

Executive Summary

ESD selected the Detroit Edison Public School Academy (DEPSA)—Lean Green School Initiative as the subject for a standalone Symposium following careful discussions with the superintendent of the school. It was decided that a Symposium could play a significant role in the development of the direction to be taken by the school administration for a world-class high school planned for September 2010. Many schools across the country are being developed as “Green”; however, the challenges faced by the DEPSA proposal are somewhat unique in nature warranting a collaborative approach in the development of the direction. To begin with, DEPSA is located in an economically challenged area of the City of Detroit and the plan calls for a conversion of a vacant maintenance facility into the high school. Many schools across the country have implemented a “Green” plan but have paid upwards of \$700 per square foot for the finished product. DEPSA is being funded by a grant from local foundations and is expected to execute the building portion of the initiative for \$150 - \$250 per square foot. Additionally, the economic challenges facing many in the City of Detroit results in a significant percentage of the students requiring additional services; i.e., food and medical not seen in the majority of schools around the country.

The DEPSA Symposium examined how the school administration could be provided recommendations from a cross-section of expertise from industry, academia, governments, parents, teachers and non-government organizations that could be used as a framework for the high school. The Symposium featured four (4) breakout sessions and each one enthusiastically endorsed the concept of the “Lean Green” High School proposed by DEPSA. The workgroups worked diligently to evaluate options available to optimize the criteria for the high school and its operation.

Symposium participants focused on how diverse stakeholders could collaborate constructively on school design and construction issues as well as innovative operation and support parameters.

Symposium Mega Question

How can DEPSA, on a cost-effective basis, retrofit an existing building on a brownfield site as a "Lean Green High School" with broad community support, best design and construction practices, and innovative contracting to carry out its educational mission for the betterment of its students?

Our Scratch Questions & Workgroups

To jumpstart thought and creativity among the Symposium participants, we gave each breakout workgroup a scratch question as follows:

Building and Site “Green” Attributes Workgroup: “If you were designing an optimum “green” building on a cost-effective basis, what would the site, building (architectural, mechanical, electrical) systems look like and how would you get it done?”

Teaching Environment Workgroup: “If you created an integrated in-building “green sustainability” learning environment, what would it look like and how would you get it done?”

Partnering Contract Workgroup: “If you were establishing an innovating partnering relationship among contractors and labor, what would it look like and how would you get it done?”

Community and Public Sector Outreach Workgroup: “If you were creating a consensual outreach campaign to achieve diverse community and public sector support, what would it look like and how would you get it done?”

To encourage consideration of these scratch questions, we started the symposium with a diverse set of speakers and then conducted a brainstorming session with all the participants to seed our collective consciousness for the scratch questions. Our goal was to break through conventional thinking to foster out-of-the-box ideas for use in the smaller breakout group settings.

Afterwards, participants self-selected into four (4) breakout groups and began wrestling with their respective scratch questions. These same breakout groups carried on their hard work in subsequent sessions geared toward assessment and prioritization of specific solutions that resulted in the Action Plans identified in this report. More importantly, these Action Plans were then analyzed by each breakout group through a roles and responsibilities R.A.S.I. evaluation to identify responsible parties, objectives, timelines, and resources for implementation. In our final plenary session, participants heard presentations of the Action Plans.

The consensus of the four (4) workgroups was that DEPSA could be a national leader in the development of a cost-effective lean green school and could develop new and innovative approaches to educating the student body and partnering with others to raise the performance of the school. To achieve this leadership role, DEPSA will need to continue to develop a consensus for innovative collaboration between the public and private sectors. The goal of this collaboration would be the creation of strategic long-term direction for the school including the engineering and construction, teaching environment, partnering contract and community and public sector outreach involvement.

Building and Site “Green” Attributes Workgroup

This breakout group focused on identifying the priorities for the creation of a high performance, green school. The group identified the reduction of resources consumed by the school (energy, water, materials, etc.) and byproducts generated through the construction and school activities as a critical priority. This will require significant upfront planning to evaluate the opportunities that exist for new construction as well as renovation of existing space. The project funding limitations will drive the second point identified by this breakout group, that planning of the building and site development must strive to maximize the value of every dollar spent. Key considerations will require tradeoffs including a phased implementation, spaces for ancillary activities, aesthetics, technology, new construction vs. renovation, and materials selected. Based on the extremely tight schedule, it is imperative that decisions regarding these tradeoffs be made early.

The group considered a wide range of building systems for application within the DEPSA high school and identified the following as priorities for consideration:

- Flexible space for multiple uses
- Optimum daylighting
- Natural ventilation
- Geothermal heating and cooling
- Vegetative roof
- Rain water harvesting
- Solar & wind demonstration
- Real-time energy monitoring and controls
- Ultra-low flow plumbing
- A living lab environment

The workgroup also identified the site development as a critical element with the integration into the community a priority. Other considerations regarding the site include:

- Storm water management
- Site remediation
- Security and lighting
- Landscape and natural habitat
- Proximity to neighbors (Eastern Market)
- Material selection

Teaching Environment Workgroup

This workgroup dealt with the scratch question “if you created an integrated in-building “green sustainability” learning environment, what would it look like and how would you get it done?” Like the partnering group, this workgroup identified local universities as key enablers to the objective. It was preferred that on-site classes be taught by the universities to better prepare the students for the future. How best to manage the partnership and how funding for the initiative would be secured were highlighted as issues.

The second identified areas for consideration was the area of the actual education process within the school. The group indicated a need for a student self-improvement plan to focus on identifying a student’s area of interest and opportunities available to develop that interest including career exposures, outside lectures, Advanced Placement (AP) classes, mentorships, etc. The aim of the initiative is 100% graduation rate with students being university-ready.

The workgroup highlighted the need to assist the teaching process and individual teachers as a recommendation. Support comes in the form of professional development, technology awareness and subject matter training. From a physical standpoint, the group recommends that the facility be designed for team teaching and that the teachers be empowered, accountable and rewarded for student success. To engage the community and parents, the workgroup suggests the establishment of family after school programs including parent center with access to computers, remedial reading and math, and career counseling. To broaden the impact on the community a health clinic, community garden and daycare should be considered. Additionally, an opportunity exists to develop a foreign exchange program to broaden the exposure of the students.

“Green” Partnering Contract Workgroup

This workgroup spent a considerable amount of time analyzing opportunities for partnering for the DEPSA initiative and identified the following as priorities for consideration. First and foremost is the development and implementation of a collaborative contracting process to accomplish the objectives of the building and site workgroup. This process would bring together the owner, contractor, design team and community to align the direction and develop a win/win approach to the project. A key element will be the dispute resolution process to insure timely decisions to meet this extremely tight schedule.

Another critical element will be the partnering with the applicable government agencies to secure timely resolution of environmental, building and zoning requirements. These areas in the city historically can be very time consuming and confusing and have the potential of adding delays that cannot be afforded by this project.

Parallel to the engineering and construction phase of the project, the workgroup recommends that consideration be given to the development and implementation of partnering for suppliers of services and systems including:

1. Solar/wind demonstration
2. Heating, ventilating and air-conditioning
3. Furniture
4. Carpet
5. Etc.

In all cases of potential partnering the group emphasized the need for quality decisions, transparency and community involvement which resulted in the recommendation for the formation of an ESD advisory group to support DEPSA in the planning and implementation process.

Community and Public Sector Outreach Workgroup

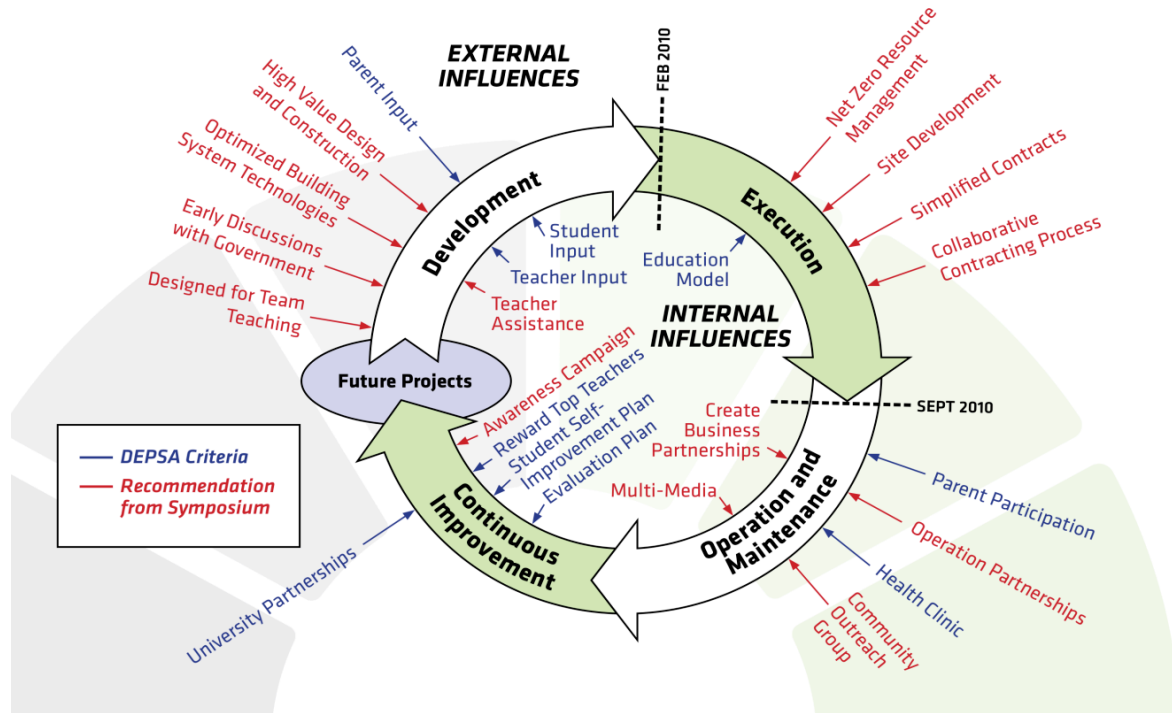
This workgroup identified four (4) areas for consideration when developing an outreach approach for DEPSA. The stakeholder groups included DEPSA, local universities, government, business and industry, and media. The first proposal would be the development of an awareness campaign regarding the DEPSA and ESD collaboration focused on STEAM (Science, Technology, Engineering, Arts and Math). The workgroup also recommended that business partnerships be developed with external stakeholders including relationships with universities to develop “early college” courses taught at DEPSA as well as relationships with local business/industry partners and government/non-government organizations. The purpose of the partnerships would be the advancement of the education process within the school through exposure, communication and actual application.

The group lastly recommended that a coordinated multimedia strategy be developed that highlights the DEPSA/ESD partnership model. This communication process would share valuable information regarding the Symposium process at the ESD Institute and how it was facilitated to provide direction to a critical issue for DEPSA.

The following schematic depicts the recommendations of the Symposium from external and internal influences over the four (4) phases of the initiative development, execution, operation and maintenance and continuous improvement.



DEPSA Education Continuum



ESD Institute Director Recommendations

Director Recommendation #1—Continuing Engagement of ESD with DEPSA

To insure the optimum collaboration on the DEPSA project by representatives from ESD, a continuing engagement arrangement is recommended. This is shown in Appendix I as short-term and long-term plans. ESD has moved forward with a proposal for DEPSA to consider for development of this relationship.

Director Recommendation #2—Advisory Committee

It is recommended that an advisory committee at ESD be formed to support the efforts of DEPSA on an ongoing basis. The committee would be staffed with volunteer representatives experienced in the four (4) areas highlighted in the scratch questions of the Symposium. The committee would be led by a funded leader that would work closely with the DEPSA team to insure the advisory group is focused on the priority items.

Director Recommendation #3—Roles & Responsibilities

It is recommended that the roles and responsibilities identified in the R.A.S.I. charts of each workgroup be followed and tracked as indicated. The overall success of the effort will be judged not by the completion of a report for DEPSA but instead by the successful implementation of the initiatives identified as priorities by the individual workgroups.