



May 16, 2018

Mr. Adam Fox, P.E.  
Principal Engineer  
Environmental Compliance Section  
Bureau of Engineering and Construction  
State of Connecticut Department of Transportation  
2800 Berlin Turnpike, P.O. Box 317546  
Newington, CT 06131-7546

Attention: Jason Coite, P.E. / Stephen Clout

Subject: On-Call Asbestos, Lead, Air Quality & Demolition Compliance  
Agreement No. 04.27-01(15)  
HazMat Inspection - Bridge No. 00325, Route 1 over Stillman Pond, Bridgeport, CT  
ConnDOT Assignment No. 514-5658  
ConnDOT Project No. 15-248  
TRC Project No. 222165.5658.0710

Dear Mr. Fox:

TRC performed a limited survey for hazardous building materials associated with the replacement of Bridge No. 00325, Route 1 over Stillman Pond in Bridgeport, Connecticut. Results of the survey identified no detectable levels of lead in the paint to be present on the metal structural steel/metal bridge components ( $0.0 \text{ mg/cm}^2/\text{ND} < 0.10\%$  by weight), therefore any paint waste generated would be considered non-RCRA, non-hazardous waste. Suspect asbestos containing materials in the form of tar at penetrations, black rubbery pipe wrap, thin white sealant around pipe fitting, grey pipe wrap around pipe fitting, large grey spot pipe sealant & black tar expansion joint were sampled and found to contain no asbestos. Presumed asbestos containing pipe insulation/mudded fittings & pipe flange gaskets are assumed to be in adjacent underground utility tunnel that runs under Route 1 as well as the utility vault at the southwest embankment. No pigeon guano accumulations were identified in accessible areas of the bridge. Associated laboratory data and site map are attached.

If you have any questions, please call TRC at (860) 298-9692.

Very Truly Yours,

**TRC**

A handwritten signature in black ink, appearing to read "Stephen R. Arienti".

Stephen R. Arienti  
Senior Project Manager – Program Manager

A handwritten signature in black ink, appearing to read "Erik R. Plimpton".

Erik R. Plimpton, P.E., CHMM, CMC  
Vice President – Engineer in Charge



### Lead Based Paint Measurement Summary Table

**Device(s):** Niton XLP301-A (Serial #25555) X Ray Fluorescence (XRF) Spectrum Analyzer  
**Site:** Bridge No. 00325, Route 1 over Stillmans Pond, Bridgeport, CT  
**Project #:** 22165.5658.0710  
**Date(s):** 10/9/2017  
**Inspectors:** Dave Webster (CT Lic. No. 002233)

Number	Interior/ Exterior	Location	Bridge No.	Side	Structure	Feature	Material	Color	Condition	Reading (mg/cm <sup>2</sup> )	Precision (mg/cm <sup>2</sup> )	Depth Index	Duration (sec)	Date/Time
1			<b>Self Calibration</b>										202.0	10/9/2017 9:23
2			<b>0.0 Calibration</b>							0.0	0.0	3.4	3.1	10/9/2017 9:48
3			<b>0.7 Calibration</b>							0.6	0.2	1.0	3.1	10/9/2017 9:48
4			<b>1.6 Calibration</b>							1.5	0.4	1.2	1.6	10/9/2017 9:49
5	Exterior	Bridgeport	Bridge No. 00325		Pipe		Metal	Grey	Intact	0.0	0.1	1.5	1.3	10/9/2017 9:51
6						<b>VOID</b>								
7	Exterior	Bridgeport	Bridge No. 00325		Pipe		Ceramic	Orange	Intact	0.0	0.0	2.2	7.2	10/9/2017 9:56
8	Exterior	Bridgeport	Bridge No. 00325		I Beam		Metal	Grey	Intact	0.0	0.0	1.0	1.7	10/9/2017 10:00
9	Exterior	Bridgeport	Bridge No. 00325		I Beam		Metal	Grey	Intact	0.0	0.0	1.0	3.0	10/9/2017 10:01
10	Exterior	Bridgeport	Bridge No. 00325		I Beam supports		Metal	Grey	Intact	0.0	0.1	6.2	2.3	10/9/2017 10:01
11	Exterior	Bridgeport	Bridge No. 00325		Railing		Metal	Grey	Intact	0.0	0.0	1.3	6.2	10/9/2017 10:11
12	Exterior	Bridgeport	Bridge No. 00325		Railing		Metal	Grey	Intact	0.0	0.0	1.7	7.2	10/9/2017 10:39
13	Exterior	Bridgeport	Bridge No. 00325		Railing		Metal	Grey	Intact	0.0	0.0	1.0	0.3	10/9/2017 10:40
14	Exterior	Bridgeport	Bridge No. 00325		Railing		Metal	Grey	Intact	0.0	0.0	3.6	5.7	10/9/2017 10:41
15	Exterior	Bridgeport	Bridge No. 00325		Railing		Metal	Grey	Intact	0.0	0.0	1.0	1.7	10/9/2017 10:42
16	Exterior	Bridgeport	Bridge No. 00325		Railing		Metal	Grey	Intact	0.0	0.0	3.1	6.1	10/9/2017 10:42
17	Exterior	Bridgeport	Bridge No. 00325		Railing		Metal	Grey	Intact	0.0	0.0	1.0	5.4	10/9/2017 10:43
18	Exterior	Bridgeport	Bridge No. 00325		Railing		Metal	Grey	Intact	0.0	0.0	1.3	1.1	10/9/2017 10:43
19			<b>0.0 Calibration</b>							0.0	0.0	1.0	1.7	10/9/2017 14:00
20			<b>0.7 Calibration</b>							0.6	0.2	1.1	3.1	10/9/2017 14:01
21			<b>1.6 Calibration</b>							1.5	0.3	1.2	2.1	10/9/2017 14:01

Lead paint includes paint found to contain **any detectable** amount of lead by Atomic Absorption Spectrophotometry (AAS) or X-Ray Fluorescence (XRF).

Side A = Street side; Sides B,C,D follow clockwise

80 Lupes Drive  
Stratford, CT 06615



Tel: (203) 377-9984  
Fax: (203) 377-9952  
e-mail: cet1@cetlabs.com

**Client:** Mr. Erik Plimpton  
TRC Environmental Consultants  
21 Griffin Rd., North  
Windsor, CT 06095

# **Analytical Report**

## **CET# 7100291**

Report Date: October 13, 2017  
Project: CTDOT  
Project Number: Bridgeport Bridge 00325  
PO Number: 222165.5658.0710

Connecticut Laboratory Certificate: PH 0116  
Massachusetts laboratory Certificate: M-CT903



New York NELAP Accreditation: 11982  
Rhode Island Certification: 199



CET # : 7100291

Project: CTDOT

Project Number: Bridgeport Bridge 00325

**SAMPLE SUMMARY**

The sample(s) were received at 24.4°C.

This report contains analytical data associated with following samples only.

Sample ID	Laboratory ID	Matrix	Collection Date/Time	Receipt Date
1	7100291-01	Paint Chip	10/09/2017 11:05	10/11/2017
3	7100291-02	Paint Chip	10/09/2017 11:29	10/11/2017

**Analyte: Total Lead [EPA 6010C]**

**Analyst: SS**

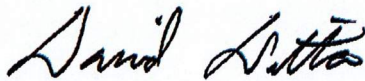
**Matrix: Paint Chip**

Laboratory ID	Client Sample ID	Result	RL	Units	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
7100291-01	1	ND	0.10	%	1	B7J1206	10/12/2017	10/13/2017 12:05	
7100291-02	3	ND	0.10	%	1	B7J1206	10/12/2017	10/13/2017 12:09	

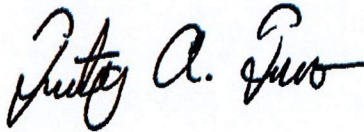
All questions related to this report should be directed to David Ditta, Timothy Fusco, or Robert Blake at 203-377-9984.

Sincerely,

This technical report was reviewed by Timothy Fusco



David Ditta  
Laboratory Director



Project Manager

Report Comments:

Sample Result Flags:

- E- The result is estimated, above the calibration range.
- H- The surrogate recovery is above the control limits.
- L- The surrogate recovery is below the control limits.
- B- The compound was detected in the laboratory blank.
- P- The Relative Percent Difference (RPD) of dual column analyses exceeds 40%.
- D- The RPD between the sample and the sample duplicate is high. Sample Homogeneity may be a problem.
- + - The Surrogate was diluted out.
- \*C1- The Continuing Calibration did not meet method specifications and was biased low for this analyte. Increased uncertainty is associated with the reported value which is likely to be biased low.
- \*C2- The Continuing Calibration did not meet method specifications and was biased high for this analyte. Increased uncertainty is associated with the reported value which is likely to be biased high.
- \*F1- The Laboratory Control Sample recovery is outside of control limits. Reported value for this analyte is likely to be biased on the low side.
- \*F2- The Laboratory Control Sample recovery is outside of control limits. Reported value for this analyte is likely to be biased on the high side.
- I- The Analyte exceeds %RSD limits for the Initial Calibration. This is a non-directional bias.

All results met standard operating procedures unless indicated by a data qualifier next to a sample result, or a narration in the QC report.

For Percent Solids, if any of the following prep methods (3050B, 3540C, 3545A, 3550C, 5035 and 9013A) were used for samples pertaining to this report, the percent solids procedure is within that prep method.

Complete Environmental Testing is only responsible for the certified testing and is not directly responsible for the integrity of the sample before laboratory receipt.

ND is None Detected at or above the specified reporting limit

RL is the Reporting Limit.

All analyses were performed in house unless a Reference Laboratory is listed.

Samples will be disposed of 30 days after the report date.

CET # : 7100291

Project: CTDOT

Project Number: Bridgeport Bridge 00325

**CERTIFICATIONS**

**Certified Analyses included in this Report**

Analyte	Certifications
<i>EPA 6010C in Solid</i>	
Lead	CT

Complete Environmental Testing operates under the following certifications and accreditations:

Code	Description	Number	Expires
CT	Connecticut Public Health	PH0116	09/30/2018



21 GRIFFIN ROAD NORTH  
WINDSOR, CONNECTICUT 06095  
TELEPHONE (860) 298-9692  
FAX (860) 298-6380



7100291

CHAIN OF CUSTODY

Edition: November 2013  
Supersede Previous Edition

LAB ID #

PROJECT NUMBER

PROJECT NAME

222165.5658.0710

DOT Bridgeport Bridge 00325

PARAMETERS

TURNAROUND TIME

24hr	X	48hr		3day		5day
24hr		48hr		3day		5day

INSPECTOR: (SIGNATURE)

*David Webster*

(PRINTED)

David Webster

MATERIAL

FIELD SAMPLE NUMBER	DATE	TIME	TYPE		SAMPLE LOCATION	RCRA Pb	RCRA Pb, AS, CR, CD	8 RCRA Metals	TCLP Pb	SPLP Pb	Total Pb	MATERIAL
			COMP	GRAB								
1	10-9-17	1105		X	Railing						X	Paint
2	10-9-17	1105	X		Railing				X			Paint
3	10-9-17	1129	X		I beam						X	Paint
4	10-9-17	1129	X		I beam				X			Paint

Relinquished by: (Signature)

*David Webster*

Date:

10-11-17

Received by: (Signature)

*Robert Pennington*

Relinquished by: (Signature)

*David Webster*

Date:

10-11-17

Received by: (Signature)

*Robert Pennington*

(Printed)

*David Webster*

Time:

0820

(Printed)

*Robert Pennington*

(Printed)

*Robert Pennington*

Time:

1720

If sample 1 and 3 has detectable amounts of Pb then run corresponding samples 2 and 4 for tcip hold if total Pb is ND. Email results to EPhimpton@trcsolutions.com

*David Webster*





21 GRIFFIN ROAD NORTH  
 WINDSOR, CONNECTICUT 06095  
 TELEPHONE (860) 298-9692  
 FAX (860) 298-6380

## ASBESTOS BULK SAMPLING CHAIN OF CUSTODY

Edition: October 2009  
 Supersede Previous Edition

LAB ID #. 51405

PROJECT NUMBER 222165.5658.0710		PROJECT NAME Bridgeport Bridge 00325		PARAMETERS					TURNAROUND TIME												
									PLM:	TEM:	8hr	24hr	48hr	3day	5day						
SIGNATURE <i>David Webster</i>		INSPECTOR David Webster		MATERIAL																	
FIELD SAMPLE NUMBER	DATE	TIME	TYPE		SAMPLE LOCATION	PLM EPA 600/R93/116 (POSITIVE STOP)	PLM EPA 600/R93/116 (w/ gravimetric reduction) (POSITIVE STOP)	ANALYZE BY LAYER	POINT COUNT (IF >1% & <10%)	TEM NY NOB 198.4 (IF PLM SERIES NEG)	T1- Black tar at penetration	T1- Black tar at penetration	PW1- Black rubbery pipe wrap	PW1- Black rubbery pipe wrap	PS1- White thin sealant around pipe fitting	PS1- White thin sealant around pipe fitting	PW2- Grey gummy pipe wrap at pipe fitting	PW2- Grey gummy pipe wrap at pipe fitting	PS2- Lt grey spot pipe sealant	PS2- Lt grey spot pipe sealant	EJ1- Black tar expansion joint
			COMP	GRAB																	
1	10-9-17	1010	X		Pipe at abutment of bridge	X															
2	10-9-17	1011	X		Pipe at abutment of bridge				x												
3	10-9-17	1012	X		Pipe at abutment of bridge	X															
4	10-9-17	1013	X		Pipe at abutment of bridge				X												
5	10-9-17	1018	X		Pipe at abutment of bridge	X															
6	10-9-17	1018	X		Pipe at abutment of bridge				X												
7	10-9-17	1021	X		Pipe at abutment of bridge	X															
8	10-9-17	1022	X		Pipe at abutment of bridge				X												
9	10-9-17	1048	X		Pipe at abutment of bridge	X															
10	10-9-17	1049	X		Pipe at abutment of bridge				X												
11	10-9-17	1200	X		Under bridge by train tracks	X															

Relinquished by: (Signature) <i>David Webster</i>	Date: 10-11-17	Received by: (Signature) <i>David Webster</i>	Date: 10/11/17
(Printed) David Webster	Time: 0708	(Printed) <i>David Webster</i>	Time: 0830
Remarks:	Condition of Samples: Acceptable: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
	Comments:		





21 GRIFFIN ROAD NORTH  
 WINDSOR, CONNECTICUT 06095  
 TELEPHONE (860) 298-9692  
 FAX (860) 298-6380

## ASBESTOS BULK SAMPLING CHAIN OF CUSTODY

Edition: October 2009  
 Supersede Previous Edition

LAB ID #. <u>51405</u>	
PROJECT NUMBER <b>222165.5658.0710</b>	PROJECT NAME <b>Bridgeport Bridge 00325</b>
SIGNATURE 	INSPECTOR <b>David Webster</b>
	TYPE
DATE <b>10-9-17</b>	TIME <b>1202</b>
FIELD SAMPLE NUMBER <b>12</b>	SAMPLE LOCATION <b>Under bridge by train tracks</b>
PARAMETERS	
PLM EPA 600/R93/116 (POSITIVE STOP)	PLM NY NOB 198.4 (IF PLM SERIES NEG)
PLM EPA 600/R93/116 (w/ gravimetric reduction) (POSITIVE STOP)	ANALYZE BY LAYER
POINT COUNT (IF >1% & >10%)	
	TURNAROUND TIME
	8hr
	24hr
	48hr
	3day
	5day
	MATERIAL
	EJ1- Black tar expansion joint

X

Relinquished by: (Signature) 	Date: <b>10-11-17</b>	Received by: (Signature) 	Date: <b>10/11/17</b>
(Printed) <b>David Webster</b>	Time: <b>0108</b>	(Printed) <b>0530</b>	Time:
Remarks:	Condition of Samples: Acceptable: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Comments:		
			Page 2 of 2



**BULK ASBESTOS ANALYSIS REPORT**

CLIENT: CT Department of Transportation

Lab Log #: 0051405  
 Project #: 222165.5658.0710  
 Date Received: 10/11/2017  
 Date Analyzed: 10/11/2017

Site: Bridge 00325, Bridgeport, CT

**POLARIZED LIGHT MICROSCOPY by EPA 600/R-93/116**

Sample No.	Color	Homogenous	Multi-Layered	Layer No.	Other Matrix Materials	Asbestos %	Asbestos Type
1	Black (tar)	Yes	No	--	2% cellulose	ND	None
2	Black (tar)	Yes	No	--	2% cellulose	ND	None
3	Black (pipe wrap)	Yes	No	--	---	ND	None
4	Black (pipe wrap)	Yes	No	--	---	ND	None
5	White (sealant)	Yes	No	--	---	ND	None
6	White (sealant)	Yes	No	--	---	ND	None
7	Grey (pipe wrap)	Yes	No	--	---	ND	None
8	Grey (pipe wrap)	Yes	No	--	---	ND	None
9	Light Grey (sealant)	Yes	No	--	---	ND	None
10	Light Grey (sealant)	Yes	No	--	---	ND	None
11	Black (expansion)	Yes	No	--	2% cellulose	ND	None
12	Black (expansion)	Yes	No	--	2% cellulose	ND	None

TRC LABORATORY ASBESTOS ANALYTICAL ACCREDITATIONS

NVLAP Lab Code 101424-0 AIHA-LAP,LLC #100122 CT #PH-0426 ME LA-0075, LB-0071 MA #AA000052 NY #10980 WV# LT000411  
 RI #AAL-007 TX #300354 VT #AL014538 LA#05011 VA #3333 000283 AZ #A20944 HI #L-09-004 NJ #CT004 CA #2907  
 CO# AL-15020 PHIL# 461 PA#68-03387



**POLARIZED LIGHT MICROSCOPY by EPA 600/R-93/116**

Sample No.	Color	Homogenous	Multi-Layered	Layer No.	Other Matrix Materials	Asbestos %	Asbestos Type
------------	-------	------------	---------------	-----------	------------------------	------------	---------------

Reporting limit- asbestos present at 1%  
 ND - asbestos was not detected  
 Trace - asbestos was observed at level of less than 1%  
 NA/PS - Not Analyzed / Positive Stop  
 SNA- Sample Not Analyzed- See Chain of Custody for details

Note: Polarized-light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. In those cases, EPA recommends, and certain states (e.g. NY) require, that negative results be confirmed by quantitative transmission electron microscopy.

The Laboratory at TRC follows the EPA's Interim Method for the Determination of Asbestos in Bulk Insulation 1982 (EPA 600/M4-82-020) Bulk Analysis Code 18/A01 and the EPA recommended Method for the Determination of Asbestos in Bulk Building Materials July 1993, R.L. Perkins and B.W. Harvey, (EPA/600/R-93/116) Bulk Analysis Code 18/A03, which utilize polarized light microscopy (PLM). Our analysts have completed an accredited course in asbestos identification. TRC's Laboratory is accredited under the National Voluntary Laboratory Accreditation Program (NVLAP), for Bulk Asbestos Fiber Analysis, NVLAP Code 18/A01, effective through June 30, 2018. TRC is accredited by the AIHA Laboratory Accreditation Programs (AIHA-LAP), LLC in the Industrial Hygiene Program (IHLAP) for PLM effective through October 1, 2018. Asbestos content is determined by visual estimate unless otherwise indicated. Quality Control is performed in-house on at least 10% of samples and QC data related to the samples is available upon written request from client.

This report shall not be reproduced, except in full, without the written approval of TRC. This report must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. This report relates only to the items tested.

Analyzed by: K. Williamson Reviewed by: Cathryn Lemire Date Issued  
 Kathleen Williamson, Laboratory Manager Cathryn Lemire, Approved Signatory 10/12/2017

**TRC LABORATORY ASBESTOS ANALYTICAL ACCREDITATIONS**

NVLAP Lab Code 101424-0 AIHA-LAP,LLC #100122 CT #PH-0426 ME LA-0075, LB-0071 MA #AA000052 NY #10980 WV# LT000411  
 RI #AAL-007 TX #300354 VT #AL014538 LA#05011 VA #3333 000283 AZ #A20944 HI #L-09-004 NJ #CT004 CA #2907  
 CO# AL-15020 PHIL# 461 PA#68-03387







# ProScience Analytical Services, Inc.

22 Cummings Park, Woburn, Massachusetts 01801  
 781-935-3212 ~ Fax: 781-932-4857 ~ E-Mail: general@proscience.net

# Laboratory Report

Client Project #: 222165.5658.0710  
 Client Reference: CT DOT - Bridge 00325, Bridgeport, CT  
 PO #: C222165  
 Client #: 297  
 Client Name: TRC Environmental Corp. (CT)

Batch: NT 16812  
 Method: NOB  
 Date Received: 10/13/2017  
 Date Analyzed: 10/17/2017  
 Date of Report: 10/17/2017

LAB ID	Field ID	Description:	Color	Initial Weight	% Asbestos Types						% Other Non-asb.	% Organic	% Carb.	Total % Asbestos	Analyzed / Charged	Preped / Charged
					CHR	AMO	ACT	CRO	ANT	TRE						
NT127429	2	Black Tar		.0441	.00	.00	.00	.00	.00	.00	14.74	71.88	13.38	ND	Yes	No
NT127430	4	Black Rubbery Pipe Wrap		.1148	.00	.00	.00	.00	.00	.00	16.38	78.83	4.79	ND	Yes	No
NT127431	6	White Thin Sealant		.0459	.00	.00	.00	.00	.00	.00	1.74	96.30	1.96	ND	Yes	No
NT127432	8	Grey Gummy Pipe Wrap		.0590	.00	.00	.00	.00	.00	.00	2.71	92.71	4.58	ND	Yes	No
NT127433	10	Lt Grey Spot Pipe Sealant		.0613	.00	.00	.00	.00	.00	.00	86.79	3.75	9.46	ND	Yes	No
NT127434	12	Black Tar Expansion Joint		.4496	.06	.00	.00	.00	.00	.00	12.30	79.20	8.50	TR	Yes	No

**Comments:**

Key: CHR = Chrysotile AMO = Amosite CRO = Crocidolite ACT = Actinolite TRE = Tremolite ANT = Anthophyllite TR = Trace = < 1% ND = None Detected

*Almee L. Cornier*  
 Almee Cornier, Analyst



SUBJECT Bridge 325 Bridgeport



- Concrete Substructure
- Pipe running span of bridge is supported. Except where noted.
- ESI break bridge supports to main creek (in 10 ft)
- 15' net I Beam concrete on south side, shall out 4 FT from cover sides.

130 FT





SUBJECT Bridges 325 Bidsport

ACM List

- ① PW1 - Black rubbery pipe wrap before protection
- ① T1 - Black tar at penetration
- ① PS1 - White thin sealant, at pipe fitting
- ① PW2 - Grey grimey pipe wrap at pipe fitting.
- ① PS2 - Lt grey spot pipe sealant.
- ① T2 - Black tar expansion joint.

TCLP's

\* Paint chips taken for both

- Black rubber paint
- Grey I Beam / support paint (highly corroded. mostly rust)
- No req. items observed

**PROJECT DESCRIPTION**  
**PROJECT 15-248**  
**U.S. ROUTE 1 (BOSTON AVENUE) OVER STILLMAN POND**  
**BRIDGEPORT, CONNECTICUT**  
**BRIDGE 00325**

This project involves the rehabilitation of Bridge No. 00325, which carries Route 1 (Boston Avenue) over Stillman Pond and inactive railroad spurs in the City of Bridgeport, Connecticut. The bridge carries two lanes of traffic in both the northbound and southbound directions. Bridge No. 00325 is located approximately 1 mile east of Route 8 and 0.9 mile north of I-95. The Routine Bridge Inspection Report dated September, 2016 identified that Bridge No. 00325 is in serious condition with an overall rating of "3". The existing structure also has substandard sightlines, shoulder widths, and horizontal baseline geometry. The purpose of this project is to address the structural and functional deficiencies of Bridge No. 00325 in order to provide a safe travel route for the travelling public.


The existing structure was constructed in 1910 and consists of a 75 foot long single span cast-in-place filled spandrel concrete arch with concrete abutments and concrete wingwalls scoured to resemble masonry. The bituminous wearing surface is on approximately 1 foot 6 inches of fill at the crown and the arch has a vertical under-clearance of roughly 17 feet at the crown. In 1934 the structure was widened from an out-to-out width of 58 feet 3 inches to the current out-to-out width of approximately 71 feet in order to accommodate 6 foot wide cantilevered sidewalks. Pedestrian traffic was removed from the southbound sidewalk in January 2017 through an Emergency Declaration. Two rows of temporary precast concrete barrier have been placed in the right southbound lane to create a temporary pedestrian sidewalk over the bridge. A second Emergency Declaration was issued in October of 2017 to further address the decreasing structural integrity of the sidewalk support systems.

After the roadway safety assessment was performed by the Department's Highway Design unit, the location was found to have substandard curve radii, limited Stopping Sight Distance (SSD) along the bridge and limited Intersection Sight Distance (ISD) east of the bridge at the intersection of Route 1 and Seaview Avenue. A total of 24 crashes have occurred between 2012 and 2016 at the project location. Side-swipes, rear-end and fixed object collisions were identified as predominant type of crashes. In addition, the crash report indicates that crashes in the vicinity of the project area are likely due to the substandard roadway conditions. The roadway alignment will be improved at the bridge to meet the desirable design speed.

The scope of work for the project includes installing a corrugated steel plate arch relining system below the existing arch to convey the flow from Stillman Pond and also to allow for potential future under-passage. The existing concrete arch will be left in place. The steel plate arch relining system will rest on cast-in-place pedestals. The pedestals will be founded partially on spread footings and partially on micropiles. The annular space between the existing arch and above the proposed structure will then be backfilled with controlled low strength material. The steel plate arch relining system will be installed to match the skew of the existing structure and will extend approximately 20 feet 2 inches beyond the limits of the existing structure at the southbound side and approximately 4 feet 5 inches at the northbound side. Cast-in-place headwalls and retaining walls will tie into the existing embankment retaining walls allowing for the removal of existing deteriorated sections. Sidewalks with parapets will be constructed on each

side of the bridge to match into the existing sidewalks on the approaches. Since the existing wrought iron fence is considered historic, a replicated fence, meeting design standards, will be installed on the parapets and wingwalls and will abut to the existing decorative fence at construction limits. A replicated commemorative plaque will also be installed to match the aesthetic and dimensions of the historic plaques that have been previously lost due to theft.

Overhead utilities include high voltage power lines located roughly 30 feet above the roadway on the western approach to the bridge. Additional overhead electric and communication lines are located diagonally, north east to the southwest, above the bridge. Subsurface utilities include 1–12 inch diameter gas pipe at the north fascia attached below the cantilever sidewalk support beams, 3 water mains: 1–8 inch, 1–12 inch and 1-24 inch within the structure fill running along the length of the bridge. There are also 28 telecommunication conduits within the structure fill running along the length of the structure below the southbound lanes. The gas and water mains will be relocated, outside of the travel lanes, along the structure. The remaining overhead and subsurface utilities will remain in place, and be maintained and protected during construction. The existing 12 inch gas main owned by Southern Connecticut Gas Company and located below the southbound cantilevered sidewalk has been temporarily taken out of service and relocated as part of the October 2017 Emergency Declaration. A new section of 12 inch pipe will be installed in the fill area outside the roadway on the southbound side of the bridge under this project. This work will be coordinated with required project construction activities and the line will be brought back into service at or before project completion.

 An existing tunnel running below Route 1 at the east approach and within the southeast embankment will either be removed or filled under the scope of this project in the areas that haven't been previously grouted.

Existing inactive drainage structures are located below the existing bridge and will be removed to avoid conflict with the proposed structure. An existing 36 inch drainage pipe, located at the northbound side of the structure, empties into the Stillman Pond channel and may require a drainage easement. An existing 24 inch drainage pipe running through the southeast embankment retaining wall will be replaced with a 36 inch reinforced concrete pipe under the scope of this project.

As part of the highway safety improvements for this project, the methods for addressing safety at the bridge area will consist of extending the southbound bridge parapet on Route 1 to improve sightlines and flattening the horizontal roadway curvature on the northbound side of Route 1 to accommodate the 40 mph design speeds. The improvements will also include the removal of the bridge median and a relocation of a 24 inch water main located in the median to the southbound side of the bridge outside of the traveled way. In addition, inside and outside roadway shoulders will be provided along the bridge to facilitate bicyclists and improve roadway standards. The proposed highway modifications will improve the existing Stopping Sight and Intersection Sight Distances to accommodate traffic's 85<sup>th</sup> percentile speed.

Both permanent partial takes and temporary construction easements are required for the work. Permanent partial takes will be required from General Electric located north of the bridge, ADJ Realty Corporation located southwest of the bridge, and the Housing Authority of the City of Bridgeport located southeast of the bridge. Permanent easements may be required for sloping. Additionally, a permanent easement may



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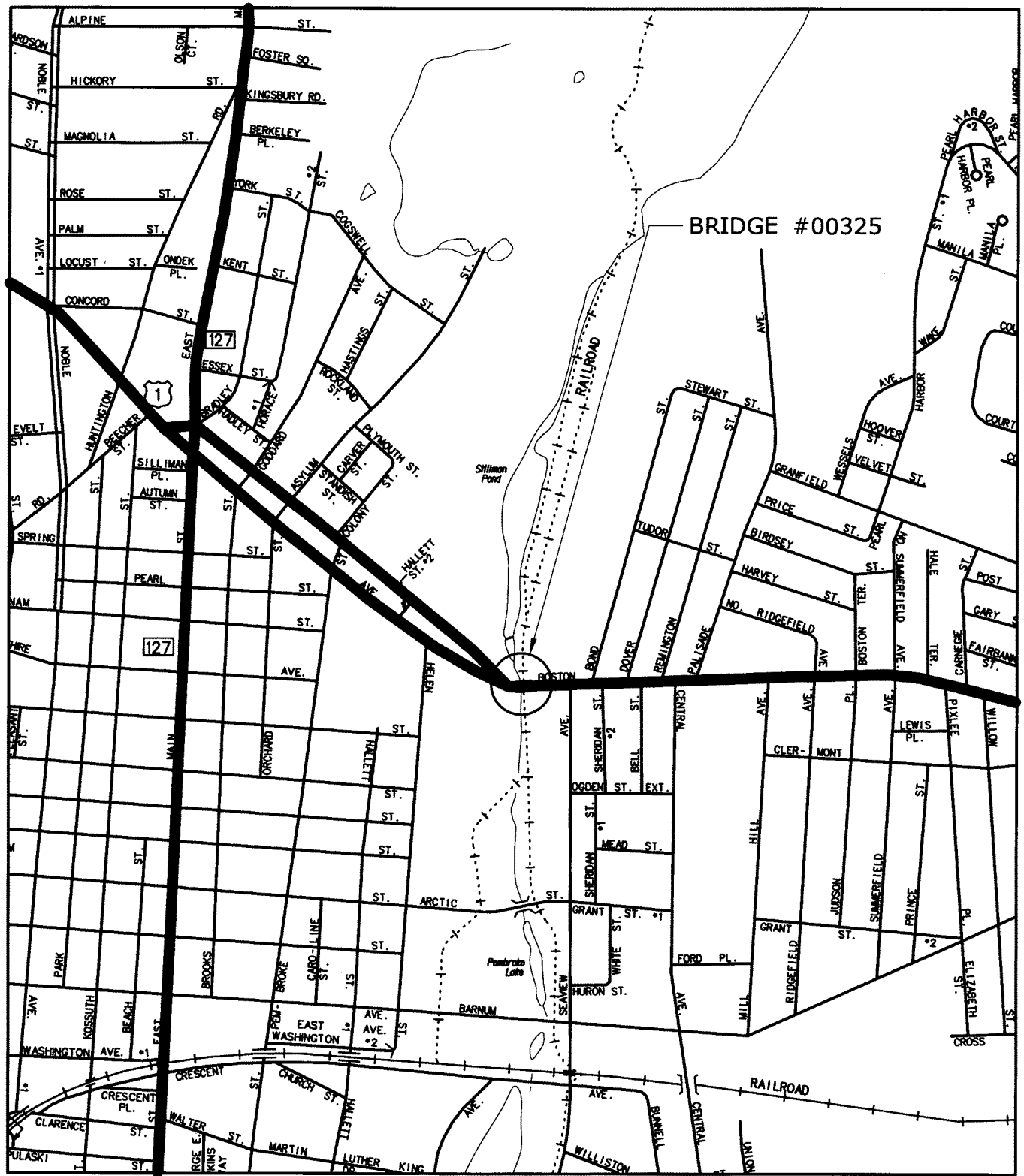
be required for an existing 30 inch drainage pipe. Temporary construction easements will be obtained for construction access, and material and equipment staging and storage areas.

Most of the work related to the corrugated steel plate arch relining system can be accomplished without impacting traffic operations over the structure. Construction work impacting traffic operations, such as the roadway work and subsurface utility relocations will be performed in stages in order to maintain required traffic.

Coordination for this project has been ongoing and has included the CTSHP, FHWA, CTDOT and the City of Bridgeport. A Public Information meeting was held on September 6, 2017. Attendees were able to comment on the proposed project and express any concerns they might have. On the whole, the proposal was generally well received and supported by those in attendance. Public concern was focused on the right of way acquisition process and allowance for potential for future under-passage. CTDOT will coordinate with the City of Bridgeport and any other appropriate agencies to make project information, including a schedule of roadway closures readily available to the public.



**PROJECT 15-248  
BRIDGEPORT, CT  
REHABILITATION OF BRIDGE NO. 00325  
CARRYING ROUTE 1 OVER STILLMAN POND**



SCALE IN FEET



STATE PROJECT NO.:

15-248

CITY/TOWN:

BRIDGEPORT



STATE OF CONNECTICUT  
DEPARTMENT OF TRANSPORTATION

BRIDGE #00325 OVER  
STILLMANS POND



OFFICE OF  
ENGINEERING



DATE:

01/07/14