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Construction Management Option



Baldwin High School Pittsburgh, PA

Dr. Riley
October 6, 2006

TECHNICAL ASSIGNMENT #1 *Construction Project Management*

TABLE OF CONTENTS

Executive Summary	pg. 2
Location Maps	pg. 3
Site Plan of Existing Conditions	pg. 4
Local Conditions	pg. 5
Client Information	pg. 7
Project Delivery System	pg. 8
Staffing Plan	pg. 9

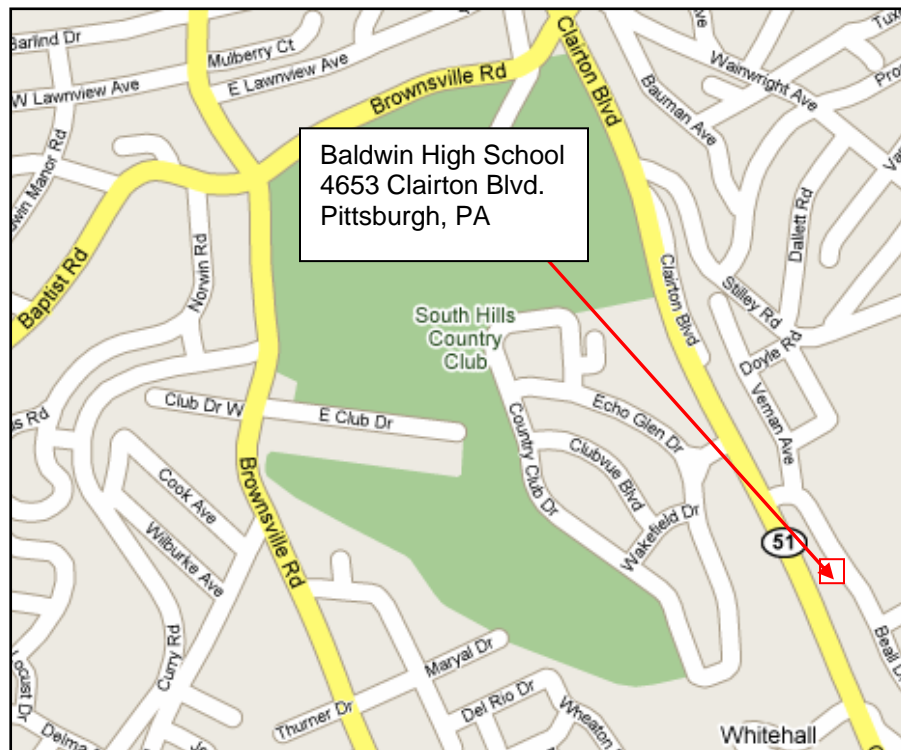
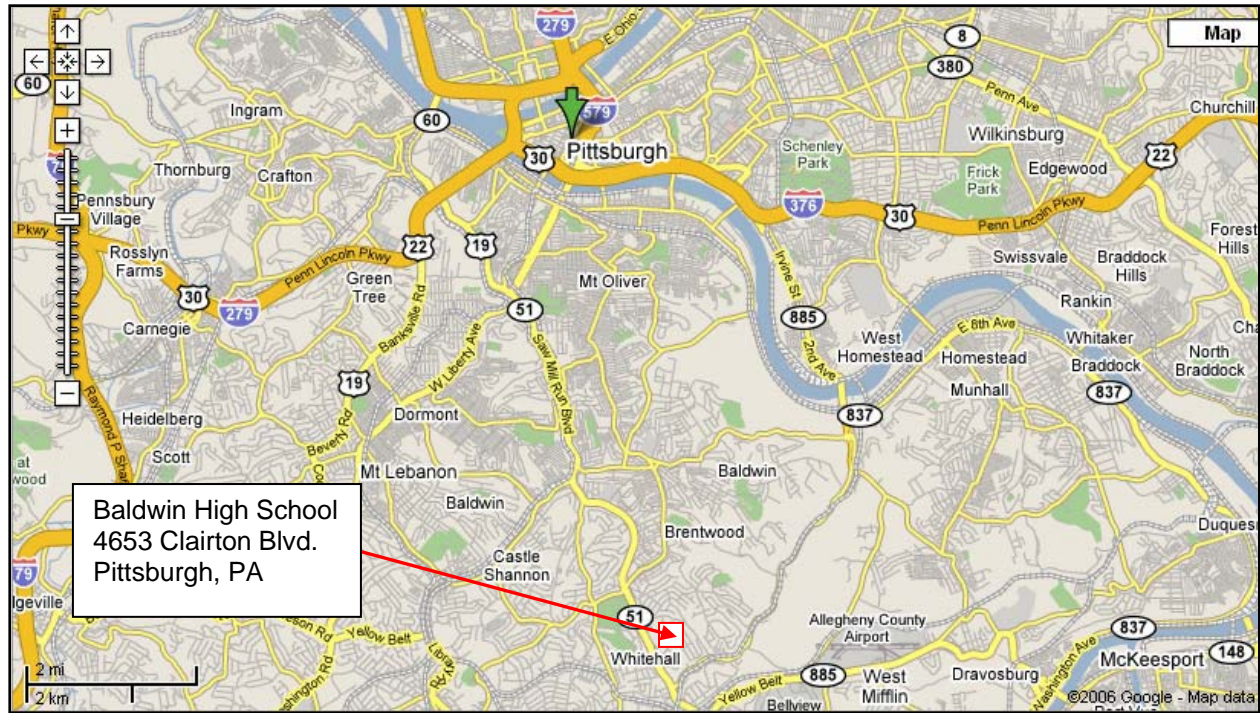
Executive Summary

This technical document encompasses the construction management techniques that are being utilized for the Baldwin-Whitehall (junior/senior) High School renovation project. The Baldwin-Whitehall School District is a suburban, residential area located eight miles south of downtown Pittsburgh. The assignment is intended to take a closer look at the conditions under which this building is being constructed. More specifically, the existing conditions, site plan, local conditions, client information, project delivery system, and construction manager staffing plan.

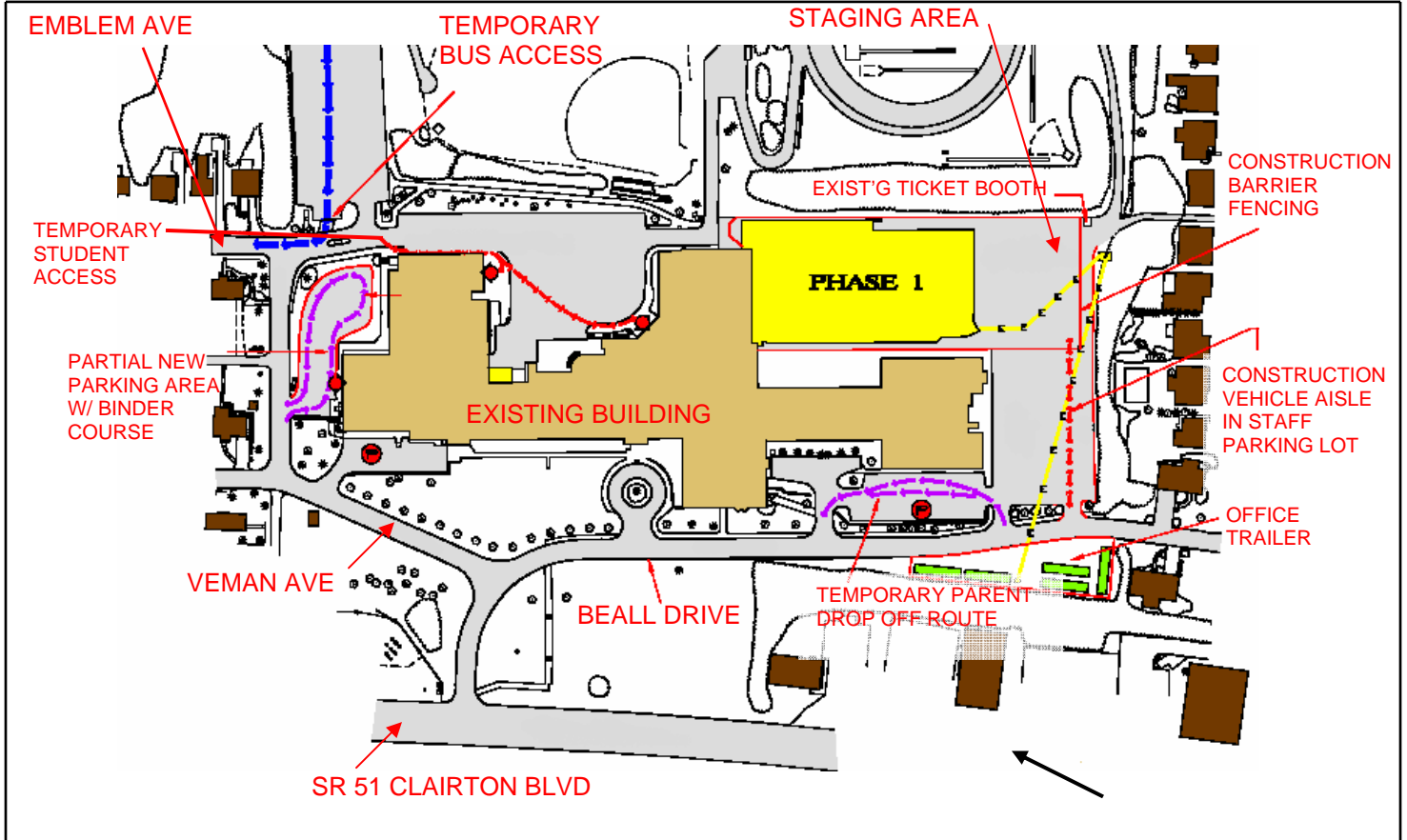
Baldwin High School, which has remained intact since its origin in 1939, will have an estimated \$64 million overhaul within a three year time period. The renovation will utilize a five phase sequencing plan to enhance the existing building both internally and externally. Upon completion, nearly 80% of the structure will be of new construction. The tentative project schedule has work beginning in January of 2006 and finishing in February of 2009. Phase I of the project required demolition of the existing pool and locker room structure and construction of the new gymnasium, natatorium, and locker rooms. Phase II focuses primarily on the demolition of a portion of the two-story south wing containing guidance offices and language classrooms. Beginning fall of 2006, the new athletic entrance and graphics and communication classrooms will begin construction in this same area.

The school district elected PJ Dick as their CM consultant and HHSDR as their project architect. A renovation committee was organized to interact readily with the school board and to compile necessary budgetary concerns. During phase I of the project, unexpected excavation and temporary facility costs accumulated delays and required the drawing of money from the \$1.126 million project contingency fund. Public financing will provide funding for the project, which will be paid for by utilization of 25 year bonds. The state Department of Education is expected to reimburse the district for about 25 percent of the principal amount of money borrowed.





Location Maps



Site Plan of Existing Conditions



Jeremy Jewart	BALDWIN HIGH SCHOOL	10/6/2006 Drawing 1
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-  SCHOOL DISTRICT PARKING
-  TEMPORARY STUDENT ENTRY
-  SURROUNDING BUILDINGS
-  NEW UNDERGROUND ELECTRIC LINE

Local Conditions

The southwestern suburbs of Pennsylvania make up one of three regions that continue to lead the area in new construction. Surprisingly, the Pittsburgh regions K-12 sector (school projects for kindergarten through 12th grade) has been slightly weaker overall than in the past. The Baldwin High School renovation will help to aid this declining economic market and pursue further development throughout the district. Structural steel erection, as well as concrete construction, remains prevalent in the area. Building results are typically achieved from the integration of both types of systems working interchangeably on most projects.

Existing Site

When entering the high school from Route 51, more specifically Clairton Boulevard, new traffic signalization eases your egress onto a relocated and expanded Beall Drive. The necessity to relocate a portion of the existing road was due to the expansion and additions to the school's exterior perimeter. Consequently, the road was shifted west in order to provide an adequate allotment of spacing due to setback restraints. The relocation was fast tracked so that it would be operational for the beginning of school, in August.

Sub-surface

Throughout the Beall Drive relocation and Phase I of construction, careful attention was paid to subsurface investigations. In Phase I, which involved the demolition of the old swimming pool and locker rooms, workers doing excavation work uncovered unforeseen problems caused by silt and decaying utility lines. Each prime contractor was responsible for demolition or modification of existing utility lines that interfered with their individual activities. A surveyor was not required to physically locate the lines; any information was obtained from existing plans and service facilities. Temporary and permanent utility tie-ins were connected from already existing electric, gas, and water lines.

Staging

Most of the utility construction, along with footer work and steel erection, is currently beginning in Phase II of the project. Here, excavation has induced new parking facilities for both the south parking lot and temporary student drop off area. The temporary contractor parking lot, located beyond the upper practice field, is also near completion. Proper material staging areas and dumpster recycling bins have been assigned to various open lots as well. The average recycling and tipping fees for the area are around \$9.00 per/CY or about \$40-\$50 per ton.

Excavation

The building area as a whole lies within Flood Zone X "areas determined to be outside 500 year flood plan." This may present an interesting subsurface water condition when heavy rainfall is present. Soil tests were used to determine that this will pose no immediate problem concerning neither excavation nor construction activities during upcoming phases. Preliminary analysis has also devised plans for storm water runoff, erosion control, and sediment pollution.

Client Information

The owner of this project is the Baldwin-Whitehall School District. The junior/senior high school happens to be 1 of 5 buildings that the district is primarily in charge of maintaining. Responsibilities require overseeing three elementary schools, a middle school, and the high school. As an owner they are somewhat knowledgeable, but require a good deal of assistance based on the magnitude of the project. By replacing 80% of the school with new construction, the hiring of PJ Dick as the project manager and consultant should prove quite beneficial. Continuing to provide a challenging educational program in a safe and caring environment are goals that the district would like to keep intact. A consultant insures that these goals will be met and that this educational facility will be brought up to 21st century standards.

Cost/Quality

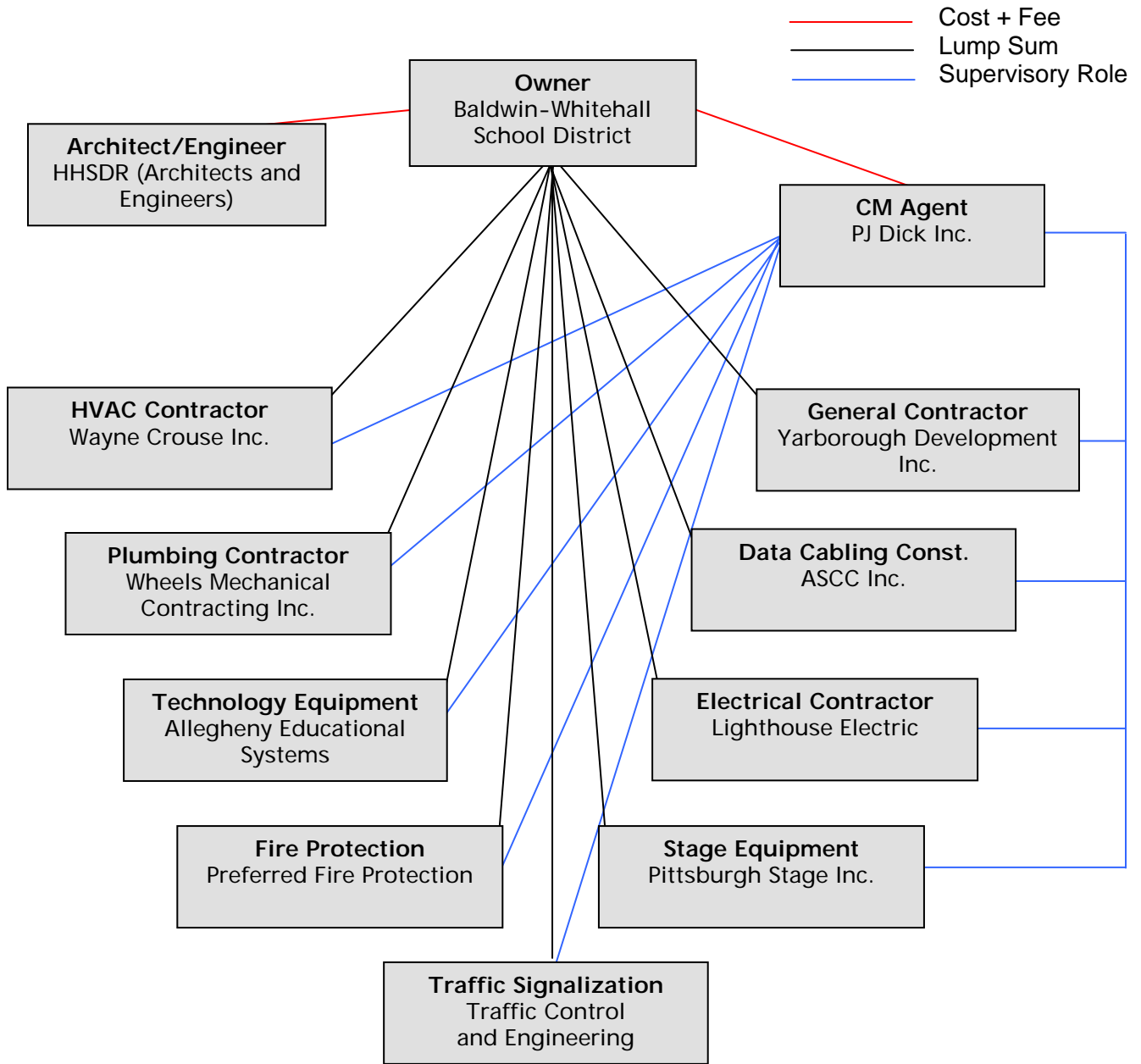
As an owner, particular attention will be focused on the cost, quality, schedule and safety of the construction process. Cost, possibly the biggest concern of renovation limitations, will be highly regarded as a deterrent which may alter original construction plans. By occupying a publicly funded structure, local tax dollars will be at the forefront of project specific decisions. For example, to cut costs the school board discussed holding off on replacing the wooden floor of the gymnasium. They also considered whether to use linoleum in the hallways or to switch to a less-expensive floor tile. This shows the cost/quality relationship and what may need to be sacrificed in order to meet community demands.

Schedule/Safety

Schedule and safety concerns were also feared due to the nature of the project. As school started on August 22, 2006, demolition and construction work continued. This posed major problems concerning safety issues and possible schedule delays. With students attending class next to the adjacent construction site; proper barriers and temporary fencing will need to be used in order to prevent an accident. To help assure site safety, chain link fencing was installed along drop-off areas and the newly built sectors of the building.

The district hopes that by utilizing a phasing plan, both education and construction will be able to coexist in the same vicinity. After completing phase I of the project, which focused on the gym and locker room area, the district was required to rent a large trailer for two years serving as a modular classroom for a bank of 32 computer stations. The relocation was needed to effectively and safely progress to the next phase of construction. Issues, such as this one, pose unexpected problems which cost the owner both time and money. Throughout the duration of the project, keeping these occurrences to a minimum will be useful in completing the project to the district's utmost satisfaction.

Project Delivery System



Baldwin high school is being delivered using a CM Agent type of delivery method. PJ Dick Inc. was chosen to occupy the CM role while providing recommendations and guidance to the school board. The school district is a relatively inexperienced owner, when dealing with such a large-scale project. Therefore, utilizing a consultant for major sub-contractor interaction will be pertinent. This process allowed the school board to select the building type they wanted and then seek competitive bids on the project. The hiring of an experienced architect will also alleviate complexities during the designing and construction processes of the renovation.

Staffing Plan

