instructed in Section 2.0 and all of the 0.0-0.5' samples plus the Reoccupy T4-E 0.5-1.0' sample will be submitted for PCB analysis by EPA method 8082 with 3540C Soxhlet extraction. Pending analytical results of the 0.0-0.5' sampling interval the deeper sampling interval 0.5-1.0' for select locations may be activated for analysis.

Upon receipt of the analytical results, Anchor will review and evaluate the data. Anchor will also tabulate and compare the results to ecological risk-based criteria. Results may be area weighted for the purposes of the ERA.

FIGURES



NOTE:
1. LOCUS MAP DERIVED FROM TOWN OF DURHAM GIS DATABASE.

FIGURE-1
DURHAM, CONNECTICUT
27 PARSONS LANE ER SPILL
SITE LOCUS MAP

0 100 200

N

\\wse03.local\WSE\Projects\CT\NUSCO+Eversource\Durham - Parson Lane ER Spill\CAD\Site Location Map.dwg

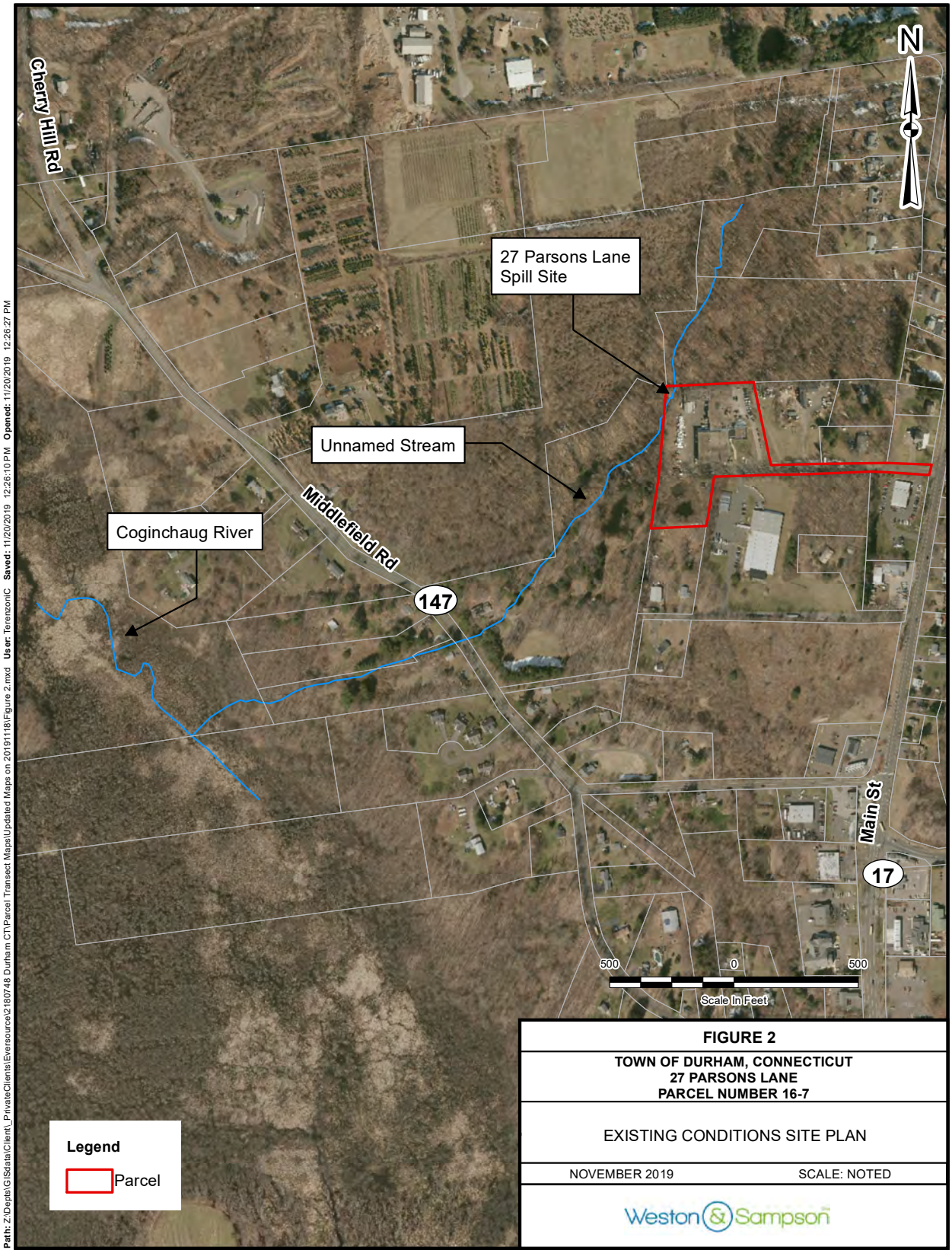


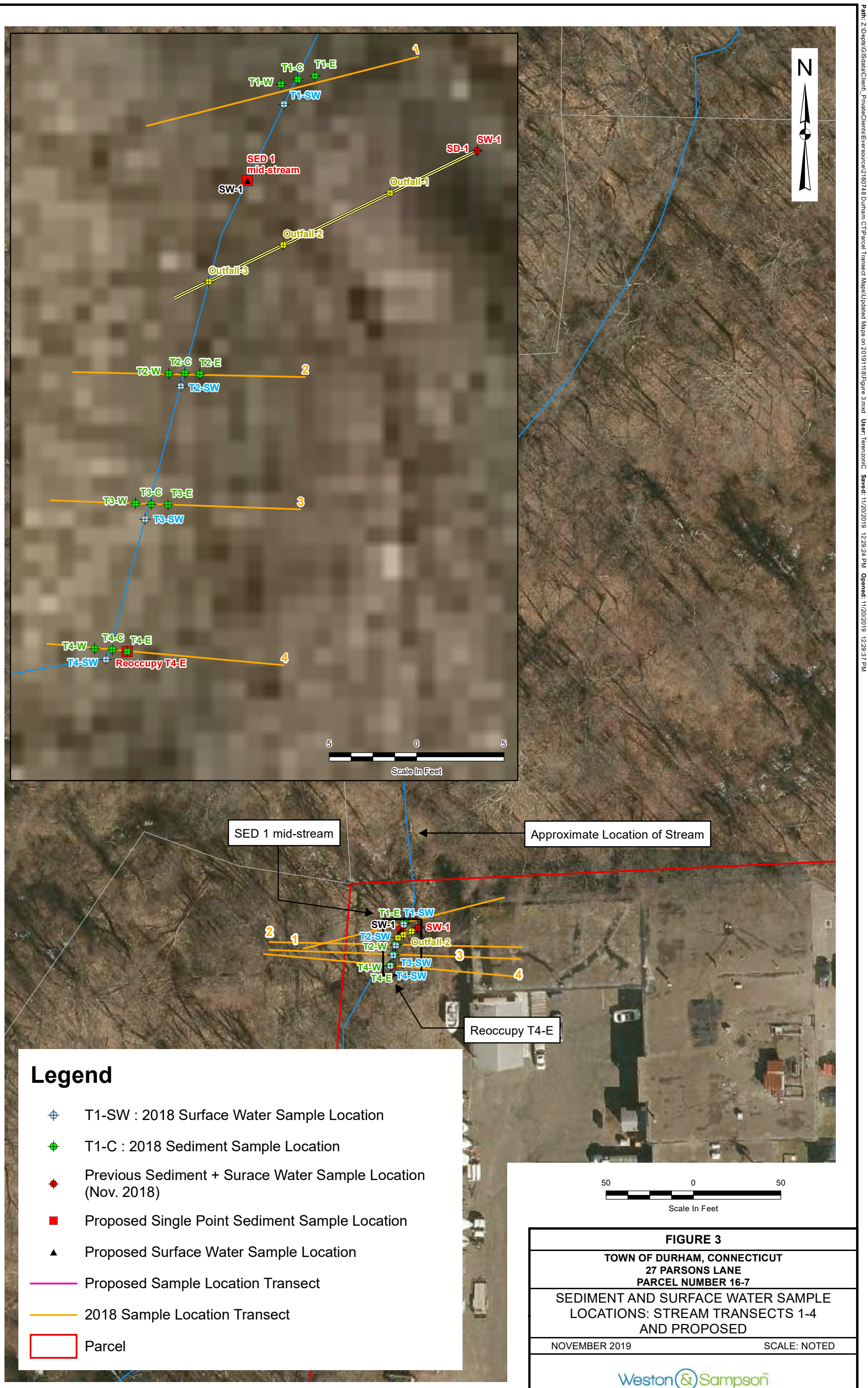
FIGURE 2

TOWN OF DURHAM, CONNECTICUT
27 PARSONS LANE
PARCEL NUMBER 16-7

EXISTING CONDITIONS SITE PLAN

NOVEMBER 2019 SCALE: NOTED

Weston & Sampson



Legend

- T1-SW : 2018 Surface Water Sample Location
- T1-C : 2018 Sediment Sample Location
- Previous Sediment + Surace Water Sample Location (Nov. 2018)
- Proposed Single Point Sediment Sample Location
- Proposed Surface Water Sample Location
- Proposed Sample Location Transect
- 2018 Sample Location Transect
- Parcel

FIGURE 3

TOWN OF DURHAM, CONNECTICUT
27 PARSONS LANE
PARCEL NUMBER 16-7

SEDIMENT AND SURFACE WATER SAMPLE LOCATIONS: STREAM TRANSECTS 1-4 AND PROPOSED

NOVEMBER 2019 SCALE: NOTED

Weston & Sampson

Path: Z:\Depts\GIS\data\Client_Private Clients\Eversource\218074 Durham CT\Parcel Transect Maps\Updated Maps on 20191118\Figure 3.mxd User: TerenzoniC Saved: 11/20/2019 12:29:24 PM Opened: 11/20/2019 12:29:37 PM

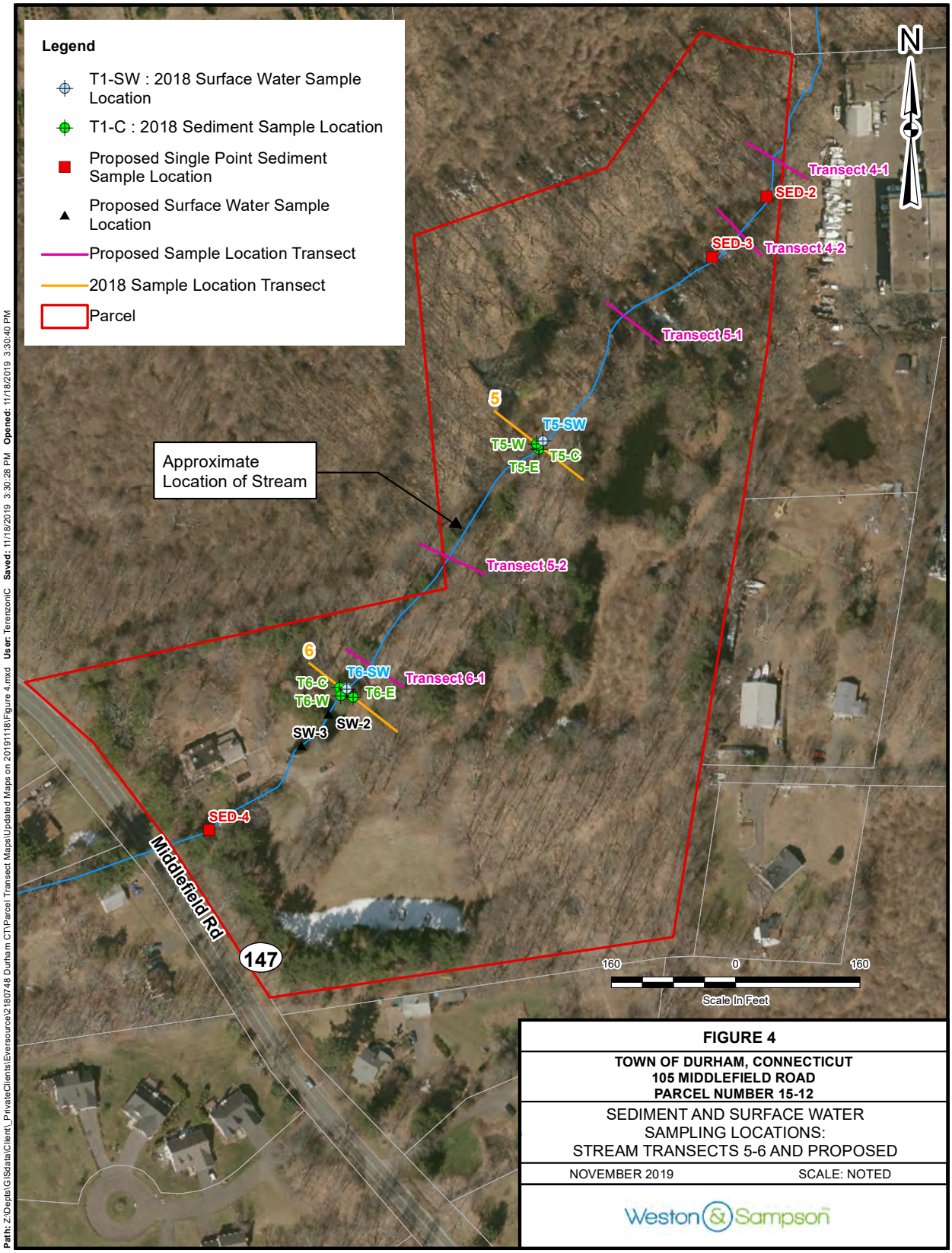

Legend
T1-SW : 2018 Surface Water Sample Location
T1-C : 2018 Sediment Sample Location
Proposed Single Point Sediment Sample Location
Proposed Surface Water Sample Location
Proposed Sample Location Transect
2018 Sample Location Transect
Parcel
N
Transect 4-1
SED-2
SED-3
Transect 4-2
Transect 5-1
5
T5-SW
T5-W
T5-C
T5-E
Approximate Location of Stream
Transect 5-2
6
T6-SW
Transect 6-1
T6-C
T6-W
T6-E
SW-2
SW-3
SED-4
Middlefield Rd
147
160
0
160
Scale In Feet
FIGURE 4
TOWN OF DURHAM, CONNECTICUT
105 MIDDLEFIELD ROAD
PARCEL NUMBER 15-12
SEDIMENT AND SURFACE WATER SAMPLING LOCATIONS:
STREAM TRANSECTS 5-6 AND PROPOSED
NOVEMBER 2019
SCALE: NOTED
Weston & Sampson
Path: Z:\Depts\GIS\data\Client_PrivateClients\Eversource\2180748 Durham CT\Parcel Transect Maps\Updated Maps on 20191118\Figure 4.mxd User: TerenzoniC Saved: 11/18/2019 3:30:28 PM Opened: 11/18/2019 3:30:40 PM



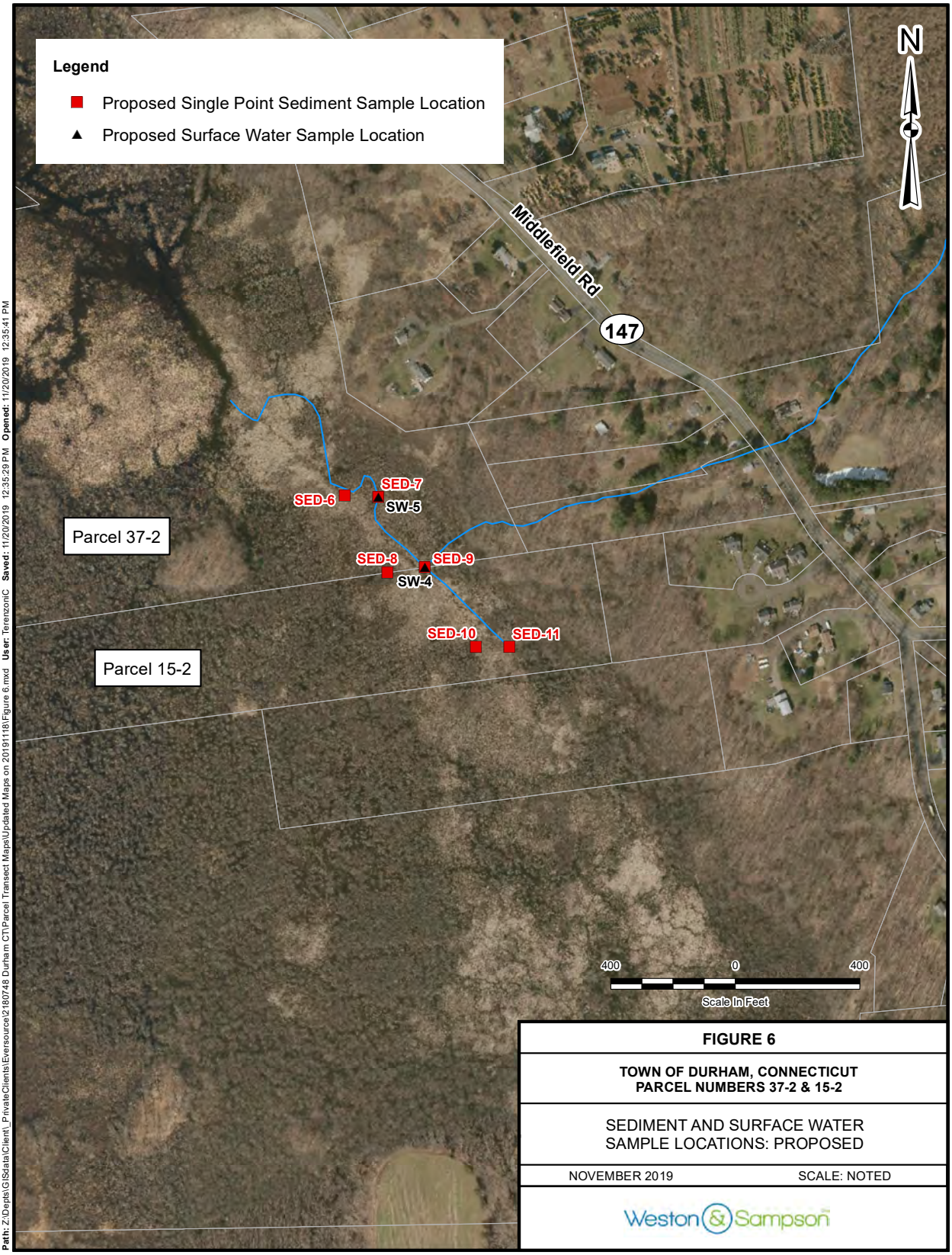
FIGURE 5

TOWN OF DURHAM, CONNECTICUT
94 MIDDLEFIELD ROAD
PARCEL NUMBER 15-3

SEDIMENT AND SURFACE WATER SAMPLE LOCATIONS:
STREAM TRANSECTS 7-8 AND PROPOSED

NOVEMBER 2019 SCALE: NOTED

Weston & Sampson


Legend
Proposed Single Point Sediment Sample Location
Proposed Surface Water Sample Location
N
Middlefield Rd
147
SED-6
SED-7
SW-5
SED-8
SED-9
SW-4
SED-10
SED-11
Parcel 37-2
Parcel 15-2
400
0
400
Scale In Feet
FIGURE 6
TOWN OF DURHAM, CONNECTICUT
PARCEL NUMBERS 37-2 & 15-2
SEDIMENT AND SURFACE WATER
SAMPLE LOCATIONS: PROPOSED
NOVEMBER 2019
SCALE: NOTED
Weston & Sampson
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TABLES

Table 1
Project Team
Ecological Risk Assessment Work Plan
27 Parsons Lane, Durham, CT

Project Team	Role	Contact Information
Weston & Sampson Engineers, Inc.	Sample Collection	Jeff Willson Team Leader direct: 860-616-6618 cell: 860-729-5492
Anchor QEA	Field Oversight, ERA Data Intepretation	Amy Nelson Project Manager direct: 978-378-6215

Table 2
Sampling Locations and Analyses
Ecological Risk Assessment Work Plan
27 Parsons Lane, Durham, CT

Sample ID	Objective	Sample Type	Analysis
Surface Water			
SW-1	Provide data to compare to CT aquatic life water quality guidelines	Water	PCBs by EPA Method 8082A (target RL = 0.014 µg/L); and TSS
SW-2			
SW-3			
SW-4			
SW-5			
Field Duplicate	QA/QC		
MS/MSD			PCBs by EPA Method 8082A
Rinse Blank		DI water	
Sediment			
Sediment Samples - Overall	0.0 to 0.05-ft. depth interval for all locations: Provide data to compare to risk-based screening values. 0.5 to 1.0-foot Depth Intervals at select locations as noted below: Provide data to refine nature and extent of contamination.		
SED-1	US of previous Transect T2	Single Point Sediment Sample	PCBs by EPA Method 8082A with Soxhlet Extraction by EPA Method 3540C (target RL = 0.0041 – 0.06 mg/kg); Total Organic Carbon (TOC) by EPA Method 9060
REOCCUPY T4-E	Re-sample Previous Transect T4-E; 0.5-1.0 ft.		
SED-2	Delineation of mid-stream DS of release; DS of proposed Transect 4-1 and US of proposed Transect 4-2		
SED-3	Delineation of mid-stream DS of release; DS of proposed Transect 4-2 and US of proposed Transect 5-1		
Transect 4-1	DS of previous Transect 4; at the bend of the stream	3 Point Sediment Samples at Transect (East-Center-West)	
Transect 4-2	DS of proposed Transect 4-1		
Transect 5-1	US of previous Transect 5		
Transect 5-2	DS of previous Transect 5		
Transect 6-1	US of previous Transect 6		
SED-4	US of Proposed Transect 7-1; East of Middlefield Road	Single Point Sediment Sample	
Transect 7-1	US of previous Transect 7	3 Point Sediment Samples at Transect (East-Center-West)	
SED-5	DS of previous Transect 7	Single Point Sediment Sample	
SED-6	DS of previous Transect 8 in the Coginchaug River (Characterize potential risk to ecological receptors)		
SED-7			
SED-8			
SED-9			
SED-10			
SED-11			
Field Duplicate	QA/QC	Sediment Sample	
MS/MSD			
Rinse Blank		DI water	PCBs by EPA Method 8082A

Notes:
1. Coordinate system: NAD 1983 StatePlane Massachusetts Mainland FIPS 2001 (US Feet)
2. Quality Assurance/Quality Control Samples: A field duplicate and MS/MSD will be collected at a frequency of 1 per 20 samples for each media.

Abbreviations:
SW-1: Surface water sample ID
SED-1: Sediment sample ID
RL: Reporting Limit
ft: feet
mg/kg: milligrams per kilogram
µg/L: micro grams per liter
MS/MDS: matrix spike/matrix spike duplicate
DI: deionized water
DS: Down stream
US: Up stream
TOC: total organic carbon
TSS: total solids

Connecticut Department of ENERGY & ENVIRONMENTAL PROTECTION

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Memo

To: Gary Trombley
From: Laura Robbins and Traci Iott, DEEP Water Quality Program
Date: March 17, 2020
Re: **Review of Eversource Ecological Risk Assessment Workplan**
27 Parsons Road, Durham CT

Review Scope

DEEP's Water Quality Program reviewed the *Ecological Risk Assessment Workplan* prepared by Weston & Sampson on behalf of Eversource Energy Services Company (dated November 2019). The Workplan was received by DEEP's PCB Enforcement Unit on December 3, 2019 and received by DEEP's Water Quality group on January 10, 2020. The Water Quality/Eco review focused on risk to ecological receptors – namely an unnamed intermittent tributary to the Coginchaug River – and associated sampling methodology following a spill at the 27 Parsons Road site. Approximately 100 gallons of dielectric transformer oil containing PCBs were released at the site, with the spill reported to DEEP on October 19, 2018.

Summary of Workplan

The Workplan proposes surface water and sediment sampling to occur in the Coginchaug River and an unnamed intermittent tributary thereto, in locations downstream of the spill. Sample locations span the length of the intermittent watercourse from the spill site to just beyond the tributary's confluence with the Coginchaug (an approximate 2,600-foot linear distance). Proposed sampling includes 5 surface water grab samples and a total of 30 stream sediment samples, with 11 of these at new locations and 19 at previously-sampled locations. Sediment samples would be primarily taken in transects with one at each bank and one in the channel, with 3 taken per location with the exception of some single-point sediment samples.

Assessment Results and Recommendations

DEEP's water quality/ecological risk review resulted in the following conclusions and recommendations:

1. *Sampling design.*
    - We recommend that sediment sample locations are chosen based on (and biased toward) depositional areas observed in-field, to maximize the likelihood that depositional sediments are both available and sampled.

- In our opinion the proposed sediment sample depths are practical and sufficient. We support the concept of lab-testing the upper 0 - 0.5' interval prior to determining the need to test the lower 0.5' to 1' of sediment core samples. If the 0.5' to 1' horizon is found to contain PCBs, sampling below the 1-foot depth may also be needed; please follow-up with DEEP staff by presenting sampling data to determine what further sampling may be necessary.
- Workplan Section 3.0 (Sampling Approach and Data Evaluation) discusses testing for Total Organic Carbon (TOC) via EPA Method 9060 in surface water samples, but not sediments. We recommend that you test each sediment sample for TOC, and also grain size, to verify and document the composition of sediment samples.

2. *Focus on delineating the horizontal and vertical extent of PCBs in sediment.*
    - We concur with the approach of testing for Alachlors and PCB congeners under EPA Method 8082 as an appropriate way to determine the scope of the contaminated area.
    - PCBs are relatively insoluble and therefore very unlikely to be detected in surface water tests; furthermore, prior surface water tests at the site all resulted in non-detect results for PCBs. For these reasons we do not believe it is necessary to test surface water, and recommend focusing investigative efforts on sediment sampling.
    - Upon sample submittal, we recommend verifying that laboratory reporting limits (RLs) are set to the lowest possible concentration for detection and that RL thresholds are documented.
    - The Interim Remedial Action Report dated July 2, 2019 mentions need for further investigation of a "flow channel on the western abutting property that receives discharge from the 8-inch RCP"; if this is an ephemeral stream channel/ditch, we recommend collecting sediment samples from this channel at, and downstream of, the pipe outfall location.

3. *Remedial goal.*

PCBs do not naturally occur in the environment, and their persistent and bioaccumulative characteristics result in toxicity to live organisms. From an ecological perspective PCBs should not be present in the environment and should not remain in place if they have been released. While Eversource's remedial goal for watercourse sediments is not stated in the Workplan, following a PCB spill the remedial goal should target complete removal of PCB-contaminated sediments from the site.

4. *NDDB Review.*

Proposed sampling falls within a Natural Diversity Data Base (NDDB) area. Prior to commencing sampling within the project area, Eversource must abide by the instructions given in NDDB correspondence entitled *Preliminary Assessment No. 201908278* (issued July 18, 2019) and gain NDDB concurrence with the work. We recommend that you avoid any impact to adjacent wetlands during sampling and specify that in your NDDB submittal, as well as state your intent to minimally disturb stream sediments for the duration of one sampling event.

Review completed 3/17/20 by LR/TI

Environmental Affairs Department
107 Selden Street
Berlin, CT 06037

March 26, 2020

Mr. Gary Trombly, Jr.
Environmental Analyst
Storage Tank And PCB Enforcement Unit
Emergency Response & Spill Prevention Division
Bureau of Materials Management and Compliance Assurance
Connecticut Department of Energy and Environmental Protection
79 Elm Street, Hartford, CT 06106-5127

Reference: **27 Parsons Lane, Durham, CT**
Response to CT DEEP's March 17, 2020 MEMO Re: Review of Eversource ERA Workplan

Dear Mr. Trombly:

On March 17, 2020, Eversource Energy Services Company (Eversource) was emailed a copy of a memorandum addressed to you from Laura Robbins and Traci Iott, members of Connecticut Department of Energy and Environmental Protection's (CT DEEP's) Water Quality Program, that summarized their review of Weston & Sampson's Ecological Risk Assessment (ERA) Work Plan for the above referenced Site dated November 2019. This letter provides Eversource's response to this memorandum to offer our concurrence with CT DEEP's recommendations and to clarify or reconcile items that may still require agreement.

Our response to items addressed in the Assessment Results and Recommendations section of the March 17 memorandum are as follows:

1. Sampling design
    - We concur that sediment sample locations will be chosen based on (and biased toward) depositional areas observed in the field which was the intent.
    - The laboratory results from discrete samples collected from the 0.0 – 1.0-foot depth intervals will be summarized in data tables for your review.
    - We concur that each sediment sample will be analyzed for total organic carbon (TOC). We propose that only select samples are analyzed for grain size based on field observations. If field observations indicate that grain size (i.e., percent fines) appears to be similar in more than one location, only one sample will be analyzed from this group (e.g. one sample from a transect). Transect composite samples for grain size analysis (which can increase minimal sample sizes substantially) is proposed, in part, to reduce disturbance of the depositional sampling areas.

2. Focus on delineating the horizontal and vertical extent of PCBs in sediment
    - As per my email correspondence with Laura Robbins on March 26, 2020, CT DEEP has revised their statement to "concur with the approach testing for Arochlors under EPA Method 8082 as an appropriate way to determine the scope of the contaminated area." We would like to further clarify that the analysis

will be performed using Soxhlet extraction via EPA Method 3540C. Samples are not being analyzed for congeners.

- We concur with CT DEEP's recommendation to eliminate surface water sampling from the ERA Work Plan.
- We concur that the laboratory reporting limits (RLs) will be set to the lowest possible concentration for detection. Upon sample receipt by the analytical laboratory, RL thresholds will be documented. Target RLs based on ecologically relevant screening levels are provided in the ERA Work Plan.
- The ephemeral stream channel was sampled during the initial emergency response; one surface water sample (SW-1), and four sediment samples from a 0.0 – 0.5-foot depth interval (SD-1, Outfall-1, Outfall-2, and Outfall-3) were analyzed for PCBs. Additional samples will be collected from this area to enhance the delineation of nature and extent of PCB impacts.

3. Remedial goal
    - Remedial goals will be established once the ERA is complete and spill-related risks are fully identified and delineated. Remedial goals will be documented in a remedial action plan.

4. NDDB Review
    - We will take appropriate measures to avoid adversely impacting wetlands during sampling and minimally disturb stream sediments for the duration of the sampling performed in each area. Eversource's intentions are to perform the sampling this spring from areas located upstream/outside of the Durham Meadows Wildlife Management Area (WMA).
    - Eversource will coordinate with CT DEEP to obtain a Special Use License to access the Durham Meadows WMA. Sampling in this area will take place after November 1, 2020 as required based on CT DEEP's March 16, 2020 determination on the March 5, 2020 Natural Diversity Data Base (NDDB) request submitted specifically to assess the proposed sampling.

Please let me know if you have any questions or require additional information regarding this response. Otherwise, please provide CT DEEP's position on Eversource's response presented herein.

Very truly yours,

Drew Blicharz

Drew P. Blicharz
Environmental Specialist – Remediation

Enclosure

EVERSOURCE ENERGY

Environmental Affairs Department
107 Selden Street
Berlin, CT 06037

cc:
Gary Iadarola, LEP, CPG, Manager, Environmental Remediation, Eversource
Charles J. Nicol, Esq, Senior Counsel, Eversource
Jeffrey Willson, LEP, Weston & Sampson
Amy Nelson, Anchor QEA

Willson, Jeffrey

From: Blicharz, Andrew P <drew.blicharz@eversource.com>
Sent: Monday, December 2, 2024 9:50 AM
To: Willson, Jeffrey
Subject: FW: ERA Work Plan - 27 Parsons Lane, Durham CT
Attachments: Eversource Response to CT DEEP Memo Re 27 Parson Ln_032620.pdf; NDDB Letter 202003906 Soil Sampling in Durham Meadows near 27 Parson Lane Durham.pdf

FYI

From: Robbins, Laura <Laura.Robbins@ct.gov>
Sent: Monday, March 30, 2020 12:30 PM
To: Blicharz, Andrew P <drew.blicharz@eversource.com>; Trombly, Gary <Gary.Trombly@ct.gov>; Iott, Traci <Traci.Iott@ct.gov>
Cc: Trahan, Amber <Amber.Trahan@ct.gov>; Iadarola, Gary <gary.iadarola@eversource.com>; Nicol, Charles J <charles.nicol@eversource.com>; willsonj (wseinc.com) <willsonj@wseinc.com>; Amy Nelson <anelson@anchorqea.com>; Krukar, Geoffrey <Geoffrey.Krukar@ct.gov>; Sydoriak, Jamie <Jamie.Sydoriak@ct.gov>
Subject: Re: ERA Work Plan - 27 Parsons Lane, Durham CT

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Hi Andrew,

We concur with your response letter dated March 26, with two exceptions:

1. Sampling design, bullet point #3: your letter proposes that "only select samples are analyzed for grain size" and that "transect composite samples for grain size analysis... is proposed." We do not agree with this approach; we request that you refrain from composite sampling, and conduct a grain size analysis on each sediment sample collected.
2. NDDB review, bullet points #1 and 2: The NDDB letter (Determination # 202003906, dated March 16) states: *"Conduct all work during the dormant period, November 1 to April 1, to avoid impacting this species."* Note this statement applies to all project work, not only work within the WMA, as Northern Leopard Frog *(Rama pipiens)* habitat continues outside of the WMA. (While you only need a DEEP land access permit for the WMA, NDDB submittals and determinations extend to all project work.) I verified this information with Geoffrey Krukar of NDDB. Please ensure that all project work is conducted during the November 1 - April 1 dormancy time period to protect the species and ensure compliance with NDDB.

Feel free to reach out with any questions or comments.

Regards,

Laura Robbins
Environmental Analyst
Water Planning & Management Division
Bureau of Water Protection & Land Reuse
Connecticut Department of Energy & Environmental Protection
79 Elm Street, Hartford, CT 06106-5127
860.424.3609 | Laura.Robbins@ct.gov

From: Blicharz, Andrew P <drew.blicharz@eversource.com>
Sent: Thursday, March 26, 2020 2:26 PM
To: Robbins, Laura; Trombly, Gary; Iott, Traci
Cc: Trahan, Amber; Iadarola, Gary; Nicol, Charles J; willsonj (wseinc.com); Amy Nelson
Subject: RE: ERA Work Plan - 27 Parsons Lane, Durham CT

Good afternoon,

Thank you for the reply. Please find our letter response to your memo attached. At your earliest convenience, please review and provide your response.

Regards,
Drew

From: Robbins, Laura <Laura.Robbins@ct.gov>
Sent: Thursday, March 26, 2020 10:22 AM
To: Blicharz, Andrew P <drew.blicharz@eversource.com>; Trombly, Gary <Gary.Trombly@ct.gov>; Iott, Traci <Traci.Iott@ct.gov>
Cc: Trahan, Amber <Amber.Trahan@ct.gov>; Iadarola, Gary <gary.iadarola@eversource.com>
Subject: Re: ERA Work Plan - 27 Parsons Lane, Durham CT

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Hi Andrew,

I've consulted with Traci on this. Yes arochlors was misspelled, sorry about that. Also, we are ok with your team testing only for arochlors and not congeners, via EPA Method 8082 with 3540C Soxhlet extraction. So the revised statement in the memo per this email would be:

- "We concur with the approach testing for Arochlors under EPA Method 8082 as an appropriate way to determine the scope of the contaminated area."

Regards,
Laura Robbins
Environmental Analyst
Water Planning & Management Division
Bureau of Water Protection & Land Reuse
Connecticut Department of Energy & Environmental Protection
79 Elm Street, Hartford, CT 06106-5127
860.424.3609 | Laura.Robbins@ct.gov

From: Blicharz, Andrew P <drew.blicharz@eversource.com>
Sent: Thursday, March 26, 2020 9:18 AM
To: Trombly, Gary; Iott, Traci
Cc: Trahan, Amber; Robbins, Laura; Iadarola, Gary
Subject: RE: ERA Work Plan - 27 Parsons Lane, Durham CT

Gary/Traci,

When you have a moment, can you please clarify DEEP's position on this? My cell is below if you'd like to discuss instead of email.

Hope you are well.

Regards,
Drew

From: Blicharz, Andrew P
Sent: Monday, March 23, 2020 8:27 AM
To: Trombly, Gary <Gary.Trombly@ct.gov>; traci.iott@ct.gov
Cc: Trahan, Amber <Amber.Trahan@ct.gov>; Iadarola, Gary <gary.iadarola@eversource.com>
Subject: RE: ERA Work Plan - 27 Parsons Lane, Durham CT

Gary/Traci,

I tried to call Traci this morning and her voice mailbox explains email is the best way to communicate. I am preparing a response to this memo and I'm confused with the following bullet under Item 2:

- "We concur with the approach testing for Alachlors and PCB congeners under EPA Method 8082 as an appropriate way to determine the scope of the contaminated area."

I'm sure your intention was to write "Aroclors" and this is straight forward. Can you clarify the second half of this sentence? Our risk consultant has proposed PCB aroclors only (not congeners) via EPA Method 8082 with 3540C Soxhlet extraction.

Regards,
Drew

From: Trombly, Gary <Gary.Trombly@ct.gov>
Sent: Tuesday, March 17, 2020 11:06 AM
To: Blicharz, Andrew P <drew.blicharz@eversource.com>
Cc: Trahan, Amber <Amber.Trahan@ct.gov>
Subject: Re: ERA Work Plan - 27 Parsons Lane, Durham CT

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Do not click on links or attachments if sender is unknown or if the email is unexpected from someone you know, and never provide a user ID or password. Report suspicious emails by selecting 'Report Phish' or forwarding to SPAMFEEDBACK@EVERSOURCE.COM for analysis by our cyber security team.

Drew,

Please find attached the memo on the review of the Ecological Risk Assessment Work Plan for Parsons Lane.

Gary

From: Blicharz, Andrew P <drew.blicharz@eversource.com>
Sent: Tuesday, March 17, 2020 7:55 AM
To: Iott, Traci; Robbins, Laura
Cc: Trombly, Gary; Sydoriak, Jamie; Lugli, Nicole; Iadarola, Gary; Nicol, Charles J; Van Dyke, Amy Leete LEGAL; willsonj (wseinc.com); Amy Nelson
Subject: ERA Work Plan - 27 Parsons Lane, Durham CT

Good morning Traci and Laura,

On February 11, we received your informal approval of our Work Plan and we were directed by you and Gary Trombly not to initiate the work until your formal letter was issued. In the meantime, as requested by Karen Zyko, we submitted an updated request for NDDB state listed species review. Today we received a response from Geoffrey Krukar and we understand there is special concern regarding the Northern Leopard Frog in the Durham Wildlife Management Area (WMA). It has been recommended that we conduct our sampling during the dormant period, November 1 to April 1, and access should be either by foot or non-motorized watercraft.

Given the ever evolving situation with COVID-19, your pending formal letter approval, and a potentially less than two-week timeframe to perform this work by April 1, I'm writing to propose four options for your consideration:

1. With your immediate formal letter approval, and with an approved permit
    a. we can mobilize to collect samples from just within the WMA prior to April 1, or
    b. we can mobilize and try to sample all locations prior to April 1
        i. we need to provide private property owners 1-week advance notice
2. With your formal letter approval at a later date, and with an approved permit
    a. we can proceed with sampling in other upstream areas this spring and access the WMA for sampling after November 1, or
    b. we can wait until November 1 for all of the sampling.

Please advise at your earliest convenience. Stay safe and healthy.

With warm regards,

Drew

Drew P. Blicharz, CHMM
Environmental Specialist – Remediation
EVERSOURCE
107 Selden Street
Berlin, CT 06037
Office: 860-665-5751
Cell: 617-549-4950
drew.blicharz@eversource.com

From: Trahan, Amber <Amber.Trahan@ct.gov>
Sent: Tuesday, February 11, 2020 2:21 PM
To: Blicharz, Andrew P <drew.blicharz@eversource.com>
Cc: Robbins, Laura <Laura.Robbins@ct.gov>
Subject: DRAFT ERA Work Plan - 27 Parsons Lane, Durham CT

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Drew,

Just to follow up, please be aware that the PCB Program is anticipating a memo regarding the ERA Work Plan from the Ecological Team. Please keep an eye out for that email.

Thank you,

Amber Trahan

Amber Trahan
Environmental Intern
Storage Tank & PCB Enforcement Unit
Emergency Response & Spill Prevention
Bureau of Materials Management & Compliance Assurance
Connecticut Department of Energy and Environmental Protection
79 Elm Street, Hartford, CT 06106-5127
P: 860.424.4177 | E: amber.trahan@ct.gov

Connecticut Department of
ENERGY & ENVIRONMENTAL PROTECTION

www.ct.gov/deep

Conserving, improving and protecting our natural resources and environment;
Ensuring a clean, affordable, reliable, and sustainable energy supply.

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CT DEEP NDDB REVIEW #2

(March 2020)

Connecticut Department of
Energy & Environmental Protection
Bureau of Natural Resources
Wildlife Division

CPPU USE ONLY

App #:_____

Doc #:_____

Check #: No fee required

Program: **Natural Diversity Database**
Endangered Species

Hardcopy _____ **Electronic** _____

Request for Natural Diversity Data Base (NDDB) State Listed Species Review

Please complete this form in accordance with the instructions (DEEP-INST-007) to ensure proper handling of your request.
There are no fees associated with NDDB Reviews.

Part I: Preliminary Screening & Request Type

Before submitting this request, you must review the most current Natural Diversity Data Base "State and Federal Listed Species and Significant Natural Communities Maps" found on the DEEP website. These maps are updated twice a year, usually in June and December.

Does your site, including all affected areas, fall in an NDDB Area according to the map instructions:

☒ Yes ☐ No **Enter the date** of the map reviewed for pre-screening: **February 2020**

This form is being submitted for a :

☒ *New* NDDB request ☐ *Renewal/Extension* of a NDDB Request, ***without*** *modifications and within* ***two years*** *of issued NDDB determination* (no attachments required) [*CPPU Use Only - NDDB-Listed Species Determination #* 1736]	☐ *New* **Safe Harbor Determination** (optional) must be associated with an application for a GP for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities ☐ *Renewal/Extension* of an existing Safe Harbor Determination ☐ With modifications ☐ Without modifications (no attachments required) [*CPPU Use Only - NDDB-Safe Harbor Determination #* 1736]
Enter NDDB Determination Number for Renewal/Extension:	Enter Safe Harbor Determination Number for Renewal/Extension:

Part II: Requester Information

***If the requester is a corporation, limited liability company, limited partnership, limited liability partnership, or a statutory trust, it must be registered with the Secretary of State. If applicable, the name shall be stated **exactly** as it is registered with the Secretary of State. Please note, for those entities registered with the Secretary of State, the registered name will be the name used by DEEP. This information can be accessed at the Secretary of the State's database CONCORD.*
(www.concord-sots.ct.gov/CONCORD/index.jsp)

If the requester is an individual, provide the legal name (include suffix) in the following format: First Name; Middle Initial; Last Name; Suffix (Jr, Sr., II, III, etc.).

If there are any changes or corrections to your company/facility or individual mailing or billing address or contact information, please complete and submit the Request to Change company/Individual Information to the address indicated on the form.

1. Requester*

Company Name: **Eversource Energy Service Company**

Contact Name: **Drew Blicharz**

Address: **107 Selden Street**

City/Town: **Berlin** State: **CT** Zip Code: **06037**

Business Phone: **(860) 665-5751** ext.

E-mail: **drew.blicharz@eversource.com

**By providing this email address you are agreeing to receive official correspondence from the department, at this electronic address, concerning this request. Please remember to check your security settings to be sure you can receive emails from "ct.gov" addresses. Also, please notify the department if your e-mail address changes

a) Requester can best be described as:

☐ Individual ☐ Federal Agency ☐ State agency ☐ Municipality ☐ Tribal

☒ *business entity (* if a business entity complete i through iii):

i) Check type ☒ corporation ☐ limited liability company ☐ limited partnership
☐ limited liability partnership ☐ statutory trust ☐ Other:

ii) Provide Secretary of the State Business ID #: 0033981 This information can be accessed at the Secretary of the State's database (CONCORD). (www.concord-sots.ct.gov/CONCORD/index.jsp)

iii) ☒ Check here if your business is **NOT** registered with the Secretary of State's office.

b) Acting as (Affiliation), pick one:

☐ Property owner ☐ Consultant ☐ Engineer ☐ Facility owner ☒ Applicant

☐ Biologist ☐ Pesticide Applicator ☐ Other representative:

2. List Primary Contact to receive Natural Diversity Data Base correspondence and inquiries, if different from requester.

Company Name: **Anchor QEA**

Contact Person: **Amy Nelson** Title: **Managing Scientist**

Mailing Address: **9 Water Street, First Floor**

City/Town: **Amesbury** State: **MA** Zip Code: **01913**

Business Phone: **978-378-6215** ext.

E-mail: **anelson@anchorqea.com

Part III: Site Information

This request can only be completed for one site. A separate request must be filed for each additional site.

1. SITE NAME AND LOCATION

Site Name or Project Name: **Ecological Risk Support for #27 Parson Lane, Durham, CT**

Town(s): **Durham, CT**

Street Address or Location Description:
#27 Parson Lane, Durham, CT

Size in acres, or site dimensions:

Latitude and longitude of the center of the site in decimal degrees (e.g., 41.23456 -71.68574):

Latitude: **41.490560** Longitude: **-72.684213**

Method of coordinate determination (check one):

☐ GPS ☐ Photo interpolation using CTECO map viewer ☒ Other (specify): **google earth**

2a. Describe the current land use and land cover of the site.

Land use for #27 Parson Lane is light manufacturing, warehouse, and multi-use office with asphalt parking per the Durham, CT Assessors Database as of 2/21/2019. There is a utility right-of-way which crosses the site. The area adjacent to and immediately west of #27 Parson Lane leads to the Coginchaug River.

b. Check all that apply and enter the size in acres or % of area in the space after each checked category.

☒ Industrial/Commercial 80%	☐ Residential _____	☐ Forest _____
☒ Wetland 10%	☐ Field/grassland _____	☐ Agricultural _____
☐ Water _____	☒ Utility Right-of-way 10%	
☐ Transportation Right-of-way _____	☐ Other (specify): _____	

Part IV: Project Information

1. PROJECT TYPE:

Choose Project Type: Site assessment , If other describe: _____

2. Is the subject activity limited to the maintenance, repair, or improvement of an existing structure within the existing footprint? ☐ Yes ☒ No If yes, explain.

Part IV: Project Information (continued)

3. Give a detailed description of the activity which is the subject of this request and describe the methods and equipment that will be used. Include a description of steps that will be taken to minimize impacts to any known listed species.

   The proposed activity is to conduct an ecological assessment of a watercourse adjacent to and downstream of #27 Parsons Lane, Durham, CT associated with a spill. After the preliminary assessment of the Site was performed and NDDB request filed July 2019, environmental sampling was proposed for the wtaercourse and the downstream portions of the Coginchaug River. A portion of this sampling will require a temporary use license from CT for access to the borders of the Durham Meadows Wildlife Management Area (WMA). As such, a new NDDB request is being made to include the specifics of the proposed sampling.

   Environmental sampling will include hand collection of surface sediment (collected from the top 12 inches of sediment) and surface water samples from the watercourse adjacent to 27 Parsons Lane and at locations located within the Coginchaug River. The attached map shows the approximate locations of six proposed samples that fall within and/or immediately adjacent to the Durham Meadows WMA. Samples in this area will be obtained on foot if possible to minimize physical impact in the NDDB Area.

   Based on the species listed in the preliminary NDDB letter dated July 18, 2019 (list and general habitat requirements attached), care will be taken to minimize the disruption of potential habitat that could be utilized by these species. For example, field staff will minimize the areal extent of paths traveled. If possible, staff will access sampling locations traveling within the stream channel to limit the possibility of potential impacts to species utilizing flowing waters, as most of the species identified in the NDDB area prefer stagnant, or still, waters. Field staff will also have a list of these species, general identification and habitat information on hand.

4. If this is a renewal or extension of an existing Safe Harbor request *with* modifications, explain what about the project has changed.

   N/A

5. Provide a contact for questions about the project details if different from Part II primary contact.

   Name:

   Phone:

   E-mail:

Part V: Request Requirements and Associated Application Types

Check *one* box from either Group 1, Group 2 *or* Group 3, indicating the appropriate category for this request.

Group 1. If you check one of these boxes, complete Parts I – VII of this form and submit the required attachments A and B.

- ☐ Preliminary screening was negative but an NDDB review is still requested
- ☐ Request regards a municipally regulated or unregulated activity (no state permit/certificate needed)
- ☒ Request regards a preliminary site assessment or project feasibility study
- ☐ Request relates to land acquisition or protection
- ☐ Request is associated with a *renewal* of an existing permit or authorization, with no modifications

Group 2. If you check one of these boxes, complete Parts I – VII of this form and submit required attachments A, B, *and* C.

- ☐ Request is associated with a *new* state or federal permit or authorization application or registration
- ☐ Request is associated with modification of an existing permit or other authorization
- ☐ Request is associated with a permit enforcement action
- ☐ Request regards site management or planning, requiring detailed species recommendations
- ☐ Request regards a state funded project, state agency activity, or CEPA request

☐ **Group 3.** If you are requesting a **Safe Harbor Determination**, complete Parts I-VII and submit required attachments A, B, and D. Safe Harbor determinations can only be requested if you are applying for a GP for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities

If you are filing this request as part of a state or federal permit application(s) enter the application information below.

Permitting Agency and Application Name(s): _____

Related State DEEP Permit Number(s), if applicable: _____

State DEEP Enforcement Action Number, if applicable: _____

State DEEP Permit Analyst(s)/Engineer(s), if known: _____

Is this request related to a previously submitted NDDB request? ☒ Yes ☐ No

If yes, provide the previous NDDB Determination Number(s), if known:
201908278

Part VI: Supporting Documents

Check each attachment submitted as verification that *all* applicable attachments have been supplied with this request form. Label each attachment as indicated in this part (e.g., Attachment A, etc.) and be sure to include the requester's name, site name and the date. **Please note that Attachments A and B are required for all new requests and Safe Harbor renewals/extensions with modifications.** Renewals/Extensions with no modifications do not need to submit any attachments. Attachments C and D are supplied at the end of this form.

☒ Attachment A:	**Overview Map:** an 8 1/2" X 11" print/copy of the relevant portion of a USGS Topographic Quadrangle Map clearly indicating the exact location of the site.
☒ Attachment B:	**Detailed Site Map:** fine scaled map showing site boundary and area of work details on aerial imagery with relevant landmarks labeled. (Site and work boundaries in GIS [ESRI ArcView shapefile, in NAD83, State Plane, feet] format can be substituted for detailed maps, see instruction document)
☐ Attachment C:	**Supplemental Information, Group 2 requirement (attached, DEEP-APP-007C)** ☐ Section i: Supplemental Site Information and supporting documents ☐ Section ii: Supplemental Project Information and supporting documents
☐ Attachment D:	**Safe Harbor Report Requirements, Group 3 (attached, DEEP-APP-007D)**

Part VII: Requester Certification

The requester *and* the individual(s) responsible for actually preparing the request must sign this part. A request will be considered incomplete unless all required signatures are provided.

"I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that based on reasonable investigation, including my inquiry of the individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief."

Drew Blicharz Signature of Requester (a typed name will substitute for a handwritten signature)	3/5/2020 Date
Drew Blicharz Name of Requester (print or type)	**Environmental Specialist** Title (if applicable)
Amy Nelson Signature of Preparer (if different than above)	**3/3/20** Date
Amy Nelson Name of Preparer (print or type)	**Managing Scientist** Title (if applicable)

Note: Please submit the completed Request Form and all Supporting Documents to:

CENTRAL PERMIT PROCESSING UNIT
DEPARTMENT OF ENERGY & ENVIRONMENTAL PROTECTION
79 ELM STREET
HARTFORD, CT 06106-5127

Or email request to: deep.nddbrequest@ct.gov

Attachment C: Supplemental Information, Group 2 requirement

Section i: Supplemental Site Information

1. Existing Conditions

Describe all natural and man-made features including wetlands, watercourses, fish and wildlife habitat, floodplains and any existing structures potentially affected by the subject activity. Such features should be depicted and labeled on the site plan that must be submitted. Photographs of current site conditions may be helpful to reviewers.

☐ **Site Photographs (optional) attached**

☐ **Site Plan/sketch of existing conditions attached**

2. Biological Surveys

Has a biologist visited the site and conducted a biological survey to determine the presence of any endangered, threatened or special concern species ☐ Yes ☐ No

If yes, complete the following questions and submit any reports of biological surveys, documentation of the biologist's qualifications, and any NDDB survey forms.

Biologist(s) name: _____

Habitat and/or species targeted by survey: _____

Dates when surveys were conducted: _____

☐ **Reports of biological surveys attached**

☐ **Documentation of biologist's qualifications attached**

☐ **NDDB Survey forms for any listed species observations attached**

Section ii: Supplemental Project Information

1. Provide a schedule for all phases of the project including the year, the month and/or season that the proposed activity will be initiated and the duration of the activity.

2. Describe and quantify the proposed changes to existing conditions and describe any on-site or off-site impacts. In addition, provide an annotated site plan detailing the areas of impact and proposed changes to existing conditions.

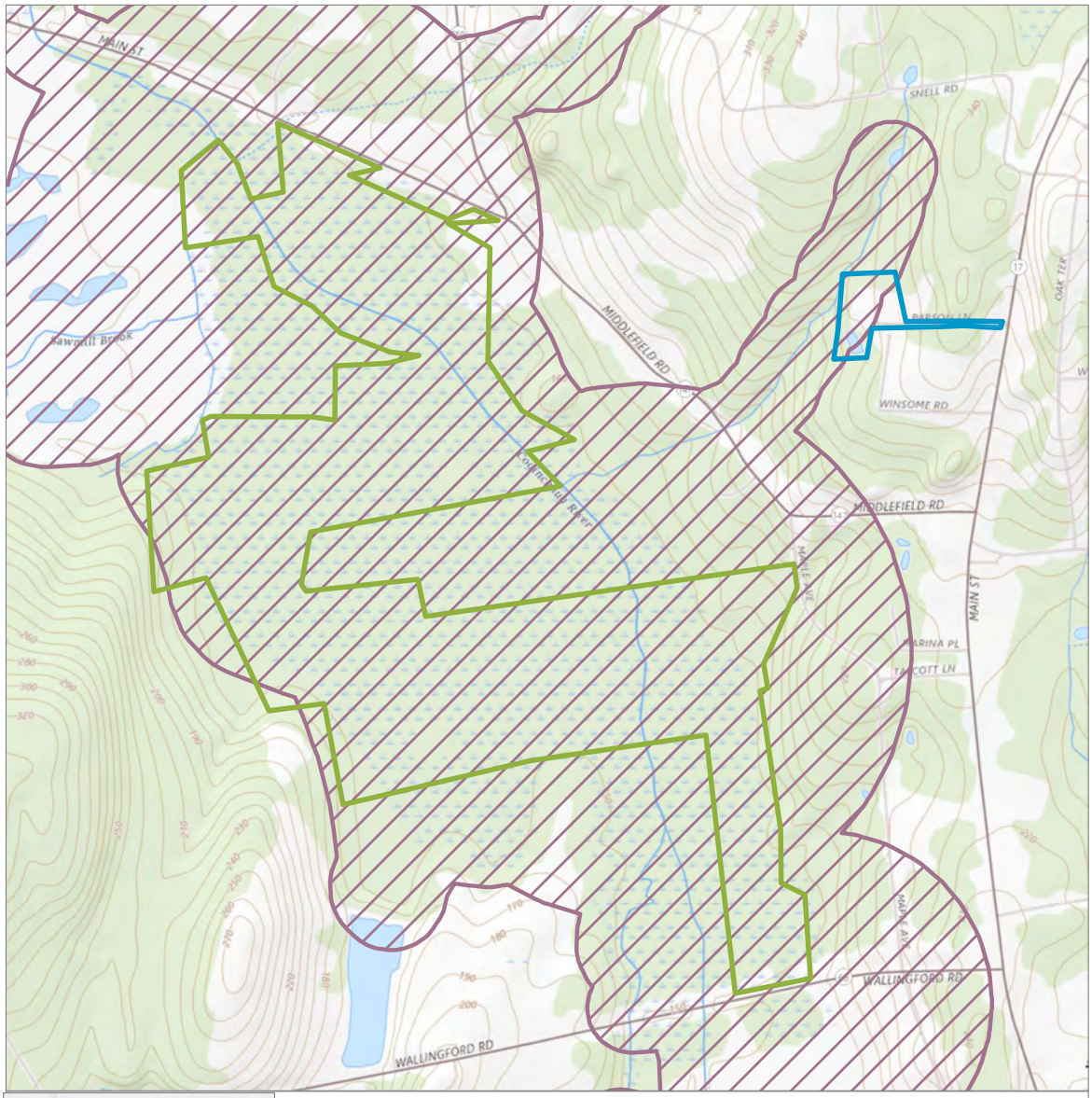
☐ **Annotated Site Plan attached**

Attachment D: Safe Harbor Report Requirements

Submit a report, as Attachment D, that synthesizes and analyzes the information listed below. Those providing synthesis and analysis need appropriate qualifications and experience. A request for a safe harbor determination shall include:

1. **Habitat Description and Map(s), including GIS mapping overlays, of a scale appropriate for the site, identifying:**
   - wetlands, including wetland cover types;
   - plant community types;
   - topography;
   - soils;
   - bedrock geology;
   - floodplains, if any;
   - land use history; and
   - water quality classifications/criteria.
2. **Photographs** - The report should include photographs of the site taken from the ground and also all reasonably available aerial or satellite photographs and an analysis of such photographs.
3. **Inspection** - A visual inspection(s) of the site should be conducted, preferably when the ground is visible, and described in the report. This inspection can be helpful in confirming or further evaluating the items noted above.
4. **Biological Surveys** - The report should include all biological surveys of the site where construction activity will take place that are reasonably available to a registrant. A registrant shall notify the Department's Wildlife Division of biological studies of the site where construction activity will take place that a registrant is aware of but are not reasonably available to the registrant.
5. **Based on items #1 through 4 above, the report shall include a Natural Resources Inventory of the site of the construction activity.** This inventory should also include a review of reasonably available scientific literature and any recommendations for minimizing adverse impacts from the proposed construction activity on listed species or their associated habitat.
6. **In addition, to the extent the following is available at the time a safe harbor determination is requested, a request for a safe harbor determination shall include and assess:**
   - Information on Site Disturbance Estimates/Site Alteration information
   - Vehicular Use
   - Construction Activity Phasing Schedules, if any; and
   - Alteration of Drainage Patterns

DRAFT





LEGEND:

- Approximate Parcel Boundary
- Durham Wildlife Management Area
- Natural Diversity Database Area

NOTES:

1. Parcel boundary for #27 Parson Lane approximated from Durham, CT online AxisGIS.
2. Natural Diversity Database Area version dated December 2019 downloaded from CTDEEP on 3/3/2020.
3. USGS topographic map acquired from Esri and its data suppliers (2019).

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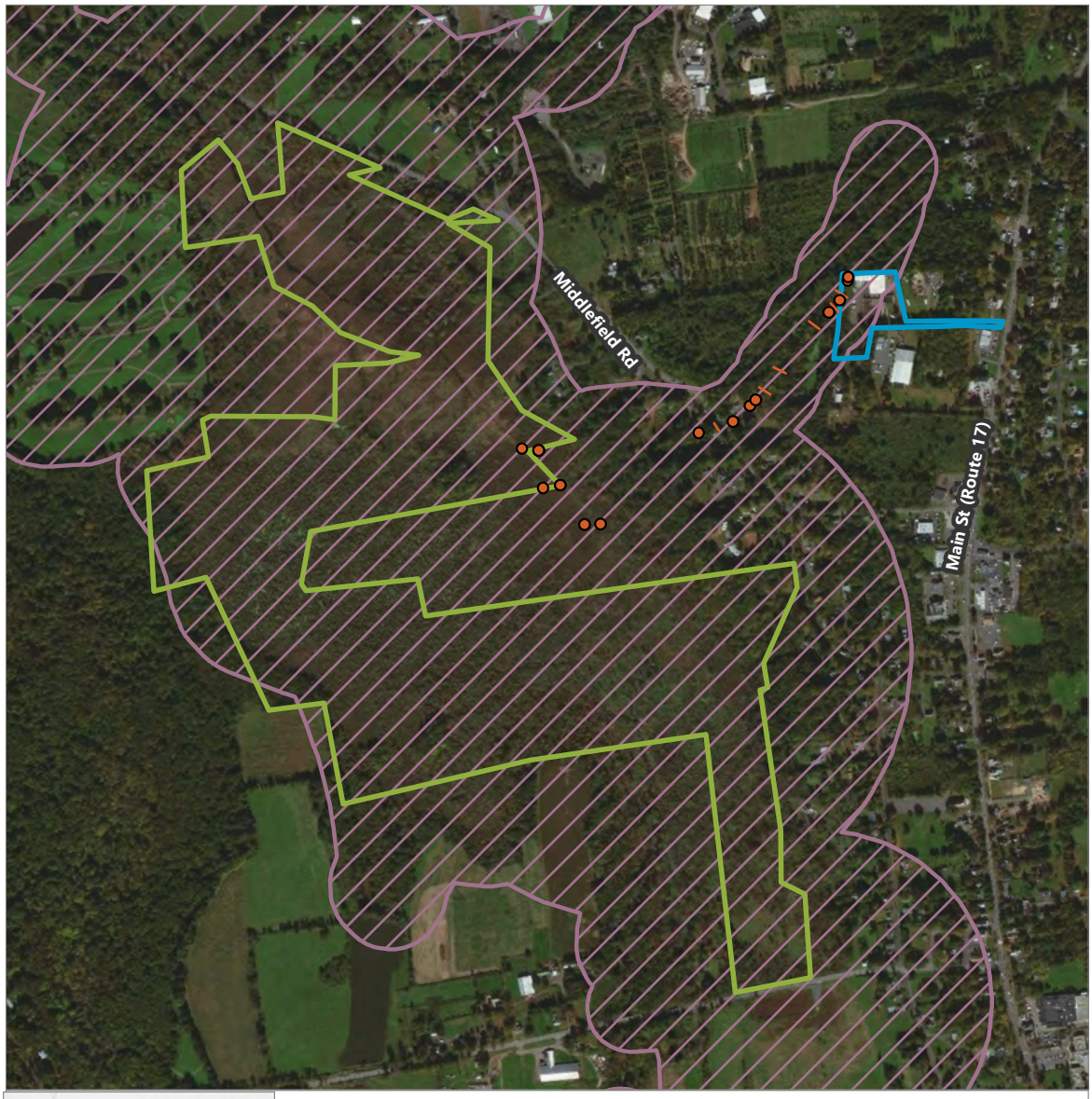
ANCHOR QEA

Figure A
Topographic Map for #27 Parson Lane

DRAFT





LEGEND:

- Proposed Sample Locations
- Proposed Sample Location Transects
- Approximate Parcel Boundary
- Durham Wildlife Management Area
- Natural Diversity Database Area

NOTES:

1. Parcel boundary for #27 Parson Lane approximated from Durham, CT online AxisGIS.
2. Durham Wildlife Management Area approximated from Conneticut Hunting Areas, CTDEEP online ArcGIS.
3. Natural Diversity Database Area version dated December 2019 downloaded from CTDEEP on 3/3/2020.
4. Aerial imagery acquired from Esri and its data suppliers (2019).

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ANCHOR QEA

Figure B
Sampling Locations for #27 Parson Lane

Table 1 - Habitat Information for Species Listed in July 18, 2019 Preliminary NDDB Determination

Species Identified in 2019 NDDB Preliminary Determination	Connecticut Status (per 2015 list)	General Habitat	Breeding Habitat	Resource Link	Connecticut Specific Information https://portal.ct.gov/DEEP/Wildlife/Learn-About-Wildlife/Endangered-and-Threatened-Species-Series (last updated February 18, 2020)
Spotted Turtle (Clemmys guttata)	Special Concern	marshy meadows, bogs, swamps, ponds, ditches, or other small bodies of still water	Still pools. Eggs laid in open, drier sites - meadow, field or edge of road	NYS DEC - https://www.dec.ny.gov/animals/7150.html	"Connecticut lowlands, close to slow-moving bodies of water. They use shallow water bodies, including unpolluted bogs, pond edges, ditches, marshes, fens, vernal pools, red maple swamps, and slow-moving streams. Water bodies with a soft, murky bottom and abundant aquatic vegetation are preferred. Spotted turtles will seek out other wetlands if their habitat becomes unsuitable. Upland habitats also are used for nesting, aestivating, and travel corridors between wetlands."
Wood Turtle (Glyptemys insculpta)	Special Concern	hard bottomed streams or rivers, herbaceous vegetation for foraging	Sandy substrate (sandbars, sand spits, beaches etc) for nesting	Wikipedia - https://en.wikipedia.org/wiki/Wood_turtle#Ecology_and_behavior	"aquatic and terrestrial habitats at different times of the year. Their habitats include rivers and large streams, riparian forests (adjacent to rivers), wetlands, hayfields, and other early successional habitats. Terrestrial habitat that is usually within 1,000 feet of a suitable stream or river is most likely used. Preferred stream conditions include moderate flow, sandy or gravelly bottoms, and muddy banks."
Northern Leopard Frog (Rana pipiens)	Special Concern	Occur primarily in or near water after breeding with good herbaceous cover, preferring more meadow-like habitat over forest cover	variety of aquatic habitats, such as quiet or slow moving water along streams and rivers, wetlands associated with lakes or tidal areas, permanent or temporary pools	Amphibiaweb - https://amphibiaweb.org/species/5126	Not listed
American bittern (Botaurus lentiginosus)	Endangered	Extensive freshwater marshes are favored	Marshes, reedy lakes. Breeds in freshwater marshes, mainly large, shallow wetlands with much tall marsh vegetation	Audubo - https://www.audubon.org/field-guide/bird/american-bittern	"Freshwater and saltwater wetlands."
Bobolink (Dolichonyx oryzivorus)	Special Concern	Hayfields, meadows, wet meadows. Migrants stop over in fields and marshes, often feeding in rice fields	Hayfields, meadows. In migration, marshes. Original prime breeding areas were damp meadows and natural prairies with dense growth of grass and weeds and a few low bushes	Audubon - https://www.audubon.org/field-guide/bird/bobolink	Not listed
Alder flycatcher (Empidonax alnorum)	Special Concern	Willows, alders, brushy swamps, swales	Breeds in thickets of deciduous trees and shrubs, usually near water, as around streams, ponds, or bogs	Audubon - https://www.audubon.org/field-guide/bird/alder-flycatcher	Not listed
Least Bittern (Ixobrychus exilis)	Threatened	Fresh marshes, reedy ponds. Mostly freshwater marsh but also brackish marsh, in areas with tall, dense vegetation standing in water	Nest is well concealed in dense marsh growth	Audubon - https://www.audubon.org/field-guide/bird/least-bittern	"Emergent vegetation in freshwater marshes and occasionally saltwater or brackish."
King Rail (Rallus elegans)	Endangerd	Will use a variety of habitats with shallow fresh or brackish water and dense cover. Important plants include cattails, bulrushes, spartina, and others. May be in brushy swamps with many willows, or in flooded rice fields	Nest site is in a clump of grass or sedges, usually about a foot above water or lan	Audubon - https://www.audubon.org/field-guide/bird/king-rail	"Freshwater marshes and brackish tidal marshes. "
Bronze Copper (Lycaena hyllus)	Special Concern	Low, wet areas such as bogs, marshes, wet meadows, ponds, herbaceous wetlands	Their hosts are plants of the family Polygonaceae, especially Water dock and curled dock	Butterflies and Moths of North America - https://www.butterfliesandmoths.org/species/Lycaena-hyllus	Not listed
Hyssop Skullcap (Scutellaria integrifolia)	Endangerd	In New England, S. integrifolia has been found in fields, wet meadows, and the borders of wood and thickets, often in sandy soils and often near wetlands	Same	Native Plant Trust - https://www.nativeplanttrust.org/documents/119/Scutellariaintegrifolia.pdf	Not listed

Connecticut Department of
ENERGY & ENVIRONMENTAL PROTECTION

79 Elm Street • Hartford, CT 06106-5127 www.ct.gov/deep Affirmative Action/Equal Opportunity Employer

March 16, 2020

Amy Nelson
Anchor QEA
9 Water Street, First Floor
Amesbury, MA 01913
anelson@anchorqea.com

Project: Soil Sampling in Durham Meadows Wildlife Management Area near 27 Parson Lane, Durham, CT
NDDB Determination No.: 202003906

Dear Ms. Nelson,

I have reviewed Natural Diversity Database (NDDB) maps and files regarding the area of work provided for the proposed Soil Sampling in Durham Meadows Wildlife Management Area near 27 Parson Lane, Durham, Connecticut. According to our records we have a known extant population of State Special Concern *Rana pipiens* (Northern Leopard Frog) in the vicinity of the project site.

Northern Leopard Frog: Northern leopard frog is found in open, grassy habitats either along the floodplain of a large stream or river, or in wetlands around the margins of large lakes.

Recommended Protection Strategies for Northern Leopard Frog:

- Conduct all work during the dormant period, November 1 to April 1, to avoid impacting this species.
- All access to the property should be either on foot or by non-motorized watercraft.

If these protection strategies are followed then the proposed activities will lessen the potential impact on this state-listed species. This determination is good for two years. Please re-submit a new NDDB Request for Review if the scope of work changes or if work has not begun on this project by March 16, 2022.

Natural Diversity Data Base information includes all information regarding critical biological resources available to us at the time of the request. This information is a compilation of data collected over the years by the Department of Energy and Environmental Protection's Natural History Survey, cooperating units of DEEP, landowners, private conservation groups and the scientific community. This information is not necessarily the result of comprehensive or site-specific field investigations. Consultations with the NDDB should not be substitutes for on-site surveys necessary for a thorough environmental impact assessment. Current research projects and new contributors continue to identify additional populations of species and locations of habitats of concern, as well as, enhance existing data. Such new information is incorporated into the database as it becomes available.

Please contact me if you have further questions at (860) 424-3090, or DEEP.Nddbrequest@ct.gov. Thank you for consulting the Natural Diversity Database.

Sincerely,

/s/ Geoffrey Krukar
Wildlife Biologist

SLERA AND RELATED CORRESPONDENCE

(December 2021)

9 Water Street, First Floor
Amesbury, Massachusetts 01913
978.792.5737

December 3, 2021

Drew Blicharz
Eversource Energy Services Company
107 Selden Street
Berlin, Connecticut 06037

Re: Additional Stream Sediment Sampling Results and Screening Level Ecological Risk Assessment (SLERA) Associated with 27 Parsons Lane, Durham, Connecticut; Eversource Spill Number CWC-18-00543

Dear Mr. Blicharz,

Anchor QEA, LLC prepared this letter on behalf of The Connecticut Light and Power Company dba Eversource Energy (Eversource), as part of the ongoing investigation of a release of mineral oil dielectric fluid at 27 Parsons Lane in Durham, Connecticut (the Site; Figure 1). Sampling in 2018 identified polychlorinated biphenyls (PCBs) from the release in the sediment of an unnamed intermittent stream at the Site. Details of the 2018 sampling program are presented in the 2019 Interim Remedial Action Report (WSE 2019).[1]

Additional data collected in 2021 to support this Screening Level Ecological Risk Assessment (SLERA) defined the nature and extent of the PCB impacts to the stream and the downgradient Coginchaug River.

Background

The unnamed stream flows northeast to southwest, extends approximately 2,600 feet from the western property boundary of the Site, and traverses a few residential properties before discharging to the Coginchaug River, which runs within and adjacent to the Durham Wildlife Management Area. Most of the stream's riparian habitat is wooded, and both its flow and depth are seasonally variable. According to the Connecticut Natural Diversity Database (NDDB), there is a population of northern leopard frogs (*Rana pipiens*), a species of special concern, in the vicinity of the Coginchaug River. Northern leopard frogs prefer open, grassy habitat along river floodplains with wetland and meadow-type cover. In accordance with the March 16, 2020, NDDB determination letter,[2] the 2021 field investigations were conducted during the frog's dormant period of November 1 to April 1 and the river was accessed on foot.

[1] Weston & Sampson Engineers, Inc. (WSE), 2019. Parsons Lane Interim Remedial Action Report. Durham, CT. 2019.
[2] Krukar, G., 2020. Letter to Amy Nelson of Anchor QEA. Regarding: NDDB Determination No.: 202003906. Soil Sampling in Durham Meadows Wildlife Management Area near 27 Parson Lane, Durham, CT. March 16, 2020.

The 2021 field investigation was a collaborative effort between Weston & Sampson and Anchor QEA to further evaluate sediment quality along the length of the intermittent stream from the Site to the stream's confluence with the Coginchaug River. The 2019 work plan, which was modified as requested by the Connecticut Department of Energy and Environmental Protection (CT DEEP), specified the following objectives of the additional sampling: 1) to assess risk to aquatic receptors in the unnamed stream; 2) to assess potential impacts to aquatic resources associated with the Coginchaug River (which had not been evaluated previously); and 3) to further define the horizontal and vertical extent of PCBs within the sediment. This letter summarizes the recently collected 2021 data and the risk screening results based on the 2018 and 2021 data.

Data Collection

The 2021 sampling event in the unnamed stream and in the Coginchaug River was conducted on March 17, 19, and 24, 2021, by Weston & Sampson with oversight from Anchor QEA (Figures 2-5). The work, which followed the 2019 work plan[3], targeted areas of depositional sediment, including the following:

- Eleven new single-point surface sediment locations, designated SED-1 to SED-11
- One sample location along 2018 Transect 4, designated Reoccupy T4-E
- Eighteen sample locations at the western, center, and eastern portions of the stream along six new stream transects, designated Transects 4-1, 4-2, 5-1, 5-2, 6-1, and 7-1

In concurrence with CT DEEP, the 2021 sampling focused on sediment because PCBs had not been previously detected in surface water there. Depositional sediment areas were targeted for sampling in accordance with CT DEEP's comments on the 2019 Work Plan. Sediments were collected with handheld equipment, including Lexan tubes for the finer grained material in the Coginchaug River and a hand auger for the coarser material in shallow areas of the unnamed stream. Two sample intervals (0.0 to 0.5 foot and 0.5 to 1.0 foot) were attempted at each sediment sampling location except for Reoccupy T4-E where only the 0.5- to 1.0-foot interval was sampled. Sample locations are shown in Figures 2 through 5. Samples were analyzed for PCB Aroclor by EPA method 8082 with 3540C Soxhlet extraction, for grain size via ASTM 6913, and for total organic carbon via EPA method 9060. Subsurface samples collected from the 0.5- to 1.0-foot intervals were analyzed, and the results reported in Attachment 1.

Additional sediment samples were collected in the vicinity of the outfall to refine the nature and extent of PCB impacts for remediation purposes, as shown in Figure 2. Samples identified with "N" and "S" were collected from outside of the stream channel.

[3] WSE. 2019. Ecological Risk Assessment Work Plan. 27 Parsons Lane, Durham, CT. Eversource Spill Number CWC-18-00543.

Ecological Screening Results

Analytical data for 2018 and 2021 surface and subsurface samples are provided as Attachment 1. Data from the surface sediment samples representing the assumed biologically active zone (0- to 0.5-foot interval) were compared with ecological screening levels, and the results are presented in Table 1. The "N" and "S" Outfall Area samples collected outside of the main stream channel were conservatively included in this screening.

Connecticut does not have risk-based sediment screening levels. Freshwater sediment screening levels used in this study include the total PCB threshold effect concentration (TEC) of 0.0598 milligram per kilogram (mg/kg) and the probable effect concentration (PEC) of 0.676 mg/kg developed by MacDonald et al. (2000).[4] The TEC is a concentration below which adverse effects to the benthic community from exposure to PCBs are unlikely, and the PEC is a concentration above which effects are likely. Concentrations between the TEC and the PEC indicate some probability that adverse effects will occur, but the effects may not be significant. The use of consensus-based values in this assessment provides a strong weight of evidence by incorporating the results from several different methods and datasets.

Additionally, the New York State Department of Environmental Conservation (NYSDEC) Class A Freshwater Sediment Guidance Value of 0.1 mg/kg provides a benchmark for the protection of both aquatic life and animals higher up the food chain that may bioaccumulate PCBs from food sources (NYSDEC 2014).[5] According to NYSDEC, if the concentration of a contaminant in sediment is below the sediment guidance value that defines Class A, the contaminant can be considered to present little or no potential risk to aquatic life. This benchmark is similar to those of other states (e.g., Washington's sediment cleanup objectives value of 0.11 mg/kg).

Only Aroclor 1254 and Aroclor 1260 were detected in 2018 and 2021. Total PCB Aroclors were calculated as the sum of detected Aroclor concentrations. If no Aroclors were detected in a sample, the maximum reporting limit was used as the total. Reporting limits for non-detect results are less than the PCB TEC, indicating that non-detect results are conservative and protective of ecological receptors. The sampling locations were grouped into five reaches (shown in Figure 1); a summary of the screening results follows.

[4] MacDonald, D.D., C.G. Ingersoll, and T.A. Berger, 2000. "Development and evaluation of consensus-based sediment quality guidelines for freshwater systems." *Archives of Environmental Contamination and Toxicology* 39:20-31.

[5] NYSDEC (New York State Department of Environmental Conservation), 2014. *Screening and Assessment of Contaminated Sediment*. Prepared by New York State Department of Environmental Conservation Division of Fish, Wildlife and Marine Resources Bureau of Habitat. June 2014.

One additional surface sediment sample was collected in the unnamed stream north of the Parsons Lane Outfall Area (Reach 1); Aroclors were not detected in this sample above the laboratory reporting limits.

In the ecological risk screening dataset, 12 surface sediment samples including 1 field duplicate were collected in the Parsons Lane Outfall Area (Reach 2) between 2018 and 2021. Aroclor 1254 was detected in 11 samples, and Aroclor 1260 was detected in 6 samples. As shown in Table 1, total PCB Aroclor concentrations exceed the PEC in four 2018 samples (SD-1, Outfall-1, Outfall-2, and Outfall-3) and one 2021 sample (OF-2N). The maximum total PCB Aroclor concentration of 15 mg/kg at OF-2N is 22 times greater than the PEC.

Thirty-three surface sediment samples including three field duplicates in the risk screening dataset were collected in the unnamed stream between the Outfall Area and Middlefield Road (Reach 3). Aroclor 1254 was detected in 28 samples, and Aroclor 1260 was detected in 13 samples. Total PCB Aroclor concentrations exceed the TEC in four 2018 surface sediment samples (T2-E, T2-C, T4-E, and T5-E) and five 2021 samples (T4-1C, T4-1W, SED-2, the field duplicate for T4-2E, and T4-2W). Total PCB concentrations in three 2018 samples (T2-E, T2-C, and T4-E) and four 2021 samples (T4-1C, T4-1W, SED-2, and T4-2W) also exceeds the NYSDEC Class A screening level (Table 1). Concentrations in two 2018 samples (T2-E and T2-C) and one 2021 sample (T4-1C) are greater than the PEC, with a maximum exceedance factor of 3.6.

Ten surface sediment samples including two field duplicates were collected in the unnamed stream from Middlefield Road to the Coginchaug River confluence (Reach 4). Aroclor 1254 was detected in six samples, and Aroclor 1260 was detected in four samples. Total PCB Aroclor concentrations exceed the TEC in one 2018 sample (field duplicate for T7-E). No samples exceed the NYSDEC Class A screening level or the PEC.

Seven surface sediment samples including one field duplicate were collected in the Coginchaug River (Reach 5) in 2021. Samples were collected at the river's confluence with the unnamed stream and both upstream and downstream of this confluence. Aroclor 1254 was detected in seven samples, and Aroclor 1260 was detected in three. Total PCB Aroclor concentrations exceed the TEC in five samples (confluence samples SED-8 and SED-9; downstream samples SED-6 and SED-7; and the field duplicate for upstream sample SED-11). There are no exceedances of the PEC.

Only samples from Reaches 2 and 3 exceed the NYSDEC Class A screening level of 0.1 mg/kg or the PEC of 0.676 mg/kg. The average total PCB Aroclor concentration of 2.1 mg/kg in Reach 2 (Parsons Lane Outfall Area) is the highest of all areas in 2021. However, this average is highly skewed due to OF-2N, near Outfall 2, which is the only 2021 sample in the Reach 2 risk dataset that exceeds any screening levels. Reach 3 (the Outfall Area to Middlefield Road) had the next highest average concentration, 0.13 mg/kg. Transects 4-1 and 4-2, near the Site, and SED-2, between these transects,

are the only Reach 3 locations where concentrations exceed the NYSDEC Class A screening level or the PEC. In general, surface sediment concentrations in Reach 3 are greater than subsurface concentrations for locations where a sample below 6 inches was also collected. Reach 3 can be divided into two subreaches for screening based on surface sediment concentrations: Reach 3a (from the Outfall Area to Transect 4) had exceedances of NYSDEC and PEC screening levels; and Reach 3b (from SED-3 to Middlefield Road) had no NYSDEC or PEC exceedances downstream from SED-3 into the Coginchaug River.

All samples from Reach 4 (Middlefield Road to the Coginchaug River) and Reach 5 (the Coginchaug River confluence and upstream and downstream of the confluence) are below the NYSDEC Class A screening level and the PEC. Aroclors were detected in the Coginchaug River, including upstream of the confluence with the unnamed stream, but concentrations are not at a level indicative of significant risk to benthic or higher trophic receptors. High organic carbon concentrations in the Coginchaug River (ranging from 1% to 35% with an average of 22%) may offer ecological receptors additional protection from risk due to elevated PCB concentrations. PCBs are non-ionic organic chemicals. They partition to dissolved organic carbon, particulate organic carbon, and colloids in sediment porewater, thus reducing the concentration of freely dissolved PCBs.

Overall, total PCB concentrations detected in all reaches sampled in 2018 and 2021 downstream of Transect 4, including the Coginchaug River, are less than the screening levels for adverse effects to benthic invertebrates (i.e., the PEC and NYSDEC Class A screening level). Concentrations exceed these screening levels at the Outfall Area and at Transect 2 in 2018 and at T4-1C in 2021, where the total PCB concentration is 1.2 mg/kg. The average of the total PCB concentrations detected in discrete samples from across the streambed in Transect T4-1 (0.5 mg/kg) is representative of a larger exposure area and is less than the PEC. Selective averaging of sediment concentrations over a small exposure area can be assessed under certain state guidance (e.g., Massachusetts) to evaluate potential risk to benthic invertebrates.

SLERA Conclusions

The results of this SLERA indicate concentrations of PCBs in targeted areas of depositional surface sediment (0 to 0.5 foot below the streambed) downstream of Transect 4-1 do not pose a risk to aquatic receptors that warrants further ecological risk evaluation or remediation. The SLERA included data collected as part of a sampling program that was conservatively biased towards depositional areas. Stretches of the unnamed stream, especially in the upper reaches have limited depositional sediment in the streambed and therefore less potential for exposure of PCBs to aquatic receptors in sediment in these areas.

Locations where total PCB concentrations were detected in depositional areas above the adverse effect concentrations—at the Outfall Area and Transect 2 in 2018 and at T4-1C in 2021—may require additional investigation or remediation to reduce risks to ecological receptors exposed to sediments

in the stream. Concentrations of total PCBs in surface sediments at these locations also exceed 1 mg/kg, a Toxic Substances Control Act threshold used by numerous sediment cleanup sites as an action level for PCBs.

The following source control activities in the area of the outfall would eliminate potential risk related to the spill release at the Site:

- Remediation of surface sediment (0-6 inches) in depositional areas in the pipe Outfall Area downgradient to and including Transect 2, with confirmatory sampling downstream and upstream of Transect 3
- Spot remediation of surface sediment to address the intermittent exceedances of the PEC in depositional areas at Transect T4-1, with confirmatory sampling downstream of remediation areas. Limited depositional areas were observed between T4 and T4-1.

Details of remediation activities to address potential risks identified in this SLERA will be provided in a forthcoming remedial action plan for the Site.

Sincerely,



Amy Nelson
Ecological Risk Assessor

Table

Table 1 Surface Sediment (0 to 6 Inches) Ecological Risk Screening

Figures

Figure 1 Site Location Map
Figure 2 Sediment Sample Locations: Reach 1 and 2 – Upstream and Parsons Lane Outfall Area
Figure 3 Sediment Sample Locations: Reach 3 – Outfall Area to Middlefield Road
Figure 4 Sediment Sample Locations: Reach 4 – Middlefield Road to Coginchaug River
Figure 5 Sediment Sample Locations: Reach 5 – Coginchaug River

Attachment

Attachment 1 Sediment Sampling Analytical Results

Table

Table 1
Surface Sediment (0 to 6 inches) Ecological Risk Screening

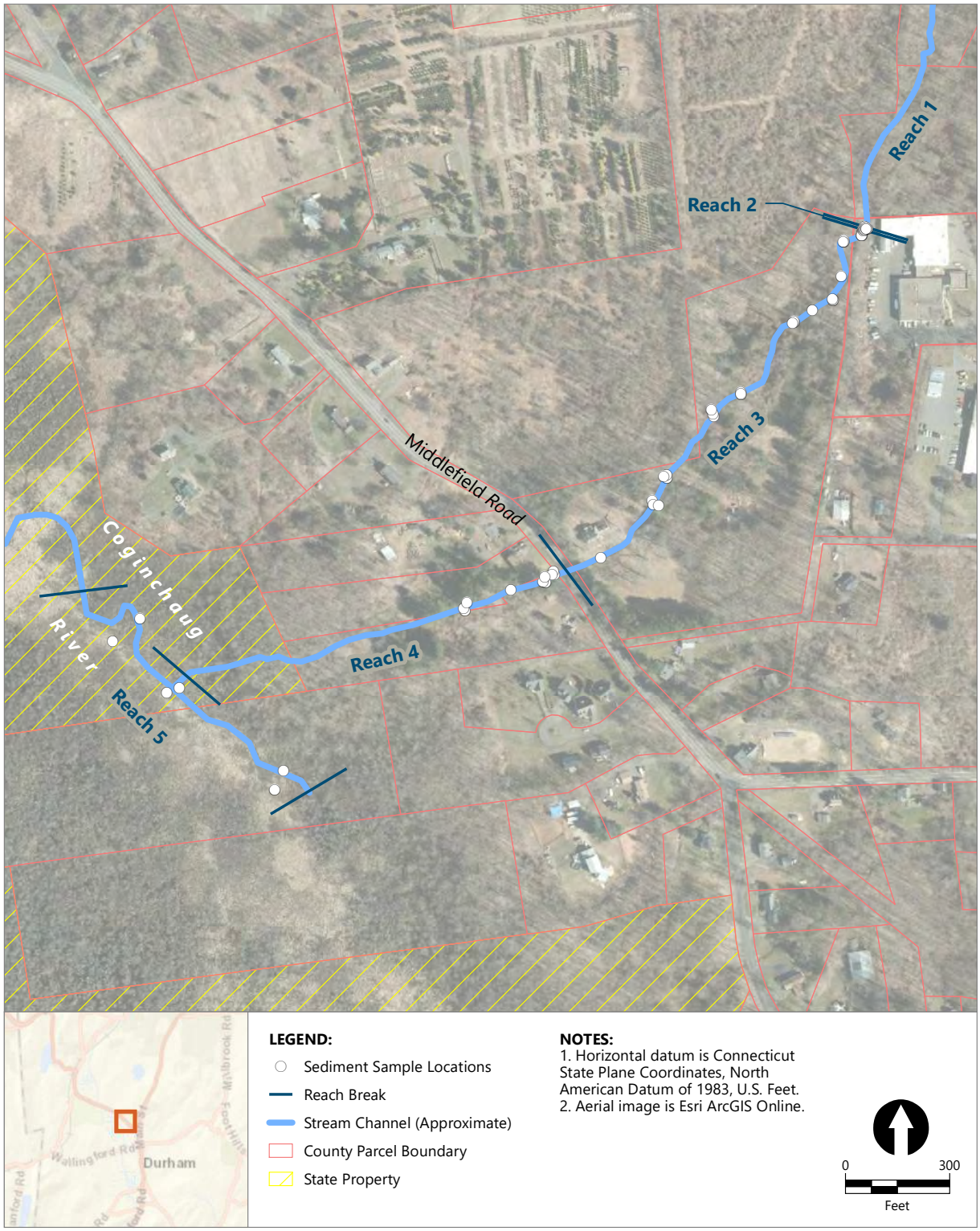
Reach	Sample ID	Date Sampled	Total PCB Aroclors (mg/kg)		
			E	C	W
1 (Unamed Stream North of Parsons Lane Outlet)	Transect T1	12/5/18	ND<0.025	ND<0.026	ND<0.039
	SED-1	3/24/21	ND<0.0023		
2 (Parsons Lane Outfall Area)	SD-1	11/20/18	**3.6**		
	Outfall-1	12/5/18	**4.4**		
	OF-1S	3/19/21	**0.031**		
	Outfall-2	12/5/18	**3.9**		
	Outfall-3	12/5/18	**9.6**		
	OF-3E	3/19/21	**0.038**		
	OF-3W	3/19/21	ND<0.0024		
3a (Outfall Area to T4-2)	Transect T2	12/5/18	**2.4**	**1.9**	ND<0.032
	Transect T3	12/5/18	**0.036**	**0.057**	ND<0.034
	Transect T4	12/5/18	**0.65**	**0.057**	ND<0.028
	Transect T4-1	3/19/21	**0.027**	**1.2**	**0.50**
	SED-2	3/19/21	**0.51**		
	Transect T4-2	3/19/21	**0.035**	**0.017**	**0.20**
	DUP-4 / Duplicate of T4-2E	3/19/21	**0.065**	--	--
3b (SED-3 to Middlefield Road)	SED-3	3/19/21	**0.028**		
	Transect T5-1	3/19/21	**0.025**	**0.024**	**0.033**
	Transect T5	12/5/18	**0.078**	ND<0.024	ND<0.035
	Transect T5-2	3/19/21	**0.031**	**0.010**	**0.0037**
	DUP-3 / Duplicate of T5-2C	3/19/21	--	**0.012**	--
	Transect T6-1	3/19/21	**0.010**	**0.0053**	**0.024**
	DUP-2 / Duplicate of T6-1W	3/19/21	--	--	**0.011**
	Transect T6	12/5/18	ND<0.027	ND<0.022	ND<0.026
	SED-4	3/19/21	**0.014**		
4 (Middlefield Road to Coginchaug River Confluence)	Transect T7-1	3/19/21	**0.035**	**0.045**	**0.033**
	Transect T7	12/5/18	**0.041**	ND<0.031	ND<0.033
	DUP-SE1 / Duplicate of T7-E	12/5/18	**0.08**	--	--
	SED-5	3/17/21	**0.0202**		
	Transect T8	12/5/18	ND<0.037	ND<0.045	ND<0.052
	DUP-SE2 /Duplicate of T8-E	12/5/18	ND<0.034	--	--
5a (Coginchaug River – Upstream of Confluence)	SED-10 (Upstream)	3/17/21	**0.048**		
	SED-11 (Upstream)	3/17/21	**0.054**		
	DUP-1 / Duplicate of SED-11 (Upstream)	3/17/21	**0.08**		

Table 1
Surface Sediment (0 to 6 inches) Ecological Risk Screening

Reach	Sample ID	Date Sampled	Total PCB Aroclors (mg/kg)		
			E	C	W
5b (Coginchaug River)	SED-9 (Confluence)	3/17/21	**0.10**		
	SED-8 (Confluence)	3/17/21	**0.09**		
	SED-7 (Downstream)	3/17/21	**0.067**		
	SED-6 (Downstream)	3/17/21	**0.064**		

Notes:
MacDonald freshwater total PCB TEC (0.0598 mg/kg)
TEC and NYSDEC Class A (0.1 mg/kg)
MacDonald freshwater total PCB PEC (0.676 mg/kg)
--: not applicable
mg/kg: milligrams per kilogram
ND: non-detect
NYSDEC: New York State Department of Environmental Conservation
PCB: polychlorinated biphenyls
PEC: Probably effects concentration
TEC: Threshold effects concentration

Figures



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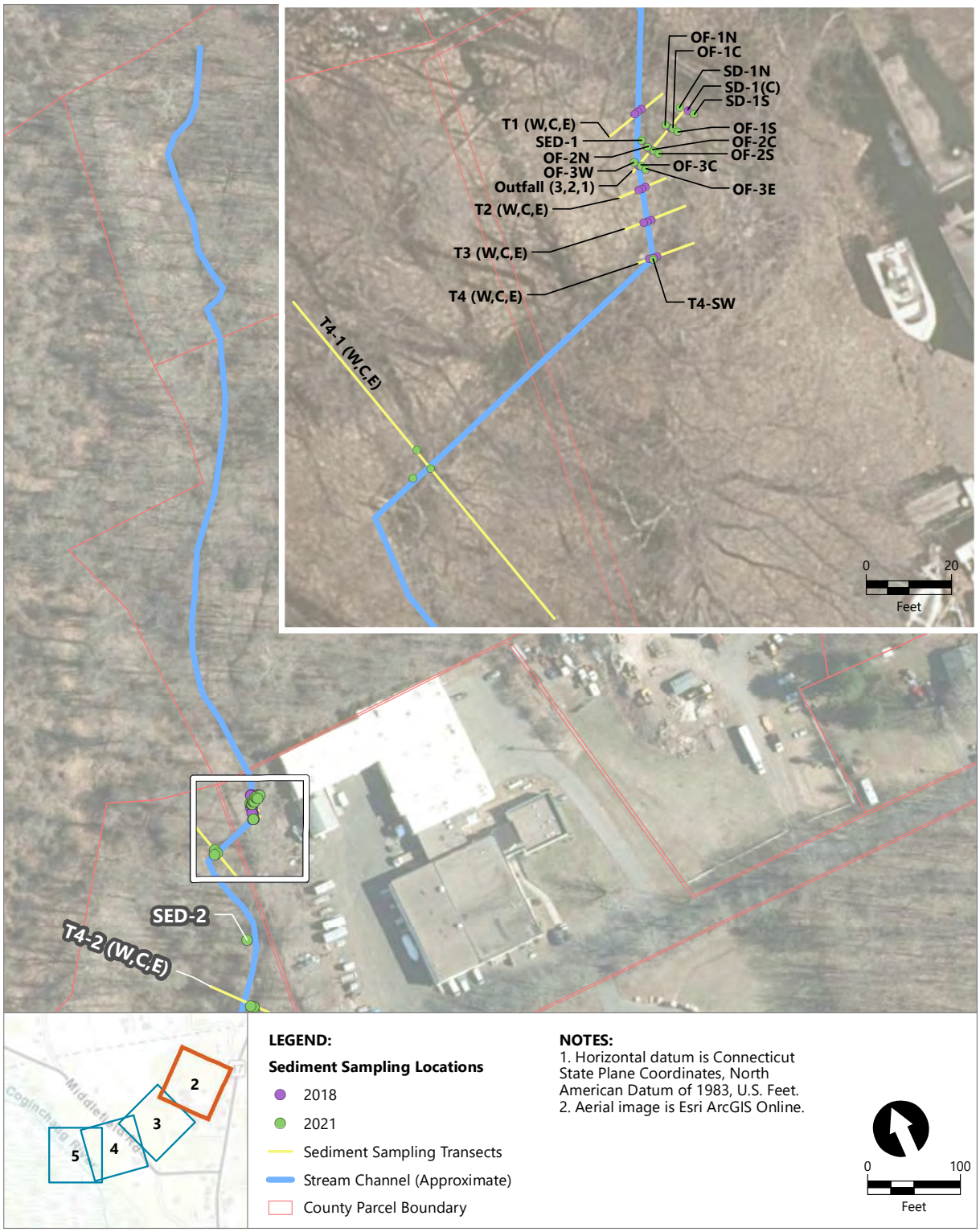
ANCHOR QEA

Figure 1
Site Location Map
Screening Level Ecological Risk Assessment
27 Parsons Lane, Durham, Connecticut



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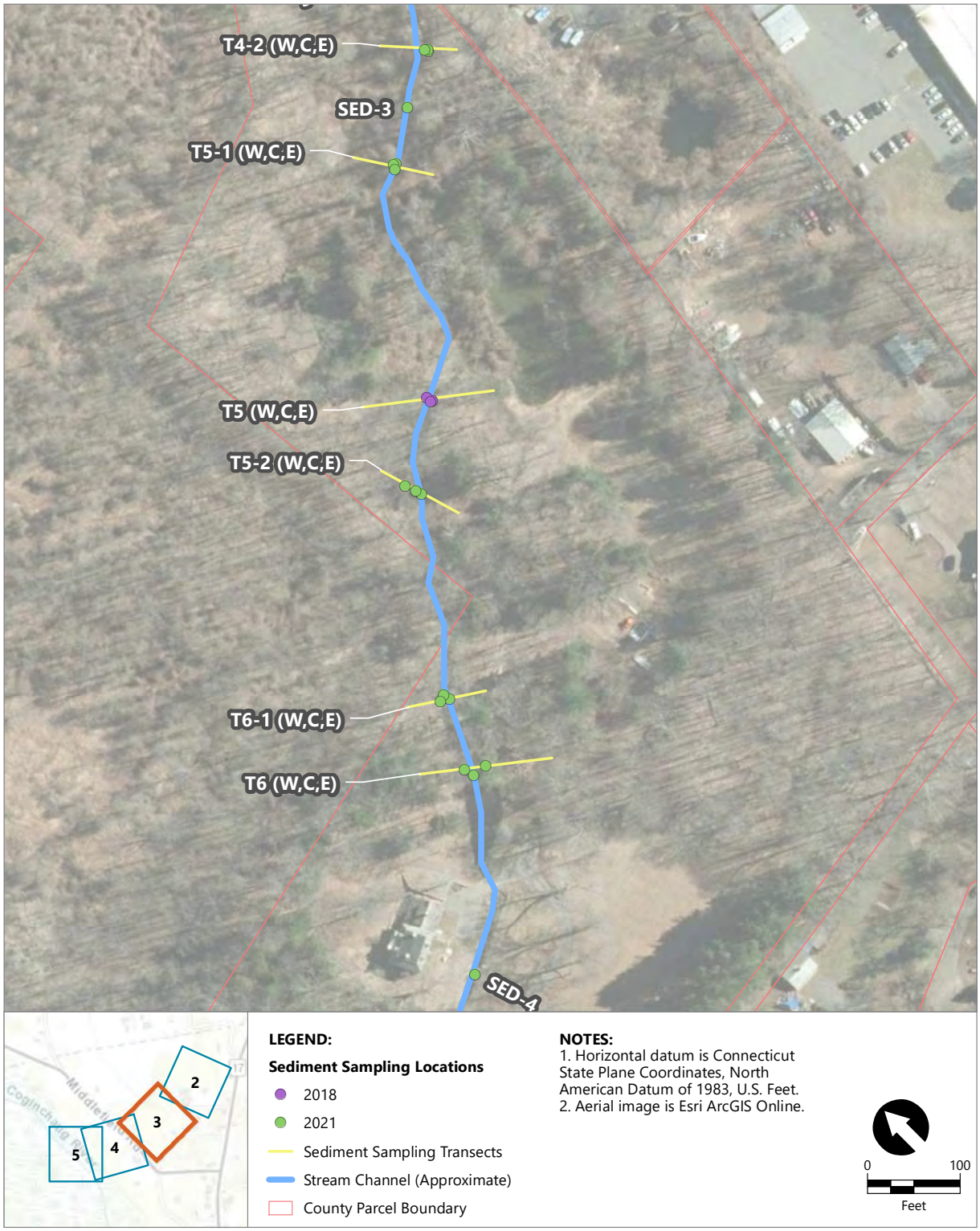
ANCHOR QEA

Figure 2
Sediment Sample Locations: Reach 1 and 2 — Upstream Parsons Lane Outfall Area
Screening Level Ecological Risk Assessment
27 Parsons Lane, Durham, Connecituct



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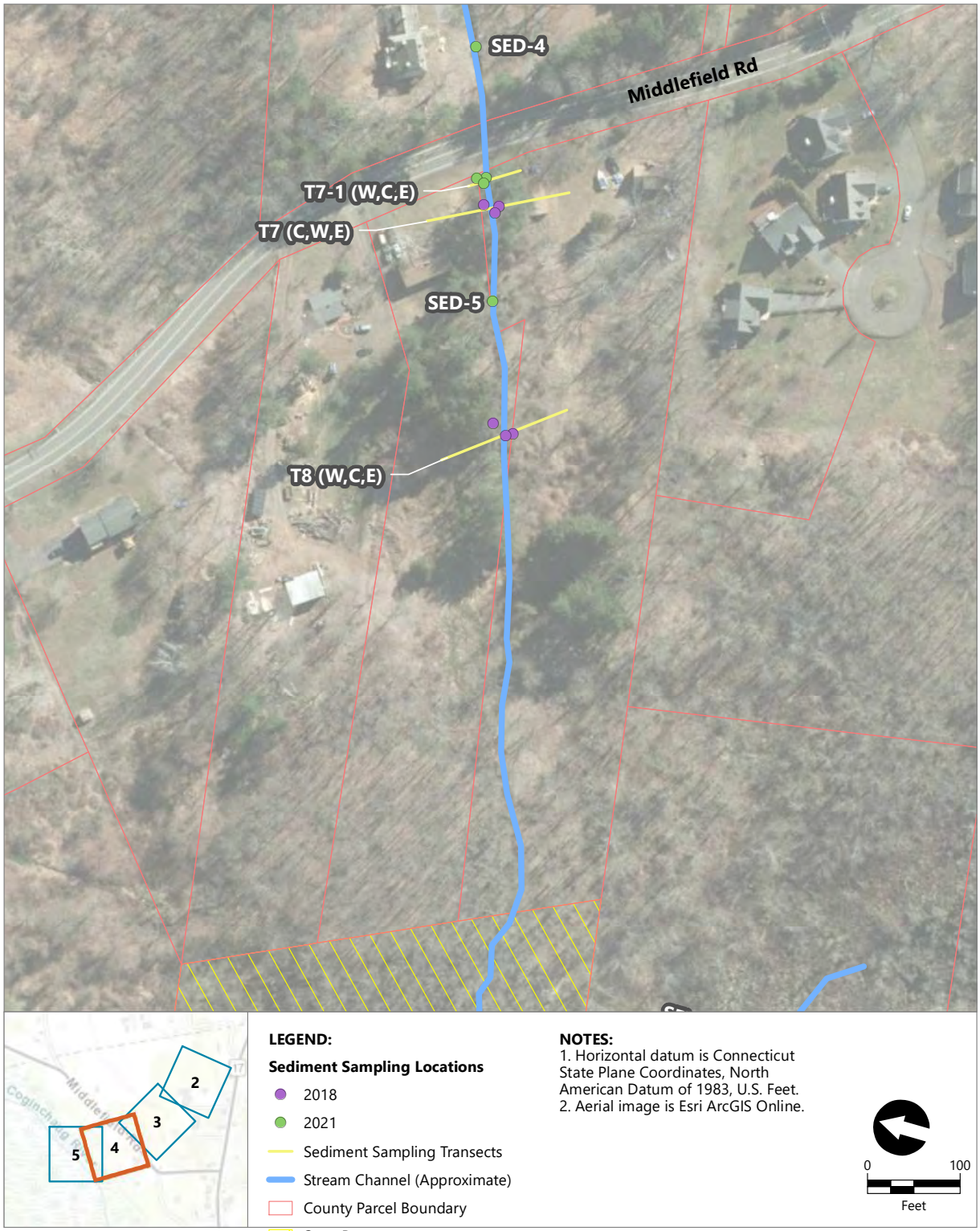
ANCHOR QEA

Figure 3
Sediment Sample Locations: Reach 3 — Outfall Area to Middlefield Road
Screening Level Ecological Risk Assessment
27 Parsons Lane, Durham, CT



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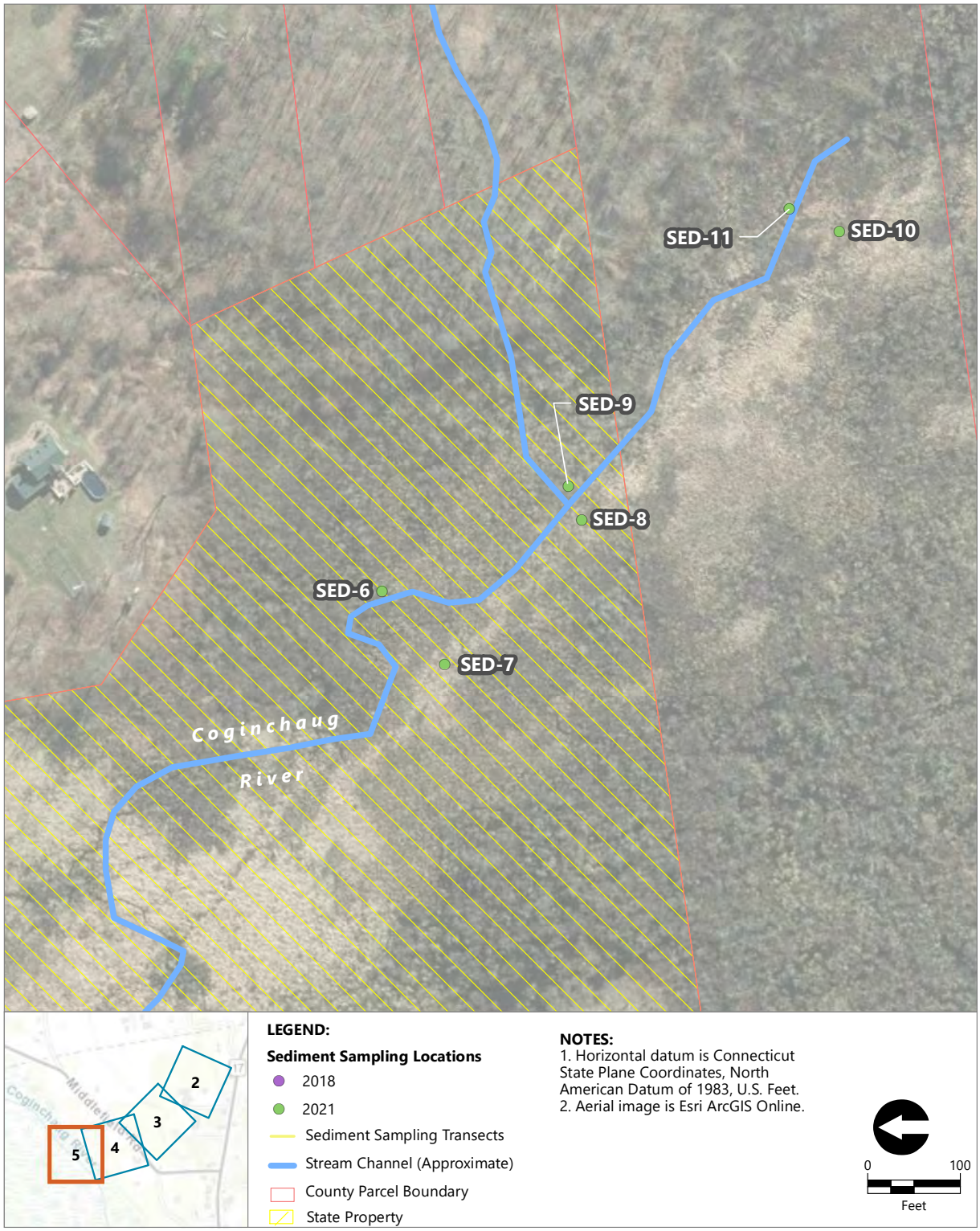
ANCHOR QEA

Figure 4
Sediment Sample Locations: Reach 4 — Middlefield Road to Coginchaug River
Screening Level Ecological Risk Assessment
27 Parsons Lane, Durham, CT



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ANCHOR QEA

Figure 5
Sediment Sample Locations: Reach 5 — Coginchaug River
Screening Level Ecological Risk Assessment
27 Parsons Lane, Durham, Connecticut

Attachment

Table 1
Stream Sediment Sampling Analytical Results
Screening Level Ecological Risk Assessment (SLERA)
27 Parsons Lane, Durham, CT

Sample Location	Criteria			Beneath 8-in. RCP Outlet						Flow Channel From 8" RCP					
Sample ID				SD-1	SD-1N (0-6)	SD-1N (12-18)	SD-1C (12-18)	SD-1S (0-6)	SD-1S (12-18)	Outfall-1	OF-1N (0-6)	OF-1N (12-18)	OF-1C (12-18)	OF-1S (0-6)	OF-1S (12-18)
Sample Depth (in)	Total PCB TEC	NYSDEC Class A Freshwater Sediment Guidance Value	Total PCB PEC	0-6	0-6	12-18	12-18	0-6	12-18	0-6	0-6	12-18	12-18	0-6	12-18
Date Sampled				11/20/18	3/19/21	3/19/21	3/19/21	3/19/21	3/19/21	12/5/18	3/19/21	3/19/21	3/19/21	3/19/21	3/19/21
Date Extracted				11/24/18	3/25/21	--	3/25/21	3/25/21	--	12/7/18	3/25/21	--	3/25/21	3/25/21	--
Date Analyzed				11/27/18	4/6/21	--	4/6/21	4/6/21	--	12/11/18	4/6/21	--	4/6/21	4/6/21	--
Con-Test Analytical Laboratory Work Order No.				18K0971	21C1114	21C1115	21C1114	21C1114	21C1115	18L0278	21C1114	21C1115	21C1114	21C1114	21C1115
Alpha Analytical Laboratory Work Order No.				--	--	--	--	--	--	--	--	--	--	--	--
PARAMETER (UNITS)															
Polychlorinated Biphenyls with Soxhlet Extration (EPA Method 8082A/3540C [mg/kg])															
Aroclor-1016	NE	NE	NE	ND<0.49	ND<0.0024	NA	ND<0.0024	ND<0.0026	NA	ND<0.61	ND<0.0024	NA	ND<0.0023	ND<0.0029	NA
Aroclor-1221	NE	NE	NE	ND<0.49	ND<0.0024	NA	ND<0.0024	ND<0.0026	NA	ND<0.61	ND<0.0024	NA	ND<0.0023	ND<0.0029	NA
Aroclor-1232	NE	NE	NE	ND<0.49	ND<0.0024	NA	ND<0.0024	ND<0.0026	NA	ND<0.61	ND<0.0024	NA	ND<0.0023	ND<0.0029	NA
Aroclor-1242	NE	NE	NE	ND<0.49	ND<0.0024	NA	ND<0.0024	ND<0.0026	NA	ND<0.61	ND<0.0024	NA	ND<0.0023	ND<0.0029	NA
Aroclor-1248	NE	NE	NE	ND<0.49	ND<0.0024	NA	ND<0.0024	ND<0.0026	NA	ND<0.61	ND<0.0024	NA	ND<0.0023	ND<0.0029	NA
Aroclor-1254	NE	NE	NE	**3.6**	**0.016**	NA	ND<0.0024	**0.016**	NA	**4.4**	**0.0052**	NA	ND<0.0023	**0.016**	NA
Aroclor-1260	NE	NE	NE	ND<0.49	**0.015**	NA	ND<0.0024	**0.012**	NA	ND<0.61	**0.0064**	NA	ND<0.0023	**0.015**	NA
Aroclor-1262	NE	NE	NE	ND<0.49	ND<0.0024	NA	ND<0.0024	ND<0.0026	NA	ND<0.61	ND<0.0024	NA	ND<0.0023	ND<0.0029	NA
Aroclor-1268	NE	NE	NE	ND<0.49	ND<0.0024	NA	ND<0.0024	ND<0.0026	NA	ND<0.61	ND<0.0024	NA	ND<0.0023	ND<0.0029	NA
Total PCBs	0.0598	0.1	0.676	**3.6**	**0.031**	NA	ND<0.0024	**0.028**	NA	**4.4**	**0.0116**	NA	ND<0.0023	**0.031**	NA
Grain Size (ASTM D6913 [%])															
Cobbles	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gravel, coarse	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gravel, fine	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sand, coarse	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sand, medium	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sand, fine	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Fines	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon (EPA Method 9060A [%])	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Solids (Standard Method 2540G [%])	**--**	--	--	**79.8**	**82.5**	NA	**83.3**	**77.1**	NA	**64.8**	**82**	NA	**86.3**	**68.1**	NA

Abbreviations:
mg/kg = milligram per killiogram
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NE = Not Established
TEC = Threshold Effect Concentration
PEC = Probable Effect Concentration
NYSDEC Class A Freshwater Sediment Guidance Value
-- = Not Applicable

= exceeds the Threshold Effect Concentration (TEC)
= exceeds the NYSDEC Class A Freshwater Sediment Guidance Value
= exceeds the Probable Effect Concentration (PEC)

NOTES:
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3. Samples collected by Weston & Sampson.

Prepared by: CMB
Reviewed by: JCW

Table 1
Stream Sediment Sampling Analytical Results
Screening Level Eological Risk Assessment (SLERA)
27 Parsons Lane, Durham, CT

Sample Location	Criteria			Flow Channel From 8" RCP (continued)													
Sample ID				Outfall-2	OF-2N (0-6)	OF-2N (12-18)	OF-2C (24-30)	OF-2S (0-6)	OF-2S (12-18)	Outfall-3	OF-3E (0-6)	OF-3E (12-18)	OF-3C (30-36)	DUP-OF / Duplicate of OF-3C (30-36)	OF-3W (0-6)	OF-3W (12-18)
Sample Depth (in)	Total PCB TEC	NYSDEC Class A Freshwater Sediment Guidance Value	Total PCB PEC	0-6	0-6	12-18	24-30	0-6	12-18	0-6	0-6	12-18	30-36	0-6	0-6	12-18
Date Sampled				12/5/18	3/19/21	3/19/21	3/19/21	3/19/21	3/19/21	12/5/18	3/19/21	3/19/21	3/19/21	3/19/21	3/19/21	3/19/21
Date Extracted				12/7/18	3/25/21	--	3/25/21	3/25/21	--	12/7/18	3/25/21	--	3/25/21	3/25/21	3/25/21	--
Date Analyzed				12/11/18	3/30/21	--	3/30/21	4/6/21	--	12/11/18	4/6/21	--	3/30/21	3/30/21	4/6/21	--
Con-Test Analytical Laboratory Work Order No.				18L0278	21C1114	21C1115	21C1114	21C1114	21C1115	18L0278	21C1114	21C1115	21C1114	21C1110	21C1114	21C1115
Alpha Analytical Laboratory Work Order No.				--	--	--	--	--	--	--	--	--	--	--	--	--
PARAMETER (UNITS)																
Polychlorinated Biphenyls with Soxhlet Extration (EPA Method 8082A/3540C [mg/kg])																
Aroclor-1016	NE	NE	NE	ND<0.56	ND<3.4	NA	ND<0.11	ND<0.0026	NA	ND<1.2	ND<0.0040	NA	ND<0.13	ND<0.14	ND<0.0024	NA
Aroclor-1221	NE	NE	NE	ND<0.56	ND<3.4	NA	ND<0.11	ND<0.0026	NA	ND<1.2	ND<0.0040	NA	ND<0.13	ND<0.14	ND<0.0024	NA
Aroclor-1232	NE	NE	NE	ND<0.56	ND<3.4	NA	ND<0.11	ND<0.0026	NA	ND<1.2	ND<0.0040	NA	ND<0.13	ND<0.14	ND<0.0024	NA
Aroclor-1242	NE	NE	NE	ND<0.56	ND<3.4	NA	ND<0.11	ND<0.0026	NA	ND<1.2	ND<0.0040	NA	ND<0.13	ND<0.14	ND<0.0024	NA
Aroclor-1248	NE	NE	NE	ND<0.56	ND<3.4	NA	ND<0.11	ND<0.0026	NA	ND<1.2	ND<0.0040	NA	ND<0.13	ND<0.14	ND<0.0024	NA
Aroclor-1254	NE	NE	NE	**3.9**	**15**	NA	**0.17**	**0.0077**	NA	**9.6**	**0.025**	NA	**0.22**	**0.43**	ND<0.0024	NA
Aroclor-1260	NE	NE	NE	ND<0.56	ND<3.4	NA	ND<0.11	**0.0047**	NA	ND<1.2	**0.013**	NA	ND<0.13	ND<0.14	ND<0.0024	NA
Aroclor-1262	NE	NE	NE	ND<0.56	ND<3.4	NA	ND<0.11	ND<0.0026	NA	ND<1.2	ND<0.0040	NA	ND<0.13	ND<0.14	ND<0.0024	NA
Aroclor-1268	NE	NE	NE	ND<0.56	ND<3.4	NA	ND<0.11	ND<0.0026	NA	ND<1.2	ND<0.0040	NA	ND<0.13	ND<0.14	ND<0.0024	NA
Total PCBs	0.0598	0.1	0.676	**3.9**	**15**	NA	**0.17**	**0.0124**	NA	**9.6**	**0.038**	NA	**0.22**	**0.43**	ND<0.0024	NA
Grain Size (ASTM D6913 [%])																
Cobbles	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gravel, coarse	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gravel, fine	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sand, coarse	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sand, medium	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sand, fine	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Fines	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon (EPA Method 9060A [%])	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**3.4**	NA	NA
Total Solids (Standard Method 2540G [%])	**--**	--	--	**68.5**	**58.4**	NA	**72.5**	**76.2**	NA	**59.7**	**50.6**	NA	**62.5**	**56.8**	**84.9**	NA

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Prepared by: CMB
Reviewed by: JCW

Table 1
Stream Sediment Sampling Analytical Results
Screening Level Ecological Risk Assessment (SLERA)
27 Parsons Lane, Durham, CT

Sample Location	Criteria			Transect #1			Sediment #1		Transect #2			Transect #3		
				East	Center	West			East	Center	West	East	Center	West
Sample ID				T1-E	T1-C	T1-W	SED-1 (0-6)	SED-1 (6-12)	T2-E	T2-C	T2-W	T3-E	T3-C	T3-W
Sample Depth (in)	Total PCB TEC	NYSDEC Class A Freshwater Sediment Guidance Value	Total PCB PEC	0-6	0-6	0-6	0-6	6-12	0-6	0-6	0-6	0-6	0-6	0-6
Date Sampled				12/5/18	12/5/18	12/5/18	3/24/21	3/19/21	12/5/18	12/5/18	12/5/18	12/5/18	12/5/18	12/5/18
Date Extracted				12/7/18	12/7/18	12/7/18	3/31/21	--	12/7/18	12/7/18	12/7/18	12/7/18	12/7/18	12/7/18
Date Analyzed				12/11/08	12/11/18	12/11/98	4/2/21	--	12/11/78	12/11/88	12/11/68	12/11/48	12/11/58	12/11/18
Con-Test Analytical Laboratory Work Order No.				18L0278	18L0278	18L0278	21C1426	21C1113	18L0278	18L0278	18L0278	18L0278	18L0278	18L0278
Alpha Analytical Laboratory Work Order No.				--	--	--	L2114132	--	--	--	--	--	--	--
PARAMETER (UNITS)														
Polychlorinated Biphenyls with Soxhlet Extration (EPA Method 8082A/3540C [mg/kg])														
Aroclor-1016	NE	NE	NE	ND<0.025	ND<0.026	ND<0.039	ND<0.0023	NA	ND<0.028	ND<0.025	ND<0.032	ND<0.028	ND<0.025	ND<0.034
Aroclor-1221	NE	NE	NE	ND<0.025	ND<0.026	ND<0.039	ND<0.0023	NA	ND<0.028	ND<0.025	ND<0.032	ND<0.028	ND<0.025	ND<0.034
Aroclor-1232	NE	NE	NE	ND<0.025	ND<0.026	ND<0.039	ND<0.0023	NA	ND<0.028	ND<0.025	ND<0.032	ND<0.028	ND<0.025	ND<0.034
Aroclor-1242	NE	NE	NE	ND<0.025	ND<0.026	ND<0.039	ND<0.0023	NA	ND<0.028	ND<0.025	ND<0.032	ND<0.028	ND<0.025	ND<0.034
Aroclor-1248	NE	NE	NE	ND<0.025	ND<0.026	ND<0.039	ND<0.0023	NA	ND<0.028	ND<0.025	ND<0.032	ND<0.028	ND<0.025	ND<0.034
Aroclor-1254	NE	NE	NE	ND<0.025	ND<0.026	ND<0.039	ND<0.0023	NA	**2.4**	**1.9**	ND<0.032	**0.036**	**0.057**	ND<0.034
Aroclor-1260	NE	NE	NE	ND<0.025	ND<0.026	ND<0.039	ND<0.0023	NA	ND<0.028	ND<0.025	ND<0.032	ND<0.028	ND<0.025	ND<0.034
Aroclor-1262	NE	NE	NE	ND<0.025	ND<0.026	ND<0.039	ND<0.0023	NA	ND<0.028	ND<0.025	ND<0.032	ND<0.028	ND<0.025	ND<0.034
Aroclor-1268	NE	NE	NE	ND<0.025	ND<0.026	ND<0.039	ND<0.0023	NA	ND<0.028	ND<0.025	ND<0.032	ND<0.028	ND<0.025	ND<0.034
Total PCBs	0.0598	0.1	0.676	ND<0.025	ND<0.026	ND<0.039	ND<0.0023	NA	**2.4**	**1.9**	ND<0.032	**0.036**	**0.057**	ND<0.034
Grain Size (ASTM D6913 [%])														
Cobbles	--	--	--	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA
Gravel, coarse	--	--	--	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA
Gravel, fine	--	--	--	NA	NA	NA	**21.4**	NA	NA	NA	NA	NA	NA	NA
Sand, coarse	--	--	--	NA	NA	NA	**10.6**	NA	NA	NA	NA	NA	NA	NA
Sand, medium	--	--	--	NA	NA	NA	**24.5**	NA	NA	NA	NA	NA	NA	NA
Sand, fine	--	--	--	NA	NA	NA	**28.5**	NA	NA	NA	NA	NA	NA	NA
Total Fines	--	--	--	NA	NA	NA	**15**	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon (EPA Method 9060A [%])	--	--	--	NA	NA	NA	**0.56**	NA	NA	NA	NA	NA	NA	NA
Total Solids (Standard Method 2540G [%])	--	--	--	**79.6**	**73.9**	**49.8**	**80.0**	NA	**66.9**	**61.5**	**59.6**	**70.3**	**78.9**	**55.3**

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Table 1
Stream Sediment Sampling Analytical Results
Screening Level Ecological Risk Assessment (SLERA)
27 Parsons Lane, Durham, CT

Sample Location	Criteria			Transect #4				Transect #4-1					Sediment #2
				East		Center	West	East	Center		West		
Sample ID				T4-E	Reoccupy T4E (6-12)	T4-C	T4-W	T4-1E (0-6)	T4-1C (0-6)	T4-1C (6-12)	T4-1W (0-6)	T4-1W (6-12)	SED-2 (0-6)
Sample Depth (in)	Total PCB TEC	NYSDEC Class A Freshwater Sediment Guidance Value	Total PCB PEC	0-6	6-12	0-6	0-6	0-6	0-6	6-12	0-6	6-12	0-6
Date Sampled				12/5/18	3/19/21	12/5/18	12/5/18	3/19/21	3/24/21	3/19/21	3/19/21	3/19/21	3/19/21
Date Extracted				12/7/18	3/24/21	12/7/18	12/7/18	3/24/21	3/31/21	4/1/21	3/27/21	--	3/24/21
Date Analyzed				12/10/18	4/8/21	12/11/18	12/11/18	4/8/21	4/2/21	4/6/21	3/29/21	--	3/29/21
Con-Test Analytical Laboratory Work Order No.				18L0278	21C1116	18L0278	18L0278	21C1116	21C1426	21C1118	21C1116	21C1427	21C1112
Alpha Analytical Laboratory Work Order No.				--	L2114132	--	--	L2114132	L2114132	--	L2114132	--	L2114132
PARAMETER (UNITS)													
Polychlorinated Biphenyls with Soxhlet Extration (EPA Method 8082A/3540C [mg/kg])													
Aroclor-1016	NE	NE	NE	ND<0.025	ND<0.0025	ND<0.49	ND<0.028	ND<0.0029	ND<0.30	ND<0.024	ND<0.13	NA	ND<0.11
Aroclor-1221	NE	NE	NE	ND<0.025	ND<0.0025	ND<0.49	ND<0.028	ND<0.0029	ND<0.30	ND<0.024	ND<0.13	NA	ND<0.11
Aroclor-1232	NE	NE	NE	ND<0.025	ND<0.0025	ND<0.49	ND<0.028	ND<0.0029	ND<0.30	ND<0.024	ND<0.13	NA	ND<0.11
Aroclor-1242	NE	NE	NE	ND<0.025	ND<0.0025	ND<0.49	ND<0.028	ND<0.0029	ND<0.30	ND<0.024	ND<0.13	NA	ND<0.11
Aroclor-1248	NE	NE	NE	ND<0.025	ND<0.0025	ND<0.49	ND<0.028	ND<0.0029	ND<0.30	ND<0.024	ND<0.13	NA	ND<0.11
Aroclor-1254	NE	NE	NE	**0.65**	**0.026**	**0.057**	ND<0.028	**0.023**	**1.2**	**0.13**	**0.50**	NA	**0.51**
Aroclor-1260	NE	NE	NE	ND<0.025	**0.011**	ND<0.49	ND<0.028	**0.0038**	ND<0.30	ND<0.024	ND<0.13	NA	ND<0.11
Aroclor-1262	NE	NE	NE	ND<0.025	ND<0.0025	ND<0.49	ND<0.028	ND<0.0029	ND<0.30	ND<0.024	ND<0.13	NA	ND<0.11
Aroclor-1268	NE	NE	NE	ND<0.025	ND<0.0025	ND<0.49	ND<0.028	ND<0.0029	ND<0.30	ND<0.024	ND<0.13	NA	ND<0.11
Total PCBs	0.0598	0.1	0.676	**0.65**	**0.037**	**0.057**	ND<0.028	**0.0268**	**1.2**	**0.13**	**0.50**	NA	**0.51**
Grain Size (ASTM D6913 [%])													
Cobbles	--	--	--	NA	ND	NA	NA	ND	ND	NA	ND	NA	ND
Gravel, coarse	--	--	--	NA	ND	NA	NA	ND	**11.1**	NA	ND	NA	**5.8**
Gravel, fine	--	--	--	NA	**14.4**	NA	NA	**36.6**	**14.4**	NA	**21.8**	NA	**26.6**
Sand, coarse	--	--	--	NA	**7.3**	NA	NA	**10.8**	**10.1**	NA	**4.7**	NA	**13.8**
Sand, medium	--	--	--	NA	**21.1**	NA	NA	**23.7**	**27.2**	NA	**19.4**	NA	**30.1**
Sand, fine	--	--	--	NA	**32.9**	NA	NA	**22.4**	**26.4**	NA	**34.5**	NA	**19.5**
Total Fines	--	--	--	NA	**24.3**	NA	NA	**6.5**	**10.8**	NA	**19.6**	NA	**4.2**
Total Organic Carbon (EPA Method 9060A [%])	--	--	--	NA	**0.76**	NA	NA	**2.2**	**3.2**	NA	**3.6**	NA	**3.1**
Total Solids (Standard Method 2540G [%])	**--**	--	--	**46.2**	**79.0**	**74.0**	**67.9**	**69.8**	**65.6**	**80.5**	**62.7**	NA	**67.5**

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Reviewed by: JCW

Table 1
Stream Sediment Sampling Analytical Results
Screening Level Eological Risk Assessment (SLERA)
27 Parsons Lane, Durham, CT

Sample Location	Criteria			Transect #4-2						Sediment #3		Transect #5-1				
				East			Center	West				East		Center	West	
Sample ID				T4-2E (0-6)	DUP-4 / Duplicate of T4-2E (0-6)	T4-2E (6-12)	T4-2C (0-6)	T4-2W (0-6)	T4-2W (6-12)	SED-3 (0-6)	SED-3 (6-12)	T5-1E (0-6)	T5-1E (6-9)	T5-1C (0-6)	T5-1W (0-6)	T5-1W (6-10)
Sample Depth (in)	Total PCB TEC	NYSDEC Class A Freshwater Sediment Guidance Value	Total PCB PEC	0-6	0-6	6-12	0-6	0-6	6-12	0-6	6-12	0-6	6-9	0-6	0-6	6-10
Date Sampled				3/19/21	3/19/21	3/19/21	3/19/21	3/19/21	3/19/21	3/19/21	3/19/21	3/19/21	3/19/21	3/19/21	3/19/21	3/19/21
Date Extracted				3/27/21	3/25/21	4/1/21	3/24/21	3/27/21	3/24/21	3/24/21	--	3/24/21	4/1/21	3/24/21	3/24/21	4/1/21
Date Analyzed				4/6/21	4/6/21	4/6/21	4/8/21	3/29/21	3/24/21	4/6/21	--	4/8/21	4/6/21	4/8/21	4/8/21	4/6/21
Con-Test Analytical Laboratory Work Order No.				21C1116	21C1110	21C1118	21C1116	21C1116	21C1116	21C1112	21C1113	21C1116	21C1118	21C1116	21C1116	21C1118
Alpha Analytical Laboratory Work Order No.				L2114132	--	--	L2114132	L2114132	--	L2114132	--	L2114132	--	L2114132	L2114132	--
PARAMETER (UNITS)																
Polychlorinated Biphenyls with Soxhlet Extration (EPA Method 8082A/3540C [mg/kg])																
Aroclor-1016	NE	NE	NE	ND<0.0025	ND<0.0029	ND<0.0029	ND<0.0024	ND<0.11	ND<0.0026	ND<0.0026	NA	ND<0.0025	ND<0.0031	ND<0.0024	ND<0.0032	ND<0.0026
Aroclor-1221	NE	NE	NE	ND<0.0025	ND<0.0029	ND<0.0029	ND<0.0024	ND<0.11	ND<0.0026	ND<0.0026	NA	ND<0.0025	ND<0.0031	ND<0.0024	ND<0.0032	ND<0.0026
Aroclor-1232	NE	NE	NE	ND<0.0025	ND<0.0029	ND<0.0029	ND<0.0024	ND<0.11	ND<0.0026	ND<0.0026	NA	ND<0.0025	ND<0.0031	ND<0.0024	ND<0.0032	ND<0.0026
Aroclor-1242	NE	NE	NE	ND<0.0025	ND<0.0029	ND<0.0029	ND<0.0024	ND<0.11	ND<0.0026	ND<0.0026	NA	ND<0.0025	ND<0.0031	ND<0.0024	ND<0.0032	ND<0.0026
Aroclor-1248	NE	NE	NE	ND<0.0025	ND<0.0029	ND<0.0029	ND<0.0024	ND<0.11	ND<0.0026	ND<0.0026	NA	ND<0.0025	ND<0.0031	ND<0.0024	ND<0.0032	ND<0.0026
Aroclor-1254	NE	NE	NE	**0.028**	**0.056**	**0.046**	**0.014**	**0.20**	**0.047**	**0.023**	NA	**0.020**	**0.0073**	**0.018**	**0.023**	ND<0.0026
Aroclor-1260	NE	NE	NE	**0.0069**	**0.0093**	**0.0086**	**0.0034**	ND<0.11	**0.0066**	**0.0051**	NA	**0.0052**	ND<0.0031	**0.0059**	**0.010**	ND<0.0026
Aroclor-1262	NE	NE	NE	ND<0.0025	ND<0.0029	ND<0.0029	ND<0.0024	ND<0.11	ND<0.0026	ND<0.0026	NA	ND<0.0025	ND<0.0031	ND<0.0024	ND<0.0032	ND<0.0026
Aroclor-1268	NE	NE	NE	ND<0.0025	ND<0.0029	ND<0.0029	ND<0.0024	ND<0.11	ND<0.0026	ND<0.0026	NA	ND<0.0025	ND<0.0031	ND<0.0024	ND<0.0032	ND<0.0026
Total PCBs	0.0598	0.1	0.676	**0.0349**	**0.0653**	**0.0546**	**0.0174**	**0.20**	**0.0536**	**0.0281**	NA	**0.0252**	**0.0073**	**0.0239**	**0.033**	ND<0.0026
Grain Size (ASTM D6913 [%])																
Cobbles	--	--	--	ND	NA	NA	ND	ND	NA	ND	NA	ND	NA	ND	ND	NA
Gravel, coarse	--	--	--	ND	NA	NA	**4.8**	ND	NA	ND	NA	ND	NA	ND	ND	NA
Gravel, fine	--	--	--	**24.4**	NA	NA	**42.5**	**21.8**	NA	**29.6**	NA	**28.1**	NA	**34.1**	**11.1**	NA
Sand, coarse	--	--	--	**11**	NA	NA	**18.7**	**13.9**	NA	**15.3**	NA	**12.6**	NA	**11.6**	**3.6**	NA
Sand, medium	--	--	--	**30.2**	NA	NA	**23.9**	**33.9**	NA	**26.8**	NA	**37.7**	NA	**32.5**	**30.9**	NA
Sand, fine	--	--	--	**26.7**	NA	NA	**7.9**	**25.8**	NA	**19**	NA	**17.2**	NA	**17.8**	**41.9**	NA
Total Fines	--	--	--	**7.7**	NA	NA	**2.2**	**4.6**	NA	**9.3**	NA	**4.4**	NA	**4.0**	**12.5**	NA
Total Organic Carbon (EPA Method 9060A [%])	--	--	--	**1.8**	**3.1**	NA	**0.49**	**1.7**	**1.8**	**1.9**	NA	**0.55**	NA	**0.81**	**1.9**	NA
Total Solids (Standard Method 2540G [%])	**--**	--	--	**79.3**	**68.7**	**69.7**	**81.6**	**71.8**	**77.6**	**72.8**	NA	**78.8**	**64.7**	**81.2**	**63.4**	**75.6**

Abbreviations:
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TEC = Threshold Effect Concentration
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NYSDEC Class A Freshwater Sediment Guidance Value
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Prepared by: CMB
Reviewed by: JCW

Table 1
Stream Sediment Sampling Analytical Results
Screening Level Ecological Risk Assessment (SLERA)
27 Parsons Lane, Durham, CT

Sample Location	Criteria			Transect #5			Transect #5-2					Transect #6-1				
				East	Center	West	East	Center		West		East	Center		West	
Sample ID				T5-E	T5-C	T5-W	T5-2E (0-6)	T5-2C (0-6)	DUP-3 / Duplicate of T5-2C (0-6)	T5-2W (0-6)	T5-2W (6-10)	T6-1E (0-6)	T6-1C (0-6)	T6-1C (6-12)	T6-1W (0-6)	DUP-2 / Duplicate of T6-1W (0-6)
Sample Depth (in)	Total PCB TEC	NYSDEC Class A Freshwater Sediment Guidance Value	Total PCB PEC	0-6	0-6	0-6	0-6	0-6	0-6	0-6	6-10	0-6	0-6	6-12	0-6	0-6
Date Sampled				12/5/18	12/5/18	12/5/18	3/19/21	3/19/21	3/19/21	3/19/21	3/19/21	3/19/21	3/19/21	3/19/21	3/19/21	3/19/21
Date Extracted				12/7/18	12/7/18	12/7/18	3/24/21	3/24/21	3/25/21	3/24/21	4/1/21	3/24/21	3/24/21	4/1/21	3/24/21	3/25/21
Date Analyzed				12/11/18	12/11/18	12/11/18	4/8/21	4/8/21	4/6/21	4/8/21	4/6/21	4/8/21	4/8/21	4/6/21	4/8/21	4/6/21
Con-Test Analytical Laboratory Work Order No.				18L0278	18L0278	18L0278	21C1116	21C1116	21C1110	21C1116	21C1118	21C1116	21C1116	21C1118	21C1116	21C1110
Alpha Analytical Laboratory Work Order No.				--	--	--	L2114132	L2114132	--	L2114132	--	L2114132	L2114132	--	L2114132	--
PARAMETER (UNITS)																
Polychlorinated Biphenyls with Soxhlet Extration (EPA Method 8082A/3540C [mg/kg])																
Aroclor-1016	NE	NE	NE	ND<0.028	ND<0.024	ND<0.035	ND<0.0025	ND<0.0024	ND<0.0026	ND<0.0025	ND<0.0024	ND<0.0025	ND<0.0023	ND<0.0024	ND<0.0029	ND<0.0028
Aroclor-1221	NE	NE	NE	ND<0.028	ND<0.024	ND<0.035	ND<0.0025	ND<0.0024	ND<0.0026	ND<0.0025	ND<0.0024	ND<0.0025	ND<0.0023	ND<0.0024	ND<0.0029	ND<0.0028
Aroclor-1232	NE	NE	NE	ND<0.028	ND<0.024	ND<0.035	ND<0.0025	ND<0.0024	ND<0.0026	ND<0.0025	ND<0.0024	ND<0.0025	ND<0.0023	ND<0.0024	ND<0.0029	ND<0.0028
Aroclor-1242	NE	NE	NE	ND<0.028	ND<0.024	ND<0.035	ND<0.0025	ND<0.0024	ND<0.0026	ND<0.0025	ND<0.0024	ND<0.0025	ND<0.0023	ND<0.0024	ND<0.0029	ND<0.0028
Aroclor-1248	NE	NE	NE	ND<0.028	ND<0.024	ND<0.035	ND<0.0025	ND<0.0024	ND<0.0026	ND<0.0025	ND<0.0024	ND<0.0025	ND<0.0023	ND<0.0024	ND<0.0029	ND<0.0028
Aroclor-1254	NE	NE	NE	**0.078**	ND<0.024	ND<0.035	**0.023**	**0.0067**	**0.0076**	**0.0037**	**0.0069**	**0.010**	**0.0053**	**0.0038**	**0.019**	**0.011**
Aroclor-1260	NE	NE	NE	ND<0.028	ND<0.024	ND<0.035	**0.0081**	**0.0033**	**0.0046**	ND<0.0025	ND<0.0024	ND<0.0025	ND<0.0023	**0.0034**	**0.0048**	ND<0.0028
Aroclor-1262	NE	NE	NE	ND<0.028	ND<0.024	ND<0.035	ND<0.0025	ND<0.0024	ND<0.0026	ND<0.0025	ND<0.0024	ND<0.0025	ND<0.0023	ND<0.0024	ND<0.0029	ND<0.0028
Aroclor-1268	NE	NE	NE	ND<0.028	ND<0.024	ND<0.035	ND<0.0025	ND<0.0024	ND<0.0026	ND<0.0025	ND<0.0024	ND<0.0025	ND<0.0023	ND<0.0024	ND<0.0029	ND<0.0028
Total PCBs	0.0598	0.1	0.676	**0.078**	ND<0.024	ND<0.035	**0.0311**	**0.0100**	**0.0122**	**0.0037**	**0.0069**	**0.010**	**0.0053**	**0.0072**	**0.0238**	**0.011**
Grain Size (ASTM D6913 [%])																
Cobbles	--	--	--	NA	NA	NA	ND	ND	NA	ND	NA	ND	ND	NA	ND	NA
Gravel, coarse	--	--	--	NA	NA	NA	**7.6**	ND	NA	ND	NA	**6.2**	ND	NA	ND	NA
Gravel, fine	--	--	--	NA	NA	NA	**37.2**	**31.8**	NA	**28.1**	NA	**43.4**	**39.3**	NA	**38.5**	NA
Sand, coarse	--	--	--	NA	NA	NA	**15.9**	**20**	NA	**15.5**	NA	**14.1**	**18.7**	NA	**20**	NA
Sand, medium	--	--	--	NA	NA	NA	**21.3**	**32.6**	NA	**32.6**	NA	**22.4**	**31.2**	NA	**20.6**	NA
Sand, fine	--	--	--	NA	NA	NA	**14.2**	**12.4**	NA	**19.4**	NA	**11.6**	**8.9**	NA	**16.5**	NA
Total Fines	--	--	--	NA	NA	NA	**3.8**	**3.2**	NA	**4.4**	NA	**2.3**	**1.9**	NA	**4.4**	NA
Total Organic Carbon (EPA Method 9060A [%])	--	--	--	NA	NA	NA	**1.3**	**0.75**	**0.29**	**0.61**	NA	**1.6**	**0.49**	NA	**2.7**	**2.4**
Total Solids (Standard Method 2540G [%])	**--**	--	--	**68.0**	**82.5**	**52.3**	**79.8**	**84.1**	**78.3**	**78.6**	**81.6**	**78.8**	**85.3**	**81.2**	**66.9**	**66.5**

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Reviewed by: JCW

Table 1
Stream Sediment Sampling Analytical Results
Screening Level Ecological Risk Assessment (SLERA)
27 Parsons Lane, Durham, CT

Sample Location	Criteria			Transect #6			Sediment #4		Transect #7-1					
				East	Center	West			East		Center		West	
Sample ID				T6-E	T6-C	T6-W	SED-4 (0-6)	SED-4 (6-12)	T7-1E (0-6)	T7-1E (6-12)	T7-1C (0-6)	T7-1C (6-12)	T7-1W (0-6)	T7-1W (6-12)
Sample Depth (in)	Total PCB TEC	NYSDEC Class A Freshwater Sediment Guidance Value	Total PCB PEC	0-6	0-6	0-6	0-6	6-12	0-6	6-12	0-6	6-12	0-6	6-12
Date Sampled				12/5/18	12/5/18	12/5/18	3/19/21	3/19/21	3/19/21	3/19/21	3/19/21	3/19/21	3/19/21	3/19/21
Date Extracted				12/7/18	12/7/18	12/7/18	3/24/21	--	3/24/21	--	3/24/21	--	3/24/21	--
Date Analyzed				12/11/18	12/11/18	12/11/18	4/6/21	--	4/8/21	--	4/8/21	--	4/8/21	--
Con-Test Analytical Laboratory Work Order No.				18L0278	18L0278	18L0278	21C1112	21C1113	21C1116	21C1118	21C1116	21C1118	21C1116	21C1118
Alpha Analytical Laboratory Work Order No.				--	--	--	L2114132	--	L2114132	--	L2114132	--	L2114132	--
PARAMETER (UNITS)														
Polychlorinated Biphenyls with Soxhlet Extration (EPA Method 8082A/3540C [mg/kg])														
Aroclor-1016	NE	NE	NE	ND<0.027	ND<0.022	ND<0.026	ND<0.0028	NA	ND<0.0027	NA	ND<0.0026	NA	ND<0.0031	NA
Aroclor-1221	NE	NE	NE	ND<0.027	ND<0.022	ND<0.026	ND<0.0028	NA	ND<0.0027	NA	ND<0.0026	NA	ND<0.0031	NA
Aroclor-1232	NE	NE	NE	ND<0.027	ND<0.022	ND<0.026	ND<0.0028	NA	ND<0.0027	NA	ND<0.0026	NA	ND<0.0031	NA
Aroclor-1242	NE	NE	NE	ND<0.027	ND<0.022	ND<0.026	ND<0.0028	NA	ND<0.0027	NA	ND<0.0026	NA	ND<0.0031	NA
Aroclor-1248	NE	NE	NE	ND<0.027	ND<0.022	ND<0.026	ND<0.0028	NA	ND<0.0027	NA	ND<0.0026	NA	ND<0.0031	NA
Aroclor-1254	NE	NE	NE	ND<0.027	ND<0.022	ND<0.026	**0.0084**	NA	**0.026**	NA	**0.021**	NA	**0.021**	NA
Aroclor-1260	NE	NE	NE	ND<0.027	ND<0.022	ND<0.026	**0.0059**	NA	**0.0086**	NA	**0.024**	NA	**0.012**	NA
Aroclor-1262	NE	NE	NE	ND<0.027	ND<0.022	ND<0.026	ND<0.0028	NA	ND<0.0027	NA	ND<0.0026	NA	ND<0.0031	NA
Aroclor-1268	NE	NE	NE	ND<0.027	ND<0.022	ND<0.026	ND<0.0028	NA	ND<0.0027	NA	ND<0.0026	NA	ND<0.0031	NA
Total PCBs	0.0598	0.1	0.676	ND<0.027	ND<0.022	ND<0.026	**0.0143**	NA	**0.0346**	NA	**0.045**	NA	**0.033**	NA
Grain Size (ASTM D6913 [%])														
Cobbles	--	--	--	NA	NA	NA	ND	NA	ND	NA	ND	NA	ND	NA
Gravel, coarse	--	--	--	NA	NA	NA	**4.9**	NA	ND	NA	ND	NA	ND	NA
Gravel, fine	--	--	--	NA	NA	NA	**61.1**	NA	**24.5**	NA	**38.2**	NA	**13.7**	NA
Sand, coarse	--	--	--	NA	NA	NA	**13**	NA	**17.1**	NA	**18.9**	NA	**14.1**	NA
Sand, medium	--	--	--	NA	NA	NA	**10.8**	NA	**22.1**	NA	**24.5**	NA	**27.4**	NA
Sand, fine	--	--	--	NA	NA	NA	**7**	NA	**24.9**	NA	**16.5**	NA	**29.7**	NA
Total Fines	--	--	--	NA	NA	NA	**3.2**	NA	**11.4**	NA	**1.9**	NA	**15.1**	NA
Total Organic Carbon (EPA Method 9060A [%])	--	--	--	NA	NA	NA	**1.4**	NA	**2.9**	NA	**3.0**	NA	**3.9**	NA
Total Solids (Standard Method 2540G [%])	--	--	--	**71.5**	**82.8**	**77.1**	**68.2**	NA	**71.9**	NA	**73.5**	NA	**63.1**	NA

Abbreviations:
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Table 1
Stream Sediment Sampling Analytical Results
Screening Level Ecological Risk Assessment (SLERA)
27 Parsons Lane, Durham, CT

Sample Location	Criteria			Transect #7				Sediment #5	Transect #8				Sediment #6	
				East		Center	West		East		Center	West		
Sample ID				T7-E	DUP-SE1 / Duplicate of T7-E	T7-C	T7-W	SED-5 (0-6)	T8-E	DUP-SE2 / Duplicate of T8-E	T8-C	T8-W	SED-6 (0-6)	SED-6 (6-12)
Sample Depth (in)	Total PCB TEC	NYSDEC Class A Freshwater Sediment Guidance Value	Total PCB PEC	0-6	0-6	0-6	0-6	0-6	0-6	0-6	0-6	0-6	0-6	6-12
Date Sampled				12/5/18	12/5/18	12/5/18	12/5/18	3/17/21	12/5/18	12/5/18	12/5/18	12/5/18	3/17/21	3/17/21
Date Extracted				12/7/18	12/7/18	12/7/18	12/7/18	3/24/21	12/7/18	12/7/18	12/7/18	12/7/18	3/24/21	--
Date Analyzed				12/11/18	12/11/18	12/11/18	12/11/18	4/6/21	12/11/18	12/11/18	12/11/18	12/11/18	4/6/21	--
Con-Test Analytical Laboratory Work Order No.				18L0278	18L0278	18L0278	18L0278	21C1112	18L0278	18L0278	18L0278	18L0278	21C1112	21C1113
Alpha Analytical Laboratory Work Order No.				--	--	--	--	L2114132	--	--	--	--	L2114132	--
PARAMETER (UNITS)														
Polychlorinated Biphenyls with Soxhlet Extration (EPA Method 8082A/3540C [mg/kg])														
Aroclor-1016	NE	NE	NE	ND<0.037	ND<0.041	ND<0.031	ND<0.033	ND<0.0026	ND<0.037	ND<0.034	ND<0.045	ND<0.052	ND<0.023	NA
Aroclor-1221	NE	NE	NE	ND<0.037	ND<0.041	ND<0.031	ND<0.033	ND<0.0026	ND<0.037	ND<0.034	ND<0.045	ND<0.052	ND<0.023	NA
Aroclor-1232	NE	NE	NE	ND<0.037	ND<0.041	ND<0.031	ND<0.033	ND<0.0026	ND<0.037	ND<0.034	ND<0.045	ND<0.052	ND<0.023	NA
Aroclor-1242	NE	NE	NE	ND<0.037	ND<0.041	ND<0.031	ND<0.033	ND<0.0026	ND<0.037	ND<0.034	ND<0.045	ND<0.052	ND<0.023	NA
Aroclor-1248	NE	NE	NE	ND<0.037	ND<0.041	ND<0.031	ND<0.033	ND<0.0026	ND<0.037	ND<0.034	ND<0.045	ND<0.052	ND<0.023	NA
Aroclor-1254	NE	NE	NE	**0.041**	**0.080**	ND<0.031	ND<0.033	**0.013**	ND<0.037	ND<0.034	ND<0.045	ND<0.052	**0.064**	NA
Aroclor-1260	NE	NE	NE	ND<0.037	ND<0.041	ND<0.031	ND<0.033	**0.0072**	ND<0.037	ND<0.034	ND<0.045	ND<0.052	ND<0.023	NA
Aroclor-1262	NE	NE	NE	ND<0.037	ND<0.041	ND<0.031	ND<0.033	ND<0.0026	ND<0.037	ND<0.034	ND<0.045	ND<0.052	ND<0.023	NA
Aroclor-1268	NE	NE	NE	ND<0.037	ND<0.041	ND<0.031	ND<0.033	ND<0.0026	ND<0.037	ND<0.034	ND<0.045	ND<0.052	ND<0.023	NA
Total PCBs	0.0598	0.1	0.676	**0.041**	**0.080**	ND<0.031	ND<0.033	**0.0202**	ND<0.037	ND<0.034	ND<0.045	ND<0.052	**0.064**	NA
Grain Size (ASTM D6913 [%])														
Cobbles	--	--	--	NA	NA	NA	NA	ND	NA	NA	NA	NA	ND	NA
Gravel, coarse	--	--	--	NA	NA	NA	NA	ND	NA	NA	NA	NA	ND	NA
Gravel, fine	--	--	--	NA	NA	NA	NA	**37.5**	NA	NA	NA	NA	**4.1**	NA
Sand, coarse	--	--	--	NA	NA	NA	NA	**13**	NA	NA	NA	NA	**18.7**	NA
Sand, medium	--	--	--	NA	NA	NA	NA	**18.5**	NA	NA	NA	NA	**42.9**	NA
Sand, fine	--	--	--	NA	NA	NA	NA	**17.2**	NA	NA	NA	NA	**21.3**	NA
Total Fines	--	--	--	NA	NA	NA	NA	**13.8**	NA	NA	NA	NA	**13**	NA
Total Organic Carbon (EPA Method 9060A [%])	--	--	--	NA	NA	NA	NA	**2.0**	NA	NA	NA	NA	**21**	NA
Total Solids (Standard Method 2540G [%])	--	--	--	**51.8**	**48.2**	**61.1**	**59.8**	**76.0**	**52.8**	**55.7**	**43.4**	**37.1**	**8.73**	NA

Abbreviations:
mg/kg = milligram per killiogram
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Table 1
Stream Sediment Sampling Analytical Results
Screening Level Ecological Risk Assessment (SLERA)
27 Parsons Lane, Durham, CT

Sample Location	Criteria			Sediment #7		Sediment #8		Sediment #9		Sediment #10		Sediment #11		
Sample ID				SED-7 (0-6)	SED-7 (6-12)	SED-8 (0-6)	SED-8 (6-12)	SED-9 (0-6)	SED-9 (6-12)	SED-10 (0-6)	SED-10 (6-12)	SED-11 (0-6)	DUP-1 / Duplicate of SED-11 (0-6)	SED-11 (6-12)
Sample Depth (in)	Total PCB TEC	NYSDEC Class A Freshwater Sediment Guidance Value	Total PCB PEC	0-6	6-12	0-6	6-12	0-6	6-12	0-6	6-12	0-6	0-6	6-12
Date Sampled				3/17/21	3/17/21	3/17/21	3/17/21	3/17/21	3/17/21	3/17/21	3/17/21	3/17/21	3/17/21	3/17/21
Date Extracted				3/24/21	--	3/24/21	--	3/24/21	--	3/24/21	--	3/24/21	3/25/21	--
Date Analyzed				4/6/21	--	4/6/21	--	4/6/21	--	4/6/21	--	4/6/21	4/6/21	--
Con-Test Analytical Laboratory Work Order No.				21C1112	21C1113	21C1112	21C1113	21C1112	21C1113	21C1112	21C1113	21C1112	21C1110	21C1113
Alpha Analytical Laboratory Work Order No.				L2114132	--	L2114132	--	L2114132	--	L2114132	--	L2114132	--	--
PARAMETER (UNITS)														
Polychlorinated Biphenyls with Soxhlet Extration (EPA Method 8082A/3540C [mg/kg])														
Aroclor-1016	NE	NE	NE	ND<0.036	NA	ND<0.023	NA	ND<0.019	NA	ND<0.026	NA	ND<0.022	ND<0.017	NA
Aroclor-1221	NE	NE	NE	ND<0.036	NA	ND<0.023	NA	ND<0.019	NA	ND<0.026	NA	ND<0.022	ND<0.017	NA
Aroclor-1232	NE	NE	NE	ND<0.036	NA	ND<0.023	NA	ND<0.019	NA	ND<0.026	NA	ND<0.022	ND<0.017	NA
Aroclor-1242	NE	NE	NE	ND<0.036	NA	ND<0.023	NA	ND<0.019	NA	ND<0.026	NA	ND<0.022	ND<0.017	NA
Aroclor-1248	NE	NE	NE	ND<0.036	NA	ND<0.023	NA	ND<0.019	NA	ND<0.026	NA	ND<0.022	ND<0.017	NA
Aroclor-1254	NE	NE	NE	**0.067**	NA	**0.057**	NA	**0.072**	NA	**0.048**	NA	**0.054**	**0.056**	NA
Aroclor-1260	NE	NE	NE	ND<0.036	NA	**0.033**	NA	**0.030**	NA	ND<0.026	NA	ND<0.022	**0.024**	NA
Aroclor-1262	NE	NE	NE	ND<0.036	NA	ND<0.023	NA	ND<0.019	NA	ND<0.026	NA	ND<0.022	ND<0.017	NA
Aroclor-1268	NE	NE	NE	ND<0.036	NA	ND<0.023	NA	ND<0.019	NA	ND<0.026	NA	ND<0.022	ND<0.017	NA
Total PCBs	0.0598	0.1	0.676	**0.067**	NA	**0.090**	NA	**0.102**	NA	**0.048**	NA	**0.054**	**0.080**	NA
Grain Size (ASTM D6913 [%])														
Cobbles	--	--	--	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	NA
Gravel, coarse	--	--	--	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	NA
Gravel, fine	--	--	--	**5**	NA	**12.4**	NA	**10**	NA	**2.7**	NA	**9.4**	NA	NA
Sand, coarse	--	--	--	**17.4**	NA	**19**	NA	**29.6**	NA	**12.3**	NA	**25.7**	NA	NA
Sand, medium	--	--	--	**56**	NA	**40**	NA	**35.8**	NA	**49.9**	NA	**45.2**	NA	NA
Sand, fine	--	--	--	**20**	NA	**18.3**	NA	**13.8**	NA	**25.3**	NA	**15.7**	NA	NA
Total Fines	--	--	--	**1.6**	NA	**10.3**	NA	**10.8**	NA	**9.8**	NA	**4**	NA	NA
Total Organic Carbon (EPA Method 9060A [%])	--	--	--	**33**	NA	**1.4**	NA	**20**	NA	**29**	NA	**16**	**35**	#REF!
Total Solids (Standard Method 2540G [%])	--	--	--	**5.45**	NA	**8.49**	NA	**10.8**	NA	**7.56**	NA	**8.61**	**11.4**	NA

Abbreviations:
mg/kg = milligram per killiogram
ND<# = Not Detected above specified reporting limit
NA = Not Analyzed
NE = Not Established
TEC = Threshold Effect Concentration
PEC = Probable Effect Concentration
NYSDEC Class A Freshwater Sediment Guidance Value
-- = Not Applicable

= exceeds the
= exceeds the
= exceeds the

NOTES:
1. < = indicates parameter not detected above laboratory method reporting limit, shown.
2. Bolding indicated parameter detected above laboratory method reporting limit.
3. Samples collected by Weston & Sampson.

Prepared by: CMB
Reviewed by: JCW

Connecticut Department of
ENERGY &
ENVIRONMENTAL
PROTECTION

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INTEROFFICE MEMO

To: Amber Trahan, Environmental Analyst 2, Corrective Action

From: Rosemary Gatter-Evarts, Environmental Analyst 3, Water Quality
Cc: Traci Iott, Supervising Environmental Analyst

Date: July 21, 2022
SUBJ: Eversource Durham (CWC-18-00543) … Review of SLERA

Amber,
I have reviewed the Screening Environmental Risk Assessment (SLERA) for Eversouce (Connecticut Light and Power) in Durham Connecticut. The SLERA was submitted in a response to a release of mineral oil and dielectric fluid at the 27 Parsons Lane site in Durham. Sampling of sediment in the unnamed stream identified high levels of PCBs in and near the outfall pipes. Additional sampling in 2021was conducted to further evaluate the nature and extent of the sediment contamination.

Sampling in 2018 indicated that PCBs were elevated from the at the Outfalls to Transect 4 located in the upper section of Reach 3 about 200 feet downstream (Figure 2(p.13 of the Report)).

In 2021 additional transects were located below Transects 4-8 in the unnamed stream, as well as sediment sampling added to the Coginchaug River both upstream and downstream of the confluence with the unnamed stream. Results of the additional sampling indicated that PCBS remained low below Transect SED 2 which is 100 feet downstream from Transect T4-1.

Aroclors 1254 and 1260 were the only Aroclors detected. Total PCB concentrations (Aroclors 1254 plus 1260 are reported in Table 1. In 2018, PCB concentration were above 1 mg/kg for the outfall areas and Transect 2 (T2) and elevated close to the PEC value for Transect 4. Resampling in the 2021, concentrations were greater that 1.0 mg/kg at transect 4 (center) and elevated concentrations near PEC concentration appearing at Transect T4-1 and Sed 2. The elevated PCB concentrations may be moving down stream.

Eversource has proposed to remove all PCB contamination from the outfalls to Transect 2. This area represents the highest concentrations of PCBS, and areas in the stream where PCBs are above 1 mg/kg. Eversource also has proposed removing PCB concentrations above the Probable Effect Concentration located at a downstream segment Transect 4. Eversource proposes that such remediation will eliminate the risk to benthic organisms and animals dependent on them.

This proposal leaves in place concentrations of PCBs that are close to the probable effect concentration. The Probable Effect Concentration is a concentration at which toxic impacts will most likely be seen in the benthic community. Likewise, this value does not take into

consideration any bioaccumulative effects. A proposed remedial standard should not be set at a level where risk is demonstrated but should be set below this Probable Effect Concentration. Transect SED 2 has a PCB concentration of 0.5 mg/kg which is only slightly below the Probable Effect Concentration of 0.636 mg/kg and is above the NYSDEC sediment benchmark of 0.1 mg/kg for the protection of aquatic life and animals higher in the food chain. Below SED 2, the NYSDEC benchmark is met.

In addition to the effects of PCBs on the benthic community and bioaccumulative potential, the presence of the northern leopard frog, which is a species of special concern, in the vicinity of the Coginchaug River need to be considered when setting an acceptable remedial protection standard. Considering all the potential effects of PCBs and that benthic invertebrates are stationary and therefore would be subjected to concentration which could contribute to harm. It would be more appropriate to remove PCBs down to a concentration that will most likely not harm benthic invertebrates. A reasonable estimate between the Threshold Effect Concentration and the Probable Effect Concentration is a Maximum Allowable Toxic Concentration which is the geomean between the No effect value and the effect value. For PCBs this is a concentration of 0.2 mg/kg.

Eversource's proposal to remove all PCBs form the outfall areas to Transect 2 is acceptable. Eversource needs to modify their hot spot removal to include PCBS above 0.5 mg/kg rather than the PRC value of 0.676 mg/kg. This results in three additional locations as well as the original proposed location. The following locations need to be removed:

- Transect 4 E (0.65 mg/kg PCBs)
- Transect 4-1C (1.2 mg/kg PCBs (proposed))
- Transect 4-1W (0.5 mg/kg PCBs)
- SED-2 (0.5 mg/kg PCBS)

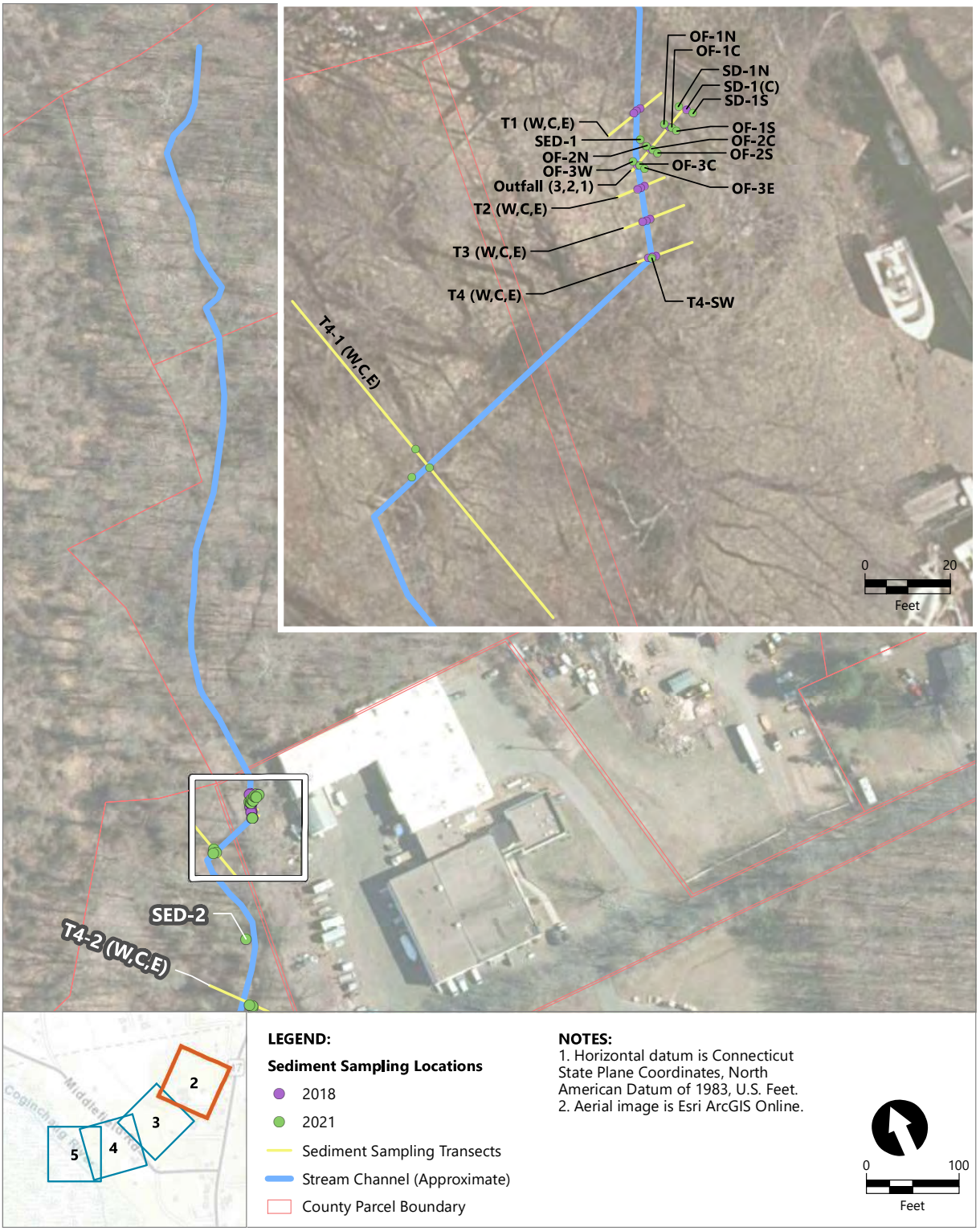
This removal would be result in a PCB concentration of 0.2 or below which would assure that no locations would be directly harmful to benthic invertebrates, and the 'larger area". to be closer to the NYSDEC criteria to protect against bioaccumulative effects for aquatic dependent organism. Confirmation testing downstream to ensure that all elevated PCBs concentration above 0.2 mg/kg are removed.

Rosemary

Table 1Surface Sediment (0 to 6 inches) Ecological Risk Screening

Reach	Sample id	Date Sampled	Total PCBs Araclor (mg/kg E	C	W
1:	Transect T1	12/5/2018	ND<0.025	ND<0.026	ND<0.039
Upstream of Outfalls	SED-1	3/24/2021	ND<0.0023		
2	SD-1	11/20/2018	3.6		
Parsons Lane	Outfall-1	12/5/2018	4.4		
Outfall Area	OF-1S	3/19/2021	0.031		
	Outfall-2	12/5/2018	3.9		
	Outfall-3	12/5/2018	9.6		
	OF-3E	3/19/2021	0.038		
	OF-3W	3/19/2021	<0.0024		
3a:	Transect T2	12/5/2018	2.4	1.9	ND<0.032
Outfall Area to T4-2	Transect T3	12/5/2018	0.036	0.057	ND<0.034
	Transect T4	12/5/2018	0.65	0.057	ND<0.028
	Transect T4-1	3/19/2021	0.027	1.2	0.5
	SED-2	3/19/2021	0.51		
	Transect T4-2	3/19/2021	0.035	0.017	0.2
	Duplicate T4-2E	3/19/2021	0.065	--	--
3b:	SED-3	3/19/2021	0.028		
Sed3 to Middlefield Rd	Transect T5	12/5/2018	0.078	ND<0.024	ND<0.035
	Transect T5-2	3/19/2021	0.031	0.01	0.0037
	Duplicate T5-2C	3/19/2021	--	0.012	--
	Transect T6-1	3/19/2021	0.01	0.0053	0.024
	Duplicate T6-1W	3/19/2021	--	--	0.011
	Transect T6	12/5/2018	ND<0.027	ND<0.022	ND<0.026
	SED-4	3/19/2021	0.014		
4	Transect T7-1	3/19/2021	0.035	0.045	0.033
Middlefield Rd to	Transect T7	12/5/2018	0.041	ND<0.031	ND<0.033
Coginchaug Confluence	Duplicate T7-E	12/5/2018	0.08	--	--
	SED-5	3/17/2021	0.0202		
	T8	12/5/2018	ND<0.037	ND<0.045	ND<0.052
	Duplicate T8-E	12/5/2018	ND<0.034	--	--
5a	SED-10 (upstream)	3/17/2021	0.048		
Coginchaug River	SED-11 (upstream)	3/17/2021	0.054		
	Duplicate SED-11	3/17/2021	0.08		
5b	SED-9 (confluence)	3/17/2021	0.1		
Coginchaug River	SED-8(Confluence)	3/17/2021	0.09		
	SED-7 (downstream)	3/17/2021	0.067		
	SED-6(downstream	3/17/2021	0.064		

Notes:	Sediment	Benchmarks	Tot.PCBs mg/kg
MacDonald	freshwater	TEC	0.0598
NYSDEC and TEC class A	freshwater	TEC	0.1
MacDonald	freshwater	PEC	0.676



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ANCHOR QEA

Figure 2
Sediment Sample Locations: Reach 1 and 2 — Upstream Parsons Lane Outfall Area
Screening Level Ecological Risk Assessment
27 Parsons Lane, Durham, Connecituct

APPENDIX F

Remedial Action Plan (RAP)

Weston & Sampson SM

westonandsampson.com

712 Brook Street, Suite 103
Rocky Hill, CT 06067
tel: 860.513.1473

MARCH 2024



Eversource

Remedial Action Plan

27 Parsons Lane
Durham, Connecticut
Enviance Spill Number CWC-18-00543



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1.0 INTRODUCTION & BACKGROUND

1.1 Introduction

Weston & Sampson Engineers Inc. (Weston & Sampson), on behalf of The Connecticut Light and Power Company dba Eversource Energy (Eversource), has prepared this Remedial Action Plan (RAP) to perform remedial activities resulting from releases of polychlorinated biphenyl (PCB) containing mineral oil dielectric fluid (MODF) that occurred at 27 Parsons Lane in Durham, Connecticut (CT) in 2018. The releases affected a nearby stream on the northwestern corner of the 27 Parsons Lane property and a western abutting property at 105 Middlefield Road in Durham, CT. The CT DEEP assigned case number 2018-05541 form this release. The proposed remedial activities discussed in this RAP will address PCB impacts identified in the stream affecting both the 27 Parsons Lane and western abutting property at 105 Middlefield Road. Collectively these two properties will be referred to as the "Site" in this RAP. Because the release occurred on the 27 Parsons Lane property, the following subsections will sequentially discuss the 27 Parsons Lane property first and the 105 Middlefield Road property second.

The RAP includes the removal and disposal of PCB-impacted sediment from a small drainage channel that conveys flow from an 8-inch (in.) clay outlet pipe, and from select areas of the stream that receives stormwater flow from the drainage channel. An Interim Remedial Action Report (IRAR) was prepared by Weston & Sampson in May 2019 and a Screening Level Ecological Risk Assessment (SLERA) report was prepared by Weston & Sampson's eco-risk subconsultant Anchor QEA, LLC (Anchor) in December 2021. This RAP was prepared based on the findings from these two previous reports and provides the planned remedial actions to remove all contaminants that exceed the Environmental Protection Agency (EPA) Toxic Substance Control Act (TSCA) and Connecticut Department of Energy and Environmental Protection's (CTDEEP) Remediation Standard Regulations (RSRs) located within the drainage channel and stream.

1.2 Site Location and Description

The Site consists of two adjoining parcels at 27 Parsons Lane and 105 Middlefield Road totaling 18.14 acres located in the northern section of Durham, CT (see **Figure 1 – Site Locus Map**).

The 27 Parsons Lane property is a 5.05-acre parcel of land located at the end of Parsons Lane (see **Figure 2 – Existing Conditions Plan**). It is improved with an irregular-shaped industrial/commercial building and small detached garage located in the central portion of the property. There is a mixture of dirt and paved parking areas on the southern, eastern, and western sides of the building, there are woodlands and an overgrown pond on the southern tip of the property, and there is a small stream on the northwestern corner of the property that is wooded and overgrown with dense vegetation. The parcel is identified by the Town of Durham Assessor as Parcel ID # 16-7.

The 105 Middlefield Road property is a 13.09-acre parcel of land located on the east side Middlefield Road (see **Figure 2 – Existing Conditions Plan**). Much of the parcel is wooded and undeveloped except for the southwestern portion which contains a residential dwelling. The parcel contains several ponds (not included in the remediation areas), and the same stream mentioned above traverses across much of the property flowing generally in a northeast to southwest direction. The stream discharges into the Coginchaug River located approximately 2,600 feet (ft.) from the Site. The northern portion of the parcel

borders the western side of the 27 Parsons Lane parcel, and it includes the area proposed for remediation. The parcel is identified by the Town of Durham Assessor as Parcel ID #15-12. The area surrounding the Site is a mixture of woodland and a combination of industrial, commercial and residential uses.

The geographic coordinates for the approximate center of the Site are as follows:

Latitude/Longitude:	41.4904268724463" North -72.6842386290727" West
UTM Coordinates:	306,686.50 meters East 4,595,742.86 meters North

1.3 Site History

Summary information about the Site history presented below begins by describing the two Site parcels and follows with how the release affected each parcel. The information will focus on the removal of PCB-impacted sediment from select areas including the drainage channel for the 8-in. clay outlet pipe and the stream involved in the release. The May 2019 IRAR and 2021 SLERA provide more complete details about the emergency response actions, remediation, and investigation which are briefly discussed below.

The industrial/commercial building on the 27 Parsons Lane property has multiple tenants occupying different portions of the building performing a variety of activities including manufacturing, furniture production, sales and service of marine watercraft, and specialty construction trades. These (multi-tenant) activities have occurred for approximately the last 20 years. Before circa 2003, the building was operated by the W.A Parsons Company, a manufacturing company that specialized in designing and fabricating metal boxes for use in covering switches for electrical systems, fire alarms and telephones (and other products). This business developed the property in 1949 and occupied the property for over 50 years.

The initial PCB oil release at 27 Parsons Lane was a weather-related incident involving a broken utility pole supporting a bank of three customer-owned pole-mounted transformers that fell onto the roof of the industrial/commercial building centrally located on the property (see Figure 2 – Existing Conditions Plan). The impact caused a puncture through the roof of the building, and one transformer released most of its oil content into a restroom/utility room inside the building. Three floor drains inside the bathroom/utility room were affected, two drains emptied into a nearby (outdoor) catch basin in a lawn "courtyard area" that discharged to a small stream on the northwestern corner of the parcel, and one drain discharged into the building's active septic system. The property owner's contractor relocated the three transformers onto the ground outside the building. The primary bushings from the two undamaged transformers were subsequently removed, purportedly by vandals, causing these transformers to release their oil contents onto a grass lawn "courtyard area" and into the same courtyard catch basin that discharged to the stream on the northwestern corner of the parcel. The total quantity of oil released from this incident was reported as approximately 100 gallons with approximately 33 gallons (one transformer) having been released inside the building and approximately 67 gallons (two transformers) having been released outside in the courtyard area. Notification of the releases to the Connecticut

Department of Energy and Environmental Protection (CT DEEP) was completed on October 19, 2018. Analysis of the oil collected from the transformers revealed total PCB concentrations exceeding 50 milligrams per kilogram (mg/kg) subsequently making the release regulated by EPA under TSCA.

Spill cleanup actions occurred between October 19 and 22, and November 8, 2018, and they were performed by a licensed spill cleanup contractor (Clean Harbors Environmental Services (CHES)) under the supervision of Eversource personnel. These actions included removal and disposal of the impacted catch basin and surrounding impacted soils in the lawn "courtyard area," decontamination of the concrete floor and floor drains in the restroom/utility room with a detergent solution, and placement of oil-absorbent booms at the outfall of an 8-in. clay pipe that was connected to the impacted catch basin. The 8-in. clay pipe outfalls into an approximate 15-foot (ft.) long drainage channel before intersecting with a stream on the northwestern side of the parcel. The stream flows downgradient to the southwest onto the adjoining property at 105 Middlefield Road.

The area of the release on the property at 105 Middlefield Road has always been wooded and undeveloped. The residential dwelling located on the southwestern portion of the parcel was built in the late 1700's according to Durham Assessors records.

1.4 Sensitive Area Receptors

Global information system (GIS) mapping for Durham depicts wetlands and a pond on the southern portion of the 27 Parsons Lane parcel, but it does not depict wetlands in the vicinity of the proposed remediation areas on both the 27 Parsons Lane and 105 Middlefield Road parcels.

Anchor working as a subcontractor to Weston & Sampson for this project, conducted an evaluation of wetland conditions at the Site on March 9, 2023 in accordance with the U.S. Army Corps of Engineers' (USACE) 1987 Federal Manual and the 2012 Regional Supplement for the Northcentral and Northeastern Regions. During the Site visit, no wetland conditions were observed in the vicinity of the remedial area on both the 27 Parsons Lane and 105 Middlefield Road parcels. These findings corroborate the GIS information mentioned above.

The on-Site stream involved in the PCB remediation is considered a sensitive area receptor. Eversource submitted to CTDEEP a Request for Natural Diversity Data Base (NDDB) State Listed Species Review on April 3, 2023 (filing #97254). CTDEEP's review concluded there were no extant populations of Federal or State Endangered, Threatened or Special Concern species (RCSA Sec. 26-306) within the project area.

CTDEEP performed a previous NDDB review for the project in 2020 related to additional stream assessment activities undertaken in 2021. The project area was much larger and extended to where the (impacted) stream drained into the Coginchaug River and Durham Wildlife Management Area located approximately 2,600 ft. southwest of the Site. Because of the larger study area, CTDEEP concluded in the previous review there was known/documented extant population of State Special Concern *Rana pipiens* (Northern Leopard Frog) in the project area (specifically off-Site in the Coginchaug River and Durham Wildlife Management Area). CTDEEP requested as a recommended protection strategy to perform the assessment field work during the dormant period of the Northern Leopard Frog (November 1 through April 1). The same protective requirements aren't needed for the proposed stream remediation

work because CTDEEP didn't identify any NDDB-listed species within the proposed limits of the stream remediation in its April 3, 2023 NDDB review letter.

In 2022, a Weston & Sampson subcontracted herpetologist conduct a Site visit to review habitat conditions in the field and assess the suitability of the targeted remediation areas for the NDDB-listed leopard frog. The herpetologist did not observe the NDDB-listed frog or suitable habitat (open, grassy habitats either along the floodplain of a large stream or river, or in wetlands around the margins of large lakes) within the proposed remediation areas. These observations corroborate the findings of the April 3, 2023 NDDB review.

1.5 Geology

According to the "Bedrock Geological Map of the Connecticut," (Rodgers, 1985), the bedrock underlying the Site is described as the "Portland Arkose Formation", a reddish-brown arkose (brownstone). Bedrock outcrops were not observed on Site or the western abutting parcel. According to the "Surficial Materials Map of the Connecticut," (Stone et al., 1992), the surficial geology underlying the Site is described as thick till, areas where till is greater than 10 to 15 feet thick.

1.6 Groundwater Classification

According to the CTDEEP, groundwater quality beneath the Site is classified as GA/GAA area that may not meet current standards. The Site is not located in a mapped Aquifer Protection Area.

1.7 Hydrogeology

The overall direction of groundwater flow at the Site is in a southwesterly direction towards the Coginchaug River based on field observations and topographic maps. Flow on the 27 Parsons Lane parcel may have a westerly component, and flow on the 105 Middlefield Road parcel may have an easterly component.

1.8 Previous Studies

There have been two published environmental studies for the PCB MODF release, the May 2019 IRAR and the December 2021 SLERA report. Summary information about each report pertaining to PCB-impacted sediment found in the drainage channel that conveys flow from an 8-inch (in.) clay outlet pipe and from select areas of the stream is summarized below. These two reports should be reviewed for additional information.

Interim Remedial Action Report (IRAR) prepared by Weston & Sampson, dated May 2019

The 2019 IRAR documents various assessment activities undertaken by Eversource to investigate the nature and extent of the PCB MODF release, including the pipe drainage channel and the stream. Four drainage channel sediment samples and twenty-six stream sediment samples were collected and tested for PCBs. The sampling activities were performed upstream, within the release area, and more than ½-mile downstream of the release area near the Coginchaug River and the Durham Wildlife Management Area. The table below presents a summary of the analytical results for these sediment samples.

Sample Description	Sample Quantity	Analyses	Results (mg/kg)
Pipe Drainage Channel Sediment	4	PCBs	3.6 – 9.6
Stream Sediment	26	PCBs	BRL – 2.4
PCBs = Polychlorinated Biphenyls mg/kg = milligrams per kilogram BRL = Below Reporting Limit			

Screening Level Ecological Risk Assessment (SLERA) Report prepared by Anchor QEA, LLC (a subcontractor to Weston & Sampson), dated December 2021

The 2021 SLERA report was prepared based on the findings contained in the IRAR which identified PCB impacts in drainage channel sediments and the stream. A SLERA is a conservative assessment that provides a high level of confidence in determining a low probability of adverse risk to human health and the environment. Its purpose is to assess the need, and if required, the level of effort necessary to conduct a detailed or "baseline" ecological risk assessment for a particular area. Additional sediment sampling activities were completed in March 2021 in the drainage channel and stream as part of the SLERA to further define the nature and extent of the PCB impacts to sediment in the pipe drainage channel, and the stream. In total, twenty-one drainage channel sediment samples, and fifty-four stream sediment samples were collected and tested for PCBs. Stream sampling activities were performed within and more than ½-mile downstream of the release area extending into the Coginchaug River and the Durham Wildlife Management Area. The table below presents a summary of the analytical results for these samples.

Sample Description	Sample Quantity	Analyses	Results (mg/kg)
Pipe Drainage Channel Sediment	21	PCBs	BRL – 15
Stream Sediment	54	PCBs	BRL – 1.2
PCBs = Polychlorinated Biphenyls mg/kg = milligrams per kilogram BRL = Below Reporting Limit			

Sampling plans for the pipe drainage channel and the stream are presented as Figures 3 – 7 and tabulated analytical data for the same areas are summarized in Tables 1 and 2.

Eversource, Weston & Sampson, and Anchor concluded from the IRAR and SLERA that remediation of PCB-impacted sediment is needed for the drainage channel and the stream on the 27 Parsons Lane parcel, and in select localized downgradient portions of the stream on the abutting 105 Middlefield Road property.

2.0 REMEDIAL ACTION PLAN

2.1 Remedial Objectives and Approach

PCB concentrations in Site sediment exceed EPA TSCA and CTDEEP RSR criteria. The objective of this RAP is to complete targeted remediation of PCB-impacted sediment in the drainage channel for the 8-in. clay pipe and the stream located on the 27 Parsons Lane and 105 Middlefield Road parcels to reduce contaminant concentrations below TSCA and RSR criteria. Accomplishing this work will allow for the closure of the MODF spill incident.

The remedial approach will involve removing the PCB-impacted sediment by mechanical equipment and disposing of the remediation waste off-site at a permitted disposal facility. Verification sampling will be performed in the removal areas and the samples will be analyzed for PCBs to measure the effectiveness of the remedial actions. This process (i.e. remove impacted sediment followed by sampling and testing) will be repeated if verification sample results reveal residual PCB impacts exceeding specified cleanup goals. Once favorable test data is received for the removal areas, the remedial actions will be considered complete allowing for the backfilling and restoration of the drainage channel and stream to match pre-existing conditions. All work will be performed using industry-accepted practices and will comply with applicable local, state, and federal permit requirements. Eversource is targeting the completion of this work during the summer to coincide with the dry time of year to minimize the complications associated with excessive stream flow events, and generation of wastewater requiring off-site disposal at a permitted disposal facility.

The goal of the RAP is to accomplish the remedial activities at the Site in accordance with applicable federal and state regulations, be protective of the northern leopard frog (an NDDB-identified species of concern in the vicinity of the work area) and avoid the need for an engineered control or land use restriction. The work performed in this RAP will comply with TSCA's Performance Based PCB Cleanups in accordance with Title 40 CFR Section 761.61(b). Grid verification sampling of the removal areas will be performed in accordance with 40 CFR 761.61 Subpart O. A cleanup standard of 0.5 mg/kg will be established for this project to comply with TSCA regulations, CTDEEP RSR criteria specified in Connecticut General Statutes (CGS) Sections 22a-133k-1 through 22a-133k-3, and satisfy recommendations provided in a July 21, 2022 CTDEEP interoffice memo prepared following the Department's review of the 2021 SLERA report.

2.2 Site Features and Location of Remedial Actions

There are two areas proposed for remediation which include the drainage channel for the 8-in. clay pipe and the stream. Additional information about each remediation area is summarized below, a single plan showing an overhead view of the proposed remediation areas is provided as Figure 8, and additional details about each remediation area are depicted on Figures 9 - 11.

- *Remediation of Impacted Drainage Channel for 8-in. Clay Pipe*: The full length of the drainage channel extending from the 8-in. clay outfall pipe to the confluence of the stream is proposed for remediation. This remediation area is depicted on Figure 9, and it is located on the 27 Parsons Lane parcel.

- ***Remediation of Impacted Stream***: Four localized sections of the stream are proposed for remediation. These locations are where oil sheens had previously been observed, where obstructions in the stream could have collected oil, or where sharp bends existed in the water course where oil may have accumulated. The four sections of stream are sequentially described from north to south, and additional information on each section is presented below.

    1. Section 1: The first stream section proposed for remediation is where the stream is intersected by the drainage channel for the 8-in. clay pipe. This remediation area is depicted on **Figure 9**, and it is located on the 27 Parsons Lane parcel.

    2. Section 2: The second stream section proposed for remediation is approximately 5-10 ft. south and downstream of the first stream section described above. This remediation area is depicted in **Figure 9**, and it is located on the 27 Parsons Lane parcel.

    3. Section 3: The third stream section proposed for remediation is approximately 25-30 ft. west and downstream of the second stream section described above. This remediation area is depicted on **Figure 10**, and it is located on the 105 Middlefield Road parcel.

    4. Section 4: The fourth stream section proposed for remediation is approximately 40-45 ft. south and downstream of the third stream section described above. This remediation area is depicted on **Figure 10**, and it is located on the 105 Middlefield Road parcel.

2.3 Characteristics and Quantities of PCB Remediation Waste

The proposed stream remediation activities will be accomplished through excavation and off-site disposal at a permitted disposal facility. As described in Section 2.2, there are 2 locations on the Site that require excavation to reduce PCB concentrations in sediment to below applicable TSCA and CTDEEP criteria. Each location outlined below summarizes the nature and extent of PCB impacts and describes how Weston & Sampson determined the proposed excavation areas and associated quantities. Confirmatory sampling will be performed at all excavation areas to verify that all PCB-impacted sediment with TSCA or CTDEEP exceedances have been removed.

- ***Remediation of Impacted Drainage Channel for 8-in. Clay Pipe***: Weston & Sampson proposes a 2.0 ft. excavation depth for the full length (approximately 15 linear ft.) of the drainage channel. The (northerly and southerly) width of the removal activities within the drainage channel will generally match the nearest (assessment) sample locations exhibiting PCB-impacts below the 0.5 mg/kg cleanup standard and includes sample ID's OF-1N, OF-1S, OF-2S, OF-3N, and OF-3S respectively. The eastern and western limits correspond to the full length of the approximate 15 ft. drainage channel. The removal activities will abate PCB exceedances previously identified at sample ID's SD-1, Outfall-1, Outfall-2, OF-2N and Outfall-3. We estimate approximately 8.0 cubic yards (CY) of sediment will be generated from the remedial activities completed for the drainage channel.

- ***Remediation of Impacted Stream***: Weston & Sampson proposes a 1.0 ft. excavation depth for all four stream sections proposed for remediation. Additional details for each stream section are

presented below. We estimate approximately 7.0 CY of sediment will be generated from the remedial activities completed for the four stream remediation areas.

1. Section 1: The length of the excavation will cover approximately 15 linear ft. of the stream channel, and the width of the excavation will extend one ft. beyond/into each side of the eastern and western-facing stream embankments. The activities will remove PCB exceedances previously identified at sample locations T2-C and T2-E.

2. Section 2: The length of the excavation will cover approximately 7 linear ft. of stream channel, and the width of the excavation will extend one ft. beyond/into each side of the northern and southern-facing stream embankments. The activities will remove the PCB exceedance previously identified at sample location T4-E.

3. Section 3: The length of the excavation will cover approximately 5 linear ft. of stream channel, and the width of the excavation will extend one ft. beyond/into each side of the eastern and western-facing stream embankments. The activities will remove the PCB exceedance previously identified at sample location T4-1C and T4-1W.

4. Section 4: The length of the excavation will cover approximately 5 linear ft. of stream channel, and the width of the excavation will extend one ft. beyond/into each side of the eastern and western-facing stream embankments. The activities will remove the PCB exceedance previously identified at sample location SED-2.

Final removal limits and quantities of excavated sediment may vary from the above volume estimates based on confirmatory (1.5 meter) grid verification sampling completed in accordance with 40 CFR 761.61 Subpart O.

2.4 Conceptual Remedial Plan

This section outlines a conceptual remedial plan for the excavation and off-site disposal of PCB impacted sediment located in the drainage channel for the 8-in. clay pipe and the stream located on the 27 Parsons Lane and 105 Middlefield Road parcels.

2.4.1 Planning and Permitting

- Prepare Site-specific Health and Safety Plan (HASP),
- Prepare and submit to the Army Corp of Engineers (ACOE) a Self-Verification Notification form for planned remedial activities impacting a drainage channel and associated stream,
- Submit a permit application to the Town of Durham Conservation Commission (DCC) for planned remedial activities impacting a drainage channel and associated stream; and
- Submit notification to Call Before You Dig prior to commencement of any excavation activities.

2.4.2 Site Preparation

- Evaluate Site access for remediation materials and equipment (including wastewater management equipment),

- Perform periodic inspections of the work area before remediation by a certified herpetologist in search of State NDDB-listed leopard frog.
- Remove dense ground vegetation and trees within the work area as needed,
- Measure, locate and mark out the remedial work areas,
- Mobilize and set up storage/staging areas for contractor equipment, materials and anticipated wastes used/generated for project,
- Install stormwater and sedimentation controls (straw bales and silt fence) around the perimeter of the work area and implement temporary seeding and erosion control blankets to any disturbed areas,
- Install temporary chain link fence with dust screens, two temporary access roads, and a construction entrance pad,
- Install materials (including sandbags, stakes, and poly sheeting) within the stream to bifurcate (split) the stream into two separate, parallel stream flow channels,
- Install geotextile/erosion control matting on stream banks to help prevent erosion/washout.
- Install bypass piping for existing stormwater outlets, route the discharge past all remediation areas, and install a stormwater discharge plunge pool and level spreader at the outlet for the bypass piping to minimize erosion, and
- Remove staged/stored materials and equipment within excavation areas.

2.4.3 Site Remediation and Restoration

- Complete remediation of PCB-impacted sediment from the drainage channel for 8-in. clay pipe and from four sections of the stream using mechanical vacuum excavation equipment,
- Remediation of the drainage channel and all four stream sections shall be performed simultaneously to maximize work efficiency and minimize disturbance to the stream.
- Perform backfilling of excavations and subsequent stream restoration activities,
- Remediation, verification sampling, and complete stream restoration within the stream shall be completed in the first (bifurcated) stream flow channel before moving to the other side of the flow channel,
- Perform periodic inspections of the work area during remediation and restoration by a certified herpetologist in search of State NDDB-listed leopard frog.
- Manage and collect free draining liquids from remediation waste solids (sediment),
- Load-out and transport PCB remediation waste solids and liquids off-site to a permitted disposal facility,
- Remove stormwater and sedimentation controls, temporary fencing, access roads, construction entrance pad, stream bifurcation materials, bypass piping, energy dissipator plunge pool and level spreader,
- Decontaminate excavation equipment, and
- Demobilize equipment and materials from the Site.

2.4.4 Documentation

- Each excavation area will be field measured and photo documented. Daily field notes will also be recorded.
- Prepare necessary remediation close-out documents (a.k.a. Supplemental Remedial Action Report (RAR)).

2.5 Expected Efficiency

Remediation of the drainage channel and all four stream sections shall be performed simultaneously to maximize work efficiency and minimize disturbance to the stream. Bifurcating flow in the stream channel versus capturing and bypassing the entire stream flow around the remediation area will decrease the total footprint of the work area disturbance, reduce the federal and municipal permitting process, and help achieve completion of the remediation field work faster. Remediation will be completed during dry summer months which will minimize the duration of remediation dewatering and the amount of wastewater for disposal, and help accelerate the project completion. Lastly, analysis of cleanup verification samples will be expedited as quickly as possible to help accelerate the project completion.

2.6 Demonstrated Effectiveness

The remediation of PCB-impacted sediment from the drainage channel and stream, the decontamination of equipment used in the remedial activities performed in accordance with 40 CFR 761.79 (c)(2)(i), and the confirmatory grid verification sampling completed in accordance with 40 CFR 761.61 Subpart O is expected to remove all PCB impacts with EPA and Site-specific state exceedances and reduce the overall mass of contaminants contributing to PCB impacts to sediment located in the drainage channel and stream.

2.7 Spill and Accidental Discharge Controls

Potential spill and accidental discharge risks associated with implementation of the remedial action are primarily mechanical/physical failures of machinery and/or fueling incidents. Standard operating procedures to ensure that the implementation of the remedy does not result in spills or accidental releases will include daily inspection of hydraulic lines and reservoirs, and general inspection of equipment which contains fuel, oils and lubricants. Absorbent materials and containers will be kept on Site during remedy implementation to contain incidental spills and/or accidental discharges from excavation and trucking equipment.

2.8 Waste Management

There are expected to be two classifications of wastes produced from the remedial activities discussed in this RAP: PCB remediation waste and mixed solid waste (MSW). Additional information about these wastes is presented below. Eversource will be the generator for all waste materials generated from the project.

- Sediment removed from the proposed remediation areas will be managed and disposed of as a PCB remediation waste in accordance with Title 40 CFR Section 761.61(b). Two matrices of PCB remediation waste, including solids and liquids, are expected to be generated for this project.

I. PCB remediation waste solids will consist of rocks, sediment, soil and organic matter (i.e. leaves, tree branches, roots, etc.) removed from the drainage channel and stream, and materials (including sandbags, stakes and poly sheeting) used to bifurcate (split) the stream permitting the remediation to be completed without having to bypass the stream flow to areas outside the remediation work.

II. PCB remediation waste liquids will consist of water (potentially) present in the proposed remediation areas that is vacuum excavated during the completion of the remedial activities, free-draining water collected from the PCB remediation waste solids described above, and decontamination wastewaters generated by the remediation contractor decontaminating equipment used in the remediation project.

- Ground vegetation and tree clearing debris generated during the site preparation work will be managed as a mixed solid waste (MSW). MSW will be transported off-Site for disposal at a permitted facility in accordance with applicable state solid waste regulations.

2.9 Site Specific Design Factors

Design, construction, and maintenance of the remedial plan will have minimal impact on Site-specific characteristics. The proximity of a remedial excavation to nearby woodlands, a stream, and residential and industrial properties will require procedures to address health and safety to both humans and sensitive environmental receptors. Signage, fencing and barriers will be used during remedial activities to minimize potential physical hazards on the Site and prevent trespassing. Bifurcating the stream into two parallel flow channels will allow the watercourse to remain open while simultaneously allowing the stream remediation activities to occur. Targeting the completion of the remediation project during the driest time of year (summer) coupled with sampling and testing remediation wastewater for PCBs will minimize the amount of remediation waste liquids generated requiring disposal. Lastly, stormwater flow from outlet pipes within the remedial area will be temporarily bypassed around the remediation area to minimize impact on the remedial activities and prevent the mobilization of pollutants.

2.10 Impact to Environmental Receptors and Natural Resource Areas

The proposed remediation area is within a drainage channel for an 8-in. clay pipe and a stream. There are no extant populations of Federal or State Endangered, Threatened or Special Concern species known to occur within the project area. A herpetologist also conducted a Site visit in 2022 to considers the habitat conditions in the proposed remediation area as unsuitable for the NDDB-listed leopard frog, and this corroborates the NDDB review.

The stream discharges approximately 2,600 feet to the southwest into the Coginchaug River which according to the CT NDDB contains suitable habitat for the northern leopard frog, a species of special concern. All proper precautions will be taken to minimize impact by the remedial activities including performing periodic inspections of the work area before and during the remediation by a certified herpetologist in search of the northern leopard frog and its associated habitat.

2.11 Inspection and Monitoring Procedures During Construction

A Weston & Sampson Project Manager will conduct a kick-off meeting prior to initiation of remedial actions to review and discuss the design, specifications, schedule, and inspection and monitoring

procedures with project staff, the contractor performing the remediation, and the herpetologist conducting periodic sweeps of the construction area in search of leopard frog.

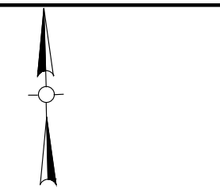
A Weston & Sampson field engineer will mark the proposed remediation areas on-Site. The field engineer will oversee and inspect remedial activities to ensure they are consistent with requirements of this RAP. The field engineer will verify the limits of removal. The field engineer will continuously inspect and record Site conditions and activities, including depth, location and quantities of excavated sediment removed from the Site. Proposed changes to the RAP will be reviewed by Project Manager and the Licensed Environmental Professional (LEP) overseeing the project prior approval for general conformance with the intent of the RAP before implementation. The LEP will also visit the Site throughout remediation on an basis to evaluate the implementation of the RAP. Weston & Sampson will subcontract with a herpetologist to conduct periodic sweeps of the construction area in search of leopard frog.

2.12 Construction Timeline

Following RAP submittal, Weston & Sampson will commence with the design and permitting of the remedial actions for the PCB-impacted sediment located in the drainage channel and stream. A preliminary timeline for completion of construction activities as well as the design and bidding phases is presented in Appendix A – Remediation Timeline.

FIGURES





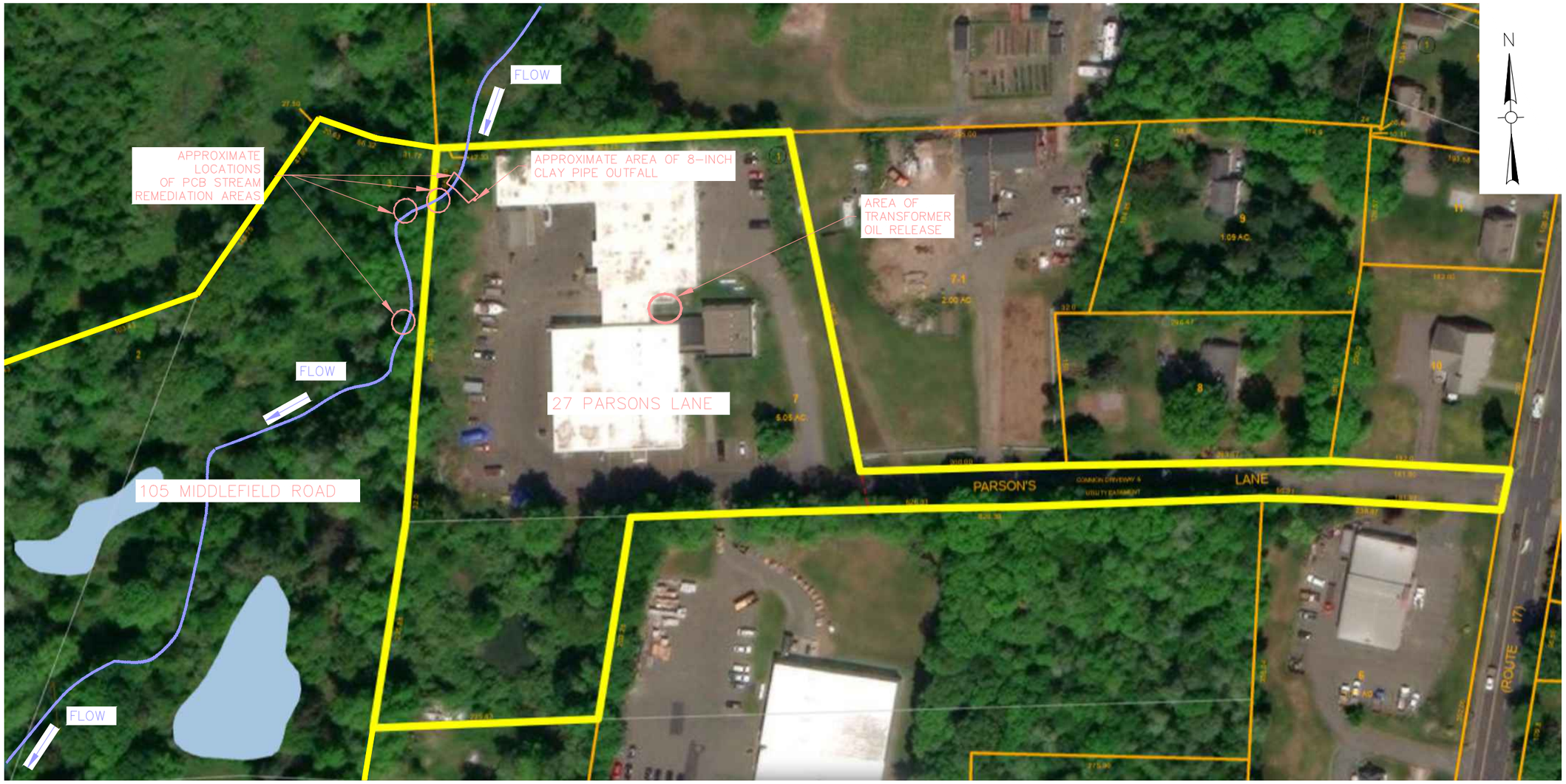
SCALE: 1"=500'

NOTE:

FIGURE 1 DERIVED BY THE TOWN OF DURHAM GIS DATABASE AS MANAGED BY CAI TECHNOLOGIES.

FIGURE 1		
REMEDIAL ACTION PLAN 27 PARSONS LANE, DURHAM CT		
SITE LOCUS MAP		
DESIGNED BY: PRB	CHECKED BY: JW	DATE: MARCH 2024

Weston & Sampson



NOTE:

SAMPLE LOCATION PLAN DERIVED FROM TOWN OF DURHAM, CT GIS. FIELD MEASUREMENTS TAKEN BY WESTON & SAMPSON. THE LOCATIONS AND DIMENSIONS OF ALL FEATURES ARE APPROXIMATE.

100 50 0 100 200
SCALE: 1"=100'

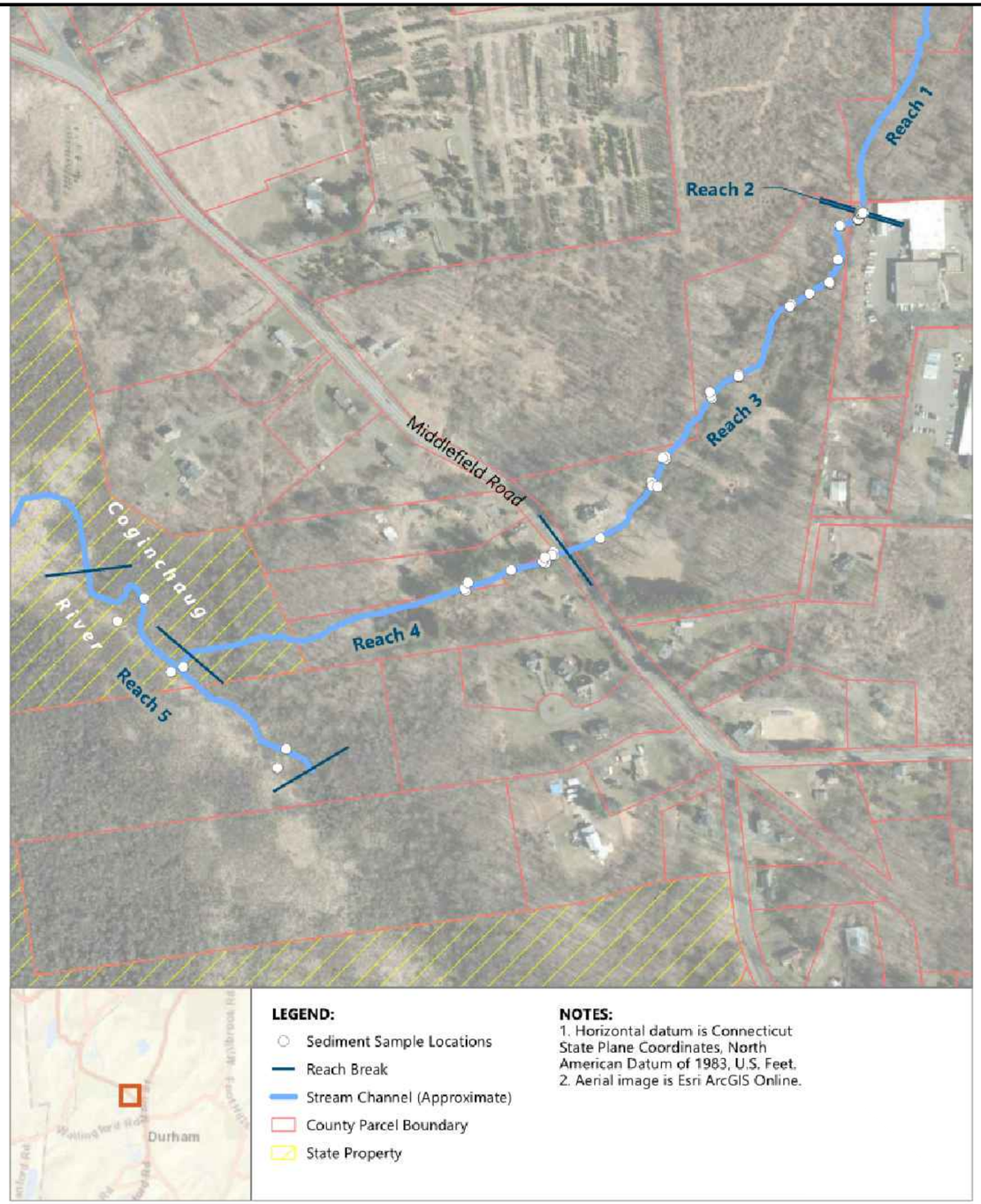
FIGURE 2

REMEDIAL ACTION PLAN
27 PARSONS LANE, DURHAM CT

EXISTING CONDITIONS PLAN

DESIGNED BY: PRB	CHECKED BY: JW	DATE: MARCH 2024

Weston & Sampson



NOTE:

1. LOCUS MAP DERIVED FROM SCREENING LEVEL ECOLOGICAL RISK ASSESSMENT 27 PARSONS LANE DURHAM, CT. PERFORMED BY ANCHOR QEA.

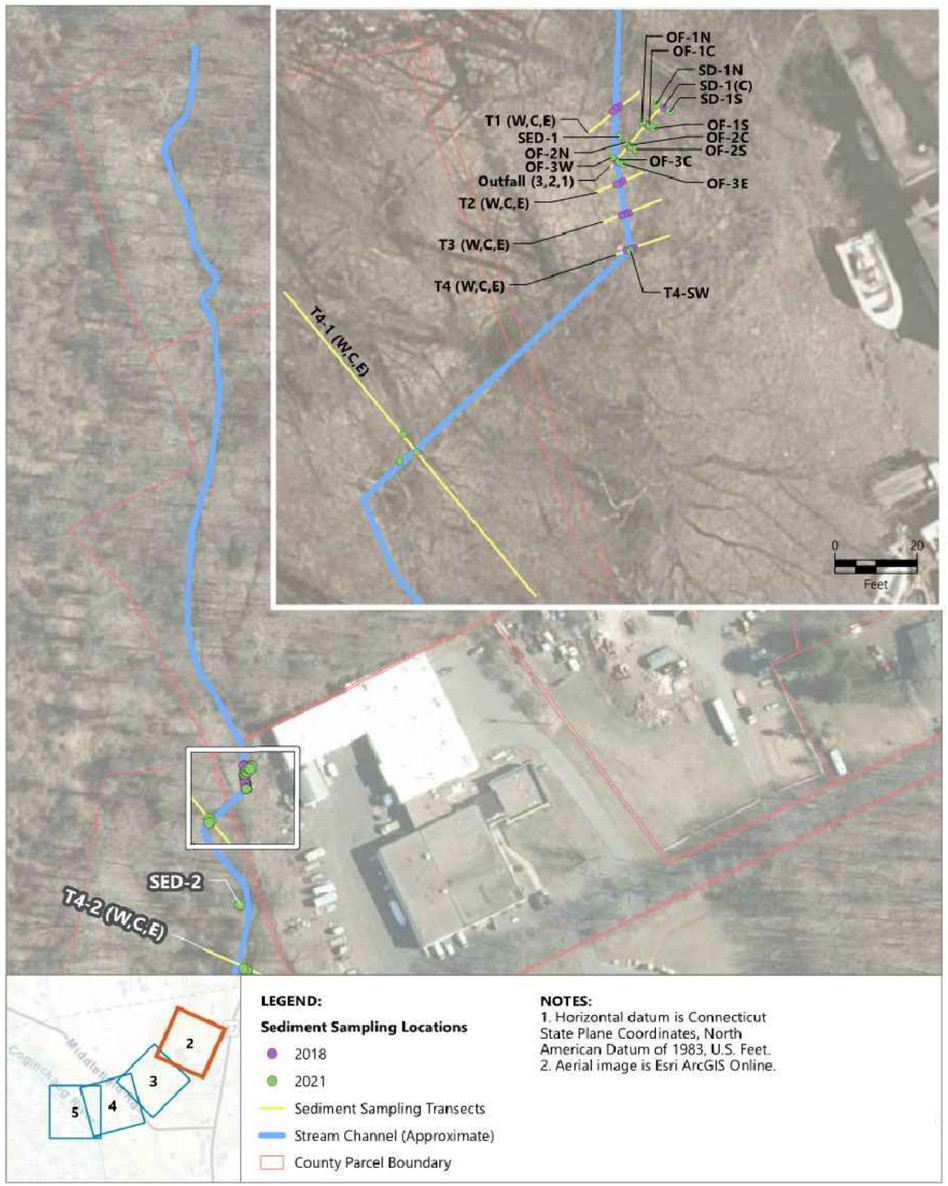
FIGURE 3

REMEDIAL ACTION PLAN
27 PARSONS LANE, DURHAM CT

SAMPLE LOCATION
PLAN #1

DESIGNED BY: PRB	CHECKED BY: JW	DATE: MARCH 2024

Weston & Sampson



NOTE:

1. LOCUS MAP DERIVED FROM SCREENING LEVEL ECOLOGICAL RISK ASSESSMENT 27 PARSONS LANE DURHAM, CT. PERFORMED BY ANCHOR QEA.

FIGURE 4

REMEDIAL ACTION PLAN
27 PARSONS LANE, DURHAM CT

SAMPLE LOCATION
PLAN #2

DESIGNED BY: PRB	CHECKED BY: JW	DATE: MARCH 2024

Weston & Sampson

Weston & Sampson

N



NOTE:

1. LOCUS MAP DERIVED FROM SCREENING LEVEL ECOLOGICAL RISK ASSESSMENT 27 PARSONS LANE DURHAM, CT. PERFORMED BY ANCHOR QEA.

FIGURE 5

REMEDIAL ACTION PLAN
27 PARSONS LANE, DURHAM CT

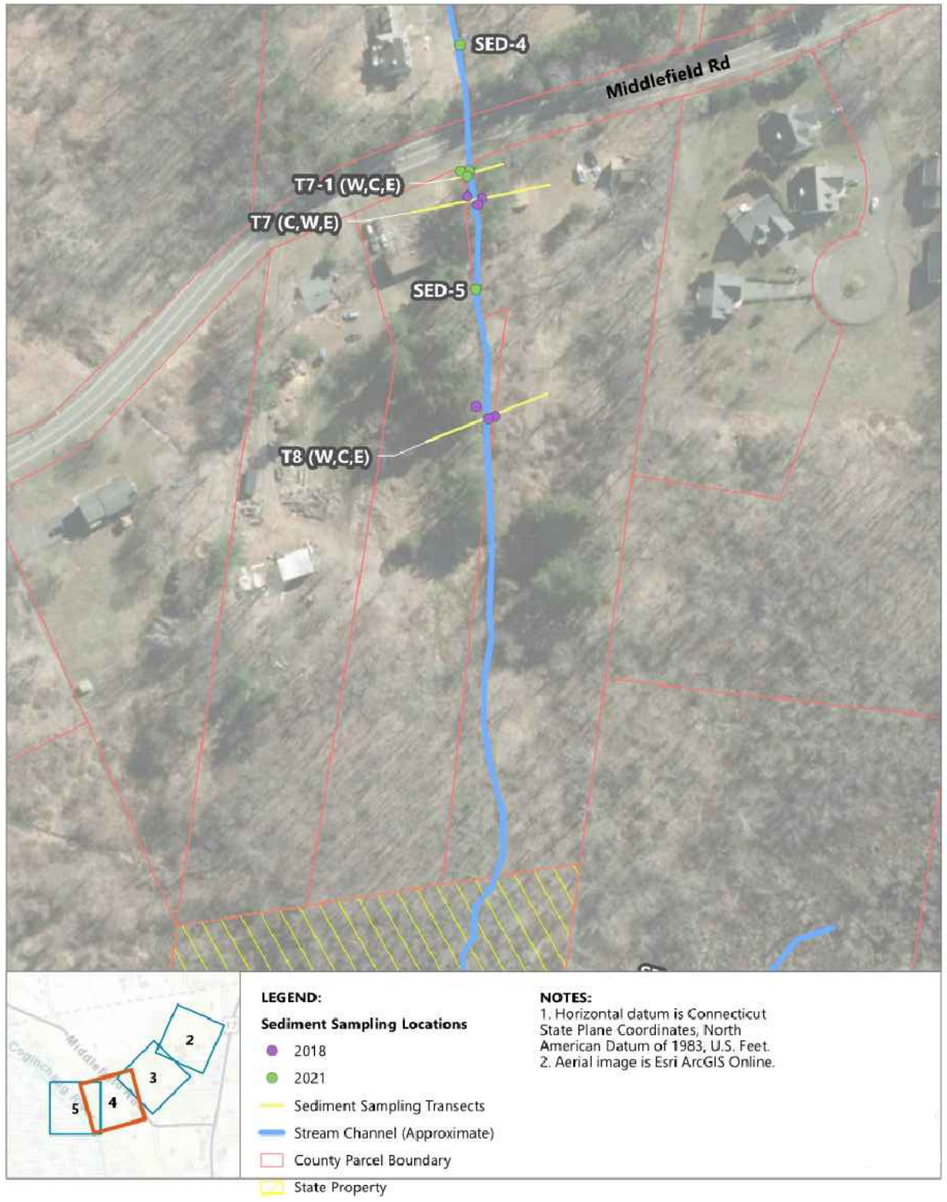
SAMPLE LOCATION
PLAN #3

DESIGNED BY: PRB	CHECKED BY: JW	DATE: MARCH 2024

Weston & Sampson℠

Weston & Sampson

N



NOTE:

1. LOCUS MAP DERIVED FROM SCREENING LEVEL ECOLOGICAL RISK ASSESSMENT 27 PARSONS LANE DURHAM, CT. PERFORMED BY ANCHOR QEA.

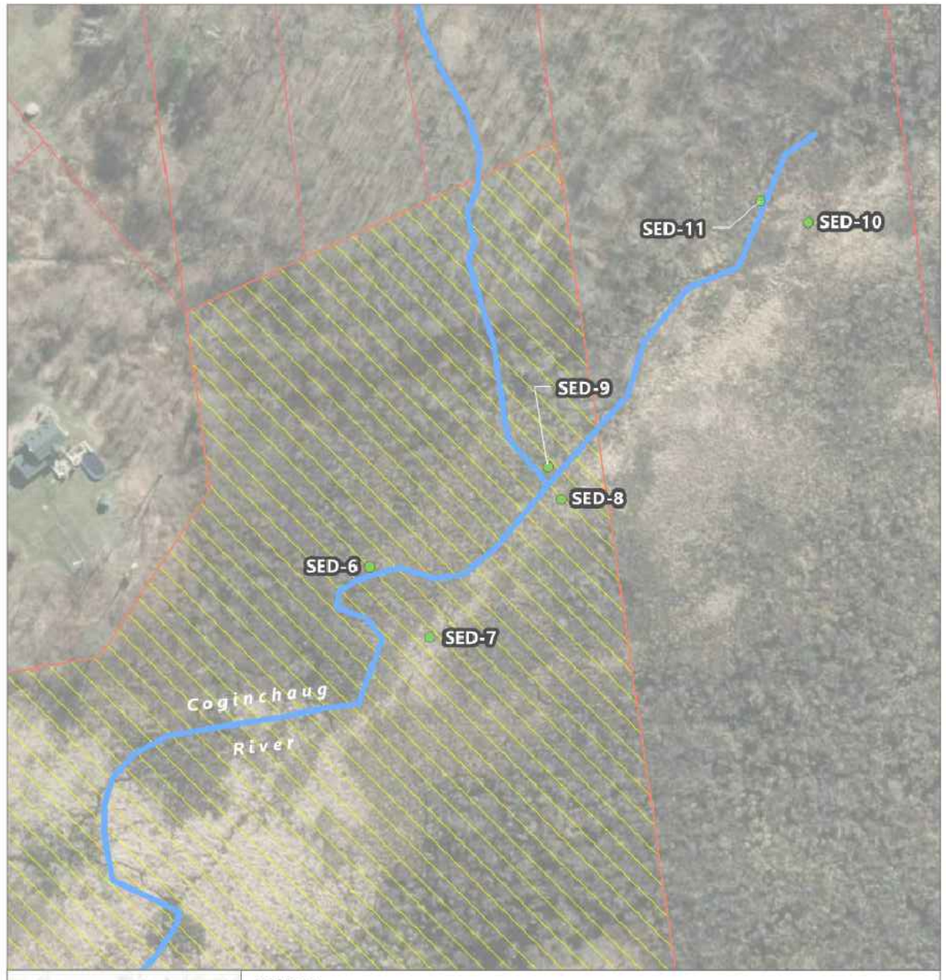
FIGURE 6

REMEDIAL ACTION PLAN
27 PARSONS LANE, DURHAM CT

SAMPLE LOCATION
PLAN #4

DESIGNED BY: PRB	CHECKED BY: JW	DATE: MARCH 2024

Weston & Sampson



NOTE:

1. LOCUS MAP DERIVED FROM SCREENING LEVEL ECOLOGICAL RISK ASSESSMENT 27 PARSONS LANE DURHAM, CT. PERFORMED BY ANCHOR QEA.

FIGURE 7

REMEDIAL ACTION PLAN
27 PARSONS LANE, DURHAM CT

SAMPLE LOCATION
PLAN #5

DESIGNED BY: PRB	CHECKED BY: JW	DATE: MARCH 2024

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LEGEND:

- BUILDING
- SURFACE CONTOUR (257)
- ACCESS ROAD
- DRAINAGE LINE (D)
- TEMPORARY FENCE
- PROPOSED STREAM REMEDIATION AREA
- PROPOSED DRAINAGE CHANNEL REMEDIATION AREA
- CREEK BANK
- THALWEG
- STONE WALL

N

LIMIT OF WORK

CONTRACTOR TO INSTALL AND MAINTAIN TEMPORARY FENCING.

CONSTRUCTED TEMPORARY REMEDIATION ACCESS ROAD

8" CLAY PIPE OUTFALL
INV = 262.10

8" RCP OUTFALL
INV = 265.40

LIMIT OF WORK

TO PARSONS LN

ACCESS GATE

REMEDIATION ACCESS ROAD
(EXISTING ASPHALT)

GARAGE

10 5 0 10 20
SCALE: 1"=20'

FIGURE 8

REMEDIAL ACTION PLAN
27 PARSONS LANE, DURHAM CT

REMEDIATION OVERVIEW PLAN

DESIGNED BY: PRB	CHECKED BY: JW	DATE: MARCH 2024

Weston & Sampson℠

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LEGEND:

- ACCESS ROAD
- TEMPORARY FENCE
- PROPOSED STREAM REMEDIATION AREAS (1.0 FT DEPTH)
- PROPOSED DRAINAGE CHANNEL REMEDIATION AREA (2.0 FT DEPTH)
- CREEK BANK
- THALWEG
- T4–E — 2018-2021 W&S SEDIMENT SAMPLE LOCATION
- 257 — SURFACE CONTOUR
- STORMWATER BYPASS PIPING
- STONE WALL

PIPING TO DISCHARGE DOWNSTREAM OF REMEDIATION AREAS. SEE FIGURE 10

SECTION 2 STREAM REMEDIATION

CONTRACTOR TO INSTALL SANDBAG DAM TO ACHIEVE WORKING IN THE DRY. SEE FIGURE 11 – CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION

SECTION 1 STREAM REMEDIATION

T4–W, T4–C, T4–E, T3–W, T3–C, T3–E, T2–W, T2–C, T2–E, T1–W, T1–C, T1–E, SED–1, OF–3W, OF–3C, OF–3E, OF–2N, OF–2S, OF–2C, OF–1N, OF–1C, OF–1S, SD–1N, SD–1, SD–1S

CENTERLINE OF DRAINAGE CHANNEL

8" RCP OUTFALL INV = UNK

8" CLAY PIPE OUTFALL INV = 262.10

8" RCP OUTFALL INV = 265.40

CONTRACTOR TO INSTALL BYPASS PIPING TO EXISTING STORMWATER OUTLETS. SEE FIGURE 11 – CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION

8" RCP OUTFALL (INACTIVE) INV = 263.93

261, 263, 264, 266, 267, 268, 269, 270.0, 271, 50.0, 75.0

LIMIT OF WORK

N

5 2.5 0 5 10
SCALE: 1"=5'

FIGURE 9

27 PARSONS LANE, DURHAM CT
STREAM REMEDIATION

REMEDIATION DETAIL
PLAN #1

DESIGNED BY: PRB	CHECKED BY: JW	DATE: MARCH 2024

Weston & Sampson℠

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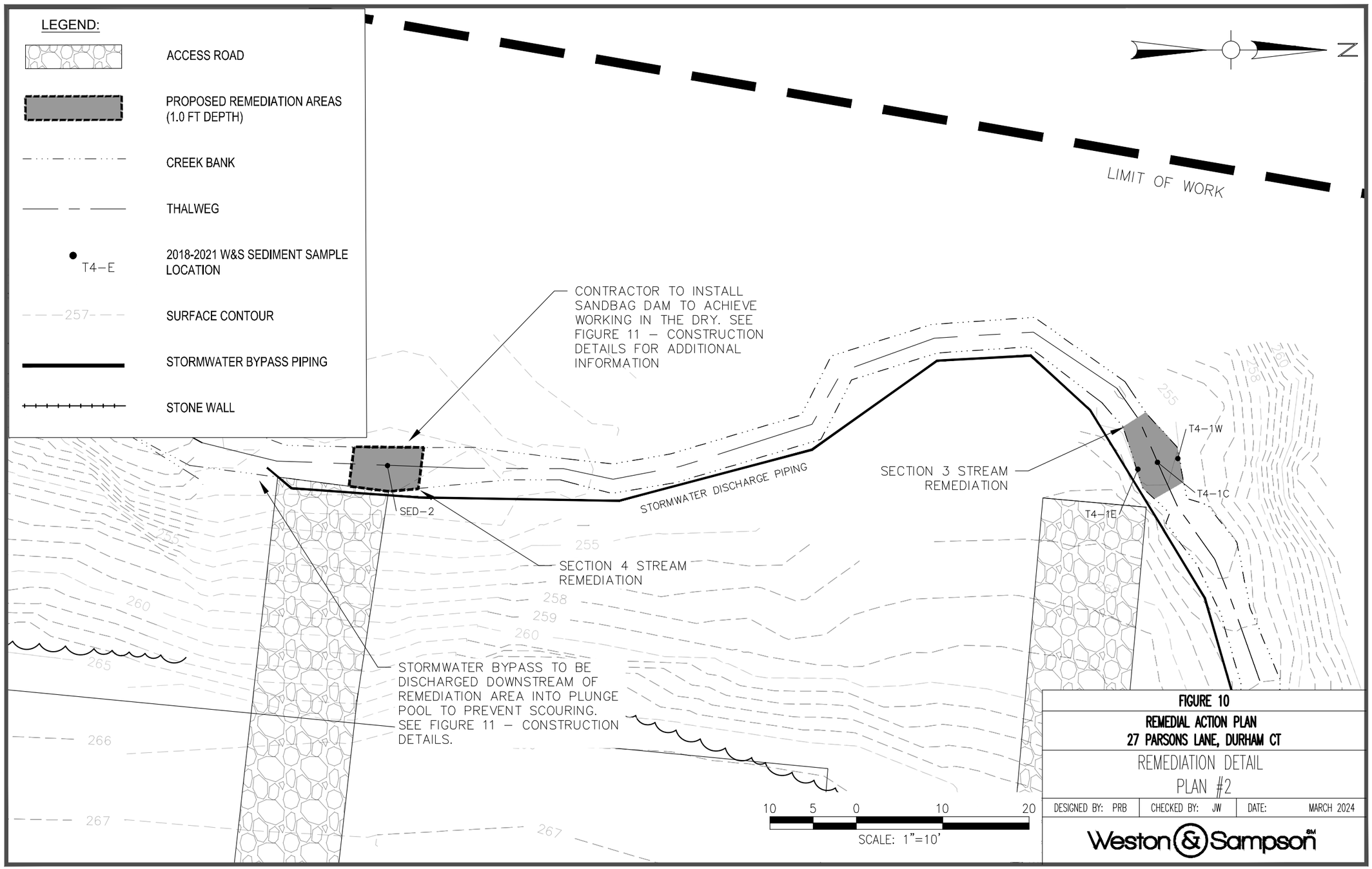
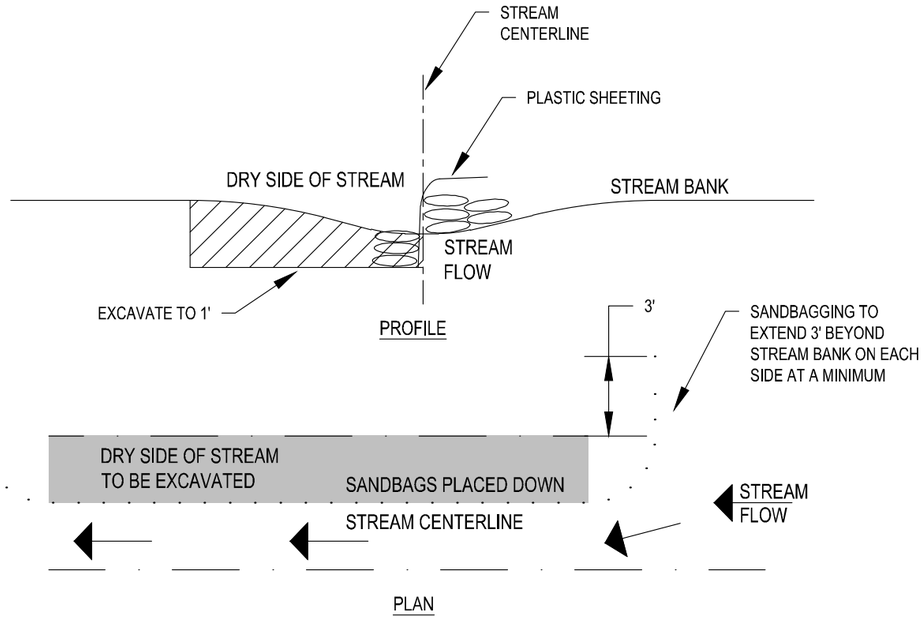
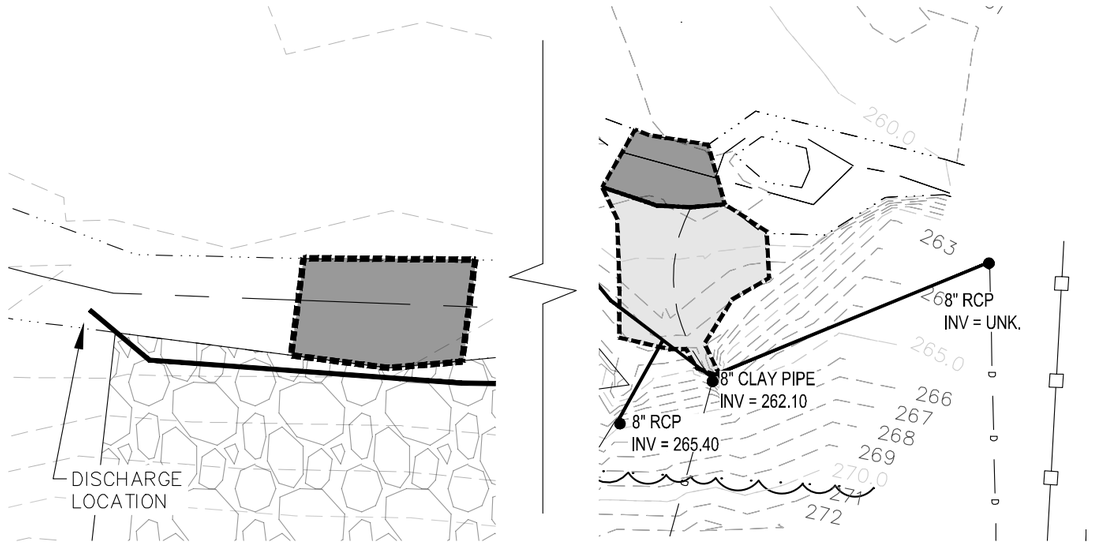

LEGEND:
ACCESS ROAD
PROPOSED REMEDIATION AREAS (1.0 FT DEPTH)
CREEK BANK
THALWEG
T4–E
2018-2021 W&S SEDIMENT SAMPLE LOCATION
257
SURFACE CONTOUR
STORMWATER BYPASS PIPING
STONE WALL
N
LIMIT OF WORK
CONTRACTOR TO INSTALL SANDBAG DAM TO ACHIEVE WORKING IN THE DRY. SEE FIGURE 11 – CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION
SED–2
STORMWATER DISCHARGE PIPING
SECTION 4 STREAM REMEDIATION
SECTION 3 STREAM REMEDIATION
T4–1W
T4–1C
T4–1E
STORMWATER BYPASS TO BE DISCHARGED DOWNSTREAM OF REMEDIATION AREA INTO PLUNGE POOL TO PREVENT SCOURING. SEE FIGURE 11 – CONSTRUCTION DETAILS.
255
258
260
265
266
267
10 5 0 10 20
SCALE: 1"=10'
FIGURE 10
REMEDIAL ACTION PLAN
27 PARSONS LANE, DURHAM CT
REMEDIATION DETAIL
PLAN #2
DESIGNED BY: PRB
CHECKED BY: JW
DATE: MARCH 2024
Weston & Sampson
\\wse03.local\WSE\Projects\CT\NUSCO+Eversource\Durham – ER Spill Parson Lane\Remediation\3. Drawings\CAD\RAP\Figures 2-5 Remediation Plans.dwg



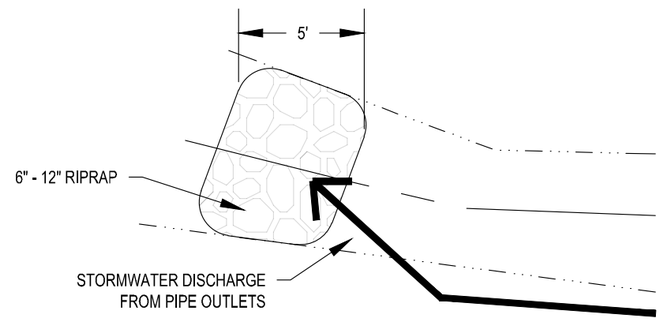
STREAM DAMMING WITH SANDBAGS
N.T.S.

NOTES:
1. SANDBAGS SHOULD BE PLACED TO A HEIGHT APPROXIMATELY 2' ABOVE CURRENT WATER LEVEL
2. ONCE EXCAVATION BEGINS, CONTRACTOR SHALL PLACE PLASTIC SHEETING ALONG SIDEWALL OF EXCAVATION, AND PLACE ADDITIONAL SANDBAGS AT BOTTOM OF EXCAVATION TO PREVENT WATER FLOW FROM COMING UNDER SANDBAG WALL.



1. SEE FIGURES 8-10 FOR FULL REMEDIATION PLANS.
2. CONTRACTOR TO REDIRECT STORMWATER FLOW FROM 8" CLAY PIPE AND 8" RCP AS SHOWN. STORMWATER SHALL BE DISCHARGED BEYOND THE FIRST REMEDIATION AREA IN A MANNER THAT MINIMIZES STREAM SCOURING.
3. STORMWATER TO BE DISCHARGED ON 105 MIDDLEFIELD ROAD PARCEL.

BYPASS PIPING DETAIL
N.T.S.



STORMWATER DISCHARGE PLUNGE POOL

NOTES:
1. CONTRACTOR TO INSTALL RIP RAP AT LEAST AS DEEP AS THE STREAM WATER LEVEL. NO STREAMBED SOILS SHALL BE EXCAVATED TO CONSTRUCT PLUNGE POOL. STORMWATER OUTLET PIPE OR HOUSE TO DISCHARGE ONTO RIP RAP SURFACE TO PREVENT SCOURING OF STREAMBED.
2. CONTRACTOR TO RESTORE STREAMBED AFTER PROJECT COMPLETION BY REMOVING RIP RAP.

FIGURE 11

REMEDIAL ACTION PLAN
27 PARSONS LANE, DURHAM CT

REMEDIATION DETAIL
PLAN #3

DESIGNED BY: PRB	CHECKED BY: JW	DATE: MARCH 2024

Weston & Sampson℠

\\wse03.local\WSE\Projects\CT\NUSCO+Eversource\Durham - ER Spill Parson Lane\Remediation\3. Drawings\CAD\RAP\Figures 2-5 Remediation Plans.dwg

TABLES

Table 1
Sediment Sample Analytical Results - Pipe Discharge Channel
27 Parsons Lane, Durham, CT

Sample Location	Criteria			Beneath 8-in. RCP Outlet						Drainage Channel From 8" RCP					
Sample ID				SD-1	SD-1N (0-6)	SD-1N (12-18)	SD-1C (12-18)	SD-1S (0-6)	SD-1S (12-18)	Outfall-1	OF-1N (0-6)	OF-1N (12-18)	OF-1C (12-18)	OF-1S (0-6)	OF-1S (12-18)
Sample Depth (in)	Total PCB TEC	NYSDEC Class A Freshwater Sediment Guidance Value	Total PCB PEC	0-6	0-6	12-18	12-18	0-6	12-18	0-6	0-6	12-18	12-18	0-6	12-18
Date Sampled				11/20/18	3/19/21	3/19/21	3/19/21	3/19/21	3/19/21	12/5/18	3/19/21	3/19/21	3/19/21	3/19/21	3/19/21
Date Extracted				11/24/18	3/25/21	--	3/25/21	3/25/21	--	12/7/18	3/25/21	--	3/25/21	3/25/21	--
Date Analyzed				11/27/18	4/6/21	--	4/6/21	4/6/21	--	12/11/18	4/6/21	--	4/6/21	4/6/21	--
Con-Test Analytical Laboratory Work Order No.				18K0971	21C1114	21C1115	21C1114	21C1114	21C1115	18L0278	21C1114	21C1115	21C1114	21C1114	21C1115
Alpha Analytical Laboratory Work Order No.				--	--	--	--	--	--	--	--	--	--	--	--
PARAMETER (UNITS)															
Polychlorinated Biphenyls with Soxhlet Extration (EPA Method 8082A/3540C [mg/kg])															
Aroclor-1016	NE	NE	NE	ND<0.49	ND<0.0024	NA	ND<0.0024	ND<0.0026	NA	ND<0.61	ND<0.0024	NA	ND<0.0023	ND<0.0029	NA
Aroclor-1221	NE	NE	NE	ND<0.49	ND<0.0024	NA	ND<0.0024	ND<0.0026	NA	ND<0.61	ND<0.0024	NA	ND<0.0023	ND<0.0029	NA
Aroclor-1232	NE	NE	NE	ND<0.49	ND<0.0024	NA	ND<0.0024	ND<0.0026	NA	ND<0.61	ND<0.0024	NA	ND<0.0023	ND<0.0029	NA
Aroclor-1242	NE	NE	NE	ND<0.49	ND<0.0024	NA	ND<0.0024	ND<0.0026	NA	ND<0.61	ND<0.0024	NA	ND<0.0023	ND<0.0029	NA
Aroclor-1248	NE	NE	NE	ND<0.49	ND<0.0024	NA	ND<0.0024	ND<0.0026	NA	ND<0.61	ND<0.0024	NA	ND<0.0023	ND<0.0029	NA
Aroclor-1254	NE	NE	NE	**3.6**	**0.016**	NA	ND<0.0024	**0.016**	NA	**4.4**	**0.0052**	NA	ND<0.0023	**0.016**	NA
Aroclor-1260	NE	NE	NE	ND<0.49	**0.015**	NA	ND<0.0024	**0.012**	NA	ND<0.61	**0.0064**	NA	ND<0.0023	**0.015**	NA
Aroclor-1262	NE	NE	NE	ND<0.49	ND<0.0024	NA	ND<0.0024	ND<0.0026	NA	ND<0.61	ND<0.0024	NA	ND<0.0023	ND<0.0029	NA
Aroclor-1268	NE	NE	NE	ND<0.49	ND<0.0024	NA	ND<0.0024	ND<0.0026	NA	ND<0.61	ND<0.0024	NA	ND<0.0023	ND<0.0029	NA
Total PCBs	0.0598	0.1	0.676	**3.6**	**0.031**	NA	ND<0.0024	**0.028**	NA	**4.4**	**0.0116**	NA	ND<0.0023	**0.031**	NA
Grain Size (ASTM D6913 [%])															
Cobbles	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gravel, coarse	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gravel, fine	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sand, coarse	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sand, medium	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sand, fine	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Fines	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon (EPA Method 9060A [%])	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Solids (Standard Method 2540G [%])	--	--	--	**79.8**	**82.5**	NA	**83.3**	**77.1**	NA	**64.8**	**82**	NA	**86.3**	**68.1**	NA

Abbreviations:
mg/kg = milligram per killiogram
ND<# = Not Detected above specified reporting limit
NA = Not Analyzed
NE = Not Established
TEC = Threshold Effect Concentration
PEC = Probable Effect Concentration
NYSDEC Class A Freshwater Sediment Guidance Value
-- = Not Applicable

= exceeds the Threshold Effect Concentration (TEC)
= exceeds the NYSDEC Class A Freshwater Sediment Guidance Value
= exceeds the Probable Effect Concentration (PEC)

NOTES:
1. < = indicates parameter not detected above laboratory method reporting limit, shown.
2. Bolding indicated parameter detected above laboratory method reporting limit.
3. Samples collected by Weston & Sampson.

Prepared by: LMW
Reviewed by: JCW

Table 1
Sediment Sample Analytical Results - Pipe Discharge Channel
27 Parsons Lane, Durham, CT

Sample Location	Criteria			Drainage Channel From 8" RCP (continued)												
Sample ID				Outfall-2	OF-2N (0-6)	OF-2N (12-18)	OF-2C (24-30)	OF-2S (0-6)	OF-2S (12-18)	Outfall-3	OF-3E (0-6)	OF-3E (12-18)	OF-3C (30-36)	DUP-OF / Duplicate of OF-3C (30-36)	OF-3W (0-6)	OF-3W (12-18)
Sample Depth (in)	Total PCB TEC	NYSDEC Class A Freshwater Sediment Guidance Value	Total PCB PEC	0-6	0-6	12-18	24-30	0-6	12-18	0-6	0-6	12-18	30-36	0-6	0-6	12-18
Date Sampled				12/5/18	3/19/21	3/19/21	3/19/21	3/19/21	3/19/21	12/5/18	3/19/21	3/19/21	3/19/21	3/19/21	3/19/21	3/19/21
Date Extracted				12/7/18	3/25/21	--	3/25/21	3/25/21	--	12/7/18	3/25/21	--	3/25/21	3/25/21	3/25/21	--
Date Analyzed				12/11/18	3/30/21	--	3/30/21	4/6/21	--	12/11/18	4/6/21	--	3/30/21	3/30/21	4/6/21	--
Con-Test Analytical Laboratory Work Order No.				18L0278	21C1114	21C1115	21C1114	21C1114	21C1115	18L0278	21C1114	21C1115	21C1114	21C1110	21C1114	21C1115
Alpha Analytical Laboratory Work Order No.				--	--	--	--	--	--	--	--	--	--	--	--	--
PARAMETER (UNITS)																
Polychlorinated Biphenyls with Soxhlet Extration (EPA Method 8082A/3540C [mg/kg])																
Aroclor-1016	NE	NE	NE	ND<0.56	ND<3.4	NA	ND<0.11	ND<0.0026	NA	ND<1.2	ND<0.0040	NA	ND<0.13	ND<0.14	ND<0.0024	NA
Aroclor-1221	NE	NE	NE	ND<0.56	ND<3.4	NA	ND<0.11	ND<0.0026	NA	ND<1.2	ND<0.0040	NA	ND<0.13	ND<0.14	ND<0.0024	NA
Aroclor-1232	NE	NE	NE	ND<0.56	ND<3.4	NA	ND<0.11	ND<0.0026	NA	ND<1.2	ND<0.0040	NA	ND<0.13	ND<0.14	ND<0.0024	NA
Aroclor-1242	NE	NE	NE	ND<0.56	ND<3.4	NA	ND<0.11	ND<0.0026	NA	ND<1.2	ND<0.0040	NA	ND<0.13	ND<0.14	ND<0.0024	NA
Aroclor-1248	NE	NE	NE	ND<0.56	ND<3.4	NA	ND<0.11	ND<0.0026	NA	ND<1.2	ND<0.0040	NA	ND<0.13	ND<0.14	ND<0.0024	NA
Aroclor-1254	NE	NE	NE	**3.9**	**15**	NA	**0.17**	**0.0077**	NA	**9.6**	**0.025**	NA	**0.22**	**0.43**	ND<0.0024	NA
Aroclor-1260	NE	NE	NE	ND<0.56	ND<3.4	NA	ND<0.11	**0.0047**	NA	ND<1.2	**0.013**	NA	ND<0.13	ND<0.14	ND<0.0024	NA
Aroclor-1262	NE	NE	NE	ND<0.56	ND<3.4	NA	ND<0.11	ND<0.0026	NA	ND<1.2	ND<0.0040	NA	ND<0.13	ND<0.14	ND<0.0024	NA
Aroclor-1268	NE	NE	NE	ND<0.56	ND<3.4	NA	ND<0.11	ND<0.0026	NA	ND<1.2	ND<0.0040	NA	ND<0.13	ND<0.14	ND<0.0024	NA
Total PCBs	0.0598	0.1	0.676	**3.9**	**15**	NA	**0.17**	**0.0124**	NA	**9.6**	**0.038**	NA	**0.22**	**0.43**	ND<0.0024	NA
Grain Size (ASTM D6913 [%])																
Cobbles	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gravel, coarse	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gravel, fine	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sand, coarse	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sand, medium	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sand, fine	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Fines	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon (EPA Method 9060A [%])	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**3.4**	NA	NA
Total Solids (Standard Method 2540G [%])	--	--	--	**68.5**	**58.4**	NA	**72.5**	**76.2**	NA	**59.7**	**50.6**	NA	**62.5**	**56.8**	**84.9**	NA

Abbreviations:
mg/kg = milligram per killiogram
ND<# = Not Detected above specified reporting limit
NA = Not Analyzed
NE = Not Established
TEC = Threshold Effect Concentration
PEC = Probable Effect Concentration
NYSDEC Class A Freshwater Sediment Guidance Value
-- = Not Applicable

= exceeds the Threshold Effect Concentration (TEC)
= exceeds the NYSDEC Class A Freshwater Sediment Guidance Value
= exceeds the Probable Effect Concentration (PEC)

NOTES:
1. < = indicates parameter not detected above laboratory method reporting limit, shown.
2. Bolding indicated parameter detected above laboratory method reporting limit.
3. Samples collected by Weston & Sampson.

Prepared by: LMW
Reviewed by: JCW

Table 2
Sediment Sample Analytical Results - Unnamed Intermittent Stream
27 Parsons Lane, Durham, CT

Sample Location	Criteria			Transect #1			Sediment #1		Transect #2			Transect #3		
				East	Center	West			East	Center	West	East	Center	West
Sample ID				T1-E	T1-C	T1-W	SED-1 (0-6)	SED-1 (6-12)	T2-E	T2-C	T2-W	T3-E	T3-C	T3-W
Sample Depth (in)	Total PCB TEC	NYSDEC Class A Freshwater Sediment Guidance Value	Total PCB PEC	0-6	0-6	0-6	0-6	#NAME?	0-6	0-6	0-6	0-6	0-6	0-6
Date Sampled				12/5/18	12/5/18	12/5/18	3/24/21	3/19/21	12/5/18	12/5/18	12/5/18	12/5/18	12/5/18	12/5/18
Date Extracted				12/7/18	12/7/18	12/7/18	3/31/21	--	12/7/18	12/7/18	12/7/18	12/7/18	12/7/18	12/7/18
Date Analyzed				12/11/08	12/11/18	12/11/98	4/2/21	--	12/11/78	12/11/88	12/11/68	12/11/48	12/11/58	12/11/18
Con-Test Analytical Laboratory Work Order No.				18L0278	18L0278	18L0278	21C1426	21C1113	18L0278	18L0278	18L0278	18L0278	18L0278	18L0278
Alpha Analytical Laboratory Work Order No.				--	--	--	L2114132	--	--	--	--	--	--	--
PARAMETER (UNITS)														
Polychlorinated Biphenyls with Soxhlet Extration (EPA Method 8082A/3540C [mg/kg])														
Aroclor-1016	NE	NE	NE	BRL<0.025	BRL<0.026	BRL<0.039	BRL<0.0023	NA	BRL<0.028	BRL<0.025	BRL<0.032	BRL<0.028	BRL<0.025	BRL<0.034
Aroclor-1221	NE	NE	NE	BRL<0.025	BRL<0.026	BRL<0.039	BRL<0.0023	NA	BRL<0.028	BRL<0.025	BRL<0.032	BRL<0.028	BRL<0.025	BRL<0.034
Aroclor-1232	NE	NE	NE	BRL<0.025	BRL<0.026	BRL<0.039	BRL<0.0023	NA	BRL<0.028	BRL<0.025	BRL<0.032	BRL<0.028	BRL<0.025	BRL<0.034
Aroclor-1242	NE	NE	NE	BRL<0.025	BRL<0.026	BRL<0.039	BRL<0.0023	NA	BRL<0.028	BRL<0.025	BRL<0.032	BRL<0.028	BRL<0.025	BRL<0.034
Aroclor-1248	NE	NE	NE	BRL<0.025	BRL<0.026	BRL<0.039	BRL<0.0023	NA	BRL<0.028	BRL<0.025	BRL<0.032	BRL<0.028	BRL<0.025	BRL<0.034
Aroclor-1254	NE	NE	NE	BRL<0.025	BRL<0.026	BRL<0.039	BRL<0.0023	NA	**2.4**	**1.9**	BRL<0.032	**0.036**	**0.057**	BRL<0.034
Aroclor-1260	NE	NE	NE	BRL<0.025	BRL<0.026	BRL<0.039	BRL<0.0023	NA	BRL<0.028	BRL<0.025	BRL<0.032	BRL<0.028	BRL<0.025	BRL<0.034
Aroclor-1262	NE	NE	NE	BRL<0.025	BRL<0.026	BRL<0.039	BRL<0.0023	NA	BRL<0.028	BRL<0.025	BRL<0.032	BRL<0.028	BRL<0.025	BRL<0.034
Aroclor-1268	NE	NE	NE	BRL<0.025	BRL<0.026	BRL<0.039	BRL<0.0023	NA	BRL<0.028	BRL<0.025	BRL<0.032	BRL<0.028	BRL<0.025	BRL<0.034
Total PCBs	0.0598	0.1	0.676	BRL	BRL	BRL	BRL	NA	**2.4**	**1.9**	BRL	**0.036**	**0.057**	BRL
Grain Size (ASTM D6913 [%])														
Cobbles	--	--	--	NA	NA	NA	BRL	NA	NA	NA	NA	NA	NA	NA
Gravel, coarse	--	--	--	NA	NA	NA	BRL	NA	NA	NA	NA	NA	NA	NA
Gravel, fine	--	--	--	NA	NA	NA	**21.4**	NA	NA	NA	NA	NA	NA	NA
SaBRL, coarse	--	--	--	NA	NA	NA	**10.6**	NA	NA	NA	NA	NA	NA	NA
SaBRL, medium	--	--	--	NA	NA	NA	**24.5**	NA	NA	NA	NA	NA	NA	NA
SaBRL, fine	--	--	--	NA	NA	NA	**28.5**	NA	NA	NA	NA	NA	NA	NA
Total Fines	--	--	--	NA	NA	NA	**15**	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon (EPA Method 9060A [%])	--	--	--	NA	NA	NA	**0.56**	NA	NA	NA	NA	NA	NA	NA
Total Solids (StaBRLard Method 2540G [%])	--	--	--	**79.6**	**73.9**	**49.8**	**80.0**	NA	**66.9**	**61.5**	**59.6**	**70.3**	**78.9**	**55.3**

Abbreviations:
mg/kg = milligram per killiogram
BRL< # = Not Detected above specified reporting limit
brl = Below Reporting Limit
NA = Not Analyzed
NE = Not Established
TEC = Threshold Effect Concentration
PEC = Probable Effect Concentration
NYSDEC Class A Freshwater Sediment Guidance Value
-- = Not Applicable

= exceeds the Threshold Effect Concentration (TEC)
= exceeds the NYSDEC Class A Freshwater Sediment Guidance Value
= exceeds the NYSDEC Class A Freshwater Sediment Guidance Value
= exceeds the Probable Effect Concentration (PEC)

NOTES:
1. < = indicates parameter not detected above laboratory method reporting limit, shown.
2. Bolding indicated parameter detected above laboratory method reporting limit.
3. Samples collected by Weston & Sampson.

Prepared by: LMW
Reviewed by: JCW

Table 2
Sediment Sample Analytical Results - Unnamed Intermittent Stream
27 Parsons Lane, Durham, CT

Sample Location	Criteria			Transect #4				Transect #4-1					Sediment #2
				East		Center	West	East	Center		West		
Sample ID				T4-E	Reoccupy T4E (6-12)	T4-C	T4-W	T4-1E (0-6)	T4-1C (0-6)	T4-1C (6-12)	T4-1W (0-6)	T4-1W (6-12)	SED-2 (0-6)
Sample Depth (in)	Total PCB TEC	NYSDEC Class A Freshwater Sediment Guidance Value	Total PCB PEC	0-6	6-12	0-6	0-6	0-6	0-6	6-12	0-6	6-12	0-6
Date Sampled				12/5/18	3/19/21	12/5/18	12/5/18	3/19/21	3/24/21	3/19/21	3/19/21	3/19/21	3/19/21
Date Extracted				12/7/18	3/24/21	12/7/18	12/7/18	3/24/21	3/31/21	4/1/21	3/27/21	--	3/24/21
Date Analyzed				12/10/18	4/8/21	12/11/18	12/11/18	4/8/21	4/2/21	4/6/21	3/29/21	--	3/29/21
Con-Test Analytical Laboratory Work Order No.				18L0278	21C1116	18L0278	18L0278	21C1116	21C1426	21C1118	21C1116	21C1427	21C1112
Alpha Analytical Laboratory Work Order No.				--	L2114132	--	--	L2114132	L2114132	--	L2114132	--	L2114132
PARAMETER (UNITS)													
Polychlorinated Biphenyls with Soxhlet Extration (EPA Method 8082A/3540C [mg/kg])													
Aroclor-1016	NE	NE	NE	BRL<0.025	BRL<0.0025	BRL<0.49	BRL<0.028	BRL<0.0029	BRL<0.30	BRL<0.024	BRL<0.13	NA	BRL<0.11
Aroclor-1221	NE	NE	NE	BRL<0.025	BRL<0.0025	BRL<0.49	BRL<0.028	BRL<0.0029	BRL<0.30	BRL<0.024	BRL<0.13	NA	BRL<0.11
Aroclor-1232	NE	NE	NE	BRL<0.025	BRL<0.0025	BRL<0.49	BRL<0.028	BRL<0.0029	BRL<0.30	BRL<0.024	BRL<0.13	NA	BRL<0.11
Aroclor-1242	NE	NE	NE	BRL<0.025	BRL<0.0025	BRL<0.49	BRL<0.028	BRL<0.0029	BRL<0.30	BRL<0.024	BRL<0.13	NA	BRL<0.11
Aroclor-1248	NE	NE	NE	BRL<0.025	BRL<0.0025	BRL<0.49	BRL<0.028	BRL<0.0029	BRL<0.30	BRL<0.024	BRL<0.13	NA	BRL<0.11
Aroclor-1254	NE	NE	NE	**0.65**	**0.026**	**0.057**	BRL<0.028	**0.023**	**1.2**	**0.13**	**0.50**	NA	**0.51**
Aroclor-1260	NE	NE	NE	BRL<0.025	**0.011**	BRL<0.49	BRL<0.028	**0.0038**	BRL<0.30	BRL<0.024	BRL<0.13	NA	BRL<0.11
Aroclor-1262	NE	NE	NE	BRL<0.025	BRL<0.0025	BRL<0.49	BRL<0.028	BRL<0.0029	BRL<0.30	BRL<0.024	BRL<0.13	NA	BRL<0.11
Aroclor-1268	NE	NE	NE	BRL<0.025	BRL<0.0025	BRL<0.49	BRL<0.028	BRL<0.0029	BRL<0.30	BRL<0.024	BRL<0.13	NA	BRL<0.11
Total PCBs	0.0598	0.1	0.676	**0.65**	**0.037**	**0.057**	BRL	**0.0268**	**1.2**	**0.13**	**0.50**	NA	**0.51**
Grain Size (ASTM D6913 [%])													
Cobbles	--	--	--	NA	BRL	NA	NA	BRL	BRL	NA	BRL	NA	BRL
Gravel, coarse	--	--	--	NA	BRL	NA	NA	BRL	**11.1**	NA	BRL	NA	**5.8**
Gravel, fine	--	--	--	NA	**14.4**	NA	NA	**36.6**	**14.4**	NA	**21.8**	NA	**26.6**
SaBRL, coarse	--	--	--	NA	**7.3**	NA	NA	**10.8**	**10.1**	NA	**4.7**	NA	**13.8**
SaBRL, medium	--	--	--	NA	**21.1**	NA	NA	**23.7**	**27.2**	NA	**19.4**	NA	**30.1**
SaBRL, fine	--	--	--	NA	**32.9**	NA	NA	**22.4**	**26.4**	NA	**34.5**	NA	**19.5**
Total Fines	--	--	--	NA	**24.3**	NA	NA	**6.5**	**10.8**	NA	**19.6**	NA	**4.2**
Total Organic Carbon (EPA Method 9060A [%])	--	--	--	NA	**0.76**	NA	NA	**2.2**	**3.2**	NA	**3.6**	NA	**3.1**
Total Solids (StaBRLard Method 2540G [%])	--	--	--	**46.2**	**79.0**	**74.0**	**67.9**	**69.8**	**65.6**	**80.5**	**62.7**	NA	**67.5**

Abbreviations:
mg/kg = milligram per killiogram
BRL<# = Not Detected above specified reporting limit
brl = Below Reporting Limit
NA = Not Analyzed
NE = Not Established
TEC = Threshold Effect Concentration
PEC = Probable Effect Concentration
NYSDEC Class A Freshwater Sediment Guidance Value
-- = Not Applicable

= exceeds the Threshold Effect Concentration (TEC)
= exceeds the NYSDEC Class A Freshwater Sediment Guidance Value
= exceeds the NYSDEC Class A Freshwater Sediment Guidance Value
= exceeds the Probable Effect Concentration (PEC)

NOTES:
1. < = indicates parameter not detected above laboratory method reporting limit, shown.
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3. Samples collected by Weston & Sampson.

Prepared by: LMW
Reviewed by: JCW

Table 2
Sediment Sample Analytical Results - Unnamed Intermittent Stream
27 Parsons Lane, Durham, CT

Sample Location	Criteria			Transect #4-2						Sediment #3		Transect #5-1 East	
				East			Center	West					
Sample ID				T4-2E (0-6)	DUP-4 / Duplicate of T4-2E (0-6)	T4-2E (6-12)	T4-2C (0-6)	T4-2W (0-6)	T4-2W (6-12)	SED-3 (0-6)	SED-3 (6-12)	T5-1E (0-6)	T5-1E (6-9)
Sample Depth (in)	Total PCB TEC	NYSDEC Class A Freshwater Sediment Guidance Value	Total PCB PEC	0-6	0-6	6-12	0-6	0-6	6-12	#NAME?	#NAME?	0-6	6-9
Date Sampled				3/19/21	3/19/21	3/19/21	3/19/21	3/19/21	3/19/21	3/19/21	3/19/21	3/19/21	3/19/21
Date Extracted				3/27/21	3/25/21	4/1/21	3/24/21	3/27/21	3/24/21	3/24/21	--	3/24/21	4/1/21
Date Analyzed				4/6/21	4/6/21	4/6/21	4/8/21	3/29/21	3/24/21	4/6/21	--	4/8/21	4/6/21
Con-Test Analytical Laboratory Work Order No.				21C1116	21C1110	21C1118	21C1116	21C1116	21C1116	21C1112	21C1113	21C1116	21C1118
Alpha Analytical Laboratory Work Order No.				L2114132	--	--	L2114132	L2114132	--	L2114132	--	L2114132	--
PARAMETER (UNITS)													
Polychlorinated Biphenyls with Soxhlet Extration (EPA Method 8082A/3540C [mg/kg])													
Aroclor-1016	NE	NE	NE	BRL<0.0025	BRL<0.0029	BRL<0.0029	BRL<0.0024	BRL<0.11	BRL<0.0026	BRL<0.0026	NA	BRL<0.0025	BRL<0.0031
Aroclor-1221	NE	NE	NE	BRL<0.0025	BRL<0.0029	BRL<0.0029	BRL<0.0024	BRL<0.11	BRL<0.0026	BRL<0.0026	NA	BRL<0.0025	BRL<0.0031
Aroclor-1232	NE	NE	NE	BRL<0.0025	BRL<0.0029	BRL<0.0029	BRL<0.0024	BRL<0.11	BRL<0.0026	BRL<0.0026	NA	BRL<0.0025	BRL<0.0031
Aroclor-1242	NE	NE	NE	BRL<0.0025	BRL<0.0029	BRL<0.0029	BRL<0.0024	BRL<0.11	BRL<0.0026	BRL<0.0026	NA	BRL<0.0025	BRL<0.0031
Aroclor-1248	NE	NE	NE	BRL<0.0025	BRL<0.0029	BRL<0.0029	BRL<0.0024	BRL<0.11	BRL<0.0026	BRL<0.0026	NA	BRL<0.0025	BRL<0.0031
Aroclor-1254	NE	NE	NE	**0.028**	**0.056**	**0.046**	**0.014**	**0.20**	**0.047**	**0.023**	NA	**0.020**	**0.0073**
Aroclor-1260	NE	NE	NE	**0.0069**	**0.0093**	**0.0086**	**0.0034**	BRL<0.11	**0.0066**	**0.0051**	NA	**0.0052**	BRL<0.0031
Aroclor-1262	NE	NE	NE	BRL<0.0025	BRL<0.0029	BRL<0.0029	BRL<0.0024	BRL<0.11	BRL<0.0026	BRL<0.0026	NA	BRL<0.0025	BRL<0.0031
Aroclor-1268	NE	NE	NE	BRL<0.0025	BRL<0.0029	BRL<0.0029	BRL<0.0024	BRL<0.11	BRL<0.0026	BRL<0.0026	NA	BRL<0.0025	BRL<0.0031
Total PCBs	0.0598	0.1	0.676	**0.0349**	**0.0653**	**0.0546**	**0.0174**	**0.20**	**0.0536**	**0.0281**	NA	**0.0252**	**0.0073**
Grain Size (ASTM D6913 [%])													
Cobbles	--	--	--	BRL	NA	NA	BRL	BRL	NA	BRL	NA	BRL	NA
Gravel, coarse	--	--	--	BRL	NA	NA	**4.8**	BRL	NA	BRL	NA	BRL	NA
Gravel, fine	--	--	--	**24.4**	NA	NA	**42.5**	**21.8**	NA	**29.6**	NA	**28.1**	NA
SaBRL, coarse	--	--	--	**11**	NA	NA	**18.7**	**13.9**	NA	**15.3**	NA	**12.6**	NA
SaBRL, medium	--	--	--	**30.2**	NA	NA	**23.9**	**33.9**	NA	**26.8**	NA	**37.7**	NA
SaBRL, fine	--	--	--	**26.7**	NA	NA	**7.9**	**25.8**	NA	**19**	NA	**17.2**	NA
Total Fines	--	--	--	**7.7**	NA	NA	**2.2**	**4.6**	NA	**9.3**	NA	**4.4**	NA
Total Organic Carbon (EPA Method 9060A [%])	--	--	--	**1.8**	**3.1**	NA	**0.49**	**1.7**	**1.8**	**1.9**	NA	**0.55**	NA
Total Solids (StaBRLard Method 2540G [%])	--	--	--	**79.3**	**68.7**	**69.7**	**81.6**	**71.8**	**77.6**	**72.8**	NA	**78.8**	**64.7**

Abbreviations:
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PEC = Probable Effect Concentration
NYSDEC Class A Freshwater Sediment Guidance Value
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= exceeds the Threshold Effect Concentration (TEC)
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NOTES:
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Prepared by: LMW
Reviewed by: JCW

Table 2
Sediment Sample Analytical Results - Unnamed Intermittent Stream
27 Parsons Lane, Durham, CT

Sample Location	Criteria			Transect #5-1 (Cont.)			Transect #5			Transect #5-2				
				Center	West		East	Center	West	East	Center		West	
Sample ID				T5-1C (0-6)	T5-1W (0-6)	T5-1W (6-10)	T5-E	T5-C	T5-W	T5-2E (0-6)	T5-2C (0-6)	DUP-3 / Duplicate of T5-2C (0-6)	T5-2W (0-6)	T5-2W (6-10)
Sample Depth (in)	Total PCB TEC	NYSDEC Class A Freshwater Sediment Guidance Value	Total PCB PEC	0-6	0-6	6-10	0-6	0-6	0-6	0-6	0-6	0-6	0-6	6-10
Date Sampled				3/19/21	3/19/21	3/19/21	12/5/18	12/5/18	12/5/18	3/19/21	3/19/21	3/19/21	3/19/21	3/19/21
Date Extracted				3/24/21	3/24/21	4/1/21	12/7/18	12/7/18	12/7/18	3/24/21	3/24/21	3/25/21	3/24/21	4/1/21
Date Analyzed				4/8/21	4/8/21	4/6/21	12/11/18	12/11/18	12/11/18	4/8/21	4/8/21	4/6/21	4/8/21	4/6/21
Con-Test Analytical Laboratory Work Order No.				21C1116	21C1116	21C1118	18L0278	18L0278	18L0278	21C1116	21C1116	21C1110	21C1116	21C1118
Alpha Analytical Laboratory Work Order No.				L2114132	L2114132	--	--	--	--	L2114132	L2114132	--	L2114132	--
PARAMETER (UNITS)														
Polychlorinated Biphenyls with Soxhlet Extration (EPA Method 8082A/3540C [mg/kg])														
Aroclor-1016	NE	NE	NE	BRL<0.0024	BRL<0.0032	BRL<0.0026	BRL<0.028	BRL<0.024	BRL<0.035	BRL<0.0025	BRL<0.0024	BRL<0.0026	BRL<0.0025	BRL<0.0024
Aroclor-1221	NE	NE	NE	BRL<0.0024	BRL<0.0032	BRL<0.0026	BRL<0.028	BRL<0.024	BRL<0.035	BRL<0.0025	BRL<0.0024	BRL<0.0026	BRL<0.0025	BRL<0.0024
Aroclor-1232	NE	NE	NE	BRL<0.0024	BRL<0.0032	BRL<0.0026	BRL<0.028	BRL<0.024	BRL<0.035	BRL<0.0025	BRL<0.0024	BRL<0.0026	BRL<0.0025	BRL<0.0024
Aroclor-1242	NE	NE	NE	BRL<0.0024	BRL<0.0032	BRL<0.0026	BRL<0.028	BRL<0.024	BRL<0.035	BRL<0.0025	BRL<0.0024	BRL<0.0026	BRL<0.0025	BRL<0.0024
Aroclor-1248	NE	NE	NE	BRL<0.0024	BRL<0.0032	BRL<0.0026	BRL<0.028	BRL<0.024	BRL<0.035	BRL<0.0025	BRL<0.0024	BRL<0.0026	BRL<0.0025	BRL<0.0024
Aroclor-1254	NE	NE	NE	**0.018**	**0.023**	BRL<0.0026	**0.078**	BRL<0.024	BRL<0.035	**0.023**	**0.0067**	**0.0076**	**0.0037**	**0.0069**
Aroclor-1260	NE	NE	NE	**0.0059**	**0.010**	BRL<0.0026	BRL<0.028	BRL<0.024	BRL<0.035	**0.0081**	**0.0033**	**0.0046**	BRL<0.0025	BRL<0.0024
Aroclor-1262	NE	NE	NE	BRL<0.0024	BRL<0.0032	BRL<0.0026	BRL<0.028	BRL<0.024	BRL<0.035	BRL<0.0025	BRL<0.0024	BRL<0.0026	BRL<0.0025	BRL<0.0024
Aroclor-1268	NE	NE	NE	BRL<0.0024	BRL<0.0032	BRL<0.0026	BRL<0.028	BRL<0.024	BRL<0.035	BRL<0.0025	BRL<0.0024	BRL<0.0026	BRL<0.0025	BRL<0.0024
Total PCBs	0.0598	0.1	0.676	**0.0239**	**0.033**	BRL	**0.078**	BRL	BRL	**0.0311**	**0.0100**	**0.0122**	**0.0037**	**0.0069**
Grain Size (ASTM D6913 [%])														
Cobbles	--	--	--	BRL	BRL	NA	NA	NA	NA	BRL	BRL	NA	BRL	NA
Gravel, coarse	--	--	--	BRL	BRL	NA	NA	NA	NA	**7.6**	BRL	NA	BRL	NA
Gravel, fine	--	--	--	**34.1**	**11.1**	NA	NA	NA	NA	**37.2**	**31.8**	NA	**28.1**	NA
SaBRL, coarse	--	--	--	**11.6**	**3.6**	NA	NA	NA	NA	**15.9**	**20**	NA	**15.5**	NA
SaBRL, medium	--	--	--	**32.5**	**30.9**	NA	NA	NA	NA	**21.3**	**32.6**	NA	**32.6**	NA
SaBRL, fine	--	--	--	**17.8**	**41.9**	NA	NA	NA	NA	**14.2**	**12.4**	NA	**19.4**	NA
Total Fines	--	--	--	**4.0**	**12.5**	NA	NA	NA	NA	**3.8**	**3.2**	NA	**4.4**	NA
Total Organic Carbon (EPA Method 9060A [%])	--	--	--	**0.81**	**1.9**	NA	NA	NA	NA	**1.3**	**0.75**	**0.29**	**0.61**	NA
Total Solids (StaBRLard Method 2540G [%])	--	--	--	**81.2**	**63.4**	**75.6**	**68.0**	**82.5**	**52.3**	**79.8**	**84.1**	**78.3**	**78.6**	**81.6**

Abbreviations:
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NYSDEC Class A Freshwater Sediment Guidance Value
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Reviewed by: JCW

Table 2
Sediment Sample Analytical Results - Unnamed Intermittent Stream
27 Parsons Lane, Durham, CT

Sample Location	Criteria			Transect #6-1					Transect #6			Sediment #4	
				East	Center		West		East	Center	West		
Sample ID				T6-1E (0-6)	T6-1C (0-6)	T6-1C (6-12)	T6-1W (0-6)	DUP-2 / Duplicate of T6-1W (0-6)	T6-E	T6-C	T6-W	SED-4 (0-6)	SED-4 (6-12)
Sample Depth (in)	Total PCB TEC	NYSDEC Class A Freshwater Sediment Guidance Value	Total PCB PEC	0-6	0-6	6-12	0-6	0-6	0-6	0-6	0-6	#NAME?	#NAME?
Date Sampled				3/19/21	3/19/21	3/19/21	3/19/21	3/19/21	12/5/18	12/5/18	12/5/18	3/19/21	3/19/21
Date Extracted				3/24/21	3/24/21	4/1/21	3/24/21	3/25/21	12/7/18	12/7/18	12/7/18	3/24/21	--
Date Analyzed				4/8/21	4/8/21	4/6/21	4/8/21	4/6/21	12/11/18	12/11/18	12/11/18	4/6/21	--
Con-Test Analytical Laboratory Work Order No.				21C1116	21C1116	21C1118	21C1116	21C1110	18L0278	18L0278	18L0278	21C1112	21C1113
Alpha Analytical Laboratory Work Order No.				L2114132	L2114132	--	L2114132	--	--	--	--	L2114132	--
PARAMETER (UNITS)													
Polychlorinated Biphenyls with Soxhlet Extration (EPA Method 8082A/3540C [mg/kg])													
Aroclor-1016	NE	NE	NE	BRL<0.0025	BRL<0.0023	BRL<0.0024	BRL<0.0029	BRL<0.0028	BRL<0.027	BRL<0.022	BRL<0.026	BRL<0.0028	NA
Aroclor-1221	NE	NE	NE	BRL<0.0025	BRL<0.0023	BRL<0.0024	BRL<0.0029	BRL<0.0028	BRL<0.027	BRL<0.022	BRL<0.026	BRL<0.0028	NA
Aroclor-1232	NE	NE	NE	BRL<0.0025	BRL<0.0023	BRL<0.0024	BRL<0.0029	BRL<0.0028	BRL<0.027	BRL<0.022	BRL<0.026	BRL<0.0028	NA
Aroclor-1242	NE	NE	NE	BRL<0.0025	BRL<0.0023	BRL<0.0024	BRL<0.0029	BRL<0.0028	BRL<0.027	BRL<0.022	BRL<0.026	BRL<0.0028	NA
Aroclor-1248	NE	NE	NE	BRL<0.0025	BRL<0.0023	BRL<0.0024	BRL<0.0029	BRL<0.0028	BRL<0.027	BRL<0.022	BRL<0.026	BRL<0.0028	NA
Aroclor-1254	NE	NE	NE	**0.010**	**0.0053**	**0.0038**	**0.019**	**0.011**	BRL<0.027	BRL<0.022	BRL<0.026	**0.0084**	NA
Aroclor-1260	NE	NE	NE	BRL<0.0025	BRL<0.0023	**0.0034**	**0.0048**	BRL<0.0028	BRL<0.027	BRL<0.022	BRL<0.026	**0.0059**	NA
Aroclor-1262	NE	NE	NE	BRL<0.0025	BRL<0.0023	BRL<0.0024	BRL<0.0029	BRL<0.0028	BRL<0.027	BRL<0.022	BRL<0.026	BRL<0.0028	NA
Aroclor-1268	NE	NE	NE	BRL<0.0025	BRL<0.0023	BRL<0.0024	BRL<0.0029	BRL<0.0028	BRL<0.027	BRL<0.022	BRL<0.026	BRL<0.0028	NA
Total PCBs	0.0598	0.1	0.676	**0.010**	**0.0053**	**0.0072**	**0.0238**	**0.011**	BRL	BRL	BRL	**0.0143**	NA
Grain Size (ASTM D6913 [%])													
Cobbles	--	--	--	BRL	BRL	NA	BRL	NA	NA	NA	NA	BRL	NA
Gravel, coarse	--	--	--	**6.2**	BRL	NA	BRL	NA	NA	NA	NA	**4.9**	NA
Gravel, fine	--	--	--	**43.4**	**39.3**	NA	**38.5**	NA	NA	NA	NA	**61.1**	NA
SaBRL, coarse	--	--	--	**14.1**	**18.7**	NA	**20**	NA	NA	NA	NA	**13**	NA
SaBRL, medium	--	--	--	**22.4**	**31.2**	NA	**20.6**	NA	NA	NA	NA	**10.8**	NA
SaBRL, fine	--	--	--	**11.6**	**8.9**	NA	**16.5**	NA	NA	NA	NA	**7**	NA
Total Fines	--	--	--	**2.3**	**1.9**	NA	**4.4**	NA	NA	NA	NA	**3.2**	NA
Total Organic Carbon (EPA Method 9060A [%])	--	--	--	**1.6**	**0.49**	NA	**2.7**	**2.4**	NA	NA	NA	**1.4**	NA
Total Solids (StaBRLard Method 2540G [%])	--	--	--	**78.8**	**85.3**	**81.2**	**66.9**	**66.5**	**71.5**	**82.8**	**77.1**	**68.2**	NA

Abbreviations:
mg/kg = milligram per killiogram
BRL<# = Not Detected above specified reporting limit
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TEC = Threshold Effect Concentration
PEC = Probable Effect Concentration
NYSDEC Class A Freshwater Sediment Guidance Value
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NOTES:
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Reviewed by: JCW

Table 2
Sediment Sample Analytical Results - Unnamed Intermittent Stream
27 Parsons Lane, Durham, CT

Sample Location	Criteria			Transect #7-1						Transect #7			
				East		Center		West		East		Center	West
Sample ID				T7-1E (0-6)	T7-1E (6-12)	T7-1C (0-6)	T7-1C (6-12)	T7-1W (0-6)	T7-1W (6-12)	T7-E	DUP-SE1 / Duplicate of T7-E	T7-C	T7-W
Sample Depth (in)	Total PCB TEC	NYSDEC Class A Freshwater Sediment Guidance Value	Total PCB PEC	0-6	6-12	0-6	6-12	0-6	6-12	0-6	0-6	0-6	0-6
Date Sampled				3/19/21	3/19/21	3/19/21	3/19/21	3/19/21	3/19/21	12/5/18	12/5/18	12/5/18	12/5/18
Date Extracted				3/24/21	--	3/24/21	--	3/24/21	--	12/7/18	12/7/18	12/7/18	12/7/18
Date Analyzed				4/8/21	--	4/8/21	--	4/8/21	--	12/11/18	12/11/18	12/11/18	12/11/18
Con-Test Analytical Laboratory Work Order No.				21C1116	21C1118	21C1116	21C1118	21C1116	21C1118	18L0278	18L0278	18L0278	18L0278
Alpha Analytical Laboratory Work Order No.				L2114132	--	L2114132	--	L2114132	--	--	--	--	--
PARAMETER (UNITS)													
Polychlorinated Biphenyls with Soxhlet Extration (EPA Method 8082A/3540C [mg/kg])													
Aroclor-1016	NE	NE	NE	BRL<0.0027	NA	BRL<0.0026	NA	BRL<0.0031	NA	BRL<0.037	BRL<0.041	BRL<0.031	BRL<0.033
Aroclor-1221	NE	NE	NE	BRL<0.0027	NA	BRL<0.0026	NA	BRL<0.0031	NA	BRL<0.037	BRL<0.041	BRL<0.031	BRL<0.033
Aroclor-1232	NE	NE	NE	BRL<0.0027	NA	BRL<0.0026	NA	BRL<0.0031	NA	BRL<0.037	BRL<0.041	BRL<0.031	BRL<0.033
Aroclor-1242	NE	NE	NE	BRL<0.0027	NA	BRL<0.0026	NA	BRL<0.0031	NA	BRL<0.037	BRL<0.041	BRL<0.031	BRL<0.033
Aroclor-1248	NE	NE	NE	BRL<0.0027	NA	BRL<0.0026	NA	BRL<0.0031	NA	BRL<0.037	BRL<0.041	BRL<0.031	BRL<0.033
Aroclor-1254	NE	NE	NE	**0.026**	NA	**0.021**	NA	**0.021**	NA	**0.041**	**0.080**	BRL<0.031	BRL<0.033
Aroclor-1260	NE	NE	NE	**0.0086**	NA	**0.024**	NA	**0.012**	NA	BRL<0.037	BRL<0.041	BRL<0.031	BRL<0.033
Aroclor-1262	NE	NE	NE	BRL<0.0027	NA	BRL<0.0026	NA	BRL<0.0031	NA	BRL<0.037	BRL<0.041	BRL<0.031	BRL<0.033
Aroclor-1268	NE	NE	NE	BRL<0.0027	NA	BRL<0.0026	NA	BRL<0.0031	NA	BRL<0.037	BRL<0.041	BRL<0.031	BRL<0.033
Total PCBs	0.0598	0.1	0.676	**0.0346**	NA	**0.045**	NA	**0.033**	NA	**0.041**	**0.080**	BRL	BRL
Grain Size (ASTM D6913 [%])													
Cobbles	--	--	--	BRL	NA	BRL	NA	BRL	NA	NA	NA	NA	NA
Gravel, coarse	--	--	--	BRL	NA	BRL	NA	BRL	NA	NA	NA	NA	NA
Gravel, fine	--	--	--	**24.5**	NA	**38.2**	NA	**13.7**	NA	NA	NA	NA	NA
SaBRL, coarse	--	--	--	**17.1**	NA	**18.9**	NA	**14.1**	NA	NA	NA	NA	NA
SaBRL, medium	--	--	--	**22.1**	NA	**24.5**	NA	**27.4**	NA	NA	NA	NA	NA
SaBRL, fine	--	--	--	**24.9**	NA	**16.5**	NA	**29.7**	NA	NA	NA	NA	NA
Total Fines	--	--	--	**11.4**	NA	**1.9**	NA	**15.1**	NA	NA	NA	NA	NA
Total Organic Carbon (EPA Method 9060A [%])	--	--	--	**2.9**	NA	**3.0**	NA	**3.9**	NA	NA	NA	NA	NA
Total Solids (StaBRLard Method 2540G [%])	--	--	--	**71.9**	NA	**73.5**	NA	**63.1**	NA	**51.8**	**48.2**	**61.1**	**59.8**

Abbreviations:
mg/kg = milligram per killiogram
BRL<# = Not Detected above specified reporting limit
brl = Below Reporting Limit
NA = Not Analyzed
NE = Not Established
TEC = Threshold Effect Concentration
PEC = Probable Effect Concentration
NYSDEC Class A Freshwater Sediment Guidance Value
-- = Not Applicable

= exceeds the Threshold Effect Concentration (TEC)
= exceeds the NYSDEC Class A Freshwater Sediment Guidance Value
= exceeds the NYSDEC Class A Freshwater Sediment Guidance Value
= exceeds the Probable Effect Concentration (PEC)

NOTES:
1. < = indicates parameter not detected above laboratory method reporting limit, shown.
2. Bolding indicated parameter detected above laboratory method reporting limit.
3. Samples collected by Weston & Sampson.

Prepared by: LMW
Reviewed by: JCW

Table 2
Sediment Sample Analytical Results - Unnamed Intermittent Stream
27 Parsons Lane, Durham, CT

Sample Location	Criteria			Sediment #5	Transect #8				Sediment #6		Sediment #7	
					East		Center	West				
Sample ID				SED-5 (0-6)	T8-E	DUP-SE2 / Duplicate of T8-E	T8-C	T8-W	SED-6 (0-6)	SED-6 (6-12)	SED-7 (0-6)	SED-7 (6-12)
Sample Depth (in)	Total PCB TEC	NYSDEC Class A Freshwater Sediment Guidance Value	Total PCB PEC	0-6	0-6	0-6	0-6	0-6	#NAME?	#NAME?	#NAME?	#NAME?
Date Sampled				3/17/21	12/5/18	12/5/18	12/5/18	12/5/18	3/17/21	3/17/21	3/17/21	3/17/21
Date Extracted				3/24/21	12/7/18	12/7/18	12/7/18	12/7/18	3/24/21	--	3/24/21	--
Date Analyzed				4/6/21	12/11/18	12/11/18	12/11/18	12/11/18	4/6/21	--	4/6/21	--
Con-Test Analytical Laboratory Work Order No.				21C1112	18L0278	18L0278	18L0278	18L0278	21C1112	21C1113	21C1112	21C1113
Alpha Analytical Laboratory Work Order No.				L2114132	--	--	--	--	L2114132	--	L2114132	--
PARAMETER (UNITS)												
Polychlorinated Biphenyls with Soxhlet Extration (EPA Method 8082A/3540C [mg/kg])												
Aroclor-1016	NE	NE	NE	BRL<0.0026	BRL<0.037	BRL<0.034	BRL<0.045	BRL<0.052	BRL<0.023	NA	BRL<0.036	NA
Aroclor-1221	NE	NE	NE	BRL<0.0026	BRL<0.037	BRL<0.034	BRL<0.045	BRL<0.052	BRL<0.023	NA	BRL<0.036	NA
Aroclor-1232	NE	NE	NE	BRL<0.0026	BRL<0.037	BRL<0.034	BRL<0.045	BRL<0.052	BRL<0.023	NA	BRL<0.036	NA
Aroclor-1242	NE	NE	NE	BRL<0.0026	BRL<0.037	BRL<0.034	BRL<0.045	BRL<0.052	BRL<0.023	NA	BRL<0.036	NA
Aroclor-1248	NE	NE	NE	BRL<0.0026	BRL<0.037	BRL<0.034	BRL<0.045	BRL<0.052	BRL<0.023	NA	BRL<0.036	NA
Aroclor-1254	NE	NE	NE	**0.013**	BRL<0.037	BRL<0.034	BRL<0.045	BRL<0.052	**0.064**	NA	**0.067**	NA
Aroclor-1260	NE	NE	NE	**0.0072**	BRL<0.037	BRL<0.034	BRL<0.045	BRL<0.052	BRL<0.023	NA	BRL<0.036	NA
Aroclor-1262	NE	NE	NE	BRL<0.0026	BRL<0.037	BRL<0.034	BRL<0.045	BRL<0.052	BRL<0.023	NA	BRL<0.036	NA
Aroclor-1268	NE	NE	NE	BRL<0.0026	BRL<0.037	BRL<0.034	BRL<0.045	BRL<0.052	BRL<0.023	NA	BRL<0.036	NA
Total PCBs	0.0598	0.1	0.676	**0.0202**	BRL	BRL	BRL	BRL	**0.064**	NA	**0.067**	NA
Grain Size (ASTM D6913 [%])												
Cobbles	--	--	--	BRL	NA	NA	NA	NA	BRL	NA	BRL	NA
Gravel, coarse	--	--	--	BRL	NA	NA	NA	NA	BRL	NA	BRL	NA
Gravel, fine	--	--	--	**37.5**	NA	NA	NA	NA	**4.1**	NA	**5**	NA
SaBRL, coarse	--	--	--	**13**	NA	NA	NA	NA	**18.7**	NA	**17.4**	NA
SaBRL, medium	--	--	--	**18.5**	NA	NA	NA	NA	**42.9**	NA	**56**	NA
SaBRL, fine	--	--	--	**17.2**	NA	NA	NA	NA	**21.3**	NA	**20**	NA
Total Fines	--	--	--	**13.8**	NA	NA	NA	NA	**13**	NA	**1.6**	NA
Total Organic Carbon (EPA Method 9060A [%])	--	--	--	**2.0**	NA	NA	NA	NA	**21**	NA	**33**	NA
Total Solids (StaBRLard Method 2540G [%])	**--**	--	--	**76.0**	**52.8**	**55.7**	**43.4**	**37.1**	**8.73**	NA	**5.45**	NA

Abbreviations:
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TEC = Threshold Effect Concentration
PEC = Probable Effect Concentration
NYSDEC Class A Freshwater Sediment Guidance Value
-- = Not Applicable

= exceeds the Threshold Effect Concentration (TEC)
= exceeds the NYSDEC Class A Freshwater Sediment Guidance Value
= exceeds the NYSDEC Class A Freshwater Sediment Guidance Value
= exceeds the Probable Effect Concentration (PEC)

NOTES:
1. < = indicates parameter not detected above laboratory method reporting limit, shown.
2. Bolding indicated parameter detected above laboratory method reporting limit.
3. Samples collected by Weston & Sampson.

Prepared by: LMW
Reviewed by: JCW

Table 2
Sediment Sample Analytical Results - Unnamed Intermittent Stream
27 Parsons Lane, Durham, CT

Sample Location	Criteria			Sediment #8		Sediment #9		Sediment #10		Sediment #11		
Sample ID				SED-8 (0-6)	SED-8 (6-12)	SED-9 (0-6)	SED-9 (6-12)	SED-10 (0-6)	SED-10 (6-12)	SED-11 (0-6)	DUP-1 / Duplicate of SED-11 (0-6)	SED-11 (6-12)
Sample Depth (in)	Total PCB TEC	NYSDEC Class A Freshwater Sediment Guidance Value	Total PCB PEC	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?	0-6	#NAME?
Date Sampled				3/17/21	3/17/21	3/17/21	3/17/21	3/17/21	3/17/21	3/17/21	3/17/21	3/17/21
Date Extracted				3/24/21	--	3/24/21	--	3/24/21	--	3/24/21	3/25/21	--
Date Analyzed				4/6/21	--	4/6/21	--	4/6/21	--	4/6/21	4/6/21	--
Con-Test Analytical Laboratory Work Order No.				21C1112	21C1113	21C1112	21C1113	21C1112	21C1113	21C1112	21C1110	21C1113
Alpha Analytical Laboratory Work Order No.				L2114132	--	L2114132	--	L2114132	--	L2114132	--	--
PARAMETER (UNITS)												
Polychlorinated Biphenyls with Soxhlet Extration (EPA Method 8082A/3540C [mg/kg])												
Aroclor-1016	NE	NE	NE	BRL<0.023	NA	BRL<0.019	NA	BRL<0.026	NA	BRL<0.022	BRL<0.017	NA
Aroclor-1221	NE	NE	NE	BRL<0.023	NA	BRL<0.019	NA	BRL<0.026	NA	BRL<0.022	BRL<0.017	NA
Aroclor-1232	NE	NE	NE	BRL<0.023	NA	BRL<0.019	NA	BRL<0.026	NA	BRL<0.022	BRL<0.017	NA
Aroclor-1242	NE	NE	NE	BRL<0.023	NA	BRL<0.019	NA	BRL<0.026	NA	BRL<0.022	BRL<0.017	NA
Aroclor-1248	NE	NE	NE	BRL<0.023	NA	BRL<0.019	NA	BRL<0.026	NA	BRL<0.022	BRL<0.017	NA
Aroclor-1254	NE	NE	NE	**0.057**	NA	**0.072**	NA	**0.048**	NA	**0.054**	**0.056**	NA
Aroclor-1260	NE	NE	NE	**0.033**	NA	**0.030**	NA	BRL<0.026	NA	BRL<0.022	**0.024**	NA
Aroclor-1262	NE	NE	NE	BRL<0.023	NA	BRL<0.019	NA	BRL<0.026	NA	BRL<0.022	BRL<0.017	NA
Aroclor-1268	NE	NE	NE	BRL<0.023	NA	BRL<0.019	NA	BRL<0.026	NA	BRL<0.022	BRL<0.017	NA
Total PCBs	0.0598	0.1	0.676	**0.090**	NA	**0.102**	NA	**0.048**	NA	**0.054**	**0.080**	NA
Grain Size (ASTM D6913 [%])												
Cobbles	--	--	--	BRL	NA	BRL	NA	BRL	NA	BRL	NA	NA
Gravel, coarse	--	--	--	BRL	NA	BRL	NA	BRL	NA	BRL	NA	NA
Gravel, fine	--	--	--	**12.4**	NA	**10**	NA	**2.7**	NA	**9.4**	NA	NA
SaBRL, coarse	--	--	--	**19**	NA	**29.6**	NA	**12.3**	NA	**25.7**	NA	NA
SaBRL, medium	--	--	--	**40**	NA	**35.8**	NA	**49.9**	NA	**45.2**	NA	NA
SaBRL, fine	--	--	--	**18.3**	NA	**13.8**	NA	**25.3**	NA	**15.7**	NA	NA
Total Fines	--	--	--	**10.3**	NA	**10.8**	NA	**9.8**	NA	**4**	NA	NA
Total Organic Carbon (EPA Method 9060A [%])	--	--	--	**1.4**	NA	**20**	NA	**29**	NA	**16**	**35**	NA
Total Solids (StaBRLard Method 2540G [%])	**--**	--	--	**8.49**	NA	**10.8**	NA	**7.56**	NA	**8.61**	**11.4**	NA

Abbreviations:
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NOTES:
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3. Samples collected by Weston & Sampson.

Prepared by: LMW
Reviewed by: JCW

APPENDIX A

Remediation Timeline
27 Parsons Lane, Durham, CT

Activity	2024 Calendar Year																																							
	January				February				March				April				May				June				July				August				September				October				November				December			
	Wk.1	Wk.2	Wk.3	Wk.4	Wk.1	Wk.2	Wk.3	Wk.4	Wk.1	Wk.2	Wk.3	Wk.4	Wk.1	Wk.2	Wk.3	Wk.4	Wk.1	Wk.2	Wk.3	Wk.4	Wk.1	Wk.2	Wk.3	Wk.4	Wk.1	Wk.2	Wk.3	Wk.4	Wk.1	Wk.2	Wk.3	Wk.4	Wk.1	Wk.2	Wk.3	Wk.4	Wk.1	Wk.2	Wk.3	Wk.4	Wk.1	Wk.2	Wk.3	Wk.4	Wk.1	Wk.2	Wk.3	Wk.4
Remedial Action Plan (RAP)																																															
CTDEEP Review & Comment of RAP																																															
Remedial Design																																															
Permitting and Site Access Agreements																																															
Bidding/Contract Award																																															
Remediation																																															

From: Trahan, Amber <Amber.Trahan@ct.gov>
Sent: Tuesday, May 21, 2024 12:40 PM
To: Blicharz, Andrew P <drew.blicharz@eversource.com>
Subject: RE: Remedial Action Plan (RAP) - 27 Parsons Lane, Durham, CT (Case ID# 2018-05541)

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Good Afternoon Andrew,

I apologize for the delay in response, as I was waiting to hear back from the Ecological Risk Assessment Group to make sure all their concerns in the memo were met.

The Ecological Risk Group confirmed that the proposed RAP is consistent with their memo and should accomplish all goals set forth in that memo.

In addition, as this work is being performed under a 761.61(b) and there is no PCB enforcement action on this site, there is no formal approval required to be issued by the DEEP PCB Program.

If you have any questions or concerns, please feel free to reach out.

Thank you,

Amber Trahan
Environmental Analyst
Corrective Action Unit
Emergency Response and Spill Prevention Division
Bureau of Materials Management and Compliance Assurance
Connecticut Department of Energy & Environmental Protection
79 Elm Street, Hartford, CT 06106-5127
p: 860-424-4177 | amber.trahan@ct.gov

Connecticut
Department of Energy &
Environmental Protection

Conserving, improving, and protecting our natural resources and environment;
Ensuring a clean, affordable, reliable, and sustainable energy supply.

portal.ct.gov/DEEP

APPENDIX G

Remedial Plans and Technical Specifications

THE CONNECTICUT LIGHT AND POWER COMPANY D.B.A EVERSOURCE ENERGY

REMEDIATION OF PCB-IMPACTED STREAM SEDIMENT
ENVIANCE SPILL NUMBER CWC-18-00543
27 PARSONS LANE, DURHAM CT 06422

Weston & Sampson Engineers, Inc.
712 Brook Street, Suite 103
Rocky Hill, CT 06067
800.SAMPSON
www.westonandsampson.com

Consultants:



LOCATION MAP
SCALE = 1:50



VICINITY MAP
SCALE = 1:500

DRAWING INDEX	
SHEET	TITLE
COVER	COVER AND SHEET LIST
G001	NOTES, LEGEND AND ABBREVIATIONS
C001	EXISTING CONDITIONS PLAN
C002	SITE PREPARATION AND REMEDIATION PLAN
C003	INTERIOR RESTORATION PLAN
C004	SITE RESTORATION PLAN
D001	DETAILS

Issued Date:

Seal:

Issued For:

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LEGEND

DESCRIPTION	EXISTING	PROPOSED
SANITARY SEWER	S	S
FORCE MAIN	FM	FM
WATER MAIN	W	W
GAS	G	G
UNDERGROUND ELECTRIC	UE	UE
UNDERGROUND TELEPHONE	T	T
OVERHEAD WIRES	OW	OW
SANITARY SEWER MANHOLE	S	SMH
STORM DRAIN MANHOLE	D	SDMH
ELECTRICAL MANHOLE		EMH
TELEPHONE MANHOLE		TMH
CLEANOUT		CO
CATCH BASIN		CB
HYDRANT		
GATE VALVE	WV	
CHECK VALVE		
CURB STOP		
BUTTERFLY VALVE		
BALL VALVE		
REDUCER		
CAP OR PLUG		
GAS GATE VALVE	GV	
UTILITY POLE		
LIGHT POST		
EDGE OF PAVEMENT		
EDGE OF UNPAVED ROAD		
CURB		
SIDEWALK		
RAILROAD		
STONE WALL		
RETAINING WALL	RET WALL	RET WALL
FENCE		X X
INDIVIDUAL DECIDUOUS TREE		
INDIVIDUAL EVERGREEN TREE		
TREE LINE		
SURVEY MARKER		
PROPERTY LINE	PL	
EASEMENT LINE		
LIMIT OF WORK		
SPOT ELEVATIONS	x 141.5	x 141.5
CONTOUR LINES	56	56
DEPRESSION CONTOUR LINES		
WETLAND		
WETLAND FLAGS		1 2
BOLLARD	B	B
SIGN		
BENCH MARK		
TEST PIT	TP 1	TP-1
BORING	B-10	B-11
PROBE	P-10	P-11
STRAW BALES / STRAW WATTLES		
ROCK OUTCROP		
DRAINAGE DITCH / SWALE		
TRANSFORMER	T	
ANTI-TRACKING PAD		
EXISTING DRAIN LINE		D

NOTE: ITEMS SHOWN IN THE LEGEND MAY NOT BE PRESENT IN THESE PLANS

ABBREVIATIONS

AC	ASBESTOS CEMENT PIPE
ACCMP	ASPHALT COATED CORRUGATED METAL PIPE
ARV	AIR RELEASE VALVE
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
BC	BITUMINOUS CONCRETE
BIT	BITUMINOUS
BLDG	BUILDING
BM	BENCH MARK
BO	BLOW OFF
BV	BUTTERFLY VALVE
CATV	CABLE TELEVISION
CB	CATCH BASIN
CC	CONCRETE CURB
CI	CAST IRON
℄	CENTERLINE
CL	CEMENT LINED OR CENTERLINE
CMP	CORRUGATED METAL PIPE
CONC	CONCRETE
CU FT	CUBIC FEET
CY	CUBIC YARD
D	STORM DRAIN, DEPTH FROM RIM TO INVERT
DI	DROP INLET, DUCTILE IRON
DIA	DIAMETER
DMH	DRAIN MANHOLE
DWG	DRAWING
E	EAST, ELECTRIC
EA	EACH
EF	EACH FACE
ELEV	ELEVATION
EOP	EDGE OF PAVEMENT
EW	EACH WAY
EX.	EXISTING
FLG	FLANGE
FT	FEET, FOOT
G	NATURAL GAS
GALV	GALVANIZED
GC	GRANITE CURB
GR	GRANITE
HC	HOUSE CONNECTION
HORIZ	HORIZONTAL
HP	HIGH PRESSURE
HYD	FIRE HYDRANT
I OR INV	INVERT
ID	INSIDE DIAMETER
IP	IRON PIPE
LB	POUND
LF	LINEAR FEET
LS	LUMP SUM
MAX	MAXIMUM
MB	MAIL BOX
MDC	METROPOLITAN DISTRICT COMMISSION
MECH	MECHANICAL
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT
N	NORTH
NE	NORTH EAST
NW	NORTH WEST
NF	NOT FOUND
NO OR #	NUMBER
OD	OUTSIDE DIAMETER
PCCP	PRESTRESSED CONCRETE CYLINDER PIPE
PE	PLAIN END, POLYETHYLENE
PL	PROPERTY LINE
PL	PLATE
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
RCP	REINFORCED CONCRETE PIPE
ROW	RIGHT-OF-WAY
RT	RADIO TOWER
RQD	ROCK QUALITY
S	SEWER, SOUTH, SILL ELEVATION
SE	SOUTH EAST
SECT	SECTION
SF	SQUARE FEET
SHT	SHEET
SPEC	SPECIFICATIONS
SPS	SEWAGE PUMP STATION
SQ FT	SQUARE FEET
SS	SEWER SERVICE, STAINLESS STEEL
STA	STATION
STL	STEEL
SW	SIDEWALK, SOUTH WEST
T	HYDROSTATIC THRUST, TELEPHONE
TBM	TEMPORARY BENCH MARK
THK	THICK (NESS)
TYP	TYPICAL
UP	UTILITY POLE
VC	VITRIFIED CLAY
VERT	VERTICAL
W	WATER, WEST
W/	WITH
W/O	WITHOUT

CONSTRUCTION NOTES:

1. SURVEY PERFORMED BY KCI TECHNOLOGIES, INC. IN MARCH, 2023. ADDITIONAL SURVEY DATA COLLECTED BY WESTON & SAMPSON IN JUNE 2023. OTHER PLAN INFORMATION WAS GENERATED FROM PUBLICLY AVAILABLE GEOGRAPHIC INFORMATION SYSTEMS DATABASES.
2. THE CONTRACTOR SHALL "CALL BEFORE YOU DIG" (CBYD) AT 1-800-922-4455 OR 811 AT LEAST 48 HOURS, SATURDAYS, SUNDAYS, AND HOLIDAYS EXCLUDED, PRIOR TO EXCAVATING AT ANY LOCATION. A COPY OF THE CBYD PROJECT REFERENCE NUMBER(S) SHALL BE GIVEN TO OWNER PRIOR TO EXCAVATION.
3. LOCATIONS OF EXISTING PIPES, CONDUITS, UTILITIES, FOUNDATIONS AND OTHER UNDERGROUND OBJECTS ARE NOT WARRANTED TO BE CORRECT AND THE CONTRACTOR SHALL HAVE NO CLAIM ON THAT ACCOUNT SHOULD THEY BE OTHER THAN SHOWN. CONTRACTOR SHALL PERFORM TEST PITTING TO CONFIRM UNDERGROUND PIPE LOCATIONS AS DESCRIBED IN THE SPECIFICATION SECTION 01 14 00 - SPECIAL PROVISIONS.
4. CONTRACTOR SHALL VISIT AND EXAMINE THE SITE TO FULLY UNDERSTAND ALL THE CONDITIONS PERTAINING TO THE WORK, UNDERSTAND DIFFICULTIES TO BE ENCOUNTERED, UNDERSTAND THE SCOPE OF THE REMEDIATION AND CONCRETE REPLACEMENT WORK FOR ALL SYSTEMS WHETHER SHOWN OR DESCRIBED AT NO ADDITIONAL COST TO OWNER. CONTRACTOR TO VERIFY ALL DIMENSIONS, CLEARANCE ELEVATIONS, SITE FEATURES/ANCILLARY ITEMS, SERVICES, SIZES OF EXISTING UTILITY PIPES AND BUILDINGS THROUGHOUT THE SITE.
5. THE OWNER AND THE ENGINEER ARE NOT RESPONSIBLE FOR BIDDERS' OR CONTRACTOR'S HEALTH AND SAFETY DURING VISITS. THE BIDDERS AND CONTRACTOR SHALL BE RESPONSIBLE FOR THE HEALTH AND SAFETY OF THEIR EMPLOYEES AND ANY OF THEIR SUBCONTRACTORS.
6. EXCAVATION SHALL BE PERFORMED AS REQUIRED FOR TEST PITTING, UTILITY REPLACEMENT, IMPACTED SOIL REMOVAL SHOWN ON SHEET C002 AND SITE RESTORATION ACTIVITIES ONLY. THE CONTRACTOR SHALL BACKFILL EXCAVATED AREAS TO MATCH SURROUNDING STREAM GRADE TO PREVENT PONDING IN ACCORDANCE WITH SPECIFICATION SECTION 31 00 00-EARTHWORK AND SHEET C004 - SITE RESTORATION PLAN.
7. SOIL AND CONTAINERIZED WATER SHALL BE REMOVED AND DISPOSED OF AS DETAILED IN THE CONTRACT DOCUMENTS, UNLESS OTHERWISE INDICATED BY THE ENGINEER.
8. ALL SOLID WASTE AND REGULATED WASTE SHALL BE MANAGED IN ACCORDANCE WITH ALL APPLICABLE STATE AND FEDERAL REGULATIONS AND PER SECTIONS 02 61 0016 - HANDLING, REUSE, TRANSPORTATION, AND OFFSITE DISPOSAL OF EXCAVATED MATERIAL.
9. ALL WORK UNDER THIS CONTRACT SHALL BE LIMITED TO THE LIMIT OF WORK BOUNDARY SHOWN ON SHEET C002 AND C003.
10. ALL AREAS DISTURBED BY THE CONTRACTOR, INCLUDING INSTALLATION OF TEMPORARY FENCING AND PLACEMENT OF STRAW WATTLES, SHALL BE RESTORED BY THE CONTRACTOR AT NO ADDITIONAL COST TO OWNER.
11. THE CONTRACTOR SHALL CONDUCT ALL REMEDIATION ACTIVITY DURING DAYLIGHT HOURS BETWEEN 7:00 A.M. AND 5:00 P.M., MONDAY THROUGH FRIDAY. CONTRACTOR SHALL COORDINATE WITH OWNER TO SCHEDULE INTERIOR RESTORATION WORK.
12. ALL PAVED AREAS, CURBING, AND SIDEWALKS DISTURBED BY THE CONTRACTOR BEYOND THE LIMITS OF WORK, INCLUDING PLACEMENT OF CATCH BASIN PROTECTION CONTROL AND SIGNAGE SHALL BE RESTORED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
13. THE EXISTING STORMWATER COLLECTION SYSTEM SHALL REMAIN AND THE CONTRACTOR SHALL PROTECT CATCH BASINS, STORMWATER DRAINS, AND MANHOLES WITHIN THE LIMIT OF WORK PER DRAWINGS AND SPECIFICATION SECTION 01 57 19-ENVIRONMENTAL PROTECTION.
14. CONTRACTOR SHALL UTILIZE ONLY AREAS WITHIN THE LIMIT OF WORK FOR EMPLOYEE PARKING, VEHICLE AND EQUIPMENT STORAGE, AND TEMPORARY MATERIAL/DEBRIS STAGING AS SHOWN ON THE DRAWINGS AND PER SPECIFICATION SECTIONS 01 12 16-SCOPE AND SEQUENCE OF WORK, 01 11 00-CONTROL OF WORK AND MATERIALS, AND 01 14 00-SPECIAL PROVISIONS, UNLESS OTHERWISE APPROVED BY OWNER.
15. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SITE RELATED DUST CONTROL PER SPECIFICATION SECTION 01 14 19.16-DUST CONTROL.
16. ALL MATERIAL HAULING VEHICLES SHALL BE COMPLETELY COVERED PRIOR TO LEAVING THE SITE.
17. THE CONTRACTOR SHALL KEEP THE SITE ENTRANCES AND EXITS, AS SHOWN ON THE CONTRACT DRAWING, OPEN, ACCESSIBLE, AND FREE OF DEBRIS, MATERIALS, AND/OR EQUIPMENT AT ALL TIMES DURING THE PROJECT. ACCESS MUST BE AVAILABLE TO THE OWNER, POLICE, AND FIRE DEPARTMENTS AT ALL TIMES.
18. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WHEEL CLEANING OF ALL CONSTRUCTION VEHICLES PRIOR TO ENTERING STREETS AND ROADWAYS. CONTRACTOR SHALL ENSURE THAT MATERIAL HAULING VEHICLES REMAIN ON PAVED SURFACES AS MUCH AS POSSIBLE. ALL MATERIAL GENERATED AS A RESULT OF WHEEL CLEANING SHALL BE DISPOSED OF PROPERLY IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS.
19. ALL SOLID WASTE AND HAZARDOUS WASTE SHALL BE MANAGED IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS.
20. MISCELLANEOUS DISCREPANCIES OR OMISSIONS THAT MAY NOT APPEAR ON THE PLANS OR SPECIFICATIONS WILL NOT RELIEVE THE CONTRACTOR FROM CODE COMPLIANCE.

Project:
REMEDIATION OF PCB-IMPACTED STREA SEDIMENT
ENVIANCE SPILL NUMBER CWC-18-00543

27 PARSONS LANE,
DURHAM, CT

Weston & Sampson
Weston & Sampson Engineers, Inc.
712 Brook Street, Suite 103
Rocky Hill, CT 06067
860.513.1473 800.SAMPSON
www.westonandsampson.com

Consultants:

Revisions:

No.	Date	Description
1	10/8/2024	DRAINAGE LAYOUT, APPROACH

Seal:

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W&S File No.:

Drawing Title:
NOTES, LEGEND, & ABBREVIATIONS

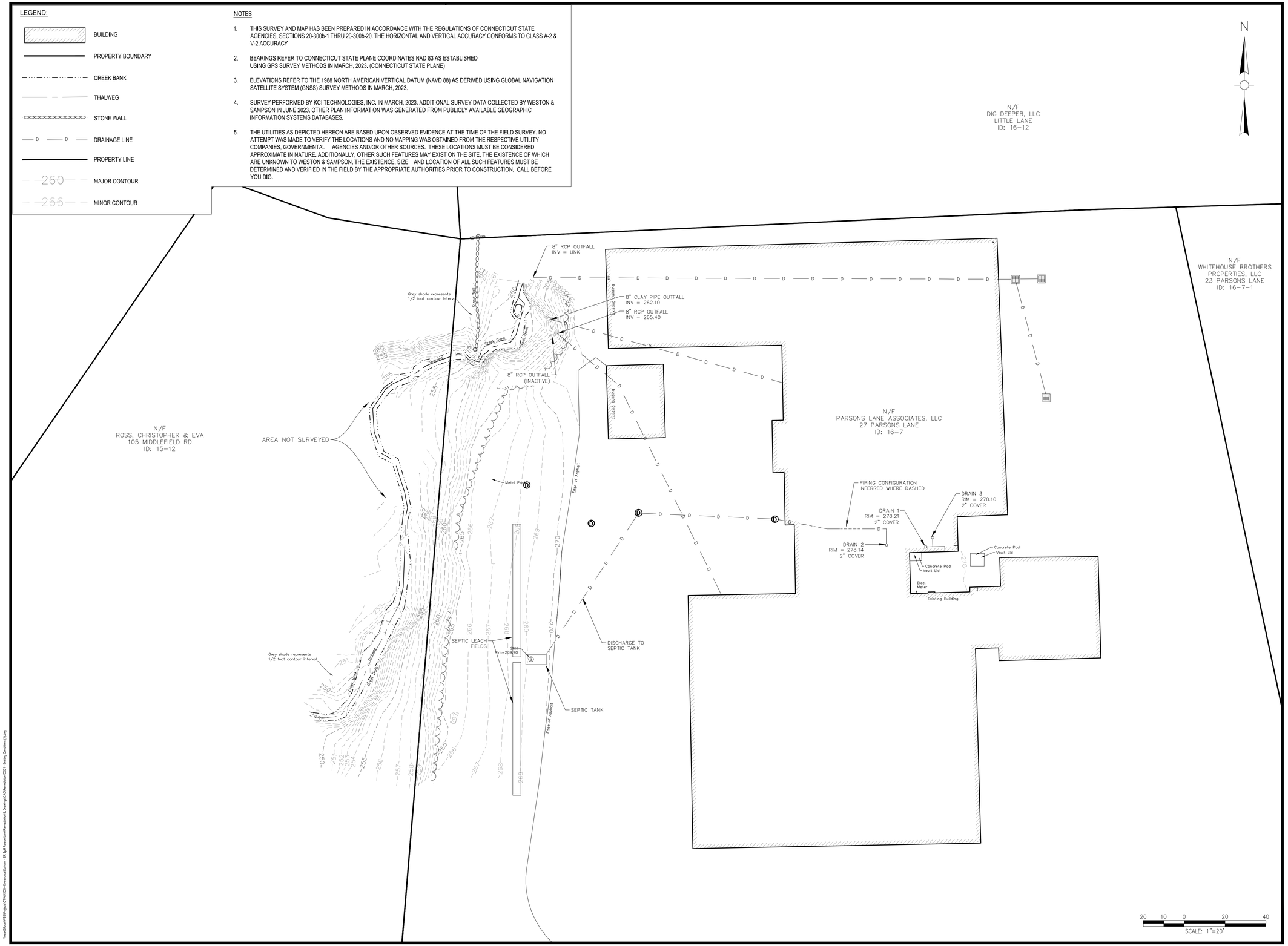
Sheet Number:
G001

LEGEND:

- BUILDING
- PROPERTY BOUNDARY
- CREEK BANK
- THALWEG
- STONE WALL
- D — D — DRAINAGE LINE
- PROPERTY LINE
- 260 MAJOR CONTOUR
- 266 MINOR CONTOUR

NOTES

1. THIS SURVEY AND MAP HAS BEEN PREPARED IN ACCORDANCE WITH THE REGULATIONS OF CONNECTICUT STATE AGENCIES, SECTIONS 20-300b-1 THRU 20-300b-20. THE HORIZONTAL AND VERTICAL ACCURACY CONFORMS TO CLASS A-2 & V-2 ACCURACY
2. BEARINGS REFER TO CONNECTICUT STATE PLANE COORDINATES NAD 83 AS ESTABLISHED USING GPS SURVEY METHODS IN MARCH, 2023. (CONNECTICUT STATE PLANE)
3. ELEVATIONS REFER TO THE 1988 NORTH AMERICAN VERTICAL DATUM (NAVD 88) AS DERIVED USING GLOBAL NAVIGATION SATELLITE SYSTEM (GNSS) SURVEY METHODS IN MARCH, 2023.
4. SURVEY PERFORMED BY KCI TECHNOLOGIES, INC. IN MARCH, 2023. ADDITIONAL SURVEY DATA COLLECTED BY WESTON & SAMPSON IN JUNE 2023. OTHER PLAN INFORMATION WAS GENERATED FROM PUBLICLY AVAILABLE GEOGRAPHIC INFORMATION SYSTEMS DATABASES.
5. THE UTILITIES AS DEPICTED HEREON ARE BASED UPON OBSERVED EVIDENCE AT THE TIME OF THE FIELD SURVEY. NO ATTEMPT WAS MADE TO VERIFY THE LOCATIONS AND NO MAPPING WAS OBTAINED FROM THE RESPECTIVE UTILITY COMPANIES, GOVERNMENTAL AGENCIES AND/OR OTHER SOURCES. THESE LOCATIONS MUST BE CONSIDERED APPROXIMATE IN NATURE. ADDITIONALLY, OTHER SUCH FEATURES MAY EXIST ON THE SITE, THE EXISTENCE OF WHICH ARE UNKNOWN TO WESTON & SAMPSON. THE EXISTENCE, SIZE AND LOCATION OF ALL SUCH FEATURES MUST BE DETERMINED AND VERIFIED IN THE FIELD BY THE APPROPRIATE AUTHORITIES PRIOR TO CONSTRUCTION. CALL BEFORE YOU DIG.



Project:

REMEDIATION OF
PCB-IMPACTED STREA
SEDIMENT
ENVIANCE SPILL NUMBER
CWC-18-00543

27 PARSONS LANE,
DURHAM, CT

Weston & Sampson Engineers, Inc.
712 Brook Street, Suite 103
Rocky Hill, CT 06067
860.513.1473 800.SAMPSON
www.westonandsampson.com

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W&S File No.:

Drawing Title:

EXISTING
CONDITIONS PLAN

Sheet Number:

C001

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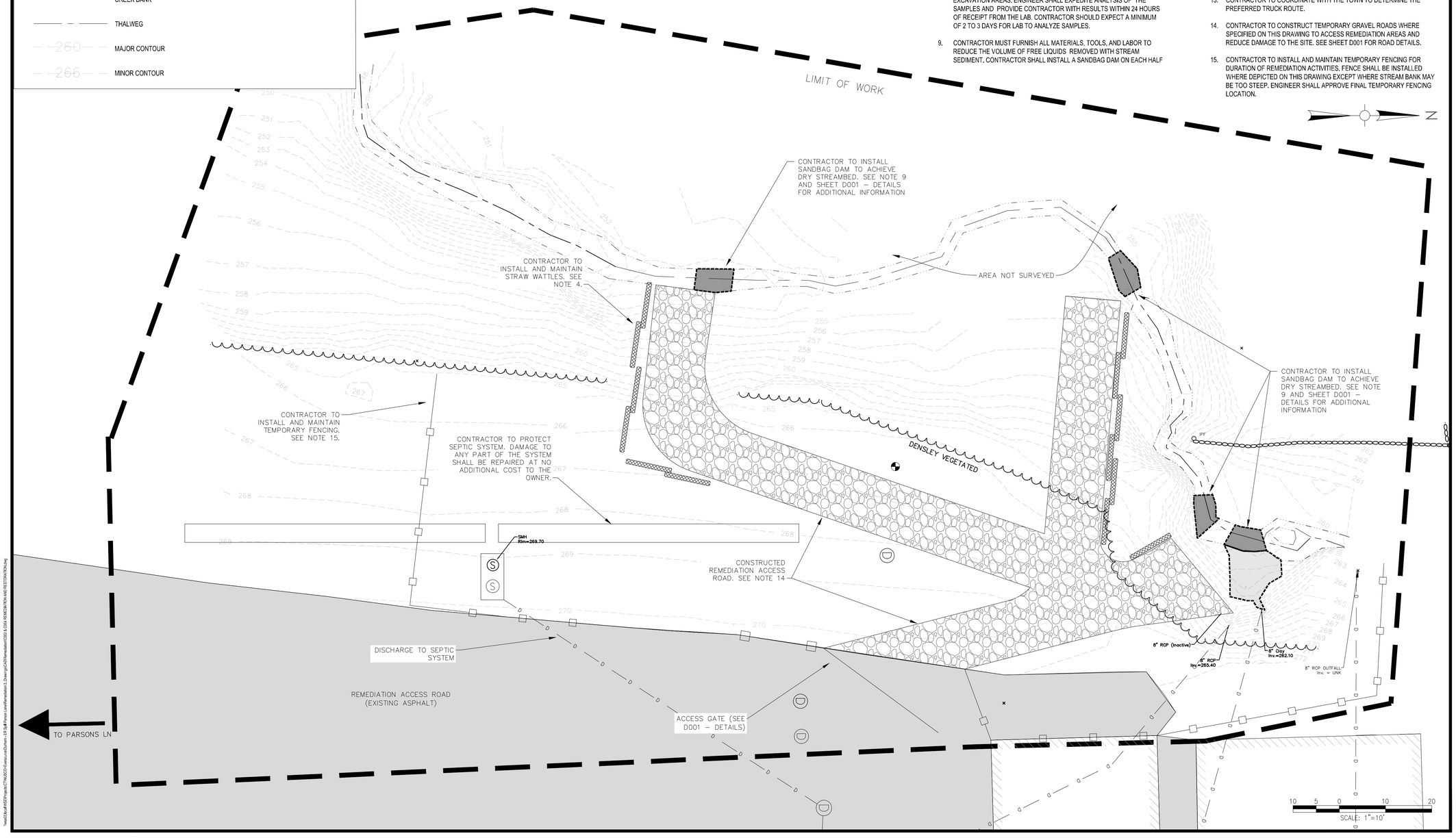
Rev. 1.3 Date: 10/08/2019

LEGEND:

- BUILDING
- PAVEMENT
- STONE WALL
- ACCESS ROAD
- LIMIT OF WORK
- TEMPORARY FENCE
- PROPOSED STREAM REMEDIATION AREAS (1.0 FT DEPTH)
- PROPOSED DRAINAGE CHANNEL REMEDIATION AREA (2.0 FT DEPTH)
- CREEK BANK
- THALWEG
- 260 MAJOR CONTOUR
- 266 MINOR CONTOUR

NOTES:

1. THIS PLAN WAS GENERATED FROM A SURVEY COMPLETED BY KCI TECHNOLOGIES, INC. IN MARCH, 2023. ADDITIONAL DETAILS WERE ACQUIRED THROUGH AERIAL PHOTOGRAPHY, STATE PARCEL DATA, HISTORICAL SITE PLANS, MUNICIPAL RECORDS, AND A SITE VISIT BY WESTON & SAMPSON PERSONNEL ON JUNE 21, 2023.
2. UTILITIES DEPICTED ON THIS DRAWING WERE OBTAINED FROM RECORD DRAWINGS PROVIDED BY EVERSOURCE, ELECTRONIC PIPE LOCATING EQUIPMENT, TEST PITS, AND MUNICIPAL RECORDS. UTILITY LOCATIONS ARE APPROXIMATE. EXACT LOCATIONS SHALL BE FIELD VERIFIED VIA PRIVATE UTILITY LOCATOR AND/OR TEST PITTING, AS REQUIRED BY THE ENGINEER AND SECTION 01 14 00 - SPECIAL PROVISIONS.
3. FOR GENERAL NOTES, REFER TO SHEET G001.
4. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN EROSION AND SEDIMENT CONTROLS (I.E. STRAW WATTLES, SILT FENCING, CATCH BASIN INLET PROTECTION) FOR THE DURATION OF THE PROJECT. AT A MINIMUM, THE CONTRACTOR SHALL INSTALL STRAW WATTLES AND SILT FENCING AS SHOWN ON THIS DRAWING AND AT ANY OTHER LOCATIONS REQUIRED TO KEEP SURFACE WATER RUNOFF WITHIN THE LIMITS OF WORK. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE FURNISHED, INSTALLED, MAINTAINED, AND REPLACED BY THE CONTRACTOR AS NEEDED TO ENSURE THAT SEDIMENT-LADEN WATER DOES NOT LEAVE THE LIMITS OF WORK. SEE SPECIFICATION SECTION 01 57 19-ENVIRONMENTAL PROTECTION FOR ADDITIONAL INFORMATION. VEHICLES LEAVING THE SITE SHALL NOT CARRY OUT MUD OR DIRT FROM THE SITE ON THE VEHICLE BODY OR WHEELS.
5. THE CONTRACTOR SHALL PERFORM INSPECTIONS OF THE ENVIRONMENTAL CONTROLS OR HAVE A CONSULTING ENGINEER PERFORM INSPECTIONS EVERY SEVEN (7) DAYS OR WITHIN 24 HOURS AFTER A STORM OF 0.5 INCH OR GREATER. INSPECTION REPORTS ARE TO BE KEPT ON FILE AT THE SITE. MAINTENANCE OR MODIFICATION TO THE ENVIRONMENTAL CONTROLS SHALL BE IMPLEMENTED AND THE INFORMATION DOCUMENTED AS RECOMMENDED BY THE ENGINEER AT NO ADDITIONAL COST TO THE OWNER.
6. THE CONTRACTOR WILL NOT BE ALLOWED TO DISTURB AREAS OUTSIDE OF THE LIMIT OF WORK. ANY DAMAGE TO AREAS OUTSIDE THE LIMITS OF WORK SHALL BE IMMEDIATELY REPAIRED BY THE CONTRACTOR, AS SPECIFIED IN SPECIFICATION SECTION 01 11 00 - CONTROL OF WORK AND MATERIALS, AT NO ADDITIONAL COST TO THE OWNER.
7. CONTRACTOR TO STAKE OUT EXCAVATION AREAS FOR REVIEW AND APPROVAL BY THE ENGINEER PRIOR TO EXCAVATION. ENGINEER TO PROVIDE CONTRACTOR GPS POLYGONS OF EXCAVATION AREAS. CONTRACTOR SHALL ESTABLISH AND MAINTAIN SOIL EXCAVATION AREA LIMITS/PERIMETER USING APPROPRIATE SURVEY INSTRUMENT LAYOUT TECHNIQUES, AS WELL AS ESTABLISH VERTICAL CONTROL POINTS IN THE VICINITY OF THE SOIL EXCAVATION AREAS SUCH THAT THE DEPTHS OF EXCAVATION CAN BE READILY DETERMINED FROM INSTRUMENT SURVEY BY THE CONTRACTOR AND APPROVED BY THE ENGINEERS.
8. EXCAVATION AREAS SHOWN ON THIS PLAN ARE APPROXIMATE LIMITS OF IMPACTED SOILS AND SHALL BE HANDLED AND DISPOSED OF IN ACCORDANCE WITH SPECIFICATION SECTION 02 61 00.16-HANDLING, TRANSPORTATION, REUSE, AND DISPOSAL OF EXCAVATED MATERIALS AND ALL RELEVANT LOCAL, STATE, AND FEDERAL REGULATIONS. THE CONTRACTOR SHALL REMOVE THE IMPACTED SOILS AND THE ENGINEER SHALL CONDUCT CONFIRMATORY SAMPLING FOR THE IMPACTED SOIL EXCAVATION AREAS. ENGINEER SHALL EXPEDITE ANALYSIS OF THE SAMPLES AND PROVIDE CONTRACTOR WITH RESULTS WITHIN 24 HOURS OF RECEIPT FROM THE LAB. CONTRACTOR SHOULD EXPECT A MINIMUM OF 2 TO 3 DAYS FOR LAB TO ANALYZE SAMPLES.
9. CONTRACTOR MUST FURNISH ALL MATERIALS, TOOLS, AND LABOR TO REDUCE THE VOLUME OF FREE LIQUIDS REMOVED WITH STREAM SEDIMENT. CONTRACTOR SHALL INSTALL A SANDBAG DAM ON EACH HALF OF THE STREAM TO ACHIEVE A DRY STREAMBED. AFTER EXCAVATION OF ONE HALF OF THE STREAM, ENGINEER TO COLLECT CONFIRMATORY SAMPLES. SEE DETAIL SHEET D001, SECTION 01 12 16 - SCOPE AND SEQUENCE OF WORK , AND SECTION 31 23 19 - DEWATERING FOR ADDITIONAL INFORMATION
10. IMPACTED MATERIAL MAY BE ENCOUNTERED BEYOND THE LIMITS OF EXCAVATION IDENTIFIED ON THESE DRAWINGS. THE CONTRACTOR MAY BE REQUIRED TO EXTEND EXCAVATION ACTIVITIES, AS REQUIRED BY THE ENGINEER AND WITHIN THE LIMITS OF WORK, BASED ON CONFIRMATORY SAMPLING RESULTS. THE CONTRACTOR SHALL REMAIN RESPONSIBLE FOR EXCAVATION SUPPORT FOR THE EXTENDED AREA. COMPENSATION FOR ANY ENGINEER APPROVED ADDITIONAL EXCAVATION WILL BE BASED ON THE UNIT RATES IN THE BID FORM.
11. CONTRACTOR SHALL NOT BACKFILL EXCAVATED AREAS UNTIL OWNER HAS RECEIVED AND APPROVED CONFIRMATORY SAMPLING RESULTS. ADDITIONAL EXCAVATION MAY BE REQUIRED BASED ON CONFIRMATORY SAMPLING RESULTS.
12. BACKFILLING AND SITE RESTORATION SHALL BE PERFORMED FOLLOWING THE COMPLETION OF ALL SOIL REMOVAL ACTIVITIES AS SHOWN ON SHEET C004.
13. CONTRACTOR TO COORDINATE WITH THE TOWN TO DETERMINE THE PREFERRED TRUCK ROUTE.
14. CONTRACTOR TO CONSTRUCT TEMPORARY GRAVEL ROADS WHERE SPECIFIED ON THIS DRAWING TO ACCESS REMEDIATION AREAS AND REDUCE DAMAGE TO THE SITE. SEE SHEET D001 FOR ROAD DETAILS.
15. CONTRACTOR TO INSTALL AND MAINTAIN TEMPORARY FENCING FOR DURATION OF REMEDIATION ACTIVITIES. FENCE SHALL BE INSTALLED WHERE DEPICTED ON THIS DRAWING EXCEPT WHERE STREAM BANK MAY BE TOO STEEP. ENGINEER SHALL APPROVE FINAL TEMPORARY FENCING LOCATION.



Project:

REMEDIATION OF PCB-IMPACTED STREA SEDIMENT
ENVIANCE SPILL NUMBER CWC-18-00543

27 PARSONS LANE, DURHAM, CT

Weston & Sampson
Weston & Sampson Engineers, Inc.
712 Brook Street, Suite 103
Rocky Hill, CT 06067
860.513.1473 800.SAMPSON
www.westonandsampson.com

Consultants:

Revisions:

No.	Date	Description
1	10/8/2024	DRAINAGE LAYOUT, APPROACH

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Drawing Title:

SITE PREPARATION AND REMEDIATION PLAN

Sheet Number:

C002

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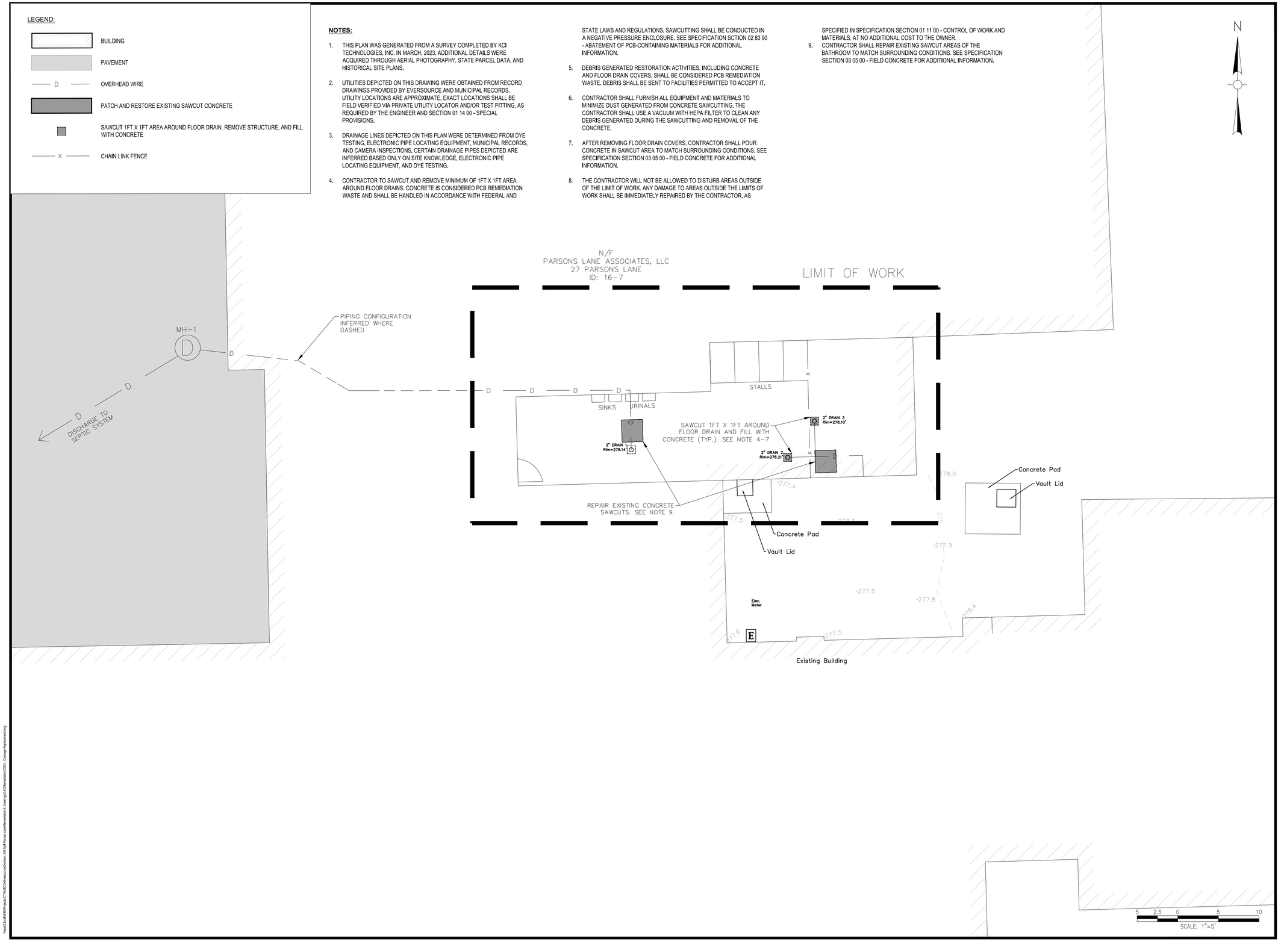
LEGEND:

- BUILDING
- PAVEMENT
- D — OVERHEAD WIRE
- PATCH AND RESTORE EXISTING SAWCUT CONCRETE
- SAWCUT 1FT X 1FT AREA AROUND FLOOR DRAIN, REMOVE STRUCTURE, AND FILL WITH CONCRETE
- X — CHAIN LINK FENCE

NOTES:

1. THIS PLAN WAS GENERATED FROM A SURVEY COMPLETED BY KCI TECHNOLOGIES, INC. IN MARCH, 2023, ADDITIONAL DETAILS WERE ACQUIRED THROUGH AERIAL PHOTOGRAPHY, STATE PARCEL DATA, AND HISTORICAL SITE PLANS.
2. UTILITIES DEPICTED ON THIS DRAWING WERE OBTAINED FROM RECORD DRAWINGS PROVIDED BY EVERSOURCE AND MUNICIPAL RECORDS. UTILITY LOCATIONS ARE APPROXIMATE. EXACT LOCATIONS SHALL BE FIELD VERIFIED VIA PRIVATE UTILITY LOCATOR AND/OR TEST PITTING, AS REQUIRED BY THE ENGINEER AND SECTION 01 14 00 - SPECIAL PROVISIONS.
3. DRAINAGE LINES DEPICTED ON THIS PLAN WERE DETERMINED FROM DYE TESTING, ELECTRONIC PIPE LOCATING EQUIPMENT, MUNICIPAL RECORDS, AND CAMERA INSPECTIONS. CERTAIN DRAINAGE PIPES DEPICTED ARE INFERRED BASED ONLY ON SITE KNOWLEDGE, ELECTRONIC PIPE LOCATING EQUIPMENT, AND DYE TESTING.
4. CONTRACTOR TO SAWCUT AND REMOVE MINIMUM OF 1FT X 1FT AREA AROUND FLOOR DRAINS. CONCRETE IS CONSIDERED PCB REMEDIATION WASTE AND SHALL BE HANDLED IN ACCORDANCE WITH FEDERAL AND STATE LAWS AND REGULATIONS. SAWCUTTING SHALL BE CONDUCTED IN A NEGATIVE PRESSURE ENCLOSURE. SEE SPECIFICATION SCTION 02 83 90 - ABATEMENT OF PCB-CONTAINING MATERIALS FOR ADDITIONAL INFORMATION.
5. DEBRIS GENERATED RESTORATION ACTIVITIES, INCLUDING CONCRETE AND FLOOR DRAIN COVERS, SHALL BE CONSIDERED PCB REMEDIATION WASTE. DEBRIS SHALL BE SENT TO FACILITIES PERMITTED TO ACCEPT IT.
6. CONTRACTOR SHALL FURNISH ALL EQUIPMENT AND MATERIALS TO MINIMIZE DUST GENERATED FROM CONCRETE SAWCUTTING. THE CONTRACTOR SHALL USE A VACUUM WITH HEPA FILTER TO CLEAN ANY DEBRIS GENERATED DURING THE SAWCUTTING AND REMOVAL OF THE CONCRETE.
7. AFTER REMOVING FLOOR DRAIN COVERS, CONTRACTOR SHALL POUR CONCRETE IN SAWCUT AREA TO MATCH SURROUNDING CONDITIONS. SEE SPECIFICATION SECTION 03 05 00 - FIELD CONCRETE FOR ADDITIONAL INFORMATION.
8. THE CONTRACTOR WILL NOT BE ALLOWED TO DISTURB AREAS OUTSIDE OF THE LIMIT OF WORK. ANY DAMAGE TO AREAS OUTSIDE THE LIMITS OF WORK SHALL BE IMMEDIATELY REPAIRED BY THE CONTRACTOR, AS SPECIFIED IN SPECIFICATION SECTION 01 11 00 - CONTROL OF WORK AND MATERIALS, AT NO ADDITIONAL COST TO THE OWNER.
9. CONTRACTOR SHALL REPAIR EXISTING SAWCUT AREAS OF THE BATHROOM TO MATCH SURROUNDING CONDITIONS. SEE SPECIFICATION SECTION 03 05 00 - FIELD CONCRETE FOR ADDITIONAL INFORMATION.



Project:

REMEDIATION OF PCB-IMPACTED STREA SEDIMENT
ENVIANCE SPILL NUMBER CWC-18-00543

27 PARSONS LANE,
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860.513.1473 800.SAMPSON
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1	10/8/2024	DRAINAGE LAYOUT, APPROACH

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Drawing Title:

INTERIOR RESTORATION PLAN

Sheet Number:

C003

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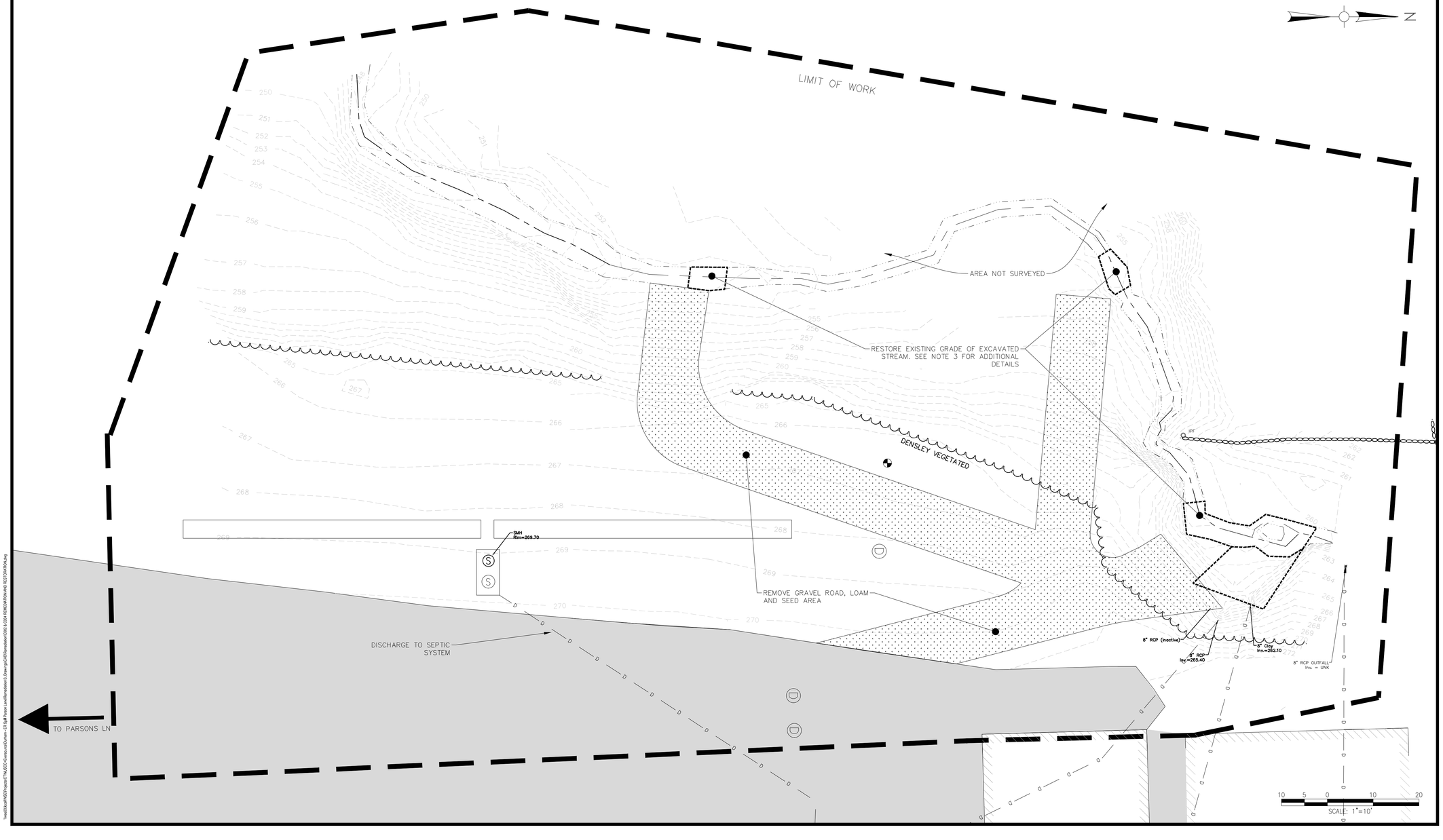
LEGEND:

- BUILDING
- PAVEMENT
- LOAM AND SEED
- STONE WALL
- TREE
- CREEK BANK
- THALWAG

NOTES:

1. THE CONTRACTOR SHALL REMOVE ALL TEMPORARY FENCING, GATES, ENVIRONMENTAL PROTECTIONS, AND DEWATERING SYSTEMS USED DURING CONSTRUCTION.
2. THE CONTRACTOR SHALL RESTORE STREAM AS REMEDIATION WORK IS ONGOING. ONCE ONE HALF OF STREAM HAS BEEN EXCAVATED AND ENGINEER PROVIDES APPROVAL TO CONTINUE WITH OTHER HALF OF STREAM, CONTRACTOR SHALL FIRST RESTORE THE EXCAVATED SIDE OF THE STREAM PER THE NOTE BELOW. SEE SECTION 01 12 16 - SCOPE AND SEQUENCE OF WORK FOR ADDITIONAL INFORMATION.
3. BACKFILLING TO MATCH EXISTING GRADES SHALL BE IN ACCORDANCE WITH SECTION 31 00 00 - EARTHWORK, THE CONTRACTOR SHALL BACKFILL AREAS IN THE STREAM WITH CONTROLLED FILL TO WITHIN 4-INCHES OF THE EXISTING GRADES. THE REMAINING 4-INCHES SHALL BE BACKFILLED WITH CRUSHED STONE TO MATCH PREEXISTING CONDITIONS, PER SECTION 31 00 00 EARTHWORK. THE CONTRACTOR SHALL BACKFILL AS CLOSE TO EXISTING GRADE AS POSSIBLE TO PREVENT PONDING
4. CONTRACTOR SHALL RESTORE GRASS AREAS TO MATCH PREEXISTING CONDITIONS PER SECTIONS 32 91 19 - LOAMING AND SEEDING.



Project:
REMEDIATION OF PCB-IMPACTED STREA SEDIMENT
ENVIANCE SPILL NUMBER CWC-18-00543

27 PARSONS LANE,
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Weston & Sampson Engineers, Inc.
712 Brook Street, Suite 103
Rocky Hill, CT 06067
860.513.1473 800.SAMPSON
www.westonandsampson.com

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SITE RESTORATION PLAN

Sheet Number:

C004

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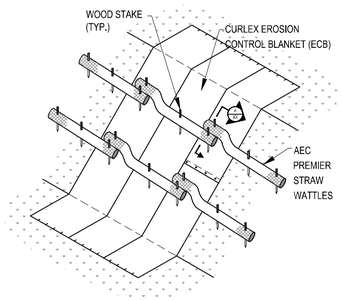
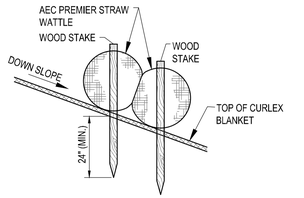
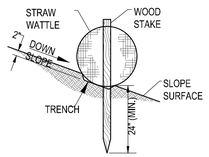


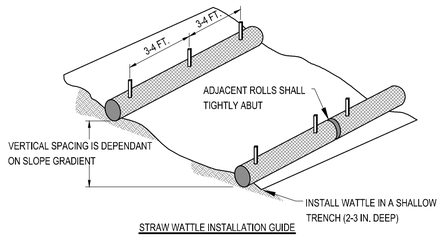
SLOPE DETAIL
N.T.S.



STAKE DETAIL SECTION
N.T.S.

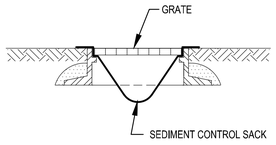


STAKE DETAIL (ON BARE SOIL)
N.T.S.

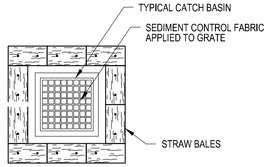


STRAW WATTLE INSTALLATION GUIDE
N.T.S.

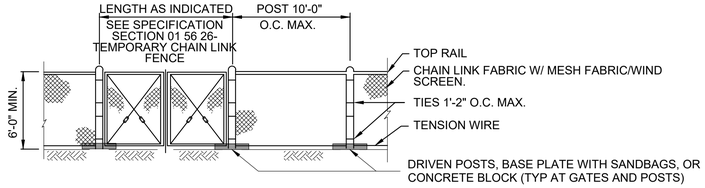
NOTES:
1. BEGIN AT THE LOCATION WHERE THE WATTLE IS TO BE INSTALLED BY EXCAVATING A 2-3" DEEP X 9" WIDE TRENCH ALONG THE CONTOUR OF THE SLOPE. EXCAVATED SOIL SHOULD BE PLACED UP-SLOPE FROM THE ANCHOR TRENCH.
2. PLACE THE WATTLE IN THE TRENCH SO THAT IT CONTOURS TO THE SOIL SURFACE. COMPACT SOIL FROM THE EXCAVATED TRENCH AGAINST THE WATTLE ON THE UPHILL SIDE. ADJACENT WATTLES SHOULD TIGHTLY ABUT.
3. SECURE THE WATTLE WITH 18-24" STAKES EVERY 3-4' AND WITH A STAKE ON EACH END. STAKES SHOULD BE DRIVEN THROUGH THE MIDDLE OF THE WATTLE LEAVING AT LEAST 2-3" OF STAKE EXTENDING ABOVE THE WATTLE. STAKES SHOULD BE DRIVEN PERPENDICULAR TO SLOPE FACE.



CATCH BASIN PROTECTION DETAIL
N.T.S.

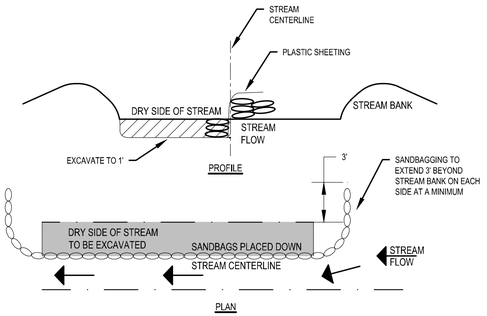


CATCH BASIN PROTECTION DETAIL
N.T.S.



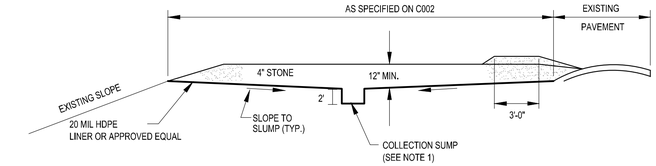
NOTE:
1. SEE SHEET C002 AND SPECIFICATION SECTION 01 56 26-TEMPORARY CHAIN LINK FENCE.
2. FENCE POSTS SHALL BE SUITABLE FOR DRIVING INTO THE GROUND, ANCHORING WITH BASE PLATES, OR INSERTING IN PRECAST CONCRETE BLOCKS PER SPECIFICATION SECTION 01 56 26 -TEMPORARY CHAIN LINK FENCE.
3. USE SANDBAGS, OR CONCRETE BLOCKS, ON BASE PLATES TO PREVENT TEMPORARY FENCE MOVEMENT.

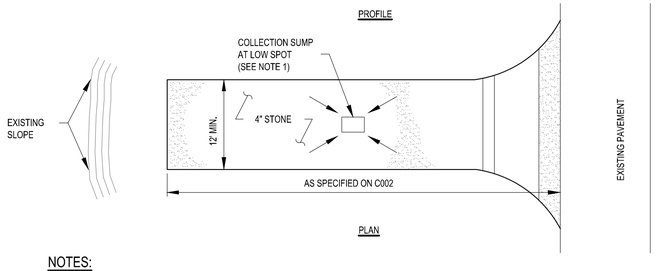
TEMPORARY CHAIN LINK FENCE AND GATE DETAIL
N.T.S.



STREAM DAMMING WITH SANDBAGS
N.T.S.

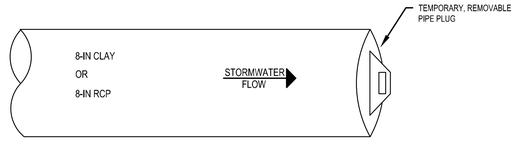
NOTES:
1. SANDBAGS SHOULD BE PLACED TO A HEIGHT APPROXIMATELY 3-FT ABOVE CURRENT WATER LEVEL, OR HIGH ENOUGH TO PREVENT FLOWING WATER DURING A STORM FROM OVERTOPPING THE DAM.
2. ONCE EXCAVATION BEGINS, CONTRACTOR SHALL PLACE PLASTIC SHEETING ALONG SIDEWALL OF EXCAVATION, AND PLACE ADDITIONAL SANDBAGS AT BOTTOM OF EXCAVATION TO PREVENT WATER FLOW FROM COMING UNDER SANDBAG WALL.
3. DAM SHALL COMPLY WITH ALL REQUIREMENTS AS OUTLINED IN SECTION 31 23 19 - DEWATERING





NOTES:
1. VEHICLES SHALL BE BRUSH CLEANED TO REMOVE SOIL/DEBRIS PRIOR TO EXITING. IF, AS REQUIRED BY THE ENGINEER, BRUSH CLEANING IS NOT EFFECTIVE IN DECONTAMINATING VEHICLES, THEN THE CONTRACTOR SHALL WASH THE VEHICLES. WASH STATION SHALL BE CONSTRUCTED WITH A 20 MIL HDPE LINER SYSTEM TO DRAIN TO 2' DEEP HDPE LINED COLLECTION SUMP. DECONTAMINATION WATER IN THE COLLECTION SUMP SHALL BE PUMPED TO A DECONTAMINATION WATER STORAGE VESSEL AND SHALL BE APPROPRIATELY DISPOSED OF AT A LICENSED DISPOSAL FACILITY IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS.
2. THE ACCESS ROAD SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SOIL/DEBRIS ONTO ADJACENT PAVED AREAS. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF THE COLLECTION SUMP. ALL SOIL/DEBRIS SPILLED, DROPPED, WASHED OR TRACKED ONTO ADJACENT PAVEMENT MUST BE REMOVED IMMEDIATELY.
3. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED BY THE CONTRACTOR AFTER EACH RAIN.

GRAVEL ACCESS ROAD / ANTI-TRACKING PAD
N.T.S.



1. TEMPORARY PLUG TO SECURELY ATTACH TO 8-IN RCP AND 8-IN CLAY DISCHARGE PIPES. FLOW SHALL NOT BE ALLOWED THROUGH TEMPORARY PLUG
2. TEMPORARY PLUG SHALL BE 'THE PIPE PLUG' MANUFACTURED BY EVERETT J. PRESCOTT OR SIMILAR
3. CONTRACTOR TO FULLY REMOVE PIPE PLUG ONCE CONTRACT IS COMPLETE.

TEMPORARY PLUG DETAIL
N.T.S.

Project:
REMEDIATION OF PCB-IMPACTED STREA SEDIMENT
ENVIANCE SPILL NUMBER CWC-18-00543

27 PARSONS LANE, DURHAM, CT

Weston & Sampson
Weston & Sampson Engineers, Inc.
712 Brook Street, Suite 103
Rocky Hill, CT 06067
860.513.1473 800.SAMPSON
www.westonandsampson.com

Consultants:

Revisions:

No.	Date	Description
1	10/8/2024	DRAINAGE LAYOUT, APPROACH

Seal:

COA:
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Drawn By:	PRB
Reviewed By:	JW
Approved By:	PVU
W&S Project No.:	
W&S File No.:	

Drawing Title:
DETAILS

Sheet Number:
D001

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Rev: 1.9 Date: 10/24/2019

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Weston & Sampson℠
westonandsampson.com
WESTON & SAMPSON ENGINEERS, INC.
273 Dividend Road
Rocky Hill, CT 06067
tel: 860.513.1473

CONTRACT DOCUMENTS

The Connecticut Light and Power Company d.b.a. Eversource Energy

Remediation of PCB-Impacted Stream Sediment
Enviance Spill Number CWC-18-00543

27 Parsons Lane and 105 Middlefield Road
Durham, Connecticut 06422

July 2024

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APPENDICES

Appendix A – Remedial Action Plan (RAP)

END OF SECTION

Bid Items
27 Parsons Lane and 105 Middlefield Road, Durham, CT

Item #	Item Description:	Qty	Unit	Unit Price	Fixed Price Total
1	Remediation	1	LS	$	$
2	Material Type A-1: Removal, Transport & Disposal of PCB Remediation Waste Solids to TSCA Landfill	**35**	Per Ton	$	$
3	Material Type A-2: Removal, Transport & Disposal of PCB Remediation Waste Liquids to TSCA Facility	**1,000**	Per Gallon	$	$
4	Material Type B-1: Removal, Transportation & Disposal of Non-RCRA hazardous waste designated CR02 Oily Wastewater	**1,000**	Per Gallon	$	$
	Fixed Price Total				$

SECTION 00 31 32
SUBSURFACE DATA

PART I - GENERAL

1.01 SCOPE:

A. Previous environmental investigation activities were conducted to assess contamination at the Site. Polychlorinated biphenyls (PCBs) were discovered during the investigation activities at concentration that triggered reporting and remedial obligations. Sediment from a drainage channel and portions of an intermittent stream shall be handled and disposed off-site per Section 02 61 00.16– Handling, Transportation, Reuse, and Off-Site Disposal of Excavated Materials. See attached Appendix A – Remedial Action Plan (dated March 2024) for additional information.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

END OF SECTION

SECTION 01 11 00

CONTROL OF WORK AND MATERIALS

PART 1 – GENERAL

Not Used

PART 2 – PRODUCTS

Not Used

PART 3 - EXECUTION

3.01 HAULING, HANDLING AND STORAGE OF MATERIALS:

A. The Contractor shall, at its own expense, handle and haul all materials furnished by it and shall remove any of its surplus materials at the completion of the work.

B. The Contractor shall provide suitable and adequate storage for equipment and materials furnished by it that are liable to injury and shall be responsible for any loss of or damage to any equipment or materials by theft, breakage, or otherwise.

C. All excavated materials and equipment to be incorporated in the Work shall be placed so as not to injure any part of the Work or existing facilities and so that free access can be had at all times to all parts of the Site. Materials and equipment shall be kept neatly piled and compactly stored in such location as will cause a minimum of inconvenience to public travel and adjoining property owners, tenants and occupants. Any hazardous waste shall be direct loaded into appropriate leak-tight containers.

D. The Contractor shall be responsible for all damages to the work under construction during its progress and until final completion and acceptance even though partial payments have been made under the Contract.

3.02 OPEN EXCAVATIONS:

A. All open excavations shall be adequately safeguarded by providing temporary barricades, caution signs, lights and other means to prevent accidents to persons, and damage to property. The Contractor shall, at its own expense, provide suitable and safe means for completely covering all open excavations when work is not in progress.

B. The limits of open excavation will be controlled by the particular surrounding conditions but shall always be confined to the limits prescribed by the Engineer.

C. If the excavation becomes a hazard, then special construction procedures shall be taken, such as limiting the size of open excavations and prohibiting stockpiling of excavated

material at the site.

3.03 CARE AND PROTECTION OF PROPERTY:

The Contractor shall be responsible for the preservation of all public and private property and shall use every precaution necessary to prevent damage thereto. If any direct or indirect damage is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the work on the part of the Contractor, such property shall be promptly restored by the Contractor, at its expense, to a condition similar or equal to that existing before the damage was done, to the satisfaction of the Engineer.

3.04 PROTECTION AND RELOCATION OF EXISTING STRUCTURES AND UTILITIES:

A. All existing buildings, utilities, pipes, poles, wires, fences, curbings, property line markers and other structures which the Engineer decides must be preserved in place without being temporarily or permanently relocated, shall be carefully supported and protected from damage by the Contractor. Should such property be damaged, it shall be restored by the Contractor, at the Contractor's own expense.

B. The Contractor shall determine the location of all underground structures and utilities (including existing water services, cellular communication facilities, and electrical lines).

C. On paved surfaces the Contractor shall not use or operate tractors, bulldozers, or other power-operated equipment with treads or wheels which are shaped so as to cut or otherwise damage such surfaces.

D. All property damaged by the Contractor's operations shall be restored to a condition at least equal to that in which it was found immediately before work was begun. Suitable materials and methods shall be used for such restoration.

E. Restoration of existing property and structures shall be carried out as promptly as practicable and shall not be left until the end of the construction period.

3.05 MAINTENANCE OF FLOW:

A. All existing drainage facilities including, but not limited to; brooks, streams, canals, channels, ditches, culverts, catch basins and drainage piping shall be adequately safeguarded, except where remediation or removal is specified in this Contract, so as not to impede drainage or to cause siltation of downstream areas in any manner whatsoever. If the Contractor damages or impairs any of the aforesaid drainage facilities, it shall repair the same within the same day.

B. At the conclusion of the work, the Contractor shall remove all silt in drainage structures caused by its operations as described in Section 01 74 13 – CLEANING UP.

3.06 REJECTED MATERIALS AND DEFECTIVE WORK:

A. Materials furnished by the Contractor and condemned by the Engineer as unsuitable or not in conformity with the specifications shall forthwith be removed from the work by the Contractor, and shall not be made use of elsewhere in the work.

B. Any errors, defects or omissions in the execution of the work or in the materials furnished by the Contractor, even though they may have been passed or overlooked or have appeared after the completion of the work, discovered at any time before the final payment is made hereunder, shall be forthwith rectified and made good by and at the expense of the Contractor and in a manner satisfactory to the Engineer.

C. The Contractor shall reimburse the The Connecticut Light and Power Company d.b.a. Eversource Energy, hereinafter referred to as the "Owner" for any expense, losses or damages incurred in consequence of any defect, error, omission or act of the Contractor or its employees, as determined by the Engineer, occurring previous to the final payment.

3.07 SANITARY REGULATIONS:

Sanitary conveniences for the use of all persons employed on the work, properly screened from public observation, shall be provided in sufficient numbers in such manner and at such locations as may be approved. The contents shall be removed and disposed of in a satisfactory manner as the occasion requires. The Contractor shall rigorously prohibit the committing of nuisances within, on or about the work. Any employees found violating these provisions shall be discharged and not again employed on the work without the written consent of the Engineer. The sanitary conveniences specified above shall be the obligation and responsibility of the Contractor.

3.08 SAFETY AND HEALTH REGULATIONS:

This project is subject to the Safety and Health regulations of the U.S. Department of Labor set forth in 29 CFR, Part 1926, and to the Connecticut Department of Labor Division of Occupational Safety and Health (CONN-OSHA). The Contractor shall be familiar with the requirements of these regulations.

3.09 SITE INVESTIGATION:

The Contractor acknowledges that it has satisfied itself as to the conditions existing at the site of the work, the type of equipment required to perform this work, the quality and quantity of the materials furnished insofar as this information is reasonably ascertainable from an inspection of the site, as well as from information presented by the drawings and specifications made a part of this contract. Any failure of the Contractor to acquaint itself with available information will not relieve it from the responsibility for estimating properly the difficulty or cost of successfully performing the work. The Owner assumes no responsibility for any conclusion or interpretation made by the Contractor on the basis

of the information made available by the Owner.

3.10 ELECTRIC SERVICE:

A. The Contractor shall make all necessary applications and arrangements and pay for all fees and charges for electrical energy for power and light necessary for the proper completion of this contract during its entire progress. The Contractor shall provide and pay for all temporary wiring, switches, connections, and meters or provide generators, if required, at no additional cost to the Owner. See Section 01 57 19 – ENVIRONMENTAL PROTECTION for noise control requirements if a generator is used.

B. There shall be sufficient electric lighting so that all work may be done in a workmanlike manner where there is not sufficient daylight.

3.11 HAZARDOUS WASTE:

Should the Contractor, while performing work under this contract, uncover unforeseen hazardous materials, as defined in Connecticut Remediation Standard Regulations, it shall immediately notify the Engineer. The Contractor is not, and has no authority to act as, a handler, generator, operator or disposer of hazardous or toxic substances found or identified at the site, and the Owner shall undertake all such functions.

END OF SECTION

SECTION 01 12 16

SCOPE AND SEQUENCE OF WORK

PART 1 – GENERAL

1.01 WORK INCLUDED:

The work under this contract includes the construction of temporary access roads down a slope to access a stream, placing of environmental protections, construction of temporary dams in the stream to achieve working in dry conditions, excavation and disposal of sediment from up to 2ft below grade in the streambed, up to 1ft below grade in a drainage channel, and concrete patching work inside a building. Work includes the handling and disposal of polychlorinated biphenyl (PCB) contaminated stream sediments and concrete, and site restoration. The stream and associated work is located at 27 Parsons Lane, Durham CT. Part of the Remediation area in the stream is located at 105 Middlefield Road, Durham CT.

1.02 EXISTING CONDITIONS

The Contractor shall note the project involves the handling of hazardous materials impacted with PCBs. PCB-Contaminated materials include stream sediments and the concrete floor as shown on Sheets C002 – Site Preparation and Remediation Plan and C003 – Interior Restoration Plan. See Section 00 31 32 – SUBSURFACE DATA for additional information.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

3.01 GENERAL:

A. The Contractor shall be responsible for scheduling its activities and the activities of any subcontractors involved, to meet the completion date, or milestones, established for the contract. Scheduling of the work shall be coordinated with the Owner and Engineer.

B. The Construction Sequence Requirements shall be used by the Contractor to form a complete schedule for the Project, which shall be coordinated with the Owner and Engineer. Prior to performing any work at the Site, the Contractor shall submit a detailed plan to the Engineer for review. The plan shall describe the proposed sequence, methods, and timing of the work.

C. The schedule shall consist of a Gantt Chart showing the sequence of work described herein including permitting, submittal preparation, Site mobilization, Site work (site preparation, remediation, drainage work, site restoration, etc.), project closeout, demobilization, and chart contract completion.

3.02 CONSTRUCTION SEQUENCE REQUIREMENTS:

A. The remediation work shall be completed in one (1) contiguous phase. The work of this project shall begin upon receipt of the "Notice to Proceed" from the Owner. A Pre-Construction Meeting shall be scheduled by the Owner and must be attended by the Contractor and any Sub-Contractors. The following outlines the sequence of work to be performed at the site:

1. Obtain remediation permits and develop and submit required project-specific plans/submittals, including, but not necessarily limited to, excavated materials management plan, health and safety plan, dust control plan, etc.
2. Install temporary fencing and wind screens, erosion and sedimentation controls, and suitable engineering controls as shown on Sheet C002 to prevent the spread of contamination during stream remediation work.
3. Perform GPS elevation surveys of access road locations and remediation areas prior to work beginning. No work shall be performed until results of the survey are provided to the Owner.
4. Construct two gravel access roads as shown on Sheet C002 and as detailed on Sheet D001.
5. Construct sandbag dam at each stream remediation area shown on Sheet C002 and detailed on Sheet D001.
6. Install bypass piping onto active stormwater conveyance pipes shown on sheet C002 and detailed on Sheet D001.
7. Once half of remediation area in the stream is dry, remove all dry soils to 1ft below ground surface in streambed as shown on Sheet C002. Any liquids collected with removed soils should be decanted, segregated from solids, and stored in 55-gallon drums.
8. Allow Engineer to collect confirmatory soil samples from excavation. Leave sandbag dam in place until confirmatory sample results are available.
9. Once Engineer and Owner give approval, complete restoration work in the dry stream as specified on Sheet C004. Once restoration of half the stream has been completed, shift sandbag dam to access other half of stream.
10. Once this half of remediation area is dry, remove all dry soils to 1ft below ground surface in streambed as shown on Sheet C002. Collect and segregate any liquids into 55-gallon drums.
11. Repeat step 7.
12. Remove soils in drainage channel to 2ft below ground surface as shown on Sheet C002. Allow engineer to collect confirmatory samples from excavation. Collect and segregate any liquids into 55-gallon drums.
13. While confirmatory samples are being analyzed leave sandbag dam in place, complete interior restoration.

a. Patch concrete and floor drains as specified in sheet C004.

14. Backfill remaining excavated area per Section 31 00 00 - EARTHWORK.
15. Restore any disturbed areas with loam and seed to match preexisting conditions site per Sheet C004.

END OF SECTION

SECTION 01 14 00

SPECIAL PROVISIONS

PART 1 - GENERAL

Not Used

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

3.01 WATER FOR CONSTRUCTION PURPOSES:

A. The Contractor shall coordinate with the Town of Durham for use and payment of a nearby hydrant (if available) for the purposes of dust control for the duration of the project. Contractor cannot run water lines across the street but may use the hydrant to fill water truck after coordination and approval form the Town. If a hydrant is not available for use, the Contractor shall provide water tanks/truck at no additional cost to the Owner.

3.02 DIMENSIONS OF EXISTING STRUCTURES:

Where the dimensions and locations of existing structures are of critical importance, the Contractor shall verify such dimensions and locations in the field before site remediation activities.

3.03 OCCUPYING PRIVATE PROPERTY:

The Contractor shall not enter upon nor occupy with workers, equipment or materials any property outside of the public highways or Owner's easements, except with the written consent of the property owner or property owner's agent. Contractor shall confirm with Owner that access to 27 Parsons Lane and 105 Middlefield Road parcel is available before work begins.

3.04 EXISTING UTILITY LOCATIONS – CONTRACTOR'S RESPONSIBILITY:

A. It is not warranted that all existing utilities and services are shown, or that shown locations are correct. The Contractor shall be responsible for hiring a private utility locator and having the utility companies locate their respective utilities on the ground prior to excavating.

B. To satisfy the requirements of Connecticut law, Section 16-345-4(a)(1), the Contractor shall, at least 48 hours, exclusive of Saturdays, Sundays and holidays, prior to excavation

in the proximity of telephone, gas, cable television and electric utilities, notify the utilities concerned by calling "Call Before You Dig" at telephone number: 1-800-922-4455.

C. The Contractor shall coordinate all work involving utilities and shall satisfy itself as to the existing conditions of the areas in which it is to perform their work. It shall conduct and arrange its work so as not to impede or interfere with the work of other contractors working in the same or adjacent areas.

D. The Contractor shall excavate and backfill test pits as necessary to determine the exact location(s) of existing utility facilities that are near or have the potential to be impacted by the work of this contract. The size, depth and location of test pits shall be approved by the Engineer.

3.05 COORDINATION OF WORK:

The General Contractor shall be responsible for coordinating its own work as well as that of any subcontractors. It shall be responsible for notification of the Engineer when each phase of work is expected to begin and the approximate completion date.

3.06 TIME FOR COMPLETION OF CONTRACT:

The Bidder shall base their bid on completing the proposed work by the completion date per Agreement with Owner.

3.07 SIGNS:

A. The Contractor shall install and maintain construction signs for the duration of the Project. Signs to be installed and maintained by the Contractor include, but not limited to: project signs, "Construction Area" signs, "No Trespassing/Keep Out" signs, or any other signage required by law/regulation or other Sections.

B. The Contractor shall provide adequate support for the sign as determined by the Engineer. All supports, trim, and back of sign shall be painted with at least two coats of exterior paint.

C. The project sign shall be coordinated with the Owner prior to fabrication and shall be maintained by the Contractor in good condition at all times for the duration of construction. The Contractor shall remove the sign upon completion of construction.

3.08 COMPLIANCE WITH PERMITS:

A. The Contractor shall perform all work in conformance with requirements of the Permits, which appear in Section 01 31 43 – PERMITS.

3.09 CONTRACTOR'S REPRESENTATIVE:

A. The Contractor shall designate a representative who will be available to respond to emergency calls by the Owner at any time day and night and on weekends and holidays should such a situation arise.

3.10 HOURS OF CONSTRUCTION ACTIVITY:

A. The Contractor shall conduct all remediation activity between 7:00 a.m. and 5:00 p.m., Monday through Friday. Contractor to coordinate with Owner and Engineer to schedule indoor work. No truck or vehicle idling will be allowed before 7:00 a.m. at the site. No construction work shall be allowed on Saturdays, Sundays or Holidays without written authorization from the Owner.

END OF SECTION

SECTION 01 14 19.16

DUST CONTROL

PART 1 - GENERAL

1.01 DESCRIPTION:

A. This Section specifies requirements for controlling dust generated during work of this Contract. Work activities requiring special attention to dust control include containerizing, loading, and removal of material from the site, earthwork, concrete cutting, and remediation activities. Dust generated during the course of the Work must be controlled and kept on-site.

B. The Contractor is responsible for control of dust at all times during work of this Contract, 24 hours per day, 7 days per week, including non-working hours, weekends, and holidays.

C. The Contractor is responsible for monitoring and providing data from dust control data loggers.

D. During the progress of the work, the Contractor shall conduct its operations and maintain the area of his activities, including sweeping and sprinkling of streets as necessary, to minimize creation and dispersion of dust. The Contractor is responsible for dust monitoring during the work. The Engineer may perform air/dust monitoring for confirmation purposes. If dust exceeds action levels described in this Section, or determined to be a nuisance by the Engineer, the Contractor shall be responsible for implementing additional engineering controls (e.g. additional dust suppression agents, wind screens), as directed by the Engineer, and described in this Section at no additional cost to the Owner.

E. The Contractor is responsible for daily clean-up of public roadways, adjacent driveways/parking lots, and walkways affected by work of this Contract. A wet spray power vacuum street sweeper shall be used on pavement, as required. Dry power sweeping is prohibited. The Contractor shall be responsible for supplying a water tank/truck for dust control if fire hydrants are unusable or inaccessible.

1.02 RELATED WORK:

A. Section 01 14 00 – SPECIAL PROVISIONS
B. Section 01 35 29 – HEALTH AND SAFETY PLAN
C. Section 01 57 19 – ENVIRONMENTAL PROTECTION
D. Section 02 61 00.16 – HANDLING, TRANSPORTATION, REUSE AND OFF-SITE DISPOSAL OF EXCAVATED MATERIALS
F. Section 02 83 90 – ABATEMENT OF PCB-CONTAINING MATERIALS
E. Section 31 00 00 – EARTHWORK

1.03 REGULATORY REQUIREMENTS:

A. Work of this Contract shall be conducted in a manner that will not result in excessive particulate matter emissions, nuisance dust conditions, PM_{10} (particulate matter with an aerodynamic diameter less than or equal to 10 microns) emissions, or PM_{10} concentrations exceeding the "Action Level" for dust at the Site of 120 $\mu g/m^3$ on 24-hour average basis. However, 15-minute spikes of 120 $\mu g/m^3$ will require additional dust control via water hoses and/or misting.

1.04 SUBMITTALS:

A. Contractor shall submit a Dust Control Plan that outlines in detail the measures that will be implemented to comply with this Section, including suppression, wind screens and barriers, prevention, cleanup, and other measures. Plan shall be submitted to the Engineer within fifteen calendar days following the date of the Notice to Proceed.

B. Contractor shall submit to the Engineer product literature and Safety Data Sheets for any dust suppression wetting agents and stabilizers that the Contractor proposes to use.

1.05 QUALITY CONTROL:

A. The Contractor shall conduct air monitoring with a Mini RAM monitor, or equivalent, to ensure dust is being controlled at the site. The Contractor shall have, at a minimum, four Mini RAM monitors placed around the perimeter of the Site for the duration of Work at the Site. Locations shall be submitted as part of the Contractor's Dust Control Plan. During the course of the Work, the Contractor shall be responsible for implementing engineering controls (e.g., wetting, calcium chloride) to minimize or eliminate fugitive dust emissions. If dust exceeds action levels described below or determined to be a nuisance by the Engineer (e.g. dust clouds), the Contractor shall be responsible for implementing additional engineering controls (e.g., additional dust suppression agents, wind screens), as directed by the Engineer. If additional wet suppression (water) and/or wind screens, barriers, or covers are required per the Engineer based on air/dust monitoring results, they shall be at no additional cost to the Owner. The Contractor is responsible for monitoring and providing data from dust control data loggers to the Engineer at the end of each day.

PART 2 - PRODUCTS

2.01 DUST SUPPRESSION AGENTS:

A. Dust suppression wetting agents shall be water soluble, non-toxic, non-reactive, non-volatile, and non-foaming.

B. Soil stabilizer shall be a sprayable organic or inorganic tackifier.

2.02 BARRIERS, SCREENS, AND COVERS:

A. Wind screens shall be a durable fabric mesh of 50 percent porosity, attached to temporary site fence.

B. Wind barriers shall be solid wood fences, solid durable fabric attached to temporary site fence, or other solid barriers intended to block the passage of wind.

C. Covers for containers shall be plastic tarps.

2.03 CALCIUM CHLORIDE:

A. Calcium chloride shall conform to the requirements of AASHTO-M 144, Type I or Type II and Specification for Calcium Chloride, ASTM D98. The calcium chloride shall be packaged in moisture proof bags or in airtight drums with the manufacturer, name of product, net weight, and percentage of calcium chloride guaranteed by the manufacturer legibly marked on each container.

B. Calcium chloride failing to meet the requirements of the aforementioned specifications or that which has become caked or sticky in shipment, may be rejected by the Engineer.

2.04 WATER:

A. Water shall not be brackish and shall be free from oil, acid, and injurious alkali or vegetable matter.

PART 3 - EXECUTION

3.01 CONSTRUCTION SITE DUST CONTROL – GENERAL:

A. Wet suppression shall be used to provide temporary control of dust. Several applications per day may be necessary to control dust depending upon meteorological conditions and work activity. The Contractor shall apply wet suppression on a routine basis as necessary or required by the Engineer, to control dust. At a minimum, wet suppression shall be applied to excavated material, aggregate piles, and exposed soils and dirt.

1. Wet suppression consists of the application of water or a wetting agent in solution with water. Ensure wetting agent is not used on plantable soils.

2. Wet suppression equipment shall consist of sprinkler pipelines, tanks, tank trucks, or other devices capable of providing regulated flow, uniform spray, and positive shut-off.

3. Water may be sprinkler applied with equipment including a tank with gauge-equipped pressure pump and a nozzle-equipped spray bar.

4. Water shall be dispersed through the nozzle under a minimum pressure of 20 pounds per square inch, gauge pressure.

5. The Contractor shall provide the necessary means to retain on-site all water runoff generated by dust control and dispose of such water in accordance with the requirements of the appropriate regulatory agencies. The Contractor shall be responsible for providing water, a means of disposal, necessary permits, and all appurtenances required to control dust. Coordinate with the requirements of Section 01 57 19 – ENVIRONMENTAL PROTECTION

B. Calcium chloride shall be used to control dust instead of wet suppression when freezing conditions exist. Calcium chloride shall be uniformly applied by a mechanical spreader at 1 ½ pounds per square yard, unless otherwise required by the Engineer. Ensure vegetation or soil to be used for vegetation is not treated.

C. The use of petroleum products for dust suppression is prohibited in this Contract.

D. Provide wind screens and wind barriers in locations where they would be effective in minimizing wind erosion and spread of dust. Locations shall be submitted as part of the Contractor's Dust Control Plan. The Contractor shall keep wind screens and barriers in good repair for the life of the Contract.

E. The Contractor is responsible for daily clean-up of paved areas affected by the work of this Contract. A wet spray power vacuum street sweeper shall be used on paved areas. Dry power sweeping is prohibited.

3.02 AIR MONITORING

A. The Contractor is responsible for performing air monitoring for particulate dust at the perimeter of the site, as required to verify work is not resulting in generation of nuisance dust or exceedance of the action levels for PM10 (particulate matter with an aerodynamic diameter less than or equal to 10 microns) emissions, PM10 concentrations exceeding 120 µg/m3 on 24-hour average basis, or 15-minute spikes of 120 µg/m^3. The Engineer may also conduct air monitoring for quality assurance purposes. Should dust emissions exceed the NAAQS, then the Contractor shall stop all work and implement appropriate additional controls as needed to control the dust. Work may not proceed until all such controls are inspected/reviewed by the Engineer/Owner.

B. Perimeter air monitoring shall be provided on a continuous basis at a minimum of four dust monitors positioned at north, south, east, and west perimeter of the site using real-time measurement instruments (Mini RAM or equal) with continuous data logging capabilities. Contractor shall coordinate air monitoring locations with the Engineer and shall move monitoring locations as required as the work progresses. The Contractor shall provide air monitoring data to the Engineer at the end of each day.

C. The Contractor shall perform baseline dust monitoring prior to initiation of any remediation work. Baseline monitoring shall be performed for an appropriate length of time to evaluate pre-construction conditions.

D. The Contractor is responsible for monitoring air quality in the breathing zone within the limits of work. Monitoring shall be performed during those activities where there is the potential for exposure to the general public or on-site workers to impacted materials.

E. Perimeter and work zone air monitoring procedures shall be described in the Contractor's dust control plan. The Contractor shall submit copies of the air monitoring results daily to the Engineer.

3.03 PUBLIC ROADWAY DUST CONTROL:

A. Vehicles leaving the site shall have no mud and dirt on the vehicle body or wheels. Any foreign matter on the vehicle body or wheels shall be physically removed prior to vehicle's entering of a public roadway. Contractor shall not permit any truck to leave the site with exterior mud or dirt that has the potential to be deposited on public roadways.

B. Haul truck cargo areas shall be securely and completely covered during material transport on public roadways.

C. Vehicle mud and dirt carryout, material spills, and soil wash-out onto public roadways and walkways and other paved areas shall be cleaned up immediately.

D. The Contractor is responsible for daily clean-up of public roadways and walkways affected by work of this Contract. A wet spray power vacuum street sweeper shall be used on paved roadway. Dry power sweeping is prohibited.

3.04 CONTROL OF EARTHWORK DUST:

A. During batch drop operations (i.e., earthwork with front-end loader, clamshell bucket, or backhoe) the free drop height of excavated or aggregate material shall be reduced as much as practical to minimize the generation of dust.

B. To prevent spills during transport, freeboard space shall be maintained between the material load and the top of the truck cargo bed rail.

3.05 INTERIOR RESTORATION DUST CONTROL MEASURES:

A. The Contractor shall use water sprinkling, temporary enclosures, respirators, and other suitable methods to limit dust rising and scattering in the air to the lowest practical level. Sufficient water shall be supplied during concrete cutting to meet Federal, State, and local air-quality regulations and to minimize dust during floor drain removal and debris handling. Refer to Section 02 83 90 – Abatement of PCB-Containing Materials for additional information.

END OF SECTION

SECTION 01 22 00

MEASUREMENT AND PAYMENT

1. GENERAL

A. The following subsections describe the measurement of and payment for the work to be done under the items listed in the Bid Form.

B. All work performed as described in these Contract Documents will be paid for under one or more of the items listed in the Bid Form. All other activities required in connection with performance of the work, whether described in the Contract Documents or mandated by applicable codes, permits and laws, will not be separately paid for unless specifically provided for in the form of general bid, but will be considered incidental to performance of the overall project.

C. Each Unit or Lump-Sum price stated in the Bid Form shall constitute full compensation as herein specified for each item of work completed in accordance with the Contract Drawings and Specifications.

D. The payment items listed herein and in the Bid Form are intended to provide full payment for the work shown on the Contract Drawings and specified herein. **Any work called for or implied in the Contract Documents but not listed as a payment item shall be considered incidental to the overall project.**

E. Unless otherwise noted, each item shall be furnished, installed, and/or performed in accordance with the technical specification section whether a specific applicable payment item exists or not.

2. ITEM 1 - REMEDIATION

The lump sum price for Item 1 shall constitute full compensation for furnishing all labor, material, tools, and equipment necessary for mobilization/demobilization and to complete Site preparation and miscellaneous Site work as described in and required by the Contract Documents including, but not limited to: all permits and approvals required to complete Work, all submittals/plans, temporary facilities, temporary utility connection and use, constructing and maintaining temporary fencing, access roads, and gates as necessary, installing and maintaining environmental protection controls, clearing and grubbing within the Limits of Work as specified, signage/traffic control, erosion and dust/air monitoring and control, odor and noise control, catch basin inlet protection, rodent control, preparing and implementing a health and safety plan, preparing and submitting As-Built Documents, cleaning up, and all other work shown on the Drawings and called for in the specifications, except for the work included in Item 2.

The lump sum price for Item 1 shall constitute full compensation for furnishing all labor, materials, tools and equipment to complete the remediation of the stream, drainage

channel, and interior bathroom areas including excavation, temporary bypass piping, concrete saw cutting and dust control, site restoration, and all incidental work for remediating the site, complete, as shown on the Drawings and called for in the specifications.

3. ITEM 2 – REMOVAL, TRANSPORT & DISPOSAL OF PCB REMEDIATION WASTE TO TSCA LANDFILL

The unit price for Item 2 shall be measured per ton for the removal, transport and disposal of removed soil and concrete identified as shown on Sheet C002 and C003 as U.S. EPA Remediation Waste PCB to TSCA Landfill in accordance with 40 CFR 761, complete, based on certified weight slips from the applicable shipping documentation.

The unit price for this item shall constitute full compensation for furnishing all labor, material, tools, and equipment required to size, handle, containerize (or direct load), segregate, load and legally haul by a licensed common carrier and off-site disposal at an applicable facility (TSCA landfill) of removed material considered a U.S. EPA Remediation Waste as shown on the drawings, called for in the specifications and field verified via confirmatory sampling by the Engineer. Contractor price shall include full compensation for all local, state and federal taxes associated with the transportation and disposal.

4. ITEM 3 – REMOVAL, TRNASPORT, & DISPOSAL OF PCB REMEMDIATION WASTE LIQUIDS TO TSCA FACILITY

The unit price for Item 3 shall be measured per ton for the removal, transport and disposal of removed free liquids from excavated soil as described in Section 31 23 19 – Dewatering as U.S. EPA Remediation Waste PCB to TSCA Landfill in accordance with 40 CFR 761, complete, based on certified weight slips from the applicable shipping documentation.

The unit price for this item shall constitute full compensation for furnishing all labor, material, tools, and equipment required to extract liquids, containerize, load, and legally haul by a licensed common carrier and off-site disposal at an applicable facility (TSCA landfill) of removed liquids considered a U.S. EPA Remediation Waste as called for in the specifications. Contractor price shall include full compensation for all local, state and federal taxes associated with the transportation and disposal.

5. ITEM 4 – REMOVAL, TRNASPORT, & DISPOSAL NON-RCRA HAZARDOUS WASTE DESIGNATED CR02 OILY WASTEWATER

The unit price for Item 4 shall be measured per ton for the removal, transport and disposal of removed free liquids from excavated soil as described in Section 31 23 19 – Dewatering as non-RCRA regulated hazardous waste designated as CR02 Oily

Wastewater, complete, based on certified weight slips from the applicable shipping documentation.

The unit price for this item shall constitute full compensation for furnishing all labor, material, tools, and equipment required to extract liquids, containerize, load, and legally haul by a licensed common carrier and off-site disposal at an applicable facility of removed liquids considered a non-RCRA regulated hazardous waste designated as CR02 Oily Wastewater as called for in the specifications. Contractor price shall include full compensation for all local, state and federal taxes associated with the transportation and disposal.

END OF SECTION

SECTION 01 31 19

CONSTRUCTION MEETINGS

PART 1 - GENERAL

1.01 DESCRIPTION:

A. This Section specifies requirements for project meetings including but not limited to Pre-Construction Conference and Progress Meetings.

B. It shall be the responsibility of the Contractor to coordinate work between all subcontractors, sections, and trades required for the proper completion of the Work.

1.02 PRE-CONSTRUCTION CONFERENCE:

A. After the Notice to Proceed has been issued, but prior to the start of the construction there will be a pre-construction conference to discuss the phasing and scheduling of the Project. The specific time and place of the conference shall be arranged by the Engineer after the Contract has been awarded.

B. This pre-construction conference is intended to establish lines of communication between the parties involved, review responsibilities and personnel assignments, establish project schedules, discuss proposed performance methods, and coordinate Work to be performed by subcontractors.

C. Authorized representatives of the Owner, Engineer and their consultants, the Contractor, its Superintendent and Site Foreman, and all others invited by the Contractor, shall attend the pre-construction conference. All participants at the conference shall be familiar with the Project and authorized to conclude matters relating to the Work.

D. Discuss items of significance at the pre-construction conference that could affect progress including at least the following:

1. Tentative construction schedule
2. Critical Work sequencing
3. Designation of responsible personnel
4. Procedures for processing field decisions and Change Orders
5. Procedures for processing Applications for Payment
6. Distribution of Contract Documents
7. Submittal of Shop Drawings, Product Data and Samples
8. Preparation of record documents
9. Use of the premises
10. Work and storage, and laydown areas

11. Equipment deliveries
12. Construction safety procedures
13. Environmental health and safety procedures
14. First aid
15. Security
16. Housekeeping
17. Working hours
18. Traffic Control
19. Emergency Vehicle Access to and around work site
20. Environmental protection measures for construction site

1.03 PROGRESS MEETINGS:

A. During the course of the Project, the Contractor shall attend weekly progress meetings as scheduled by the Owner or Engineer. The Owner, based on work progress and activities, may adjust the progress meetings to biweekly or other. The attendance of subcontractors may be required during the progress of the Work. The Contractor's delegate to the meeting shall be prepared and authorized to discuss the following items:

1. Progress of Work/Critical Work Sequencing in relation to Contract Schedule.
2. Proposed Work activities for forthcoming period.
3. Resources committed to Contract.
4. Coordination of Work with others.
5. Status of procurement of equipment and materials.
6. Status of Submittals.
7. Outstanding actions, decisions, or approvals that affect Work activities.
8. Site access and/or security issues
9. Hazards and risks
10. Housekeeping
11. Quality issues
12. Potential Claims
13. Change Orders
14. Costs, budget, and payment requests

B. The Contractor shall revise the construction schedule after each progress meeting where revisions to the schedule have been made or recognized and the revised schedule shall be submitted to the Engineer and Owner.

PART 2 – PRODUCTS

Not Used

PART 3 – EXECUTION

Not Used

END OF SECTION

SECTION 01 31 43

PERMITS

PART 1 – GENERAL

1.01 DESCRIPTION:

This Section provides specific information and defines specific requirements of the Contractor regarding the preparation and acquisition of permits related to the Work. The Contractor shall evaluate the Work and determine all permits necessary to perform the Work and obtain and pay for all permits required. The following is a list of permits that will be applicable to the Work that the Engineer shall apply for. Additional permits may be required:

1. ACOE SVN
2. CTDEEP – NDDB
3. Durham IWW

1.02 RELATED WORK:

A. Section 01 11 00 – CONTROL OF WORK AND MATERIALS
B. Section 01 57 19 – ENVIRONMENTAL PROTECTION

1.03 GENERAL PERMIT AND TERMINATION REQUIREMENTS:

A. The Contractor shall procure all other permits, licenses, and approvals from Federal, State, and local authorities and such other agencies as may be necessary in connection with the work of this Contract.

B. The Contractor shall perform the work in accordance with the Contract Documents, and any applicable Federal, State, and local requirements or permits.

C. The Contractor shall provide all required certificates to show that the work has been completed in conformity with the permits and shall submit such Certificates of Approval to the Engineer before final acceptance of the work.

D. Verify and terminate services in accordance with the requirements of the governing utility.

E. The Contractor shall give the proper authorities all required notices or information relating to work in their charge, pay all fees necessary to obtain all official licenses, permits and certificates.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

END OF SECTION

SECTION 01 32 16

CONSTRUCTION SCHEDULING

PART 1- GENERAL

1.01 DESCRIPTION

A. The Contractor shall be responsible for scheduling activities and the activities of any subcontractors involved, to meet the completion date established for the Contract. Scheduling of the work shall be coordinated with the Owner and Engineer.

B. A construction schedule shall be used to control the work of this Contract and to provide a definitive basis for determining job progress. The construction schedule and updates shall be prepared by the Contractor and coordinated with the Engineer and Owner. All work shall be done in accordance with the established schedule and the Contractor and his subcontractors shall be responsible for cooperating fully with the Engineer and Owner in effectively utilizing the schedule.

C. The Contractor shall submit a schedule for approval by the Engineer prior to initiation of work. The schedule shall consist of a Gantt Chart showing the sequence of work described in Section 01 12 16 – SCOPE AND SEQUENCE OF WORK. The schedule shall include, but not limited to, the following: permitting, submittal preparation, site mobilization, site work (environmental protection, excavation/remediation/drainage replacement activities, backfilling and site restoration), project closeout, and demobilization.

1.02 SUBMITTALS

A. Prior to performing any work at the Site, the Contractor shall submit a detailed schedule to the Engineer and Owner for review.

B. The schedule shall be updated by the Contractor on a biweekly basis and submitted to the Engineer and Owner for review.

1.03 RESPONSIBILITY FOR SCHEDULE COMPLIANCE

A. Whenever it becomes apparent from the current schedule that delays have resulted and the Contract completion date will not be met, or when so requested by the Engineer, the Contractor shall take some or all of the following actions at no additional cost to the Owner. He shall submit to the Engineer for approval, a written statement of the steps he intends to take to remove or arrest the delay to the critical path in the approved schedule.

1. Increase construction manpower in such quantities and crafts as will substantially eliminate the backlog of Work.

2. Increase the number of working hours per shift, shifts per day, working days per week, the amount of construction equipment, or any combination of the foregoing, sufficiently to substantially eliminate the backlog of work.

3. Reschedule activities to achieve maximum practical concurrency of accomplishment of activities and comply with the revised schedule.

B. If when so requested by the Engineer, the Contractor should fail to submit a written statement of the steps he intends to take or should fail to take such steps as approved by the Engineer, the Engineer may request the Contractor to increase the level of effort in man-power (trades), equipment and work schedule (overtime, weekend and holiday work, etc) to be employed by the Contractor in order to remove or arrest the delay to the critical path in the approved schedule and the Contractor shall promptly provide such level of effort at no additional cost to the Owner.

END OF SECTION

SECTION 01 33 23

SUBMITTALS

PART 1 - GENERAL

1.01 WORK INCLUDED:

A. The Contractor shall provide the Engineer with submittals as required by the Contract Documents.

1.02 RELATED WORK:

A. Divisions 1 – 31 of these specifications require submittals.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

3.01 GENERAL:

A. As required by the General Conditions, Contractor shall submit a schedule of shop and working drawing submittals.

B. The Contractor shall submit the shop and working drawing submittals either electronically or hard copy.

C. The following are Sections that include Critical Submittals that shall be submitted prior to mobilization:

1. Section 01 14 19.16 – Dust Control
2. Section 01 32 16 – Construction Scheduling
3. Section 01 35 29 – Health and Safety Plan
4. Section 01 37 00 – Schedule of Values
5. Section 01 57 19 – Environmental Protection
7. Section 02 61 00.16 – Handling, Transportation, Reuse and Disposal of Excavated Material
8. Section 02 83 90 – Abatement of PCB-Containing Materials

3.02 ELECTRONIC SUBMITTALS:

A. In accordance with the accepted schedule, the Contractor shall submit promptly to the Engineer by email (willsonj@wseinc.com) one electronic copy in Portable Document Format (PDF) of shop or working drawings required as noted in the specifications, of equipment, structural details and materials fabricated especially for this Contract.

B. Each electronic copy of the shop or working drawing shall be accompanied by the Engineer's standard shop drawing transmittal form (to be issued after the Notice to Proceed), on which is a list of the drawings, descriptions and numbers and the names of the Owner, Project, Contractor and building, equipment or structure.

C. The Contractor shall receive a shop drawing memorandum with the Engineer's approval or comments via email.

END OF SECTION

Shop Drawing Transmittal

Weston & Sampson℠

Instruction for Preparing Transmittal
No action will be taken on any item unless accompanied by this form.
TRANSMITTAL NOS. to be consecutive (1, 2, 3, etc.).
Each resubmittal of same item shall use same number with suffix letter (A, B, etc.).
SPEC. SECT. NO: Only one spec. section no. to each transmittal.
DESCRIPTION: Complete identification of document or group of documents.
SOURCE: Originator of document(s) being submitted.

DRAWING NO: Identification of document(s).
CONTRACT DRAWING REFERENCE: Contract drawing number(s) showing details of document(s).
SPECIAL INSTRUCTIONS: Special cases and emergencies, changes in distribution and special handling requests, etc. should be entered here.
SIGNATURE OF CONTRACTOR: Signature of individual who reviews and approves material prior to submittal to engineer.

THIS SECTION TO BE COMPLETED BY CONTRACTOR

TRANSM. NO.	SPEC. SECT. NO.	DATE	CONTRACTORS JOB NO.	W&S JOB NO.

PROJECT NAME & CONTRACT NO.	LOCATION

TO	FROM
Attention: CSD (willsonj@wseinc.com) Weston & Sampson Engineers, Inc. 712 Brook Street Suite 103 Rocky Hill, CT 06067	

BY W&S

ITEM NO.	DESCRIPTION	SOURCE	DRAWING NO. CATALOG NO. BROUCHURE, ETC	NO. OF COPIES	CONTRACT DRAWING REF.	ACTION CODE	REVIEWED BY
1							
2							
3							
4							

THIS CERTIFIES THAT ALL ITEMS SUBMITTED HEREWITH HAVE BEEN CHECKED BY THE CONTRACTOR, ARE IN CONFORMANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS, EXCEPT AS NOTED, AND ARE APPROVED BY THE CONTRACTOR FOR THIS PROJECT.	SIGNATURE & TITLE	

THIS SECTION TO BE COMPLETED BY W&S

ACTION CODE:
1. FURNISH AS SUBMITTED
2. FURNISH AS NOTED
3. REVISE AND RESUBMIT
4. REJECTED- SEE REMARKS
5. ACKNOWLEDGEMENT
6. SUBMITTAL NOT REQUIRED, RETURNED WITHOUT REVIEW

a. INSTALLATION SHALL PROCEED ONLY WHEN ACTION CODE IS 1 OR 2
b. ACTION CODED 3 SHALL BE RESUBMITTED WITHIN TIME LIMIT SET IN CONTRACT
c. REVIEW DOES NOT RELIEVE CONTRACTOR FROM RESPONSIBILITY OF COMPLIANCE WITH ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS

Weston & Sampson

SECTION 01 35 29

HEALTH AND SAFETY PLAN

PART 1 - GENERAL

1.01 WORK INCLUDED:

A. Prior to the start of work on the site, the Contractor shall prepare and submit a site-specific health and safety plan that includes consideration of all known and potential hazards at the site. Work may not proceed at the project site until the Contractor's Health and Safety Plan has been received and acknowledged by the Engineer.

1.02 REFERENCES:

A. OSHA 29 CFR 1910.120

1.03 RELATED WORK:

A. Section 01 14 19.16 – DUST CONTROL
B. Section 02 61 00.16 – HANDLING, TRANSPORTATION, REUSE AND DISPOSAL OF EXCAVATED MATERIAL
C. Section 02 83 90 – ABATEMENT OF PCB-CONTAINING MATERIALS

PART 2 – PRODUCTS

2.01 HEALTH AND SAFETY PLAN:

A. Prior to the start of work on the site, the Contractor shall prepare and submit an initial site-specific Health and Safety Plan which includes consideration of all known and potential hazards at the site. Work may not proceed at the project site until the Contractor's Health and Safety Plan has been received by the Engineer.

B. Site-specific health and safety procedures as specified herein are required due to potentially hazardous conditions that may be encountered during handling, sampling, treatment, removal and disposal of contaminated and/or hazardous material. These procedures shall be described in the Health and Safety Plan prepared by the Contractor. The Health and Safety Plan shall be submitted to the Engineer for acknowledgement before any work can be initiated. The Contractor is responsible for its workers' and Subcontractors' health and safety and the monitoring and control of dust and odor migration from the Site. Therefore, the Engineer will only review the Contractor's Health and Safety Plan for relevant content. The Contractor shall implement, maintain, and enforce these procedures during all phases of the Work associated with the description of work described in this Section

C. The Contractor shall be cognizant of the minimum health and safety plan standards set forth in 29 CFR 1910.120 and 29 CFR 1926. The Health and Safety Plan shall include, but not be limited to, the following minimum requirements:

1. Identification of the Contractor's General Supervisor, Site Health and Safety Officer, and Other Personnel Needed for Hazardous Waste Site Operations and Emergency Response and Their General Functions and Responsibilities.

2. Lines of Authority, Responsibility, and Communication Associated with Personnel Identified in Paragraph 1.02 A.

3. Copies of 40-hour OSHA HAZWOPER training and Confined Space training certificates, including most current refresher session certificates if applicable, for all personnel that will be involved in the activities for which such training is required. This training and certification are only required for work performed during impacted material handling and removal.

4. Copies of 10-hour OSHA construction worker safety training certificates, for all personnel that will be involved in the activities for which such training is required.

5. Comprehensive Workplan that Addresses the Tasks and Objectives of the Project, Including Associated Logistics and Resources.

6. Identification and Analysis of the Hazards and Risks Associated with Each Task/Operation and each Parcel of the Project.

7. Contractor's Standard Operating Procedures, Including Personnel Training and Field Orientation Information.

8. Procedures for Determining Appropriate Levels of Protection and Equipment Selection.

9. Identification of Personal Protective Equipment (Including Respiratory Protection Equipment) to be Used During Each Task/Operation of the Project.

10 Contractor's Medical Surveillance Program.

11. Personal Hygiene Requirements and Guidelines for Project Personnel.

12. Project Site Zone Delineation.

13. Site Security and Entry Control Procedures.

14. Frequency and Types of Air Monitoring, Personnel Monitoring, and Environmental Sampling Techniques to be Used (Including Methods for Maintenance and Calibration of Monitoring and Sampling Equipment).

15. Decontamination Procedures.

16. Equipment and Vehicle Decontamination Station.

17. Contingency and Emergency Response Plans and Procedures.

18. List of Emergency Contacts (Including Names, Addresses, and Telephone Numbers).

19. Confined Space Entry Procedures.

20. Spill Containment Procedures.

21. Provisions for Pre-Entry Initial and Periodic Briefings.

22. Procedures for Minimizing Electrical Hazards and Risks Posed by Overhead Wires.

23. Methods and Responsibility for Updating the Health and Safety Plan, as Necessary, and Provisions for Incorporating Parcel-Specific Addenda.

PART 3 - EXECUTION

3.01 PERSONAL PROTECTIVE EQUIPMENT:

A. The personal protective equipment required to provide the appropriate level of dermal and respiratory protection shall be determined based on the results of continuous air monitoring performed by the Contractor and the standards set forth in the Contractor's health and safety plan. The Engineer may conduct duplicate air monitoring for quality control purposes. Modified Level D protection shall be the minimum requirement for all on-site personnel.

3.02 EQUIPMENT DECONTAMINATION:

A. Construction equipment, tools and appliances used during the Work shall also be decontaminated. Mud, dirt, and any other foreign matter shall be physically removed from equipment and tools prior to being removed from the Site and stockpiled with excavated material identified for off-Site disposal.

B. All vehicle containers shall be carefully loaded to avoid contamination of exterior surfaces. In addition, all vehicles and equipment used during the handling of contaminated material and/or hazardous chemicals and materials shall be decontaminated prior to leaving the Site. Procedures for vehicle and equipment decontamination shall be submitted as part of the Health and Safety Plan. The Contractor shall be responsible for assuring that each vehicle is properly decontaminated prior to exiting the Site.

END OF SECTION

SECTION 01 37 00

SCHEDULE OF VALUES

PART 1 - GENERAL

1.01 SUMMARY:

A. Section Includes:

1. Provide Schedule of Values covering each bid item.

B. Related Sections:

1. Section 01 22 00 – MEASUREMENT AND PAYMENT
2. Section 01 33 23 – SUBMITTALS

1.02 SUBMITTALS:

A. Submit the following in accordance with Section 01 33 23 – SUBMITTALS:

1. Schedule of Values.

a. Submit draft Schedule of Values within 5 days of NTP.

b. Revise and resubmit Schedule of Values until acceptable to the Engineer.

2. Itemize separate line item cost for work comprising each lump sum bid item:

a. Ensure that the sum of the items listed in the Schedule of Values for each lump sum item equals the price bid for the respective lump sum item.

3. Work requiring verification of proper disposal

a. A separate line item shall be included for any items requiring documentation of proper legal disposal. Payment shall be withheld pending submission of required documentation (e.g., certified weight slips and signed disposal documentation).

4. Schedule of Values shall include an item for Close-Out Documentation & Reports

5. An unbalanced Schedule of Values providing for overpayment on items of work performed first will not be accepted.

1.03 SEQUENCING AND SCHEDULING:

A. Before submitting any application for payment, obtain the Engineer's approval of the Schedule of Values.

PART 2 – PRODUCTS

Not Used

PART 3 – EXECUTION

Not Used

END OF SECTION

SECTION 01 52 13

TEMPORARY FACILITIES

PART 1 - GENERAL

1.01 SECTION INCLUDES

Temporary Utilities including; electricity, lighting for construction purposes, water service and sanitary facilities.

1.02 TEMPORARY ELECTRICITY

Provide and pay for power service required from utility source as needed for construction operation. The Contractor may elect to utilize generators as long as their use does not cause excess noise (see Paragraph 1.03 below) or odorous fugitive emissions as to disturb neighbors. The temporary electrical service/panel, as required, shall be installed at a location approved by the Engineer and Owner. See additional electrical service requirements in Special Conditions, Section 01 11 00 – CONTROL OF WORK AND MATERIALS, and the Contract Drawings.

1.03 NOISE LEVEL REQUIREMENTS:

The Contractor shall make special provisions to prevent excessive noise during demolition and construction. See Section 01 57 19 – ENVIRONMENTAL PROTECTION for noise control requirements.

1.04 TEMPORARY LIGHTING FOR CONSTRUCTION PURPOSES

A. There shall be sufficient electric lighting so that all work may be done in a workmanlike manner. Where there is not sufficient daylight, the Contractor shall:

1. Provide and maintain lighting for construction operations.

2. Provide and maintain 1 watt/square foot lighting to exterior staging and storage areas after dark for security purposes.

3. Provide branch wiring from power source to distribution boxes with lighting conductors, pigtails, and lamps as required.

4. Maintain lighting and provide routine repairs.

1.05 TEMPORARY WATER SERVICE

The Contractor shall provide, maintain and pay for suitable quality water service required for construction operations and dust control as specified herein and the Contract Drawings. The Contractor shall provide water for dust control as specified in Section 01 14 19.16 – DUST CONTROL and the Contract Drawings. The Contractor shall be responsible to coordinate, permit and supply water at the Site and pay for all permits, meters and water used on the Site.

1.06 TEMPORARY SANITARY FACILITIES

The Contractor shall provide and maintain required sanitary facilities as specified in Section 01 11 00 – CONTROL OF WORK AND MATERIALS, provide facilities at time of Project mobilization and remove facilities at the end of Work.

END OF SECTION

SECTION 01 55 26.13

SIGNAGE (TRAFFIC CONTROL)

PART 1 - GENERAL

1.01 WORK INCLUDED:

This Section covers furnishing and installing traffic control signs and other devices.

1.02 SYSTEM DESCRIPTION:

The Contractor shall furnish and install all construction signs deemed necessary by and in accordance with the latest edition of Part VI of the Manual on Uniform Traffic Control Devices (MUTCD) as published by the U.S. Department of Transportation.

PART 2 - PRODUCTS

2.01 TRAFFIC WARNING AND REGULATING DEVICES:

A. The Contractor shall provide warning signs, barricades and other devices in accordance with the specifications provided in the MUTCD. Size of signs, lettering, colors, method of support and other factors prescribed in the MUTCD shall be adhered to.

B. See Section 01 14 00 – SPECIAL PROVISIONS for additional signage requirements. Locations, wording, and size of signs shall be coordinated with the Owner after the Contract is awarded.

PART 3 - EXECUTION

3.01 INSTALLATION:

A. The Contractor shall erect traffic signs, and other traffic control devices as required by the Manual on Uniform Traffic Control Devices as published by the U.S. Department of Transportation, this Section, and the Contract Drawings, or as directed by the Engineer, to provide traffic safety and convenience, and to protect the work area from traffic, pedestrians, and animals.

B. The Contractor shall relocate barricades, signs and other devices as necessary as the work progresses.

C. Unless extended protection is required for specific areas, when the work has been completed, all temporary warning and regulatory devices used by the Contractor shall be removed so that traffic can move unimpeded through the area.

D. Conduct operations and removal of debris to ensure minimum interference with the operations of the Owner and the normal use of public ways and other adjacent facilities.

Do not close or obstruct traffic ways, streets, walks or other facilities without the written permission of the Owner and authorities having jurisdiction.

E. Provision shall be made for safe passage at all times for emergency vehicles onto the work site.

END OF SECTION

SECTION 01 56 26

TEMPORARY CHAIN LINK FENCE

PART 1 - GENERAL

1.01 WORK INCLUDED:

A. The Contractor shall provide all labor, materials and appurtenances necessary for the installation, maintenance and dismantling of 6-foot temporary fencing and associated wind screen as shown on the Drawings, and as specified herein.

1.02 SUBMITTALS:

A. Provide manufacturers literature of the materials specified herein shall be submitted to the Engineer for review.

B. Provide shop drawings of the temporary chain link fence, gates and wind screen shall be submitted to the Engineers for review.

1. Shop drawings shall indicate layout of temporary fencing, location and size of gates, existing pavement and roads, and other site-specific conditions. Prepare drawing after site observation and verification of existing conditions.

2. Shop drawings shall include information for the mesh fabric/wind screens specified herein.

PART 2 - PRODUCTS-GALVANIZED

2.01 TEMPORARY CHAIN LINK FENCING

A. Unless otherwise indicated, type of 6-foot temporary chain link fencing shall be the Contractor's option. The following types are acceptable:

1. New materials or previously used salvaged chain link fencing in good condition.

2. Posts: Galvanized steel pipe of diameter to provide rigidity. Post shall be suitable for setting in concrete footings, driving into ground, anchoring with base plates, or inserting in precast concrete blocks.

3. Fabric: Woven galvanized steel wire mesh. Provide in continuous lengths to be wire tied to fence posts or prefabricated into modular pipe-framed fence panels.

4. Height: 6-foot high temporary fencing with mesh fabric where shown on the Contract Drawings.

5. Mesh Fabric/Wind Screens: mesh fabric, such as a wind screen/privacy screen, for dust control and to shield remediation activities from the adjacent properties. The mesh fabric shall be a durable fabric mesh of 50 percent porosity and shall be weather resistant. The mesh fabric/wind screen shall fasten securely to the 6-foot temporary fence and gates and existing fence around the perimeter of the site. The mesh fabric/wind screen shall completely cover the fence and gates. The mesh fabric/wind screen shall be dark green in color or otherwise approved by the Owner.

B. Gates: Provide gates of the quantity and size indicated on the Contract Drawings or required for functional access to Site.

1. Fabricate of same material as used for fencing.

2. Vehicle gates:

a. Minimum width: 20 feet to allow access for emergency vehicles.
b. Capable of manual operation by one person.

PART 3 - EXECUTION

3.01 INSTALLATION

A. The fence and gates shall be erected by skilled mechanics in accordance with the recommendations of the manufacturer and these specifications. These specifications shall take precedence over the recommendations of the manufacturer if any discrepancy exists between them.

B. Posts

1. Maximum post spacing shall be 10-feet. Post spacing shall be uniform and posts shall be plumb.

2. Drive posts, set in holes and backfill, or anchor in precast concrete blocks or steel post plates.

3. For soft and unstable ground conditions, cast concrete plug around post.

4. Posts over pavement: Use steel post plates or precast concrete blocks.

5. Gate posts: Use bracing or concrete footings to provide rigidity for accommodating size of gate.

6. Temporary terminal posts shall be securely connected to existing fence posts to prevent site access/trespassing.

C. Securely attach wire fabric to posts. Maximum area of unbraced fence fabric shall not exceed 1,500 square feet.

D. Install with required hardware.

E. Fabric shall be stretched taut, with the bottom edge following the existing grade, and shall be a continuous mesh between terminal posts. Each span of fabric shall be attached independently at terminal posts. Where terminal posts do not have provisions for weaving fabric to posts, stretcher bars shall be placed through the end weave of the fabric and secured to the post with bar bands spaced not more than 15-inches apart on the post. Temporary terminal posts shall be secured to existing fence posts to prevent Site access/trespassing.

F. Fabric shall be attached with ties to line posts at intervals of not more than 14-inches (and to the top railing and braces at intervals not exceeding 24-inches).

G. The bottom tension wire shall be interlaced in the weave of the fabric, pulled taut and fastened to terminal posts.

H. Install mesh fabric/wind screen, if required, to the chain link fence and gates per manufacturer's recommendations.

3.02 MAINTENANCE AND REMOVAL

A. Maintain fencing in good condition. If damaged, immediately repair.

B. Remove temporary fencing upon completion of Work or when no longer required for security or control. Backfill holes and compact. Holes in pavement shall be surfaced to match existing paving. Repair damage caused by installation of temporary fencing. Existing fencing shall be removed and reset in its original location in accordance with the Contract Drawings.

END OF SECTION

SECTION 01 57 19

ENVIRONMENTAL PROTECTION

PART 1 – GENERAL

1.01 DESCRIPTION:

A. The work covered by this section of the specifications consists of furnishing all labor, materials, tools and equipment and performing all work required for the prevention of environmental pollution during and as a result of construction operations under this contract.

B. Prior to commencement of work, the Contractor shall meet with representatives of the Engineer to develop mutual understandings relative to compliance of the environmental protection program.

1.02 RELATED WORK:

A. Section 01 14 19.16 – DUST CONTROL
B. Section 01 33 23 – SUBMITTALS
C. Section 02 61 00.16 – HANDLING, TRANSPORTATION, REUSE, AND DISPOSAL OF EXCAVATED MATERIAL

1.03 SUBMITTALS:

A. The Contractor shall submit for approval six sets of details and literature fully describing environmental protection methods to be employed in carrying out construction activities.

PART 2 - PRODUCTS

2.01 STRAW WATTLES/COMPOST FILTER TUBES:

A. Straw Wattles/Compost Filter Tubes shall consist of a 100% biodegradable exterior jute or coir netting with 100% wheat straw interior filling as manufactured by Granite Environmental, Inc., Sebastian, Florida, or approved equal.

PART 3- EXECUTION

3.01 NOTIFICATION AND STOPPAGE OF WORK:

A. The Engineer will notify the Contractor in writing of any non-compliance with the provisions of this Section. The Contractor shall, after receipt of such notice, immediately take corrective action. Such notice, when delivered to the Contractor or their authorized representative at the site of the work, shall be deemed sufficient for the purpose. If the Contractor fails to act promptly, the Owner may order stoppage of all or part of the work

through the Engineer until satisfactory corrective action has been taken. No claim for an extension of time or for excess costs or damage incurred by the Contractor as a result of time lost due to any stop work orders shall be made unless it was later determined that the Contractor was in compliance.

3.02 AREA OF CONSTRUCTION ACTIVITY:

A. Insofar as possible, the Contractor shall confine their construction activities to those areas defined by the plans and specifications. All land resources within the project boundaries and outside the limits of permanent work performed under this contract shall be preserved in their present condition or be restored to a condition after completion of construction at least equal to that which existed prior to work under this contract.

3.03 PROTECTION OF WATER RESOURCES:

A. The Contractor shall not pollute streams, lakes or reservoirs with fuels, oils, bitumens, calcium chloride, acids or other harmful materials. It is the Contractor's responsibility to comply with all applicable Federal, State, county and municipal laws regarding pollution of rivers and streams.

B. Special measures should be taken to insure against spillage of any pollutants into public waters.

3.04 PROTECTING AND MINIMIZING EXPOSED AREAS:

A. The Contractor shall limit the area of land which is exposed and free from vegetation during construction. In areas where the period of exposure will be greater than two (2) months, temporary vegetation, mulching or other protective measures shall be provided as specified.

B. The Contractor shall take account of the conditions of the soil where temporary cover crop will be used to ensure that materials used for temporary vegetation are adaptive to the sediment control. Materials to be used for temporary vegetation shall be approved by the Engineer.

3.05 LOCATION OF STORAGE AREAS:

A. The location of the Contractor's storage areas for equipment and/or materials shall be upon cleared portions of the job site or areas to be cleared as a part of this project and shall require written approval of the Engineer. Plans showing storage facilities for equipment and materials shall be submitted for approval of the Engineer.

B. No excavated materials or materials used in backfill operations shall be deposited within a minimum distance of one hundred (100) feet of any watercourse or any drainage facility. Adequate measures for erosion and sediment control shall be employed to protect any downstream areas from siltation.

C. The Engineer may designate a particular area or areas where the Contractor may store materials used in their operations.

D. Storage areas in cross-country locations shall be restored to pre-construction conditions with the planting of native species of trees and shrubs.

3.06 PROTECTION OF LANDSCAPE:

A. The Contractor shall not deface, injure, or destroy trees or shrubs nor remove or cut them without written authority from the Owner and except where depicted in these Contract Drawings. No ropes, cables, or guys shall be fastened to or attached to any existing nearby trees for anchorages unless specifically authorized by the Engineer. Excavating machinery and cranes shall be of suitable type and be operated with care to prevent injury to trees which are not to be removed, particularly overhanging branches and limbs. The Contractor shall, in any event, be responsible for any damage resulting from such use.

B. Branches, limbs, and roots shall not be cut except by permission of the Engineer. All cutting shall be smoothly and neatly done without splitting or crushing. When there is unavoidable injury to branches, limbs and trunks of trees, the injured portions shall be neatly trimmed and covered with an application of grafting wax or tree healing paint as directed.

C. Where, in the opinion of the Engineer, trees may possibly be defaced, bruised, injured, or otherwise damaged by the Contractor's equipment or by their blasting or other operations, the Engineer may require the Contractor to adequately protect such trees by placing boards, planks, poles or fencing around them. Any trees or landscape feature scarred or damaged by the Contractor's equipment or operations shall be restored as nearly as possible to its original condition at the expense of the Contractor. The Engineer will decide what method of restoration shall be used, and whether damaged trees shall be treated and healed or removed and disposed of.

3.07 DISCHARGE OF DEWATERING OPERATIONS:

A. Excavation of soils shall be completed in the dry, however, surface water and groundwater may to be encountered at the remediation area. Any water that is pumped and discharged from an excavation in this area shall be containerized and sampled for disposal. See Section 31 23 19 – Dewatering for additional information.

B. Stormwater collected in the by-pass piping shall be discharged downstream of remediation areas as shown on Sheet C002. Contractor shall use physical barriers and energy dissipating techniques to prevent stormwater from scouring streambed.

3.08 DUST CONTROL:

A. During the progress of the work, the Contractor shall conduct their operations and maintain the area of their activities, including sweeping and sprinkling of streets as necessary, to minimize creation and dispersion of dust. If the Engineer decides it is necessary to use calcium chloride for more effective dust control, the Contractor shall furnish and spread the material, as directed. Calcium chloride shall be as specified under Section 01 14 19.16 – DUST CONTROL.

B. Calcium Chloride shall not be used for dust control within a drainage basin or in the vicinity of any source of potable water.

3.09 CATCH BASIN PROTECTION:

A. Catch basin protection shall be used for every catch basin, shown on the plans or as required by the Engineer, to trap sediment and prevent it from clogging drainage systems and entering wetlands. Siltation sack shall be securely installed under the catch basin grate. Care shall be taken to keep the siltation sack from breaking apart or clogging. All deposited sediment shall be removed periodically and at times prior to predicted precipitation to allow free drainage flow. Prior to working in areas where catch basins are to be protected, each catch basin sump shall be cleaned of all debris and protected. The Contractor shall properly dispose of all debris at no additional cost to the Owner.

3.10 NOISE CONTROL

A. The Contractor shall make special provisions to prevent excessive noise during remediation and earthwork operations. No heavy construction equipment or large engine vehicle shall be allowed to operate on the site between the hours of 7 PM and 7 AM, unless special permission is granted by the Owner. Temporary noise barriers shall be erected by the Contractor at the direction of the Owner if the noise level at the perimeter of the site is determined as excessive.

B. When available, make the maximum use of "low-noise-emission products" as certified by EPA. No blasting or use of explosives is permitted.

C. Protect employees against noise exposure in accordance with the requirements of the Occupational Safety and Health Act of 1972.

D. Compliance with the requirements of this Section will not offer any relief from responsibility for compliance with local ordinances, regulations, and other Sections.

E. Compliance with the requirements of this Section will require the use of machines with effective mufflers or enclosures and selection of quieter alternative procedures.

F. Unless otherwise indicated, all noise level limits are measured 50 feet from the equipment producing said noise.

G. Noise Level Restrictions in All Areas: In no case expose the public to construction noise levels exceeding 85 dBA (slow) or to impulsive noise levels with a peak sound pressure level exceeding 125 dBA (fast). If work is specifically approved by Engineer during nighttime, restrict noise levels to not more than 50 dBA (slow).

H. Intermittent Noise: Prevent noises from non-stationary mobile equipment operated by a driver or from any source of nonscheduled intermittent, non-repetitive, short-term noises not lasting more than a few hours from exceeding 75 dBA daytime and 60 dBA nighttime.

END OF SECTION

SECTION 01 74 13

CLEANING UP

PART 1 - GENERAL

1.01 DESCRIPTION:

The Contractor must employ at all times during the progress of its work adequate cleanup measures and safety precautions to prevent injuries to persons or damage to property. The Contractor shall immediately, upon request by the Engineer provide adequate material, equipment and labor to cleanup and make safe any and all areas deemed necessary by the Engineer.

1.02 RELATED WORK:

A. Section 01 11 00 – CONTROL OF WORK AND MATERIALS
B. Section 01 14 00 – SPECIAL PROVISIONS
C. Section 01 57 19 – ENVIRONMENTAL PROTECTION
D. Section 31 23 19 - DEWATERING

PART 2 - PRODUCTS

Not applicable

PART 3 - EXECUTION

3.01 DAILY CLEANUP:

A. The Contractor shall clean up, at least daily, all refuse, rubbish, scrap and surplus material, debris and unneeded construction equipment resulting from the construction operations and sweep the area. The site of the work and the adjacent areas affected thereby shall at all times present a neat, orderly and workmanlike appearance.

B. Upon written notification by the Engineer, the Contractor shall within 24 hours clean up those areas, which in the Engineer's opinion are in violation of this section and the above referenced sections of the specifications.

C. If in the opinion of the Engineer, the referenced areas are not satisfactorily cleaned up, all other work on the project shall stop until the cleanup is satisfactory.

3.02 MATERIAL OR DEBRIS IN DRAINAGE FACILITIES:

A. Where material or debris has washed or flowed into or has been placed in existing watercourses, ditches, gutters, drains, pipes, structures, such material or debris shall be entirely removed and satisfactorily disposed of during progress of the work, and the ditches, channels, drains, pipes, structures, and work shall, upon completion of the work, be left in a clean and neat condition.

3.03 REMOVAL OF TEMPORARY BUILDINGS, STRUCTURES AND EQUIPMENT:

A. On or before completion of the work, the Contractor shall, unless otherwise specifically required or permitted in writing, tear down and remove all temporary dewatering systems, buildings, and structures it built; shall remove all temporary works, tools and machinery or other construction equipment it furnished; shall remove all rubbish from any grounds which it has occupied; shall remove silt fences and straw bales used for trapping sediment; and shall leave the roads and all parts of the property and adjacent property affected by its operations in a neat and satisfactory condition.

3.04 RESTORATION OF DAMAGED PROPERTY:

A. The Contractor shall restore or replace, when and as required, any property damaged by its work, equipment or employees, to a condition at least equal to that existing immediately prior to the beginning of operations. To this end the Contractor shall do as required all necessary highway or driveway, walk and landscaping work. Materials, equipment, and methods for such restoration shall be as approved by the Engineer.

3.05 FINAL CLEANUP:

A. Before acceptance by the Owner, the Contractor shall perform a final cleanup to bring the construction site to its original or specified condition. This cleanup shall include removing all trash and debris off of the premises. Before acceptance, the Engineer shall approve the condition of the site.

END OF SECTION

SECTION 01 78 00

PROJECT CLOSEOUT

PART 1 - GENERAL

1.01 WORK INCLUDED:

A. This Section covers administrative and procedural requirements for closing out the project, including, but not limited to:

1. Project as-built documents
2. Checkout and Certification
3. Final Cleaning
4. Closeout Procedures
5. Final Completion
6. Correction/Warranty Period

B. Closeout checklist to be completed by the Engineer.

1.02 RELATED WORK:

A. General Requirements in their entirety.

B. Section 01 74 13 - CLEANING UP

C. Division 1 through Division 32.

1.03 AS-BUILT DOCUMENTS:

A. The Contractor shall maintain on site, separate from the documents used for construction, one set of the documents listed below, and as construction progresses, shall legibly record on these documents all changes made during construction.

1. Contract Drawings.
2. Specifications.
3. Addenda.
4. Change Orders and other Modifications to the Contract.
5. Reviewed shop drawings, product data, and samples.
6. Written interpretations and clarifications.
7. Field Orders.
8. Field test reports properly verified.

B. The completed set of As-Built Documents shall be submitted to the Engineer with the final Application for Payment. As-Built documents shall include GPS coordinates showing the areas and depths of contaminated soil excavation areas, and locations of all interior restoration work, including locations of floor drains removed and areas filled with concrete. Contractor to also provide final grades after final site restoration.

1.04 CHECKOUT AND CERTIFICATIONS:

A. Prior to checkout and certifications, the following tasks shall be completed:

1. Construction shall be complete. For this purpose, completion of construction is defined as follows:

a. The Contractor has completed remediation and replacement of the work in conformance with the Contract Drawings and Specifications.

b. The Contractor completed all debris removal, site restoration and cleanup tasks in conformance with the Contract Drawings and Specifications.

2. All shop drawings shall have final approval.

3. All shop and field tests shall be complete and approved test results submitted to the Engineer.

1.05 FINAL CLEANING:

A. Complete the following cleaning operations before requesting inspection for Certification of Final Completion.

1. Clean the site, including landscape development areas of rubbish, litter and other foreign substances. Sweep paved areas broom clean; remove stains, spills and other foreign deposits. Rake grounds that are neither paved nor planted, to smooth, even textured surfaces.

2. Remove waste and surplus materials, rubbish, fencing equipment, temporary utilities and construction facilities from the site, unless otherwise required by the Engineer.

3. Comply with requirements of Section 01 74 13 - CLEANING UP.

1.06 CLOSEOUT PROCEDURES:

A. Submit written certification that Contract Documents have been reviewed, Work has been inspected, and is complete in accordance with Contract Documents and ready for Engineer's and Owner's inspection.

B. Accompany Engineer and Owner on inspection to verify conformance with the Contract Documents. Prepare a punch list of work items that have been determined by inspection

to not conform to Contract Documents. Punch list items shall include work items that are missing, incomplete, damaged, incorrect items, or improperly installed or constructed. The Contractor shall correct the punch list deficiencies by re-work, modifications, or replacement, as appropriate, until the items conform to the Contract Documents. The initial punch list shall be produced by the Contractor, with copies to the Engineer and Owner. When the Contractor has reduced the number of deficient items to a reasonable level, the Engineer will develop a definitive punch list for the use of the Contractor.

C. Provide submittals to Engineer that are required by governing or other authorities.

D. Submit final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due. The Contractor shall submit the following documents with or prior to Final Application for Payment: Set of as-built documents, Contract Completion and Acceptance Certificate, Consent of Surety to Final Payment, Release and Waiver of Liens and Claims, Affidavit of Payment of Debts and Claims, and remaining releases, waivers, warranties/guarantees, and all other data required by the Contract Documents.

1.07 FINAL COMPLETION:

A. Prior to final completion, the following tasks shall be completed:

1. All items in the punch list shall be completed.

2. All Contract closeout documentation shall be submitted to and accepted by the Engineer.

1.08 CORRECTION/WARRANTY PERIOD:

A. During the correction period, the Contractor shall correct all deficiencies in equipment and materials.

B. During the warranty period, the Contractor shall perform all corrective work on warranty deficiencies.

C. Corrective work will be identified by the Engineer or Owner, as appropriate. The Contractor will be notified of the item(s) requiring corrective work.

D. The Contractor shall begin work on all corrective work within ten days of being notified of the deficiency by the Engineer and shall then work continuously until the deficiency is corrected. Upon completion of the corrective work, the Contractor shall submit a letter report to the Engineer describing the deficiency and the corrective action that was taken.

E. The Contractor shall coordinate all corrective work with the Engineer and/or the Owner.

1.09 COMPLETION CHECKLIST:

A. When the project has been fully completed, Final Payment can be approved.

PROJECT COMPLETION CHECKLIST

Owner _____ Job No.

Project

As part of the project closeout, all items listed below must be checked off as being complete or otherwise accounted for. The person verifying completion of the item shall list the completion date and his/her initials.

Project Closeout Checklist		
	Date Completion Verified	Verified by
AS-BUILT DOCUMENTS HANDED OVER		
1. Contract Drawings		
2. Specifications		
3. Addenda		
4. Change Orders/Contract Modifications		
5. Reviewed Shop Drawings, Product Data and Samples		
6. Written Interpretations/Clarifications		
7. Field Orders		
8. Field Test Reports		

Project Closeout Checklist		
	Date Completion Verified	Verified By
FINAL CLEANING		
1. All Construction Facilities Removed		
2. All Construction Debris Removed		
3. All Areas Swept/Cleared		
CLOSEOUT PROCEDURES		
1. Written Certification Submitted that Work is Ready for Owner & Engineer Inspector		
2. Inspection by Owner, Engineer, Contractor completed		
3. Punch List of Nonconforming Items Prepared		
4. Documents Required by Governing or Other Authorities Submitted (List Them)		
5. Final Application for Payment Received		
6. Contact Completion and Acceptance Certificate Submittal		
7. Consent of Surety to Final Payment Submittal		
8. Release and Waiver of Liens and Claims Submitted		
9. Affidavit of Payment of Debts and Claims Submitted		
10. Warranties/Guarantees Submitted		
11. Other Required Releases and Waivers Submitted (List Them)		
12. Permits Submitted (List Them)		
13. Weekly Payrolls Submitted as Required by Law		
FINAL COMPLETION		
1. All Items in Punch List Completed		
2. All Other Required Documentation Submitted (List It)		

Project Closeout Checklist		
	Date Completion Verified	Verified By
CORRECTION/WARRANTY PERIOD		
1. Correction Period Start Date: _____ End Date: _____		
2. Specific Warranties Provided Item Warranty Duration		

Full name of persons signing their initials on this checklist:

_____

_____

_____

_____

_____

END OF SECTION

SECTION 02 61 00.16

HANDLING, TRANSPORTATION, REUSE AND OFF-SITE DISPOSAL OF EXCAVATED MATERIALS

PART 1 – GENERAL

1.01 DESCRIPTION:

A. The Work of this Section consists of all labor, equipment, materials, and services for excavating, containerizing, handling, segregating, reusing, tracking, transporting, and off-Site recycling and/or disposing of excavated material generated during the course of the Work.

B. Furnish all labor, materials, equipment, and incidentals necessary to properly excavate, segregate, handle, reuse as on-site backfill, containerize, load, transport and recycle/dispose of excavated materials off-Site. Work includes preparing all shipping manifests and waste profiles, as required, and obtaining approval from recycle/disposal facilities for recycling and/or disposal, loading, and hauling of excavated materials, as required. The Engineer shall be responsible for analytical testing of soils for off-Site disposal, as required by the off-Site disposal/recycling facility and Engineer.

C. The Contractor shall be responsible for the management of miscellaneous material accumulated from catch basins filter fabric cleaning (see Section 01 57 19 – ENVIRONMENTAL PROTECTION).

D. The Contractor shall establish and maintain soil excavation area limits/perimeter using appropriate survey instrument layout techniques, as well as establish vertical control points in the vicinity of the soil excavation areas such that depths of excavation can be readily determined from instrument survey by the Contractor and approved by the Engineer.

E. The Contractor shall excavate, segregate, handle and dispose of soils between 0-1 feet and 0-2 feet below existing grade in the specified area as shown on Sheet C002 to remove impacted material. Soil shall be handled, transported, and disposed of as PCB Remediation Waste.

F. Contractor shall make all efforts to excavate in the dry and to minimize excavations of free liquids. The Contractor shall install sandbag dams prior to excavation in a manner that allows flow through one half of the stream, while leaving the other half of the streambed dry for excavation. Once one side of the stream has been excavated, the Contractor shall allow the Engineer to collect confirmatory samples to confirm the extent of the impacted material has been reached. Additional soil removal may be required based on the results of the confirmatory samples. After Engineer provides approval from confirmatory sampling, Contractor shall move sandbag dam to other side of stream to excavate the other half. Limits of soil excavation shall be within the Limits of Work

shown on the Contract Plans.

G. The Contractor shall backfill excavation and restore site as shown on Sheet C004 – Site Restoration Plan and Section 31 00 00 - EARTHWORK.

1.02 RELATED WORK:

A. SECTION 01 14 19.16 – DUST CONTROL
B. SECTION 02 83 90 – ABATEMENT OF PCB-CONTAINING MATERIALS
C. SECTION 31 00 00 – EARTHWORK

1.03 RESPONSIBILITIES

A. The Contractor shall perform the following:

1. The Contractor shall identify and propose applicable disposal facilities for all materials to be removed and disposed of from the Site.
2. The Contractor shall furnish, operate and maintain equipment/vehicle decontamination stations for the duration of excavation and soil disposal work.
3. The Contractor shall develop and implement site-specific emergency response and health and safety protocols and procedures.
4. The Contractor shall be responsible for submitting weight slips, completed manifests and other shipping documents to the Engineer within two weeks of shipment to a disposal facility.
5. The Contractor shall advise the Engineer at least three working days in advance of the schedule for off-site disposal of excavated material.
6. The Contractor shall prepare and submit to the Engineer for review the documents necessary to transport and dispose of excavated materials. These documents include but are not limited to waste profiles and manifests.
7. The Contractor shall submit the executed transportation and disposal documents to the appropriate local, State and Federal agencies as well as the Engineer.
8. The Contractor shall keep records of all waste streams for the purposes of tracking points of origin.
9. The Contractor will develop and implement dust control measures and air monitoring per Specification Section 01 14 19.16 – Dust Control.

C. Owner’s and Engineer’s Responsibilities:

1. The Owner shall be the designated Generator for the excavated materials identified for off-Site disposal.
2. The Engineer shall perform disposal and confirmatory sampling of excavated materials.
3. The Engineer shall review and approve all paperwork and manifests.

1.04 SUBMITTALS:

A. Submit to the Engineer, for review, no more than 14 days after issuance of the Notice to Proceed:

B. Excavated Materials Management Plan (EMMP) for Construction in the Work Area.

The EMMP shall include the following:

1. Plans and procedures for the segregation, storage/direct loading, and on-site management of excavated soils from the Site. The EMMP shall include a Site plan showing proposed locations of soil storage areas. Provide a schedule detailing the proposed sequence of stream damming, excavation, containerizing, and free liquids removal.

2. Details of containers used to store and/or transport excavated material.

3. All pertinent information relating to the transport of excavated material. The information, at a minimum, shall include:

   a. Name and address of all transporters.

   b. Transporter identification number (USEPA or Connecticut Department of Transportation Transporter) and expiration date.

   c. Proof of permit, license, or authorization to transport excavated material, when applicable, in all affected states.

   d. Dust control measures.

4. Propose appropriate TSCA facilities that will accept PCB Remediation Waste. The Contractor shall submit to the Engineer, approvals or letters of intent and facility information for each facility proposed, within 14 days of issuance of the Notice to Proceed. The Contractor shall submit names of two (2) facilities (primary and backup) for each category of excavated material, as specified herein. Disposal/recycling facilities listed in the EPA Superfund Program will not be accepted as disposal/recycling facilities for this Work. For each facility, the Contractor shall submit the following information:

   a. General Information

      i. Facility Name
      ii. Facility Address
      iii. Name of Contact Person
      iv. Title of Contact Person
      v. Telephone Number of Contact Person

vi. Permit Number

b. The facility shall specify the volume of material that can be accepted from the Site on a weekly and a total basis.

c. The facility shall provide written confirmation that they are permitted to accept and will accept the excavated material and/or accumulated sediment of the general quality and quantity described by these Specifications.

d. The facility shall provide a listing of all current and valid permits, licenses, letters of approval, and other authorizations to operate that they hold, pertaining to the receipt and management of the soils or materials specified in this Contract.

e. The Contractor shall submit a complete list of the disposal facility's permitted allowable contaminant levels and physical characteristic requirements for contaminated material, and list any required regulatory approvals for individual waste streams

5. Documentation of an emergency service agreement between the Contractor and a certified emergency response contractor.

1.05 REFERENCES:

A. All regulations cited and those of other governing agencies in their most recent version are applicable. This Section refers to many requirements found in these references, but in no way, is intended to cite or reiterate all provisions therein or elsewhere. It is the Contractor's responsibility to know, understand, and abide by all such regulations and common practices. Other provisions contained in these references may from time to time during the execution of this Contract be enforced by the Owner. In the event of a conflict, the most stringent regulations shall govern. The following documents and/or publications are made part of this Section by reference herein:

1. "Hazardous Waste Operations and Emergency Response," Federal Occupational Safety and Health Act (OSHA), 29 CFR 1910.120.
2. "General Regulations for Hazardous Waste Management," EPA, 40 CFR 260.
3. "Regulations for Identifying Hazardous Waste, Hazardous Waste Generators and Hazardous Waste Transporters," EPA, 40 CFR 261, 262 and 263.
4. "Standards for Management of Specific Hazardous Wastes and Facilities," EPA, 40 CFR 266.
5. Local regulations governing dust control, soil handling, and health & safety (see Section 01 35 29 – HEALTH AND SAFETY PLAN).

1.06 PERMIT REQUIREMENTS:

A. The Contractor shall obtain all Federal, State, and local permits required for the transport and disposal of excavated material. The Contractor shall adhere to all permit

requirements.

B. The Contractor shall document that the disposal facilities proposed have all certifications and permits as required by Federal, State, and local regulatory agencies to receive and dispose of the excavated material.

PART 2 – PRODUCTS

2.01 GENERAL:

A. All Contractor personnel shall wear personal protective equipment and protective clothing consistent with the levels of protection for this Work as indicated in Section 01 35 29 - HEALTH AND SAFETY PLAN.

2.03 CONTAINER SHEETING:

A. 10-mil (minimum) polyethylene sheeting shall be used for all container sheeting.

2.04 CONTAINERS:

A. Containers used for hauling the excavated material shall be constructed of steel or aluminum, in good condition and designed for the intended purpose of safe, secure storage of hazardous material during loading and transport to an approved facility. The containers shall have a secure cover, which will prevent a release of material from truck during transportation and prevent infiltration of stormwater during periods of onsite storage. The container and covers shall be approved by the Engineer prior to mobilization of trucks/containers. The containers must be approved by and labeled in accordance with the U.S Department of Transportation (DOT). The containers shall lined, sift proof, and water resistant in accordance with the DOT regulations.

PART 3 – EXECUTION

3.01 GENERAL:

A. The Contractor shall handle and convey all materials to perform site work described in this Contract.

B. The Engineer shall perform disposal characterization sampling and analytical testing of the excavated material and composite building materials.

3.02 TEMPORARY CONTAINERIZING OF EXCAVATED MATERIALS:

A. All non-impacted excavated materials may be temporarily containerized onsite during the performance of the Work. Soil containers shall be watertight and lined with polyethylene sheeting and covered by polyethylene sheeting and done in the manner described in the Contractor’s approved EMMP which shall be reviewed and approved by the Engineer. The

Contractor shall be responsible for remediation of any releases from the Contractor's container storage area at no expense to the Owner.

3.03 DISPOSAL CHARACTERIZATION SAMPLING

A. All disposal characterization sampling and analysis performed by the Engineer.

B. A copy of all chemical analyses and a tabulated summary of the data will be sent to the Contractor. The Engineer will expedite sampling and will send sampling results to the Contractor within 24 hours of receipt from the lab.

C. The Engineer may stop the Contractor's work in a particular location at any time in order to have samples taken and analyzed. If necessary, the Contractor shall assist the Engineer in collecting samples. The work shall not resume in that area until directed by the Engineer. Stoppage of work for this reason, or until laboratory results are delivered to the Engineer, shall not be a cause for the Contractor to request additional compensation or an extension of time to the Contract or to other intermediate Contract deadlines.

3.04 CONFIRMATORY SAMPLING

A. The Engineer shall perform post-excavation confirmatory sampling. The Contractor shall assist the Engineer with collecting the confirmatory samples. The Engineer will expedite sampling and will send sampling results to the Contractor within 24 hours of receipt from the lab.

B. The Contractor shall not backfill the excavation nor move the temporary sandbag dam until the Engineer has given approval to do so. The Engineer will expedite sampling and will send sampling results to the Contractor within 24 hours of receipt from the lab. Contractor should anticipate a minimum of minimum of 5 days from the time of sampling to receipt of lab data.

3.05 EXCAVATED MATERIAL CATEGORIES:

A. Impacted Soil Area

1. Excavate impacted soil to the limits indicated on the Drawings and confirmed through laboratory testing results.

2. Impacted soils designated for removal and off-Site disposal on Sheet C002 of the Drawings shall be excavated and disposed of as PCB Remediation Waste in accordance with the Environmental Protection Agency's (EPA) Toxic Substances Control Act (TSCA) regulations (40 CFR 761) at a disposal facility permitted to accept PCB Remediation Waste per the TSCA regulations.

B. The Contractor shall be responsible for the management of miscellaneous material accumulated from catch basins filter fabric cleaning (see Section 01 57 19 – ENVIRONMENTAL PROTECTION). Dispose of the material based on characterization sampling with the impacted excavated materials identified above.

3.06 WEIGHT AND MEASUREMENT**:**

A. The Contractor shall provide certified tare and gross weight slips for each load received at the accepted Disposal Facility and these shall be attached to each returned manifest.

3.07 WASTE PROFILES AND MANIFESTS:

A. The Contractor shall prepare and submit to the Engineer for review all waste profile applications and questionnaires, and coordinate with disposal facilities and all Federal and State Environmental Agencies.

B. The Contractor shall also provide certified tare and gross weight slips for each load received at the designated facility which shall be attached to each returned manifest.

C. The Contractor shall submit to the Engineer, prior to receiving progress payment, documentation certifying that all materials were transported to, accepted, and disposed of, at the selected disposal facility. The documentation shall include the following, as a minimum.

1. Documentation shall be provided for each load from the site to the disposal facility, including all manifests and any other transfer documentation as applicable including but not limited to Certificates of Disposal for each manifested load transported to the Disposal Facility.

2. All documentation for each load shall be tracked by the original manifest document number that was assigned by the Engineer at the site.

3.08 TRANSPORT OF EXCAVATED MATERIAL/DEBRIS:

A. The Contractor shall not be permitted to transport materials off-site until all storage, disposal, or recycling facility documentation has been received, reviewed, and approved by the Owner and Engineer.

B. The Contractor shall transport materials from the site to the storage, disposal, reuse or recycling facility in accordance with all United State Department of Transportation (DOT), USEPA, and applicable state and local regulations.

C. The Hauler(s) shall be licensed in all states affected by transport.

D. The Contractor shall be responsible for ensuring that free liquid is properly transported. “Wet material” shall not be loaded for transport. The Contractor shall dewater “wet

material", and properly dispose of dewatering in accordance with local, State, and Federal regulations. The Contractor shall dispose of any free liquids that may result during transportation at no additional cost to the Owner.

E. All excavated materials transported upon public roadways shall be covered to minimize fugitive dust, and where necessary truck tire and undercarriage decontamination shall be employed to minimize tracking of soils onto public roadways.

F. The Contractor shall coordinate truck traffic (staging, queuing, transportation) with the Engineer and Owner prior to the start of the remedial work.

3.09 DISPOSAL:

A. Dispose of all unsuitable materials at an approved facility in accordance with all Federal, State and local regulations.

B. The Engineer shall perform analyses on the material as necessary to fulfill any disposal testing requirements of the approved Facility.

C. The Contractor shall provide to the Engineer copies of all weight slips, both tare and gross, for every load weighed and disposed of at the approved facility. The slips shall be tracked by the original manifest document number that was assigned by the Owner's Representative/Engineer at the site. The Engineer shall make payments based upon receipt of these weight slips.

3.10 LOGS, REPORTS, AND RECORDKEEPING:

A. The Contractor shall maintain daily logs and reports covering the work to be performed for this Section of the Contract. The format shall be developed by the Contractor to include daily logs, weekly reports, and a phase out report. Contractor shall provide Engineer with copies of all logs and reports on a weekly basis in a Microsoft Excel spreadsheet format.

B. Weekly Reports shall include, at a minimum, the following:

1. A summary of the work performed during the week
2. Area (Site specific) of work being performed
3. Equipment being utilized by employees
4. Type of work performed
5. References to manifests and waste profiles
6. Container locations
7. Details and documentation of excavated materials management
8. Protective clothing being worn by employees
9. Contractor's Project Manager's signature and date

C. Phase Out Report shall include, at a minimum, the following:

1. Summary of work performed under this Section of the Contract
2. Copies of all manifests and waste profiles
3. Laboratory reports
4. Contractor's Project Manager's signature and date

END OF SECTION

SECTION 02 83 90

ABATEMENT OF PCB-CONTAINING MATERIALS

PART 1 - GENERAL

1.01 SUMMARY:

A. This section specifies the procedures for removal and disposal of existing polychlorinated biphenyl (PCB) containing concrete with PCB detections greater than 1 milligram per kilogram (mg/kg) as identified through sampling by the Engineer and as specified herein, or as required by the Engineer.

The concrete floor in the bathroom/utility room will be sawcut and removed down to full depth (approximately 4-8 inches thick) to remove existing floor drains covers in the bathroom. Upon removal of floor drain covers of the sampling activities, the Contractor will restore the concrete floor will be restored to pre-existing conditions, and all related waste materials (concrete) will be disposed of as PCB Remediation Waste in accordance with the Environmental Protection Agency's (EPA's) Toxic Substances Control Act (TSCA) regulations (40 CFR 761) at a disposal facility permitted to accept PCB Remediation Waste per the TSCA regulations.

1.02 SCOPE OF WORK

The scope of work identified herein shall be performed in accordance with the requirements of this Section, USEPA Performance-Based cleanup standards, all applicable Federal, State, and local regulations, and related sections of the project specifications. Any disputes with the quantities or sequential work methods of this Section shall be reviewed prior to commencement of work or the Contractor performs such work at risk of non-payment. The Contractor shall perform the following at the Site in accordance with this specification:

A. Remove and restore three sections of bathroom concrete down full depth (approximately 4-8 inches thick) and dispose of the waste material as PCB Remediation Waste at a permitted disposal facility.

B. Remove and dispose of PCB Remediation Waste in the stream and drainage channel as shown on Sheet C002 of these Contract Documents and dispose of the waste material at a permitted disposal facility.

1.03 REFERENCES

A. TSCA (Toxic Substances Control Act, 40 CFR 761)

B. CERCLA (Federal "Superfund")

C. DEEP (CT Department of Energy and Environmental Protection)

D. OSHA (Occupational Safety and Health Administration) CFR Title 29.

E. EPA (Environmental Protection Agency)

F. CDC (Center for Disease Control): Air Pollution and Respiratory Health.

1.04 DEFINITIONS

A. *Authorized Personnel*: Owner or the Engineer's Representative, and all other personnel who are authorized officials of any regulating agency, be it State, local, Federal, or Private entity who possess legal authority for enforcement or inspection of the work.

B *Clearance Criteria*: A visual inspection of all removal surfaces, performed by the Engineer, conforming to all standards set forth by all authorities having jurisdiction, mentioned in the references.

C. *Fixed Object*: Mechanical equipment, electrical equipment, fire detection systems, alarms, and all other fixed equipment, fixtures or other items which cannot be removed from the work area.

D. *HEPA*: High Efficiency Particulate Absolute filtration efficiency of 99.97 percent down to 0.3 microns. Filtration provided on specialized vacuums and air filtration devices to trap particles.

E. *PCB Remediation Waste*: As defined in TSCA Regulations 40 CFR Part 761.3.

F. *PPE*: Personal Protective Equipment.

G. *Work Area, Work Zone*: refers to the areas of work for the performance of the Work of this Section including, but not limited to, demarcated and/or separated locations where non-trained, non-certified personnel are not permitted to be present during the work.

1.05 REGULATIONS, FEES, AND PERMITS

A. All legally imposed charges made by local authorities for the work of this Section involving the coordination, inspection, and approval services of all bureaus administering all applicable codes and regulations shall be provided hereunder at no additional cost to the Owner.

B. The Contractor shall give the proper authorities all required notices or information relating to work and pay all fees necessary to obtain all official licenses, permits and certificates.

1.06 SUBMITTALS

A. Quality Control Submittals:

1. Worker's Qualifications Data:

a. Name of each person who will be performing the Work and their employer's name, business address and telephone number.

b. Documentation of completion of appropriate PCB/Hazardous Waste training program and supervisors with appropriate PCB/Hazardous Waste supervisor training.

2. Waste Transporter Permit: One copy of the transporter's current waste transporter permit.

3. Disposal facility permits to accept PCB Remediation Waste.

B. Pre-Abatement Submittals: Prior to the commencement of any site activities regarding the work of this Section, the Contractor shall submit to the Engineer the following submittals:

1. Work Plan identifying PCB-Containing concrete, piping and soil removal methodology. Include removal techniques and tools, containment procedures to prevent cross-contamination of other substrates and soil (HEPA vacuums, polyethylene sheeting, etc.), dust monitoring equipment details, means to store saw-cut materials on-Site and decontamination procedures.

2. Primary and secondary disposal facilities for the PCB Remediation Waste.

3. Certification signed by the Contractor stating the Contractor has read and understands the specification requirements, the requirements of the PCB regulations at 40 CFR 761 for proper handling, removal and disposal of PCB Remediation Waste.

C. PCB Work Closeout Submittals:

1. Disposal Site Receipts: Copy of waste shipment record, certified weight slips and disposal site receipt showing the PCB Remediation Waste and PCB Containing materials have been properly disposed of.

1.07 QUALITY ASSURANCE

A. Contractor shall provide and assure that the quality of work practices and procedures are consistent with the below listed agencies. Contractor shall utilize the latest edition, including all addenda, revisions and supplements for all regulatory agencies, codes, etc., including but not limited to:

1. Environmental Protection Agency (EPA).

2. Occupational Safety and Health Administration.

3. State of Connecticut codes, regulations, and laws.

4. All local codes, ordinances, and bylaws.

B. Worker's Qualifications: The persons performing PCB abatement and their supervisor shall be personally experienced in PCB abatement work and shall have been regularly

employed by a company performing PCB abatement for a minimum of 3 years and shall have completed OSHA hazardous materials worker training (40-hour HAZWOPER) and supervisor training.

C. Regulatory Requirements: Comply with the referenced standards.

D. Pre-Work Conference: Before the Work of this Section is scheduled to commence a conference shall be held by the Engineer's Representative at the Site for the purpose of reviewing the Contract Documents, discussing requirements for the Work, reviewing the Work procedures, and documents required by this section.

1. The conference shall be attended by the Contractor, the PCB abatement subcontractor, the Owner, and the Engineer.

1.08 PROJECT CONDITIONS

A. Non-liquid cleaning materials, PPE and similar protective materials resulting from decontamination shall be disposed according to 40 CFR 761 and as specified in this Section.

B. Moveable equipment, tools, sampling equipment shall be decontaminated in accordance with 40 CFR 761 and as specified in this Section prior to removal from the work zone.

C. The location of waste containers for the temporary storage of PCB-containing materials shall be approved by the Engineer.

1.09 PERSONAL PROTECTIVE CLOTHING AND EQUIPMENT

A. Workers must wear protective suits, protective gloves, eye protection and a minimum of half-face respirator with HEPA filter cartridge for PCB abatement activities. Respiratory protection shall be in accordance with OSHA regulation 1910.134 and ANSI Z88.2.

B. Workers must be trained as per OSHA and EPA requirements, have medical clearance and must have an up-to-date pulmonary function test (PFT) and respirator fit tested by a trained professional.

1. A personal air sampling program shall be in place as required by OSHA.

2. The use of respirators must also follow a complete respiratory protection program as specified by OSHA.

3. PPE specified in EPA's Concrete Sampling Procedure (May, 2011) must be worn during all concrete sampling activities.

1.10 JOB CONDITIONS

A. Posting of regulations: Display the following documents in the clean changing area, in public view, for the full duration of the work at each pool site with PCB-containing

materials:

1. Instructions for removing injured persons from work area.

2. Emergency action plan at the work site. This plan shall also include directions to the nearest hospital and telephone numbers for hospital, doctor and Fire Department.

PART 2 – PRODUCTS

2.01 ABATEMENT PRODUCTS

A. Disposal Drums: Metal or fiberboard with locking ring tops, with warning labels as required by OSHA, CT DEEP, US DOT, and/or EPA.

B. Respirators:

1.Type: Approved by the Mine Safety and Health Administration (MSHA), Department of Labor, or the National Institute for Occupational Safety and Health (NIOSH), Department of Health and Human Services.

C. Vacuum Cleaners:

1. Type: Vacuums equipped with HEPA filters.

D. Plastic Sheets:

1. Type: Minimum 10 mil., opaque, fire-retardant polyethylene sheets.

E. Containers:

1. Containers used by the Contractor for storing and/or hauling PCB-Containing material shall be constructed of steel, in good condition and designed for the intended purpose of safe, secure storage of contaminated and hazardous materials during loading and transport. The containers shall have a secure cover that shall prevent a release of material from truck during transportation. The containers and covers shall be at no additional cost to the Owner and shall be approved by the Engineer prior to mobilization of trucks/containers. The containers must be approved by and labeled in accordance with the U.S Department of Transportation (DOT). The containers shall be sift proof and water resistant in accordance with the DOT.

2.02 GENERAL EQUIPMENT

A. A sufficient supply of disposable mops, rags, and sponges for work area decontamination shall be available.

2.03 PERSONNEL PROTECTION

A. Safety equipment (e.g., hard hats meeting the requirements of ANSI Standard Z89.1-1981, eye protection meeting the requirements of ANSI Standard Z87.1-1979, safety shoes

meeting the requirements of ANSI Standard Z41.1- 1967, disposable PVC gloves or other work gloves), shall be provided to all workers and authorized visitors.

B. Non-skid footwear shall be provided to all abatement workers. Disposable clothing shall be adequately sealed to the footwear to prevent body contamination.

PART 3 - EXECUTION

3.01 EMERGENCY PLANNING

A. Description: The Contractor shall prepare an emergency preparedness plan detailing at least the information required in this Section and in any applicable Federal, State or local regulations. PCB-specific emergency planning measures shall be submitted with the site-specific Health and Safety Plan.

C. Telephone numbers of all emergency response personnel shall be prominently posted in the clean area, along with the location of the nearest telephone.

3.02 NOTIFICATION

A. Notify the Engineer's Representative a minimum of 5 working days prior to the start of PCB abatement work.

3.03 EMPLOYEE PROTECTION

A. Comply with all applicable Occupational Safety and Health Administration (OSHA) Requirements.

3.04 WORK AREA PROTECTION

A. Protection of Existing Construction: Perform PCB abatement work without damage or contamination of adjacent areas and existing construction.

B. Perform abatement activities within a designated work area and prevent migration of PCB waste materials (including dust) outside of the work area. Work shall be conducted within a negative pressure enclosure equipped with a 3-stage decontamination chamber. Work will not be allowed to commence until all control systems are in place and operable. Equipment used for producing a negative pressure work area shall have a filtering device that is at least 99.97% efficient at a 0.3-micron pore size. Filters meeting these standards are referred to as High Efficiency Particulate Absolute (HEPA) filters. All HEPA units shall exhaust to the outside of the building.

3.05 PCB-CONTAINING MATERIAL ABATEMENT

A. General

1. Perform abatement of PCB Remediation Waste in accordance with this Section, Drawings, and with an EPA Performance-Based Clean-Up.

2. Use procedures and equipment as required to limit occupational and environmental exposure to PCB's when PCB Remediation Waste is removed in accordance with referenced standards.

3. Concrete designated for disposal per this Section shall be removed via surface cut in a straight line by a concrete saw or equivalent method, to the full depth of material, and carefully removed in a manner to prevent cross-contamination with non-contaminated areas of the building. Concrete sawing shall be performed using wet methods, a saw equipped with a HEPA-shroud or a combination thereof to minimize dust generation. Concrete removal using a hydraulic hammer or smaller mechanical/pneumatic (demo) hammers or hand tools will be permitted using wet methods.

4. The Contractor shall decontaminate tools and equipment (shovels, excavator buckets, etc.) used to abate/remove PCB Remediation Waste in accordance with TSCA 40 CFR 761.79 prior to removal from the work zone. The cleaning materials shall be appropriately disposed of as PCB Remediation Waste in accordance with TSCA regulations at a licensed disposal facility. Cleaning/decontamination shall be done in a manner to prevent cross-contamination with other equipment and areas. The Contractor shall remove and dispose cross-contaminated materials at no additional cost to the Owner.

5. The Contractor shall dispose of any materials used in the negative pressure enclosure (poly sheeting, tape, wood, HEPA filters, etc.) used to abate/remove PCB Remediation Waste in accordance with TSCA 40 CFR 761.79 prior to removal from the work zone. The materials shall be appropriately disposed of as PCB Remediation Waste in accordance with TSCA regulations at a licensed disposal facility. Deconstruction shall be done in a manner to prevent cross-contamination with other equipment and areas. The Contractor shall remove and dispose cross-contaminated materials at no additional cost to the Owner.

3.06 CERTIFICATION OF COMPLETION

A. Schedule visual clearance inspection with the Engineer when work area is ready for final inspection.

3.07 DISPOSAL OF PCB WASTES

A. PCB Remediation Waste from the bathroom concrete & piping shall be placed in fully enclosed, sealed, and locked roll-off containers for transportation and disposal as PCB Remediation Waste under a manifest to a disposal facility permitted to accept PCB Remediation Waste per the TSCA regulations. The PCB Remediation Waste must be transported by a licensed hauler and shipped to an EPA approved disposal facility. Waste manifests must show chain of custody.

B. The Contractor shall provide waste manifests, certified tare and gross weight slips for each load received at the accepted facility and provide to the Engineer and Owner within 21 days of obtaining final signatures.

C. All PCB waste shall be carefully loaded into roll-off containers and onto trucks or other appropriate vehicles for transport. Before and during transport, care shall be exercised to ensure that no unauthorized persons have access to the material. All transportation vehicles shall be appropriately placarded, as necessary, in accordance with 40 CFR 761.

D. Transporters of the waste are prohibited from "back hauling" any freight after the disposition of the Owner's waste stream until decontamination of the vehicle and/or trailer is completed.

3.08 WASTE MANAGEMENT AND DISPOSAL

A. The Contractor shall be responsible for all packaging, labeling, transport, disposal and record-keeping associated with the PCB remediation waste streams in accordance with all Federal, State and Local regulations. The Contractor shall prepare all shipping documentation.

B. The Contractor shall prepare and submit to the Engineer for review all waste profile applications and questionnaires, and coordinate with disposal facilities and all applicable Federal and State Environmental Agencies.

C. The Contractor shall ensure that the person transporting the waste holds a valid permit issued in accordance with appropriate Federal, State, and Local regulations.

D. The Contractor shall provide to the transporter at the time of transfer appropriate shipping records as required by the Federal, State and Local regulations with a copy to the Engineer.

E. The Contractor shall obtain the Owner's signature on all waste manifests prior to shipping materials off-site.

F. The Contractor shall furnish all generator copies of the Hazardous Waste Manifests to the Owner for submittal to the appropriate regulatory agencies and to retain for the Owner's records.

G. Contractor shall maintain proper follow up procedures to assure that waste materials have been received by the designated disposal facility in a timely manner and in accordance with all Federal, State and Local regulations.

H. The Contractor shall submit to the Engineer, prior to receiving progress payment, documentation certifying that all materials were transported to, accepted, and disposed of, at the selected disposal facility(ies). The documentation shall include the following, as a minimum.

1. Documentation shall be provided for each load from the Site to the disposal facility, including all manifests and any other transfer documentation as applicable.

2. All documentation for each load shall be tracked by the original manifest document number that was assigned by the Engineer at the Site.

3. All ORIGINAL signatures (including signatures of Owner and disposal facility's representative) associated with shipment of any material from the Site within 21 days of obtaining the final signature.

3.09 RESTORATION

A. Remove temporary decontamination facilities, temporary enclosures and restore area designated for these facilities to its original condition or better.

B. After removing floor drain covers, Contractor shall pour concrete in sawcut area to match surrounding conditions. See specification section 03 05 00 – Field Concrete for additional information.

C. Where existing construction is damaged or contaminated, restore work to its original condition or better.

END OF SECTION

SECTION 03 05 00

FIELD CONCRETE

PART 1 - GENERAL

1.01 WORK INCLUDED:

A. This Section covers concrete and all related items necessary to place and finish the concrete work.

1.02 RELATED WORK:

A. Section 31 00 00, EARTHWORK

1.03 REFERENCES:

A. The following standards form a part of this specification:

American Concrete Institute (ACI)

ACI 304	Recommended Practice for Measuring, Mixing, Transporting, and Placing Concrete.
ACI 305	Recommended Practice for Hot Weather Concreting
ACI 306	Recommended Practice for Cold Weather Concreting
ACI SP-66 ACI	Detailing Manual
ACI 318	Building Code Requirements for Reinforced Concrete

ASTM International (ASTM)

ASTM A615	Deformed and Plain Billet-Steel Bars for Concrete Reinforcement
ASTM C33	Concrete Aggregates
ASTM C94	Ready-Mixed Concrete
ASTM C143	Test for Slump of Portland Cement Concrete
ASTM C150	Portland Cement
ASTM C260	Air Entraining Admixtures for Concrete

ASTM C494 Chemical Admixtures for Concrete

ASTM C595 Standard Specification for Blended Hydraulic Cements

1.04 SUBMITTALS: IN ACCORDANCE WITH REQUIREMENTS OF SECTION 01 33 23 SUBMITTALS, SUBMIT THE FOLLOWING:

Statement of materials constituting the design of mixes for each size aggregate as required by ASTM C94 shall be submitted to the Engineer within one week following award of the Contract.

PART 2 - PRODUCTS

2.01 CONCRETE:

A. All concrete, reinforced or non-reinforced, shall have a 28 day compressive strength of 3000 psi unless otherwise noted on the design drawings. A minimum of 5.5 sacks of cement per cubic yard and a maximum water cement ratio of 6.9 gallons per sack shall be used.

B. Concrete shall conform to ASTM C94. The Contractor shall be responsible for the design of the concrete mixtures. Slump shall be a maximum of 4-inches and a minimum of 2-inches, determined in accordance with ASTM C143.

C. Admixtures shall be as specified in subsection 2.05. No additional admixtures shall be used unless approved by the Engineer.

D. No additional water, except for the amount indicated by the design mix shall be added to the concrete without the prior permission of the Engineer.

2.03 CEMENT:

A. The cement shall be an approved brand of American manufactured Portland Cement, Type IL conforming to ASTM C595. The brand name and type of cement proposed for use shall be submitted to the Engineer for approval immediately following award of contract. Only one color of cement, all of the same manufacture, shall be used for the work.

2.04 AGGREGATES

A. Except as otherwise noted, the aggregate shall conform to the requirements of ASTM C33.

B. Maximum size aggregate shall be 3/4-inch.

2.05 ADMIXTURES:

A. All concrete (unless otherwise directed) shall contain an air entraining agent. Air entrained concrete shall have air content by volume of 4 to 8 percent for 3/4-inch aggregate.

B. Air entraining agent shall be in accordance with ASTM C260 and shall be Darex AEA, as manufactured by W.R. Grace & Company; Placewel (air entraining Type), as manufactured by Johns Manville; Sika AER as manufactured by Sika Chemical Company; or an approved equal product.

C. Water reducing agent shall be WRDA, manufactured by W.R Grace & Company; Placewel (non-air entraining Type), as manufactured by Johns Manville; Sika Plastiment as manufactured by Sika Chemical Company; or an approved equal product.

D. Water reducing agent-retarder shall be "Daratard," manufactured by W.R. Grace & Company; Sika Plastiment as manufactured by Sika Chemical Company; or an approved equal product.

2.06 WATER:

A. Water for concrete shall be potable, free of deleterious amounts of oil, acid, alkali, organic matter and other deleterious substances.

PART 3 - EXECUTION

3.01 PREPARATION:

A. Before placing concrete, forms and the space to be occupied by the concrete shall be thoroughly cleaned and reinforcing steel and embedded metal shall be free from dirt, oil, mill scale, loose rust, paint or the material which would tend to reduce the bond.

B. Earth, concrete, masonry, or other water permeable material against which concrete is to be placed shall be thoroughly saturated with water immediately before concrete is placed.

C. No concrete shall be placed until the consolidation of the ground and the arrangement and details of forms and reinforcing have been inspected and approved by the Engineer.

3.03 FILL CONCRETE:

A. Fill concrete shall be placed in those locations as indicated on the design drawings. Fill concrete shall consist of materials as previously specified, with a minimum 28-day compressive strength of 3000 psi.

B. Before fill concrete is placed, the following procedures shall be used to prepare surfaces; all dirt, scum and laitance shall be removed by chipping and washing. The clean, roughened base surface shall be saturated with water, but shall have no free water on the surface. A coat of 1:2 cement-sand grout, approximately 1/8-inch thick, shall be well scrubbed into the thoroughly dampened concrete base. The concrete fill shall be placed immediately, before the grout has dried or set.

C. Fill concrete shall be brought to grades that matches existing conditions of surrounding floor.

3.04 CONCRETE PLACING DURING COLD WEATHER:

A. Concrete shall not be placed on frozen ground, and no frozen material or material containing ice shall be used. Materials for concrete shall be heated when temperature is below 40°F, or is expected to fall to below 40°F, within 73 hours, and the concrete after placing shall be protected by covering, heat, or both.

B. All details of Contractor's handling and protecting of concrete during freezing weather shall be subject to the approval of the Engineer. All procedures shall be in accordance with the provisions of ACI 306.

3.05 CONCRETE PLACING DURING HOT WEATHER:

A. Concrete just placed shall be protected from the direct rays of the sun and the forms and reinforcement just prior to placing shall be sprinkled with cold water. The Contractor shall make every effort to minimize delays, which will result in excessive mixing of the concrete after arrival on the job.

B. During periods of excessively hot weather (90°F or above), ingredients in the concrete shall be cooled insofar as possible and cold mixing water shall be used to maintain the temperature of the concrete at permissible levels all in accordance with the provisions of ACI 305. Any concrete with a temperature above 90°F, when ready for placement, will not be acceptable, and will be rejected.

3.06 FIELD QUALITY CONTROL: