01-0453

Corporate Environmental Programs
General Electric Company
100 Woodlawn Avenue, Pittsfield, MA 01201

SDMS 38795

February 15, 2002

Bryan Olson
EPA Project Coordinator
Office of Site Remediation and Restoration
U.S. Environmental Protection Agency
One Congress Street, Suite 1100
Boston, MA 02114-2023

Re: GE-Pittsfield/Housatonic River Site
East Street Area 2-South
Future City Recreational Area -- Supplemental Soil Sampling Report

Dear Mr. Olson:

In December 2001, the General Electric Company (GE) submitted to the U.S. Environmental Protection Agency (EPA) a document titled *Removal Design/Removal Action Work Plan for the Future City Recreational Area* (RD/RA Work Plan). That document summarized the results of several evaluations performed by GE related to polychlorinated biphenyls (PCBs) and other hazardous constituents in soils in the area of the GE facility referred to as the Future City Recreational Area (which located within a portion of the GE facility known as East Street Area 2-South). These evaluations were performed to assess the need for and extent of response actions to achieve the Performance Standards for this area, as established in an October 27, 2000 Consent Decree (CD) executed by GE, EPA, the Massachusetts Department of Environmental Protection (MDEP), and several other governmental agencies. The evaluations presented in the Work Plan were consistent with procedures specified in the CD and accompanying *Statement of Work for Removal Actions Outside the River* (SOW) (Appendix E to the CD).

In general, the Performance Standards established in the CD and SOW require the installation of a one-foot thick (minimum) soil cover across the surface of the Future City Recreational Area. In addition, for the uppermost two feet of existing soil within this area (which will become the 1- to 3-foot depth increment after installation of the soil cover), the CD and SOW establish certain other Performance Standards for PCBs and for the non-PCB constituents listed in Appendix IX of 40 CFR Part 264 plus three additional constituents -- benzidine, 2-chloroethylvinyl ether, and 1,2-diphenylhydrazine (Appendix IX+3). For these existing soils, the RD/RA Work Plan determined that no response actions were necessary to achieve the applicable Performance Standards. However, the determinations presented in the RD/RA Work Plan related to Appendix IX+3 constituents within the Future City Recreational Area were preliminary and contingent upon the results of a supplemental soil investigation and associated evaluations relating to certain such constituents. Further, as described in the RD/RA Work Plan, it is anticipated that access to a parking lot within the recreational area will require the installation of an access road in a portion of East Street Area 2-South located south of the recreational area itself. The Work Plan set out the Performance Standards to which EPA and GE agreed for that access road area, and identified the need for additional, expedited soil sampling in that area to assess achievement of those Performance Standards.

Since submittal of the RD/RA Work Plan, GE has conducted both of the soil investigations referenced above. This Supplemental Soil Sampling Report presents the results of both investigation activities. Section I below describes the soil sampling and related evaluations that were performed for certain Appendix IX+3 constituents to supplement the prior pre-design investigations at the Future City

Recreational Area, while Section II summarizes the results of additional pre-design soil sampling activities in the anticipated access road area.

I. Supplemental Appendix IX+3 Sampling/Evaluations

This section summarizes the pre-design and supplemental Appendix IX+3 investigations that have been conducted for the soils within the Future City Recreational Area. As described below, the pre-design activities focused on the overall characterization of Appendix IX+3 constituents in soil and served as the basis for the preliminary conclusions presented in the RD/RA Work Plan. Subsequently, to address certain issues identified during review of the pre-design Appendix IX+3 data, additional sampling for a subset of Appendix IX+3 constituents was conducted. Additional information is presented below.

A. Summary of Prior Evaluations

Section 4 of the RD/RA Work Plan summarizes the evaluations that were performed concerning the presence of Appendix IX+3 constituents in soils at the Future City Recreational Area. This report provides an overview of the evaluations previously presented in the RD/RA Work Plan and then focuses on the specific circumstances leading up to the performance of the supplemental soil investigations and related evaluations.

The Performance Standards established in the CD and SOW for non-PCB Appendix IX+3 constituents in soil involve several prescribed evaluation steps that include (as necessary and depending on the specific constituents) preliminary screening, comparison to numerical standards and/or background conditions, and other risk-based assessments. One of the initial components of this evaluation process involves a comparison of Appendix IX+3 sampling data to the applicable EPA Region 9 Preliminary Remediation Goals (PRGs) or other screening concentrations in the event that EPA Region 9 PRGs do not exist (collectively, these screening criteria are referred to as "Screening PRGs"). In accordance with the CD and SOW, the maximum concentration of each detected constituent -- excluding PCBs, polychlorinated dibenzo-p-dioxins (dioxins), and polychlorinated dibenzofurans (furans) -- is compared to its Screening PRG. Those constituents that exceed the PRGs are retained for further evaluation, while those that are below the Screening PRGs are eliminated from further consideration.

In accordance with the protocols summarized above, comparisons to the applicable Screening PRGs (in this case, using the residential PRGs for this future recreational area) were made using the maximum concentration of each detected constituent within the Future City Recreational Area. From these comparisons, the majority of the Appendix IX+3 constituents were eliminated from further evaluation while several were retained for further evaluation. As described in the RD/RA Work Plan, those constituents that were retained were subject to additional evaluation, and it was determined, based on such additional evaluation, that no response actions were necessary to achieve the applicable Performance Standards for these constituents.

However, in the course of these evaluations, GE noted that, for several volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs), there were a number of sample results in which the constituents were not detected but which had elevated analytical detection limits such that one-half the detection limit exceeded the Screening PRG. These constituents were listed in Table 4-2 of the RD/RA Work Plan. Given the elevated detection limits for these constituents, GE could not definitively retain or eliminate these constituents from further evaluation. In this Supplemental Soil Sampling Report, these constituents will be referred to as the "targeted VOCs/SVOCs."

Based on a closer review of the available analytical information, it was determined that the likely cause of the elevated detection limits for the targeted VOCs/SVOCs was related to matrix interferences associated with the soil samples, rather than the analytical procedures or laboratory methodologies. As a result, to determine an appropriate course of action for these constituents (e.g., whether they should be eliminated or retained for further evaluation), the RD/RA Work Plan identified the performance of a supplemental soil investigation as an initial follow-up activity. That supplemental soil investigation (described below) was performed subsequent to the submittal of the RD/RA Work Plan to assess whether and to what extent lower analytical detection/reporting limits could be achieved for the targeted VOCs/SVOCs.

B. Summary of Supplemental Soil Investigation

On January 3, 2002, GE collected soil samples within the upper two feet of existing soil at four of the same locations that had been previously sampled as part of the pre-design investigations (or, in one case, prior historical investigations) at the Future City Recreational Area. Figure 1 identifies the approximate sample locations. In selecting these locations, GE sought to identify supplemental sampling locations that were spatially distributed throughout the area and which generally exhibited the highest detection limits from among the non-detect sample results. In total, four soil samples were collected and submitted for analysis of the targeted VOCs/SVOCs. Table 1 summarizes the analytical results, while a summary of these results is presented below.

As shown in Table 1, none of the targeted VOCs/SVOCs was detected in any of the four samples from the supplemental investigation, with one exception -- acetophenone was detected at sample CRA-14 at a concentration of 0.16J ppm, which is well below its Screening PRG of 1.6 ppm. Further, the analyses of the supplemental soil samples were generally able to achieve lower detection/reporting limits (in some cases, significantly lower) than the prior analyses, approaching the Practical Quantitation Limits (PQLs) specified in GE's Field Sampling Sampling/Quality Assurance Project Plan (FSP/QAPP).

The analytical results associated with the supplemental soil samples have not yet been validated consistent with the procedures specified in the FSP/QAPP. However, since no obvious data quality issues were identified in the summary reports prepared by the analytical laboratory, it is not expected that these data will be rejected during future data validation activities. In the event that data quality issues related to these samples are in fact identified, GE will provide information related to such issues in the forthcoming Addendum to the RD/RA Work Plan (discussed below).

C. Revised Evaluation of Targeted VOCs/SVOCs and Proposed Course of Action

Based on the results of the supplemental pre-design soil investigations described above, GE proposes to eliminate the targeted VOCs/SVOCs from further RD/RA evaluations associated with the Future City Recreational Area. This course of action was identified in the RD/RA Work Plan as one potential outcome following the performance of the supplemental soil investigations (and related evaluations) and is supported by the following considerations:

- The preliminary Appendix IX+3 evaluations presented in the RD/RA Work Plan assumed that the targeted VOCs/SVOCs were not present at levels that would require evaluation. The results of the supplemental investigations confirm that assumption. Table 2 presents a comparison of the prior pre-design soil sampling results and the supplemental soil sample results for the targeted VOCs/SVOCs. As indicated on that table, the supplemental results show that these constituents continue to be not detected (or, in one case, detected below the PRG) even when lower and more appropriate analytical detection limits, at or close to the PQLs in the FSP/QAPP, were achieved.

- For a few of the targeted VOCs/SVOCs, even though lower analytical detection limits were achieved, one-half the detection limits still exceed the applicable PRGs, because the PRGs are well below the PQLs. (These constituents are identified in bold type in Table 2). For example, for N-nitrosodiethylamine, the supplemental soil analyses were able to achieve detection limits in the range of 0.36 to 0.42 ppm, which is close to the PQL of 0.33 ppm. However, those limits are still more than two times higher than the PRG of 0.02 ppm. Thus, for such constituents, even under optimum analytical conditions, the analytical detection limits would not be low enough to support a comparison to the EPA Region 9 PRGs. For these constituents, GE proposes to eliminate them from the need for further evaluation at the Future City Recreational Area on the ground that they were not detected using the lowest analytical detection limits that could be feasibly achieved. (Further, in a separate document constituting GE's Addendum to the Conceptual RD/RA Work Plan for the 20s, 30s, and 40's Complexes being submitted concurrently with this Supplemental Soil Sampling Report, GE is proposing that, in future Appendix IX+3 evaluations for other Removal Action Areas, the PQLs should be used as the PRGs for these constituents.)

- Although only a subset of the overall pre-design data set was subject to re-sampling, the results are considered to be generally representative of the soils within the Future City Recreational Area (based on their spatial distribution within the area). In addition, the results are also considered to be conservative in that they include previous sampling locations where some of the highest analytical detection limits were reported. As a result, it is reasonable to apply the conclusions related to the supplemental sampling data to the overall pre-design sampling data set.

For these reasons, GE believes that there is no need to conduct further sampling or evaluations for the targeted VOCs/SVOCs at the Future City Recreational Area. Based on the elimination of these constituents from further evaluation, the preliminary Appendix IX+3 evaluations presented in the RD/RA Work Plan do not need to be revised.

II. Pre-Design Investigation for Access Road Area

As explained in the RD/RA Work Plan, the current design of the Future City Recreational Area calls for the installation of a gravel access road between the parking lot within the recreational area itself and the point of access along Newell Street near the Newell Street bridge. Since a portion of this access road is located outside of the Future City Recreational Area and within the remainder of East Street Area 2-South, it was not previously included in the pre-design investigations performed for the recreational area. As a result, additional pre-design soil investigations were performed in the access road area.

On January 2 and 3, 2002, a total of 18 soil samples were collected from 9 locations, as shown on Figure 1. Each sample was submitted for PCB analysis, while four of these samples were also analyzed for other Appendix IX+3 constituents, excluding herbicides and pesticides. The scope of the sampling was generally consistent with the requirements established in the CD and SOW for such activities and was conducted in accordance with the FSP/QAPP. Tables 3 and 4 present the results of these additional pre-design investigations for this area.

Based on a preliminary review of these sampling data, it does not appear that any response actions will be necessary to address the applicable Performance Standards outlined in the RD/RA Work Plan for this area. However, once remaining details related to the configuration of the Future City Recreational Area and access road are finalized, GE will provide a more formal evaluation of these sampling data as part of the forthcoming Addendum to the RD/RA Work Plan. As proposed in the RD/RA Work Plan, GE proposes to submit that Addendum to EPA within three months of EPA approval of the RD/RA Work Plan and this Supplemental Soil Sampling Report.

GE looks forward to discussing EPA's comments on both the RD/RA Work Plan and this report at your convenience. In the meantime, please contact me with any questions.

Sincerely,

Andrew T. Silfer /jmw

Andrew T. Silfer, P.E.
GE Project Coordinator

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TABLE 1

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS
FUTURE CITY RECREATIONAL AREA - SUPPLEMENTAL SOIL SAMPLING

SELECT VOC & SVOC SAMPLE DATA
(Results are presented in dry weight parts per million, ppm)

Parameter	Sample ID: / Sample Depth(Feet): / Date Collected:	210S 0-0.5 01/03/02	CRA-7 0-2 01/03/02	CRA-14 0-2 01/03/02	CRA-18 0-2 01/03/02
Volatile Organics					
1,2,3-Trichloropropane		ND(0.0060)	ND(0.0063)	ND(0.0056)	ND(0.0054)
1,2-Dibromoethane		ND(0.0060)	ND(0.0063)	NS	NS
Acrolein		ND(0.12)	ND(0.13)	NS	NS
trans-1,4-Dichloro-2-butene		ND(0.0060)	ND(0.0063)	NS	NS
Semivolatile Organics					
1,2-Diphenylhydrazine		NS	ND(0.42)	ND(0.37)	NS
1,3-Dinitrobenzene		NS	ND(0.85)	ND(0.75)	NS
2-Nitroaniline		NS	ND(2.2)	ND(1.9)	NS
3,3'-Dichlorobenzidine		ND(0.80)	ND(0.85)	ND(0.75)	ND(0.72)
3,3'-Dimethylbenzidine		ND(0.40)	ND(0.42)	ND(0.37)	ND(0.36)
3-Nitroaniline		NS	ND(2.2)	ND(1.9)	NS
4-Chlorobenzilate		NS	ND(0.85)	ND(0.75)	NS
4-Nitroaniline		NS	ND(0.85)	ND(0.75)	NS
7,12-Dimethylbenz(a)anthracene		ND(0.80)	ND(0.85)	ND(0.75)	ND(0.72)
Acetophenone		NS	ND(0.42)	0.16 J	NS
Benzidine		ND(0.80)	ND(0.85)	ND(0.75)	ND(0.72)
bis(2-Chloroethyl)ether		ND(0.40)	ND(0.42)	ND(0.37)	ND(0.36)
Hexachlorobenzene		ND(0.40)	ND(0.42)	ND(0.37)	NS
N-Nitrosodiethylamine		ND(0.40)	ND(0.42)	ND(0.37)	ND(0.36)
N-Nitrosodimethylamine		ND(0.40)	ND(0.42)	ND(0.37)	ND(0.36)
N-Nitroso-di-n-butylamine		ND(0.80)	ND(0.85)	ND(0.75)	ND(0.72)
N-Nitroso-di-n-propylamine		ND(0.40)	ND(0.42)	ND(0.37)	ND(0.36)
N-Nitrosomethylethylamine		ND(0.80)	ND(0.85)	ND(0.75)	ND(0.72)
N-Nitrosopyrrolidine		ND(0.80)	ND(0.85)	ND(0.75)	ND(0.72)
o-Toluidine		NS	ND(0.42)	ND(0.37)	NS
Pentachloronitrobenzene		NS	ND(0.85)	ND(0.75)	NS
Pentachlorophenol		NS	ND(2.2)	ND(1.9)	NS

Notes:

1. Samples were collected by General Electric Company, and were submitted to CT&E Environmental Services, Inc. for analysis of for analysis of select volatile and semivolatile organic constituents.
2. ND - Analyte was not detected. The number in parentheses is the associated detection limit.
3. NS - Not Sampled as part of supplemental sampling activities.

TABLE 2

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS
FUTURE CITY RECREATIONAL AREA - SUPPLEMENTAL SOIL SAMPLING

EVALUATION OF SELECT AIX+3 CONSTITUENTS
(Results in ppm, dry-weight)

Appendix IX+3 Constituent	EPA Region 9 Industrial PRGs	FSP/QAPP Practical Quantitation Limit (PQL)	Prior Pre-Design Results		Sample Result Comparison: Prior v. Supplemental Data							
			Detection Frequency	Maximum Detect	210 0-0.5		CRA-7 0-2		CRA-14 0-2		CRA-18 0-2	
					09/17/97	01/03/02	01/18/01	01/03/02	01/19/01	01/03/02	01/23/01	01/03/02
Volatile Organics												
1,2,3-Trichloropropane	0.0031	0.0050	0/13	ND	ND(0.021)	ND(0.0060)	ND(0.0072)	ND(0.0063)	ND(0.0064)	ND(0.0056)	ND(0.0067)	ND(0.0054)
1,2-Dibromoethane	0.029	0.0050	0/13	ND	ND(0.021)	ND(0.0060)	ND(0.0072)	ND(0.0063)	--	NS	--	NS
Acrolein	0.34	0.0050	0/13	ND	ND(0.24)	ND(0.12)	ND(0.14) J	ND(0.13)	--	NS	--	NS
trans-1,4-Dichloro-2-butene	0.018	0.0050	0/13	ND	ND(0.021)	ND(0.0060)	ND(0.014)	ND(0.0063)	--	NS	--	NS
Semi-Volatile Organics												
1,2-Diphenylhydrazine	3.7	0.33	0/14	ND	--	NS	ND(0.48)	ND(0.42)	ND(2.1)	ND(0.37)	--	NS
1,3-Dinitrobenzene	110	0.67	0/12	ND	--	NS	ND(2.4)	ND(0.85)	ND(10)	ND(0.75)	--	NS
2-Nitroaniline	64	1.7	0/14	ND	--	NS	ND(2.4)	ND(2.2)	ND(10)	ND(1.9)	--	NS
3,3'-Dichlorobenzidine	6.7	0.67	0/14	ND	ND(0.53)	ND(0.80)	ND(2.4)	ND(0.85)	ND(10)	ND(0.75)	ND(2.3)	ND(0.72)
3,3'-Dimethylbenzidine	0.33	0.33	0/14	ND	ND(1.0)	ND(0.40)	ND(2.4)	ND(0.42)	ND(10) J	ND(0.37)	ND(2.3) J	ND(0.36)
3-Nitroaniline	64	1.7	0/14	ND	--	NS	ND(2.4)	ND(2.2)	ND(10)	ND(1.9)	--	NS
4-Chlorobenzilate	11	0.67	0/14	ND	--	NS	ND(2.4)	ND(0.85)	ND(10)	ND(0.75)	--	NS
4-Nitroaniline	64	1.7	0/14	ND	--	NS	ND(2.4)	ND(0.85)	ND(10)	ND(0.75)	--	NS
7,12-Dimethylbenz(a)anthracene	0.36	0.67	0/14	ND	ND(0.43)	ND(0.80)	ND(0.97)	ND(0.85)	ND(4.1)	ND(0.75)	ND(0.89)	ND(0.72)
Acetophenone	1.6	0.33	1/14	0.074	--	NS	ND(0.48) J	ND(0.42)	ND(2.1)	0.16 J	--	NS
Benzidine	0.013	0.67	0/14	ND	ND(1.7) B	ND(0.80)	ND(0.97)	ND(0.85)	ND(4.1) J	ND(0.75)	ND(0.89) J	ND(0.72)
bis(2-Chloroethyl)ether	0.56	0.33	0/14	ND	ND(0.62)	ND(0.40)	ND(0.48)	ND(0.42)	ND(2.1)	ND(0.37)	ND(0.44)	ND(0.36)
Hexachlorobenzene	1.9	0.33	0/14	ND	ND(0.81)	ND(0.40)	ND(0.48)	ND(0.42)	ND(2.1)	ND(0.37)	--	NS
N-Nitrosodiethylamine	0.02	0.33	0/14	ND	ND(0.63)	ND(0.40)	ND(0.48)	ND(0.42)	ND(2.1)	ND(0.37)	ND(0.44)	ND(0.36)
N-Nitrosodimethylamine	0.059	0.33	0/14	ND	ND(0.70)	ND(0.40)	ND(2.4)	ND(0.42)	ND(10)	ND(0.37)	ND(2.2)	ND(0.36)
N-Nitroso-di-n-butylamine	0.058	0.67	0/14	ND	ND(1.5)	ND(0.80)	ND(0.97) J	ND(0.85)	ND(4.1)	ND(0.75)	ND(0.89)	ND(0.72)
N-Nitroso-di-n-propylamine	0.43	0.33	0/14	ND	ND(0.64)	ND(0.40)	ND(0.97)	ND(0.42)	ND(4.1)	ND(0.37)	ND(0.89)	ND(0.36)
N-Nitrosomethylethylamine	0.14	0.67	0/14	ND	ND(0.57)	ND(0.80)	ND(0.97)	ND(0.85)	ND(2.1)	ND(0.75)	ND(0.89)	ND(0.72)
N-Nitrosopyrrolidine	1.4	0.67	0/14	ND	ND(0.56)	ND(0.80)	ND(0.97) J	ND(0.85)	ND(4.1)	ND(0.75)	ND(0.89)	ND(0.72)
o-Toluidine	16	0.33	0/14	ND	--	NS	ND(0.48)	ND(0.42)	ND(2.1)	ND(0.37)	--	NS
Pentachloronitrobenzene	12	0.67	0/14	ND	--	NS	ND(2.4) J	ND(0.85)	ND(10)	ND(0.75)	--	NS
Pentachlorophenol	15	1.7	0/14	ND	--	NS	ND(2.4)	ND(2.2)	ND(10)	ND(1.9)	--	NS

Notes:

1. ND = Constituent was not detected.
2. Constituents that have a Practical Quantitation Limit (PQL) that is two times greater than its PRG are identified in bold print.
3. NS - Not Sampled as part of supplemental sampling activities.
4. J - The compound or analyte was positively identified, but the associated numerical value is an estimated concentration.
5. -- Pre-Design result has not been presented because constituent was not resampled at this location.

TABLE 3

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS
FUTURE CITY RECREATIONAL AREA - ACCESS ROAD AREA INVESTIGATION

PCB SAMPLE DATA
(Results are presented in dry weight parts per million, ppm)

Sample ID	Depth(Feet)	Date Collected	Aroclor-1016, -1221, -1232, -1242, -1248	Aroclor-1254	Aroclor-1260	Total PCBs
RAA4-14	1-3	1/3/02	ND(0.041) [ND(0.041)]	ND(0.041) [ND(0.041)]	ND(0.041) [0.022 J]	ND(0.041) [0.022 J]
RAA4-15	1-3	1/2/02	ND(0.036)	0.035 J	0.041	0.076
RAA4-21	1-3	1/3/02	ND(0.036)	ND(0.036)	ND(0.036)	ND(0.036)
	3-6	1/3/02	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)
RAA4-22	1-3	1/3/02	ND(0.038)	ND(0.038)	0.032 J	0.032 J
	3-6	1/3/02	ND(0.037)	ND(0.037)	ND(0.037)	ND(0.037)
RAA4-23	0-1	1/2/02	ND(0.79)	18	20	38
	1-3	1/2/02	ND(0.034)	0.028 J	0.030 J	0.058 J
RAA4-24	0-1	1/2/02	0.080	0.22	0.15	0.45
	1-3	1/2/02	ND(0.035)	ND(0.035)	ND(0.035)	ND(0.035)
RAA4-25	0-1	1/2/02	ND(0.036)	ND(0.036)	0.97	0.97
	1-3	1/2/02	ND(0.035) [ND(0.035)]	ND(0.035) [0.022 J]	0.026 J [0.023 J]	0.026 J [0.045 J]
RAA4-26	0-1	1/2/02	ND(0.037)	ND(0.037)	0.38	0.38
	1-3	1/2/02	ND(0.035)	ND(0.035)	0.074	0.074
RAA4-E42	0-1	1/3/02	ND(0.036)	0.22	0.40	0.62
	1-3	1/3/02	ND(0.035)	ND(0.035)	ND(0.035)	ND(0.035)
	3-6	1/3/02	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)
	6-15	1/3/02	ND(0.037)	ND(0.037)	ND(0.037)	ND(0.037)

Notes:

1. Samples were collected by Blasland, Bouck & Lee, Inc., and were submitted to CT&E Environmental Services, Inc. for analysis of PCBs.
2. ND - Analyte was not detected. The number in parentheses is the associated detection limit.
3. J - Indicates an estimated value less than the practical quantitation limit (PQL).
4. Duplicate sample results are presented in brackets.

TABLE 4

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS
FUTURE CITY RECREATIONAL AREA - ACCESS ROAD AREA INVESTIGATION

APPENDIX IX+3 SAMPLE DATA
(Results are presented in dry weight parts per million, ppm)

Parameter / Sample ID:	RAA4-25	RAA4-25	RAA4-26	RAA4-E42
Sample Depth(Feet):	0-1	1-3	1-3	0-1
Date Collected:	01/02/02	01/02/02	01/02/02	01/03/02
Volatile Organics				
None Detected	--	--	--	--
Semivolatile Organics				
Benzo(a)anthracene	0.084 J	ND(0.35) [ND(0.35)]	ND(0.35)	0.11 J
Benzo(b)fluoranthene	ND(0.36)	ND(0.35) [ND(0.35)]	ND(0.35)	0.082 J
Benzo(k)fluoranthene	0.11 J	ND(0.35) [ND(0.35)]	ND(0.35)	0.16 J
bis(2-Ethylhexyl)phthalate	ND(0.36)	ND(0.35) [ND(0.35)]	ND(0.35)	0.11 J
Chrysene	0.11 J	ND(0.35) [ND(0.35)]	ND(0.35)	0.14 J
Fluoranthene	0.15 J	ND(0.35) [ND(0.35)]	ND(0.35)	0.22 J
Phenanthrene	0.096 J	ND(0.35) [ND(0.35)]	ND(0.35)	0.14 J
Pyrene	0.15 J	ND(0.35) [ND(0.35)]	ND(0.35)	0.20 J
Furans				
2,3,7,8-TCDF	0.000013	0.0000014 [0.0000022]	0.0000026	0.000017
TCDFs (total)	0.000089	0.000011 [0.000018]	0.000015	0.00014
1,2,3,7,8-PeCDF	0.0000067	0.00000052 J [0.00000080 J]	0.0000014 J	0.0000083
2,3,4,7,8-PeCDF	0.000019	0.0000019 J [0.0000028]	0.0000028	0.000029
PeCDFs (total)	0.00020	0.000016 [0.000024]	0.000028	0.00030
1,2,3,4,7,8-HxCDF	0.0000071	0.00000095 J [0.0000011 J]	0.0000015 J	0.0000089
1,2,3,6,7,8-HxCDF	0.0000060	0.00000074 J [0.00000080 J]	0.0000012 J	0.0000082
1,2,3,7,8,9-HxCDF	0.0000020 J	ND(0.00000038) [0.00000039 J]	ND(0.00000022) Q	ND(0.0000024)
2,3,4,6,7,8-HxCDF	0.000012	0.0000014 J [0.0000017 J]	0.0000021 J	0.000016
HxCDFs (total)	0.00014	0.000015 [0.000021]	0.000024 Q	0.00022
1,2,3,4,6,7,8-HpCDF	0.000014	0.0000017 J [0.0000022]	0.0000039	0.000025
1,2,3,4,7,8,9-HpCDF	0.0000017 J	0.00000022 J [0.00000032 J]	0.00000045 J	0.0000019 J
HpCDFs (total)	0.000033	0.0000019 [0.0000050]	0.0000043	0.000058
OCDF	0.0000086	0.0000012 J [0.0000013 J]	0.0000017 J	0.000022
Dioxins				
2,3,7,8-TCDD	ND(0.00000010) X	ND(0.000000046) X [ND(0.000000044) X]	ND(0.000000044) X	ND(0.000000045) X
TCDDs (total)	0.0000015	0.0000017 [0.0000062]	0.0000011	0.0000032
1,2,3,7,8-PeCDD	ND(0.00000024) X	ND(0.00000022) X [ND(0.00000022) X]	ND(0.00000022) X	ND(0.00000023) X
PeCDDs (total)	0.0000016	0.0000018 [0.0000063]	0.0000012	0.0000048
1,2,3,4,7,8-HxCDD	ND(0.00000026) X	ND(0.00000022) [ND(0.00000030)]	ND(0.00000022)	0.00000054 J
1,2,3,6,7,8-HxCDD	0.00000086 J	ND(0.00000022) [0.00000050 J]	0.00000034 J	0.0000016 J
1,2,3,7,8,9-HxCDD	ND(0.00000024) X	ND(0.00000022) X [0.00000032 J]	ND(0.00000022) Q	0.0000011 J
HxCDDs (total)	0.0000069	0.0000033 [0.0000062]	0.0000028 Q	0.000016
1,2,3,4,6,7,8-HpCDD	0.000011	0.0000024 [0.0000016 J]	0.0000022 J	0.000022
HpCDDs (total)	0.000024	0.0000051 [0.0000030]	0.0000047	0.000043
OCDD	0.000072	0.000014 [0.0000081]	0.000016	0.00017
WHO TEF	0.000014	0.0000017 [0.0000023]	0.0000025	0.000021
Inorganics				
Arsenic	4.20	5.20 [4.10]	4.00	2.90
Barium	23.0	21.0 [ND(20.0)]	22.0	ND(20.0)
Beryllium	0.130 B	0.150 B [0.150 B]	ND(0.500)	0.0980 B
Cadmium	0.130 B	ND(0.500) [ND(0.500)]	ND(0.500)	ND(0.500)
Chromium	6.80	5.60 [4.70]	5.20	6.20
Cobalt	7.10	8.60 [6.20]	5.50	ND(5.00)
Copper	22.0	19.0 [18.0]	12.0	58.0
Cyanide	0.130	ND(0.210) [ND(0.110)]	ND(0.210)	ND(0.220)
Lead	21.0	25.0 [22.0]	6.80	22.0
Mercury	0.0120 B	0.0220 B [0.0320 B]	0.00530 B	0.0580 B
Nickel	13.0	14.0 [10.0]	9.40	9.50
Sulfide	8.70	ND(5.30) [25.0]	14.0	8.60
Tin	ND(10.0)	4.50 B [ND(10.0)]	3.50 B	3.40 B
Vanadium	8.00	ND(5.00) [ND(5.00)]	ND(5.00)	6.10
Zinc	38.0	32.0 [26.0]	27.0	35.0

TABLE 4

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS
FUTURE CITY RECREATIONAL AREA - ACCESS ROAD AREA INVESTIGATION

APPENDIX IX+3 SAMPLE DATA
(Results are presented in dry weight parts per million, ppm)

Notes:

1. Samples were collected by Blasland, Bouck & Lee, Inc., and were submitted to CT&E Environmental Services, Inc. for analysis of Appendix IX + 3 constituents (excluding herbicides and pesticides).
2. Only those constituents detected in one or more samples are summarized.
3. Duplicate sample results are presented in brackets.
4. ND - Analyte was not detected. The number in parentheses is the associated detection limit.
5. Total 2, 3, 7, 8-TCDD toxicity equivalents (TEQs) were calculated using Toxicity Equivalency Factors (TEFs) derived by the World Health Organization (WHO) and published by Van den Berg et al. in Environmental Health Perspectives 106 (2), December 1998.

Data Qualifiers:

Organics

J - Indicates an estimated value less than the practical quantitation limit (PQL).

Q - Indicates the presence of quantitative interferences.

X - Estimated Maximum Possible Concentration

Inorganics

B - Indicates an estimated value between the instrument detection limit (IDL) and practical quantitation limit (PQL).

MERRILL ROAD

RELOCATED EAST STREET

NEWELL STREET

CB

CB

CB?

UP

100 YEAR FLOOD PLAIN

CRA-1 CRA-2 CRA-3 CRA-4 CRA-5 CRA-6 CRA-7 CRA-8 CRA-9 CRA-10 CRA-11 CRA-12 CRA-13 CRA-14 CRA-15 CRA-16 CRA-17 CRA-18 CRA-19 CRA-20 CRA-21 CRA-22

210S 95-9 202S

X-16 X-17 X-18

E2SC-5 E2SC-14

RAA4-1 RAA4-2 RAA4-3 RAA4-4 RAA4-5 RAA4-6 RAA4-7 RAA4-8 RAA4-9 RAA4-10 RAA4-11 RAA4-12 RAA4-13 RAA4-14 RAA4-15 RAA4-16 RAA4-17 RAA4-18 RAA4-19 RAA4-20 RAA4-21 RAA4-22 RAA4-23 RAA4-24 RAA4-25 RAA4-26 RAA4-E42

LEGEND:

- FUTURE LEASED AREA (TO BE FENCED)
- APPROXIMATE LIMITS OF FUTURE CITY RECREATIONAL AREA
- APPROXIMATE 100-YEAR FLOODPLAIN
- EXISTING TOPOGRAPHIC CONTOUR
- X-18 EXISTING SOIL SAMPLE LOCATION
- ADDITIONAL PRE-DESIGN SOIL SAMPLING LOCATION
- ADDITIONAL 0-2 FOOT SUPPLEMENTAL SOIL SAMPLING LOCATION FOR SELECT VOCs AND SVOCs

SAMPLE I.D.	STATUS	SAMPLE DEPTH (Feet)			
		0-1	1-3	3-6	6-15
RAA4-14	EXISTING	a	P	--	--
RAA4-15	EXISTING	a*	P	--	--
RAA4-21	EXISTING	a	P	P	a*
RAA4-22	EXISTING	a	P*	P*	a
RAA4-23	NEW	P	P	--	--
RAA4-24	NEW	P	P	--	--
RAA4-25	NEW	P/A	P/A	--	--
RAA4-26	NEW	P	P/A	--	--
RAA4-E42	NEW	P/A	P	P	P

TABLE NOTES:

a - PCB DATA AVAILABLE FROM PREVIOUS INVESTIGATIONS

* - APPENDIX IX+3 DATA AVAILABLE FROM PREVIOUS INVESTIGATIONS

P - SAMPLE INCREMENT SUBJECT TO PCB ANALYSIS

A - SAMPLE INCREMENT SUBJECT TO APPENDIX IX+3 ANALYSIS (EXCLUDING HERBICIDES AND PESTICIDES)

NOTES:

1. MAPPING IS BASED ON SURVEY PROVIDED BY WHITE ENGINEERING, INC. DATED 12/4/01.
2. ALL SAMPLING LOCATIONS ARE APPROXIMATE.

0 60' 120'

APPROXIMATE SCALE

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS
FUTURE CITY RECREATIONAL AREA -
SUPPLEMENTAL SOIL SAMPLING REPORT

SUPPLEMENTAL PRE-DESIGN SOIL SAMPLING LOCATIONS

BBL BLASLAND, BOUCK & LEE, INC. engineers & scientists

FIGURE 1

L: ON=* OFF=*REF*
P: STD-PCP/BL
2/13/02 SYR-54-RCB LJP DMW
10111001/10111B29.DWG