Massachusetts School Building Authority

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MEMORANDUM

To: Board of Directors, Massachusetts School Building Authority
From: Katherine Craven, Executive Director
Date: September 21, 2011
Subject: Green Repair Program

The MSBA is pleased to report that with the votes at the September 28, 2011 MSBA Board of Directors Meeting, 98% of all projects in the Green Repair Program will have been authorized to proceed with an approved Project Scope and Budget totaling $360,429,536 in total project budgets and $219,855,600 in estimated total facilities grants. Launched in March 2010, the Program has been tremendously beneficial to districts that have been able to perform much-needed repairs to roofs, windows, and boilers across multiple facilities using MSBA funding. The Program provided an opportunity to improve energy efficiencies while preserving multiple schools within participating districts. Additionally, this Program has resulted in more than 141 construction contracts that will have been bid in 2011 and 54 construction contracts scheduled to be bid in 2012, providing many employment opportunities for owner's project managers ("OPMs"), designers, and various construction trades.

The Green Repair Program has allowed staff to put into practice new, streamlined processes, such as pre-qualifying OPMs and designers to compliment the aggressive schedule required of all participants in the Program. Staff have compiled a review of the advantages and disadvantages resulting from these process changes. An overview of these findings was presented at the August 2011 Facilities Assessment Subcommittee Meeting. This review urges the continuation of an accelerated repair program, incorporating the process changes implemented during the Green Repair Program, as part of the MSBA's ongoing Repair Program.

The categories reviewed included:

- Requirements and Schedule
- Accelerated Construction Schedule
- Scope Limitations
- Multiple Projects Per District
- Consultant Selection Process
- Cost Data Selection and Analysis

MSBA staff have recommended certain process modifications to enhance the approach to accelerated repairs within the MSBA's Repair Program:

- Establish a project completion deadline of 18 months from the date of the MSBA Board's invitation.
- Reach agreement between the MSBA and the district on a comprehensive project schedule as a pre-requisite for each project.
- Expand the list of eligible scope as appropriate to allow opportunities for initiatives such as the Science Lab Initiative.

- Continue to allow multiple accelerated repairs with an established limit on the number of projects per district based on available MSBA funding and Capital Pipeline capacity. This limit should take into consideration the size of the district.
- Streamline reimbursement payments for small repair projects below certain dollar/duration thresholds (e.g., 50% and 100% reimbursement payments versus monthly payments).
- Pre-qualified consultants:
    - Issue new RFS to pre-qualify OPMs and designers with updated evaluative criteria.
    - Consider an MSBA assignment rather than a district selection process.
    - Re-evaluate the current $15,000 OPM not-to-exceed fee for the schematic design phase and adjust if appropriate.
    - Consider establishing a not-to-exceed designer fee for the schematic design phase.

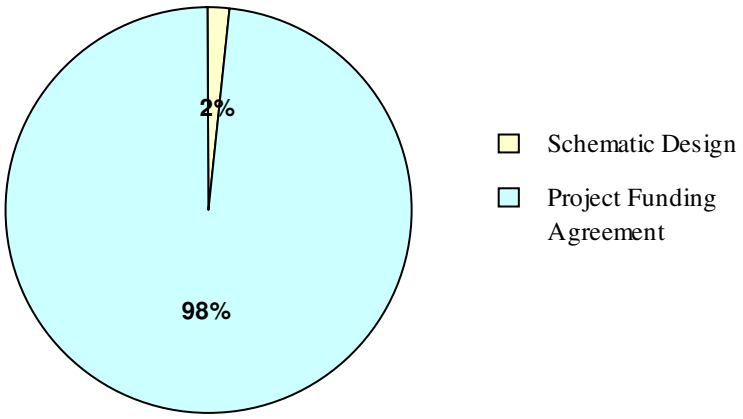
The recommendations outlined above will be incorporated into the Accelerated Repair Program, which will be one component of the MSBA's Repair Program, along with its Major Repair Program.

Executive Summary

In March 2010 the Massachusetts School Building Authority ("MSBA") launched its $300 million Green Repair Program ("the Program"). During the initial phases of the Program the MSBA carefully considered the existing processes in its traditional Capital Pipeline Program, which governs "new program" projects. Steps were taken to implement revised processes for the Green Repair Program that would allow the MSBA to increase the amount of construction work it could participate in across the state by collaborating with districts on expedited repair projects involving limited scope options. Currently, there are 172 projects in the Green Repair Program. As of September 28, 169 projects have been authorized for a Project Funding Agreement ("PFA"), totaling approximately $360,429,536 in Total Project Costs and an estimated $219,855,600 in MSBA Facilities Grant funding.

Green Repair Project Phase

98% - 169 projects authorized for PFA
Total Project Budgets $360,429,537
Total Maximum Facilities Grants $219,855,600



Now that the MSBA has processed the majority of the Green Repair Program applications, staff have begun to review the revised processes used in the Program to determine which were most effective for both the MSBA and districts. This report considers the advantages and disadvantages of each of the following process changes implemented as part of the Program and makes a recommendation as to whether each change should be incorporated into the MSBA's ongoing repair program via an Accelerated Repair Program component:

- Requirements and Schedule
- Accelerated Construction Schedule
- Scope Limitations
- Multiple Projects Per District
- Consultant Selection Process
- Cost Data Selection and Analysis

The table below provides a summary of the MSBA's recommendations:

Green Repair Process Change	Description	Recommendation for future accelerated repair program:	
		Continue	Modify/Expand
Requirements	The project requirements for deliverables, legal agreements, and Board votes were abbreviated for Green Repair projects.	✓	Streamline reimbursement payments for small repair projects below certain dollar/duration thresholds (e.g., 50% and 100% reimbursement payments versus monthly payments).
Accelerated Construction Schedule	Districts were initially required to complete construction by December, 2011, but the Green Repair Program has expanded to December, 2012.	✓	1) Establish a project completion deadline of 18 months from the date of invite. 2) Replace the pre-requisite funding schedule with a more comprehensive project schedule to be agreed upon by the MSBA and district at the beginning of each project.
Scope Limitations	Project scope was limited to the repair and/or replacement of roofs, windows, and/or boilers.	✓	Expand the list of eligible scope (e.g., Science Labs).
Multiple Projects Per District	Districts were invited to work on simultaneous projects at more than one school.	✓	Establish a limit on the number of projects per district based on available MSBA funding and Capital Pipeline capacity.
Consultant Selection Process	The MSBA issued Requests for Services to prequalify 20 Owner's Project Managers ("OPMs") and 21 Designers and established a selection process used by districts to select their consultant teams.	✓	1) Issue new RFS with updated evaluative criteria. 2) Consider an MSBA assignment rather than a district selection process. 3) Re-evaluate the current $15,000 OPM not-to-exceed fee for the schematic design phase and adjust appropriately. 4) Consider establishing a not-to-exceed designer fee for the schematic design phase.
Cost Data Selection and Analysis	Staff collected total project budget, roof, and window cost data for internal evaluation. Total project budget data was posted on the MSBA website as a reference tool for participating districts.	✓	

I. Introduction

The Green Repair Program ("the Program") was implemented specifically for the repair or replacement of roofs, exterior windows, and/or boilers in public school facilities that were otherwise structurally, functionally, and educationally sound. Facilities in need of more extensive repair or renovation work such as electrical, life safety, fire, or plumbing system upgrades; interior space renovations; educational space updates and improvements; or additions due to capacity issues were ineligible for Green Repair funding.

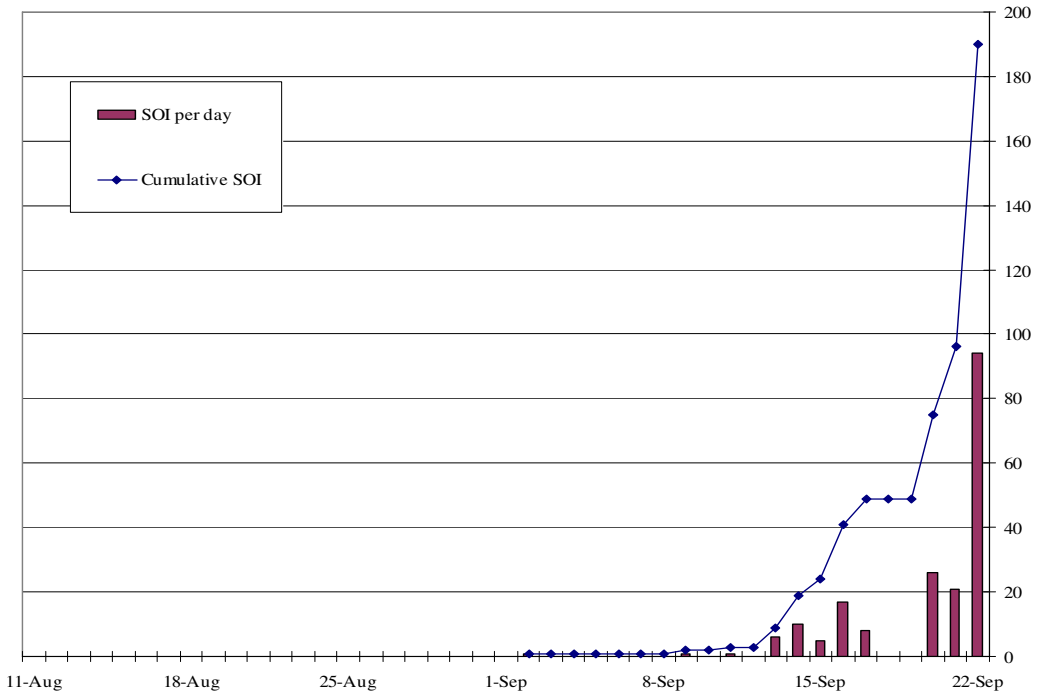
Projects that were potential candidates for the Program were reviewed in two phases referred to as "Tier 1" and "Tier 2." Tier 1 candidates consisted of districts already invited into the Capital Pipeline for repair projects and districts that had already submitted Statements of Interest ("SOIs") for potential roof, window, and/or boiler repair projects. After reviewing 150 existing SOIs, MSBA staff determined that 39 SOIs identified a need for a roof, window, and/or boiler replacement project and demonstrated that the funding necessary to participate in a Tier 1 project could be obtained within 60 days of the MSBA Board of Directors' invitation to the Program.

After reviewing and evaluating Tier 1 projects, MSBA staff determined the estimated remaining funds and invited all public school districts to submit SOIs for the Green Repair Program between August 11, 2010 and September 22, 2010. This pool of SOIs is known the as Tier 2 candidates. Tier 2 was primarily intended to give districts an opportunity to file SOIs for schools that had not previously been reviewed by the MSBA as a potential participant in its grant program.

As part of the Green Repair SOI process, all applicants were advised that if they were deemed eligible for program participation by the MSBA Board of Directors they would have to comply with the MSBA's rules, regulations, policies, and guidelines outlined in Attachment A.

MSBA staff reviewed properly submitted SOIs on a rolling basis, with the majority of the submittals received in the last three days of the submission period – September 20-22, 2010.

Statements of Interest Received



Over the course of the following two months, MSBA staff reviewed 185 submittals and conducted more than 95 site visits in an effort to fully vet all of the applications. The MSBA evaluated the SOIs in a competitive process, based on greatest need and urgency. Of the 185 Green Repair SOIs processed by the MSBA, 149 projects were invited to participate in the Program, 26 were deemed ineligible, and 10 are still under consideration.

Since May 2010, the MSBA Board of Directors has invited a total of 173 projects in 96 districts into the Green Repair Program. These projects include 108 roof, 70 window, and 63 boiler repairs and/or replacements.

	Districts	**Projects**	**Date of Board Invite**	**Roofs**	**Windows**	**Boilers**
	12	22	5/26/10	10	7	7
	1	2	7/28/10	2	0	0
	3	7	9/29/10	6	2	1
	64	108	11/17/10	72	46	41
	16	34	2/9/11	18	15	14
Total	**96**	**173**		**108**	**70**	**63**

Based on the MSBA's review of existing repair projects voted into the Capital Pipeline, 14 Tier 1 projects qualified for Green Repair funding bringing the Program total to 187 projects. Subsequent to being invited to participate in the Program, 11 districts have chosen to withdraw 12 SOIs from the Green Repair Program, reducing the number of projects to 175.

Employment Analysis

Since its launch in March 2010, the Green Repair Program has provided many employment opportunities for Owner's Project Managers, designers, and various construction trades. Over 141 construction projects will have been bid in 2011, and 54 construction contracts are scheduled to be bid in 2012. These projects have provided opportunities for many trades including roofers, masons, plumbers, carpenters, laborers, electricians, and more.

Although the green repair projects are in the same general category of work as repairs, each project varies as to the level of work required depending on the conditions at the facility (e.g., the need and/or the extent of deck replacement or structural work required as part of a roof repair). Therefore, establishing a typical level of participation by trade or an average number of person hours based on a square foot methodology or construction cost alone presents challenges. Factors that need to be considered when determining the costs, construction duration, and crew size for a replacement project must include:

- Type of roof installed
- Level of deck replacement and required removal and/or structural work
- Boiler/window type (e.g.,. steam versus hot water, oil versus gas; curtain wall systems require additional workers for rigging)
- Number and size of boilers/windows
- Asbestos containing material
- Building size and number of floors
- Boiler room/classroom configuration
- Terrain surrounding building
- Building occupancy
- Seasonal weather

Approximately 35 construction projects have just been completed in the last 90 days. Given the variability noted above, staff have begun to collect the actual data from these completed jobs to provide a more accurate assessment of the actual number of hours worked and by which trades. Once sufficient data has been collected and reviewed, staff will provide an update of our findings.

II. Requirements and Schedule

A. New Program

The MSBA requires new program projects to: submit a number of pre-requisite materials; select consultants through a public procurement process; and appear before the Board of Directors for approval two times after being invited into the Capital Pipeline in order to begin construction. Although MSBA staff collaborates with districts to establish milestone deadlines, the schedule upon which a project operates can vary substantially based on the size, scope, and availability of district resources.

B. Green Repair

In recognition of the fact that projects participating in the Green Repair Program must follow an aggressive schedule, the MSBA modified its program requirements. An abbreviated version of the MSBA process and timeline was developed for projects in the Green Repair Program.

The following chart provides an overview of these changes:

	Capital Pipeline	Green Repair Program
Pre-requisites	**4-6 months**	**2 months**
Initial Compliance Certification	X	X
School Building Committee	X	N/A
Budget and Maintenance Documents	X	X
Certified Design Enrollment	X	N/A
Funding Plan	X	X
Vote Authorization of Local Funding	X	X
Executed Feasibility Study Agreement	X	N/A
Consultant Selection	**(4-6 months)**	**(2-3 months)**
Draft OPM RFS	X	N/A
Advertise OPM RFS	X	N/A
OPM Panel Review Package	X	N/A
OPM Panel Review Approval	X	N/A
Draft Designer RFS	X	N/A
Advertise Designer RFS	X	N/A
Designer Panel Review Package	X	N/A
Designer Selection Panel Approval	X	N/A
OPM Selection Criteria Form	N/A	X
OPM Record of Selection Form	N/A	X
Designer Selection Criteria Form	N/A	X
Designer Record of Selection Form	N/A	X
Board Submittals and Votes	**(6-12 months)**	**(3-6 months)**
Feasibility Study Submittal	X	N/A
Board Invitation to Move to Schematic Design	X	N/A

Schematic Design Submittal	X	X
Board Approval of Project Scope and Budget	X	X
Project Scope and Budget Agreement	X	N/A
Vote Authorization of Local Funding for Total Project Budget	X	X
PFA	X	X

C. Advantages

1) For districts trying to maintain an aggressive construction schedule, it is crucial to quickly bring consultants on board and execute funding agreements. The time to obtain project approvals is decreased substantially in the Green Repair Program by reducing the amount of submittals, board appearances, and agreements required to begin the construction phase of each project. Timing was critical for the majority of districts striving to hit the Summer 2011 construction season, and revising the MSBA procedures for these projects helped them remain on schedule.

2) This streamlined approach to the submittal and approval process for these size projects was also helpful to MSBA staff working with a high volume of projects. Reviewing one submittal for multiple schools to advance a district to a Project Scope and Budget Board vote decreased the per-project demand on staff resources allowing them to advance more projects at a quicker pace.

D. Disadvantages

1) Districts were hesitant to appropriate funds without a Feasibility Study Agreement ("FSA") to guarantee reimbursement for the preliminary work done in anticipation of project approval.

2) The number of Green Repair projects with executed PFAs is steadily increasing each month which will result in more reimbursement requests. Unlike the new program, where requests for payment are staggered due to the gradual transition of projects from one phase to another, Green Repair projects are pushed to advance in the MSBA process quickly; therefore many project timelines coincide, increasing reimbursement request demands on MSBA's audit and construction staff.

3) Amendments to Project Funding Agreements are in heavy demand as the majority of Green Repair projects receive bids in the Summer 2011 construction season. Staff were able to streamline MSBA procedures at the front end of projects, but the audit and payment processes are the same as those used for Capital Pipeline projects. Turnaround time for amendments and payments could become an issue because of the volume of Green Repair projects.

E. Recommendations

The revised MSBA procedures should be implemented as part of its ongoing repair program.

1) Reducing pre-requisite materials, Board appearances, and legal agreement requirements for participating districts is appropriate based on the Program's aggressive schedule and relatively small projects.

2) In order to make this a more comprehensive, streamlined system, staff will review over the next six months the manner in which the MSBA processes the volume of reimbursement requests and bid adjustments that will be coming in from Green Repair projects to determine if there are opportunities to further improve the systems used for small repairs. These ideas may include:

    a) Limiting the number of reimbursement requests for projects with a duration of six months or less, or a total project budget of $1,000,000 or less by accepting reimbursement applications only at preset levels of completion (e.g., 100% construction documents; 50% construction completion; and final audit).
    b) Excluding grant money for owner's or construction contingencies and/or eliminating all change order review and budget transfers.

III. Accelerated Construction Schedule

A. New Program

New program projects can take up to a few years depending on scope. Repair projects previously invited into the Capital Pipeline Program typically have an abbreviated schedule, but to-date there have not been any time constraints placed on the length of the design and bid phases, with limitations placed only on the year construction must begin. Construction duration in the Capital Pipeline Program is driven by the type (repair, renovation, addition, new construction) and complexity of the project.

B. Green Repair

Construction should be completed within the year after having received an invitation and an approved project scope and budget from the MSBA Board of Directors, unless a schedule extension is approved by MSBA staff.

C. Advantages

1) Completing Green Repair projects within the tight timeframe required by the Program is incredibly helpful to school districts looking to complete critical repairs while limiting disruption to students and faculty. Most Green Repair projects can be classified as "Summer Slammers," with construction completed in a summer or less. This timeframe minimizes the risk of disturbing those using the facility and ultimately saves districts time and money by avoiding the need to develop alternative plans for students and teachers affected by construction while school is in session.

D. Disadvantages

1) There are a number of challenges that consultants and districts have faced in order to keep projects on the Green Repair Program's aggressive schedule. Lead times for products necessary to complete repair work are often unforgiving, especially windows which can take up to sixteen weeks.

2) Most projects are operating on a similar construction schedule; therefore, a great deal of projects are going out to bid at similar times, decreasing competition within the market and increasing fear that bid prices will begin to come in higher than estimates.

3) The accelerated pace of Green Repair projects was difficult for municipalities charged with funding the projects. Many cities, towns, and regional school districts found that coordinating their projects with limited town meeting schedules was very difficult. In some cases, districts needed to hold special town meetings in order to get the funding authorization necessary to move a project forward.

E. Recommendations

MSBA should continue to hold districts to an abbreviated schedule. Timeline and district readiness should become a more significant aspect of the pre-requisite process.

1) The MSBA should continue to recognize funding challenges experienced by cities, towns, and regional school districts and create reasonable timelines allowing for extensions as may be needed. The MSBA should continue to collaborate with districts that encounter unforeseen schedule delays in order to mutually determine the most efficient and reasonable manner of proceeding.

2) Although it is valuable to give districts some flexibility to properly deal with unforeseen delays, these projects do not warrant long schedule extensions considering their limited scope. With this in mind, the MSBA should require that projects in the Program be completed within eighteen months from the district's date of invitation.

3) The MSBA should develop guidelines for reasonable deadlines for the completion of pre-requisite documents, consultant selection, schematic design, and project scope and budget approval. These guidelines should be sent to districts at the outset of each project to eliminate any confusion over the MSBA's expectation for completion of the front end work necessary to advance any project to construction. The guidelines should be acknowledged in writing by district officials as well as the MSBA to certify that all are aware of the schedule. Districts that do not meet these deadlines should be notified after missing any milestone dates and an SOI withdrawal form after remaining delinquent for more than one month. From the start, districts are aware that the Program runs on a very tight schedule; therefore, it is reasonable to expect that those applying for the Program are prepared to meet these deadlines.

IV. Scope Limitations

A. New Program

Projects in the MSBA's Capital Pipeline Program range in scope from repairs to a single building system to large-scale renovations, additions, or new construction. Additionally, many projects involve the consideration of non-construction alternatives such as redistricting and grade reconfiguration as part of the agreed-upon solution to the school building deficiencies identified in an SOI. All Capital Pipeline Projects are subject to standard enrollment projections, educational program review, and evaluations of scope exclusions and ineligible costs pursuant to MSBA regulations, policies, and guidelines.

B. Green Repair

The Green Repair Program restricted the eligible project scope to roofs, windows, and boilers only, and the MSBA strictly interpreted and enforced these scope limitations. For instance, the scope of a boiler replacement project was required to remain within the boiler room; any work beyond that, such as repairs to components of the HVAC system, was ineligible for Green Repair funding.

C. Advantages

These scope limitations proved advantageous in most cases, primarily due to the fact that they complemented the volume of projects and aggressive schedule associated with the Program, as well as the financial capabilities of districts that were required to secure local funding within 90 days from receipt of a Board Vote Authorizing a Project Funding Agreement.

1. The MSBA's review of SOIs for the Green Repair Program was as comprehensive as those done for the Capital Pipeline SOIs. However, because the scope of these projects was smaller than those applying for Capital Pipeline projects, the SOIs were shorter and could be evaluated and processed faster. The shorter review period allowed the MSBA staff to bring districts before the Board of Directors for an invitation to the Program more quickly. Due to the tight schedule required of these projects, the expedited review and Board vote were highly advantageous to those districts that were able to commence their project immediately after receiving the Board's invitation.

2. In order to accommodate school calendars, the majority of the Green Repair Program projects were planned for summer construction. This construction schedule minimizes the disruption to students and teachers but maximizes the pressure on consultants and district administrators to complete projects within a three-month timeframe. Construction of roof, window (depending upon lead time), and boiler projects can generally be completed within three months or less, allowing districts to finish critical construction projects without intruding upon their academic calendar.

3. Roof, window, and boiler issues were common problems that districts were eager to address as quickly as possible. Although the program scope was confined to three building systems, the immense preventative effects of these repairs can save school districts money by mitigating existing problems and avoiding more extensive problems that might be more costly to repair in the future. Repairing roof and window leaks before mold infiltration becomes a widespread issue, or upgrading to an energy-efficient boiler and decreasing fuel costs are just a few examples of the significant financial benefits that repairs to these key systems can offer school districts.

D. Disadvantages

Although the decision to limit the Green Repair Program to roof, window, and boiler projects was beneficial in many ways, there were some drawbacks. Just as the repair and/or renovation of these systems prevented larger issues, in some cases these projects also brought to light the need for more substantial repairs than originally anticipated. This realization occurred most often in boiler and window projects.

1) The MSBA received requests to expand the scope of many of the boiler repair and replacement projects. At the outset of this program a policy was established that the work associated with boiler projects would not extend beyond the physical confines of the boiler room. Districts asked for unit ventilator system upgrades as concurrent projects on numerous occasions, but these requests were turned down each time. The rationale behind this policy was that avoiding unit ventilator work eliminated the risk of expanding scope to include retrofitting classrooms. This policy was questioned by districts and consultants who argued that upgrades and repairs to HVAC components were necessary to maximize the gains in energy efficiency from boiler repair and replacement projects.

   The policy that work associated with boiler projects would not leave the boiler room has remained firm; however, districts in need of HVAC upgrades were advised to fund and bid those projects separately from the work supported by MSBA.

2) The MSBA also received a number of requests for expansion of the scope and schedule of window replacement projects, generally due to the discovery of hazardous materials spreading beyond the window frame and into the surrounding façade. Although abatement specifically related to the scope of work that is the subject of the PFA is typically a reimbursable expense under the MSBA's Green Repair Program, the presence of Polychlorinated biphenyls ("PCBs") beyond the Green Repair Project scope was discovered by a handful of districts that found themselves with a much larger and more expensive project than originally anticipated in order to rid their buildings of the hazardous substance.

   Material lead times also became a concern early on for districts with window projects. Some projects required up to sixteen weeks to fabricate and ship windows, resulting in a number of schedule extensions into Fall 2011 or Summer 2012.

E. Recommendations

Despite the fact that scope limitations proved challenging in some projects, restricting the Program to roof, window, and boiler repair and/or replacement worked well overall. Any broad expansion of the acceptable scope would be irresponsible because the timeline and budget of the Program will remain defined; however, a controlled expansion of the Program's eligible scope would be worth investigating.

1) The following systems are currently under consideration for future inclusion in an ongoing repair program:

- Life safety systems:
  - Fire protection sprinkler systems/extensions
  - Fire detection/alarm systems (e.g., upgrading, extensions, replacements)
- Educational technology:
  - Network systems for educational technology throughout a school or district (e.g., central equipment, distribution conduit, cabling)
  - Local equipment and cabling at strategic locations, including minimum essential electrical power upgrades
- Exterior envelope preventive restoration:
  - Repairs to masonry, other exterior sidewall enclosure systems, and lintels to arrest deterioration and water infiltration
  - Repointing of masonry – application of coating systems and sealants and replacement of trim
- Science laboratory and prep room upgrades:
  - Replanning and limited renovations for replacement of laboratory casework, fume hoods, safety systems, and associated fixed equipment
- Electrical system upgrades – Strategic system upgrades of limited scope to remedy:
  - Specific safety conditions
  - Needs to directly support instructional systems
  - Energy supply to support other systems authorized for the Program
- Additional HVAC system improvements of <u>limited</u> scope:
  - Replacement of defective ventilation equipment for toilet rooms
  - Air conditioning system additions, replacements, or upgrades to instructional program spaces
- Domestic hot water system improvements of <u>limited</u> scope:
  - Replacement of existing gas, oil-fired, or electric independent hot water heating equipment
  - New "point of use" water heaters where economically advantageous
- Emergency power system work:
  - Replacement of emergency generators and primary transfer switchgear (not to include whole facility distribution systems)

V. Multiple Projects Per District

A. New Program

The MSBA's grant program is a non-entitlement, competitive program, and grants are distributed by the MSBA's Board of Directors based on need and urgency, as expressed by the community and validated by the MSBA. The MSBA does not limit the number of SOIs that a district may submit, but districts that submit more than one are asked to **select a priority SOI**. If an SOI is invited into the Capital Pipeline, the MSBA and the district will then work to determine potential solutions that are educationally-sound, fiscally-appropriate, and that fit within the MSBA's capital funding pipeline.

B. Green Repair

Districts were allowed to file SOIs **for concurrent projects at multiple schools** and were not required to designate a priority facility. The Green Repair Program has allowed the MSBA to benefit greater numbers of students and teachers by participating in essential repairs at more than one school in a district, thereby increasing the energy efficiency and overall learning environment of more schools in less time.

C. Advantages

1) In the new program, districts typically prioritize the school with the largest and often most costly issues. The Green Repair Program provided districts with the opportunity to address critical needs at schools that may not take precedence when faced with the task of designating a single school. School administrators have often stated that it is difficult to pick one priority when other facilities also have significant issues. These Green Repair projects often entail vital preventative measures that help districts mitigate existing problems and avoid larger and more costly problems down the line.

2) At the local level, completing multiple projects of limited scope at one time is often more efficient than completing one at a time, because it minimizes the number of times a district must go through the consultant selection and local vote processes necessary to move a project forward. Districts were able to select consultants and develop working relationships with them to complete numerous projects in a relatively short timespan rather than conducting numerous procurements – a process that could span several years if done individually for different facilities.

3) Only one Town Meeting or City Council vote and one ballot question, if any, was required to obtain local funding for multiple projects. Although some municipalities voted twice throughout the life of these projects, first to fund a schematic design and then to fund the project, districts were generally able to limit the number of times they had to seek appropriations.

D. Disadvantages

Although the ability to upgrade multiple facilities at one time was favorable to most districts, there were a few disadvantages to this approach:

1) The demands of multiple projects proved to be a greater financial burden than some districts expected. In some cases, districts did not accurately estimate the amount of funding they would be required to secure for the projects for which they had been invited, and therefore they had to request additional funds from their voters.

2) Another disadvantage to expanding the pool of potential projects is that the number of projects bidding at the same time inevitably increases, potentially decreasing competition among bidders and raising costs. MSBA staff have received a few requests from districts to re-bid projects at a later date due to the higher-priced responses received.

3) Allowing multiple projects per district created a higher project count. As a result, consultant and MSBA staff were stretched thin as they worked with districts to develop an appropriate scope and budget for each project in the Program. Consistency is crucial with districts that are working on multiple projects, and the MSBA has encouraged these districts to submit schematic designs as one package. Doing so allows districts to obtain Board votes for multiple projects at the same meeting and receive a single Project Funding Agreement for all projects, fostering a more efficient reimbursement payment process. However, in order to compile, review, and process this amount of material, consultants and MSBA staff often need to devote a substantial amount of time to these particular districts.

E. Recommendations

Inviting multiple schools within a district into an ongoing repair program should be continued, but the MSBA should set a cap on the maximum number of schools.

Although increasing the project count in the Green Repair Program has proven challenging, the benefits to districts outweigh these costs.

1) Continue to allow multiple accelerated repairs with an established limit on the number of projects per district based on available MSBA funding and Capital Pipeline capacity.
   - This limit should take into consideration the size of the District.

VI. Consultant Selection Process

A. New Program

After completing standard pre-requisite documents, districts procure a team of professionals using procurement processes, standard RFS templates, and standard contracts as developed by the MSBA. Districts with projects estimated at over $1.5 million select both an Owners Project Manager ("OPM") and a designer. Projects estimated to cost under $1.5 million are only required to hire a designer, unless otherwise requested by the MSBA.

OPM selections are made through a local process, subject to approval by the MSBA OPM Approval Panel. Designer selections are made at the local level, using a qualifications-based procurement, if project costs are estimated at less than $5 million. For projects with budgets that exceed $5 million, the district drafts, advertises, and distributes the RFS for designer services, conducts site visits, acts as the primary point of contact, and gathers responses. Responses are then forwarded to the MSBA's Designer Selection Panel which reviews the applications, conducts interviews when appropriate, and ranks the applicants. Each consultant selection process can take two to three months, for a total of four to six months.

B. Green Repair

All districts using the Green Repair Program Consultant Selection Process were required to use an OPM regardless of the estimated total project budget and to select OPMs and designers from a pool of pre-qualified consultants. Upon completion of its pre-requisite documents, each district selected consultants from the list of pre-qualified consultants based on an assignment process developed by the MSBA that included forms and information to assist each district in a quick, efficient procurement process. OPM and designer selection could be completed in approximately four to six weeks.

C. Advantages

1) The Green Repair Consultant Selection Process was designed to meet the Program's aggressive schedule. In order to streamline the process, the MSBA pre-qualified a group of OPMs and designers using a competitive, qualifications-based procurement, rather than requiring each district go through the standard procurement process. This streamlined process saved a considerable amount of time by eliminating the need to draft an RFS, submit the RFS to the MSBA for review and revision, advertise, collect, and review applications – about four to six weeks; as well as the time to appear before the OPM Review Panel and Designer Selection Panel – both dependent upon monthly or bi-monthly meetings. This abbreviated selection time was essential to districts that were trying to meet a summer construction schedule.

2) The efficiencies offered by a pre-qualified pool of consultants allowed MSBA staff to assign consultants to 89 districts representing more than 150 projects over the course of nine months from August 2010 to April 2011. The streamlined

approach to both OPM and designer selection in each district involved less paperwork on the part of both the district and the MSBA, resulting in a drastically reduced turn-around time.

3) In addition to the pre-qualified pool of consultants, the MSBA also established a $15,000 not-to-exceed fee for selected OPMs during the schematic design phase for projects estimated to cost less than $5 million. This included districts with multiple projects. By establishing a not-to-exceed fee, the guess-work associated with initial consultant fees and study costs was reduced, allowing districts to negotiate their OPM contracts in a timely manner. OPMs were then able to assist their districts in designer contract negotiations.

4) Approximately 89 districts used the MSBA Consultant Selection Process to obtain their OPM and Designer. A number of consultants received multiple contracts, allowing them to become more familiar with the Program's policies and guidelines. The advancement of projects as well as the quality of schematic design and construction submittals often improved as consultants became more experienced working in the Green Repair Program.

D. Disadvantages

1) Some districts were unable to complete their consultant selections along the intended timeline despite the streamlined process. This had the potential to result in significant project delays. Without consultants, districts were unable to put together a schematic design submittal leading to a delayed Board approval of a project scope and budget and subsequent delay in receiving a PFA.

2) Districts were not required to complete interviews, and in some cases this resulted in inconsistencies among districts' selection timelines and quality of reviews. Whereas most districts exhibited the proper due diligence, other selections appeared to have been made hastily, resulting in communities asking the MSBA to reconsider their selections based on factors that had come to light either while making a selection and meeting with the chosen candidate or in conferring with others in their community.

3) Capacity became a point of concern from both ends of the spectrum. Whereas some firms were selected by many districts, causing concern that they would not be able to keep up with the workload, a few were not selected. Designers, in particular, were subject to this issue due to the fact that some were pre-qualified for only one scope item. The Program did not have as many boiler-only projects as it had projects with roof and window as part of the scope as well, and therefore designers pre-qualified for boiler-only projects were at an immediate disadvantage. Meanwhile, certain firms were picked frequently – perhaps too frequently. An example of this involved a district selecting a designer and then notifying the MSBA that they planned to renegotiate with their second-choice candidate designer as a result of the lack of responsiveness of the first-choice selection.

E. Recommendations

The Green Repair Program pre-qualified consultant selection process worked well and should be applied to an ongoing repair program. Consultants should be pre-qualified by type of scope.

The consultant selection process developed for the Green Repair Program offered the efficiency needed for the MSBA to help districts with tight project schedules get an OPM and designer on board in a timely manner. However, there are some improvements that could be made to make the process more stringent and streamlined.

1) Assigning districts consultants rather than sending them multiple proposals for review is an approach worth considering for three reasons:
    - Eliminates the portion of the process that most frequently delayed district selections
    - Resolves the issue of districts that remain unresponsive to deadlines
    - Allows the MSBA to track consultant capacity more accurately to avoid overloading one firm

2) An RFS for OPMs and designers should be developed for 2011 to address potential capacity issues and establish more competition among consultants. The qualification process for the pre-qualified pool of consultants should incorporate evaluative criteria for qualifications, as learned through the Green Repair Program.

3) The MSBA should continue with a set not-to-exceed fee for OPM services through schematic design and consider reevaluating the current $15,000 maximum fee.

VII. Cost Data Selection and Analysis

A. New Program

Consultant fee information is tracked and updated routinely for new program projects. Estimated construction and total project cost data for various school types (Elementary, Middle, Middle/High, and High) is also monitored. This information is based on the MSBA's review of construction cost estimates, contracts, and other documentation provided by cities, towns, and regional school districts in preparation for a Project Scope and Budget Conference with the MSBA.

B. Green Repair

Consultant fees and total project cost data is also tracked for Green Repair Program projects (Attachment C1). These numbers are taken from consultant contracts and cost estimates submitted as part of the schematic design package provided by cities, towns, and regional school districts in preparation for a Project Scope and Budget approval from the MSBA's Board of Directors.

MSBA staff compile roof and window cost data during each board cycle (Attachment C2). The following information is collected for comparison:

- square footage of each system replacement;
- total project costs;
- funds allotted for demolition, abatement, and other associated expenses; and
- the resulting construction cost per square foot.

C. Advantages

1) Green Repair Program cost data is available on the MSBA website, and has become a helpful reference tool for districts trying to determine the amount of local funding they need to secure. Districts are able to compare projects of similar size and scope to their own project(s) in order to gauge a potential cost range. Many of the districts participating in the Green Repair Program appropriated funding for the schematic design phase of their projects and waited to request the total amount needed until detailed cost estimates were developed during the initial study phase. Many districts sought guidance on the proper amount to allocate towards the early phase of the project because cost estimates were not yet under development. The data made available by the MSBA offered actual numbers that district administrators could refer to in order to make informed funding decisions.

2) Roof and window cost data has proven to be a valuable internal resource. By generating baseline numbers with which to compare incoming submittals, staff have been able to identify outliers and work with districts and consultants to understand these variances. The MSBA discussed the numbers being charted with consultants that specialize in roof and window projects to verify that the

ranges used for comparison were reasonable for each type of system being reviewed.

D. Disadvantages

1) The majority of the numbers recorded are subject to change based on the bid climate. Consultants have been increasing square foot pricing in their schematic design submittals due to concerns that the number of projects going out to bid will lead to higher costs. These numbers are still helpful to reference when reviewing new schematic design packages, but conclusions must ultimately be made on a case-by-case basis due to the particular circumstances associated with individual projects.

E. Recommendations

MSBA staff should continue updating Green Repair Project cost data and assist districts with applying it to future repair projects.

1) Posting total project budget information on the MSBA website has been a valuable tool for districts and consultants struggling to determine initial funding amounts. Roof and window data might also be a helpful addition to the website in order to provide consultants and districts with information on the price ranges that MSBA considers reasonable for roof and window projects.

2) Having this cost data recorded in a central location will also help MSBA staff to monitor any changes in pricing as more projects go out to bid. This will inform future reviews and help staff determine reasonable price ranges for particular scope items (i.e., whether a PVC roof that is $4 higher than another might actually be acceptable based on a particular bid climate) or set square foot prices.