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Weston & Sampson Engineers, Inc. Five Centennial Drive Peabody, MA 01960-7985 www.westonandsampson.com ₼900 Fax: (978) 977-0100 ns since 1899

Boston Redevelopment Authority Weston & Sampson Project No. 200317.A

October 27, 2000

Bureau of Waste Site Cleanup Department of Environmental Protection - Northeast Regional Office 205A Lowell Street Wilmington, Massachusetts 01887

Phase II Comprehensive Site Assessment Scope of Work Re:

Boston Redevelopment Authority Parcel P-3 TEMONT WHITTER ST Roxbury, Massachusetts Release Tracking Number (RTN) 3-15009

Dear Sir or Madam:

Weston & Sampson Engineers, Inc., on behalf of the Boston Redevelopment Authority (BRA), has prepared this Phase II - Comprehensive Site Assessment (CSA) Scope of Work (Phase II SOW). This Phase II SOW includes work required to fulfill the requirements of the Quality Assurance Project Plan (QAPP) to be submitted to the Environmental Protection Agency (EPA). The attached Phase II SOW has been prepared in accordance with the Massachusetts Contingency Plan (MCP), section 310 CMR 40.0834.

SITE LOCATION AND DESCRIPTION

Parcel P-3 is an approximately 9-acre parcel of land located on Tremont Street within the Campus High School Urban Renewal Area in Roxbury, Massachusetts (Figure 1 – Locus Map). Parcel P-3 has a history of mixed commercial and industrial use and formerly consisted of over 50 smaller lots. Only one building still remains: the Whittier Street Health Center (WSHC), located along the eastern portion of Parcel P-3 (Figure 2 – Site Plan). The Whittier Street Housing Development abuts Parcel P-3 to the east and Madison Park High School abuts Parcel P-3 to the south and west. The parking lot for the high school occupies the western and southwestern areas of Parcel P-3. Portions of Parcel P-3 are vacant lots, some of which are fenced and some of which have received illegal dumping of soil and solid waste.

Rhode Island

Portsmouth, NH 03801

Maine

REGULATORY STATUS

In early 1998, Weston & Sampson conducted a Phase I – Initial Site Investigation at Parcel P-3 that
included a soil and groundwater sampling program. Results of the Phase I investigation identified
total petroleum hydrocarbons (TPH), lead, and several polynuclear aromatic hydrocarbons (PAHs)
exceeding MCP reportable concentrations (RCs). The Phase I report and Tier Classification
submittal was issued to DEP on April 14, 1998. Parcel P-3 was classified as a Tier II site.

Following the initial Phase I investigation, 17 additional soil borings (B-101 to B-115) were advanced in areas at Parcel P-3 where RCs were exceeded. Fifteen of the 17 soil borings were advanced in the topographically elevated fill area behind the former Connolly's Tavern (Figure 2). TPH, several PAHs, and lead concentrations in soil from the top 9 feet in this area exceeded applicable Method 1 cleanup standards. In addition, PAH concentrations exceeded applicable Method 1 cleanup standards in all 15 soil borings in this area. Polychlorinated biphenyls (PCBs) were detected at in 2 of 6 samples at levels below the applicable RC.

Several PAHs also exceeded Method 1 cleanup standards in soil between 0 and 3 feet below pavement in the second area located behind the WSHC (B-116 and B-117). Select soil samples containing the highest lead concentrations were analyzed for the Toxicity Characteristic Leachate Procedure (TCLP) and resulting TCLP lead concentrations were below the hazardous waste threshold of 5.0 milligram per liter (mg/l). Concentrations of TPH, PAHs, and lead did not exceed Upper Concentration Limits (UCLs).

Based on the data collected to-date, contamination does not appear to have impacted the entire Parcel P-3, and the "disposal site" is delineated as two separate non-contiguous parcels. The disposal site occupies approximately 2.5 acres of the entire 9-acre Parcel P-3. The boundaries of the disposal site include an unpaved, approximately 1.5-acre area of topographically elevated fill area behind the former Connolly's Tavern and a paved, approximately 1-acre area behind the WSHC and bounded by the former Vernon and Hampshire Streets and Downing Street. However, there are data gaps in the 5.5-acre western portion of Parcel P-3 (currently used as parking for Madison Park High School). Additional data will be needed to eventually close out Parcel P-3 and to limit the disposal site to the areas described above.

Access to the 1.5-acre unpaved portion of the disposal site is restricted by the presence of a 6-foot high chain-link fence, installed by the BRA as a good faith attempt to restrict access to this portion of Parcel P-3. Exposure to contaminated soils in the 1-acre portion of the disposal site is eliminated due to paving. Currently there are no on-site workers at the disposal site. However, potential human receptors to the disposal site may include trespassers (both adult and child).

On April 13, 2000, Weston & Sampson submitted a Notification of Delay letter to DEP, notifying them of a delay in completion of the Phase II field investigation. The timing of the Phase II field investigation is discussed in the Schedule section of this letter.

PHASE II SCOPE OF WORK

The overall objective of the Phase II CSA is to delineate the horizontal and vertical extent of contamination, and to evaluate whether a condition of "no significant risk" exists under current and future Site uses. A detailed Phase II SOW is as follows:

1.0 **Drilling:** A subsurface field investigation will be performed to gather additional soil analytical data. Additional soil borings are needed to characterize the contaminated fill and native soil layers within three areas:

Disposal Site: Behind former Connolly's Tavern

In this area, up to one deep soil boring, designated B-201(D), will be drilled to assess the vertical extent of contamination. The deep boring will be drilled to approximately 25 feet below grade or approximately 5 feet into the lower native unit.

Disposal Site: Behind the WSHC

In this area, up to three shallow soil borings, designated B-202(S) through B-204(S), will be drilled. Soil borings will be drilled to approximately 10 feet below grade or until the contact between the fill and lower native layer (peat, silt, and/or clay) is encountered (estimated to be 8.5 feet below grade).

Outside Disposal Site: Western portion of Parcel P-3

In this area, up to three soil borings (B-205 through B-207) will be drilled to approximately 5 feet below grade.

All soil borings, except the deep borings, will be drilled using 4¼-inch inner diameter (ID) hollow-stem auger (HSA) drilling techniques. Deep soil boring B-201(D) will be drilled using drive and wash (DW) casing drilling techniques to prevent cross-contamination between the upper fill and lower native soil layer.

All borings will be backfilled with drill cuttings from the same hole and to the same depth from which they came. Any excess cuttings will be temporarily placed in a 55-gallon drum and labeled "non-hazardous waste" for later testing and disposal off-site.

During drilling, soil samples will be collected at five-foot intervals using a stainless-steel split-spoon sampler. All soils will be field screened for total volatile organic compounds (VOCs) using a photoionization detector (PID) in accordance with DEP's Jar Headspace Screening Method. All drilling activities will be supervised by a Weston & Sampson field geologist or engineer.

2.0 Surficial Soil and Stockpile Sampling and Analysis: Weston & Sampson will collect up to 4 surficial (top 6 inches) soil samples (plus one duplicate for each parameter) from the 1.5-acre area of elevated fill behind the former Connolly's Tavern. In addition, we will collect approximately 3 samples from the soil/debris stockpiles piles located behind the WSHC and

submit them for laboratory analysis of volatile petroleum hydrocarbons (VPH), EPH with target PAHs, and RCRA 8 metals.

To fulfill QAPP requirements, Weston & Sampson will collect one duplicate sample and one methanol trip blank sample will accompany all of the surface soil and stockpile samples.

1.5-Acre Unpaved Area (behind Former Connelly's Tavern)

	Sample Numbers	Sample Unit	No. of Samples	Sampling Parameters
١	SS-1 to SS-4	Surficial Soil	4	EPH with PAHs, Lead

1.0-Acre Paved Area (behind WSHC)

Sample Numbers	Sample Unit	No. of Samples	Sampling Parameters
Soil Stockpiles	Fill	3	VPH, EPH with PAHs,
			PCBs, RCRA 8 Metals

3.0 Soil Boring Sampling and Analysis: Weston & Sampson will collect a total of 8 soil boring samples (plus 1 duplicate for each parameter) for the analysis of extractable petroleum hydrocarbons (EPH), including target PAHs, and lead. Samples will be collected from the following geologic units and analyzed as follows:

1.5-Acre Unpaved Area (behind Former Connelly's Tavern)

Sample Numbers	Sample Unit	No. of Samples	Sampling Parameters
B-201D	Fill	1	EPH with PAHs, Lead
B-201D	Native Soil	1	EPH with PAHs, Lead

1.0-Acre Paved Area (behind WSHC)

Sample Numbers		Sample Unit	No. of Samples	Sampling Parameters	
Ī	B-202 to B-204	Fill	3	EPH with PAHs, Lead	

5.5-Acre Paved Area in Western Portion of Property

Boring/Sample Numbers	Sample Unit	No. of Samples	Sampling Parameters
B-205(S) @ WS-6	Fil1	1	EPH with PAHs, Lead
B-206(S) @ WS-5	Fill	1	EPH with PAHs, Lead
B-207(S) @ WS-11	Fill	1	EPH with PAHs, Lead

To fulfill QAPP requirements, Weston & Sampson will collect one duplicate sample. Quality assurance/quality control samples may be adjusted based on EPA's approval of the QAPP.

The exact depth of fill and native soil samples collected will depend on the actual depth at which these units are encountered in the field during drilling. Based on data collected during the Phase I, the thickness of the fill in the 1.0-acre paved area behind WSHC is approximately 8.5 feet thick. The thickness of the fill in the 6.5-acre western paved portion of the property varies between approximately 8.5 to 17 feet and is absent in some locations (i.e., WS-7).

- 4.0 Surveying: Following completion of the drilling program, Weston & Sampson will survey all soil borings and surficial sampling locations. In addition, the ground elevation at each boring will also be surveyed. The new soil boring and sampling locations will be plotted on the site plan.
- 5.0 Groundwater Sampling: Based on accessibility and site coverage, Weston & Sampson will sample six of the twelve existing monitoring wells (WS-1 through WS-12). Groundwater will be analyzed for VPH, EPH with target PAHs, and dissolved lead. Samples will be collected using a peristaltic pump and low-flow sampling techniques. Weston & Sampson will also ensure that one water trip blank sample accompanies all the groundwater VPH samples.

No field rinse blank sample is required as a quality check on groundwater sampling equipment because the equipment will be dedicated to each sampling location. At this time we are not recommending collection of a duplicate sample as previously no contaminants were detected in groundwater.

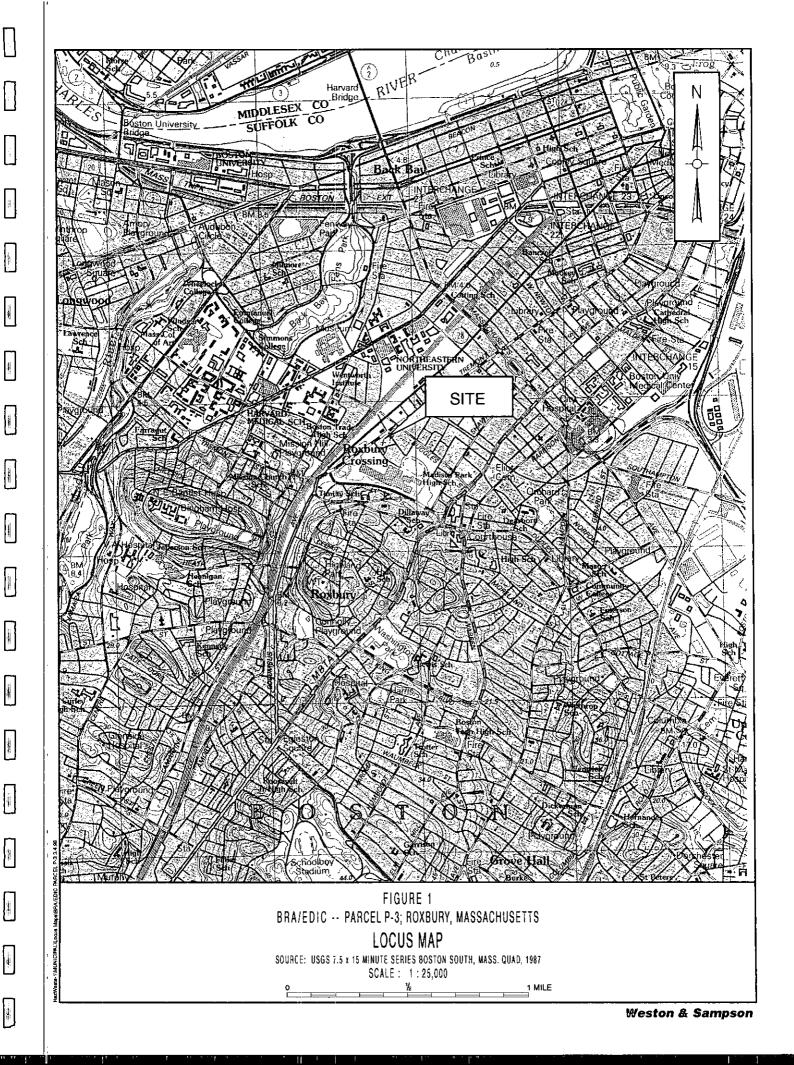
- 6.0 Risk Characterization: A Method 3 risk characterization will be performed to evaluate whether a condition of "no significant risk" exists at the Site for current and future use conditions.
- 7.0 Phase II CSA Report: A Phase II CSA report will be prepared to present the results of field investigation, QAPP findings, and risk characterization. The report will include recommendations for additional field work, if required, or other additional response actions needed to achieve Site closure under the MCP.

SCHEDULE

The subsurface investigation (Tasks 1.0 through 5.0) is scheduled to occur in November and December 2000. As this assessment is being funded through an EPA Brownfields Grant, the project's schedule is dependent on EPA's approval of the QAPP, which we assume will occur in mid-late November. At this time, Weston & Sampson anticipates completing the Method 3 Risk Characterization (Task 6.0) in January/February 2001. The results of the subsurface investigation and risk characterization will be used to prepare the Phase II CSA report (Task 7.0) by late February or early March 2001.

]	Weston & Sampson Engir
	Bureau of Waste Site Cleanup October 27, 2000 Page 6
	If you have any questions concerning the Phase II SOW, please contact me at (978) 532-1900.
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1	WESTON & SAMPSON ENGINEERS, INC.
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	Prasanta K. Bhunia, Ph.D., LSP Vice President
	cc: Noah Luskin, BRA Richard Mertens, BRA
	Thomas Ahern, BRA File
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Massachusetts Department of Environmental Protection Bureau of Waste Site Cleanup

BWSC-108

COMPREHENSIVE RESPONSE ACTION TRANSMITTAL FORM & PHASE I COMPLETION STATEMENT

Release Tracking Number

DBP Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)				
A SITE LOCATION: Sile Name: (optional) Parcel P-3				
Street: TREMONT + WHITTIER STREETS Location Aid: UTMs: 4688700mN, 327800mE				
City/Town: ROXBURY ZIP 02120-0000				
Related Release Tracking Numbers that this Form Addresses:				
Tier Classification: (check one of the following) Tier IA Tier IB Tier IC Tier II Not Tier Classified				
If a Tier I Permit has been issued, state the Permit Number:				
B THIS FORM IS BEING USED TO: (check all that apply)				
Submit a Phase I Completion Statement, pursuant to 310 CMR 40.0484 (complete Sections A, B) C G, H, Land 9)				
Submit a Phase II Scope of Work, pursuant to 310 CMR 40.0834 (complete Sections A, B, C, G H, I and V). Submit a final Phase II Comprehensive Site Report and Completion Statement, pursuant to 3 OCMR 49.0836 (complete Sections A, B, C, D, G, H, I and J).				
(complete Sections A, B, C, D, G, H, I and J). Submit a Phase III Remedial Action Plan and Completion Statement, pursuant to 310 CMR 40 0862 (complete Sections A, B, C, C, C, C).				
Submit a Phase III Remedial Action Plan and Completion Statement, pursuant to 310 CMR 40 0862 (complete Sections A, B, C, CAH, CARD). Submit a Phase IV Remedy Implementation Plan, pursuant to 310 CMR 40.0874 (complete Sections A, B, WOBURN), MASS.				
Submit an As-Built Construction Report, pursuant to 310 CMR 40.0875 (complete Sections A, B, C, G, H, I and J).				
Submit a Phase IV Final Inspection Report and Completion Statement, pursuant to 310 CMR 40.0878 and 40.0879 (complete Sections A, B, C, E, G, H, I and J).				
Submit a periodic Phase V Inspection & Monitoring Report, pursuant to 310 CMR 40.0892 (complete Sections A, B, C, G, H, I and J).				
Submit a final Phase V Inspection & Monitoring Report and Completion Statement, pursuant to 310 CMR 40.0893 (complete Sections A, B, C, F, G, H, I and J).				
You must attach all supporting documentation required for each use of form indicated, including copies of any Legal Notices and Notices to Public Officials required by 310 CMR 40.1400.				
C. RESPONSE ACTIONS: A/A				
Check here if any response action(s) that serves as the basis for the Phase submittal(s) involves the use of Innovative Technologies. (DEP is interested in using this information to create an Innovative Technologies Clearinghouse.)				
Describe Technologies:				
D PHASE II COMPLETION STATEMENT: //A				
Specify the outcome of the Phase II Comprehensive Site Assessment:				
Additional Comprehensive Response Actions are necessary at this Site, based on the results of the Phase II Comprehensive Site Assessment.				
The requirements of a Class A Response Action Outcome have been met and a completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP.				
The requirements of a Class B Response Action Outcome have been met and a completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP.				
Rescoring of this Site using the Numerical Ranking System is necessary, based on the results of the final Phase II Report.				
PHASE IV COMPLETION STATEMENT:				
Specify the outcome of Phase IV activities: Phase V operation, maintenance or monitoring of the Comprehensive Response Action is necessary to achieve a Response Action				
Outcome. (This site will be subject to a Phase V Operation, Maintenance and Monitoring Annual Compliance Fee.)				
The requirements of a Class A Response Action Outcome have been met. No additional operation, maintenance or monitoring is necessary to ensure the integrity of the Response Action Outcome. A completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP.				
The requirements of a Class C Response Action Outcome have been met. No additional operation, maintenance or monitoring is necessary to ensure the integrity of the Response Action Outcome. A completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP.				
SECTION E IS CONTINUED ON THE NEXT PAGE				

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Massachusetts Department of Environmental Protection Bureau of Waste Site Cleanup

BWSC-108

COMPREHENSIVE: RESPONSE ACTION TRANSMITTAL

Release Tracking FORM & PHASE I COMPLETION STATEMENT <u>Number</u> 冝 3 15009 Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H) PHASE IV COMPLETION STATEMENT: (continued) The requirements of a Class C Response Action Outcome have been met. Further operation, maintenance or monitoring of the remedial action is necessary to ensure that conditions are maintained and that further progress is made toward a Permanent Solution. A completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP. Indicate whether the operation and maintenance will be Active or Passive. (Active Operation and Maintenance is defined at 310 CMR 40.0006.): Active Operation and Maintenance Passive Operation and Maintenance (Active Operation and Maintenance makes the Site subject to a Post-RAO Class C Active Operation and Maintenance Annual Compliance PHASE V COMPLETION STATEMENT: NA Specify the outcome of Phase V activities: The requirements of a Class A Response Action Outcome have been met and a completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP. The requirements of a Class C Response Action Outcome have been met. No additional operation, maintenance or monitoring is necessary to ensure the integrity of the Response Action Outcome. A completed Response Action Outcome Statement (BWSC-104) will be submitted The requirements of a Class C Response Action Outcome have been met. Further operation, maintenance or monitoring of the remedial action is necessary to ensure that conditions are maintained and that further progress is made toward a Permanent Solution. A completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP. Indicate whether the operation and maintenance will be Active or Passive. (Active Operation and Maintenance is defined at 310 CMR Active Operation and Maintenance Passive Operation and Maintenance (Active Operation and Maintenance makes the Site subject to a Post-RAO Class C Active Operation and Maintenance Annual Compliance G! LSP OPINION: I attest under the pains and penalties of perjury that I have personally examined and am familiar with the information contained in this trensmittal form, including any and all documents accompanying this submittal. In my professional opinion and judgment based upon application of (i) the standard of care in 309 CMR 4.02(1), (ii) the applicable provisions of 309 CMR 4.02(2) and (3), and (iii) the provisions of 309 CMR 4.03(5), to the best of my knowledge, information and belief, > if Section B indicates that a Phase I, Phase II, Phase III, Phase IV or Phase V Completion Statement is being submitted, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed and implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) complies(y) with the identified provisions of all orders, permits, and approvals identified in this submittal: > if Section B indicates that a Phase II Scope of Work or a Phase IV Remedy Implementation Plan is being submitted, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) complies(y) with the identified provisions of all orders, permits, and approvals identified in this submittal; > if Section B indicates that an As-Built Construction Report or a Phase V Inspection and Monitoring Report is being submitted, the response action(s) that is (are) the subject of this submitted (i) is (are) being implemented in accordance with the applicable provisions of M.G.L. c.! 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) complies(y) with the identified provisions of all orders, permits, and approvals identified in this submittal. I am aware that significant penalties may result, including, but not limited to, possible fines and imprisonment, if I submit information which I know to be false, inaccurate or materially incomplete. Check here if the Response Action(s) on which this opinion is based, if any, are (were) subject to any order(s), permit(s) and/or approval(s) issued by DEP or EPA. If the box is checked, you MUST attach a statement identifying the applicable provisions thereof.

| Pasanta Bhunia LSP #: 2999 | Stamp: | Stamp: | PRASANTA | Sta Name: Télephone FAX: (optional) Signature: Date:

Massachusetts Department of Environmental Protection Bureau of Waste Site Cleanup

COMPREHENSIVE RESPONSE ACTION TRANSMITTAL

BWSC-108

Rele	ase	Tracking
Num	ber	
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	IASE I COMPLETION	ISTATEMENT	Number
Pursuant to 310	CMR 40.0484 (Subpart D) a	and 40.0800 (Subpart H)	3 - 15009
H. PERSON UNDERTAKING RESPON	ISE ACTION(S):		······································
Name of Boston Rec	tevelopment Author	city	
Name of Mark Malo	ney	Title: Director	
Street: One City Hall Soc	XIL		
City/Town: Boston		State MA ZIP Code:	02201-1007
	S Ext.:	•	
Check here if there has been a change Action.	in the person undertaking the R	(optional) response	
I. RELATIONSHIP TO SITE OF PERSO	ON UNDERTAKING RESPO	NSE ACTION(S): (check one)	
RP or PRP Specify X Owner	Operator Generator	Transporter Other RP or	
Fiduciary, Secured Lender or Municipa	ility with Exempt Status (as defin	ned by M.G.L. c. 21E, s. 2)	
Agency or Public Utility on a Right of V	Vay (as defined by M.G.L. c. 21E	E, s. 5(j))	
Any Other Person Undertaking Respor	ise Action Specify		
J! CERTIFICATION OF PERSON UND	ERTAKING RESPONSE AC	CTION(S):	
ain familiar with the information contained in my inquiry of those individuals immediately best of my knowledge and belief, true, acculegally responsible for this submittal. I/the pincluding, but not limited to possible fines a	responsible for obtaining the info trate and complete, and (iii) that loerson or entity on whose behalf and imprisonment, for willfully sul	ormation, the material information contail am fully authorized to make this attes this submittal is made am/is aware that bmitting false, inaccurate, or incomplete Title:	ained in this submittal is, to the tation on behalf of the entity at there are significant penalties, e information.
(signature) For Boston Dedouglo pro (print name of person or entity records	yert Authority d in Section H)	Date: 18/27/00	<u> </u>
Enter address of the person providing certif			
City/Town:		State ZIP Code	
Telephone:	Ext.	FAX: (optional)	
YOU MUST COMPLETE ALL R	ELEVANT SECTIONS OF T SUBMIT AN INCOMPLETE I A REQUIRED	HIS FORM OR DEP MAY RETUR FORM, YOU MAY BE PENALIZED DEADLINE.	N THE DOCUMENT AS) FOR MISSING
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