A. Description of the Community

The City of Boston recognizes the importance of controlling lead-based paint (LBP) hazards in housing as a key element in a comprehensive strategy to prevent the tragedy of childhood lead poisoning. With an estimated 153,064 units of housing containing lead-based paint, of which approximately 69,500 are occupied by families with children, Boston faces a monumental task to simply control lead-based paint hazards in all of the rental units occupied by children under the age of six.

Lead Safe Boston (LSB), a program of the City of Boston's Department of Neighborhood Development, collaborates with state agencies and private organizations, including the Massachusetts Housing Finance Agency's "Get the Lead Out" Program, the Lead Action Collaborative, Ecumenical Social Action Committee, and Massachusetts Affordable Housing Alliance, to prevent lead poisoning of young children by working diligently to control lead hazards in the highest risk areas of the City.

B. Contact Information

The Program Manager for Lead Safe Boston is Kenneth Griffin. LSB is located at 38 Winthrop Street, Boston, Massachusetts, 02136. Mr. Griffin's telephone number is 617/635-0444; email address is kgriffin.dnd@ci.boston.ma.us. Facsimiles can be transmitted to 617/635-0198. The LSB web page can be reached at www.ci.boston.ma.us/dnd/b_lead_safe_information.asp.

II. Project Description

A. Summary of Project

Principal Objective

The primary objective of the Project XL assistance that LSB is seeking is to allow less expensive handling and disposal of LBP architectural debris. LSB requests that EPA grant flexibility allowing it to use the provisions of the proposed LBP debris rule. The specific areas of assistance/flexibility requested under this proposal include: (1) allowing LBP architectural debris to be disposed of in construction and demolition (C&D) landfills without utilizing TCLP testing and/or (2) allowing LBP architectural debris to be disposed of in municipal solid waste landfills (MSWLs) without utilizing TCLP testing and (3) facilitating the implementation of such disposal through EPA assistance. LSB also requests the possibility of using the provisions of the household waste exclusion found in 40 CFR § 261.4(b)(1) to dispose of LBP debris in these two types of landfills. In exchange for this flexibility and the cost savings that would result, LSB proposes to commit to conducting an additional 12 abatements and is also willing to make the new provisions enforceable in replacement of the existing RCRA requirements.

The rule proposed by EPA regarding LBP debris on December 18, 1998, (Federal Register, Vol. 63, No. 243, pp. 70190 - 70249) would allow LBP debris to be disposed of in a less-costly manner, hasten the pace with which LBP and LBP hazards are removed from residences and public and commercial buildings. In this proposed rule EPA believes that the disposal of LBP debris in C&D landfills is protective of human health and the environment. The proposed rule is also considering the use of MSWLs for disposal of LPB debris and is seeking information in regard to such facilities. As stated on page 70204 of the proposed rule, "the Agency is actively considering whether MSWLs are acceptable for disposal of LBP debris, and the Agency solicits comments, data and studies that are relevant to this question."

The TCLP test was designed to mimic a worst case leaching scenario in an unlined MSWL. However, most MSWLs today have a bottom liner system that collects the leachate. When the landfill closes, an engineered cap must be installed that is designed to minimize infiltration. Therefore, the TCLP test does not reflect the operating conditions of MSWLs today. Even if the lead did leach at a rate that could potentially impact the groundwater, the engineered systems of these landfills are designed to prevent the discharge of contaminated leachate to the environment. LBP debris can be safely managed in MSWLs with liners, leachate collection systems, groundwater monitoring, and corrective action provisions. LSB believes that the proposed rule should be modified to allow the

disposal of LBP debris in MSWLs that meet certain minimum liner criteria, leachate collection, groundwater monitoring and corrective action provisions.

The proposed LBP rule, if finalized, seeks to achieve a result that would be substantially similar to results sought in this application: effectively LSB is proposing a pilot program that would test and provide information on the effectiveness of the proposed rule while at the same time perform additional lead abatements with the same amount of funding by removing the LBP debris from an area of high risk (children's homes and play areas) to that of a low risk environment. The end result is that more children will be spared from lead poisoning.

Program Background

Over the past five years, the Lead Safe Boston program has used a combination of federal, state and local resources to de-lead 707 privately owned housing units, while undertaking an aggressive community outreach and education campaign to make residents aware of the severe risks of lead in the living environment. For the next 36-month phase of our program, Lead-Safe Boston is targeting the neighborhoods of Roxbury and Dorchester, which include 45 census tracts, and have a concentration of older housing, the vast majority of which is likely to evidence lead contamination. It is recognized from a variety of data sources and anecdotal reports that the greater Boston area faces among the most severe lead-based paint hazard challenges in the Northeast.

LSB conducts periodic outreach to all licensed lead paint abatement contractors as identified by the Department of Labor and Workforce Development (DLWD). Contractors that execute lead abatement projects through the LSB program are require to be licensed and meet all applicable federal, state and local requirements that pertain to lead paint abatement and contracting in general. This pool of qualified contractors is monitored by Construction Specialists (CS) employed in the LSB program. These individuals develop detailed scopes of work and specifications for each project, in addition to monitoring the performance of the contractor in the field.

The Massachusetts Department of Public Health estimates that 21,620 children in Massachusetts have unsafe levels of lead in their blood greater than 10 mcg/dl. The vast majority of these children are children of color living in poverty in urban areas where older housing is prevalent, such as the target neighborhoods of Roxbury and Dorchester. In Boston, screening for lead in children is the responsibility of the Boston Public Health Commission (BPHC) which reports that of the 379 lead poisoned children that have been identified in the City of Boston during the period from July 1,1996-June 30, 1997, a startling 366, or almost 100%, lived in the two targeted neighborhoods.

We are now poised to continue our efforts to remove lead in privately owned housing, occupied by low and moderate income families with children aged 0-6, with an award of Round 6 Lead Based Paint Hazard Control funding from the United States Department of Housing and Urban Development (HUD).

This program includes:

- community outreach and education;
- testing and abatement in housing with significant hazards;
- temporary relocation;
- blood testing of children before and after abatement; and
- close collaboration with the Boston Enhanced Enterprise Community to encourage small and minority contractors to be licensed to conduct lead hazard abatement activities.

Project

During the next 36-month phase of the LSB program, using the HUD funding discussed above, we will complete lead hazard control activities in a minimum of 180 housing units in 1-4 unit buildings, occupied by low or

moderate income families with children aged 0-6. Lead hazard control will be accomplished by providing grants, below market interest rate loans and technical assistance to low and moderate income property owners.

Lead abatement projects are competitively bid and monitored by LSB staff. At an average cost of $9,500 per unit, we expect to spend $1,710,000 abating 180 housing units. Bids include estimates for hazardous and non-hazardous disposal costs. Typically, estimates for disposal costs average $805 for hazardous waste and $176 for non-hazardous waste per projects.

The LSB program currently requires TCLP lead testing and waste manifests for all projects in accordance with Massachusetts and EPA regulations. Once a project is underway, the lead abatement contractor submits a representative sample of the architectural waste being generated (such as door casings or window components) to a laboratory for lead testing. TCLP testing is $75-$100 per composite sample and the analysis time is 3-10 working days. The results of this analysis determine if the waste is classified and disposed of as hazardous or non-hazardous.

Furthermore, an additional charge is incurred and incorporated into each project since the contractor must wait for the result of the TCLP test regardless if the material is deemed hazardous or not. This waiting causes certain production inefficiencies and the contractor passes this indirect expense on to the project.

Actual disposal costs vary by project. Based on an analysis of LSB's most recently completed projects (N=17), disposal costs averaged $768 ($250-$1,800 range) for hazardous waste and $212 ($0-$950 range) for non-hazardous waste per project. The combined (hazardous and non-hazardous) average disposal cost for the 17 projects was $649. Comparisons of these costs indicate that it is 360% more costly to dispose of construction debris as hazardous waste than as non-hazardous waste.

When we look at all 17 projects in the sample size to arrive at a total cost for disposal (i.e. disposing of waste deemed hazardous by the TCLP test as non-hazardous construction debris), and if we are able to obtain the requested EPA assistance, the disposal cost average is $286 per project which is 270% lower than the average cost ($768) of hazardous disposal. This represents significant cost savings during the next 36-month phase of the LSB program as we prepare to complete lead hazard control activities in a minimum of 180 housing units. With the EPA's intervention through Project XL, our program could potentially save $100,260 in disposal costs and TCLP testing fees, enabling LSB to abate lead hazards in a dozen additional residential units in which we could reasonably expect 25 to 30 children under the age of six would reside.

III. Application of Project XL Criteria to Project

A. Superior Environmental Performance

WHY TESTING AND DISPOSAL REQUIREMENTS SHOULD BE RELAXED FOR LEAD-BASED PAINT ABATEMENT PROJECTS THROUGH THE LEAD SAFE BOSTON PROGRAM.

A costly and time-consuming factor of lead abatement projects is the requirement to perform Toxicity Characteristic Leaching Procedure (TCLP) testing on painted residential architectural debris before disposal. When the lead waste exceeds EPA limits of toxicity for disposal as construction debris, it is disposed of as hazardous waste. Waste that exceeds EPA's TCLP limit for leachable lead (5.0 mg/liter) is 2 ½ to 3 ½ times more costly to dispose of than non-hazardous waste. In addition to the financial burden of disposing of lead-based residential waste as hazardous waste, the process to identify the waste is burdensome. Lead abatement contractors are required to take a representative sample of the architectural waste to a laboratory for analysis; analysis can take 3-10 working days and the cost is $75-$100 a sample. Two to three samples are collected per project. EPA's intervention, through Project XL, to allow for disposal of general construction debris that contains lead-based painted surfaces in a properly regulated and managed non-hazardous waste landfill will spare additional children from lead poisoning by enabling more lead abatements to occur with the same amount of funding.

HOW EPA INTERVENTION CAN PRODUCE SUPERIOR ENVIRONMENTAL PERFORMANCE

If implemented as proposed, this project would result in superior environmental performance by allowing more abatement to occur and thus reducing the risk of lead poisoning of more children. As noted above, currently, architectural debris removed as part of LSB sponsored LBP remediation must be analyzed using the TCLP test. If lead is found in sufficient quantities the debris must be taken to a facility licensed and equipped to handle hazardous wastes pursuant to Subtitle C of RCRA. Under this regimen the average disposal cost per project is $768. It is anticipated that avoiding the cost and expense of TCLP testing and disposal of debris containing lead in a C&D landfill or MSWL would result in an average disposal cost per project of $286, a 270% reduction in average disposal cost per project, enabling LSB to perform a minimum of twelve additional remediations.

WHY DISPOSAL OF LEAD CONTAMINATED ARCHITECTURAL COMPONENTS FROM RESIDENTIAL PROPERTIES IN C & D LANDFILLS AND MUNICIPAL SOLID WASTE LANDFILLS IS SAFE AND PROTECTIVE OF HUMAN HEALTH AND THE ENVIRONMENT

Current scientific analysis by EPA indicates that the chemical stability of lead-based paint and the inorganic and non-acidic environment of a C & D landfill make such landfills safe for disposal of architectural debris from residential properties which contain lead-based paint. This analysis was presented in a recent proposed rule that would explicitly allow disposal of lead-based paint containing architectural debris in C & D landfills:

". . . modeling efforts indicate that the disposal of LBP [lead-based paint] debris in C & D landfills would be protective of human health at the 95th percentile protection level. This level of protectiveness is at the high end (most protective) of the levels of protectiveness that the Agency [EPA] has used in regulating hazardous wastes under the RCRA program. Historically, the EPA RCRA program has used levels of protectiveness ranging from 85 to 95%, when considering the results of various risk analyses."
Federal Register: December 18, 1998, Vol. 63, Number 243 at p. 70203.

As stated above, the proposed rule is also considering the use of MSWLs for disposal of LPB debris and is seeking information in regard to such facilities. Most MSWLs today have a bottom liner system that collects the leachate. When the landfill closes, an engineered cap must be installed that is designed to minimize infiltration. Even if the lead did leach at a rate that could potentially impact the groundwater, the engineered systems of these landfills are designed to prevent the discharge of contaminated leachate to the environment. LBP debris can be safely managed in MSWLs with liners, leachate collection systems, groundwater monitoring, and corrective action provisions. LSB believes that the proposed rule should be modified to allow the disposal of LBP debris in MSWLs that meet certain minimum liner criteria, leachate collection, groundwater monitoring and corrective action provisions.

B. Cost Savings and Paperwork Reduction

Not only would the LSB lead abatement program make more efficient use of its HUD grant dollars if it were able to dispose of lead contaminated residential waste in C &D landfills and MSWLs, this change would lessen the capacity burden on hazardous waste landfills and the governmental costs associated with regulating such facilities. Savings in disposal costs translate into more funds available for low and moderate income families to undertake lead hazard control activities. Specifically, it is estimated that LSB could sponsor a minimum of 12 additional remediations of housing units. Since the average unit remediated by LSB is home to 2 to 3 children below the age of six and at least one child suffering from lead poisoning it can reasonably be expected that these additional remediations would result in the protection of 25 to 30 children below the age of 6and a dozen children already suffering from lead poisoning from further poisoning in their own homes.

C. Stakeholder Involvement

The City of Boston is fully committed to the broadest possible involvement of government entities, non-governmental community and neighborhood organizations, as well as the private sector, in all of its community and economic development activities. We are fortunate to have a strong network of community agencies and

organizations dedicated to improving the quality of life of the residents. A wide variety of community-based providers (non-profit community groups) will be involved in the education and outreach component of the LSB program by providing venues for the distribution of information to engage potential participants as well as referrals for participating in the program.

The City has a long history of working effectively and productively with local lenders, contractor, contractor groups, realtors, building materials suppliers and retailers, media and health care providers. The types of roles of private sector and business participants in the Lead Safe Boston program are as follows:

- Local Contractors: engage in lead hazard control rehabilitation work by bidding on jobs funded through loans.
- Contractor Groups: Lead Safe Boston, in collaboration with the Enhanced Enterprise Community works with local contractor groups to encourage their members to become lead-certified.
- Realtors: help in lead abatement-related outreach and marketing.
- Local Building Material Suppliers and Retailers: help in lead-related outreach and education by providing information to consumers through store displays, referrals, presentations, etc.
- Lenders: provide access to additional capital.
- Local Media: is targeted to help in lead-related outreach and education, as well as in marketing the lead hazard control program to eligible residents.
- Health Providers: are involved through referral for blood lead testing and case management.

LSB, in conjunction with the Boston Public Health Commission (BPHC), conducts a comprehensive effort to assist in reducing lead poisoning in the City of Boston. This includes childhood lead poisoning prevention programs, education, and a public relations campaign. BPHC administers the Boston Childhood Lead Poisoning Prevention Program (BCLPPP) which combines the activities of Outreach Workers with surveillance and blood lead testing to implement the Massachusetts State lead law, which is among the strictest in the nation regarding lead hazards. We are proud of the fact that, through the program, an estimated 76% of all children aged 0-6 in Boston are tested for lead poisoning, perhaps the highest attainment level of any large city in the United States.

Lead Safe Boston has participated in the national stakeholders process which has lead to the research which establishes the safety and benefits of disposing of architectural debris containing lead from lead-based paint in C & D landfills and the promulgation of the pending proposed rule on the subject. Other stakeholders involved in this effort include our sister programs in cities throughout the United States and national and regional coalitions including the National Campaign to End Childhood Lead Poisoning.

D. Innovation- Reduction of Pollution

See B. above.

E. Transferability

If EPA provides the requested assistance it will be establishing a highly transferable model in two different and important ways.

First, by creating a safe and lower cost (or more economical) route for disposal of architectural debris from homes containing lead-based paint, EPA will be creating a pathway towards the mediation of thousands of housing units throughout the Commonwealth of Massachusetts and ultimately the nation. If this project is implemented as proposed, the cost of such remediation will drop considerably as described above. This reduction in cost will

benefit private and public owners of residential property throughout Massachusetts, and most importantly, the children who live in the housing units that are remediated under this program.

Second, this project can serve as a pilot project to test and, ideally, prove the efficacy and utility of the proposed EPA rule on the management and disposal of lead-based paint on architectural debris. By providing the requested relief EPA will be creating a pilot project which could be used nationally as the rule is finalized.

F. Feasibility

This program is extremely feasible. As discussed above, LSB is prepared to move forward with its remediation of lead based paint regardless of the outcome of this XL proposal. LSB has the resources and technical expertise to carry out the project. Implementation of the project as proposed would actually be easier, cheaper and therefore more feasible than the alternative – disposing of the debris as hazardous waste.

G. Evaluation, Monitoring and Accountability

EPA will be asked to continuously participate in the monitoring, oversight and application of this project as outlined in the schedule set forth below. LSB will, at the conclusion of this project, present a short data summary showing the number of homes remediated and approximate number of children protected due to this project and the EPA intervention. Specific monitoring and evaluation would include the amount of debris disposed under the proposal, the amount of money saved, and if possible, monitoring data from the landfill which receives the debris.

H. Shifting of Risk Burden

The effect of exposure to lead on the health of young children has been well documented. These effects include neurological effects like encephalopathy which is characterized by irritability, poor attention span, headache, muscular tremor, loss of memory and hallucinations and in severe cases, delirium, convulsions, paralysis, coma and death. The correlation between high blood-level levels and decrease in IQ and impairment in learning and behavior development has been extensively studied and some studies indicate that lead exposure can cause poor hand-eye coordination and hearing loss. Other effects of lead exposure in the literature include hematological symptoms like anemia and an inability to metabolize Vitamin D or calcium, hypertension, gastrointestinal effects like colic and renal effects including permanent damage to the kidneys. For a complete review of this subject see Risk Analysis to Support Standards for Lead in Paint, Dust and Soil, National Program Chemicals Division, Office of Pollution Prevention, U.S.E.P.A. at Vol. I, pp. 2-10 - 2-16 (June 1998, EPA 747-R-97-006).

A recent study by the National Health and Nutrition Examination Survey (NHANES) indicates that children of urban, minority (e.g., African American, Asian Pacific American, Hispanic American, American Indian), or low-income families, or who live in older housing, continue to be most vulnerable to lead poisoning and elevated blood-lead levels. The February 21, 1997 Center for Disease Control's Morbidity and Mortality Weekly Report states that: "Despite the recent and large declines in BLLs [blood lead levels], the risk for lead exposure remains disproportional high for some groups, including children who are poor, non-Hispanic black, Mexican American, living in large metropolitan areas, or living in older housing."

By making abatement costs less; this proposal helps to address this situation. To the extent that this proposal results in additional abatements, there is likelihood that poor and minority populations will benefit the most from the risk reductions. The decrease in the cost of abatements in inner-city 1-4 family housing stock will lead to an increase in the abatement activity in this type of housing. The occupants of these units are disproportionately lower income and minority populations. As the price of lead abatements are lowered as a result of this proposal, more low-income families will have LBP hazards removed from their homes.

Worker safety will be protected by ensuring that appropriate safety measures are taken at the time of removal. LSB's procedures and contract requirements ensure that all contractors undertaking lead based paint

remediation under LSB's auspices must follow all Federal, State and local health and safety precautions that apply to this type of activity. The proposed debris rule contains basic, common sense standards for handling LBP debris prior to proposal. These standards would become part of the proposal upon implementation. Moreover, the transfer of LBP debris from a location of high health risk (children's play areas) to a much lower risk environment (landfills) should be encouraged.

IV. Requested Flexibility / EPA action

EPA can greatly assist the project by allowing LSB to use the provisions of the proposed LBP debris rule. EPA assistance in ensuring that the transporters and landfill operators are willing to transport and receive the architectural debris would also be an integral part of the project. Such intervention may also require additional follow up by EPA with such officials and/or operators including telephone calls. Finally, it is essential that a contact person at EPA be available to LSB during the actual disposal of the architectural debris to ensure that EPA is available to take any additional steps needed to solve any last minute problems that may arise.

The specific action LSB is requesting under EPA's XL program is for EPA to write a site specific rule for LSB to allow the disposal of LBP debris in C&D landfills and MSWLs. Once the site-specific rule becomes final LSB would be able to perform more lead abatements and protect more children from lead poisoning. Since it may take considerable time to finalize EPA's final determination regarding the proposed LBP debris rule, the benefit of the site-specific rule is that it will yield actual numbers and data for incorporation into the final rule. At the same time more children will be spared from lead poisoning -- well in advance of the final rule.

V. Schedule

November 30, 1999 – MA DEP engaged in process

December 15, 1999 – EPA selects LSB as XL Project. EPA establishes team to research and write the site specific rule and Final Project Agreement (FPA). Specific landfills are targeted for outreach regarding the project. Dialog is begun with operators, EPA and LSB staff as to the feasibility of the project and policies and procedures detailing its execution.

January 30, 2000 – Draft site specific rule and FPA finalized.

February 20, 2000 – Publish proposed site specific rule and FPA in Federal Register.

March 30, 2000 – Public comment period ends on proposed site-specific rule and FPA.

April 30, 2000 – Publish final site specific rule and FPA in Federal Register.

May 1, 2000 – LSB starts disposing of LBP debris in C&D Landfills and MSWLs.

June 30, 2001 – LSB submits report detailing increased number of lead abatements, number of children spared from potential and real lead poisoning, impacts on landfills and other data.