U.S. Department of Labor

Implementation of Project Labor Agreements in Federal Construction Projects

An Evaluation

Submitted by:
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in association with Hill International

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I. EXECUTIVE SUMMARY

U.S. Federal Executive Order 13502, issued on February 6, 2009, announced the federal government's policy "to encourage executive agencies to consider requiring the use of project labor agreements in connection with large-scale construction projects" (projects where the federal cost exceeds $25 million). A project labor agreement (PLA) is defined in the Executive Order as a "pre-hire collective bargaining agreement with one or more labor organizations that establishes the terms and conditions of employment for a specific construction project..."

In the fall of 2009, Interactive Elements (IEI) with its subconsultant, Hill International, was selected by the U.S. Department of Labor to conduct a study evaluating use of PLAs by federal agencies undertaking large construction projects. With federal use of PLAs proscribed between 2002 and 2008 (as a result of Executive Order 13202), the number of federally sponsored projects available for review is severely limited. The consultants, working with the Department's project team, agreed to select case studies from public projects that had been completed by state and local entities.

This study is intended to assist federal agencies to better understand their needs when considering when and whether to require PLAs. Given the limited use among Federal agencies recently, the study goals are stated more broadly to address public construction, and are the following:

- To assess the characteristics of public construction projects to determine where the use of a PLA had been advantageous;
- To identify circumstances under which use of a PLA is likely to be beneficial and should therefore be evaluated; and
- To cite potential benefits of PLA utilization on projects selected as case studies, or reviewed in published material.

Two projects were selected as case studies.

New York City School Construction Authority (NYCSCA) Five-Year Capital Plan for Fiscal Years 2005-2009. The PLA applied to the renovation and rehabilitation elements of the capital program, costing approximately $4.6 billion.

New Jersey Transit Hudson Bergen Light Rail Transit (HBLRT). A PLA was implemented for the first phase of a New Jersey Transit design-build-operate-maintain project, with 21st Century Rail, a consortium led by Raytheon, as the prime contractor for a $990 million project, completed in 2000.

Background

Numerous legal challenges to the use of PLAs in the public sector were mounted during the 1990's. Two cases in particular, the Boston Harbor case[1] in the federal courts, and the New York State Thruway Authority case[2] in New York, upheld the use of PLAs in the public sector, and provided a

[1] Associated Builders and Contractors of Massachusetts/Rhode Island, Inc. v. Massachusetts Water Resources Authority (Boston Harbor), March 1993.

[2] New York State Chapter ABC, Inc. v. New York State Thruway Auth., 88 N.Y. 2d 56, 643 NYS 2d 480, 666 NE 2d 185 (1996)

basis for further use of PLAs. The court upheld the use of PLAs when it was demonstrated that open competitive bidding procedures were maintained, and when a benefit to the public could be demonstrated.

The findings of the court provide a useful standard for public agencies considering use of a PLA on their projects. Most importantly, prior to entering into the PLA, the Thruway Authority conducted a cost analysis of the anticipated savings from its use. The court found that PLAs are "neither absolutely prohibited nor absolutely permitted" on public construction projects in New York, and that they should be considered on a case-by-case basis. It would be incumbent upon the sponsor agency to demonstrate that a PLA was likely to advance the interest embodied in the competitive bidding statutes. This included protecting the public's interest by obtaining the lowest price for the highest quality work, and "prevention of favoritism, improvidence, fraud and corruption in the awarding of public contracts." Many of those interviewed during this study referred to the Thruway PLA as a model because the court provided a clear path for PLA implementation, namely that an analysis performed in advance of the implementation of the PLA must demonstrate savings for its use to be justified.

Among the factors that are considered in the analysis are:

- Savings and efficiencies resulting from coordination of schedules, shift work, and holidays among unions;
- Cost savings arising from alternative dispute resolution procedures;
- Potential benefits from a no strike provision; and
- Efficient access to supply of skilled labor.

Also, the PLA should ensure that hiring procedures are nondiscriminatory with respect to union membership, and that the bidding process is open and competitive.

One Federal agency that has utilized PLAs continuously for nearly twenty years is the Tennessee Valley authority (TVA). The TVA PLA is a three part agreement, each component covering different types of construction:

- maintenance and modifications for generating facilities;
- new construction projects; and
- construction project supplements for maintenance and modification of office buildings.

The TVA PLA has been in place for nearly twenty years. TVA personnel interviewed for this study were not present at the time the decision was made to implement the PLA, and they indicated it would be difficult to cite "lessons learned" from the experience, since they had no basis of comparison for projects constructed prior to the PLA. However, they were unable to cite any significant issues or problems resulting from the use of the PLA, and have commented that recent large scale construction projects, such as the Watts Bar Nuclear Plant near Spring City Tennessee and the Browns Ferry Nuclear Plant in Alabama completed in 2007, were on time and on budget.

The U. S. Department of Energy has utilized PLAs historically, dating back to the Manhattan project during World War II, and earlier. Because of the strategic nature of the project and the need to

assure a continuous supply of qualified labor in a remote location, the Department entered into agreements with unions that could assure the labor requirements of the project would be met, including access to a sufficient supply of skilled, safety trained and security cleared labor. The Department determined that the War Powers Act (PL 85804) allowed such agreements in the interest of national security. During the Cold War years as well, the Department determined that the War Powers Act would provide a basis for defending use of labor agreements that would assure continuing construction activity on sensitive sites such as Nevada test site, Idaho and Richland, Washington where nuclear energy was being produced for national defense purposes.

The agreements were constructed to assure continuing supply of labor that had security clearance and specialized skills. In certain locations, enclaves were designated to allow payment of higher wages than on non-defense related projects to assure work could continue without labor disruption and projects were on-time and on budget. The agreements provide for labor to be sourced from outside the region if the local unions are unable to meet requirements within forty-eight hours. This has assured that work would be performed uninterrupted. Safety and health provisions were included in the agreements as well.

Agreements entered into by the Department of Energy have often taken several years to construct in a manner satisfactory to all parties, and the Department indicates there is often a learning curve to be experienced in order to reflect local preferences and appropriate clauses for dispute resolution. Once an appropriate framework has been established in a location, the agreements have proved workable for large nuclear facilities and have worked for small building construction in those locations as well.

Potential of PLAs

From the owner's or project sponsor's point of view, any mechanisms that can reduce the risks inherent in large construction projects are highly beneficial. While PLAs can include clauses addressing a wide range of labor-management issues, they generally include provisions for:

- eliminating risk of strikes and disruptions during construction period;
- a process for resolution of disputes that allows work to proceed while disputes are being resolved;
- access to a pool of skilled labor through union hiring halls;
- a process for meeting labor requirements through other sources if the hiring halls are not able to meet the requirements in a timely fashion; and
- uniform work rules to improve efficiency and save money; these provisions are often the source of the largest cost savings. They normalize shift work to be consistent among the trades and to suit the conditions of construction.[3]

[3] For example, a shift differential clause on a highway project might allow work to begin on Sunday night to avoid weekday traffic congestion, but with a defined (and presumably reduced shift differential). In the case of the NYCSCA, the PLA identified the first shift as commencing after the school day ends, with a flat shift differential applied to all unions.

Also, from the owner or contractor's perspective, certain costs, terms, and conditions are defined at the outset for the entire construction period. This removes considerable uncertainty in project costs and schedule. On large projects in particular, the standardization of conditions is an advantage to the construction management and oversight of the project; a contractor needs to be familiar with the terms included in one agreement, not multiple agreements with varying terms.

While these potential advantages are often cited as benefits of PLAs, many large construction contracts have been undertaken, in the past, without use of PLAs and have not experienced labor disruptions, slow downs, or significant cost overruns.

This paper examines specific cases where PLAs have been implemented successfully, and seeks to identify characteristics of construction projects that could benefit from the use of a PLA as a management tool.

Case Study: New York City School Construction Authority

To facilitate the construction of the NYCSCA Five-Year Capital Plan for Fiscal Years 2005-2009, NYCSCA entered into a PLA to cover approximately $4.6 billion of rehabilitation and renovation construction at New York City Schools. Rehabilitation and renovation work is carried out after school hours, so that students and teachers are no longer at the work sites. This incurs significant additional labor costs in the form of shift differentials. Limiting these costs was an important incentive for the NYCSCA to consider use of a PLA.

The use of the PLA was initially suggested by leadership of the Building and Construction Trades Council of Greater New York (BCTC), and its use at NYCSCA was the first for public projects in the City. NYCSCA has typically pre-qualified contractors and has predominantly utilized union contractors for construction work. A PLA was negotiated, its impacted estimated and reported in a feasibility study, and then the agreement was implemented. Contracts for individual projects within the Capital Program were competitively bid, allowing union and non-union contractors to bid; however, a requirement to comply with the PLA was included in the bid specifications. Projects budgeted under $1 million were not covered by the PLA; they were set aside for minority and women owned businesses.

The feasibility study, done by Hill International, looked at terms and conditions negotiated for inclusion in the PLA, estimated potential cost savings and described non-quantifiable benefits that might arise from the agreement by applying the terms of the PLA to a sample of projects included in the Capital Plan. These results were compared to the costs anticipated for the same program of work using union contractors subject to the separate collective bargaining agreements of each union. The study concluded that "the use of the PLA on the Project can result in savings in excess of $488 million together with substantial non-quantifiable economic benefits." Most of the benefits were attributable to provisions for standardizing shift work at a flat differential and also other work rules, and the no-strike provisions.

According to the NYCSCA and based on an analysis of savings resulting from the PLA at the conclusion of the five year Capital Plan, significant savings were achieved due to the PLA. The major benefit of the PLA cited was the standardization of shift differentials and allowing second shift work as a starting shift with a uniform five percent differential on all trades. This is significant for school construction, which must avoid hours when students and teachers are on site. The savings achieved

amounted to $221 million over the five year plan period. This amount was less than that projected in the initial cost analysis due to the variations in the component trades used in construction as compared to the a priori assumptions. A PLA was implemented for the subsequent five year Capital Plan covering rehabilitation and renovation projects for 2010-2014.

Case Study: New Jersey Transit Hudson Bergen Light Rail Transit

In 1996, New Jersey Transit entered into a public-private partnership with 21st Century Rail Corp., a consortium led by Raytheon Infrastructure Services, to design, build, operate, maintain and finance the HBLRT The initial contract was for the 9.5 mile segment known as Minimal Operating Segment 1, or MOS 1, projected to cost $990 million. Raytheon negotiated and signed a PLA with the Hudson County Building and Construction Trades Council in 1996. MOS 1 was completed in 2000.

A feasibility study or cost analysis was not done prior to the procurement process, nor did the owner, New Jersey Transit, require a PLA in its bid documents. The contractor had experience using PLAs in the past on similar project. An incentive to implement a PLA for this project was the contract provision that imposed penalties for delays in completion; the contractor regarded the PLA as a management tool that could help keep the project on schedule. MOS 1 was completed within its forty month schedule and within budget. The contractor realized incentives for on-time performance.

A useful provision of the PLA was the creation of a Light Rail Local Administrative Committee, comprising labor and management representatives, which met regularly and served as a vehicle for identifying and managing day to day problems. This committee was useful in organizing meetings with appropriate constituents to monitor performance against goals for Disadvantaged Business Enterprise participation and labor force participation, and to address needs in those areas through outreach and training. While NJ Transit has aggressive programs for monitoring DBE participation and workforce diversity, QWIC, who managed these functions for the consortium building HBLRT felt that the PLA contributed to the overall success of these efforts because it provided a unified focus for monitoring and managing the issues.

Conclusions and Recommendations

This study has sought to identify characteristics of construction projects where use of a PLA may be advantageous, to identify circumstances under which use of a PLA is likely to be beneficial and should be evaluated, and to cite benefits of PLA utilization. This review of PLAs suggest that when a project scope is clearly defined and labor requirements are clearly understood in advance, for a project that requires multiple trades in a geographic area where many projects are on-going and competing for skilled labor, and where an organization exists that can enter into an agreement to provide access to an efficient, trained labor supply and can negotiate beneficial terms and conditions, then a PLA makes sense and its potential benefits may be analyzed and documented in a feasibility study.

For Federal agencies that are planning to undertake construction projects, it is recommended that use of a PLA be considered and the following are suggested:

- Select projects where scope is well defined, and the construction environment and labor market factors are well understood.

- Work closely, through the construction manager or general contractor, with union leadership and communities to understand concerns and needs in order to develop a strategy for PLA implementation that promotes benefits such as improved safety, training, continuing flow of work and labor force access.

- Undertake early planning and analysis of PLA use, and conduct a feasibility study that demonstrates economic benefits, appropriate labor conditions and open competition.

- Negotiate the PLA prior to the bid process, and include PLA terms in the documents so that all potential bidders are aware of labor costs and availability.

- Include provisions for labor/management committees to monitor PLA implementation, solve on-going problems as they arise, identify training requirements, improve safety and suggest efficiencies.

- Include public policy provisions in the PLA, addressing DBE goals (or specific MBE, WBE, or SBE goals as appropriate) and local resident participation goals.

- Conduct training for agency procurement and legal staff, as well as project managers, regarding use of PLAs. Training materials could be developed including workshops, video or dvds, or web sites, and programs could be set up with speakers from agencies that have utilized PLAs

Further, the authors suggest that U. S. DOL assist in establishing a resource center for federal agencies regarding use of PLAs, offering training programs and materials, contact to those who have experience negotiating or implementing PLAs and sample agreements. Compilation of a "best practices" handbook to be made available to agencies is also recommended for consideration.

II. INTRODUCTION

U.S. Federal Executive Order 13502, issued on February 6, 2009, announced the federal government's policy "to encourage executive agencies to consider requiring the use of project labor agreements in connection with large-scale construction projects" (projects where the federal cost exceeds $25 million).

A project labor agreement (PLA) is defined in the Executive Order as a "pre-hire collective bargaining agreement with one or more labor organizations that establishes the terms and conditions of employment for a specific construction project..." The Executive Order recognizes that "large-scale construction projects pose special challenges to efficient and timely procurement by the federal government" and that "the use of a project labor agreement may prevent these problems from developing by providing structure and stability... thereby promoting the efficient and expeditious completion of federal construction contracts." In effect, Executive Order 13502 reverses Executive Order 13202 (February 17, 2001) of the prior administration.

In the fall of 2009, Interactive Elements (IEI) with its subconsultant, Hill International, was selected by the U.S. Department of Labor to conduct a study evaluating PLAs usage.

a. Study Goals

The study is intended to assist federal agencies to better understand their needs when considering when and whether to require PLAs. This includes identifying those characteristics of large-scale construction projects that would warrant the use of PLAs for the efficient and expeditious completion of contracts.

Among the specific questions considered during the study are

- What are the challenges faced in implementing PLAs?
- What strategies were effective in meeting those challenges and in overcoming other barriers to the use of a PLA?
- What were the benefits and drawbacks of using the PLA?
- How was need for and subsequent use of the PLA evaluated?
- How was the PLA integrated into the procurement process?
- What were the outcomes of using a PLA?

IEI has considered these questions and has delineated the goals of this study as the following:

- To assess the characteristics of public construction projects to determine where the use of a PLA had been advantageous;
- To identify circumstances under which a use of a PLA is likely to be beneficial and should therefore be evaluated; and
- To cite potential benefits of PLA utilization on projects selected as case studies, or reviewed in published material.

b. Background

After establishing criteria for selection of projects to evaluate as case studies, it was determined that, since PLAs had not been used for federal projects since the 1990's, with certain exceptions, there were an insufficient number of federally sponsored projects for consideration. It was decided that case studies should be selected from public projects at the state and local level.

Two projects were selected for review; they are significantly larger than the $25 million size identified in the Executive Order:

> The New York City School Construction Authority's Capital Improvement and Restructuring Programs for Fiscal Years 2005 to 2009, including "demolition, reconstruction, rehabilitation, and renovation work associated with school improvement and restructuring, technology enhancement, safety enhancement" and other programs identified in the Capital Program. This program had a budget of approximately $4-5 billion.
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> New Jersey Transit's Hudson-Bergen Light Rail Transit system, which was new construction performed in segments, with the first segment operating between 34th Street in Bayonne and Exchange Place in Jersey City; it was constructed in the late 1990's. The first segment had a construction cost of $990 million.

The determination to enter into a PLA for the project was made by the NYCSCA in the first case study and by the contractor for the HBLRT project.

The labor markets in the New York Metropolitan area and in Northern New Jersey are quite similar in composition and in wage rates. The highly unionized make-up of the labor force has had a great impact upon the utilization of PLAs as a result of both the political and market place influence of the Building Trades leadership and unionized contractor associations. Since approval of the Tappan Zee Bridge (TZB) PLA by the New York Court of Appeals in 1996, many PLAs have been successfully utilized on capital public projects throughout the state with the vast majority in the highly unionized urban areas.

The TZB decision was cited with approval by the New Jersey Supreme Court and led to enactment by the New Jersey State Legislature of the first PLA statute (NJSA 52:38-1, et.seq) (2002) in the nation. The statute provides that all public capital construction in excess of $5 million should be considered for inclusion of a PLA. Shortly thereafter, a PLA was negotiated with all 18 of the Building and Construction Trades Councils located throughout the state for all work on the school construction program of the New Jersey School Construction Corporation. The program continues to the present time with scores of schools having been completed under PLAs.

In 2009, negotiations between the City of New York, (NYC) and the Building and Construction Trades Council of Greater New York (NYCBCTC) resulted in the execution of two PLAs, one for new construction and one for renovation and rehabilitation of city owned buildings. Currently there are some fifty projects in construction utilizing these city-wide PLAs.

Some unions (Operating Engineers and Teamsters) opted out of the city-wide PLAs for reasons which have not been disclosed. To date, there has been no adverse impact in that there have been no labor disruptions. The intent at this point is to assign that work to other trades should the need arise.

Normally PLAs are negotiated between the owners, often through its General Contractor or Construction Manager, and the cognizant Building Trades Council. Some or all of the trades which will be involved in construction often participate in negotiations; however, the Council President is the authorized bargaining representative of the unions.

The study evaluates the implementation of PLAs at the two projects identified above, and discusses the characteristics of these projects for which PLAs encourage a more efficient and expeditious completion of contracts. The study also examines challenges faced in implementing PLAs, strategies for meeting those challenges, processes for evaluating feasibility of PLAs, and lessons learned. Because PLAs are also claimed to foster certain other public benefits, including workplace diversity, these issues are discussed as well.

III. METHODOLOGY

To develop an understanding of the project characteristics that favor or limit the likely success of PLA implementation on public projects, the study team, working with DOL staff:

- Developed a list of criteria for project selection;
- Performed a review of the literature;
- Conducted interviews and reviewed documents on two projects;
- Conducted a teleconference with TVA and U.S. Department of Energy personnel; and
- Held discussions with other labor and construction management personnel.

a. Criteria for Project Selection

At the commencement of the project, the IEI team met with the Department of Labor to determine how best to select projects for review. It was anticipated that five projects would be studied, and to the extent possible, the selections should represent:

- reasonable geographic sampling of the nation;
- a range of project sizes;
- a variety of project types; and
- different project sponsors (as to experience, qualifications of staff, and other factors).

Logistical difficulties and other obstacles led to a further limitation on the number of projects to be reviewed. In the end, it was determined that the study should proceed using two projects in the northeast that were funded with state and local monies, one of which, HBLRT, also had federal funding from the Department of Transportation. The project sponsors are:

New York City School Construction Authority

New Jersey Transit's Hudson Bergen Light Rail System

The findings based on these two projects would be supplemented with information from discussions with the Tennessee Valley Authority (TVA) and the U. S. Department of Energy, which has a long history of application of PLAs.

The determination was based on:

- the fact that both projects have run to completion;
- the work represented significantly different kinds of construction (school rehabilitation vs. transportation infrastructure);
- one of the projects (New York City SCA) had performed an ex post analysis of potential benefits; and
- the projects were geographically close to the study team.

b. Review of Literature

A great deal of published material exists on PLAs. In some of this material, authors appear to have started with a particular point of view. In our review, we have approached use of a PLA as a tool that may provide advantages in appropriate conditions, and may, in other circumstances, be inappropriate. We have summarized potential benefits and disadvantages of PLAs as cited in the literature. Appendix A lists the sources we have utilized for the review.

Three articles contained the most comprehensive information about PLA history, usage, results and, in one in particular, point of view. These are

- *Building Better, A Look at Best Practices for the Design of Project Labor Agreements,* Dale Belman and Mathew M. Bodah, Economic Policy Institute Briefing Paper #274, August 11, 2010;
- *Project Labor Agreements in New York State: In the Public Interest,* Fred B. Kotler, Cornell University ILR School, February 2009; and,
- *Project Labor Agreements on Federal Construction Projects: A Costly Solution in Search of a Problem*, Beacon Hill Institute Policy Study, David G. Tuerck, Sarah Glassman, Paul Bachman, August 2009

c. Case Studies of Two PLA Projects

As discussed above, the two projects selected for study are:

> New York City School Construction Authority Five-Year Capital Plan for Fiscal Years 2005-2009 - a PLA restricted to the renovation and rehabilitation elements of the capital program; approximately $4.6 billion, construction complete in 2009. Although not included in the federally sponsored projects listed in Table 1, this project had certain advantages as a case study, namely, it was the first major public project in New York City to utilize a PLA, and both pre- and post- analyses were conducted of the potential and actual savings resulting from use of a PLA.
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> New Jersey Transit Hudson Bergen Light Rail System - a PLA for the first phase of a New Jersey Transit design-build-operate-maintain project; approximately $990 million, construction completed in 2000.

For each project, the study team was able to identify key personnel for interviews. Interviews were conducted with these current and former staff of the agencies to learn about the processes involved in making the decision to use PLAs, and issues and factors that arose in their implementation and during negotiations, procurement, and construction. Interviews were also conducted with representatives of labor and contractors to obtain their recollections about these processes and their assessment of the results. Many of those interviewed are no longer with the same company or in the same position, so we relied on their ability to recall the circumstances surrounding the project. We were also referred to other individuals with experience in using PLAs on similar projects as those selected for case studies.

Interviews began with the Interview Outline provided in Appendix B, but this served primarily as a starting point; as the interviews proceeded, interviewees expanded on the subject to provide additional information. The study team was able to develop an understanding of the issues and outcomes of PLA use on both projects by approaching the PLA as a management tool rather than a legal document. The team also reviewed the PLAs themselves and such additional documentary materials as were available for each project. It was determined by the team, in concert with DOL personnel, that conclusions drawn from the experience of both projects would serve the objectives of this study, despite the fact that only one of the projects had significant federal funding.

d. TVA Teleconferences

TVA has utilized PLAs since 1991. This is one federal agency where PLA use has been continuous and not subject to change due to the various Executive Orders issued during that period. A teleconference was arranged to discuss PLA utilization at TVA with senior staff of the Labor Relations area, as identified by U.S. DOL. Discussion covered history of PLA use and reasons for implementation, as well as assessment of its effectiveness as a management tool.

In addition to interviews with TVA managers, a teleconference was conducted with U.S. Department of Energy staff. Department of Energy has utilized PLAs at various sites for construction of large, sensitive projects.

e. Survey of Other Labor and Construction Management Individuals

A list of those interviewed for the study is included in Appendix C. In addition to those who were directly involved in the two case studies, labor and management leaders in the New York and New Jersey region were contacted for additional background on PLA use in building and transportation contracts, and staff of major contractors was contacted as well. In one of the case studies in particular, Hudson Bergen Light Rail Transit System, the project occurred sufficiently far back that many of the managers involved at the time have moved to other projects or companies. Their perspective on current PLA use was sought as well.

IV. USE OF PLAs IN PUBLIC AND PRIVATE PROJECTS

a. History

Project Labor Agreements are pre-hire agreements covering a project or program of projects. They have been utilized in private projects since the 1920s, and in public projects since the 1930s. A 1998 U.S. General Accounting Office Report references their use in the public sector on the Grand Coulee Dam in Washington State in 1938, and the Shasta Dam in California in 1940. The report also cites NASA use of PLAs in the 1960's, and private sector applications at Disney World, on the Trans-Alaska Pipeline, and elsewhere. The National Labor Relations Act of 1959 allowed the use of pre-hire agreements in the construction industry.

For the past twenty years, public sector use of PLAs has been more controversial. In 1992, President George H.W. Bush issued an Executive Order prohibiting use of PLAs on Federal projects. In the Order, he sought to

> (1) promote and ensure open bidding on Federal and federally funded construction projects; (2) increase competition in Federal construction contracts and contracts under Federal grants or cooperative agreements; (3) reduce construction costs; (4) expand job opportunities, especially for small businesses; and (5) uphold the associational rights of workers freely to select, or refrain from selecting, bargaining representatives and to decide whether or not to be union members, so as to provide access to employment opportunities on Federal and federally funded construction projects for all workers; thereby promoting the economical and efficient administration

President Clinton revoked that order in 1993 ("in order to eliminate Executive orders that do not serve the public interest") and in 1997, issued a Presidential Memorandum encouraging use of PLAs on construction contracts over $5 million. In 2001, President George W. Bush issued executive orders prohibiting use of PLAs on Federal projects. In February 2009, President Obama issued Executive Order 13502 encouraging use of PLAs on federal construction projects over $25 million ("to promote economy and efficiency in Federal procurement"). [4]

Numerous legal challenges to the use of PLAs in the public sector were mounted during the 1990's. Two cases in particular, the Boston Harbor case[5] in the federal courts, and the New York State Thruway Authority case[6] in New York, upheld the use of PLAs in the public sector, and provided a basis for further use of PLAs. The court upheld the use of PLAs when it was demonstrated that open competitive bidding procedures were maintained, and when a benefit to the public could be demonstrated.

An exception to federal restrictions on PLAs is the Tennessee Valley Authority, a public agency created in the 1930s to to provide navigation, flood control, electricity generation, fertilizer manufacturing, and economic development in the Tennessee Valley. It is currently the nation's largest public power company, providing electric power to more than nine million customers. In

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[4] It is interesting to note that the same benefits of cost effectiveness are cited for both encouraging and prohibiting PLAs.
[5] Associated Builders and Contractors of Massachusetts/Rhode Island, Inc. v. Massachusetts Water Resources Authority (Boston Harbor), March 1993.
[6] New York State Chapter ABC, Inc. v. New York State Thruway Auth., 88 N.Y. 2d 56, 643 NYS 2d 480, 666 NE 2d 185 (1996)

1991, the TVA implemented a PLA that renews itself annually. U.S. Department of Energy has used PLAs historically as well. The Department has cited national security concerns as a rationale for using agreements that will ensure the ability to work continuously on projects, with no interruptions caused by labor disputes.

b. New York State Thruway

In the 1990's, the use of PLAs on two projects by New York State agencies, the Thruway Authority and the Dormitory Authority, were challenged in the courts. In 1996, the Court of Appeals in New York State upheld the use of a PLA by the New York State Thruway Authority on a $130 million construction project for rehabilitation of the Tappan Zee Bridge, but rejected the arguments for use on the Dormitory Authority project.[7]

The New York State Thruway Authority (NYSTA) was at that time preparing to undertake a major rehabilitation and construction project on the Tappan Zee Bridge involving multiple contractors, nineteen unions, a minimum of a four-year construction schedule with an estimated cost of $130 million. Hill International, was then under contract to the NYSTA, and was directed to pursue with the New York State Building and Construction Trades Council (NYSBCTC), local union representatives, and other appropriate parties a determination as to whether a PLA could be negotiated which would:

- provide economic savings in the construction process through changes in work rules and practices and improve productivity, safety, efficiency and timeliness of construction;
- provide for the enhancement of employment opportunities for minority, women and disadvantaged persons; and
- allow all successful bidders, including open-shop contractors, to utilize a portion of their regular work force on the Project.

After an in-depth analysis of the existing labor market; a thorough review, analysis and comparison of the nineteen individual collective bargaining agreements; a review of the recent work history and labor unrest; numerous meetings and interviews with contractors and their associations' representatives; and more than four months of intensive labor negotiations, a draft PLA, acceptable to all parties, was submitted to the NYSTA Board of Directors for consideration together with the Hill report recommending approval. The report identified cost savings, as well as other benefits, to be derived from the proposed PLA, which was modeled after the Boston Harbor PLA.

The PLA was approved, executed by the necessary parties and included as part of the specifications in the first bid package issued by the NYSTA for the Tappan Zee Bridge Project. The PLA was immediately challenged in the New York State Supreme Court by open shop contractors and their associations. After a brief Temporary Restraining Order, the lower court refused to grant an injunction. Construction on the project proceeded utilizing the PLA while the litigation continued through the New York Court of Appeals, where the validity of the PLA ultimately was upheld.

[7] General Building Contractors of New York State v. Dormitory Authority of the State of New York, 88 N.Y..2d56, 643 N.Y.S.2d 480, 666 N.E.2d 185 (1996)

The Court of Appeals noted that since a PLA is a restriction on the bidding process, the contracting authority must demonstrate that both the purpose and the effect of the PLA requirement will meet the objectives of the state competitive bidding laws, and that the facts and circumstances of each PLA be reviewed on a case-by-case basis. The Court of Appeals held that the purposes of the state competitive bidding statutes were (1) guarding against fraud, favoritism and extravagance, and (2) ensuring honest competition to obtain the best work at the lowest possible price. The Court found that the first purpose was served by the PLA because equal access to the bidding process, and the PLAs benefits, were available to both union and non-union contractors on the same terms and that ultimate contract award was to be made without regard to union status. The PLA also prohibited discrimination by unions and contractors against employees regardless of union/non-union status in either work referral from the hiring halls or on the job; thus, further ensuring equal treatment.

The second purpose NYSTA was served by the PLA requirement in that it created cost savings for the NYSTA in several ways. The court noted specific areas of cost savings from concessions such as four 10-hour days at straight time, standardization of working hours, holidays, etc. The Court also specifically noted the potential substantial savings from the PLAs comprehensive "no-strike" clause, which precluded labor disruptions for the duration of the project. The stated purposes of the statute therefore having been met, the requirement of the PLA was upheld by the Court.

The findings of the court provide a useful standard for public agencies considering use of a PLA on their projects. Most importantly, prior to entering into the PLA, the Thruway Authority conducted a cost analysis of the anticipated savings from its use. The court found that PLAs are "neither absolutely prohibited nor absolutely permitted" on public construction projects in New York, and that they should be considered on a case-by-case basis. It would be incumbent upon the sponsor agency to demonstrate that a PLA was likely to advance the interest embodied in the competitive bidding statutes. This included protecting the public's interest by obtaining the lowest price for the highest quality work, and "prevention of favoritism, improvidence, fraud and corruption in the awarding of public contracts." Many of those interviewed during this study referred to the Thruway PLA as a model because the court provided a clear path for PLA implementation, namely that an analysis performed in advance of the implementation of the PLA must demonstrate savings for its use to be justified.

Among the factors that are considered in the analysis are:

- Savings and efficiencies resulting from coordination of schedules, shift work, and holidays among unions;
- Cost savings arising from alternative dispute resolution procedures;
- Potential benefits from a no strike provision; and
- Efficient access to supply of skilled labor.

Also, the PLA should ensure that hiring procedures are nondiscriminatory with respect to union membership, and that the bidding process is open and competitive.

c. Boston Harbor Project

Although there is a history of use of PLAs on public projects going back to the Grand Coulee Dam in the 1930's, the first legal challenge occurred in the early 1990's, at which time a PLA was required by the public entity owner for the massive, multi-billion dollar, multi-year Boston Harbor clean-up project. The project involved scores of contractors and unions, all of which were required to become signatories to a PLA. The challenge was made on a federal preemption theory, arguing that the government requirement that all successful bidders become parties to that PLA constituted an impermissible state intrusion into the labor relations of project contractors, and was pre-empted by the National Labor Relations Act (NLRA).

In its March 1993 landmark decision, Associated Builders and Contractors of Massachusetts/Rhode Island, Inc. v. Massachusetts Water Resources Authority (commonly known as Boston Harbor), the U.S. Supreme Court held that although the government could not impose a PLA in its regulatory capacity, it was not prohibited from benefiting from a PLA wherein the government entity was acting in its proprietary capacity as an owner or a purchaser of construction services in the construction industry marketplace. This decision provided the impetus for public sector PLAs across the nation. It also has forced opponents of PLAs to base their challenge primarily on a theory that a PLA violates a State's competitive bidding statutes, because it allegedly favors union over non-union bidders.

d. Tennessee Valley Authority

One Federal agency that has utilized PLAs continuously for nearly twenty years is the TVA. The Authority operates in a seven state region that has historically had a significant union presence. TVA staff performing construction and rehabilitation were unionized personnel employed by the agency. With deregulation of the utility industries in the 1980's, the TVA determined that the construction management and safety record of its in-house staff could be improved, and efficiencies realized through restructuring and downsizing. In its reorganization, six union trades were retained within the TVA organization. Staff representing 16 other union trades were no longer retained as TVA staff. In 1991, a Project Labor Agreement, was signed by TVA and the Building Construction Trades Department in Washington DC, representing these sixteen unions.

The TVA PLA is a three part agreement, each component covering different types of construction:

- maintenance and modifications for generating facilities;
- new construction projects; and
- construction project supplements for maintenance and modification of office buildings.

The master agreement signed in 1991 has subsequently been in continuous use. The agreement includes a clause for self-renewal: each year on May 31, if no notice is given for change, the agreement is automatically extended through the next year. The most recent updates to the agreement occurred in 2004.

Contracts valued at $250,000 and under for generating facilities and $500,000 for office buildings are exempt from the PLA. These are usually set aside for small, minority, and women owned businesses. Approximately 96 percent of the total construction work performed at TVA is done under the PLA.

Wage rates are negotiated annually and the results of the negotiations are posted. The requirement to utilize the PLA is included in procurement documents. Contractors bid based on prevailing wage rates as posted, and terms and conditions included in the appropriate PLA. When a contract is awarded, a signature page is required to be completed by the contractor indicating his or her agreement to abide by the terms of the PLA and indicating which crafts are included in the contract. Occasionally, specialized work needs to be included in a contract and a supplemental agreement must be negotiated.

The TVA PLA has been in place for nearly twenty years. Newpaper articles appearing at the time the PLA decision was made cite potential cost savings, but are vague about how much savings would be expected and basis for calculating estimated savings. TVA personnel interviewed for this study were not present at the time the decision was made to implement the PLA, and they indicated it would be difficult to cite "lessons learned" from the experience, since they had no basis of comparison for projects constructed prior to the PLA. However, they were unable to cite any significant issues or problems resulting from the use of the PLA, and have commented that recent large scale construction projects, such as the Watts Bar Nuclear Plant near Spring City Tennessee and the Browns Ferry Nuclear Plant in Alabama completed in 2007, were on time and on budget.

The Watts Bar Nuclear Plant includes two nuclear reactors with a total capacity sufficient for some 1.5 million households. Current construction has been initiated to finish the second (Watts Bar 2) of two reactors, with an anticipated date operation in 2012. The work is expected to cost $2.5 billion and employ 2,300 workers. This will be the first nuclear power plant to come online in the U.S. in more than a decade.

The Browns Ferry project involves the restoration of a nuclear reactor (Browns Ferry 1) to effective operation after a shutdown of almost two decades. The reactor came on line in May of 2007 at a cost of about $1.8 billion. The reactor has the capacity to support the power usage of 650,000 households.

e. Department of Energy

Use of PLAs in the U.S. Department of Energy traces back to the Manhattan project during World War II, and earlier. Because of the strategic nature of the project and the need to assure a continuous supply of qualified labor in a remote location, the Department entered into agreements that could assure the labor requirements of the project would be met, including access to an adequate supply of skilled, safety trained and security cleared labor. The Department determined that the War Powers Act (PL 85804) allowed such agreements with unions in the interest of national security. During the Cold War years as well, the Department determined that the War Powers Act would provide a basis for defending use of labor agreements that would assure continuing construction activity on sensitive sites such as Nevada test site, Idaho and Richland, Washington where nuclear energy was being produced for national defense purposes.

Agreements were constructed to assure continuing supply of labor that had security clearance and specialized skills. In certain locations, enclaves were designated to allow payment of higher wages than on non-defense related projects to assure work could continue without labor disruption and projects were on-time and on budget. The agreements provide for labor to be sourced from outside the region if the local unions are unable to meet requirements within forty-eight hours. This has

assured that work would be performed uninterrupted. Safety and health provisions were included in the agreements as well.

The agreements entered into by the Department of Energy have often taken several years to construct in a manner satisfactory to all parties, and the Department indicates there is often a learning curve to be experienced in order to reflect local preferences and appropriate clauses for dispute resolution. Once an appropriate framework has been established in a location, the agreements have proved workable for large nuclear facilities and have worked for small building construction in those locations as well.

The agreements constructed for defense related projects form the model for continuing use of PLAs by the Department of Energy for large construction project. A recent example is the Savannah River project. The agreements are signed by Department of Energy and international labor organization representing seventeen trades. On large projects, the PLA is included in the procurement process. On some projects, use of the PLA has been optional, but the Department has found contractors generally prefer to utilize it.

f. Other Public Projects

Public projects of the state and local agencies as well as private owners have used or considered using PLAs in recent years. Appendix D lists a large number of state and local PLA projects that Hill International has studied.

The New York City Department of Design and Construction entered into a PLA with the Building and Construction Trades Council of Greater New York and Vicinity in 2009. Thirty five unions are signatory to the agreement, which covers construction of eight new building projects in the City of New York.

The State of New Jersey enacted a law in 2002, the Project Labor Agreement Act (P.I. 2002, Chapter 44) that allowed PLAs to be used on public works building projects over $5 million in total costs. The majority of projects using PLAs following the enactment of the law and through 2008 were school projects built by the New Jersey Schools Development Authority. The Act requires that the Commissioner of Labor and Workforce Development prepare an annual report on the effectiveness of the PLA. The most recent report available (for fiscal 2008),[8] compares costs of projects using PLAs to projects built without PLAs. The report finds that average costs per square foot were higher for PLA projects than for non-PLA projects.

This conclusion is misleading because it is based on bid costs, and no account is taken of the types of projects or the cost environments in which the work was conducted. The data utilized was unaudited construction contract award amounts, as reported by contractors. The mix of project size and scope was diverse, although all exceeded $5 million in total cost, with the largest project costing approximately $70 million. The report recognizes the limitations of the methodology: "Because districts differ with respect to population and occupational characteristics and workforce readiness, geographic location, cost (urban vs. suburban, north versus south Jersey) and construction work site en-

[8] Annual Report to the Governor and Legislature, Use of Project Labor Agreements in Public Works Building Projects in Fiscal Year 2008 As Required by the Project Labor Agreement Act P.L.2002, Chapter 44 (C.52:38-et seq.), New Jersey Department of Labor and Workforce Development, October 2010.

vironment/logistics (congested inner city versus open suburban space), differences between projects with and without PLAs could certainly be due to factors other than the use of PLAs."

g. Private Construction

PLAs have been used on private construction projects as well, and it is telling that, according to some very large contractors, PLAs are preferred in large projects, suggesting that in the unconstrained market of private construction, benefits accrue to contractors and owners if PLAs are used. Furthermore, those we interviewed were generally unable to identify significant differences in the public and private sectors to influence the decision to use a PLA.

One large contractor interviewed discussed the internal analysis conducted when considering use of a PLA. Projects are assessed with respect to:

- the labor market and competitive environment, how many other projects are on-going in the geographic area, what firms will be competing for labor;
- the projected labor supply, what skill sets will be required for the work, what is the availability of trades; and
- training needs and availability.

Also identified as important in the assessment is whether there is an appropriate labor entity to negotiate an agreement. If the project extends over a large geographic area and encompasses several labor jurisdictions, an agreement may be negotiated with a national or international council, such as the Building and Construction Trades Department, AFL-CIO based in Washington DC; the Heavy and Highway Coalition; or the National Construction Alliance, both also based in Washington DC. The latter two organizations are often involved in transportation projects. Union locals may be brought into the agreement as well.

A county or regional labor council may be the negotiator for projects contained in a limited, defined geographic area, for example, the New York State Building and Construction Trades Council. The determination of the appropriate organization to negotiate a PLA would be part of the assessment made by the contractor prior to submitting a bid for a private or public project.

Contractors interviewed for this study who have used PLAs for projects with both public and private funding have generally cited benefits for large projects, defined as $100 million or more, that depend on multiple trades and crafts. However, one contractor stated that, while the benefits are larger with respect to dollars saved on larger projects, small projects can benefit equally with respect to the percentage of cost reductions potentially achieved.

V. PLA BENEFITS AND DRAWBACKS

From their first appearance in construction project management, PLAs have been simultaneously regarded as everything from extremely beneficial on a broad range of issues to undermining the benefits of the free market. The language of the sequence of federal executive orders, which seek the same benefits from encouraging and discouraging PLAs, is instructive. A number of articles summarize the case from one side or the other.[9] This section draws heavily on those papers.

a. Advantages of PLAs

From the owner's or project sponsor's point of view, any mechanisms that can reduce the risks inherent in large construction projects are highly beneficial. While PLAs can include clauses addressing a wide range of labor-management issues, they generally include provisions for:

- eliminating risk of strikes and disruptions during construction period;
- a process for resolution of disputes that allows work to proceed while disputes are being resolved;
- access to a pool of skilled labor through union hiring halls;
- a process for meeting labor requirements through other sources if the hiring halls are not able to meet the requirements in a timely fashion; and
- uniform work rules to improve efficiency and save money; these provisions are often the source of the largest cost savings. They normalize shift work to be consistent among the trades and to suit the conditions of construction.[10]

Also, from the owner or contractor's perspective, certain costs, terms, and conditions are defined at the outset for the entire construction period. This removes considerable uncertainty in project costs and schedule. On large projects in particular, the standardization of conditions are an advantage to the construction management and oversight of the project; a contractor needs to be familiar with the terms included in one agreement, not multiple agreements with varying terms.

From a labor standpoint, the primary benefit of PLAs is their ability to provide continuity of work throughout a project's duration. Also of considerable value to the signatory unions is the first right to assign labor. Wage rates and benefits are negotiated at the beginning of the project, and are usually prevailing wage rates in accordance with existing collective bargaining agreements. Labor leaders who negotiate PLAs may cede terms which are included in individual agreements, but the ability to predict the work requirements over a project's duration and maintain a work flow for union workers is considered highly beneficial.

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[9] *Project Labor Agreements in New York State: In the Public Interest*, Fred Kotler (Cornell University ILR School, February 2009); *Building Better A Look at Best Practices for the Design of Project Labor Agreements*, Dale Belman and Matthew M. Bodah (Economic Policy Institute Briefing Paper #274 August 11, 2010); and Beacon Hill Institute, *Project Labor Agreements on Federal Construction Projects: A Costly Solution in Search of a Problem* (August 2009).

[10] For example, a shift differential clause on a highway project might allow work to begin on Sunday night to avoid weekday traffic congestion, but with a defined (and presumably reduced shift differential). In the case of the NYCSCA, the PLA identified the first shift as commencing after the school day ends, with a flat shift differential applied to all unions.

Both sponsors and labor benefit from the tendency of PLAs to improve workplace safety. While this is often cited as a benefit of unions in general (attributable to training, supervision, and required ratios for journeymen to apprentices on work sites) PLAs present a simplified mechanism for monitoring and enforcing of safety rules.

In the public sector, additional benefits are claimed for the use of PLAs. Of course the first and main advantage should be the reduction in cost to the public sponsor. Another set of advantages pertains to the ability of PLAs to achieve community goals in business and workforce development. In order to address these goals, PLAs may set aside a percentage of work for minority and small contractors and provide small contractors with experience to move up and become union contractors, or become large enough to bid competitively as prime contractors on future work. Such benefits are very difficult to quantify, and it is often unclear whether any gains are the result of the PLA or other contractor, labor, and owner actions.[11]

Also, PLAs may include goals for minority workforce participation or apprentice/journeymen ratios, or both. The latter may provide a higher level of skilled workers overall on the project and may create increased training opportunities for entry level staff. Also, PLAs may incorporate community goals for hiring and training local residents.[12]

b. Drawbacks of PLAs

PLAs are often perceived to allow only union contractors to bid on a project. From a contractor/owner's perspective, this would limit the number of contractors available to bid, and, therefore, limit competition; this, in turn, could increase costs.[13] Another potential disadvantage arises from the fact that a PLA can accrue greater benefits if it includes all the labor skills required for the project. This requires, in turn, that the contractor/owner anticipate all required skills. If a project is large and complex, some skills and trades that will be needed may not be fully recognized prior to bidding the contract and the relevant crafts may not be willing to enter into the PLA (an addendum would be required) after the fact.[14]

From a labor perspective, locals that cede specific terms or benefits for the duration of a project may perceive the PLA to be disadvantageous. Also labor from union halls not signatory to a PLA are excluded from work on the project. Further, because the negotiation of a sound agreement is so important, a challenge to implementing a PLA may exist if the project construction occurs over a wide geographic area where there is no single, coherent organization or negotiating team representing all unions with authority to negotiate PLA terms.

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[11] In the Hudson-Bergen project covered as one of the cases in this study, some interviewees credited the PLA with improving management of diversity issues. It is impossible to separate the influence of the PLA from the impact of the sponsor's (NJ Transit) aggressive DBE/WBE enforcement program.

[12] Belman and Bodah, cited previously, notes many examples of projects incorporating community goals for training and employing local residents.

[13] This was not true for the cases studied; those PLAs did not preclude non-union contractors from bidding.

[14] Addenda may be used to add a trade or local not included in the original negotiations. The PLA for the NYCSCA included a Signatory Addendum adding bricklayers and allied craft workers to the PLA. Conversely, the Operating Engineers were included at the International level, as part of the BCTC. However, the local chose not to participate. The absence of a critical trade from the agreement can obviate some of the key benefits of the original PLA and create difficulties for project managers during construction.

Disadvantages of a PLA from a public perspective were cited in a report issued by Beacon Hill Institute, *Project Labor Agreements on Federal Construction Projects: A Costly Solution in Search of a Problem* (August 2009). The report refutes the assertion that PLAs are beneficial to public construction because they prevent labor disruptions and therefore cause projects to be completed on time and within budget. The report presents data stating that large Federal projects constructed during the 2001-2008 period, when PLAs were not utilized, did not suffer from cost overruns due to labor disruptions, and therefore PLAs were not necessary and would not have provided a benefit.

VI. CASE STUDY: NEW YORK CITY SCHOOL CONSTRUCTION AUTHORITY

The New York City Department of Education is the largest school system in the nation. It provides schooling for more than 1 million children in some 1,600 schools. The physical facilities for this immense organization are provided by the New York City School Construction Authority (NYCSCA). This Authority was established in December 1988 by the New York State Legislature. Its mission is to build new public schools and manage the design, construction, and renovation of existing schools in New York City. In October 2002, the Mayor of New York City announced that all capital construction activities for the Department of Education would be consolidated under the School Construction Authority. The purpose of these changes was to improve management of the construction process, to reduce school construction costs by simplifying design standards, and to increase competition among contractors.

a. Project Description

To facilitate the NYCSCA Five-Year Capital Plan for Fiscal Years 2005-2009, the Authority entered into a PLA to cover approximately $4-6 billion of rehabilitation and renovation construction at New York City schools. This represented a little less than half of the total capital budget, the balance going for new construction. Traditionally, in contrast to new construction, rehabilitation and renovation work is carried out after hours, so that children and teaching staff are no longer at the work site. This normally incurs significant additional labor costs in the form of shift differentials. Limiting these costs was one of the main incentives for investigating the use of a PLA for this portion of the capital program. A PLA was not considered for use on new construction. As discussed below, a PLA was negotiated and its impact estimated. Upon concluding that the PLA offered sufficient benefits to the Authority, it was executed by NYCSCA and the Building and Construction Trades Council of Greater NY (BCTC)[15] and implemented. Contracts for individual projects within the program were competitively bid and a requirement to comply with the PLA was included in the bid specifications. Projects budgeted at under $1 million were not covered by the PLA; they were set aside for minority and women owned businesses.

b. Background

A proposed Five-Year Capital Plan was announced by Mayor Bloomberg and the School Chancellor in November 2003. Extensive public hearings were conducted, and a proposed Plan was approved by the Panel for Educational Policy in February 2004. That Plan was submitted to the Mayor and City Council, for implementation as of the Fiscal Year beginning July 1, 2004. The Plan included new capacity construction and improvements to existing structures. The total cost of the Plan was estimated at about $13 billion over five years. Between $4 and $5 billion was estimated for capital improvement projects (rehabilitation and renovation, as opposed to new construction), the work that was covered by the Project Labor Agreement. Funding for the School Construction Authority Capital Plan is normally obtained from New York City and New York State. NYCSCA has also received a small amount of federal money (less than $25 million) for soundproofing schools located near JFK International and LaGuardia Airports in Queens, and for some construction activities at religious as well as public schools. The projects that received this funding were excluded from the Project Labor Agreement.

[15] Building and Construction Trades Council of Greater New York is a trade association that represents affiliated unions in five boroughs. The association includes contractors and builders as its members. It was formed in 1938 and is based in New York City.

The use of PLAs at NYCSCA was first proposed by some labor leaders in the late 1990's. But at that time, PLAs had limited use in the public sector, and no action was taken on the proposal. The PLA for the 2005-2009 Capital Plan was actually the first major public use in New York City. Again, the suggestion came from labor, the leadership of the BCTC. At the time of negotiations, in 2004, construction activity was strong in New York City. Aware of the cyclical nature of the construction industry, labor leadership suggested use of a PLA in order to assure continuing flow of work over the five years of the plan. Although this was the first use of a PLA on a large public project in New York City, implementation of the PLA for the NYCSCA program was relatively smooth. NYCSCA had typically pre-qualified contractors for all its construction work, and used predominantly union contractors. Under the terms of the PLA, non-union contractors were allowed to bid for work; however, any contractor awarded a contract was required to sign a certification to comply with the PLA.

c. The Project Labor Agreement

The SCA realized that the type of work in the Capital Plan to be covered by the PLA had certain characteristics that seemed especially suited for a PLA. The rehabilitation and reconstruction work was similar at all locations and utilized skills and trades that were known in advance and typical for this type of work at schools. Because the rehabilitation and reconstruction work was done at existing schools, work had to be done after the normal school day so as not to interfere with student and teacher activities. This could involve expensive shift differentials. The BCTC, for its part, had experience with PLAs on New York State Department of Transportation projects.

The PLA was implemented in a sequence of steps. The details of the PLA were negotiated by teams from both NYCSCA and the BCTC, and agreement was reached, but the terms were still subject to formal approval by both sides. With the terms of the PLA in hand, NYCSCA conducted what was referred to as a "feasibility" study, but is perhaps more aptly described as a cost analysis. The study, which was modeled on the analysis performed for the NYS Thruway Authority PLA, identified potential savings and benefits expected to accrue as a result of the work rule changes, dispute resolution procedures, and other provisions of the PLA. As a result, the Project Labor Agreement was signed by NYCSCA and the BCTC. All unions typically involved in rehabilitation and reconstruction work for the NYCSCA were covered by the agreement, with few exceptions. International Union of Bricklayers and Allied Craftworkers signed an Addendum to the document. The International Union Operating Engineers, who operate heavy construction equipment signed the agreement, but the local union declined to participate.[16]

NYCSCA utilized the PLA for rehabilitation projects included in its Capital Program for fiscal years 2005-2009. For each individual procurement, the requirement to abide by provisions of the PLA was included. Contractors awarded a contract based on competitive procurement procedures were required to include a signed statement certifying their intent to abide by the terms of the PLA, along with the final contract documents.

The PLA did not preclude non-union contractors from bidding on work covered by the PLA. However, if awarded a contract, a firm must hire from union halls to perform covered work on the spe-

[16] This was not felt to be an obstacle, since the rehabilitation and renovation work had few requirements for heavy construction equipment.

cific project. The PLA allows a one-eighth share of the firm's project labor force to come from existing non-unionized employees, so long as those selected meet experience and training criteria.

Some of the major provisions of the PLA agreement were

- Prohibition of strikes and other disruptions;
- Provision of a uniform dispute resolution procedure;
- Allowance of a second or third shift without a first shift;
- Both second and third shift work (assuming such work is the first shift of the day) to be performed at a flat 5% differential;
- Work may be scheduled on a five day or four ten-hour day basis at straight time rates;
- Six standard holidays for all trades with payment governed by the applicable collective bargaining agreement;
- An increase in the ratio of apprentices to journeymen by providing for a minimum 3:1 apprenticeship ratio; and
- A broad management rights clause

At the end of the Capital Plan five year period, a post review was conducted. It was determined that the use of the PLA did achieve benefits and cost reductions. The value of PLAs is further confirmed by the fact that a new PLA was negotiated and signed for the rehabilitation and renovation portion of the Capital Program for fiscal years 2010-2014. It is similar to the original PLA with a few adjustments. The adjustments to the agreement included language pertaining to the agency's mentor program for minority and women owned businesses, and an added section on Helmets to Hardhats, a program that assists veterans to be placed in construction industry jobs.

d. Feasibility Study

Prior to signing the PLA, the NYCSCA commissioned a feasibility study.[17] This study looked at the terms and conditions negotiated for inclusion in the PLA, estimated potential cost savings, and described non-quantifiable benefits that might arise from the agreement. Because the terms of the PLA had been negotiated, the study could apply actual factors to a hypothetical sample of projects likely to be bid and constructed. NYCSCA had typically utilized union contractors for projects in excess of $1 million. The feasibility study therefore undertook to compare the costs anticipated for the program of work using union contractors subject to the separate collective bargaining agreements of each union, as compared to the standardization negotiated and reflected in the PLA. Under the state legislation that founded the NYCSCA, the Authority is not subject to several constraints that other project owners in New York City may face, including Wicks Law provisions. These exemptions may reduce the potential savings achievable from a PLA in agencies not exempt.

To estimate the cost savings from the negotiated terms of the PLA, a sampling of projects in five major construction categories was selected: 1) exterior modernization, 2) building upgrades, 3) sys-

[17] The study, *Labor/Cost Analysis and Report on Feasibility for a Project Labor Agreement Covering Portions of the New York City Department of Education (DOE) 2005-2009 Five Year Capital Program* (September, 2004), was performed by Hill International. (Appendix E)

tem replacements, 4) improvements and restructuring, and 5) safety and security. The sampling amounted to 71 percent of the value of projects in the rehabilitation and repair program. The value of the labor component was estimated using assumptions about the relative mix of trades in each component of work and the actual and projected prevailing wage rates and contract work rules. Escalation rates were assumed to be 4 percent per year. An average labor cost was calculated. The same assumptions as to mix of trades were used to develop an average labor cost per hour under the terms of the PLA. The cost savings estimated for the sampling of projects was extrapolated to apply to the full program. This analysis was performed for each of the five years of the capital program.

The study concluded "that the use of the PLA on the Project can result in savings in excess of $488 million together with substantial non-quantifiable economic benefits. Including a Worker's Compensation ADR (Alternative Dispute Resolution) provision could result in additional savings of between approximately $5 million and $6.5 million over five years."

Much of the savings estimated in the study were identified as achievable due to the PLA provisions for standardizing shift work at a flat differential.

The calculation of savings in labor costs was based on the following factors:

- Standardization of work day and work week: The PLA provides for a standard 40 hour work week at straight time pay, for either five eight hour days, or four ten hour days, with some flexibility in starting and quitting times. Savings are attributable to the five hours per week at straight time versus premium rates for those unions with thirty-five hour weeks.

- Shift differentials: The PLA allows second and third shift work to be done without a first shift. This is important in a school environment, where all work must be done outside of school hours. Explicit shift differentials vary among the trades from 12-27 percent, and in some cases where overtime rates apply a 50 percent differential might apply. The PLA standardized the differential at a flat 5 percent premium for second and third shifts. Combined with the standardization of work week savings, a savings in labor costs of 18.7 percent was estimated, amounting to $474 million over the five year plan period.

- Holidays: Existing agreements provided for as many as 11 holidays with a minimum of seven holidays. The PLA provides for six holidays. Payment for work on those holidays is in accordance with local agreements. Savings were estimated at $14 million, based on rates and number of holidays in the local agreements. In addition to the dollar savings, it was cited anecdotally that work efficiency was improved by having all trades present on the same holiday schedule.

Additional factors identified as contributing to the effectiveness of the PLA included:

- No-Strike Provisions - The existing agreements with each local were examined, and it was determined that each would expire and be renegotiated at least once during the five year term of the capital program. This meant the program could have been at risk for potential strikes or other labor disruption;
- Work rule diversity - There was significant diversity among the local trades regarding hours of work, shift differentials, flextime, holidays and grievance procedures; and

- Alternative Dispute Resolution (ADR) - The PLA permits implementation of an ADR procedure for the processing of Workers Compensation Claims.

Thus, the PLA was projected to provide benefits to NYCSCA. At the time the study was done, the NYC construction industry was at a peak. An additional advantage cited in the study is the improved ability to fully staff job sites with trained crafts and trades people. Provisions of the PLA allow contractors to draw labor from sources outside the union local if there are shortages.

e. Advantages and Disadvantages of the NYCSCA PLA

The NYSCA PLA for the rehabilitation and renovation work of the 2005-2009 Capital Plan is considered a success by the Authority. Savings and other benefits are documented in a post facto analysis performed by Hill International. A similar PLA has been implemented for the current capital plan covering 2010-2014.

Because the work covered in the agreement involved existing school facilities that were in operation during the day, construction activities were restricted to after school hours. The PLA allowed SCA to standardize shift differentials and consider second shift work as a starting shift with a uniform 5 percent shift differential. This clause alone engendered significant savings. Standardization of holidays was also a reported benefit. Officials reported that having all trades present on the same days and same shifts meant a much more coordinated and productive effort. A paramount consideration in school rehabilitation work is the safety of students, teachers, and administrators during the construction period. This led to the negotiations regarding shift differentials. The effort was successful, and no construction safety incidents involving the school users were reported during the period of the PLA work. The feasibility study done in advance of signing the agreement assumed a mix of projects during the five year Capital Plan period. In actuality, the program evolved with some projects requiring a different mix of skills and trades than originally projected. While all of the component trades were those anticipated in the feasibility study, the proportions actually utilized varied from the original assumptions. The basic model used for studying the potential benefit of a PLA was found to be sound.

According to NYCSCA, and based on the analysis performed after project completion, significant savings were achieved due to the PLA. The savings were less than those projected in the initial cost analysis due to the variation in the component trades used in actuality compared to the a priori assumptions, and also due to the decision not to implement the Alternate Dispute Resolution, which was addressed as a potential term in the PLA. It is also not possible to quantify the significant benefits achieved from the project's safety record. The PLA for its 2010-2014 Capital Plan is based on the same economic analysis model that was conducted for the original PLA, and it is largely the same agreement. One change included in the new agreement involves the mentoring program. A clause was added with the intent of assisting firms that had "graduated" from the mentoring program to become unionized, if they desired to, and compete for more work in the program. Also, an addition to the agreement addressed Helmets to Hardhats, a program assisting veterans to enter construction jobs.

f. PLA Pre Analysis

As discussed above, prior to signing the PLA, NYCSCA engaged Hill International to conduct a feasibility study in order to project potential savings that could occur from the agreement negotiated. In

mid 2004, Hill conducted an analysis of the local labor market/pool, work history, economic benefits, and other relevant factors pertaining to the feasibility of utilizing a PLA in connection with construction of certain portions of the Department of Education (DOE) Plan. Upon completion of its study and analysis, Hill forwarded to the SCA its report with findings and conclusions and a recommendation that a PLA should be utilized for the project construction.

The study concluded that a PLA was both feasible and appropriate for the project, citing, among others, the following reasons:

- Highly unionized local workforce;
- High level of concurrently ongoing construction – potential labor shortages;
- Union apprentice programs;
- A skilled labor pipeline;
- Standardization of work rules, holidays, start/quit times, dispute resolution procedures, etc.
- No strike clause – expiration of all Collective Bargaining Agreements during project construction;
- Strong management rights clause;
- Experience of all trades with PLAs on other projects;
- NY Court of Appeals tested model PLA; and
- Substantial cost savings from negotiated 5% shift differential and other concessions.

Based upon preconstruction project data provided by the NYCSCA together with the labor and economic data assembled during the Feasibility Study, the assumptions utilized in the study resulted in substantial projected cost savings estimates. Adding the savings realized from standardization of six holidays, and the 40 hour work week, to the saving from the unprecedented five percent second shift differential resulted in an estimated savings of in excess of $488 million over the five year construction duration. This amounted to approximately 6.8% of total construction costs. Upon review of the study and report by the NYCSCA, the PLA was approved, executed by the parties and implemented in November 2004.

g. PLA Post Audit

In August, 2008, Hill International, Inc. performed a study and analysis of the cost effectiveness and other benefits or detriments related to the inclusion of a Project Labor Agreement on the ongoing five-year school construction program which formed a portion of the New York City Department of Education 2005-2009 Capital Plan. This effort was essentially a "PLA Post Audit".

The ultimate goal of the PLA Post Audit was to evaluate and report the effectiveness of the PLA on the cost of construction for covered projects included in the NYCSCA's 2005-2009 Capital Plan. The Authority was preparing for issuance of the next five year capital plan covering 2010-2014 and

wanted to continue using a PLA for reconstruction and rehabilitation work. The Post Audit provided evidence of the benefits of use of the PLA. No other examples of post-audits or reviews were found. When contractors were asked about such analysis, they indicated that such analyses were viewed as costly to conduct and unnecessary.

Construction had been ongoing for almost four years of the five-year plan, and sufficient actual cost data was then available from which to draw necessary samples of projects included in each of the five major categories of project work, namely:

- Exterior Modifications;
- Windows;
- ADA Compliance;
- Laboratory Upgrades; and
- Electrical

It was determined that a representative sample of 15 schools would be sufficient for analysis, three from each of the five categories where practicable. To identify relevant project costs, Hill utilized source documents provided by the NYCSCA including contractors' bid breakdowns, engineers' estimates, payment invoices, schedules of values, and other relevant actual cost data. These construction costs were then further segregated into three major categories: labor; material; and equipment/other. In order to properly evaluate the cost impact of the PLA, it was necessary to isolate labor costs from the total construction costs. Labor costs were calculated for each school and further segregated by specific crafts; e.g. carpenters, laborers, electricians, etc. The craft labor cost determinations were based upon a combination of applicable industry publications such as *RS Means, Building Construction Cost Data*, and the extensive experience of the Hill professional staff with the various types of construction and craft requirements in each of the five categories.

The PLA for the program included a major concession by the unions providing for a second shift at the standard hourly labor rate plus five percent for all trades. Since all of the work included in this analysis was performed on the second shift, it was necessary to deduct the five percent premium from the craft labor costs for each school in the sample to establish a "base labor cost", i.e. labor costs without a second shift premium. Utilizing the collective bargaining agreement for each trade involved, Hill calculated the second shift premium that each trade would have received without a PLA in place. The difference between that amount and the base rate plus the five percent PLA second shift premium represented the major portion of quantifiable PLA cost savings for the 15 projects in the sample.

The total of major quantifiable cost savings resulting from utilization of a PLA in construction amounts to $221 million. This figure was derived by extrapolation of the sample totals through completion of construction at the end of the five-years of the Capital Plan. The results of the analysis clearly demonstrated that utilization of a Project Labor Agreement covering school construction included in the Capital Plan was unequivocally cost effective, saving the NYCSCA and the taxpayers of New York City in excess of $44 million per year over the five years of the Plan. In addition, the non-quantifiable savings resulting from standardization of work rules, the no-strike and man-

agement rights provisions and continuing labor-management harmony made the PLA an unquestionably valuable management tool.

As an illustration, in the summer of 2007, members of the Operating Engineers went on strike in NYC during the course of a local area agreement renegotiation, resulting in a shutdown of numerous large construction projects across the City and substantial delay and related costs to the many parties involved. A year later, in early July of 2008, some 400 concrete truck drivers from Teamsters Local 282 went on strike over a wage issue. The strike ultimately (after a few days) halted or slowed work at scores of sites from the Freedom Tower at Ground Zero to apartment buildings and other major construction, idling workers and frustrating owners and developers in all five boroughs. The strike lasted ten days and certainly resulted in substantial construction delay and related costs. Construction on the PLA covered NYCSCA projects continued uninterrupted. During the four years of construction under the PLA, the collective bargaining agreements of every union involved (including Operating Engineers and Teamsters) expired and was renegotiated. There was no disruption of work or threat of strike on any of the projects at any time. Further, there were no instances of shortages in skilled labor on any of the NYCSCA projects, although such shortages occurred regularly elsewhere in the city during this same period.

Though the total cost savings in excess of $221 million was less than originally estimated in 2004, it is a substantial quantifiable cost benefit; and, along with the non quantifiable benefits of the PLA, clearly demonstrates that a PLA should be considered in all projected school renovations in highly unionized labor markets for the foreseeable future.

h. Mentoring Program

Improved performance in setting and meeting both disadvantaged business participation and workforce development goals have been cited as advantages of PLAs. Most of NYCSCA's construction work is awarded to union contractors. In large measure, this is a consequence of the New York City labor environment and the availability of qualified contractors. NYCSCA has always had a mentoring program to encourage small minority and women-owned firms to participate in the work. Under the program, contracts under $1 million are generally set aside for minority and women owned firms. MBE/WBE participation goals are set for all construction work, and NYCSCA staff monitors performance and assists contractors in meeting the goals. These goals and activities were not influenced by the implementation of the 2004 PLA.

However, with the implementation of the 2010 PLA, the Authority felt it would be appropriate to include language that would encourage these firms to grow, and to participate more broadly. A key additional public benefit of PLAs, then, is their ability to foster diversity in construction. While the PLA covering the 2005-2009 Capital Plan did not explicitly provide for a mentoring program, language was added to the subsequent PLA signed for 2010-2014 Plan. It provided that

> Where a Graduate Mentor or Mentor contractor voluntarily enters into a Collective Bargaining Agreement (CBA) with a BCTC Union, the employees of such contractor at the time the CBA is executed shall be allowed to join the union for the applicable trade subject to satisfying the union's basic standards of proficiency for admission.

This clause addresses two important issues for the entry and growth of disadvantaged businesses into the industry: once firms have grown through the mentoring program and are capable of contracting

for larger jobs, NYCSCA encourages them to gain experience working with a unionized workforce. Secondly, many graduating firms of the mentoring program would like to become union contractors, but they also want to protect their existing workforce. The PLA language encourages these graduating firms to participate and enables them to continue to employ existing workers so long as they meet union qualifications.

Neither PLA addresses labor force participation goals. Although federal construction rules include a goal of 6.9 percent for women in construction, for example, state and local construction contracts do not typically include such a requirement. According to NYCSCA, the agency recognizes the importance of encouraging minority and women's participation in the construction workforce, but would not have the resources to monitor the staffing of every construction job awarded. However, separate from the PLA implementation, NYCSCA undertakes activities to encourage diverse labor force participation. An example cited was NYCSCA support of a job fair for NEW (Non-traditional Employment for Women).[18]

[18] NEW is an organization that trains and places women from disadvantaged communities in construction trades.

VII. CASE STUDY: NEW JERSEY TRANSIT HUDSON BERGEN LIGHT RAIL TRANSIT

a. Project Description

In 1996, New Jersey Transit entered into a public-private partnership with 21st Century Rail Corporation to design, build, operate, maintain (DBOM), and finance the HBLRT located in Hudson and Bergen counties in northern New Jersey. The 21st Century Rail team was a consortium led by Raytheon Infrastructure Services, which took responsibility for the design and construction of the system and the subsequent operation and maintenance of the vehicles for 15 years. Kinkisharyo USA was to procure, commission, and maintain the light rail vehicles and Itochu Rail Car was to provide project financing. The project scope was later modified to eliminate DBOM-contractor financing, change initial routes, and include 20 years of operations and maintenance, resulting in a final contract. The HBLRT contract became the nation's first DBOM contract, or "super turnkey" project for a mass transit system application, and was the first such contract awarded to a single contractor. The project was completed with a combination of federal and local funds.

The initial contract was for the 9.5 mile Initial Operating Segment, referred to subsequently as Minimal Operating Segment one or MOS 1, but the contract was later renegotiated for subsequent extensions. Due to alignment and other changes, MOS 1 opened in phases with Phase 1 opening to the public on April 22, 2000, and was completed in 2002 with extensions, including to the Hoboken Terminal. MOS 2, including extensions in several directions, was completed in 2006. Additional extensions are in progress. The project cost was $990 million for MOS 1 and $1.1 billion for MOS 2.

b. Background

In 1995, New Jersey's Governor Whitman, in conjunction with NJDOT, supported the State Legislative Light Rail Committee's recommendations to build a Light Rail transit system along the Hudson River waterfront in order to stimulate the economy, reduce traffic congestion, and spur development. Preliminary engineering called for a Light Rail system to be constructed in the traditional, design/bid/build process that would have required more than 12 years.

To accelerate the project, NJ Transit restructured the preliminary engineering documents, prepared a new form of contract, and implemented other administrative changes to permit the award of a design/build/operate/maintain contract. The DBOM's scope ultimately included the design, construction, and commissioning of the rail infrastructure, the design and manufacture of the light rail vehicles, and the operation and maintenance of the system for 15 years. The duration of the design and construction for the first operating segment was reduced to five years. A three-part procurement process was used, that identified qualified bidders, provided a detailed technical evaluation of proposals, and compared cost factors. Three bidders eventually submitted firm, fixed price bids, and it appeared that a team led by Bechtel, as the low bidder, would be awarded the contract. Bechtel had proposed using a PLA, and included the details in its bid. However, Bechtel took exception to certain terms and conditions, and was disqualified.

The contract was awarded to the 21st Century Rail Corporation consortium who, in turn, elected, with the approval of NJ Transit, to utilize the Bechtel PLA in its contracts. The PLA was negotiated and was signed by the President of the Hudson County Building and Construction Trades Council

and its Affiliated Unions and the Vice President for Industrial Relations of Raytheon in 1996. The decision to use a PLA was made by the contractor, based on business judgment and prior experience with PLAs. No feasibility or cost analysis was prepared in advance of construction to support the decision to use a PLA.

c. Project Labor Agreement

New Jersey Transit did not require a Project Labor Agreement in its procurement specifications. As private companies, both Bechtel and Raytheon had considerable experience using PLAs. One of those interviewed, who worked on HBLRT but also has worked on projects for Bechtel, indicated that PLAs were often used. For large transportation projects around the country, agreements were often negotiated with the Heavy and Highway Coalition or the National Construction Alliance. When Raytheon was awarded the contract for HBLRT, they continued negotiations for a PLA for the project.

As a document, the PLA's structure is similar to other PLAs reviewed. The NYCSCA document is the same as the HBLRT with respect to structure and items covered, although some terms and conditions vary as appropriate to the project, and in the case of HBLRT, the agreement refers to the contractor, not the public agency, as project manager. The document includes, in Article 8, the formation of a Light Rail Administrative Committee (LAC), comprised of representatives of the local unions signatory to the PLA and representatives of the contractors working on the project. The PLA calls for regular meetings of the LAC to "1) implement and oversee the Agreement procedures and initiatives; 2) monitor the effectiveness of the Agreement; and 3) identify opportunities to improve efficiency and work execution." Many of those interviewed cited this committee as a means of improving cooperation, oversight, and management of the project goals. The committee did in fact meet regularly, and served as an opportunity for early identification of potential issues and a cooperative venue for problem solving.

d. Assessment of Advantages and Disadvantages of the PLA

Raytheon had experience using PLAs for other construction projects in the U.S., and had entered into similar types of agreements with unions on international projects as well. The contractor doing much of the construction on HBLRT was Perini, a firm that had experience on many union construction projects in New Jersey. The PLA was viewed as a key tool to keeping the project on schedule. Construction was scheduled to be completed in forty months; delays in construction would result in penalties to 21st Century. Moreover, unlike building construction, where the owner has complete control of a clearly defined site, much of the construction occurred on public streets. Access to sites, relocation of utilities, and other factors created risks to schedule beyond the direct control of the contractors. Any tool available to the contractor that kept construction on track was critical.

The PLA signed by the Hudson County Building and Construction Trades Council included the majority of trades required for the light rail transit project. The PLA was successful in that MOS 1 was completed on schedule, including allowances for extensions. The project progressed smoothly and there were no labor disruptions.

However, when the second segment of the HBLRT project (MOS 2) commenced construction, the project borders extended into Weehawken, and required tunneling. The contractor, satisfied with the effectiveness of the PLA for the first segment, signed a new PLA for the second segment with the

same terms. The study team did not review the second PLA or interview staff directly involved in that portion of the project, but it was reported that during the second segment's construction, several labor issues arose that were not covered by the terms of the PLA. These included construction in a wider geographic area and the requirement for additional trades. The oversight and implementation of the PLA for MOS 2, therefore, was less successful than for MOS 1.

e. Mentoring Program

NJ Transit has always established aggressive goals for minority and women owned business participation in its capital program, and has a track record of working hard to meet those goals. Prior to bidding the contract for the HBLRT MOS 1 project, they established goals for minority and women participation rates in the project. The contractors were aware of the goals when bidding.

Because the project had federal funds, the overall goal for minority and women owned business participation was set as a Disadvantaged Business Enterprise (DBE) goal of 35 percent. However, NJ Transit set specific goals for eight different categories of work on the project. Since NJ Transit typically monitors Women's Business Enterprise (WBE) and Minority Business Enterprise (MBE) participation separately on non-federally funded projects, performance in these separate areas was tracked.

In addition to the goals for DBE contractors, labor force participation by minorities and women was set at 6.9 percent, matching the goal set for federal contracts. The PLA did not specifically address inclusion of minority and women owned businesses, similar to the NYCSCA agreement. However, unlike the NYCSCA PLA, the HBLRT agreement included language aimed at improving labor force participation rates.

Section 2 of Article 13, Department of Labor specifies "To assist the Contractors in attaining a maximum effort on this Project, the Unions agree to work in close cooperation with, and accept monitoring by, the New Jersey State and Federal Department of Labor to ensure that minorities and women are afforded every opportunity to participate in apprenticeship programs which result in the placement of apprentices on this Project To further ensure that this Contractor effort is attained, up to 50% of the apprentices placed on the Project shall be first year, minority, women or economically disadvantaged apprentices as shall be 60% of the apprentice equivalents, placed on the Project, who do not meet all of the age or entrance requirements for the apprentice program or have necessarily passed the entrance examination." The firm QWIC was a subcontractor assisting on construction management activities, and led the efforts to manage and monitor both WBE and MBE participation and labor force development.

Among the challenges to meeting the goals for business participation were:

- This was the first light rail project in New Jersey, therefore small contractors were uncertain about or not familiar with the type of work to be done; and
- The certification processes were cumbersome, involved a lot of paper work, and took a long time to complete.

Labor force participation goals, while supported by the unions signing the PLA, entail other challenges in the practical day-to-day operation of the project. Labor for the project is drawn from the local hiring halls. If adequate existing labor supply is not available, the PLA provides for labor to be

drawn from other unions or non-unionized labor and defines standards to be met to assure quality. Ensuring diversity goals are met is difficult.

QWIC undertook several initiatives to address these challenges. A task force was established with representatives of all interested parties, including county and local government diversity personnel, local community representatives, NJ Transit, unions, and the contractor. The task force met regularly to discuss goals and progress in achieving them, define ways to improve participation, and discuss training gaps.

A grant was solicited and funds were awarded for training. QWIC developed training curricula jointly with unions, NJ Transit, and contractors. Training was conducted at a variety of local institutions, such as community colleges, union training facilities, and HBLRT offices.

Participation goals for minority and women owned businesses and workforce development were largely met for the project. One component of the DBE goal, for heavy and highway work, fell slightly short. A contributing factor was a federal rule change[19] midway through the project. In the new rule, a firm that "graduates" from DBE status partway through the project cannot be counted as contributing to the DEB goal if they are not a DBE firm at the project's conclusion.

Throughout the construction contract period, QWIC developed reports that were sent to 21st Century as well as NJ Transit. Where gaps or weaknesses were noticed, the agency worked with the contractor to improve performance. While NJ Transit has aggressive programs for monitoring DBE participation and workforce diversity, QWIC, who managed these functions for the consortium felt that the PLA contributed to the overall success of these efforts because it provided a unified focus for monitoring and managing the issues.

[19] CFR 49 Part 26 in lieu of CFR 49 Part 23.

VIII. CONCLUSIONS

Examination of the two selected case studies, as well as the research about other projects, supports the following discussion and conclusions regarding application of PLAs for public projects:

What are the challenges faced in implementing PLAs?

The NYCSCA considered using a PLA in the late 1990's but did not actually implement a PLA until 2004. As a public agency, the challenges concerned demonstrating a public benefit in the form of cost savings, as well as demonstrating that the implementation of such an agreement would not violate competitive procurement policies. Such analyses were critical to defending the use of a PLA. In the case of NJ Transit and the HBLRT project, no such analysis was conducted. However, it was not a public agency that required the use of a PLA for the project. Rather the contractor performed its own internal analysis of the conditions surrounding the project's implementation, and determined a PLA would be beneficial.

Implementing a PLA in both New York and New Jersey also required involvement of labor leadership to negotiate effectively for its constituent members, and for the owners and contractors to understand fully the requirements for trades and crafts. In the NYCSCA PLA, the international leadership of the operating engineers was included in the agreement, but the local declined to participate. At HBLRT, the PLA which was effectively implemented for the first segment of the project was extended for the second phase. However, additional trades were required for the second phase that were not included in the agreement.

What strategies were effective in meeting those challenges and in overcoming other barriers to the use of a PLA?

Preparing an analysis of the projected benefits from use of a PLA is clearly important for a public project. The analysis prepared by NYCSCA projected substantial cost savings for the PLA, based on the terms and conditions negotiated, compared to the projected costs under existing collective bargaining agreements. The analysis assured that the PLA would withstand scrutiny of State courts, if necessary. Over the course of the five year plan, the scope of individual projects implemented varied from assumptions made for the cost analysis. The actual savings were found to be less than projected, but substantial nevertheless.

Although no pre- or post- cost analysis was available for the HBLRT project in New Jersey, PLAs have been used on other public projects. In particular, the New Jersey Schools Development Authority used PLAs on both new construction and renovation of schools across the state. The state required that an analysis be conducted annually to compare costs of projects using PLAs to those not constructed with a PLA. The methodology utilized for the analysis was based on a comparison of reported costs. That methodology does not result in a clear understanding of the cost differentials attributable to us of a PLA because it does not adequately adjust for variations in scope, geographical and logistical conditions, or work site environment. The results of a cost analysis are therefore more conclusive if project scope can be held constant and labor cost factors are isolated for comparison, when evaluating costs with or without a PLA.

The challenge of assuring all required crafts and trades are included in the agreement was met by NYCSCA by limiting the PLA to rehabilitation and restoration of existing facilities. The type of

work being performed was similar in all locations and had been performed for many years. The agency, the many contractors who had typically bid for this work, and the unions were familiar with the type of work and skills required. When the local union representing operating engineers declined to abide by the PLA, NYCSCA did not experience significant issues because that trade is a very small component of the work covered by the agreement.

The construction of the HBLRT was the first project of its kind in New Jersey. However, the decision to implement the PLA was made by the contractor awarded the job, and that firm had had previous experience in the type of project and in using PLAs. They did not report obstacles to implementation of the agreement. While NJ Transit indicated that the second phase of the HBLRT project, where the same PLA was used, had some problems due to the requirement for additional trades, these issues did not materially impact the cost or schedule of the project.

What were the benefits and drawbacks of using the PLA?

The benefits reported in both case studies were similar to the benefits anticipated. The NYCSCA reported cost savings attributable to the terms of the PLA, most specifically from standardizing shift differentials at a flat five percent premium, but also due to other standardized terms. Non-quantifiable benefits were cited resulting from uniform schedules, holidays and other work rules, which increased cooperation and efficiency among trades. Improved safety was cited, but without measurable evidence.

At HBLRT, the contractor cited the benefit of the PLA use as a means of maintaining the project schedule, which had a monetary value to the contractor because the contract included incentives for completion dates, and penalties for failure to meet the schedule.

In neither case study were significant drawbacks cited. Any issues cited in implementation, such as the unwillingness of the Operating Engineers local to participate in the NYCSCA PLA, were managed on a day-to-day basis without wider repercussions on the project. AT HBLRT, the contractor cited the labor/management committee that was set up in the PLA as a useful tool for becoming aware of and dealing with any of the day-to-day issues.

How was need for and subsequent use of the PLA evaluated?

As discussed above, in the case of the NYCSCA, the use of a PLA was initially suggested by labor union leadership. At New Jersey Transit, the use of a PLA was determined by the successful bidder for the contract. As a public agency, NYCSCA was mindful of the court cases involving PLAs and commissioned an evaluation that primarily focused on an assessment of potential cost advantages. The contractor managing the HBLRT project had used PLAs in the past, and conducted an internal analysis of market conditions and the labor and construction environment to determine that a PLA would be an appropriate tool.

One of the private company managers interviewed, when asked whether a formal analysis of potential cost savings or an ex-post analysis of actual savings is routinely performed, indicated that documented analysis is unavailable since the cost of conducting such studies is usually a deterrent. However, use of a PLA is considered on all projects in order to mitigate risks, and internal assessments are conducted.

How was the PLA integrated into the procurement process?

The NYCSCA included a requirement to abide by the terms of the PLA in the procurement process. This procedure was similar to that in use at TVA, where the terms negotiated for the PLA are known up front, and successful bidders must include a signed certification that they will abide by the terms along with the signed contract documents. At HBLRT, New Jersey Transit did not contemplate the use of a PLA prior to the issuance of the bid documents; the determination to use a PLA was made after award of contract.

Public agencies may consider several options when issuing bid documents for construction contracts. A PLA will not dictate which contract delivery method should be utilized. However in each of the methods, there can be firm fixed price contracts as well as risk sharing through adjustments to costs based on actual labor costs that could not reasonably have been predicted at bid submission. PLAs may reduce an amount of uncertainty so that a contract administrator may elect to use a firm fixed price contract (as opposed to an equitable adjustment contract) if the only uncertainty is labor cost. Otherwise all project aspects must be considered in determining the type of contract to utilize.

The variations of Fixed Price Contracts include Firm Fixed Price; Fixed Price with Economic Price Adjustment; Fixed Price Incentive; Fixed Price with Prospective Price Redetermination; Fixed Ceiling Price with Retroactive Price Redetermination, and Firm Fixed Price level of Effort Term Contracts. In the firm fixed price contract all the risk is placed on the Contractor and full responsibility for profit and loss is placed on the Contract. The remaining variations have clauses that provide economic adjustments. If a PLA is utilized, the uncertainty related to labor rates is minimized for the duration of the project. With labor rates known, the Contracting Officer may have an opportunity to shift to a Firm Fixed Price Contract since the uncertainty of labor cost is minimized.

For Cost Reimbursement Contracts, the variations include Cost Contracts with No Fee; Cost Sharing Contracts with No Fee; Cost Plus Incentive Fee Contracts; Cost Plus Award Fee, and Cost Plus Fixed Fee. In all cases the Contractor has the responsibility to control costs. Also, in all cases, the Contractor's cost is shared with the government. A PLA benefits both the contractor and the owner, because labor cost are and a steady supply of highly skilled labor can be provided.

Incentive Contracts are appropriate when a firm-fixed-price contract is not appropriate and the required supplies or services can be acquired at lower costs and, in certain instances, with improved delivery or technical performance, by relating the amount of profit or fee payable under the contract to the contractor's performance. The government must perform its own evaluation as the preferred contract delivery method. However, for projects with very tight schedules, a PLA would be very beneficial for incentive type of contracts primarily by providing a continuing supply of highly qualified labor. PLAs have been used by many private entities to set wage rates and work rules and assure an adequate supply of qualified labor, regardless of labor markets and union or nonunion affiliation. In rural areas that are not highly unionized, a non-union contractor may not have access to an experience labor pool. But with a PLA, a guaranteed supply of labor can be provided through the nationwide referral system maintained by the unions.

Indefinite Delivery Contracts may be structured as three types: definite-quantity contracts, requirements contracts, and indefinite-quantity contracts. Indefinite-delivery contracts are used to acquire supplies and/or services when the exact times and/or exact quantities of future deliveries are not

known at the time of contract award. The PLA will have the effect of reducing Contractors labor cost in the final cost of the product.

What were the outcomes of using a PLA?

In the case studies examined, the PLAs were viewed as useful tools with advantageous outcomes. In both NYCSCA and HBLRT, later phases of the project utilized PLAs similar to the initial agreements. Renewed utilization is a validation of the success of the PLA in completing the projects and meeting the anticipated goals.

The most frequent reason cited for using PLAs by all parties involved in the agreement has been the reduction of risk, primarily due to labor cost savings and predictability of work flow. The further benefits to communities and the public regarding women and minority business development and workforce participation goals are less clearly attributable to the use of a PLA. Using the case study approach, sufficient data did not exist to accurately assess whether PLAs specifically provided additional benefits to communities and the public regarding women and minority business development. The commitment of the project sponsor and working relationship with contractors, labor and the community are important elements. It was often cited that the PLA as a working agreement provided a tool to manage and monitor performance in these areas, but it is hard to argue that the achievement of these goals is directly attributable to the use of a PLA.

This study has sought to identify characteristics of construction projects where use of a PLA may be advantageous, to identify circumstances under which use of a PLA is likely to be beneficial and should be evaluated, and to cite benefits of PLA utilization. The public projects looked at for the study were budgeted in hundreds of millions of dollars. However, individual procurements covered by PLAs at NYCSCA and TVA, for example, ranged from very small (over $1 million at NYCSCA and over $500,000 at TVA) to billions of dollars. The recent Executive Order authorizing use of PLAs set a project budget threshold of $25 million to consider use of a PLA. A PLA is means to reduce risk on construction projects. When a PLA is in place, certain project costs are known up front, disruptions are avoided and disputes are resolved without significant schedule risk, and both supply of and demand for labor and required skills are predictable. Standards are established and consistency of rules and conditions apply.

IX. POLICY IMPLICATIONS AND RECOMMENDATIONS

Based on the reviews of the case studies and other experience with PLAs, the following recommendations are suggested in order to plan for and implement PLAs in federal agencies.

Factors to be considered in order to determine appropriateness of PLAs

To be a successful management tool for capital construction projects, a Project Labor Agreement must clearly demonstrate a reduction in risk or cost saving for all "constituents" of the project: owner and general contractor, the broader contracting community and labor, and the local community. In order to assess the construction environment and determine whether a PLA may be appropriate, these are some questions that should be considered:

- Is the project scope clearly defined so that the labor requirements, skills and trades are known?
- Will multiple projects be competing for labor with similar skills in the same geographic area?
- What is the projected labor supply in the project's geographic region and is the labor pool trained in the appropriate skills and crafts? Will training be required?
- Can efficiencies and savings be achieved by coordination of terms and conditions among various applicable collective bargaining agreements?
- Will schedule milestones more likely be achieved through no-strike provisions or dispute resolution procedures?

This review of PLAs suggests that when a project scope is clearly defined and labor requirements are understood in advance, for a project that requires multiple trades in an area where many projects are on-going and competing for skilled labor, and where an organization exists that can enter into an agreement to provide access to an efficient, trained labor supply and can negotiate beneficial terms and conditions, then a PLA makes sense and its potential benefits may be analyzed and documented in a feasibility study.

Feasibility analyses

The need for a feasibility study for public sector projects utilizing PLAs was made clear by the courts in several cases in the 1990s, as discussed in preceding sections of this report. The important elements of such a study are a cost analysis demonstrating savings to the public resulting from use of a PLA, analysis of the labor market, and protection of competitive bidding processes.

In New York State, the courts permit PLA use provided the facts and circumstances of each PLA are reviewed on a case-by-case basis. In analyzing the cost impact of the NYCSCA PLA, the analysis compared projected costs for projects in the capital plan under the terms of the PLA that was negotiated to the projected costs for the same projects under the terms of existing collective bargaining agreements without a PLA in place. This approach provides information that is more useful to evaluate than are other cost comparisons. An alternative approach to the analysis is to compare ac-

tual costs of projects built using PLAs with projects not utilizing PLAs. This approach allows many extraneous variables to influence the calculation and isolate the impact of the PLA as compared to other factors, such as geography, environment, scope, or regulations.

Model agreement and key features to be included

The two case studies reviewed in this report negotiated PLAs that were similar. Both were modeled on the agreement implemented by the New York State Thruway Authority, which had been challenged and upheld in the courts.

In the preamble to each of the two PLAs, goals were stated. The HBLRT agreement included eight stated goals. The NYCSCA included ten stated goals, eight of which were very similar to those included in the HBLRT agreement. These are the ten goals stated in the NYCSCA PLA Preamble. The first and third were not addressed in the HBLRT PLA:

1. providing a mechanism for responding to the unique construction needs associated with this Program Work and achieving the most cost effective means of construction, including direct labor cost savings, the Building and Construction Trades Council of Greater New York and Vicinity, on its behalf and on behalf of its affiliated Local Unions and their members, waiving various shift and other hourly premiums and other work and pay practices which would otherwise apply to Program Work;
2. expediting the construction process and otherwise minimizing the disruption to the educational environment of New York City public schools;
3. promoting the statutory objectives stated in the Authority's enabling legislation, Public Authorities Law 1725 et seq., in a non-discriminatory manner designed to open construction opportunities to all qualified bidders;
4. avoiding the costly delays of potential strikes, slowdowns, walkouts, picketing and other disruptions arising from work disputes and promoting labor harmony and peace for the duration of the Program Work;
5. standardizing the terms and conditions governing the employment of labor on the Program Work;
6. permitting wide flexibility in work scheduling and shift hours and times to allow maximum work to be done during off-school hours yet at affordable pay rates;
7. permitting adjustments to work rules and staffing requirements from those which otherwise might obtain;
8. providing comprehensive and standardized mechanisms for the settlement of work disputes, including those relating to jurisdiction;
9. furthering public policy objectives as to improved employment opportunities for minorities, women and the economically disadvantaged through Project Pathways and other programs;
10. ensuring a reliable source of skilled and experience labor.

Both agreements included a provision for the creation of a labor/management committee. The HBLRT PLA refers to a Light Rail Local Administrative Committee at HBLRT, and the NYCSCA PLA refers to a Labor Management Committee. On each project, this committee met regularly and provided oversight of the project and implementation of the PLA, and dealt with matters affecting the project, as appropriate. This has been cited as a beneficial tool for managing construction and would be recommended for any PLA, especially for public projects.

Recommendations for the Federal government regarding PLA adoption

For Federal agencies that are planning to undertake construction projects, it is recommended that use of a PLA be considered and the following recommendations are suggested:

- Select projects where scope is well defined, and the construction environment and labor market factors are well understood.

- Work closely, through the construction manager or general contractor, with union leadership and communities to understand concerns and needs in order to develop a strategy for PLA implementation that promotes benefits such as improved safety, training, continuing flow of work and labor force access.

- Undertake early planning and analysis of PLA use, and conduct a feasibility study that demonstrates economic benefits, appropriate labor conditions and open competition.

- Negotiate the PLA prior to the bid process, and include PLA terms in the documents so that all potential bidders are aware of labor costs and availability.

- Include provisions for labor/management committees to monitor PLA implementation, solve on-going problems as they arise, identify training requirements, improve safety and suggest efficiencies.

- Include public policy provisions in the PLA, addressing DBE goals (or specific MBE, WBE, or SBE goals as appropriate) and local resident participation goals.

- Conduct training for agency procurement and legal staff, as well as project managers, regarding use of PLAs. Training materials could be developed including workshops, video or dvds, or web sites, and programs could be set up with speakers from agencies that have utilized PLAs.

Further, the authors suggest that U. S. DOL assist in establishing a resource center for federal agencies regarding use of PLAs, offering training programs and materials, contact to those who have experience negotiating or implementing PLAs and sample agreements. Compilation of a "best practices" handbook to be made available to agencies is also recommended for consideration.

X. APPENDICES

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Appendix B: Questions for the Interview

Implementation of Project Labor Agreements in Federal Construction Projects

An Evaluation Study

Case Study Evaluation: Questions for the Interview

- Description of Project
  - Type of Project
  - Total dollars, federal and local share
  - Duration of project construction

- Reasons for using a PLA on this project?

- Were there challenges faced in implementing the PLA?

- What strategies were employed to meet those challenges?

- Were there lessons learned from the project experience that would be beneficial to other public entities evaluating the use of PLAs?

- Was there an evaluation of the feasibility of using a PLA conducted prior to procurement? Was there a post-mortem conducted on the effectiveness of the PLA?

- What do you believe were the specific benefits or shortcomings of the use of the PLA on this project?

- How was the PLA integrated into the procurement process?

- Do you thing the PLA is an effective tool for large public projects and when would the use of this tool be most advantageous or disadvantageous?

- Are there documents relating to the PLA decision/use that you can share with us, and are there other individuals involved in the project that we may contact who can provide perspective on this topic?

Appendix C: Interviews

Buisman, Neal, Dulles Transit Business Partners (Bechtel)

Cakrane, Iz Vice President, Labor Relations, URS

Coletti, Louis. President and CEO, New York Building Trades Employers Association

Dickerson, Charles N., Senior Program Manager, New Jersey Transit

Fiore, Nick Labor Relations, Bechtel Corp.

Goldstein, William, Vice President, Metropolitan Transportation Authority Capital Construction, formerly New York City School Construction Authority President and CEO

Hairston, Peyton T. Jr., Senior Vice President Diversity and Labor Relations,, Tennessee Valley Authority

Holden, Ross J., Vice President and General Counsel, NYC School Construction Authority

Johnston, John, former President and CEO, 21st Century Rail Corp.

Malloy, Edward, former President, Building and Construction Trades Council of Greater New York and Vicinity

McNamara, Joseph A., Director, New Jersey Laborers'-Employers Cooperation and Education Trust and the New Jersey State Laborers Health and Safety Fund

Myers, Nancy C., President, QWIC, Inc.

Payton, Jerry, Senior Manager, Industrial Relations, Labor Relations Advisor, Tennessee Valley Authority

Peterson, Amy, President, Non-traditional Employment for Women

Santoro, Steven, Assistant Executive Director, Capital Programs, New Jersey Transit

Stucky, Jean S., Acting Assistant General Counsel for Labor and Pension Law, U. S. Department of Energy

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12. Pelham Union Free School District (4 schools), NY (2003)
13. Clarkstown Central School District (2 schools), NY (2002)
14. Mt. Vernon School District (19 schools), NY (2002)
15. Ulster County Correctional Facility, NY (2001)
16. Stewart Airport Access Improvements & I-84/I-87 Interchange Reconstruction, NY (2000)
17. Kingston Police and Court Facility, NY (2000)
18. Whitehall Ferry Terminal, NY (1999)
19. I-287/Cross Westchester Expressway, NY (1999 – Present)
20. Tappan Zee Bridge Rehabilitation Project , NY (1994)
21. Driscoll Bridge (Garden State Parkway), NJ (2002)
22. New Jersey State Police Emergency Operations Center, NJ (2002)
23. Goldman Sachs Office Tower, Jersey City, Project Phoenix, NJ (2001)
24. Atlantic City International Airport, NJ (1999)
25. Scranton School District, PA (2008)
26. Pittsburgh Penguins Hockey Arena, PA (2006)
27. Bristol Borough School District, PA (2006)
28. Baldwin Whitehall School District, PA (2005)
29. Pittsburgh, Allegheny County Convention Center – David L. Lawrence Center, PA (1999)

30. Berks County Convention Center & Sports Arena – Sovereign Center, PA (1999)
31. Pittsburgh Steelers National Football League Stadium – Heinz Field, PA (1999)
32. Pittsburgh Pirates National League Baseball Stadium – PNC Ballpark, PA (1999)
33. Philadelphia International Airport – New Terminals and Infrastructure, PA (1999)
34. Luzerne County Convention Center & Sports Arena – Wachovia Arena, PA (1998)
35. Washington Township School District, PA (1998)
36. Philadelphia International Airport – Runway Improvements/Expansion, PA (1997)
37. Washington Nationals Ball Park, DC (2006)

Appendix E: NYCSCA Labor/Cost Analysis

Labor/Cost Analysis and Report

on

Feasibility for a Project Labor Agreement Covering Portions of the New York City Department of Education (DOE) 2005 - 2009 Five Year Capital Program

Prepared for:

NEW YORK CITY
SCHOOL CONSTRUCTION AUTHORITY

September 2004

Hill International

Contents

I. EXECUTIVE SUMMARY

A. Introduction

Hill International was retained by the New York City School Construction Authority (NYCSCA/SCA) through Counsel, Bond, Schoeneck and King (BSK), to conduct a labor and cost analysis and study and to prepare a report addressing the feasibility, economic benefits and appropriateness of utilizing a Project Labor Agreement (PLA) in connection with portions of the New York City Department of Education (DOE) 2005-2009 Five Year Capital Program (Plan). Hill was selected because of its extensive experience and participation in similar studies involving more than two dozen major public projects and its familiarity with the operations of the SCA.

A PLA is a type of collective bargaining agreement often utilized as a tool for the expeditious, cost effective construction of large, lengthy and/or complex projects employing multiple contractors and trades. It provides for standardized work practices; hours; holidays; grievance, arbitration and jurisdictional dispute procedures; and, for overall labor/management harmony. A PLA precludes strikes, lockouts, work stoppages and any other work disruption for the duration of the work covered by the PLA. It typically is mandatory that all parties both union and non-union sign the PLA, which supersedes all pre-existing agreements. A PLA also provides that the bidding and selection process is open to union and non-union contractors equally. Its benefits and terms are applicable equally to all successful contractors on the same terms regardless of union or non-union status; and no discrimination in hiring hall referrals or in employment of workers based upon union membership is permitted.

Following the U.S. Supreme Court decision in the Boston Harbor case and the New York Court of Appeals Tappan Zee Bridge (TZB) decision, case law in New York and the overwhelming majority of cases nationally have upheld the validity of public owner PLAs on major capital construction projects. Outside New York, courts have found public owner PLAs valid at the federal level and in at least eighteen states. The importance and viability of PLAs in major capital public projects is reflected not only in

the court decisions, but in the repeated and expanding utilization of PLAs over the past several years nationwide on projects including major buildings, schools, airports, seaports, highways and bridges and extensive water resources projects in the west and southwest United States.

B. The Project

Among the components of DOE's Capital Plan are the Investments in Existing Assets and Restructuring Programs. Together these components entail approximately $6.8 billion. Specified portions of these efforts constitute the project (Project) which would be covered by a PLA if approved by the SCA.

1. Investments in Existing Assets

A major component of the Plan calls for substantial investments in existing assets. This component includes both Capital Improvement Program (CIP) Investments, as well as investments in other programs and needs.

a. Capital Improvement Program (CIP):

As part of the Plan, there will be a wide range of construction projects involving operating schools and which will include building repairs, system replacements and reconfiguration of existing buildings. These efforts comprise the CIP.

The emphasis of the last five year plan was on exteriors to safeguard existing buildings from water infiltration. That work continues in this plan, but the major focus turns to interior improvements necessary to facilitate the Children First reforms and to bring the interior of each building up to a state of good repair.

b. Other Programs/Needs:

Under this portion of the Plan, such things as mandated environmental programs, emergencies and kitchen area conversions will be performed.

2. Restructuring Programs

a. School Improvements and Restructuring Allocations (SIRAs):

Another objective of the Plan is to "turn around" struggling schools where not enough students are reading or performing math at grade level. To make this goal a reality, the DOE has made instructional resources available to these schools. The Plan will support these efforts by restructuring and enhancing the physical facilities of an estimated 671 struggling schools through the SIRAs.

Options for restructuring and enhancing low performing schools include phasing out large schools and replacing them with autonomous smaller schools, each having between 400 and 500 students, and restructuring within an existing school by creating smaller learning communities as part of an overall restructuring that includes instructional, organizational and staffing changes.

b. Other Restructuring:

In addition to SIRAs, Restructuring Programs will provide a variety of other enhancements to existing schools including science lab upgrades, auditorium upgrades, accessibility improvements, physical fitness upgrades and safety enhancements.

C. The Project Labor Agreement (PLA)

Recognizing the potential for savings and other benefits which a PLA could provide the SCA in completing construction under the above components of the Plan, representatives from the SCA, together with Counsel, entered into discussions with the Building and Constructions Trades Council of Greater New York ("Council") (which together with its constituent local union affiliates are referred to as "Unions") regarding the possibility of a PLA for this work. (The SCA and the Building and Construction Trades Unions representatives had held discussions regarding a possible PLA for earlier CIP work in years past, but a tentative agreement on suitable terms could never be reached). After a number of face to face and telephonic negotiation sessions, the SCA and the Unions reached a tentative agreement in July of 2004 regarding a PLA for the Investment in Existing Assets and Restructuring portions of the plan. Acceptance of the

PLA is contingent on the results of this study and approval by the SCA President and CEO. This study analyzes the impact of the more significant provisions of that tentative PLA as negotiated. A copy of the PLA as negotiated is attached as Appendix D.

D. Analysis and Study

Analysis of the construction workforce in the NYC area generally reflects a highly unionized labor pool (95+% union). Virtually all public construction projects awarded in the area during the past several years have been to union contractors. When non-union contractors have received significant awards there have been demonstrations by unionized labor which have resulted in work stoppages, strikes, major traffic disruption and interference with the activities and business of the general public as well as with those targeted by the demonstrations.

In view of this recent history of public contract awards in the area, it is considered highly probable that most, if not all of the Project contracts will be awarded to union contractors.

The current collective bargaining agreements of each of the local unions that will likely be involved in the Project construction were reviewed and analyzed as part of this study. Pertinent provisions were compared to determine expiration dates and areas where special provisions of the PLA could effect cost savings. It was determined that each of those local agreements would expire and be renegotiated at least once during the term of Project construction, leaving the Project vulnerable to lawful strikes and/or work disruption absent a comprehensive "no strike" agreement. It was also determined that there was significant diversity among the trades' local agreements with regard to hours of work; shifts; flextime; holidays; grievance and arbitration procedures; and Equal Opportunity objectives. These areas as well as the rates and instances of premium pay are all subject to standardization under the PLA; and of particular importance is the PLA requirement for significant concessions with regard to overtime and/or shift premiums for after school work. In addition, the PLA permits implementation of an Alternative Dispute Resolution (ADR) procedure for the processing of Workers' Compensation Claims, as provided for in New York State legislation relating to collective bargaining, which could result in added cost savings.

Construction in the Northeastern U.S., and in the New York Metropolitan area specifically, is at a peak level and is projected to remain at this level for the next several years. The significant number of other construction projects in the area scheduled during the same period that the Project will be under construction, including the World Trade Center reconstruction, may cause shortages in manpower generally, but particularly in highly skilled trades. The hiring hall provisions of the PLA provide assurances that local labor will be used to the maximum; and, that if that is not enough, the halls will be able to draw the necessary manpower from union locals elsewhere, in or out of the state as may be required.

It is estimated that the use of the PLA on the Project can result in savings in excess of $488 million together with substantial non-quantifiable economic benefits. Including a Worker's Compensation ADR provision could result in additional savings of between approximately $5 million and $6.5 million over five (5) years.

E. Conclusion and Recommendations

Because of the predominantly unionized composition of the likely workforce; the high level of on-going and projected construction in the area and consequential potential skilled labor shortages; the size of the Project and the number of trades and contractors involved, the PLA tentatively negotiated by the SCA, is considered appropriate for the Project and should be implemented.

The most significant impacts and benefits of the PLA for the Project are: (1) the assurance that the construction of all components will be completed without strikes, delay or disruption, precluding the significant costs, schedule ramifications and impact on the education of thousands of New York City school children associated with such delays, and (2) significant direct labor cost savings.

Accordingly, the following recommendations are made:

- The PLA negotiated between the Building and Construction Trades Council of Greater New York and the SCA, annexed as Appendix D, should be approved and executed.

- Further discussions between the Unions and the SCA regarding implementation of Worker's Compensation Alternative Dispute Resolution (ADR) should be held. This Owner's option is permitted by NYS legislation and can save 5% – 20% of total Workers' Compensation premium costs as well as additional savings in ultimate claims costs.
- The PLA, open to all bidders (union or non-union), should be required by the bid specifications for each of the Project contracts (bid packages).

II. INTRODUCTION AND BACKGROUND

Hill International, Inc. has been retained by the New York City School Construction Authority (NYCSCA/SCA), through counsel, Bond, Schoeneck and King (BSK) to conduct a study, including an analysis of the labor market, work history, potential economic benefits, and other relevant factors pertaining to the feasibility of utilizing a PLA in connection with portions of the New York City Department of Education (DOE) 2005-2009 Capital Plan (Plan). Hill was selected because of its familiarity, experience and participation in similar studies on more than two dozen other major public projects for public entities including NYSDOT, NYSTA, the City of Kingston, Ulster County, and the Mt. Vernon, Clarkstown and Pelham School Districts. Hill also performed a very similar study for the New Jersey School Construction Corporation (NJSCC) involving $8 billion of school construction throughout the State of New Jersey. Hill has participated in every aspect of the PLA process and in the past has recommended both for and against the use of PLAs, based on the best interests and needs of the specific owner and project.

A. What is a Project Labor Agreement?

A PLA, sometimes referred to as a "Pre-Hire Agreement," is a type of collective bargaining agreement commonly used for decades as a management tool for expeditious, cost effective construction on private construction projects, and for the past several years with increasing frequency, on large, time-sensitive or other special needs public construction projects. On projects where a PLA is used, i.e. one involving multiple contractors and many trades, it is normally mandatory for both union and non-union contractors (employers) to accept the PLA as a condition of being awarded the contract. This has resulted in legal challenges by non-union or "open-shop" contractors and/or contractor associations, which perceive PLAs as unfairly pro-union.

A PLA typically applies to a single project or series of projects as part of a construction program, and has no bearing or relevance to any other work a contractor or union may be involved in during the same period of time. A PLA is a specific contract for construction of a specific project or program, including its component parts or packages

during a specific period of time. All parties involved in the construction are required to be signatories to the PLA, which supersedes any prior-existing collective bargaining agreements which might otherwise apply to the work. A PLA typically provides for standardized work practices, hours, holidays, grievance, dispute and arbitration procedures, and overall labor/management harmony for the duration of the project. PLAs often contain economic concessions and, as importantly, a PLA typically precludes any strikes, lockouts, work stoppages and/or any other disruption of work for any reason during the term of the PLA.

B. The Boston Harbor Precedent

Although there is a history of use of PLAs on public projects going back to the Grand Coulee Dam on the Columbia River in the 1930's, the first legal challenge occurred in the early 1990's, at which time a PLA was required by the public entity owner for the massive, multi-billion dollar, multi-year project involving the clean-up of Boston Harbor. The project involved scores of contractors and unions, all of which were required to become signatories to a PLA. The challenge was made on a federal preemption theory, arguing that the government entity-owner requirement that all successful bidders become parties to that PLA constituted an impermissible state intrusion into the labor relations of project contractors, and was pre-empted by the National Labor Relations Act (NLRA).

In its March 1993 landmark decision, Associated Builders and Contractors of Massachusetts/Rhode Island, Inc. v. Massachusetts Water Resources Authority (commonly known as Boston Harbor), the US Supreme Court held that although the government could not impose a PLA in its regulatory capacity, it was not prohibited from benefiting from a PLA wherein the government entity was acting in its proprietary capacity as an owner or a purchaser of construction services in the construction industry marketplace. This decision has provided the impetus for public sector PLAs across the nation. It also has forced opponents of PLAs to base their challenge primarily on a theory that a PLA violates a State's competitive bidding statutes, because it allegedly favors union over non-union bidders.

Soon after the Boston Harbor decision, then Governor Cuomo's office issued a memorandum to all state agencies and authorities, referencing the "Boston Harbor Agreement" and directing that said construction agencies and authorities:

> *"...evaluate the benefits, for appropriate projects, of negotiating a pre-hire agreement, ... Such benefits may include the promotion of labor stability, timeliness of completion and efficiency."*

C. New York and The Tappan Zee Bridge PLA

The New York State Thruway Authority (NYSTA) was at that time preparing to undertake a major rehabilitation and construction project on the Tappan Zee Bridge involving multiple contractors, nineteen unions, a minimum of a four-year construction schedule with an estimated cost of $130 million. Hill International, Inc., was then under contract to the NYSTA, and was directed to pursue with the New York State Building and Construction Trades Council (NYSBCTC), local union representatives and other appropriate parties a determination as to whether a PLA could be negotiated which would conform to the guidelines in the Governor's memorandum as well as:

- provide economic savings in the construction process through changes in work rules and practices and improve productivity, safety, efficiency and timeliness of construction;
- provide for the enhancement of employment opportunities for minority, women and disadvantaged persons; and
- allow all successful bidders, including open-shop contractors, to utilize a portion of their regular work force on the Project.

After an in-depth analysis of the existing labor market; a thorough review, analysis and comparison of the nineteen individual collective bargaining agreements; a review of the recent work history and labor unrest; numerous meetings and interviews with contractors and their associations' representatives; and more than four months of intensive labor negotiations, a draft PLA, acceptable to all parties, was submitted to the NYSTA Board of Directors for consideration together with the Hill report recommending

approval. The report identified cost savings, as well as other benefits, to be derived from the proposed PLA, which was modeled after the Boston Harbor PLA.

The PLA was approved, executed by the necessary parties and included as part of the specifications in the first bid package issued by the NYSTA for the Tappan Zee Bridge Project. The PLA was immediately challenged in the New York State Supreme Court by open shop contractors and their associations. After a brief Temporary Restraining Order, the lower court refused to grant an injunction. Construction on the project proceeded utilizing the PLA while the litigation continued through the New York Court of Appeals, where the validity of the PLA ultimately was upheld.

The Court of Appeals noted that since a PLA is a restriction on the bidding process, the contracting authority must demonstrate that both the purpose and the effect of the PLA requirement will meet the objectives of the state competitive bidding laws, and that the facts and circumstances of each PLA be reviewed on a case-by-case basis. The Court of Appeals held that the purposes of the state competitive bidding statutes were (1) guarding against fraud, favoritism and extravagance, and (2) ensuring honest competition to obtain the best work at the lowest possible price. The Court found that the first purpose was served by the PLA in that case because equal access to the bidding process, and the PLA's benefits, were available to both union and non-union contractors on the same terms and that ultimate contract award was to be made without regard to union status. The PLA also prohibited discrimination by unions and contractors against employees regardless of union/non-union status in either work referral from the hiring halls or on the job; thus, further ensuring equal treatment.

The second purpose was found to be served by the PLA requirement in that it created cost savings for the NYSTA in several ways, thus protecting the "public fisc." The court noted specific areas of cost savings from concessions such as four 10-hour days at straight time, standardization of working hours, holidays, etc. The Court also specifically noted the potential substantial savings from the PLA's comprehensive "no-strike" clause, which precluded labor disruptions for the duration of the project. The stated purposes of the statute therefore having been met, the requirement of the PLA was upheld by the Court.

D. Executive Order No. 49

On February 12, 1997, Governor Pataki promulgated Executive Order No. 49 Project Labor Agreements (Appendix A), which, citing the Tappan Zee Bridge decision as authority, sets forth that PLAs are one of many tools which may be used by management and labor and which may, under certain circumstances, assist in achieving the goals of timeliness, cost effectiveness, fairness, equity and conformity to the law. It sets forth the policies and procedures to be followed by State agencies in determining whether a PLA should be utilized; and if so, the interaction between Article 8 of the Labor Law and the PLA. Though Executive Order No. 49 is not binding upon the SCA, it is a valuable reference and has been often cited with approval by the New York Courts.

E. PLAs Nationwide

With public construction in the United States exceeding $200 billion annually, PLAs are becoming increasingly more popular; and, in the great majority of cases in which they have been challenged, courts have upheld their validity without nearly the amount of detailed analysis required by the New York courts. In at least thirteen states, PLAs have been upheld merely on the finding of a rational basis for the PLA (such as promoting timely and therefore cost effective project completion).

Clearly, the weight of authority both in New York and nationwide permits the use of PLAs in the construction of capital public projects. This is reflected not only in the court decisions and executive action, but in the repeated and expanding utilization of PLAs over the past few years on such major public projects as the Chicago, Orlando, Philadelphia (two (2) PLAs) and San Francisco ($2.4 billion) airports, the Central Artery/Third Harbor Tunnel and Boston Harbor, the Tappan Zee Bridge (two (2) PLAs), the I-287/Cross Westchester Expressway, and the Los Angeles County and many other School Construction Programs.

The senior members of the Hill team and the methodology employed by Hill in the conduct of this study, analysis, and report have been substantially identical to those

employed by Hill on the Tappan Zee Bridge, the I-287/CWE, and its various New York School District Projects. The PLA recommended for this Project was negotiated and prepared by BSK, the same counsel which was involved in the drafting and/or negotiation of many PLAs in New York, including the recently negotiated PLAs on the I-287/CWE and Mt. Vernon PLAs, as well as the Court approved Tappan Zee Bridge PLA.

III. THE PROJECT

As noted above, the PLA will apply to specified portions of the Plan. A more specific breakdown of coverage appears at pp 16 – 19.

A. Investments in Existing Assets

The plan calls for substantial investments in existing assets. A portion of that investment will be pursuant to the Capital Improvement Plan (CIP), and a portion will be for miscellaneous programs/needs.

1. Capital Improvement Program (CIP)

The CIP consists of a wide range of construction projects including building repairs, system replacements and reconfiguration of existing buildings aimed at providing a safe and comfortable learning environment so as to maximize every student's ability to learn.

While the emphasis of the last five year plan was on exteriors to safeguard existing buildings from water infiltration, the major focus of the CIP for these five years turns to interior improvements necessary to facilitate the Children First reforms and to bring the interior of each building up to a state of good repair.

The five-year CIP allows DOE to address all of the building elements rated "5" (poor) by the Building Construction Assessment Survey (BCAS) conducted this year, as well as the most seriously deficient components rated "4" (fair to poor). In addition, a small number of building components that were rated "3" (fair), but have deficiencies that may adversely impact life safety or the structure of the building, will also be included. Exterior building components rated "3" at schools that are slated for a full exterior modernization will be included as well.

Building interiors are the focus of the CIP due to the significant progress that was made toward making all DOE buildings watertight during the last Capital Plan. The ten-year need and five-year proposal for interiors include capital remedies identified by the BCAS. In this Plan, however, that list is augmented by interior work that is driven by the instructional agenda of the Children First reforms.

Interior improvements include electrical system upgrades to provide sufficient power to support modern office equipment, computers and other instructional technology. Effective use of technology is a major component of Children First and, accordingly, the upgrading of electrical systems is critical. Other systems may also be replaced, including plumbing, low-voltage electrical systems (including public address, fire alarm and intercom systems), climate control and mechanical systems. In many cases, these systems are outdated and often cannot be serviced because parts have become obsolete.

One of the most demanding challenges that comes with both the SIRAs and CIP construction is that this work often has to be carried out in occupied schools. Scheduling the most intrusive work during the summer months or using swing space, can mitigate some of the impacts. However, many projects are too complex to make these alternatives practical since many facilities are subject to year-round or nearly year-round use; and suitable swing space is hard to find. A better option, especially from a student safety perspective, is to perform work on a second or third shift, when building occupancy is low or non-existent. Traditionally, that is a very costly alternative due to premium shift pay.

A significant step has been made in overcoming this cost challenge through negotiation with the Council of an extremely low second and third shift premium (straight-time plus 5%). This is a substantial concession by labor and results in the ability to perform construction work outside regular school hours thus, satisfying one of SCA's primary objectives – student safety at a great cost savings to the SCA.

2. Other Programs/Needs

Construction under this portion of the Plan is designed to meet existing facility needs for which it is not possible or appropriate to allocate funds by Borough, Region, District or School. It will focus on, among others, such items as mandated environmental programs, emergencies and kitchen area conversions.

B. Restructuring

The plan calls for substantial restructuring in existing schools, through SIRAs, as well as other enhancements.

1. School Improvements and Restructuring Allocations (SIRAs)

One of the primary objectives of the Plan is to "turn around" struggling schools where not enough students are reading or performing math at grade level. To make this goal a reality, the DOE has made instructional resources available to these schools. The Plan will support these efforts by restructuring and enhancing the physical facilities of an estimated 671 struggling schools through School Improvement and Restructuring Allocations (SIRAs).

Options for restructuring and enhancing these low performing schools include phasing out large schools and replacing them with autonomous smaller schools, each having between 400 and 500 students; and restructuring within an existing school by creating smaller learning communities as part of an overall restructuring that includes instructional, organizational and staffing changes.

Some restructuring plans will necessitate specific capital improvements that will ensure that the physical environment in the school can successfully support the new educational structure. Those elements that are critical for the restructuring will be mandated and a portion of the SIRAs will be earmarked specifically for those capital expenditures. For example, if a large school is to be subdivided, it will be crucial to make changes in the physical plant that will enhance the image of each new small school as its own separate community of learners.

This type of restructuring will necessitate the consolidation of administrative functions into central administrative spaces. Excess individual administrative offices will, as much as possible, be reconfigured into classroom space. The new administrative areas will be more open and welcoming, consisting of cubicles and shared offices that are outlined with state-of-the-art technology.

Building systems must also be upgraded to ensure that the existing building can adequately accommodate the operation of several small organizations. It will be important to ensure that communications systems within each new small school will

facilitate its operations. In many cases, public address and bell systems will need to be modified or replaced.

The Plan makes 671 struggling schools eligible to receive SIRAs during the five years of the Plan.

2. Other Restructuring

In addition to SIRAs, Restructuring Programs will provide a variety of other enhancements to existing schools including science lab upgrades, auditorium upgrades, accessibility improvements, physical fitness upgrades and safety enhancements.

C. Summary:

The scope of the Project work will include the following categories, as taken from pages C1-C4 of the Plan:

New York City Department of Education
Five-Year Capital Plan
Fiscal Years 2005 – 2009

Major Modernizations & Rehabilitations

Exterior Modernizations

Building Upgrade

Asbestos
Boiler Conversion
Climate Control
Indoor Air Pollution Abatement
Kitchen Conversions
Low Voltage Electrical Systems
Lighting Fixtures
Elevators & Escalators
Reinforcing Cinder Concrete Slabs
Flood Elimination
Air Conditioning Retrofit
Lead Paint Abatement
Reinforcing Support Elements

Rehabilitation of Physical Education Facilities

Athletic Fields
Playground Redevelopment
Swimming Pools

System Replacements

Roofs
Parapets
Painting & Plastering
Windows
Exterior Masonry
Electrical Systems
Heating Plant Upgrade
Domestic Piping
Toilets – Students
Toilets – Staff
Floors
Paved Area – Blacktop
Paved Area – Concrete
Fencing
Kitchen Areas
Containerization
Auditorium Upgrade
Gymnasium Upgrade
Asset Management Program
CIP Response

Educational Enhancements

Accessibility
School Improvement & Restructuring
Science Lab Upgrades
Library Upgrades

Safety & Security

Safety Systems
Emergency Lighting & Fire Safety Retrofits
Code Compliance

Emergency, Unspecified & Miscellaneous

Emergency Unspecified
Emergency Stabilization

Total costs for these portions of the Plan are estimated at $6.782 billion. Excluded from the Project are other elements of the Plan, including new construction, partnership and charter schools, Mentoring Program awards and technology enhancements which do not entail construction.

IV. CONSTRUCTION AND LABOR ANALYSIS

The peak level of ongoing, planned and projected construction in the New York metropolitan area, including the adjacent counties, could have significant staffing ramifications with respect to the Project.

In excess of $5 billion in major capital construction is currently in progress or projected to be in progress in the New York metropolitan area during the next five years. This known construction, including the World Trade Center reconstruction, will be ongoing simultaneously with the Project and will draw upon the same pool of skilled workers.

The local construction industry labor force is approximately 95% unionized and union membership in most of the building trades has been increasing over the past few years. All trades are actively recruiting and training new members and retraining current workers to improve their skills on newer, state-of-the-art, more productive tools, equipment and materials. Training facilities and apprentice programs are filled to capacity and are being expanded in an effort to accommodate the rapidly increasing number of new workers and applicants. Union leadership in all of the trades stress the importance of maintaining a continuous supply of trained, skilled workers necessary to man not only the high level of existing construction, but also the unprecedented level of major capital construction projected for the next several years. It is well known and understood in the industry that large construction projects create a drain on available local skilled trade workers and sometimes create shortages in particular skills.

Although few critical shortages in skilled workers have been experienced recently in any of the respective trades required on the Project, recurring shortages in some skills (e.g. electricians) are increasing in frequency. It is difficult at this time to project whether the necessary numbers of skilled workers will be continuously available locally throughout the duration of the Project based upon information currently available regarding the size, number and schedules of similar construction projects, which will be in progress simultaneously. The unions are confident, however, that no serious shortages will occur on the Project since, historically, regional trades faced with labor supply problems are effectively organized to draw workers from less active market areas in New York and/or from other states as required. This is a significant difference in the

ability of union contractors, versus non-union contractors, to staff projects. According to knowledgeable union and contractor sources, there has never been an instance when the Building Trades were unable to supply the necessary skilled craft for a project within a very short period of time.

The most established and reliable method of ensuring an adequate supply of trained, qualified skilled workers on a project is through local trade unions and their affiliates located elsewhere. Non-union employers typically do not have training facilities, and they cannot draw upon outside sources to obtain trained skilled craft workers because such sources typically to not exist.

V. CURRENT COLLECTIVE BARGAINING AGREEMENTS

In view of SCA's own contract award history, which is completely consistent with the labor force make-up, i.e., 95+% unionized construction; it is probable that most of the Project contracts would be awarded to union contractors with or without a PLA. All contractors, whether union or non-union, will be required by law to pay workers the prevailing wage rates, which rates are derived from the area collective bargaining agreements. At least thirteen (13) trades will be involved in the Project construction, all of which are members of the Building and Construction Trades Council of Greater New York. The current collective bargaining agreement (CBA) of each of the following local unions representing each respective trade was reviewed and analyzed as part of this study:

1. Bricklayers/Masons
2. Carpenters
3. Electrical Workers
4. Mason Tenders
5. Plasterers
6. Steamfitters
7. Tilesetters
8. Asbestos Handlers
9 Painters
10. Plumbers/Pipefitters
11. Sheetmetal Workers
12. Roofers
13. Tapers

The significant and pertinent provisions of these local agreements were analyzed to determine where terms and conditions varied from each other or were not in conformity with the characteristics and requirements of the Project construction; and, where the consistency and concessions included in the PLA could provide cost savings or more efficient construction. One particular area of concern studied involves the duration of the local agreements. All of the local agreements will expire at least once during Project construction through 2009. With each of these expirations comes the risk that any one of the new negotiations between the Unions and the local Contractor Associations will break down. Workers covered by those agreements may then lawfully

strike over any number of issues, including many which might have nothing to do with this Project construction. Such strikes could be expected to spread to every Project site on which the local contractors are employed, notwithstanding the fact that the Project owner was not involved in, nor did it have any control over, the negotiations in issue.

Given the high percentage of unionization in the labor force, such a strike, even by a relatively minor trade, has the potential to shut down, at least for a short time, an entire project. A lawful picket line at an entrance to a construction site would likely be honored by every other trade worker who would refuse to cross the picket line and would not work. The Owner would ultimately get the sympathy strikers back on the job, but could not help the contractor which was the target of the original strike.

Strikes not only drive up construction costs, but they disrupt construction progress resulting in completion delays. Despite best efforts to insulate school children and DOE's educational mission from the disruption naturally associated with construction, some disruption is inevitable. Work disputes which slow progress and delay completion, add to that disruption. As a result, timely construction completion is essential to minimizing the adverse impact of these critical projects on the education of thousands of students. The PLA's no strike clause virtually eliminates this otherwise lawful activity as a cause of project delay.

As noted, there is diversity among the local agreements with regard to hours of work (length of workday and workweek); shifts; flextime; holidays; grievance, arbitration and jurisdictional dispute resolution; management rights; apprentices; and Equal Opportunity objectives. The rates and instances of premium pay also vary and there are a significant number of miscellaneous clauses which appear in one or more agreements and not in others.

Following are examples of some of the differences among the provisions of the respective agreements which will be standardized under the PLA:

- Hours of Work

  There is diversity among the local agreements in these areas. Though some provide for a 40-hour workweek, many locals provide for a 35-hour workweek. In most agreements, starting and quitting

times are set, with union approval required for changes and premium pay for hours worked before and/or after. Under the existing local agreements, the contractor has limited flexibility in varying the scheduling of working hours without premium payments and prior approval from the unions. The PLA provides for a uniform 40 hour week at straight time with a several hour "window" at the beginning and end of the workday.

- Shifts

  Existing local agreements require almost uniformly that a first shift be worked in order for a second and/or a third shift to be scheduled. The numbers of hours worked, the amounts of pay for hours worked and the inclusion or exclusion of a lunch period or other work breaks varies among the trades and between the second and third shifts. Some agreements are silent with regard to shift differential pay, some provide for a dollar amount per hour, while others contain formulas. Explicit shift differentials vary among the trades from 12 – 27% and in some cases 50% where overtime rates apply. The PLA permits a second and third shift to be worked without a first shift and both second and third shift work to be done at a flat 5% premium.

- Holidays

  The existing Agreements provide for as many as eleven possible holidays annually with a minimum of seven (7) recognized by the respective unions. Whether holidays are paid and the rates of premium pay vary among the trades. The PLA provides for six (6) holidays with payment for work on those days as set forth in the local agreements.

- Flextime

  Most agreements provide for premium pay for work started prior to a set starting time and for hours worked after a set quitting time. Some agreements are silent with regard to working four (4) 10-hour days (4

– 10s) in a workweek. Others provide for time and one-half pay for 9th and 10th hours and at least one major union provides for double time. The PLA provides for flexible starting times for shifts and permits four (4) 10 - hour days at straight time.

- Jurisdictional Disputes

  Procedures for dealing with jurisdictional work assignments and consequential disputes are not uniform or consistent. Agreements vary with regard to costs, binding effect of award, and work disruption pending decisions. The PLA provides for a uniform jurisdiction dispute resolution mechanism.

  Most importantly, there is no existing method, means, or procedure to insure that there will be no strike, lockout, work stoppage or other work disruption pending resolution of such a dispute. The PLA provides for protection against work disruption during jurisdictional disputes.

- Grievances/Arbitration

  Though local labor-management grievance procedures exist, they vary among specific crafts and contractor associations. No standardized, binding forum exists with authority over all respective parties. The PLA provides for a uniform procedure.

- Management Rights

  Many of the existing agreements do not contain a "Management's Rights" clause. Those that exist are often ambiguous or inadequate to provide the contractor with the authority and/or flexibility required for necessary control and management of the Project work. The PLA contains a broad management rights clause.

- Apprentices

  Though local unions have existing apprenticeship and/or training programs, they may not provide for sufficient numbers to meet the

Project goals for craft entry opportunities for minorities, women and economically disadvantaged. Increasing the ratio of apprentices to journeymen will also provide substantial cost benefits. The PLA provides for a minimum of a 3 to 1 apprenticeship ratio.

- Equal Employment Opportunity

  Although most of the existing agreements contain language prohibiting discrimination on the basis of race, creed, color, sex, national origin or age, few of them contain language regarding commitments to meet minority, women or disadvantaged goals. They are also silent with regard to the contractors' rights to request such persons. The PLA addresses these issues.

As noted, all of the foregoing examples, as well as rates and instances of premium pay, are addressed and standardized in the proposed PLA (Appendix D) to conform with Project objectives and requirements, as well as to provide the contractor with manning and scheduling control necessary to effect cost savings.

VI. ANALYSIS OF ECONOMIC BENEFITS OF A PLA

A. Labor Assumptions

To perform a comprehensive analysis which would provide meaningful and supportable findings and conclusions, Hill together with SCA technical staff first separated the Project info five major construction categories:

- Exterior modernization
- Building upgrades
- System replacements
- Improvements and restructuring
- Safety and security

High value samples from each category (Appendix C) were then broken down into basic components including total cost, total labor cost, man-hours, duration, composite crew makeup, labor rate calculation and workforce size. These samples reflect 71% of the total Project work anticipated over the five (5) year period with $4,786,723,297 in total costs. Total Project costs are $6,782,800,000.

Estimates of each component of these samples were calculated by trade involved in the projected contract work. Utilizing these assumptions and estimates together with the actual and projected prevailing wage rates, a weighted average labor rate was calculated for the Project Samples (Appendix C). For purposes of the estimates which have been calculated, it is assumed that the contractors will work predominately on the 3:00pm -12 midnight shift with a minimal percentage of the work to be done on normal first shift hours. An escalation in labor rates of 4% per year was utilized based upon results of recent labor rate changes. The costs and savings calculated on the 71% of the work reflected in the samples was then extrapolated to 100% of the Project.

B. Hours of Work

1. Work Day / Work Week

The PLA provides for a standard 40 hour workweek at straight time pay; either five (5), eight (8) hour days, Monday – Friday, or four (4) 10 hour days, Monday – Thursday. The Contractor is provided with three (3) hours flexibility in starting times (6 – 9 am) and five (5) hours in quitting times (2:30 – 7:30 pm) without premium penalty. By standardizing the workweek at 40 hours for all trades, the cost savings are substantial because of the number of trades working a 35 hour week. Substantial savings result from not having to pay premium rates for five (5) hours each week during the duration of the Project for the unions which currently work a 35 hour week. These savings have been calculated and included with the cost savings resulting from the five (5%) percent shift differential set forth in Section 2 below.

2. Shifts

A. Off-Shift

The major component of the Project is comprised of rehabilitation/reconstruction at occupied schools. This work must be performed after school hours when children, teachers, and staff are not present and will, therefore, require a special or "off shift" schedule. Utilizing the five percent (5%) shift differential negotiated in the PLA, together with the 40 hour work week, estimated labor cost savings amount to $474,018,539 reducing total labor costs to $2,049,709,966. (Appendix C, p.5). This figure is derived by extrapolating the $336,553,162 in estimated savings (Appendix C, p.5) for the 71% sample to 100%, the full scope over the five (5) year period. This represents a 18.7% reduction in labor costs compared to construction without a PLA.

B. Night Shift

The study did not provide for a traditional third shift since it is not contemplated that a third shift would be employed on the Project. It is expected, however, that the off-shift might regularly include work hours which would normally have been included in a third shift.

- Neither a day shift nor a second shift is required in order to schedule during traditional third shift hours.
- An eight (8) or 10 hour shift can be worked at straight time plus a 5% shift differential in lieu of overtime.
- Starting times can be scheduled by the contractor to meet Project requirements.

3. Holidays

The existing Agreements provide for as many as 11 holidays annually with a minimum of seven (7) recognized by the respective unions. Whether holidays are paid and the rates of premium pay vary among the trades. It is quite common in the normal course of construction that any given building trade will require the support and/or assistance of one or more other trades in the performance of routine work. It is imperative, therefore, that for efficient scheduling and cost control purposes, the contractor can depend upon the entire workforce being on the job on the same days.

The PLA proposed for this project (Appendix D) provides for six (6) standard holidays for all trades. For purposes of calculating the potential cost savings from the PLA, the following six holidays were assumed:

New Year's Day	Labor Day
Memorial Day	Thanksgiving Day
Fourth of July	Christmas Day

Regular holiday pay, if any, and/or premium pay for work performed on a recognized holiday would be in accordance with respective local agreements. No holidays other than the above would be recognized or observed.

The cost impact of standardizing six (6) specific holidays for all trades utilizing the existing prevailing wage, results in an estimated savings of $14,116,859 (Appendix C-1). This figure was derived by applying the weighted average labor rate to the number

of holidays to which each trade would be entitled over the term of the Project under current local agreements vis-à-vis the numbers of holidays provided for in the PLA.

4. Apprentices

The increase in the utilization of apprentices provided for in the PLA (one apprentice for every three journeymen) would achieve, to some extent, not only the public policy goals desired, but substantial labor cost savings on the Project. The increased ratio of apprentices would be utilized on all construction components comprising the Project in several trades involved. The total estimated savings could be substantial though not quantifiable at this time.

5. Alternative Dispute Resolution (ADR) For Workers' Compensation

Worker's Compensation legislation adopted in New York permits the use of Alternative Dispute Resolution (ADR) in the Workers' Compensation process where employers elect to participate in a collectively bargained alternative program. The process must protect the worker and have Workers' Compensation Board (WCB) approval. Such an ADR agreement has been executed, and is on file, by the BCTC and CIC of Westchester and Putnam counties and is currently in effect on the I-287/CWE and Mt. Vernon Schools Projects. Credits in Workers' Compensation premiums may be realized by contractors (employers) of from 5% to 20% and passed on to the owner:

- Participation in ADR Process 5%
- Utilization of Agreed Managed Care 10%
- Participation in Drug Free Workplace 5%

The ADR procedure replaces the existing WCB adjudication with a more expeditious non-adversarial process and could result in substantial savings on Workers' Compensation premiums. Under the PLA, use of ADR is at the option of the Owner and could be exercised at a later point in the project.

For illustration purposes, applying the above percentage savings to estimated Worker's Compensation costs for this work could save from $1 million to $1.3 million per year or between approximately $5 million and $6.5 million over the life of the Plan. This estimate is based upon worker's compensation insurance premiums estimated in contractor's bids at approximately 1% of total labor costs.

VII. CONCLUSIONS AND RECOMMENDATIONS

A PLA is considered both feasible and appropriate for this Project.

Because of the predominantly unionized composition of the area workforce and SCA's own contracting history; the high level of on-going and projected construction in the New York Metropolitan area and the need for securing a skilled manpower pool; the number of trades and contractors involved; and the economic and standardization provisions of the PLA which can provide substantial cost savings, a PLA will be most cost effective, is considered appropriate for the Project and should be a mandatory requirement included in the bid documents.

All of the unions which will be involved in the Project construction have been involved in other PLA projects and are familiar with the operation of a PLA. The PLA recommended for this Project (Appendix D) is modeled after those PLAs with changes necessary to conform to Project requirements.

All of the current collective bargaining agreements (CBAs) of the 13 union locals that will be involved in the construction will expire at least once during the Project construction period. This exposes the Project to the possibility of strikes should negotiations break down when any one of those agreements is being re-negotiated. A strike or strikes would be completely lawful and, in all probability, the issues involved would have nothing to do with the Project. Further, the SCA would not be a party to those negotiations and would have no control over their outcome. The length and costs of resulting delays could be substantial.

A strong "no strike" clause is provided in the PLA, precluding strikes, lockouts, work stoppages, disruptions or other delays. It supersedes the terms of the local agreements and requires that work on Project construction continue regardless of CBA status. The "no strike" clause precludes work disruption for any reason during the term of the Project construction. Even a non-union contractor or employer could not guarantee that it would continue non-union for the term of the Project.

The diversity among the CBAs regarding work rules has been standardized by PLA provisions which ensure uniform working hours, shift times, scheduling, holidays, overtime, premium pay and other terms and conditions of employment. Also, by providing a standard procedure for grievance, arbitration and jurisdictional dispute resolution, together with a strong management rights provision, the contractor can maintain firm control of the Project staffing, scheduling and administration. The comprehensive "Management Rights" clause applicable to all contractors and all unions enumerates the powers and exclusive authority of the contractor for management and control of project operations including: direction of workforce (numbers and qualifications); assignment and schedule of work (regular hours and overtime); promulgation of work rules; and determination of choice of equipment, materials, techniques, methods and technology utilized on the Project, regardless of their source.

The PLAs after which the proposed PLA is modeled also achieved the all-important and court tested goal of providing equal bidding opportunities to both union and non-union contractors. The PLA clause providing that a non-union bidder can utilize a fixed number or percentage of its workforce on the Project while bringing in the remainder of the workforce through the union halls parallels the provisions approved by the Court of Appeals in the Tappan Zee Bridge case.

The PLA and bid document language should state explicitly that the bidding and selection processes are open to union and non-union contractors alike and that union affiliation will not be a factor in selection. The PLA provides that it is applicable and binding upon all successful bidders on the same terms and conditions, notwithstanding union/non-union status. Non discrimination with regard to union/non-union affiliation also applies to the hiring of workers through the hiring halls.

Adding the savings from the Holiday provisions to the work week and shift differential savings of the PLA will alone result in increasing estimated cost savings to $488,135,398 million or 18.8% of total labor costs. A carefully executed Worker's Compensation ADR provision could result in an additional $6.5 million in savings 2005-2009. Although not quantified, substantial additional savings can inure to the SCA as a result of the PLA's no-strike protection, enhanced apprenticeship ratios and management rights provisions as well as from the staffing and scheduling coordination and flexibility the PLA permits.

The following is recommended:

- The PLA negotiated between the Building and Construction Trades Council of Greater New York and the SCA, attached as Appendix D, should be approved and executed by the parties.
- The PLA, open to all bidders (union or non-union), should be required by the bid specifications for each of the Project components (bid packages).
- The parties should continue discussions to implement an Alternative Dispute Resolution (ADR) Program for Workers' Compensation claims.

VIII. APPENDICES

A. **Executive Order No. 49**

B. **Analysis of Local Labor Agreement Provisions for the Project**

C. **Analysis of Economic Benefits of a PLA for the Project**

D. **Proposed Draft PLA**

A

No. 49

EXECUTIVE ORDER

PROJECT LABOR AGREEMENTS

WHEREAS, it is in the best interests of the People of the State of New York to promote the timely completion of public construction projects undertaken by State agencies while at the same time limiting the costs of such projects to the greatest extent possible consistent with the law and principles of fairness and equity;

WHEREAS, the New York State Court of Appeals issued a decision in the *Matter of New York State Chapter, Inc., Associated General Contractors of America, et. al. v. New York State Thruway Authority*, 88 N.Y.2d 56, 666 N.E.2d 185, 643 N.Y.S.2d 480 (1996), which found that project labor agreements are "neither absolutely prohibited nor absolutely permitted in public construction contracts"; and

WHEREAS, it is now clear that project labor agreements are one of many tools which may be used by management and labor and which may, under certain circumstances, assist in achieving the goals described above;

NOW, THEREFORE, I, GEORGE E. PATAKI, Governor of the State of New York, by virtue of the authority vested in me by the Constitution and Laws of the State of New York, do hereby order as follows:

Each State agency shall establish procedures to consider, in its proprietary capacity, the utilization of one or more project labor agreements with respect to individual public construction projects. The utilization of a project labor agreement shall be considered only where the standards established by the Court of Appeals can reasonably be expected to be met.

In reaching a determination on the use of a project labor agreement with respect to a specific project the agency shall consider whether the utilization of such an agreement is justified because it meets the interests underlying the State's competitive bidding laws of:

(1) obtaining the best work possible at the lowest possible price; and

(2) preventing favoritism, improvidence, fraud and corruption in the awarding of public contracts.

In considering whether to proceed with a project labor agreement, agencies should be mindful that, in the past, the courts of the State of New York have struck down any such agreement wherein a contracting entity was unable to show a proper business purpose for entering into such agreement.

No project labor agreement shall be approved by an agency unless the decision to enter into the project labor agreement has, both as its purpose and likely effect, the advancement of the interests of the State's competitive bidding statutes.

In the event that an agency enters into a project labor agreement and lets one or more contracts for work to be performed pursuant to such agreement, it shall then be forwarded to the Commissioner of Labor. Upon receipt of the project labor agreement, the Commissioner of Labor shall determine the interaction, if any, between article 8 of the Labor Law and the agreement.

GIVEN under my hand and the
Privy Seal of the State
in the City of New York
this twelfth day of
February in the year one
thousand nine hundred
ninety-seven.

L.S.

/s/ George E. Pataki

BY THE GOVERNOR

/s/ Bradford J. Race, Jr.
Secretary to the Governor

B

SCHOOL CONSTRUCTION AUTHORITY PLA
ANALYSIS OF EXISTING COLLECTIVE BARGAINING WORK PROVISIONS

Agreement Provisions	ASBESTOS WORKER	BRICKLAYERS/ MASONS	CARPENTERS	CEMENT MASON & CONCRETE WORKERS	ELECTRICIANS	MASON TENDERS	PAINTERS	PLASTERERS	PLUMBER & PIPEFITTERS	ROOFERS	STEAMFITTERS	TAPERS	TILESETTERS
	Local 12				Local 3						Local 638	Local 1974	Local 456
I. Term: Expiration Date	30-Jun-05	30-Jun-04	30-Jun-05	30-Jun-05	8-May-05	30-Jun-05	30-Apr-05	31-Jan-06	30-Jun-05	30-Jun-05	30-Jun-05	4-Jul-06	31-May-06
II. Working Hours													
A. Regular Work Week	35 hrs, Mon-Fri (inclusive)	40hrs, Mon-Fri (inclusive)	35hrs, Mon-Fri (inclusive)	35hrs,Mon-Fri (inclusive)	35hrs, Mon-Fri (inclusive)	40hrs, Mon-Fri (inclusive)	35hrs, Mon-Fri (inclusive)	35 hrs, (Mon-Fri (inclusive)	35hrs, Mon-Fri	35 hrs, Mon- Fri	35 hrs, Mon- Fri	35 hrs, Mon- Fri	35 hrs, Mon- Fri
B. Regular Work Day	7 hrs Start between 7:00-8:00 am Hours may be changed to be mutual consent	8hrs Start between 6:00-8:00 am	7hrs - 8:00am-12n & 12:30pm-3:30pm For renovation work, contractor can choose start time of 7 or 8 am, and work 8 hour day.	7hrs 8:00 am-3:30pm	7hrs - 8:00am - 3:30pm; Lunch between 12n & 12:30 (can switch to 8hr day w/ other trades)	8hrs - 8:00am-12n & 12:30pm-4:30pm (start 7:00am - 9:00am, lunch w/in 5 hrs of start)	7hrs - 7:00 am - 11:00 am & 11:30am - 2:30pm or 8:00am - 12:00n & 12:30pm - 3:30pm	7hrs- 8:00-3:30pm	7hrs - 7:00am - 3:30pm, 7:30 & 4:00pm, 8:00am & 4:30pm, 12n & 12:30pm; lunch 12n - 12:30pm	7 hrs- 8:00m- 3:30pm	7 hr- 7:00am-2:30pm/8:00am to 3:30pm	7 hrs- 7:00am- 2:30pm/ 8:00am - 3:30pm	7 hrs- 8:00am- 3:30pm M-F
C. Overtime													
1. Monday - Friday	2x wages, fringes at straight time	1.5x wages, fringes at straight time	1.5x wages and fringes	base + 2x benefits/hrs	1.5x after 7hrs work	1.5x	1.5x	1.5x	2x	1.5x after 7 hrs	2x	1.5x after 7 hrs	1.5x after 7 hrs
2. Saturdays	2x	1.5	1.5x wages and fringes	2x	1.5x	1.5x	1.5x	1.5x	2x	2x	2x	1.5x	1.5x
3. Sunday	2x	2x	2x wages & fringes	2x	2x	2x	1.5x	2.0x	2x	2x	2x	1.5x	2x
4. Miscellaneous				1x over 8 hrs before & after regular hours		4 ten hour day can be used, with pay of 8 hours regular & 2 at an OT rate of 1.5	Silent						
D. Shift Work							Silent						
1. 1st Shift (Day)	work 7 hrs for 7 hours pay	work 8 hours for 8 hours pay, for 2 or 3 shifts	Normal size 1st shift required at straight time rates	8:00am-3:30pm	8:00am - 4:30pm, work 8 hours for 8 hours pay	7:00 am- 4:00pm	7:00am- 2:30pm or 8:00-3:30pm	7 hrs with .5 lunch	7 hrs with .5 lunch	7 hrs with .5 lunch	7.5 hrs work with 05hr lunch	7.5hrs work with .5hrs lunch	7.5 hrs work with .5hrs lunch
2. 2nd Shift (Swing)	work 7.5 hrs for 8 hrs pay	work 8, pay 9 for 2 shifts, work 7.5 pay 8 for 3 shifts	4pm to 11 p.m.. 8 hours pay for 7 hours worked	if use 2 Shifts, 9 hrs pay for hrs worked +25%	4:30pm - 12:30am	8hrs + .5hr lunch; 2 shifts	7hrs	silent	Straight +30% fringe	Straight +10% fringe, 8th hr 1.5x	Silent	Silent	1.5x
3. 3rd Shift (Graveyard)	work 7.5 hrs for 8 hrs pay	work 7, pay 8, if 3 shifts	start 5-10pm, 9 hrs pay for 8 hrs worked	if use 3 shifts,9hrs pay for 8hrs worked +25%	12:30am - 8:00am	8hrs + .5hr lunch (inclusive); 3 shifts	1.5x	7 hrs with .5 lunch	Straight +30% fringe	Straight +15% fringe	Straight+20% fringe	Silent	1.5x
4. Irregular Shift		if start between 5 PM and midnight, use shift rates	start 5-10pm, 9 hrs pay for 8 hrs worked	silent	Silent	Start 5:00pm - Midnight	1.5x	silent	Silent	silent	Silent	Silent	1.5x
5. Wage Differential													
a. Swing Shift	work 7.5 hrs for 8 hrs pay		2x for 8th hr of work	25% diff pay for 2 or 3 shifts	8hrs regular pay + 10% for 7.5hrs work		1.5x	7hrs straight time +25%	7 hrs straight time + 30%	Straight +10% fringe, 8th hr 1.5x	Straight+20% fringe	Silent	1.5x
b. Graveyard Shift	silent		2x for 8th hr of work	9hrs pay for 8 hrs worked +25%	8hrs regular pay + 15% for 7hrs work		1.5x		7 hrs straight time + 30%	Straight +15% fringe			1.5x
c. Irregular Shift	silent		2x for 8th hr of work	9hrs pay for 8 hours worked 25%	Silent		1.5x	7hrs straight time +25%	7 hrs straight time + 30%		after 8 hrs, before 7:00 am and after 3:30pm	straight	1.5x
6. Overtime	over 7 hours worked on 2nd shift paid at double time rates		Over 7 hours worked on 2nd shift paid at double time rates	base + 2x benefits/hrs	1.5x the shift hourly rate	1.5x; Sun is 2x	1.5x	7hrs straight time +25%	2x	1.5x, Sat, 2x Sun	2x Sat, Sun	1.5x	1.5x
III. Holidays													
A. Recognized Holidays	Total=7	Total=10	Total= 10	Total=11	Total=9	Total=7	Total=8	Total= 10+ general election	Total=10	Total= 8	Total=10	Total= 10	Total=11
B. Payment					** work only if emergency		when workes 1.5x	when worked 2x	When worked 2x	When worked 1.5	When worked 2x	when worked 1.5x	when worked 1.5x

School Construction Authority
Analysis of the Economic Benefits of a Project Labor Agreement
Shift Differential Savings

FY 2005

Project Sampling (fn 1.)	Total Cost	Construction Cost	Labor & Material Cost	Labor Cost	Composite Labor Cost/Hr. fn 2.	Avg. Labor Cost/Hr.	Labor Hours	Composite PLA Labor Cost/Hour fn 3.	Avg. PLA Labor Cost/Hr.	PLA Labor Cost	Estimated Savings fn 4.
Exterior Modernization	$ 281,180,000	$ 241,149,228	$ 199,296,883	$ 129,542,974	$336.56	$84.14	1,539,612	$248.34	$62.09	95,586,826	33,956,148
Building Upgrades											
Climate Control	$ 17,400,000	$ 14,262,295	$ 11,787,021	$ 7,072,212	$201.49	$100.75	70,199	$164.18	$82.09	5,762,647	1,309,565
Low Voltage Electrical	$ 78,430,000	$ 64,286,885	$ 53,129,657	$ 31,877,794	$95.21	$95.21	334,816	$83.75	$83.75	28,040,807	3,836,987
Lighting	$ 107,420,000	$ 88,049,180	$ 72,767,918	$ 43,660,751	$95.21	$95.21	458,573	$83.75	$83.75	38,405,502	5,255,248
System Replacements											
Windows	$ 123,630,000	$ 101,336,066	$ 83,748,815	$ 33,499,526	$329.75	$82.44	406,363	$282.09	$70.52	28,657,714	4,841,812
Exterior Masonry	$ 76,980,000	$ 63,098,361	$ 52,147,406	$ 36,503,184	$336.56	$84.14	433,839	$248.34	$62.09	26,934,872	9,568,311
Floors	$ 16,130,000	$ 11,948,148	$ 9,874,503	$ 5,924,702	$329.75	$82.44	71,869	$282.09	$70.52	5,068,382	856,319
Paved Area Concrete	$ 8,930,000	$ 6,614,815	$ 5,466,789	$ 3,280,073	$388.98	$77.80	42,162	$284.20	$56.84	2,396,516	883,557
Auditorium Upgrade	$ 6,100,000	$ 4,518,519	$ 3,734,313	$ 2,614,019	$559.77	$79.97	32,689	$464.87	$66.41	2,170,854	443,165
Electrical System	$ 55,930,000	$ 45,844,262	$ 37,887,820	$ 15,155,128	$190.42	$190.42	79,588	$167.50	$83.75	6,665,487	8,489,641
Roofs	$ 25,500,000	$ 20,901,639	$ 17,274,082	$ 12,091,857	$79.73	$79.73	151,660	$60.33	$60.33	9,149,652	2,942,205
Improvements and Restructing											
Upgrade Science Lab	$ 55,340,000	$ 45,360,656	$ 37,488,145	$ 22,492,887	$695.76	$695.76	32,329	$584.50	$73.06	2,362,002	20,130,885
Multi-Campus Transition Work	$ 56,959,600	$ 46,688,197	$ 38,585,287	$ 27,009,701	$559.77	$79.97	337,760	$464.87	$66.41	22,430,640	4,579,060
Upgrade Student Toilets	$ 49,595,470	$ 40,652,025	$ 33,596,715	$ 20,158,029	$644.16	$92.02	219,055	$546.56	$68.32	14,965,809	5,192,220
Classroom Conversion	$ 15,870,400	$ 11,755,852	$ 9,715,580	$ 6,800,906	$559.77	$79.97	85,046	$464.87	$66.41	5,647,922	1,152,984
Upgrade Electrical System	$ 156,222,996	$ 128,051,636	$ 105,827,798	$ 42,331,119	$95.21	$95.21	444,608	$83.75	$83.75	37,235,913	5,095,207
Satellite Library	$ 6,400,000	$ 4,740,741	$ 3,917,968	$ 2,350,781	$559.77	$559.77	4,200	$464.87	$66.41	278,892	2,071,889
Safety Enhancement	$ 11,516,000	$ 8,530,370	$ 7,049,893	$ 4,229,936	$95.21	$95.21	44,427	$83.75	$83.75	3,720,797	509,138
Safety & Security (Note 2&4)											
Safety Systems	$ 31,880,967	$ 23,615,531	$ 19,516,968	$ 9,758,484	$95.21	$95.21	102,494	$83.75	$83.75	8,583,899	1,174,585
Total	$ 1,181,415,433	$ 971,404,405	$ 802,813,558	$ 456,354,062			4,891,288			344,065,135	112,288,927

Notes:

1. The components listed in "Project Sampling" represent identified sample components of the overall Project, totaling 71% of the total anticipated work. The total cost and savings calculated for that 71% of the work appear in the "Grand Total" numbers at the end of the chart. The "100% Total" which appears below that entry reflects the calculated savings extrapolated to 100% of the project.
2. The Composite Labor Cost/Hr. was calculated based on the costs for the crew mix working a second shift under the curent labor agreements. Escalation of 4% per year was used.
3. The Composite PLA Labor Cost/Hr. equals the the cost of the same labor mix working a second shift with the 5% shift differential under the PLA.
4. The Savings equals the Labor Cost minus the PLA Labor Cost.
5. These savings assume that, with or without a PLA, 100% of the construction is performed by contractors otherwise subject to local labor agreements. If the savings were instead calculated assuming 95% /5% split between union and non-union contractors (based on the SCA's history. It can be assumed that even in the absence of a PLA at least 95% of the successful bidders will be union contractors), the final, savings would be only slightly, and not significantly less.

School Construction Authority
Analysis of the Economic Benefits of a Project Labor Agreement
Shift Differential Savings

FY 2006

Project Sampling (fn 1.)	Total Cost	Construction Cost	Labor & Material Cost	Labor Cost	Composite Labor Cost/Hr. (fn 2.)	Avg. Labor Cost/Hr.	Labor Hours	Composite PLA Labor Cost/Hour (fn 3.)	Avg. PLA Labor Cost/Hr.	PLA Labor Cost	Estimated Savings (fn 4.)
Exterior Modernization	$ 33,350,000	$ 28,602,058	$ 23,638,065	$ 15,364,742	$350.00	$87.50	175,597	$258.28	$64.57	11,338,302	4,026,440
Building Upgrades											
Climate Control	$ 13,150,000	$ 10,778,689	$ 8,908,007	$ 5,344,804	$209.55	$104.78	51,012	$170.74	$85.37	4,354,912	989,892
Low Voltage Electrical	$ 69,830,000	$ 57,237,705	$ 47,303,888	$ 28,382,333	$99.02	$99.02	286,632	$87.10	$87.10	24,965,676	3,416,657
Lighting	$ 129,180,000	$ 105,885,246	$ 87,508,468	$ 52,505,081	$99.02	$99.02	530,247	$87.10	$87.10	46,184,534	6,320,547
System Replacements											
Windows	$ 40,670,000	$ 33,336,066	$ 27,550,467	$ 11,020,187	$342.92	$85.73	128,545	$293.35	$73.34	9,427,190	1,592,997
Exterior Masonry	$ 12,330,000	$ 10,106,557	$ 8,352,527	$ 5,846,769	$350.00	$87.50	66,820	$258.28	$64.57	4,314,581	1,532,188
Floors	$ 17,010,000	$ 12,600,000	$ 10,413,223	$ 6,247,934	$342.92	$85.73	72,879	$293.35	$73.34	5,344,778	903,155
Paved Area Concrete	$ 36,330,000	$ 26,911,111	$ 22,240,588	$ 13,344,353	$404.60	$80.92	164,908	$295.53	$59.11	9,747,050	3,597,302
Auditorium Upgrade	$ 74,030,000	$ 54,837,037	$ 45,319,865	$ 31,723,906	$582.16	$83.17	381,454	$483.46	$69.07	26,345,402	5,378,503
Electrical System	$ 60,670,000	$ 49,729,508	$ 41,098,767	$ 16,439,507	$198.04	$99.02	166,022	$87.10	$43.55	7,230,262	9,209,245
Roofs	$ 19,190,000	$ 15,729,508	$ 12,999,594	$ 9,099,715	$82.92	$82.92	109,741	$62.75	$62.75	6,886,242	2,213,474
Improvements and Restructing											
Upgrade Science Lab	$ 57,000,000	$ 46,721,311	$ 38,612,654	$ 23,167,592	$666.68	$95.24	243,255	$554.75	$79.25	19,277,947	3,889,645
Multi-Campus Transition Work	$ 56,959,600	$ 46,688,197	$ 38,585,287	$ 27,009,701	$582.16	$83.17	324,770	$483.46	$69.07	22,430,448	4,579,252
Upgrade Student Toilets	$ 49,595,470	$ 40,652,025	$ 33,596,715	$ 20,158,029	$669.90	$83.74	240,729	$568.40	$71.05	17,103,782	3,054,247
Classroom Conversion	$ 15,870,400	$ 11,755,852	$ 9,715,580	$ 6,800,906	$582.16	$83.17	81,775	$483.46	$69.07	5,647,873	1,153,033
Upgrade Electrical System	$ 156,222,996	$ 128,051,636	$ 105,827,798	$ 42,331,119	$99.02	$99.02	427,501	$83.75	$87.10	37,235,311	5,095,808
Satellite Library	$ 6,400,000	$ 4,740,741	$ 3,917,968	$ 2,350,781	$582.16	$83.17	28,266	$483.46	$69.07	1,952,227	398,554
Safety Enhancement	$ 11,516,000	$ 8,530,370	$ 7,049,893	$ 4,229,936	$99.02	$99.02	42,718	$83.75	$87.10	3,720,737	509,198
Safety & Security (Note 2&4)		$ -									
Safety Systems	$ 38,860,000	$ 28,785,185	$ 23,789,409	$ 11,894,705	$99.02	$99.02	120,124	$87.10	$87.10	10,462,823	1,431,881
Total	$ 898,164,466	$ 721,678,802	$ 596,428,762	$ 333,262,098			3,642,996			273,970,078	59,292,020

Notes:

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3. The Composite PLA Labor Cost/Hr. equals the the cost of the same labor mix working a second shift with the 5% shift differential under the PLA.
4. The Savings equals the Labor Cost minus the PLA Labor Cost.
5. These savings assume that, with or without a PLA, 100% of the construction is performed by contractors otherwise subject to local labor agreements. If the savings were instead calculated assuming 95% /5% split between union and non-union contractors (based on the SCA's history. It can be assumed that even in the absence of a PLA at least 95% of the successful bidders will be union contractors), the final, savings would be only slightly, and not significantly less.

School Construction Authority
Analysis of the Economic Benefits of a Project Labor Agreement
Shift Differential Savings

FY 2007

Project Sampling (fn 1.)	Total Cost	Construction Cost	Labor & Material Cost	Labor Cost	Composite Labor Cost/Hr. (fn 2.)	Avg. Labor Cost/Hr.	Labor Hours	Composite PLA Labor Cost/Hour (fn 3.)	Avg. PLA Labor Cost/Hr.	PLA Labor Cost	Estimated Savings (fn 4.)
Exterior Modernization	$ 6,860,000	$ 5,883,362	$ 4,862,283	$ 3,160,484	$364.01	$91.00	34,730	$268.62	$67.16	2,332,269	828,215
Building Upgrades											
Climate Control	$ 5,770,000	$ 4,729,508	$ 3,908,684	$ 2,345,211	$213.16	$106.58	22,004	$173.37	$86.69	1,907,437	437,774
Low Voltage Electrical	$ 32,220,000	$ 26,409,836	$ 21,826,311	$ 13,095,786	$98.21	$98.21	133,345	$86.38	$86.38	11,518,318	1,577,468
Lighting	$ 47,650,000	$ 39,057,377	$ 32,278,824	$ 19,367,294	$98.21	$98.21	197,203	$86.38	$86.38	17,034,384	2,332,910
System Replacements											
Windows	$ 70,330,000	$ 57,647,541	$ 47,642,596	$ 19,057,038	$339.71	$84.93	224,392	$290.88	$72.72	16,317,775	2,739,263
Exterior Masonry	$ 11,190,000	$ 9,172,131	$ 7,580,274	$ 5,306,192	$364.01	$91.00	58,308	$268.62	$67.16	3,915,687	1,390,505
Floors	$ 5,010,000	$ 3,711,111	$ 3,067,034	$ 1,840,220	$339.71	$84.93	21,668	$290.88	$72.72	1,575,707	264,514
Paved Area Concrete	$ 32,680,000	$ 24,207,407	$ 20,006,122	$ 12,003,673	$420.81	$84.16	142,626	$307.37	$61.47	8,767,779	3,235,894
Auditorium Upgrade	$ 105,820,000	$ 78,385,185	$ 64,781,145	$ 45,346,801	$589.40	$84.20	538,561	$489.13	$69.88	37,632,306	7,714,496
Electrical System	$ 25,250,000	$ 20,696,721	$ 17,104,728	$ 6,841,891	$98.21	$98.21	69,666	$86.38	$86.38	6,017,743	824,148
Roofs	$ 22,200,000	$ 18,196,721	$ 15,038,613	$ 10,527,029	$86.23	$86.23	122,081	$86.23	$65.26	7,966,994	2,560,035
Improvements and Restructing											
Upgrade Science Lab	$ 58,710,000	$ 48,122,951	$ 39,771,034	$ 23,862,620	$672.52	$96.07	248,377	$559.07	$79.87	19,837,143	4,025,478
Multi-Campus Transition Work	$ 56,959,600	$ 46,688,197	$ 38,585,287	$ 27,009,701	$589.40	$84.20	320,780	$489.13	$69.88	22,414,752	4,594,949
Upgrade Student Toilets	$ 49,595,470	$ 40,652,025	$ 33,596,715	$ 20,158,029	$685.38	$85.67	235,292	$581.68	$72.71	17,108,060	3,049,969
Classroom Conversion	$ 15,870,400	$ 11,755,852	$ 9,715,580	$ 6,800,906	$589.40	$84.20	80,771	$489.13	$69.88	5,643,921	1,156,985
Upgrade Electrical System	$ 156,222,996	$ 128,051,636	$ 105,827,798	$ 42,331,119	$98.21	$98.21	431,027	$86.38	$86.38	37,232,075	5,099,044
Satellite Library	$ 6,400,000	$ 4,740,741	$ 3,917,968	$ 2,350,781	$589.40	$84.20	27,919	$489.13	$69.88	1,950,861	399,920
Safety Enhancement	$ 11,516,000	$ 8,530,370	$ 7,049,893	$ 4,229,936	$98.21	$98.21	43,070	$86.38	$86.38	3,720,414	509,522
Safety & Security (Note 2&4)		$ -									
Safety Systems	$ 12,100,000	$ 8,962,963	$ 7,407,407	$ 3,703,704	$98.21	$98.21	37,712	$86.38	$86.38	3,257,570	446,134
Total	$ 732,354,466	$ 585,601,636	$ 483,968,294	$ 269,338,415						226,151,193	43,187,222

Notes:

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4. The Savings equals the Labor Cost minus the PLA Labor Cost.
5. These savings assume that, with or without a PLA, 100% of the construction is performed by contractors otherwise subject to local labor agreements. If the savings were instead calculated assuming 95% /5% split between union and non-union contractors (based on the SCA's history. It can be assumed that even in the absence of a PLA at least 95% of the successful bidders will be union contractors), the final, savings would be only slightly, and not significantly less.

School Construction Authority
Analysis of the Economic Benefits of a Project Labor Agreement
Shift Differential Savings

FY 2008

Project Sampling (fn 1.)	Total Cost	Construction Cost	Labor & Material Cost	Labor Cost	Composite Labor Cost/Hr. (fn 2.)	Avg. Labor Cost/Hr.	Labor Hours	Composite PLA Labor Cost/Hour (fn 3.)	Avg. PLA Labor Cost/Hr.	PLA Labor Cost	Estimated Savings (fn 4.)
Exterior Modernization	$ 18,860,000	$ 16,174,957	$ 13,367,733	$ 8,689,027	$378.58	$94.65	91,807	$279.35	$69.84	6,411,537	2,277,490
Building Upgrades											
Climate Control	$ 13,370,000	$ 10,959,016	$ 9,057,038	$ 5,434,223	$221.69	$110.85	49,025	$180.31	$90.16	4,419,887	1,014,336
Low Voltage Electrical	$ 71,980,000	$ 59,000,000	$ 48,760,331	$ 29,256,198	$102.14	$102.14	286,432	$89.84	$89.84	25,733,081	3,523,118
Lighting	$ 86,440,000	$ 70,852,459	$ 58,555,751	$ 35,133,451	$102.14	$102.14	343,973	$89.84	$89.84	30,902,577	4,230,874
System Replacements											
Windows	$ 12,200,000	$ 10,000,000	$ 8,264,463	$ 3,305,785	$370.87	$92.72	35,654	$317.27	$79.32	2,828,016	477,769
Exterior Masonry	$ 5,760,000	$ 4,721,311	$ 3,901,910	$ 2,731,337	$378.58	$94.65	28,859	$279.35	$69.84	2,015,424	715,914
Floors	$ 14,180,000	$ 10,503,704	$ 8,680,747	$ 5,208,448	$370.87	$92.72	56,175	$317.27	$79.32	4,455,697	752,751
Paved Area Concrete	$ 41,730,000	$ 30,911,111	$ 25,546,373	$ 15,327,824	$437.63	$87.53	175,123	$319.65	$63.93	11,195,619	4,132,204
Auditorium Upgrade	$ 105,240,000	$ 77,955,556	$ 64,426,079	$ 45,098,255	$624.69	$89.24	505,351	$518.52	$74.07	37,433,523	7,664,733
Electrical System	$ 72,030,000	$ 59,040,984	$ 48,794,201	$ 19,517,681	$204.28	$102.14	191,088	$89.84	$44.92	8,583,652	10,934,029
Roofs	$ 1,170,000	$ 959,016	$ 792,576	$ 554,803	$89.67	$89.67	6,187	$67.86	$67.86	419,861	134,942
Improvements and Restructing											
Upgrade Science Lab	$ 60,470,000	$ 49,565,574	$ 40,963,284	$ 24,577,970	$711.24	$101.61	241,896	$591.28	$84.47	20,432,572	4,145,399
Multi-Campus Transition Work	$ 56,959,600	$ 46,688,197	$ 38,585,287	$ 27,009,701	$624.69	$89.24	302,659	$518.52	$74.07	22,419,232	4,590,469
Upgrade Student Toilets	$ 49,595,470	$ 40,652,025	$ 33,596,715	$ 20,158,029	$724.54	$90.57	222,575	$614.78	$76.85	17,104,305	3,053,724
Classroom Conversion	$ 15,870,400	$ 11,755,852	$ 9,715,580	$ 6,800,906	$624.69	$89.24	76,208	$518.52	$74.07	5,645,049	1,155,857
Upgrade Electrical System	$ 156,222,996	$ 126,051,636	$ 105,827,798	$ 42,331,119	$102.14	$102.14	414,442	$89.84	$89.84	37,233,481	5,097,638
Satellite Library	$ 6,400,000	$ 4,740,741	$ 3,917,968	$ 2,350,781	$624.69	$89.24	26,342	$518.52	$74.07	1,951,251	399,530
Safety Enhancement	$ 11,516,000	$ 8,530,370	$ 7,049,893	$ 4,229,936	$102.14	$102.14	41,413	$89.84	$89.84	3,720,554	509,381
Safety & Security (Note 2&4)		$ -									
Safety Systems	$ 31,780,000	$ 23,540,741	$ 19,455,158	$ 9,727,579	$102.14	$102.14	95,238	$89.84	$89.84	8,556,155	1,171,424
Total	$ 831,774,466	$ 664,603,249	$ 549,258,884	$ 307,443,052						251,461,472	55,981,580

Notes:

1. The components listed in "Project Sampling" represent identified sample components of the overall Project, totaling 71% of the total anticipated work. The total cost and savings calculated for that 71% of the work appear in the "Grand Total" numbers at the end of the chart. The "100% Total" which appears below that entry reflects the calculated savings extrapolated to 100% of the project.
2. The Composite Labor Cost/Hr. was calculated based on the costs for the crew mix working a second shift under the curent labor agreements. Escalation of 4% per year was used.
3. The Composite PLA Labor Cost/Hr. equals the the cost of the same labor mix working a second shift with the 5% shift differential under the PLA.
4. The Savings equals the Labor Cost minus the PLA Labor Cost.
5. These savings assume that, with or without a PLA, 100% of the construction is performed by contractors otherwise subject to local labor agreements. If the savings were instead calculated assuming 95% /5% split between union and non-union contractors (based on the SCA's history. It can be assumed that even in the absence of a PLA at least 95% of the successful bidders will be union contractors), the final, savings would be only slightly, and not significantly less.

School Construction Authority
Analysis of the Economic Benefits of a Project Labor Agreement
Shift Differential Savings

FY 2009

Project Sampling (fn 1.)	Total Cost	Construction Cost	Labor & Material Cost	Labor Cost	Composite Labor Cost/Hr. (fn 2.)	Avg. Labor Cost/Hr.	Labor Hours	Composite PLA Labor Cost/Hour (fn 3.)	Avg. PLA Labor Cost/Hr.	PLA Labor Cost	Estimated Savings (fn 4.)
Exterior Modernization	$ 8,940,000	$ 7,667,238	$ 6,336,561	$ 4,118,764	$393.73	$98.43	41,844	$290.52	$72.63	$ 3,039,096	$ 1,079,668
Building Upgrades											
Climate Control	$ 23,460,000	$ 19,229,508	$ 15,892,156	$ 9,535,293	$230.55	$115.28	82,718	$187.52	$93.76	$ 7,755,620	$ 1,779,673
Low Voltage Electrical	$ 108,210,000	$ 88,696,721	$ 73,303,075	$ 43,981,845	$106.22	$106.22	414,064	$93.43	$93.43	$ 38,685,971	$ 5,295,875
Lighting	$ 193,170,000	$ 158,336,066	$ 130,856,253	$ 78,513,752	$106.22	$106.22	739,162	$93.43	$93.43	$ 69,059,874	$ 9,453,878
System Replacements											
Windows	$ 24,440,000	$ 20,032,787	$ 16,556,022	$ 6,622,409	$365.72	$96.43	68,676	$329.97	$82.49	$ 5,665,240	$ 957,169
Exterior Masonry	$ 13,670,000	$ 11,204,918	$ 9,260,263	$ 6,482,184	$393.73	$98.43	65,854	$290.52	$72.63	$ 4,782,983	$ 1,699,200
Floors	$ 25,500,000	$ 18,888,889	$ 15,610,652	$ 9,366,391	$365.72	$96.43	97,132	$329.97	$82.49	$ 8,012,621	$ 1,353,770
Paved Area Concrete	$ 108,440,000	$ 80,325,926	$ 66,385,063	$ 39,831,038	$455.12	$91.02	437,588	$332.45	$66.49	$ 29,095,246	$ 10,735,791
Auditorium Upgrade	$ 125,230,000	$ 92,762,963	$ 76,663,606	$ 53,664,524	$649.67	$92.81	578,219	$539.26	$77.04	$ 44,544,355	$ 9,120,169
Electrical System	$ 103,370,000	$ 84,729,508	$ 70,024,387	$ 28,009,755	$212.44	$106.22	263,696	$186.86	$93.43	$ 24,637,087	$ 3,372,668
Roofs	$ 11,330,000	$ 9,286,885	$ 7,675,112	$ 5,372,578	$77.30	$77.30	69,503	$70.58	$70.58	$ 4,905,518	$ 467,060
Improvements and Restructing											
Upgrade Science Lab	$ 62,280,000	$ 51,049,180	$ 42,189,405	$ 25,313,643	$739.58	$105.65	239,589	$614.93	$87.85	$ 21,047,241	$ 4,266,402
Multi-Campus Transition Work	$ 56,959,600	$ 46,688,197	$ 38,585,287	$ 27,009,701	$649.67	$92.81	291,021	$539.26	$77.04	$ 22,419,461	$ 4,590,240
Upgrade Student Toilets	$ 49,595,470	$ 40,652,025	$ 33,596,715	$ 20,158,029	$753.54	$94.19	214,009	$639.36	$79.92	$ 17,103,587	$ 3,054,441
Classroom Conversion	$ 15,870,400	$ 11,755,852	$ 9,715,580	$ 6,800,906	$649.67	$92.81	73,278	$539.26	$77.04	$ 5,645,107	$ 1,155,799
Upgrade Electrical System	$ 156,222,996	$ 128,051,636	$ 105,827,798	$ 42,331,119	$106.22	$106.22	398,523	$93.43	$93.43	37,234,009	5,097,110
Satellite Library	$ 6,400,000	$ 4,740,741	$ 3,917,968	$ 2,350,781	$649.67	$92.81	25,329	$539.26	$77.04	1,951,271	399,510
Safety Enhancement	$ 11,516,000	$ 8,530,370	$ 7,049,893	$ 4,229,936	$106.22	$106.22	39,822	$93.43	$93.43	3,720,607	509,329
Safety & Security (Note 2&4)		$ -									
Safety Systems	$ 38,410,000	$ 28,451,852	$ 23,513,927	$ 11,756,964	$106.22	$106.22	110,685	$93.43	$93.43	$ 10,341,302	$ 1,415,661
Total	$ 1,143,014,466	$ 911,081,262	$ 752,959,721	$ 425,449,611						$ 359,646,197	$ 65,803,414
Grand Total	$ 4,786,723,297	$ 3,854,369,355	$ 3,185,429,219	$ 1,791,847,238						$ 1,455,294,076	$ 336,553,162
100% Total	$ 6,782,800,000	$ 5,428,689,232	$ 4,486,520,026	$ 2,523,728,505						$ 2,049,709,966	$ 474,018,539

Notes:

1. The components listed in "Project Sampling" represent identified sample components of the overall Project, totaling 71% of the total anticipated work. The total cost and savings calculated for that 71% of the work appear in the "Grand Total" numbers at the end of the chart. The "100% Total" which appears below that entry reflects the calculated savings extrapolated to 100% of the project.
2. The Composite Labor Cost/Hr. was calculated based on the costs for the crew mix working a second shift under the curent labor agreements. Escalation of 4% per year was used.
3. The Composite PLA Labor Cost/Hr. equals the the cost of the same labor mix working a second shift with the 5% shift differential under the PLA.
4. The Savings equals the Labor Cost minus the PLA Labor Cost.
5. These savings assume that, with or without a PLA, 100% of the construction is performed by contractors otherwise subject to local labor agreements. even in the absence of a PLA at least 95% of the successful bidders will be union contractors), the final, savings would be only slightly, and not significantly less.

School Construction Authority
PLA Economic Analysis
Holiday Savings 2005 - 2009

FY 2005

Trade	Current	PLA	Difference	Rate	Hours	Cost	Est. LH's	Hrs./Yr.	Est. No.	Savings
Bricklayers	10	6	4	$ 62.63	8	$ 2,004.16	1,538,380	2080	740	$ 1,482,288
Carpenters	10	6	4	$ 73.34	7	$ 2,053.52	383,638	1820	211	$ 432,861
Cement Workers	11	6	5	$ 65.10	7	$ 2,278.50	14,053	1820	8	$ 17,593
Concrete Workers	11	6	5	$ 51.39	7	$ 1,798.65	42,159	1820	23	$ 41,664
Electricians	9	6	3	$ 79.76	7	$ 1,674.96	1,130,169	1820	621	$ 1,040,103
Mason Tenders	7	6	1	$ 48.63	8	$ 389.04	644,686	2080	310	$ 120,581
Painters	8	6	2	$ 53.39	7	$ 747.46	93,567	1820	51	$ 38,427
Plasterers	10.25	6	4.25	$ 57.13	7	$ 1,699.62	10,583	1820	6	$ 9,883
Plumbers/Pipefitters	10	6	4	$ 76.60	7	$ 2,144.80	35,922	1820	20	$ 42,332
Roofers	8	6	2	$ 57.46	7	$ 804.44	177,472	1820	98	$ 78,443
Steamfitters	10	6	4	$ 76.33	7	$ 2,137.24	35,742	1820	20	$ 41,972
Tilesetters	8	6	2	$ 61.69	7	$ 863.66	62,182	1820	34	$ 29,508
						Total Savings FY 2005				**$ 3,375,656**

"Appendix C-1"

School Construction Authority
Analysis of the Economic Benefits of a Project Labor Agreement
Holiday Savings 2005 - 2009

FY 2006

Trade	Current	PLA	Difference	Rate	Hours	Cost	Est. LH's	Hrs./Yr.	Est. No.	Savings
Bricklayers	10	6	4	$ 65.13	8	$ 2,084.16	341,177	2080	164	$ 341,860
Carpenters	10	6	4	$ 76.27	7	$ 2,135.56	280,901	1820	154	$ 329,604
Cement Workers	11	6	5	$ 67.70	7	$ 2,369.50	46,729	1820	26	$ 60,838
Concrete Workers	11	6	5	$ 53.44	7	$ 1,870.40	140,188	1820	77	$ 144,070
Electricians	9	6	3	$ 82.95	7	$ 1,741.95	1,168,890	1820	642	$ 1,118,763
Mason Tenders	7	6	1	$ 50.58	8	$ 404.64	644,686	2080	310	$ 125,416
Painters	8	6	2	$ 55.53	7	$ 777.42	61,136	1820	34	$ 26,115
Plasterers	10.25	6	4.25	$ 59.42	7	$ 1,767.75	122,273	1820	67	$ 118,762
Plumbers/Pipefitters	10	6	4	$ 79.66	7	$ 2,230.48	26,102	1820	14	$ 31,989
Roofers	8	6	2	$ 59.76	7	$ 836.64	155,249	1820	85	$ 71,367
Steamfitters	10	6	4	$ 79.38	7	$ 2,222.64	27,102	1820	15	$ 33,098
Tilesetters	8	6	2	$ 64.16	7	$ 898.24	62,182	1820	34	$ 30,689
						Total Savings FY 2006				**$ 2,432,570**

"Appendix C-1"

School Construction Authority
Analysis of the Economic Benefits of a Project Labor Agreement
Holiday Savings 2005 - 2009

FY 2007

Trade	Current	PLA	Difference	Rate	Hours	Cost	Est. LH's	Hrs./Yr.	Est. No.	Savings
Bricklayers	10	6	4	$ 67.74	8	$ 2,167.68	83,723	2080	40	$ 87,253
Carpenters	10	6	4	$ 74.81	7	$ 2,094.68	398,026	1820	219	$ 458,098
Cement Workers	11	6	5	$ 70.41	7	$ 2,464.35	40,390	1820	22	$ 54,689
Concrete Workers	11	6	5	$ 55.58	7	$ 1,945.30	121,169	1820	67	$ 129,510
Electricians	9	6	3	$ 82.27	7	$ 1,727.67	826,944	1820	454	$ 784,993
Mason Tenders	7	6	1	$ 52.60	8	$ 420.80	865,298	2080	416	$ 175,056
Painters	8	6	2	$ 57.75	7	$ 808.50	87,150	1820	48	$ 38,715
Plasterers	10.25	6	4.25	$ 61.80	7	$ 1,838.55	174,300	1820	96	$ 176,076
Plumbers/Pipefitters	10	6	4	$ 82.85	7	$ 2,319.80	13,423	1820	7	$ 17,109
Roofers	10	6	4	$ 62.15	7	$ 1,740.20	177,472	1820	98	$ 169,691
Steamfitters	10	6	4	$ 82.55	7	$ 2,311.40	13,423	1820	7	$ 17,047
Tilesetters	11	6	5	$ 66.73	7	$ 2,335.55	60,762	1820	33	$ 77,974
						Total Savings FY 2007				**$ 2,186,209**

"Appendix C-1"

School Construction Authority
Analysis of the Economic Benefits of a Project Labor Agreement
Holiday Savings 2005 - 2009

FY 2008

Trade	Current	PLA	Difference	Rate	Hours	Cost	Est. LH's	Hrs./Yr.	Est. No.	Savings
Bricklayers	10	6	4	$ 70.45	8	$ 2,254.40	425,827	2080	205	$ 461,531
Carpenters	10	6	4	$ 82.49	7	$ 2,309.72	238,650	1820	131	$ 302,865
Cement Workers	11	6	5	$ 73.23	7	$ 2,563.05	49,592	1820	27	$ 69,839
Concrete Workers	11	6	5	$ 57.80	7	$ 2,023.00	148,777	1820	82	$ 165,371
Electricians	9	6	3	$ 85.56	7	$ 1,796.76	1,189,901	1820	654	$ 1,174,706
Mason Tenders	7	6	1	$ 54.70	8	$ 437.60	248,746	2080	120	$ 52,332
Painters	8	6	2	$ 60.06	7	$ 840.84	81,776	1820	45	$ 37,781
Plasterers	10.25	6	4.25	$ 64.27	7	$ 1,912.03	163,552	1820	90	$ 171,822
Plumbers/Pipefitters	10	6	4	$ 86.16	7	$ 2,412.48	25,093	1820	14	$ 33,261
Roofers	8	6	2	$ 64.63	7	$ 904.82	177,472	1820	98	$ 88,231
Steamiftters	10	6	4	$ 85.85	7	$ 2,403.80	50,185	1820	28	$ 66,283
Tilesetters	11	6	5	$ 69.40	7	$ 2,429.00	57,492	1820	32	$ 76,730
						Total Savings FY 2008				**$ 2,700,752**

"Appendix C-1"

School Construction Authority
Analysis of the Economic Benefits of a Project Labor Agreement
Holiday Savings 2005 - 2009

FY 2009

Trade	Current	PLA	Difference	Rate	Hours	Cost	Est. LH's	Hrs./Yr.	Est. No.	Savings
Bricklayers	10	6	4	$ 73.27	8	$ 2,344.64	80,117	2080	39	$ 90,310
Carpenters	10	6	4	$ 85.79	7	$ 2,402.12	217,623	1820	120	$ 287,230
Cement Workers	11	6	5	$ 76.16	7	$ 2,665.60	123,919	1820	68	$ 181,493
Concrete Workers	11	6	5	$ 60.11	7	$ 2,103.85	371,756	1820	204	$ 429,735
Electricians	9	6	3	$ 88.98	7	$ 1,868.58	1,819,154	1820	1,000	$ 1,867,711
Mason Tenders	7	6	1	$ 56.89	8	$ 455.12	140,599	2080	68	$ 30,764
Painters	8	6	2	$ 62.46	7	$ 874.44	93,567	1820	51	$ 44,956
Plasterers	10.25	6	4.25	$ 66.84	7	$ 1,988.49	187,135	1820	103	$ 204,459
Plumbers/Pipefitters	10	6	4	$ 89.61	7	$ 2,509.08	42,338	1820	23	$ 58,367
Roofers	8	6	2	$ 67.22	7	$ 941.08	177,472	1820	98	$ 91,767
Steamfitters	10	6	4	$ 89.29	7	$ 2,500.12	42,338	1820	23	$ 58,159
Tilesetters	11	6	5	$ 72.17	7	$ 2,525.95	55,280	1820	30	$ 76,722
						Total Savings FY 2009				**$ 3,421,672**

Grand Total Savings FY 2005 - 2009 **$ 14,116,859**

"Appendix C-1"

PROJECT LABOR AGREEMENT
COVERING SPECIFIED CONSTRUCTION WORK UNDER THE CAPITAL IMPROVEMENT AND RESTRUCTURING PROGRAMS (2005-2009)

New York City School Construction Authority
-and-
Building and Construction Trades Council
Of Greater New York and Vicinity

TABLE OF CONTENTS

PROJECT LABOR AGREEMENT COVERING SPECIFIED CONSTRUCTION ON BEHALF OF THE NEW YORK CITY SCHOOL CONSTRUCTION AUTHORITY

ARTICLE 1 - PREAMBLE

WHEREAS, the New York City School Construction Authority ("Authority"), acting as its own Construction Manager, desires to provide for the cost efficient, safe, quality, and timely completion of certain rehabilitation and renovation work performed under the Authority's Capital Improvement Program ("CIP") and Restructuring Program ("Program Work," as defined in Article 3) for Fiscal Years 2005 to 2009 in a manner designed to afford the lowest costs to the Authority, and the Public it represents, and the advancement of permissible statutory objectives;

WHEREAS, this Project Labor Agreement will foster the achievement of these goals, inter alia, by:

(1) providing a mechanism for responding to the unique construction needs associated with this Program Work and achieving the most cost effective means of construction, including direct labor cost savings, the Building and Construction Trades Council of Greater New York and Vicinity, on its behalf and on behalf of its affiliated Local Unions and their members, waiving various shift and other hourly premiums and other work and pay practices which would otherwise apply to Program Work;

(2) expediting the construction process and otherwise minimizing the disruption to the educational environment of New York City public schools;

(3) promoting the statutory objectives stated in the Authority's enabling legislation, Public Authorities Law § 1725 et seq., in a non-discriminatory manner designed to open construction opportunities to all qualified bidders;

(4) avoiding the costly delays of potential strikes, slowdowns, walkouts, picketing and other disruptions arising from work disputes and promoting labor harmony and peace for the duration of the Program Work;

(5) standardizing the terms and conditions governing the employment of labor on the Program Work;

(6) permitting wide flexibility in work scheduling and shift hours and times to allow maximum work to be done during off-school hours yet at affordable pay rates;

(7) permitting adjustments to work rules and staffing requirements from those which otherwise might obtain;

(8) providing comprehensive and standardized mechanisms for the settlement of work disputes, including those relating to jurisdiction;

(9) furthering public policy objectives as to improved employment opportunities for minorities, women and the economically disadvantaged through Project Pathways and other such programs;

(10) ensuring a reliable source of skilled and experienced labor;

and, WHEREAS, the Building and Construction Trades Council of Greater New York and Vicinity, its affiliated Local Unions and their members, desire to assist the Authority in improving public education in the City of New York, as well as to provide for stability, security and work opportunities which are afforded by a Project Labor Agreement;

and, WHEREAS, the Parties desire to maximize Program Work safety conditions for both workers and users of New York City Schools under construction;

NOW, THEREFORE, the Parties enter into this Agreement:

SECTION 1. PARTIES TO THE AGREEMENT

This is a Project Labor Agreement ("Agreement") for rehabilitation and renovation work to be performed under the defined CIP and Restructuring Program entered into by the New York City School Construction Authority and the Building and Construction Trades Council of Greater New York and Vicinity ("Council") (on behalf of itself and its affiliated Local Unions and their members) ("Local Unions"). The Council hereby warrants and represents that it has been duly authorized to enter into this Agreement on behalf of. and to bind.

its affiliated Local Unions and their members, as well as itself, as if each had individually signed this Agreement.

ARTICLE 2 - GENERAL CONDITIONS

SECTION 1. DEFINITIONS

Throughout this Agreement, the various Union parties, including the Building and Construction Trades Council of Greater New York and Vicinity and its affiliated Local Unions, are referred to singularly and collectively as "Union(s)"; where specific reference is made to "Local Unions," that phrase is sometimes used; the term "Contractor(s)" shall include any Construction Project Manager who may serve as a successor to the Authority in that role, to General Contractors and to all other contractors, and subcontractors of whatever tier, engaged in Program Work within the scope of this Agreement as defined in Article 3; the New York City School Construction Authority is referred to as the "Authority," except that when the Authority is referred to in its capacity as Construction Project Manager, it (or any successor to the Authority acting in that capacity) is referred to as "Construction Project Manager;" the Building and Construction Trades Council of Greater New York and Vicinity is referred to as the "Council"; and the work covered by this Agreement (as defined in Article 3) is referred to as "Program Work".

SECTION 2. CONDITIONS FOR AGREEMENT TO BECOME EFFECTIVE

This Agreement shall not become effective unless each of the following conditions are met: (1) the Agreement is signed by the Council, on behalf of itself, its affiliated Local Unions and their members; and (2) the Agreement is approved and signed by the President and Chief Executive Officer of the Authority.

SECTION 3. ENTITIES BOUND & ADMINISTRATION OF AGREEMENT

This Agreement shall be binding on all Unions and their affiliates, the Construction Project Manager (in its capacity as such) and all Contractors performing Program Work, as defined in Article 3. The Contractors shall include in any subcontract that they let for performance during the term of this Agreement a requirement that their subcontractors, of whatever tier, become signatory and bound by this Agreement with respect to that subcontracted work falling within the scope of Article 3. This Agreement shall be administered by the Construction Project Manager or such other designee as may be named by the Authority, on behalf of all Contractors.

SECTION 4. SUPREMACY CLAUSE

This Agreement, together with the local Collective Bargaining Agreements appended hereto as Schedule A, represents the complete understanding of all signatories and supersedes any national agreement, local agreement or other collective bargaining agreement of any type which would otherwise apply to Program Work, in whole or in part. Where a subject covered by the provisions of this Agreement is also covered by a Schedule A, the provisions of this Agreement shall prevail. It is further understood that no Contractor shall be required to sign any other agreement as a condition of performing Program Work. No practice, understanding or agreement between a Contractor and a Local Union which is not set forth in this Agreement shall be binding on Program Work unless endorsed in writing by the Construction Project Manager or such other designee as may be designated by the Authority.

SECTION 5. LIABILITY

The liability of any Contractor and the liability of any Union under this Agreement shall be several and not joint. The Construction Project Manager and any Contractor shall not be liable for any violations of this Agreement by any other Contractor; and the Council and Local Unions shall not be liable for any violations of this Agreement by any other Union.

SECTION 6. THE AUTHORITY

The Authority shall require in its bid specifications for all Program Work within the scope of Article 3 that all successful bidders, and their subcontractors of whatever tier, become bound by, and signatory to, this Agreement. The Authority (including in its role as Construction Project Manager) shall not be liable for any violation of this Agreement by any Contractor. It is understood that nothing in this Agreement shall be construed as limiting the sole discretion of the Authority (including in its role as Construction Project Manager) in determining which Contractors shall be awarded contracts for Program Work. It is further understood that the Authority (including in its role as Construction Project Manager) has sole discretion at any time to terminate, delay or suspend the Program Work, in whole or part.

SECTION 7. AVAILABILITY AND APPLICABILITY TO ALL SUCCESSFUL BIDDERS

The Unions agree that this Agreement will be made available to, and will fully apply to, any successful bidder for Program Work who becomes signatory thereto, without regard to whether that successful bidder performs work at other sites on either a union or non-union basis and without regard to whether employees of such successful bidder are, or are not

members of any unions. This Agreement shall not apply to the work of any Contractor which is performed at any location other than the site of Program Work.

ARTICLE 3 – SCOPE OF THE AGREEMENT

SECTION 1. WORKED COVERED

Program Work shall be limited to designated rehabilitation and renovation construction contracts bid and let by the New York City School Construction Authority after the effective date of this Agreement for rehabilitation and renovation work performed on New York City Public Schools pursuant to funds authorized under the Capital Improvement and Restructuring Programs for Fiscal Years 2005 to 2009. Subject to the foregoing, and the exclusions below, such Program Work generally shall include demolition, reconstruction, rehabilitation, renovation work associated with school improvement and restructuring, technology enhancement, safety enhancement, general enhancement, CIP and other programs and needs as set forth in the Capital Program.

It is understood that Program Work does not include, and this Project Labor Agreement shall not apply to, any other work, including:

1. Contracts let and work performed in connection with projects carried over, recycled from, or performed under bids or rebids relating to work initiated under Fiscal Years Programs prior to 2005, or to any contracts for Fiscal Year Programs after 2005 which have been bid prior to the effective date of this Agreement.

2. Contracts let and work performed in connection with any and all Mentor Contracts involving minority and women contractors, provided such contracts have a value of $1,000,000 or less.

3. Contracts let by and work performed under the authority of the New York City Department of Education or the New York City Department of Design and Construction.

4. Contracts let and work performed for lease build out construction.

5. Contracts let and work performed under the New Capacity Program of the Capital Plan (including new building construction, additions to existing facilities, and lease build outs).

6. Contracts let and work performed under the Charter and Partnership Schools Program of the Capital Plan.

7. Contracts let and work performed for Maintenance and Janitorial work.

8. Technology Enhancements to the extent they do not involve construction services.

9. Contracts let and worked performed which is supported by federal funding or financial assistance and falls within the coverage of Executive Order 13202 (or any similar rule, regulation or order), but only so long as Executive Order 13202 (or any similar rule, regulation or order) is in effect.

SECTION 2. TIME LIMITATIONS

In addition to falling within the scope of Section 1, to be covered by this Agreement Program Work must be (1) let for bid after the effective date of this Agreement, and (2) let for bid prior to June 30, 2009, the expiration date of this Agreement. It is understood that this Agreement, together with all of its provisions, shall remain in effect for all such Program Work until completion, even if not completed by the expiration date of the Agreement. If Program Work otherwise falling within the scope of Section 1 is not let for bid by the expiration

Manager, then those employees of the Construction Project Manager performing manual, on site construction labor will be covered by this Agreement);

e. Employees engaged in on-site equipment warranty work;

f. Employees engaged in geophysical testing other than boring for core samples;

g. Employees engaged in laboratory, specialty testing, or inspections, pursuant to a professional services agreement between the Authority, or any of the Authority's other professional consultants, and such laboratory, testing, inspection or surveying firm;

h. Employees engaged in work which is ancillary to Program Work and performed by third parties such as electric utilities, gas utilities, telephone companies, and railroads.

i. Employees engaged in technology installation (except to the extent they are involved in construction services in connection with such installation).

SECTION 4. NON-APPLICATION TO CERTAIN ENTITIES

This Agreement shall not apply to those parents, affiliates, subsidiaries, or other joint or sole ventures of any Contractor which do not perform Program Work. It is agreed, for the purposes of this Agreement only, that this Agreement does not have the effect of creating any joint employment, single employer or alter ego status among the Authority (including in its capacity as Construction Project Manager) or any Contractor. The Agreement shall further not apply to the Authority or any New York City or other municipal or State agency, authority, or

entity (including but not limited to the New York City Department of Education or the Department of Design & Construction), or any other public entity, and nothing contained herein shall be construed to prohibit or restrict the Authority or its employees or any State, New York City or other municipal or State authority, agency or entity (including but not limited to the New York City Department of Education or DDC) and its employees from performing on or off-site work related to Programs. As the contracts involving covered work are completed and accepted, the Agreement shall not have further force or effect on such items or areas except where inspections, additions, repairs, modifications, check-out and/or warranty work are assigned in writing (copy to Local Union involved) by the Construction Project Manager for performance under the terms of this Agreement.

ARTICLE 4 - UNION RECOGNITION AND EMPLOYMENT

SECTION 1. PRE-HIRE RECOGNITION

The Contractors recognize the Unions as the sole and exclusive bargaining representatives of all craft employees who are performing on-site Program Work, with respect to that work.

SECTION 2. UNION REFERRAL

A. The Contractors agree to hire craft employees for Program Work covered by this Agreement through the job referral systems and hiring halls (where the referrals meet the qualifications set forth in items 1, 2 and 4 of subparagraph B) established in the Local Unions' area collective bargaining agreements (attached as Schedule A to this Agreement). Notwithstanding this, Contractors shall have sole right to determine the competency of all

referrals; to determine the number of employees required; select employees for layoff (subject to Article 5, Section 3); and the sole right to reject any applicant referred by a Local Union, subject to required show-up payments. In the event that a Local Union is unable to fill any request for qualified employees within a 48-hour period after such requisition is made by a Contractor (Saturdays, Sundays and holidays excepted), a Contractor may employ qualified applicants from any other available source. In the event that the Local Union does not have a job referral system, the Contractor shall give the Local Union first preference to refer applicants, subject to the other provisions of this Article. The Contractor shall notify the Local Union of craft employees hired for Program Work within its jurisdiction from any source other than referral by the Union.

B. A Contractor may request by name, and the Local will honor, referral of persons who have applied to the Local for Program Work and who meet the following qualifications:

(1) possess any license required by New York State law for the Program Work to be performed;

(2) have worked a total of at least 1000 hours in the Construction field during the prior 3 years; and

(3) were on the Contractor's active payroll for at least 60 out of the 180 calendar days prior to the contract award.

No more than twelve per centum (12%) of the employees covered by this Agreement, per Contractor by craft, shall be hired through the special provisions above. Under this provision, name referrals begin with the eighth employee needed and continue on that same basis.

SECTION 3. NON-DISCRIMINATION IN REFERRALS

The Council represents that each Local Union hiring hall and referral system will be operated in a non-discriminatory manner and in full compliance with all applicable federal, state and local laws and regulations which require equal employment opportunities. Referrals shall not be affected in any way by the rules, regulations, bylaws, constitutional provisions or any other aspects or obligations of union membership, policies or requirements and shall be subject to such other conditions as are established in this Article. No employment applicant shall be discriminated against by any referral system or hiring hall because of the applicant's union membership, or lack thereof.

SECTION 4. MINORITY AND FEMALE REFERRALS

In the event a Local Union either fails, or is unable, to refer qualified minority or female applicants in percentages equaling affirmative action goals as set forth in the Authority's bid specifications, the Contractor may employ qualified minority or female applicants from any other available source.

SECTION 5. CROSS AND QUALIFIED REFERRALS

The Local Unions shall not knowingly refer to a Contractor an employee then employed by another Contractor working under this Agreement. The Local Unions will exert their utmost efforts to recruit sufficient numbers of skilled and qualified crafts employees to fulfill the requirements of the Contractor.

SECTION 6. UNION DUES

All employees covered by this Agreement shall be subject to the union security provisions contained in the applicable Schedule A local agreements, as amended from time to time, but only for the period of time during which they are performing on-site Program Work and only to the extent of tendering payment of the applicable union dues and assessments uniformly required for union membership in the Local Unions which represents the craft in which the employee is performing Program Work. No employee shall be discriminated against at any Program Work site because of the employee's union membership or lack thereof. In the case of unaffiliated employees, the dues payment will be received by the Local Unions as an agency shop fee.

SECTION 7. CRAFT FOREPERSONS AND GENERAL FOREPERSONS

The selection of craft forepersons and/or general forepersons and the number of forepersons required shall be solely the responsibility of the Contractor except where otherwise provided by specific provisions of an applicable Schedule A. All forepersons shall take orders exclusively from the designated Contractor representatives. Craft forepersons shall be designated as working forepersons at the request of the Contractor, except when an existing local Collective Bargaining Agreement prohibits a foreperson from working when the craftspersons he is leading exceed a specified number.

ARTICLE 5 - UNION REPRESENTATION

SECTION 1. LOCAL UNION REPRESENTATIVE

Each Local Union representing on-site Program Work employees shall be entitled to designate in writing (copy to Contractor involved and Construction Project Manager) one representative, and/or the Business Manager, who shall be afforded access to the Program Work site.

SECTION 2. STEWARDS

(a) Each Local Union shall have the right to designate a working journey person as a Steward and an alternate, and shall notify the Contractor and Construction Project Manager of the identity of the designated Steward (and alternate) prior to the assumption of such duties. Stewards shall not exercise supervisory functions and will receive the regular rate of pay for their craft classifications. There will be no non-working Stewards.

(b) In addition to their work as an employee, the Steward shall have the right to receive complaints or grievances and to discuss and assist in their adjustment with the Contractor's appropriate supervisor. Each Steward shall be concerned with the employees of the Steward's Contractor and, if applicable, subcontractors of that Contractor, but not with the employees of any other Contractor. The Contractor will not discriminate against the Steward in the proper performance of Union duties.

(c) The Stewards shall not have the right to determine when overtime shall be worked, or who shall work overtime except pursuant to a Schedule A provision providing procedures for the equitable distribution of overtime.

SECTION 3. LAYOFF OF A STEWARD

Contractors agree to notify the appropriate Union 24 hours prior to the layoff of a Steward, except in cases of discipline or discharge for just cause. If a Steward is protected against layoff by a Schedule A provision, such provision shall be recognized to the extent the Steward possesses the necessary qualifications to perform the work required. In any case in which a Steward is discharged or disciplined for just cause, the Local Union involved shall be notified immediately by the Contractor.

ARTICLE 6 - MANAGEMENT'S RIGHTS

SECTION 1. RESERVATION OF RIGHTS

Except as expressly limited by a specific provision of this Agreement, Contractors retain full and exclusive authority for the management of their operations including, but not limited to: the right to direct the work force, including determination as to the number of employees to be hired and the qualifications therefore; the promotion, transfer, layoff of its employees; or the discipline or discharge for just cause of its employees; the assignment and schedule of work; the promulgation of reasonable Program Work rules that are not inconsistent with this Agreement or rules common in the industry and are reasonably related to the nature of the work; and, the requirement, timing and number of employees to be utilized for overtime work. No rules, customs, or practices which limit or restrict productivity or efficiency of the

individual, as determined by the Contractor or Authority (including in its role as Construction Project Manager), and/or joint working efforts with other employees shall be permitted or observed.

SECTION 2. MATERIALS, METHODS & EQUIPMENT

There shall be no limitation or restriction upon the Contractors' choice of materials, techniques, methods, technology or design, or, regardless of source or location, upon the use and installation of equipment, machinery, package units, pre-cast, pre-fabricated, pre-finished, or pre-assembled materials or products, tools, or other labor-saving devices. Contractors may, without restriction, install or use materials, supplies or equipment regardless of their source. The on-site installation or application of such items shall be performed by the craft having jurisdiction over such work; provided, however, it is recognized that other personnel having special qualifications may participate, in a supervisory capacity, in the installation, check-off or testing of specialized or unusual equipment or facilities as designated by the Contractor. There shall be no restrictions as to work which is performed off-site for Program Work.

ARTICLE 7 - WORK STOPPAGES AND LOCKOUTS

SECTION 1. NO STRIKES-NO LOCK OUT

There shall be no strikes, sympathy strikes, picketing, work stoppages, slowdowns, hand billing, demonstrations or other disruptive activity at the Program Work site for any reason by any Union or employee against any Contractor or employer. There shall be no other Union, or concerted or employee activity which disrupts or interferes with the operation of the Program Work or the educational mission and objectives of the New York City public

schools at any Program Work site. Failure of any Union or employee to cross any picket line established by any Union, signatory or non-signatory to this Agreement, or the picket or demonstration line of any other organization, at or in proximity to a Program Work site is a violation of this Article. Should any employees breach this provision, the Unions will use their best efforts to try to immediately end that breach and return all employees to work. There shall be no lockout at a Program Work site by any signatory Contractor.

SECTION 2. DISCHARGE FOR VIOLATION

A Contractor may discharge any employee violating Section 1, above, and any such employee will not be eligible thereafter for referral under this Agreement for a period of 100 days.

SECTION 3. NOTIFICATION

If a Contractor contends that any Union has violated this Article, it will notify the Local Union involved advising of such fact, with copies of the notification to the Council. The Local Union shall instruct and order, the Council shall request, and each shall otherwise use their best efforts to cause, the employees (and where necessary the Council shall use its best efforts to cause the Local Union), to immediately cease and desist from any violation of this Article. If the Council complies with these obligations it shall not be liable for the unauthorized acts of a Local Union or its members. Similarly, a Local Union and its members will not be liable for any unauthorized acts of the Council. Failure of a Contractor or the Construction Project Manager to give any notification set forth in this Article shall not excuse any violation of Section 1 of this Article.

SECTION 4. EXPEDITED ARBITRATION

Any Contractor or Union alleging a violation of Section 1 of this Article may utilize the expedited procedure set forth below (in lieu of, or in addition to, any actions at law or equity) that may be brought.

a. A party invoking this procedure shall notify John Feerick or Jeffrey Selchick who shall alternate (beginning with Arbitrator Feerick) as Arbitrator under this expedited arbitration procedure. If the Arbitrator next on the list is not available to hear the matter within 24 hours of notice, the next Arbitrator on the list shall be called. Copies of such notification will be simultaneously sent to the alleged violator and Council.

b. The Arbitrator shall thereupon, after notice as to time and place to the Contractor, the Local Union involved, the Council and the Construction Project Manager, hold a hearing within 48 hours of receipt of the notice invoking the procedure if it is contended that the violation still exists. The hearing will not, however, be scheduled for less than 24 hours after the notice to the district or area council required by Section 3, above.

c. All notices pursuant to this Article may be provided by telephone, telegraph, hand delivery, or fax, confirmed by overnight delivery, to the Arbitrator, Contractor, Construction Project Manager and Local Union

involved. The hearing may be held on any day including Saturdays or Sundays. The hearing shall be completed in one session, which shall not exceed 8 hours duration (no more than 4 hours being allowed to either side to present their case, and conduct their cross examination) unless otherwise agreed. A failure of any Union or Contractor to attend the hearing shall not delay the hearing of evidence by those present or the issuance of an award by the Arbitrator.

d. The sole issue at the hearing shall be whether a violation of Section 1, above, occurred. If a violation is found to have occurred, the Arbitrator shall issue a Cease and Desist Award restraining such violation and serve copies on the Contractor and Union involved. The Arbitrator shall have no authority to consider any matter in justification, explanation or mitigation of such violation or to award damages (any damages issue is reserved solely for court proceedings, if any.) The Award shall be issued in writing within 3 hours after the close of the hearing, and may be issued without an Opinion. If any involved party desires an Opinion, one shall be issued within 15 calendar days, but its issuance shall not delay compliance with, or enforcement of, the Award.

e. An Award issued under this procedure may be enforced by any court of competent jurisdiction upon the filing of this Agreement together with the Award. Notice of the filing of such enforcement proceedings shall be

given to the Union or Contractor involved, and the Construction Project Manager. In any court proceeding to obtain a temporary or preliminary order enforcing the Arbitrator's Award as issued under this expedited procedure, the involved Union and Contractor waive their right to a hearing and agree that such proceedings may be ex parte, provided notice is given to opposing counsel. Such agreement does not waive any party's right to participate in a hearing for a final court order of enforcement or in any contempt proceeding.

f. Any rights created by statute or law governing arbitration proceedings which are inconsistent with the procedure set forth in this Article, or which interfere with compliance thereto, are hereby waived by the Contractors and Unions to whom they accrue.

g. The fees and expenses of the Arbitrator shall be equally divided between the involved Contractor and Union.

SECTION 5. ARBITRATION OF DISCHARGES FOR VIOLATION

Procedures contained in Article 9 shall not be applicable to any alleged violation of this Article, with the single exception that an employee discharged for violation of Section 1, above, may have recourse to the procedures of Article 9 to determine only if the employee did, in fact, violate the provisions of Section 1 of this Article; but not for the purpose of modifying the discipline imposed where a violation is found to have occurred.

ARTICLE 8 - LABOR MANAGEMENT COMMITTEE

SECTION 1. SUBJECTS

The Program Labor Management Committee will meet on a regular basis to: 1) promote harmonious relations among the Contractors and Unions; 2) enhance safety awareness, cost effectiveness and productivity of construction operations; 3) protect the public interests; 4) discuss matters relating to staffing and scheduling with safety and productivity as considerations; and 5) review Affirmative Action and equal employment opportunity matters pertaining to Program Work.

SECTION 2. COMPOSITION

The Committee shall be jointly chaired by a designee of the Authority and the Council. It may include representatives of the Local Unions and Contractors involved in the issues being discussed. The Committee may conduct business through mutually agreed upon sub-committees.

ARTICLE 9 - GRIEVANCE & ARBITRATION PROCEDURE

SECTION 1. PROCEDURE FOR RESOLUTION OF GRIEVANCES

Any question, dispute or claim arising out of, or involving the interpretation or application of this Agreement (other than jurisdictional disputes or alleged violations of Article 7, Section 1) shall be considered a grievance and shall be resolved pursuant to the exclusive procedure of the steps described below, provided in all cases that the question, dispute or claim arose during the term of this Agreement.

Step 1:

(a) When any employee covered by this Agreement feels aggrieved by a claimed violation of this Agreement, the employee shall, through the Local Union business representative or job steward, give notice of the claimed violation to the work site representative of the involved Contractor and the Construction Project Manager. To be timely, such notice of the grievance must be given within 7 calendar days after the act, occurrence or event giving rise to the grievance. The business representative of the Local Union or the job steward and the work site representative of the involved Contractor shall meet and endeavor to adjust the matter within 7 calendar days after timely notice has been given. If they fail to resolve the matter within the prescribed period, the grieving party, may, within 7 calendar days thereafter, pursue Step 2 of the grievance procedure by serving the involved Contractor with written copies of the grievance setting forth a description of the claimed violation, the date on which the grievance occurred, and the provisions of the Agreement alleged to have been violated. Grievances and disputes settled at Step 1 are nonprecedential except as to the specific Local Union, employee and Contractor directly involved unless the settlement is accepted in writing by the Construction Project Manager (or designee) as creating a precedent.

(b) Should any signatory to this Agreement have a dispute (excepting jurisdictional disputes or alleged violations of Article 7, Section 1) with any other signatory to this Agreement and, if after conferring, a settlement is not reached within 7 calendar days, the dispute shall be reduced to writing and proceed to Step 2 in the same manner as outlined in subparagraph (a) for the adjustment of employee grievances.

Step 2:

The Business Manager or designee of the involved Local Union, together with representatives of the involved Contractor, Council and the Construction Project Manager (or designee), shall meet in Step 2 within 7 calendar days of service of the written grievance to arrive at a satisfactory settlement.

Step 3:

(a) If the grievance shall have been submitted but not resolved in Step 2, any of the participating Step 2 entities may, within 21 calendar days after the initial Step 2 meeting, submit the grievance in writing (copies to other participants, including the Construction Project Manager or designee) to Jeffrey Selchick or John Feerick who shall act, alternately (beginning with Arbitrator Selchick), as the Arbitrator under this procedure. The Labor Arbitration Rules of the American Arbitration Association shall govern the conduct of the arbitration hearing, at which all Step 2 participants shall be parties. The decision of the Arbitrator shall be final and binding on the involved Contractor, Local Union and employees and the fees and expenses of such arbitrations shall be borne equally by the involved Contractor and Local Union.

(b) Failure of the grieving party to adhere to the time limits set forth in this Article shall render the grievance null and void. These time limits may be extended only by written consent of the Construction Project Manager (or designee), involved Contractor and involved Local Union at the particular step where the extension is agreed upon. The Arbitrator

SECTION 2. OVERTIME

Except as provided elsewhere in the PLA (e.g., Article 12, Section 1C and Article 12, Section 3B), overtime pay for hours outside of the standard work week and work day, described in paragraph A above, shall be paid in accordance with the applicable Schedule A. There will be no restriction upon the Contractor's scheduling of overtime or the non-discriminatory designation of employees who shall be worked, including the use of employees, other than those who have worked the regular or scheduled work week, at straight time rates, except that, in order to promote efficiency, weekend overtime work shall be offered first to members of the crew which handled that work during the week. There shall be no pyramiding of overtime pay under any circumstances. The Contractor shall have the right to schedule work so as to minimize overtime or schedule overtime as to some, but not all, of the crafts and whether or not of a continuous nature.

SECTION 3. SHIFTS

A. Flexible Schedules - Scheduling of shift work, including Saturday and Sunday work, shall be within the discretion of the Contractor in order to meet Program Work schedules and existing Program Work conditions including the minimization of interference with the educational mission of the New York City public schools. It is not necessary to work a day shift in order to schedule a second or third shift, or a second shift in order to schedule a third shift, or to schedule all of the crafts when only certain crafts or employees are needed. Shifts must have prior approval of the Construction Project Manager, and must be scheduled with not less than five work days notice to the Local Union.

D. Four Tens – Notwithstanding any other provision of this Agreement, when working a four-day work week, the standard work day shall consist of 10 hours work for 10 hours of pay at the straight time rate exclusive of an unpaid 1/2 hour meal period and regardless of the starting time.

SECTION 4. HOLIDAYS

A. Schedule - There shall be 6 recognized holidays:

New Years Day	Labor Day
Memorial Day	Thanksgiving Day
Fourth of July	Christmas Day

All said holidays shall be observed on the dates designated by New York State Law. In the absence of such designation, they shall be observed on the calendar date except those holidays which occur on Sunday shall be observed on the following Monday.

B. Payment - Regular holiday pay, if any, for work performed on such a recognized holiday shall be in accordance with the applicable Schedule A.

C. Exclusivity - No holidays other than those listed in Section 4-A above shall be recognized or observed.

SECTION 5. REPORTING PAY

A. Employees who report to the work location pursuant to their regular schedule and who are not provided with work shall be paid two hours reporting pay at straight

time rates. An employee whose work is terminated early by a Contractor due to severe weather, power failure, fire or natural disaster or for similar circumstances beyond the Contractor's control, shall receive pay only for such time as is actually worked. In other instances in which an employee's work is terminated early (unless provided otherwise elsewhere in this Agreement), the employee shall be paid for his full shift.

B. When an employee, who has completed their scheduled shift and left the Program Work site, is "called out" to perform special work of a casual, incidental or irregular nature, the employee shall receive overtime pay at the rate of time and one-half of the employee's straight time rate for hours actually worked.

C. When an employee leaves the job or work location of their own volition or is discharged for cause or is not working as a result of the Contractor's invocation of Section 7 below, they shall be paid only for the actual time worked.

D. Except as specifically set forth in this Article there shall be no premiums, bonuses, hazardous duty , high time or other special premium payments or reduction in shift hours of any kind.

E. There shall be no pay for time not actually worked except as specifically set forth in this Article and except where an applicable Schedule A requires a full weeks' pay for forepersons.

SECTION 6. PAYMENT OF WAGES

A. Payday - Payment shall be made by check, drawn on a New York bank with branches located within commuting distance of the job site. Paychecks shall be issued by the Contractor at the job site by 10 a.m. on Thursdays. In the event that the following Friday is a bank holiday, paychecks shall be issued on Wednesday of that week. Not more than 3 days wages shall be held back in any pay period. Paycheck stubs shall contain the name and business address of the Contractor, together with an itemization of deductions from gross wages.

B. Termination- Employees who are laid off or discharged for cause shall be paid in full for that which is due them at the time of termination. The Contractor shall also provide the employee with a written statement setting forth the date of lay off or discharge.

SECTION 7: EMERGENCY WORK SUSPENSION

A Contractor may, if considered necessary for the protection of life and/or safety of employees or others, suspend all or a portion of Program Work. In such instances, employees will be paid for actual time worked, except that when a Contractor requests that employees remain at the job site available for work, employees will be paid for that time at their hourly rate of pay.

SECTION 8. INJURY/DISABILITY

An employee who, after commencing work, suffers a work-related injury or disability while performing work duties, shall receive no less than 8 hours wages for that day.

Further, the employee shall be rehired at such time as able to return to duties provided there is still Program Work available for which the employee is qualified and able to perform.

SECTION 9. TIME KEEPING

A Contractor may utilize brassing or other systems to check employees in and out. Each employee must check in and out. The Contractor will provide adequate facilities for checking in and out in an expeditious manner.

SECTION 10. MEAL PERIOD

A Contractor shall schedule an unpaid period of not more than 1/2 hour duration at the work location between the 3rd and 5th hour of the scheduled shift. A Contractor may, for efficiency of operation, establish a schedule which coordinates the meal periods of two or more crafts. If an employee is required to work through the meal period, the employee shall be compensated in a manner established in the applicable Schedule A.

SECTION 11. BREAK PERIODS

There will be no rest periods, organized coffee breaks or other non-working time established during working hours. Individual coffee containers will be permitted at the employee's work location.

ARTICLE 13 – APPRENTICES

SECTION 1. RATIOS

Recognizing the need to maintain continuing supportive programs designed to develop adequate numbers of competent workers in the construction industry and to provide craft entry opportunities for minorities, women and economically disadvantaged non-minority males, Contractors will employ apprentices in their respective crafts to perform such work as is within their capabilities and which is customarily performed by the craft in which they are indentured. Contractors may utilize apprentices and such other appropriate classifications in a ratio not to exceed 25% of the work force by craft (without regard to whether a lesser ratio is set forth in Schedule A), unless the applicable Schedules A provide for a higher percentage. Apprentices and such other classifications as are appropriate shall be employed in a manner consistent with the provisions of the appropriate Schedule A. The parties encourage the use of the Construction Skills 2000 program as an appropriate source of apprentice recruitment.

ARTICLE 14 - SAFETY PROTECTION OF PERSON AND PROPERTY

SECTION 1. SAFETY REQUIREMENTS

Each Contractor will ensure that applicable OSHA and safety requirements are at all times maintained on the Program Work site and the employees and Unions agree to cooperate fully with these efforts. Employees must perform their work at all times in a safe manner and protect themselves and the property of the Contractor and Authority from injury or harm. Failure to do so will be grounds for discipline, including discharge.

SECTION 2. CONTRACTOR RULES

Employees covered by this Agreement shall at all times be bound by the reasonable safety, security, and visitor rules as established by the Contractors and the Construction Project Manager for this Program Work. Such rules will be published and posted in conspicuous places throughout Program Work sites.

SECTION 3. INSPECTIONS

The Contractors and Construction Project Manager retain the right to inspect incoming shipments of equipment, apparatus, machinery and construction materials of every kind.

ARTICLE 15 - NO DISCRIMINATION

SECTION 1. COOPERATIVE EFFORTS

The Contractors and Unions agree that they will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, national origin, marital status, age or any other status provided by law, in any manner prohibited by law or regulation.

SECTION 2. LANGUAGE OF AGREEMENT

The use of the masculine or feminine gender in this Agreement shall be construed as including both genders.

ARTICLE 16 - GENERAL TERMS

SECTION 1. PROGRAM WORK RULES

The Construction Project Manager and the Contractors shall establish reasonable Program Work rules that are not inconsistent with this Agreement or rules common in the industry and are reasonably related to the nature of the work. These rules will be explained at the pre-job conference and posted at the Program Work sites and may be amended thereafter as necessary; notice of amendments will be provided to the appropriate Local Union. Failure of an employee to observe these rules and regulations shall be grounds for discipline, including discharge. The fact that no order was posted prohibiting a certain type of misconduct shall not be a defense to an employee disciplined or discharged for such misconduct when the action taken is for cause.

SECTION 2. TOOLS OF THE TRADE

The welding/cutting torch and chain fall are tools of the trade having jurisdiction over the work performed. Employees using these tools shall perform any of the work of the trade. There shall be no restrictions on the emergency use of any tools or equipment by any qualified employee or on the use of any tools or equipment for the performance of work within the employee's jurisdiction.

SECTION 3. SUPERVISION

Employees shall work under the supervision of the craft foreperson or general foreperson.

SECTION 4. TRAVEL ALLOWANCES

There shall be no payments for travel expenses, travel time, subsistence allowance or other such reimbursements or special pay except as expressly set forth in this Agreement.

SECTION 5. FULL WORK DAY

Employees shall be at their work area, as designated by the Contractor, at the starting time established by the Contractor. The signatories reaffirm their policy of a fair day's work for a fair day's wage.

SECTION 6. COOPERATION AND WAIVER

The Construction Project Manager, Contractors and the Unions will cooperate in seeking any NYS Department of Labor, or any other government, approvals that may be needed for implementation of any terms of this Agreement. In addition, the Council, on its own behalf and on behalf of its affiliated Local Unions and their individual members, intend the provisions of this Agreement to control to the greatest extent permitted by law, notwithstanding contrary provisions of any applicable prevailing wage, or other, law and intend this Agreement to constitute a waiver of any such prevailing wage, or other, law to the greatest extent permissible for work within the scope of this Agreement, including specifically, but not limited to those provisions relating to shift, night, and similar differentials and premiums. This Agreement does not, however, constitute a waiver or consent to modify the prevailing wage schedules applicable to work not covered by this Agreement.

ARTICLE 17. SAVINGS AND SEPARABILITY

SECTION 1. THIS AGREEMENT

In the event that the application of any provision of this Agreement is enjoined, on either an interlocutory or permanent basis, or is otherwise determined to be in violation of law, or if such application may cause the loss of Program funding for all or any part of the Program, the provision involved (and/or its application to a particular part of the Program, as necessary) shall be rendered, temporarily or permanently, null and void, but where practicable the remainder of the Agreement shall remain in full force and effect to the extent allowed by law, unless the part or parts so found to be in violation of law are wholly inseparable from the remaining portions of the Agreement and/or are material to the purposes of the Agreement. In the event a court of competent jurisdiction finds any portion of the Agreement to be invalid, the parties will immediately enter into negotiations concerning the substance affected by such decision for the purpose of achieving conformity with the court determination and the intent of the parties hereto for contracts to be let in the future.

SECTION 2. THE BID SPECIFICATIONS

In the event that the Authority's bid specifications, or other action, requiring that a successful bidder become signatory to this Agreement is enjoined, on either an interlocutory or permanent basis, is otherwise determined to be in violation of law, or may cause the loss of Program funding for all or any part of the Program, such requirement (and/or its application to a particular part of the Program, as necessary) shall be rendered, temporarily or permanently, null and void, but where practicable the Agreement shall remain in full force and effect to the extent allowed by law. In such event, the Agreement shall remain in effect for contracts already bid

and awarded or in construction only where the Contractor voluntarily accepts the Agreement. The parties will enter into negotiations as to modifications to the Agreement to reflect the court or other action taken and the intent of the parties for contracts to be let in the future.

SECTION 3. NON-LIABILITY

In the event of an occurrence referenced in Section 1 or Section 2 of this Article, neither the Authority, the Construction Project Manager or any Contractor, or any Union shall be liable, directly or indirectly, for any action taken, or not taken, to comply with any court order or injunction, other determination, or in order to maintain funding for Program Work. Bid specifications will be issued in conformance with court orders then in effect and no retroactive payments or other action will be required if the original court determination is ultimately reversed.

SECTION 4. NON-WAIVER

Nothing in this Article shall be construed as waiving the prohibitions of Article 7 as to signatory Contractors and Unions.

ARTICLE 18 - FUTURE CHANGES IN SCHEDULE A AREA CONTRACTS

SECTION 1. CHANGES TO AREA CONTRACTS

A. Schedule A to this Agreement shall continue in full force and effect until the Contractor and/or Union parties to the Area Collective Bargaining Agreements which are the basis for Schedule A notify the Construction Project Manager in writing of the hourly rate

changes agreed to in that Area Collective Bargaining which are applicable to work covered by this Agreement and their effective dates.

B. It is agreed that any provisions negotiated into Schedule A collective bargaining agreements will not apply to work under this Agreement if such provisions are less favorable to those uniformly required of contractors for construction work normally covered by those agreements; nor shall any provision be recognized or applied on Program Work if it may be construed to apply exclusively, or predominantly, to work covered by this Agreement.

C. Any disagreement between signatories to this Agreement over the incorporation into Schedule A of provisions agreed upon in the renegotiation of Area Collective Bargaining Agreements shall be resolved in accordance with the procedure set forth in Article 9 of this Agreement.

SECTION 2. LABOR DISPUTES DURING AREA CONTRACT NEGOTIATIONS

The Unions agree that there will be no strikes, work stoppages, sympathy actions, picketing, slowdowns or other disruptive activity or other violations of Article 7 affecting the Program Work by any Local Union involved in the renegotiation of Area Local Collective Bargaining Agreements nor shall there be any lock-out on such Program Work affecting a Local Union during the course of such renegotiations.

ARTICLE 19 - WORKERS' COMPENSATION ADR

SECTION 1.

The Authority is continuing to investigate the feasibility of utilizing a Workers Compensation ADR program under Section 25 (2-C) of the New York Workers Compensation Law, to be used in conjunction with its Owner Controlled Insurance Program ("OCIP") for Program Work. The Authority's current OCIP expires December 31, 2004, at which time the program will be renewed. The Authority agrees that it will bargain with the Union over inclusion of a pilot Workers Compensation ADR program for use under its OCIP commencing January 1, 2005. This bargaining will include negotiations concerning the pilot program site, the availability of an ADR carrier with the necessary waivers or exemptions under the statute for the particular pilot program site, and other terms and conditions for such an ADR program. Contractors will be required to participate in any resulting program as determined by the Authority. In the event the pilot ADR program is successful and demonstrates meaningful savings for the Authority, the parties will negotiate regarding an ADR program on a Program wide basis. Notwithstanding the status of any of these negotiations, the remainder of this Agreement will remain in full force and effect.

IN WITNESS WHEREOF the parties have caused this Agreement to be executed and effective as of the ___ day of _____, _____.

FOR BUILDING AND CONSTRUCTION TRADES COUNCIL
OF GREATER NEW YORK AND VICINITY

BY:_____
Edward J. Malloy, President

FOR NEW YORK CITY SCHOOL CONSTRUCTION AUTHORITY

BY:_____
William H. Goldstein, President & CEO

IN WITNESS WHEREOF the parties have caused this Agreement to be executed and effective as of the ___ day of _____, _____.

FOR BUILDING AND CONSTRUCTION TRADES COUNCIL
OF GREATER NEW YORK AND VICINITY

BY:_____
Edward J. Malloy, President

FOR NEW YORK CITY SCHOOL CONSTRUCTION AUTHORITY

BY:_____
William H. Goldstein, President & CEO