

1.







#### Educational Facility Planning Services Proposal Chartiers Valley School District

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In January 2021, Chartiers Valley School District contacted Thomas & Williamson and requested a proposal for potential services relating various buildings at the Chartiers Valley School District. Some of the existing facilities are outdated and have not received any major building renovations and/or additions in several years.

Earlier in 2020, CVSD completed a Facilities and Grounds Revitalization Plan completed for all buildings throughout the District. It was evident from the findings of that report that the Intermediate School was in need of renovations and upgrades. It was also requested by the School District, that T&W review the existing High School and Primary Athletic Facilities as well as the existing HVAC system at the Primary School. T&W is submitting two (2) proposals for services in the planning, pre-construction and construction phases of this potential future building renovation projects.

# planning - design - construction

1 2

Comprehensive program management through all three phases of the project.

This Proposal Page 1





#### Proposal 1:

#### **Educational Facility Planning Services**

Proposal 1 provides you with the essential planning tools for the development of the project's scope of work, budget and schedule. Additionally, the planning provide options services will accomplishing your project objectives and will identify implementation strategies for a single comprehensive project of a series of individual limited scope projects, sequenced to meet your priorities. See Tab 3: Planning Services in Proposal 1 for details on the services provided within this proposal.

Within the scope of services under this proposal, Thomas & Williamson will prepare Facility Assessment Studies for both the existing High School and Primary School Athletic Facilities. T&W will also review and provide recommendations to upgrade the existing HVAC system at the Primary School. Budgetary estimates will be provided for all of the above items mentioned and turned over to the District.

#### Proposal 2:

#### **Construction Management Services**

As part of an additional service following the completion of the educational facility planning study, T&W is also proposing construction management services that would assist CVSD with the construction and construction phases that would follow the Planning Services if the District opted to move forward with the building renovations and/or additions project. These services would allow T&W to assist the District in ensuring the project is delivered on-time and on-budget. See Tab 1: Compendium Services in Proposal 2 for details on the Pre-Construction and Construction services provided within this proposal.

This Proposal Page 1



# Executive Summary

#### On-Time. On-Budget.

It's the most basic goal of any project, and it's particularly important for educational facilities - where delays and cost overages can impact each student's opportunity to learn and achieve. Just as our school district clients take on the monumental responsibility of educating their students, we, as their partners, take the responsibility for ensuring that all their goals for their building projects are accomplished.

#### Look Deeper.

Look deeper into the most successful K12 building projects that you have seen and you will find there is something in common: the completed facility is a uniquely crafted reflection of the educational process which it houses. As your trusted and experienced guide, we provide the knowledge, technology and strategies to work within your budget and schedule and we look deeply into your needs in order to help you craft a very special facility.

#### Management through Engagement.

Engagement is the engine of our management approach. Through all the phases of your project — planning, design, construction and start-up, we'll actively engage with you, all of the design professionals and the contractors in order to bring about a collaborative environment for all stakeholders to maximize their contributions to your project.





management Engagement

Executive Summary Page 2



# History of the Firm

#### History of the Firm.

Jon Thomas and David Williamson first met in 1991, while both were employed at the Pittsburgh headquarters of a national engineering and project/construction management firm. Over the next six years, they would collaborate on numerous K12 projects and building programs.

In 1998, following the acquisition of the firm where they were employed, Mr. Thomas and Mr. Williamson set out on their own and formed Thomas & Williamson. Built upon the partners' expertise in the field of project management, T&W gained immediate recognition for its specialization in providing integrated planning and management services for K12 clients in Western PA.

Twenty-two years later, the firm has gained popularity - not only as K12 specialists – but among a small group of firms specialized in K12 projects in the area, T&W stands out with its unsurpassed depth of services. The firm is increasingly sought out to both manage and consult on projects with quick turnaround requirements, intense budget sensitivity and trail-blazing quality and educational programming standards.





History of the Firm Page 3

#### Jon M. Thomas

Principal

Co-Founder and President of Thomas & Williamson: Mr. Thomas has 38 years of experience as a Project Manager of school and institutional projects. His experience is equally apportioned in design and construction and includes a vast portfolio of K-12 school construction projects valued at over \$2 billion.

An essential factor in the success of each project on which Mr. Thomas has served has been the integration of program and cost. "We always felt that it was absolutely essential to spell-out the program of the project, in fine detail, then associate the costs – before the design process began." In order to achieve this integration of program and cost, Mr. Thomas developed management systems that "model" the costs of projects based on educational programming information.

"The school districts with whom I have worked found a real benefit in being able to see where the cost concentrations of their projects would be as a result of their conceptual educational needs." The cost modeling systems were developed by Mr. Thomas in response to a school districts' need for instantaneous feedback on the cost of their projects. The combined understanding of building design and project cost has also enabled Mr. Thomas to bring substantial cost reductions to projects through Value Engineering.

"I guess that my focus has always been on continuous improvement. When you are managing a project with a definite completion point and budget in mind, it is sometimes difficult to comprehend the concept of continuous improvement. If you divide the processes of designing and constructing into phases, the results can be very positive. Instead of waiting until the



Jon M. Thomas – President Thomas & Williamson

drawings are completed to get bids — you perform a cost estimate and verify the scope hasn't changed appreciably from the initial program. If you review the project at the completion of each phase of design and construction, you will find it is quite easy to improve the outcome."

#### **Education**

BS Civil Engineering Technology, Point Park University

Associate of Applied Technology Triangle Institute of Technology

Continuing Education Certification: Engineering - Penn State University Planning — University of Texas at Austin

#### Registration

Pennsylvania EIT Certified

#### Experience

38 years

#### **Affiliations**

PASBO

Verland Foundation Board of Directors

Our Principals Page 4

#### David M. Williamson

Principal

Co-Founder and Vice President of Thomas & Williamson, Mr. Williamson has over 40 years of experience as a project manager for school, university, institutional and governmental projects. Experienced in CPM scheduling, estimating, cost control and construction management, Mr. Williamson has worked on projects ranging from elementary school renovations to university recreation centers. In addition, Mr. Williamson served as an on-site construction manager for a variety of educational and institutional projects.

Mr. Williamson has also provided technical assistance to financial institutions, insurance companies and government agencies in overseeing construction projects. These services have provided an assessment of the overall project schedule, budget and scope of work. A critical aspect of this work is keeping the client informed of any significant issues that may impact the project schedule, budget, scope, or quality of work.

Prior to the start of construction, Mr. Williamson reviews the project documentation, audits the funding sources, critiques the cost estimate and project budget, investigates the anticipated cash establishes requirements construction financing, and reviews the permitting and compliance requirements. He also determines that proper controls have been established by the designers and contractors to ensure adherence to the preceding issues. After the start of construction, Mr. Williamson monitors the project to determine variations from the project budget and schedule and to ensure all compliance issues are addressed.

Mr. Williamson has also analyzed numerous multi-million-dollar construction claims on over 30 projects with a constructed value of over \$500 million. This work includes the



David M. Williamson – Vice President Thomas & Williamson

development and analysis of as-planned, as-built, would-have-been, and contemporaneous scheduling techniques to determine delays and acceleration. Another key part of his work is determining labor productivity, financial entitlement issues and changed conditions.

As part of the technical construction claims services, Mr. Williamson has provided document reviews, discovery assistance, deposition outlines, negotiation assistance and expert witness testimony.

#### **Education**

BS Civil Engineering, Carnegie-Mellon University

MS Civil Engineering Carnegie-Mellon University

MBA University of Pittsburgh

#### Registration

Pennsylvania Registered Engineer

#### **Experience**

48 years

Our Principals Page 5





#### Our Understanding of the Project.

Chartiers Valley School District is embarking on a potential future construction project at Chartiers Valley Intermediate School where the plan is to potentially renovate the existing structure. Preliminary details of the project include the following:

- The building was originally constructed in 1957 as Scott Township High School
- As part of the 1996 district reorganization, the Scott Township HS became the Intermediate School
- There was a renovation project in 2007, which added a new instructional wing and updated the District Administration
- Grade Levels: 3-5
- Student Body approximately 734 students
- Approximately 92 teachers and staff members

Prior to the start of design, it is important that the Architect has a clearly-defined path including the quantity of specific types of rooms needed, the sizes of those rooms, requirements of specialized spaces and more. Without a clearly-defined program, the Architect will be spending time and money continually refining the design documents as programming decisions are made. A programming study can set the project on the right path with a clear definition of what the project entails. We are open to and anticipate working in conjunction with the design professional chosen for the project to come up with a well-defined program.

#### Note:

This proposal also includes the following services at other District locations:

**Facility Assessment Studies:** 

- High School Athletic Facilities;
- Primary School Athletic Facilities;

Review and recommendation for improvements to the existing HVAC system at the Primary School.

T&W will provide budgetary estimates of all items listed above for the District's review.



# Work Plan

## Proposed Services for Intermediate School

T&W proposes to provide the following services for the project at Chartiers Valley Intermediate School, included in this proposal:

- Planning Services:
  - Programming Study

#### **Proposed Programming Study.**

Our work plan for a Programming Study for the new facility includes the following tasks:

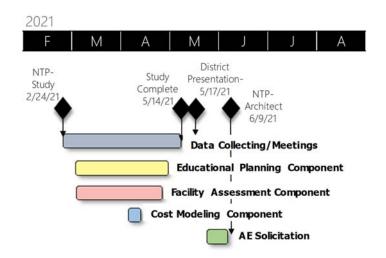
- Meetings with Administrators, Teaching Staff, & Architect
- Capacity Study
  - Using Current Conditions, Current Enrollment
  - Using Projected Enrollment and/or Current Enrollment + 10%
- Schedule of Spaces
- Spatial Relationship Matrix
- Programming Sheets for Each Room Type
- Conceptual Plans
- Conceptual Estimate of Finalized Program
- -PDE PlanCon Preliminary Assessments (Optional)
- Architect Solicitation

One vital piece of information that the Programming Study will provide is how many classrooms will be required, now and into the future. A capacity analysis will be performed by looking at the current enrollment, current enrollment +10%, and future enrollment based on available enrollment projections.

Another vital piece of information includes a detailed schedule of spaces that the Architect will adhere to when developing the floor plans.

Following the completion of the programming study, T&W will assist Chartiers Valley School District in refining the scope to begin Architect/Engineer Solicitation. Once the AE has been selected, the information from the programming study will be turned over to the AE to begin the preliminary design of the project.

Further information on our Planning Services can be found in the Tab 3 of this proposal.







#### **Getting You into the Process.**

Okay, there is a simple timeline and list of the categories of services in the study, but how did we dovetail our efforts into yours? That question requires a deeper look.

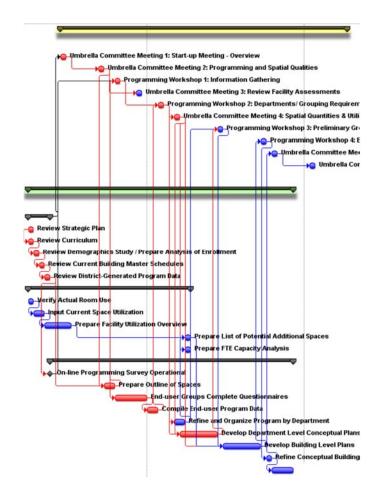
#### CPM.

We have structured our planning process using the Critical Path Method (CPM). Within the process, we have set up a logical progression of all the steps that we have to take in the preparation of the study, and we have set up corresponding check-in points with your involvement.

#### The Connections.

All the meetings and workshops where we will be working together and sharing information and progress are shown under the yellow bar. In the illustration to the right, we have also included the tasks which make up the Educational Facility Planning component. The thin red and blue lines connecting the meeting tasks to the planning tasks are the logic ties which help us to make sure that we are getting your input and providing you with the essential information required in order to progress efficiently in preparing the study.

\* A complete study schedule is provided as an attachment to this section.







#### The Planning Synopsis.

There is more. . .

If you want to find out what we are planning on doing in each step, just take a look at the Task List and Synopsis included in this section. We provide a brief narrative for that which we plan to accomplish in each task of the study. The synopsis also explains who does what – and when.

#### On the Same Page.

As the facilitators of the process, we want everyone to be on the same page. In this case, that page is a webpage. We will upload our plan and connect all major participants using a project website developed in Project Web Server. In addition to providing an information center for all planning data and published reports, the project website will also provide:

- a project calendar
- team discussion page
- issues/risks page
- announcements
- assignments
- portal to the Project Schedule





WBS	Task Name	Cost	Start	Finish
1	Project Administration		2/24/21	3/11/21
1.1	Study Start-up		2/24/21	2/26/21
1.1.1	District Issue NTP		2/24/21	2/24/21
	Following the District's award of the contract to perform the study and the			
	execution of an agreement, the District will issue a Notice-to-Proceed to			
	initiate the process outlined herein.			
1.1.2	Issue Proposed Schedule / List of Background Information		2/24/21	2/24/21
	T&W will issue the compressed Work Plan for the District's review and			
	comment. The District will determine the time allotments required for the			
	District staff to provide the information and participation requested. The			
	District will furnish its required durations as well as the preferred interim			
	report dates (to correspond with the District's regular calendar).			
1.1.3	Initialize Planning Database and Project Website	\$420.00	2/25/21	2/26/21
	T&W will issue the compressed Work Plan for the District's review and			
	comment. The District will determine the time allotments required for the			
	District staff to provide the information and participation requested. The			
	District will furnish its required.			
1.2	District Collect/Issue Background Information		3/1/21	3/3/21
1.2.1	Educational Planning Data, including:		3/1/21	3/3/21
1.2.1.1	Strategic Plan		3/1/21	3/3/21
	The District will furnish a copy of its current strategic plan.			
1.2.1.2	Curriculum Plans (incl. Music & Art; Phys. Ed. Studies)		3/1/21	3/3/21
	Provide overall district curriculum plan and course descriptions by grade-			
	level grouping. Provide documentation of any special studies undertaken by			
	the District addressing the music, art and physical education curricula.			
1.2.1.3	Educational Technology Plan		3/1/21	3/3/21
	Provide the latest submitted plan or current draft of the District's			
	educational technology plan.			
1.2.1.4	Education Partnerships Studies		3/1/21	3/3/21
	The District will furnish a copy of its study of educational partnerships with			
	the community library, D.A.R.E. and other community groups to be			
	associated with the District.			
1.2.2	Space Utilization Data, including:		3/1/21	3/3/21
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WBS	Task Name	Cost	Start	Finish
1.2.2.1	Historic Enrollment (Demographics Study)		3/1/21	3/3/21
	The District will provide historic enrollment data for all grade levels of each			
	facility for the past ten years as well as the most recent demographics study			
	prepared.			
1.2.2.2	Class Size Studies		3/1/21	3/3/21
	The District will provide historic enrollment data for all grade levels of each			
	facility for the past ten years as well as the most recent demographics study			
	prepared or updated by Davis Demographics.			
1.2.2.3	Extended School-Day Study		3/1/21	3/3/21
	The District will furnish a copy of its study of an extended school-day and			
	schedule changes.			
1.2.2.4	Master Schedules/Room and Staffing Schedules		3/1/21	3/3/21
	The District will provide current class schedules for each facility. Provide			
	number of students per section per period, and rotation sequences for			
	primary, intermediate, middle and high school grade-level groupings.			
	Provide summaries of scheduling options currently under consideration.			
1.2.2.5	Flexible Learning Spaces Study		3/1/21	3/3/21
	The District will furnish a copy of its study of flexible learning spaces.			
1.2.2.6	Most Recent PlanCon A Submission		3/1/21	3/3/21
	The District will furnish a copy of PlanCon Part A from its most-recent			
	construction project.			
1.2.3	Technical Information, including:		3/1/21	3/3/21
1.2.3.1	5-Year Capital Plan		3/1/21	3/3/21
	The District will furnish a copy of its current capital plan as well as items			
	currently under consideration for inclusion in the next update.			
1.2.3.2	Record Drawings		3/1/21	3/3/21
	The District will provide access to the construction documents used in the			
	original construction and any subsequent addition and alteration projects			
	reflecting the as-built conditions of the facilities. (Project Buildings only)			
1.2.3.3	Key Plans (current use)		3/1/21	3/3/21
	The District will furnish copies of its "block-and-stack" plans or key plans		- ·	- ·
	identifying the current use of each space or a room number corresponding			
	with the room numbers used in the master schedules.			



Work Plan	
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WBS	Task Name	Cost	Start	Finish
1.2.3.4	AHERA, Air Quality and Engineering Reports		3/1/21	3/3/21
	The District will furnish copies of the most-recent AHERA reports and any			
	reports addressing known hazards and deficiencies at each project building.			
1.2.4	Staff Directory		3/1/21	3/3/21
	The District will furnish a copy or web-address of its staff directory for each facility.			
1.3	Finalize Study Work Plan		3/11/21	3/11/21
	T&W will review the District's schedule requirements for the study and			
	coordinate its services in order to meet the District's required timeline,			
	provide adequate time for the District's involvement and to dovetail the			
	process, as closely as is possible, with the District's established meeting dates.			
2	Meetings, Workshops and Presentations		3/10/21	5/17/21
	The following represent the minimum meetings required by T&W to			
	conduct the study. Additional meetings may be added if necessary.			
2.1	Umbrella Committee Meeting 1: Start-up Meeting - Overview	\$170.00	3/10/21	3/10/21
	Required Attendance:			
	-T&W Planning Team			
	-Superintendent			
	-Facilities Manager			
	-Board Representative(s)			
	-Intermediate School Principal			
	Agenda:			
	I. Introductions / Contact Information Sharing			
	II. Review Proposed Study Process			
	III. Study Participants			
	-Establish Preferred Committee Structure			
	-Umbrella Committee			
	-Programming Representatives (to facilitate information gathering from			
	grade-levels, departments, special areas, etc.)			
	IV. Discuss District's Goals:			
	-Spatial Qualities and Functional Improvements			
	-Spatial Quantities			
	-Technical Improvements			
	V. Set Baseline Schedule for the Study			
	VI. Questions / Open Discussion			



## Work Plan

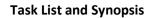
#### **Task List and Synopsis**

WBS	Task Name	Cost	Start	Finish
2.2	Umbrella Committee Meeting 2: Programming and Spatial Qualities	\$170.00	3/17/21	3/17/21
	Required Attendance:			
	-T&W Programming Team			
	-Superintendent			
	-Facilities Manager			
	-Board Representative(s)			
	-Intermediate School Principal			
	-Programming Representatives			
	Agenda:			
	I. Distribute Finalized Work Plan for the Study			
	II. Establish Departmental Structure and Outline of Spaces			
	-Select representatives for each group			
	-Establish inter-school shared group representatives			
	-Determine composition of suites of spaces			
	(collect each participant's name, room type/suite type and school in order			
	that an account and password can be set.)			
	III. Instructions for Completing Programming Questionnaires			
	IV. Review Existing Adjacencies			
	V. Questions / Open Discussion / Upcoming Tasks			
2.3	Programming Workshop 1: Information Gathering	\$310.00	3/22/21	3/22/21
	T&W's project team will facilitate the programming data collection effort			
	with the end-users and provide insights into current trends in space			
	configurations, equipping the spaces, preferred sizes and adjacencies.			
2.4	Umbrella Committee Meeting 3: Review Facility Assessments	\$310.00	3/24/21	3/24/21
	Required Attendance:	70-0.00	-,,	-,,
	-T&W Facilities/Engineering Team			
	-Superintendent			
	-Facilities Manager			
	-Board Representative(s)			
	-Intermediate School Principal			
	Agenda:			
	Review Draft Facility Assessments			
	II. Discuss System Replacement Options			
	III. Develop Prioritization Scale and Implementation Strategies			
	IV. Questions / Open Discussion / Upcoming Tasks			



Work Plan
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WBS	Task Name	Cost	Start	Finish
2.5	Programming Workshop 2: Departments/ Grouping Requirements	\$2,480.00	4/2/21	4/5/21
	T&W's project team will share the compiled information from the end-user			
	group meetings and work with department and grade-level representatives			
	during break out sessions in order to formulate higher-level programming			
	for space-groupings, suites, grade-level groupings and specialized building			
	and site functions.			
2.6	Session A - Art and Music		4/2/21	4/2/21
2.7	Session B - Physical Education, Health and Athletics		4/2/21	4/2/21
2.8	Session C - ComputerScience, Innovation, Pre-Engineering		4/2/21	4/2/21
2.9	Session D - World Language & Cultures, Computer Science & FCS		4/2/21	4/2/21
2.1	Session E - Language Arts, Math, Social Studies & Science		4/5/21	4/5/21
2.11	Session F - Food Service, Media Center & Commons Area		4/5/21	4/5/21
2.12	Session G - Administration, Guidance & Building Support		4/5/21	4/5/21
2.13	Session H - Special Education & Misc.		4/5/21	4/5/21
2.14	Programming Workshop 3: Preliminary Grouping Concepts	\$310.00	4/13/21	4/13/21
	Following the collection, compilation and organization of the programming			
	data uploaded by those participating in the study, incorporation of			
	grouping concepts and the formulation of preliminary concepts, the T&W $$			
	project team will meet with each group in order to review the formatted			
	data and potential solutions.			
2.15	Programming Workshop 4: Building Layouts	\$310.00	4/21/21	4/21/21
	T&W's project team will present ideas and conceptual building plans for			
	review and seek comments from the Department Level and Building Level			
	representatives.			
2.16	Umbrella Committee Meeting 5: Review Conceptual Building Plans	\$310.00	4/29/21	4/29/21
	Required Attendance:			
	-T&W Programming Team			
	-Superintendent			
	-Facilities Manager			
	-Board Representative(s)			
	-Intermediate School Principal			
	-Programming Representatives			
	Agenda:			
	I. Review Preliminary Building Layouts			
	II. Discuss Options and Alternative Plans			
	III. Establish Base and Alternate Requirements			
	IV. Questions / Open Discussion / Upcoming Tasks			



Work Plan
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WBS	Task Name	Cost	Start	Finish
2.17	Umbrella Committee Meeting 6: Review Costs/Finalize Study	\$310.00	5/6/21	5/6/21
	Required Attendance:			
	-T&W Planning Team			
	-Superintendent			
	-Facilities Manager			
	-Board Representative(s)			
	-Intermediate School Principal			
	Agenda:			
	I. Review Cost Estimates			
	II. Review Updated Plans and Options			
	III. Discuss Project Implementation Requirements			
	IV. Review Executive Summary Information			
	V. Develop Presentation (to present the study findings to the Board)			
	VI. Questions / Open Discussion / Upcoming Tasks			
2.18	Presentation: Present Study Findings and Recommendations to School	\$620.00	5/17/21	5/17/21
	Board			
	T&W will assist the Administration in presenting the study findings to the			
	School Board (public meeting).			
3	Educational Facility Planning Component		3/4/21	4/30/21
3.1	Preliminary Research		3/4/21	3/9/21
3.1.1	Review Strategic Plan	\$110.00	3/4/21	3/4/21
	T&W will review the District's Strategic Plan prior to the Start-up Meeting in			
	order to gain an understand of the overall goals of the District.			
3.1.2	Review Curriculum	\$110.00	3/4/21	3/4/21
	T&W will review the curriculum, course guides and supplemental studies			
	prepared by the District in advance of the Programming services.			
3.1.3	Review Demographics Study / Prepare Analysis of Enrollment	\$110.00	3/5/21	3/5/21
	T&W will review the Professional Demographer's report and will generate a			
	comparative Cohort Survival Analysis. the Cohort Survival Analysis will			
	calculate survival rates for 2, 3, and 5-years averages as well as long-term			
	trends, illustrating the relationships for birth-grade levels and grade-level to			
	grade-level transitions. A ten-year forecast will be provided and will identify			
	grade level and grouped grade level peak enrollments.			



WBS	Task Name	Cost	Start	Finish
3.1.4	Review Current Building Master Schedules	\$110.00	3/8/21	3/8/21
	T&W will review the schedules of the schools in order to determine the			
	current level of loading - given the current program.			
	For Project Buildings using subject-centered schedules:			
	T&W will compile representative periods of the master schedule for the			
	school in order to determine the aggregate percentage of loading based on			
	subject enrollment and capacity.			
	For Project Buildings using constant section size schedules:			
	T&W will determine the capacity and utilization rate using an full-time			
	equivalent (FTE) analysis, incorporating FTE rates as suggested by PDE or			
	loading rates set forth through District policy.			
3.1.5	Review District-Generated Program Data	\$110.00	3/9/21	3/9/21
	T&W will review the following District-developed studies in order become			
	familiar with the most recent topic identified as critical to the District's			
	operations:			
	-Class Size study			
	-Flexible Learning Space Study			
	-Extended School-Day Study			
3.2	Space Utilization		3/4/21	4/8/21
3.2.1	Verify Actual Room Use	\$170.00	3/4/21	3/4/21
	Following receipt of the District's key plans and master schedule, T&W will			
	survey the building in order to verify the use of each room and measure			
	each room's floor area.			
3.2.2	Input Current Space Utilization	\$170.00	3/5/21	3/8/21
	Information gathered from 3.2.1 will be entered in the planning database in			
	order to build the catalog of existing spaces.			
3.2.3	Prepare Facility Utilization Overview	\$110.00	3/9/21	3/11/21
	A summary table will be prepared, detailing all scheduled and non-			
	scheduled spaces in the building along with their respective capacities and			
	loading rates. The spaces will be categorized as follows:			
	-Specific Function Scheduled Space			
	-Support Space			
	-Administrative Support Space			
	-Special Education Space			
	-Classroom Space			

Work Plan



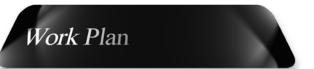
#### **Task List and Synopsis**

WBS	Task Name	Cost	Start	Finish
3.2.4	Prepare List of Potential Additional Spaces and Loading Efficiency Tables	\$110.00	4/8/21	4/8/21
	T&W will prepare a list of potential additional spaces based on preliminary			
	discussions of the types of spaces required and the ability to reuse or			
	readily readapt existing spaces to meet the quality and quantity			
	requirements set forth in the early programming. Loading Efficiency Tables			
	will be provided in order to measure utilization improvements made			
	available through the use of these potential additions.			
3.2.5	Prepare FTE Capacity Analysis	\$110.00	4/8/21	4/8/21
	T&W will prepare a simple room schedule-type capacity analysis - similar to			
	the tables used in the PlanCon submissions. This process is undertaken in			
	order to account for the space in the same terms as PDE to enable us to			
	prepare a preliminary estimate of State reimbursement.			
3.3	Detailed Programming		3/10/21	4/30/21
3.3.1	On-line Programming Survey Operational	\$230.00	3/10/21	3/10/21
	With the assistance of the Districts IT Department, T&W establishes			
	operation of programming survey over the School District's network.			
3.3.2	Prepare Outline of Spaces	\$170.00	3/18/21	3/19/21
	The Outline of Spaces is an organizations tool which assigns individual rooms to:			
	-Suites of rooms			
	-Cluster of Rooms or Suites			
	-Schools (for school-within-a-school configurations			
	Ultimately, all programming will be organized according to this structure.			
3.3.3	End-user Groups Complete Questionnaires	\$240.00	3/22/21	3/25/21
	Using a network-deployed survey database installed by T&W, your end-			
	users will log-on and complete specialized forms which address and rate the			
	functionality, dimensions, equipment, environmental conditions,			
	technology systems, etc., of the rooms which they occupy. The survey will			
	be based off the draft questionaire provided by the District.			
3.3.4	Compile End-user Program Data	\$510.00	3/26/21	4/1/21
	The information collected in 3.3.3 will be analyzed and the rooms' scores			
	will be computed in order to provide the collective opinions of the viability			
	of the current rooms' ability to meet your program requirements.			



Work Plan	

Task Name	Cost	Start	Finish
Refine and Organize Program by Department	\$340.00	4/6/21	4/7/21
In response to the raw end-user generated program data, T&W's project			
team will generate recommendations (a scope of work) for reconciling			
current deficiencies. We will also organize the draft programming data			
sheets by the grouping structure set forth in the Outline of Spaces.			
Develop Department Level Conceptual Plan	\$340.00	4/6/21	4/12/21
Conceptual plans will be generated in order to illustrate the combined			
space requirements of each department or cluster.			
Develop Building Level Plans	\$340.00	4/14/21	4/20/21
At the point at which the types of spaces and their configurations are			
established and the total quantity of each type of space is identified, we will			
develop conceptual building plans in order to illustrate the overall space			
requirement, re-utilization of existing space and the requirements for new			
space, given the space available in the current building.			
Refine Conceptual Building Level Plans	\$170.00	4/22/21	4/28/21
District input.			
Prepare Educational Program Overview	\$340.00	4/29/21	4/30/21
This section of the study will provide the mission-statement of the			
educational facility program and will discuss the overall concept of the			
facility.			
Facility Assessment Component		3/4/21	4/1/21
T&W's Facility Assessment Team will research all record drawings in order			
to gain insight into the make-up of the various construction assemblies			
included in the building and on the site.			
Review Record Drawings	\$883.00	3/4/21	3/9/21
T&W's Facility Assessment Team will research all record drawings in order			
to gain insight into the make-up of the various construction assemblies			
included in the building and on the site.			
Building and Site Inspections		3/4/21	3/30/21
Project Building	\$388.00	3/4/21	3/4/21
Project buildings will undergo an extensive inspection, in which technical			
deficiencies will be documented and photographed.			
Re-inspection/Verification	\$155.00	3/30/21	3/30/21
Re-inspections will be performed where deemed necessary as the result of			
the inspections that we performed their accuracy to the result of			
	Refine and Organize Program by Department  In response to the raw end-user generated program data, T&W's project team will generate recommendations (a scope of work) for reconciling current deficiencies. We will also organize the draft programming data sheets by the grouping structure set forth in the Outline of Spaces.  Develop Department Level Conceptual Plan Conceptual plans will be generated in order to illustrate the combined space requirements of each department or cluster.  Develop Building Level Plans At the point at which the types of spaces and their configurations are established and the total quantity of each type of space is identified, we will develop conceptual building plans in order to illustrate the overall space requirement, re-utilization of existing space and the requirements for new space, given the space available in the current building.  Refine Conceptual Building Level Plans Additional refinements to the conceptual plans will be made to address District input.  Prepare Educational Program Overview This section of the study will provide the mission-statement of the educational facility program and will discuss the overall concept of the facility.  Facility Assessment Component T&W's Facility Assessment Team will research all record drawings in order to gain insight into the make-up of the various construction assemblies included in the building and on the site.  Review Record Drawings T&W's Facility Assessment Team will research all record drawings in order to gain insight into the make-up of the various construction assemblies included in the building and on the site.  Building and Site Inspections  Project Building Project buildings will undergo an extensive inspection, in which technical deficiencies will be documented and photographed.	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#### **Task List and Synopsis**

WBS	Task Name	Cost	Start	Finish
4.3	Prepare Detailed Reports of Building and Site Conditions (Project Bldgs)		3/5/21	4/1/21
4.3.1	Architectural Systems and Accessibility	\$970.00	3/5/21	3/18/21
	The architectural systems, including the categories listed below, will be			
	surveyed and recommendations will be made in order to meet code			
	compliance and extend the serviceability of each system as well as that of			
	the entire building a minimum of 20 years.			
	-Sitework			
	-Concrete			
	-Masonry			
	-Metals			
	-Wood & Plastics			
	-Thermal & Moisture Protection			
	-Doors & Windows			
	-Finishes			
	-Specialties			
	-Equipment			
	-Furnishings			
	-Special Construction			
	-Conveying Systems			
	This section will also include recommendation for correcting accessibility problems at the current facility.			
4.3.2	Civil/Structural Systems	\$970.00	3/5/21	3/18/21
	The structural systems, including the categories listed below, will be			
	surveyed and recommendations will be made in order to meet code			
	compliance and extend the serviceability of each system as well as that of			
	the entire building a minimum of 20 years.			
	-Sitework			
	-Concrete			
	-Masonry			
	-Metals			



\$170.00

2/24/21

3/4/21

2/24/21

5/7/21

WBS	Task Name	Cost	Start	Finish
4.3.3	MEP and Telecommunications Systems	\$970.00	3/5/21	3/18/21
	The mechanical, electrical and plumbing (MEP) systems, including the			
	categories listed below, will be surveyed and recommendations will be			
	made in order to meet code compliance and extend the serviceability of			
	each system as well as that of the entire building a minimum of 20 years.			
	-Plumbing			
	-Fire Protection			
	-HVAC			
	-Electrical			
	-Telecommunications			
	Under this section of the study, our MEP Engineer will introduce			
	sustainable construction options for consideration.			
4.3.5	Develop Prioritized List of Upgrades/ Finalize Facility	\$4,580.00	3/31/21	4/1/21
	Assessments/Provide Estimates/Prepare Time-scaled Budget Sheets			
	Provide an estimated cost for the work that would be required to be			
	performed. Work with the Administration in the development of categories			
	for the incremental implementation of the work indentified in the			
	educational facility planning and facility assesment components of the			
	study.			
5	Cost Modeling Component		2/24/21	4/8/21
5.1	Prepare Estimate from Conceptual Plan	\$1,240.00	4/2/21	4/8/21
	T&W will prepare and estimate based on its conceptual plan. Refinements			
	will be made as the conceptual plan is refined.			
5.2	Refine Estimate from Conceptual Plan	\$620.00	4/9/21	4/15/21

Work Plan

Work Plan Page 15

T&W will prepare and estimate based on its conceptual plan. Refinements

T&W will prepare a project budget for each conceptual design which includes all construction costs as well as the associated soft (indirect) costs

PDE Study Requirements (as included in PlanCon A, attachment C)

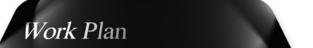
will be made as the conceptual plan is refined.

**Prepare Proposed Budget** 

comprising the Project Cost.

5.3

6



#### **Task List and Synopsis**

WBS	Task Name	Cost	Start	Finish
6.1	Prepare Overview of the School District	\$210.00	3/10/21	3/10/21
	An overview of the school district that considers such factors as geography,			
	population, wealth. The overview will include:			
	a. population and wealth statistics			
	<ul> <li>b. a map showing the general location of the school district in the state or geographic region</li> </ul>			
	c. a map of the school district showing the general location of all existing			
	buildings and owned sites in the school district			
	d. information on any distinguishing characteristics, such as geographically			
	separate population centers, that will have an impact on facilities.			
6.2	Prepare Overview of the Educational Program for all Grades	\$210.00	3/11/21	3/11/21
	An overview of the school district's educational program. The overview will			
	address for all grades (K-12):			
	a. instructional practices or planned curriculums by grade structure			
	(elementary, middle, secondary, etc.)			
	b. special facility needs, if applicable, needed to support planned			
	curriculums.			
6.3	Prepare Analysis of the Projected Enrollment (see 3.12) 3.1.3		3/5/21	3/5/21
	An analysis of projected enrollment. The analysis will include:			
	a. the likely enrollment for each grade structure ten years into the future			
	b. a discussion of the reliability of the enrollment projections.			
6.4	Prepare Analysis of the Capacity of all Buildings	\$280.00	3/4/21	3/4/21
	An analysis of each building's capacity as it relates to the educational			
	program. The analysis will address:			
	a. how many students a building can house			
	b. the types of educational spaces required by the educational program			
	descrbed above			
	c. grade alignments			
	d. length of the school day and number of classes per day, if applicable			
	e. size of particular rooms and adequacy of those rooms, if applicable.			



Work Plan	

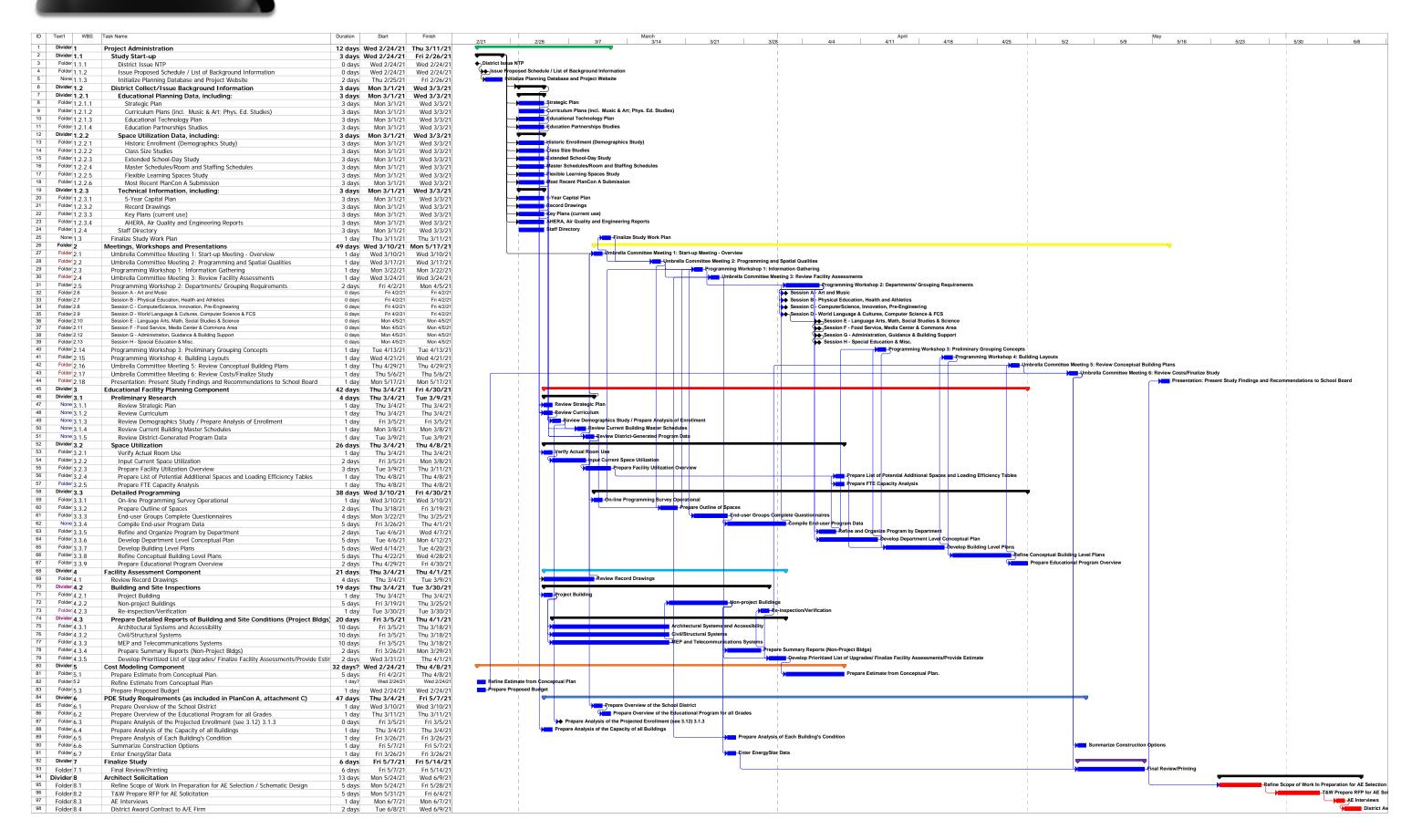
WBS	Task Name	Cost	Start	Finish
6.5	Prepare Analysis of Each Building's Condition	\$280.00	3/26/21	3/26/21
	An analysis of each building's condition. The analysis will address:			
	a. the building's physical condition			
	b. the projected useful life of each building's major components (electrical,			
	HVAC, plumbing, etc.)			
	c. code violations			
	d. universal accessibility			
	e. Energy Portfolio Surveys			
	f. the cost to upgrade each building to current standards.			
6.6	Summarize Construction Options	\$140.00	5/7/21	5/7/21
	An analysis of construction options. The analysis will address:			
	a. the alternatives available to the school district based on the above			
	analysis			
	b. cost estimates for each alternative			
	c. the pros and cons for each alternative			
	d. a summary page depicting options and costs.			
	e. Energy Portfolio Surveys			
6.7	Enter EnergyStar Data	\$280.00	3/26/21	3/26/21
	Energy Portfolio Surveys will be included for each exsting building and for			
	each construction option that is being considered.			
7	Finalize Study		5/7/21	5/14/21
7.1	Final Review/Printing		5/7/21	5/14/21
	T&W will review the final draft of the study with District and deliver 15 hard			
	copies as well as an electronic copy of the final study.			
8	Architect Solicitation		5/24/21	6/9/21
8.1	Refine Scope of Work In Preparation for AE Selection / Schematic Design	\$2,020.00	5/24/21	5/28/21
	T&W will assemble summary information from the study for inclusion in the			
	RFP. T&W will also assist the District in the development of the form of			
	agreement between the Owner and Architect.			
8.2	T&W Prepare RFP for AE Solicitation	\$1,400.00	5/31/21	6/4/21
	A package of information will be prepared including the documents noted			
	above. T&W will assist, if requested, in the development of a list of A/E			
	firms for consideration. Printed and electronic copies of the RFP will be			
	issued to potential A/E firms selected by the District.			
8.3	AE Interviews	\$450.00	6/7/21	6/7/21
	The District will interview the short-listed firms.		• •	



#### **Task List and Synopsis**

WBS	Task Name	Cost	Start	Finish
8.4	District Award Contract to A/E Firm		6/8/21	6/9/21
	T&W will assist the District's solicitor in the preparation of the Owner /			
	Architect agreement.			

### Work Plan



CVSD Intermediate School Preliminary Work Plan.mpp



## Planning Services

#### Planning:

#### Your Needs Identified.

As you enter the planning phase of your project, in response to the changing needs of your District, Thomas & Williamson can prepare the Facilities Master Plan. The plan will outline scenarios to address the specific needs of the District, as well as the cost of executing those scenarios.

After performing a study of the educational spaces available and after determining the capacity of each of the District's school buildings, we will assess the need for any alterations to the individual facilities to ensure that your facilities support your educational program. This information will be utilized to prepare a square-foot construction cost analysis for each facility to provide preliminary construction costs.

We will review the District's enrollment projections and perform a community demographic analysis that focuses on historical enrollments, live birth data, housing developments, real estate data and census data in order to determine what your enrollment is likely to be.

From this information we will create scenarios that support the District's educational program, and financial needs. These scenarios will include both construction costs as well as operational costs.

### planning > design > construction

Thomas & Williamson, together with the District, will incorporate these scenarios into the Facilities Master Plan that will prioritize the District's capital project needs.

The following sections discuss the proposed services in detail:

- Educational Facility Programming
- Facility Utilization
- Facility Assessment
- Conceptual Design Studies
- Cost Modeling
- Cost Estimating
- Scheduling
- Architectural Solicitation
- PlanCon Process

We invite you to read on to find out more about these services and how can they be of benefit to your District.

Planning Services Page 1





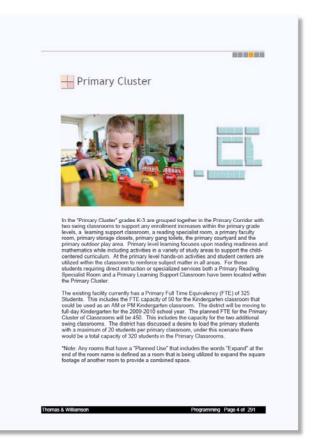
#### **Educational Facility Programming.**

Perhaps Daniel Pink said it best, when discussing our society's trend toward maintaining the industrial concept of the educational facilities of the 1940's in our current schools: "we fail to acknowledge, and even discourage, individuality and we turn our backs on the individual's needs. Doing so leads to a culture that is nonadaptive." At T&W, we embrace individuality and we see the value of working hard to collect meaningful and unique programming information that describes not only the commonalities among our clients' operations - but the unique attributes as well.

Understanding the details of your operations leads to success in helping to redefine how your buildings support your mission.

We'll conduct a traditional programming study, in which we'll collect opinions using questionnaires, online survey, group workshops and one-on-one planning interviews to get to those special details. We believe strongly that a facility's or an individual space's physical shape, size and qualities should be a direct reflection of the function that it supports.

We'll collect, draft, discuss and refine the programming data for each space in your district and then summarize the educational program at the space, department and facility levels.



Programming Page 2

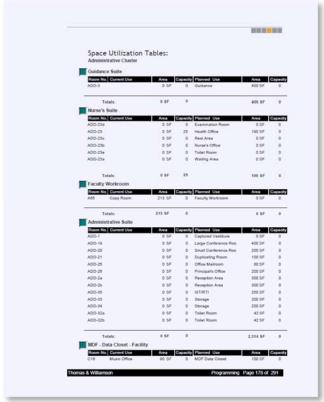


## *Programming*

#### **Program Compiling.**

Our main tool used in the compilation of the information is the Programming Data Sheet. Our planners review all the information collected as well as the other sources and make the necessary refinements and compile the data for review by the members of your internal planning team. A separate data sheet is prepared for each type of space contemplated. These sheets discuss the proposed usage, the planned functions performed, frequency of use, the size, interior environmental requirements, furnishings and equipment for each type of space. A section of the data sheet is also dedicated to describing how various operations can be conducted in a single space as well as how one programmed spaces relates to others ,which is the most important information necessary in making decisions involving facility grouping and consolidation.

Once the data is compiled for the space, the quality and function requirements for each type of space will have been documented. Once approved, the programming defines the functional objective for the project and enables you to clearly articulate your needs to the design team.





Programming Page 3





#### What is typical?

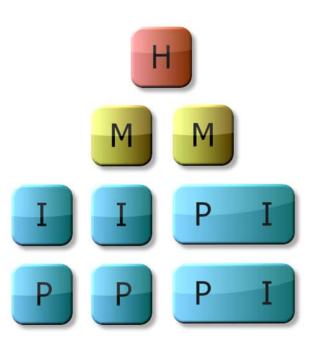
There are seemingly infinite combinations of grade level groupings which can be used within a K-12 operation. For most districts, the groupings include elementary, middle or junior high and high school. But from district to district, the grade levels which comprise those groupings can vary widely.

There is no typical or universal configuration.

What <u>is</u> typical, however, is that every school district has existing school buildings and every school district attempts to develop a grade-level structures which are integral to their program. The program can change or the enrollment changes. These types of changes can cause the once "ideal" grade-level structure to function in a sub-optimal way.

#### **Developing Alternatives.**

We assist our clients by organizing the quantities of spaces that are required in order to operate each grade level. We look for operational improvement opportunities by exploring a variety of grade-level groupings and by determining how those groupings can fit your facilities, while maintaining compliance with your educational program objectives. Through careful investigation, new configurations can be developed which optimize the use of your existing facilities without compromising your program.



Facilities Utilization Page 4





#### **Space Utilization Studies.**

There are several methods available for calculating the capacity of a school. Most methods consider the capacity of each classroom or other type of educational space. Those respective unit capacities are multiplied by the number of each type of space in order to determine overall facility capacity. Such methods generally yield suitable results for receiving funding or for finding the gross capacity of the facility. But they rarely address the specific spatial needs in a manner adequate to determine the existence of under-utilized or over-utilized space.

We employ all of the conventional methods for calculating gross facility capacities including the full-time equivalent capacity (FTE) and pupil station methods. However, in order to determine where capacity utilization deficiencies exist, we conduct a unique analysis of the master class schedule for the school.

#### **Existing Space Surveys.**

The primary shortcoming of a FTE capacity analysis is its inability to address the use of space beyond the use of scheduled space. The efficiencies of rooms in which no classes are scheduled are not considered, and the anticipated needs for those spaces are not addressed either. We take the extra step of accounting for each room of the facility in our database. This extra degree of accounting serves several purposes.

First, it allows us to determine the functionality of non-scheduled spaces such as a cafeteria, library or resource room. Those rooms obviously have capacities and

affect the operation of a school. They are not considered, however, in an FTE analysis – such as those that are part of the PlanCon process.

Secondly, counting all of the spaces in a building allows us to explain the significance of the ratio of scheduled area to gross building area. In general, that ratio has become lower over recent years with the implementation of newer and more space-consuming codes and laws affecting building design.

Finally, by collecting information about all of the spaces contained in a building, we are able to provide more detailed spatial quantity data for input in our Cost Modeling system. Ultimately, our clients are able to see which spaces will cost the most to build or renovate.

#### **Schedule Efficiency Studies.**

Our studies include a complete analysis of the master schedules used by the school principals to schedule classes at the schools. We record the number of students using each room during each period of the day. Those figures are tallied and the average utilization rate is computed for each scheduled space in the facility.

This analysis demonstrates that school facilities can have capacity problems – even though the overall capacity seems to be compatible with the anticipated enrollment.

Facilities Utilization Page 5





Our report will present the following for each scheduled space:

- a) full-time equivalent capacity (FTE)
- b) adjusted FTE
- c) pupil station capacity
- d) average student~periods per day
- e) total student~periods per day
- f) percent utilized
- g) weighted percent utilized
- h) optimum facility utilization rate

#### **Space Utilization Report.**

The Space Utilization Report presents all of the current and planned space utilization information in a tabular format. The report will serve as a ledger for balancing the existing spatial capabilities with the spatial needs found through the Programming process. These reports help to provide a clear picture of a facility's current organization in order to effectively organize future needs and provide an optimum plan for the utilization of existing spaces. These reports are generated for each facility in the study in order to determine if the redistribution of enrollment is beneficial to operation of the schools.

Facilities Utilization Page 6



## Facility Assessment

#### **Preliminary Research.**

The Facilities Assessment phase of the study begins with a survey of each facility. The survey team will consist of our engineering professionals as well as representatives of the District's facilities staff. The goal of the survey team will be to collect information on the conditions of all existing building components. products of the survey will be a detailed engineering analysis and a database containing the types of building components in use at the facilities, their size and quantity, present condition and their anticipated serviceable life. Not only will this database be a useful tool to the planning team in the assessment of the facilities, but it will be a document that can be used by the District for future renovation projects or maintenance programs for as long as the buildings are owned by the District.

Prior to mobilizing our engineers, we will compile and research all available documentation of the facility, including the original building plans, plans of subsequent additions and renovations, asbestos management programs and previous facilities assessment studies. We will prepare background plans and worksheets to ensure that each building component is classified. The worksheets will be arranged in Construction Specifications Institute (CSI) format so that the collected data can ultimately be transformed into a detailed, line-item cost estimate.

We will survey the conditions of all major building systems, which will include but not be limited to the following systems:

- 1 General Requirements
- 2 Sitework
- 3 Concrete
- 4 Masonry
- 5 Metals
- 6 Wood & Plastics
- 7 Thermal & Moisture Protection
- 8 Doors & Windows
- 9 Finishes
- 10 Specialties
- 11 Equipment
- 12 Furnishings
- 13 Special Construction
- 14 Conveying Systems
- 15 Mechanical
- 16 Electrical

The survey will be conducted through non-destructive means to the fullest possible extent. Where it is not possible to draw conclusions as to the conditions of building components by non-destructive methods, we will recommend a further examination to be conducted using destructive procedures. The urgency of the need for the destructive tests (if required) will be discussed with the District during this phase of the study.

Our comprehensive Facility Assessment report will address all civil, structural, architectural, plumbing, HVAC and electrical systems present at the facilities and form the basis for conclusions drawn with respect to the practical utility of the facilities for their consideration as part of the Planning Study for the facility.

Facility Assessment Page 7



# Facility Assessment

#### Code Reviews.

In addition to our survey of the facility, we will conduct code reviews in order to determine what types of upgrades the facilities must undergo to be in compliance with the prevailing building codes and accessibility guidelines set forth by the Americans with Disabilities Act. The review will determine the building height and area limitations given by the Pennsylvania Uniform Construction Codes as well as the associated fire and panic requirements. It is our intent to clearly identify the restrictions imposed on the existing building by the codes at this early stage of the project so that the conclusions drawn in the study are based on tangible guidelines.

To execute the code reviews, we will rely upon our professional engineering expertise and our in-depth experience in the interpretation of building codes. Our study will include documentation of our code review. This documentation will alert the District to the existence of noncompliant building systems requiring remediation. In addition, the code analysis will assist the architect in the production of the final design and establish quality goals in response to the individual code classifications of the building.

Facility Assessment Page 8





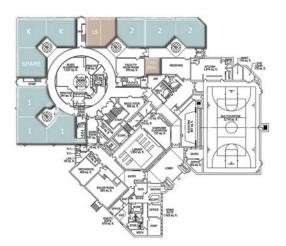
#### **Conceptual Design Studies.**

With such large volumes of data that are collected and compiled, we find it helpful to associate graphics, including thumbnail plans of the facilities and their sites, as part of the planning process. We use the plans to illustrate the relative sizes and arrangement of the spaces within the facilities as well as issues such as expandability, adjacency, accessibility, circulation, clustering and separation.

More and more we find that school districts are facing the question of "build new – or renovate?". And with new restrictions on local spending, that question is taking on greater significance in the planning phase of projects. Often the "new or renovate" question is solved by determining the factors which govern the ability of a building to be expanded. The best way to develop such a solution is through the use of conceptual plans.

We provide conceptual plans of each of the final alternatives as well as plans which represent the current conditions of the existing buildings. These plans are keyed to our Model Cost Estimate to associate the costs of the individual spaces.

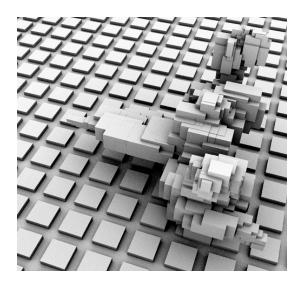






Conceptual Design Page 9





Like all clients involved in setting a budget, you find yourself with only the basic building blocks of a project scope, but you are in need of accurate forecasts of the cost of your project. You need to know the details which build up to the total construction cost, in order that you can choose the design option that will best meet your needs.

In such situations, it is common that clients will seek assistance from contractors - who employ cost estimators to prepare bids for construction projects that they seek. But the estimators must also be given the details of the scope. Someone must develop these details from the most basic of conceptual design information.

## That someone is T&W.

We are pioneers in the development of conceptual cost and building modeling systems for building construction projects. We develop and use highly-sophisticated modeling techniques to generate conceptual design solutions. These solutions provide our clients and A/E partners with cost forecasts in the finest detail available for their use in making important project scope decisions.

Cost Modeling Page 10

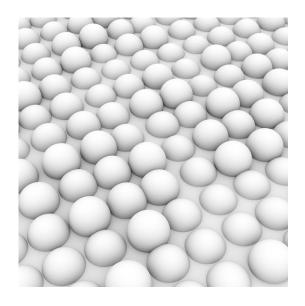


## What is Modeling?

Modeling is a statistical process — which relies upon algorithms to generate likely outcomes given the parameters which influence those outcomes. In the case of the design and cost of a building, the algorithms are design formulas — based on accepted engineering practices and standards set forth by the building codes. The algorithms are modified by other variables, such as repetition, scale and complexity which are intrinsic factors to any building design.

Our engineers and designers have developed engineering design formulas to address everything from the required size and weight of structural members - given the building configuration - to the required length and diameter of wire in branch electrical circuits - given the number of outlets per wall in your classrooms.

We work from the inside out – compiling the spatial quality attributes and spatial quantity formulas as a mathematical mirror of your program requirements for each type of space to be included in the project. Then we take the building configurations and material compositions provided by the architect and we build virtual building shell models in our system to generate building material quantities which serve as the basic input for the development of cost estimates.



Cost Modeling Page 11



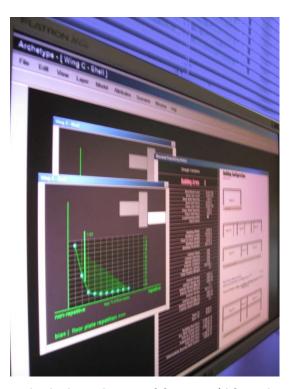
## **MEP System Design Synthesizing.**

It used to be that designers would work for months, developing the designs for the main mechanical and electrical systems for their building projects. They would make their best guess at the cost of the systems, usually relying only on recent square foot construction costs for similar systems. It was inevitable that as they got further into the design process, they would find that significant and costly departures from the original concepts were necessary. The design was completed, the bids were received and then everyone struggled to determine why the mechanical-electrical-plumbing (MEP) was so far over budget.

The lesson that should have been learned is that you cannot accurately forecast the cost of the MEP using only historic square foot costs.

We learned that lesson and responded by deriving the costs of MEP system components as a function of the lowest level physical properties associated with the system operational loads. For instance - instead of estimating the cost of an air handling unit — we calculate the size of the unit in terms of its air flow and heating and cooling capacities and then estimate the cost in terms of the dollars per CFM and dollars per Btu.

The capacities of such components drive the sizes of the piping, ductwork, cabling and main equipment that support the units and comprise the main MEP infra-structure. This information empowers the designers with real-time cost feedback and enables program/cost hybridization to occur – resulting Cost Modeling



in the highest degree of first-cost/ life-cycle cost optimization.

## Structure Design Synthesizing.

The building structure and envelope typically account for between 35 and 50 percent of the construction cost. It is a large component of the building cost and requires precision in the determination of structural member sizes - prior to the rather routine task of assigning unit costs.

Our structural engineers have formulated macros, which utilize such rudimentary factors as wind load, soil bearing capacity, bay width and depth, floor-to-floor height and the number of stories to generate conceptual member sizes, footing width and composition, caisson diameter and other

: Modeling Page 12



structural component profiles that are used as input for the cost estimates. All profiles are updated with actual final design and bid cost information for continued refinement of the application's design forecasts. In addition, like all other modules of the system, we have linked bias filters for scale, complexity, repetitiveness and design integration for the purpose of forecasting the likelihood scope increase on individual line items of the structural systems.

This information is linked to a data form which allows the designer to run alternative scenarios for primary and secondary structure types, roof materials, exterior skins, window sizes and spacing and the application of special architectural features.

Like all other modules of our cost modeling system, the controlling conceptual design parameters are completely dynamic and yield real-time cost feedback by toggling any of the quality and quantity parameters.

## Cost Data

We maintain a continuously updated bank of construction cost data for public school construction projects completed in the northeastern US. In addition, we maintain close relationships with the manufacturers and suppliers of materials and equipment that is commonly used in K-12 construction.

Our cost data includes all material unit prices, equipment costs and labor costs. Our labor unit costs are computed by tracking and averaging the historic production rates of all trades on our previous K-12 projects and in accordance with the prevailing wage rates in the project area.

All cost data is dynamically linked to our conceptual design models and can be presented in a variety of standard and custom reports, including cost accounting templates for PDE's PlanCon Part D – Project Accounting based on Estimates with separate tabulations for new construction, renovation, prime contracts, site costs, abatement and roof replacement.



Cost Modeling Page 13





## Parametric Cost Estimating.

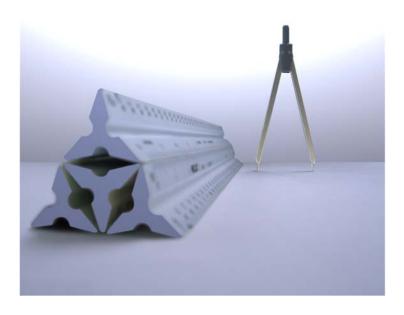
We offer a full range of cost estimating services for building and building-related projects, including traditional detailed take-off (parametric) estimating. This type of estimating is utilized to a limited extent on Design Development level estimates and used exclusively on Construction Documents level estimates.

Take-off's are performed using various measurement techniques, ranging from printed plan-scaling and CAD scaling to quantity assignment and extraction using BIM. In assignments where T&W has been engaged to perform cost modeling services, parametric estimating is coupled with our models and used to detail unique, non-algorithmic aspects of the project.

Our project engineering staff is trained and proficient in all divisions of construction estimating including:

- -indirect construction (soft) cost
- -bulk cut/fill and trenching calculations
- -concrete
- -wall structures, cladding and surfaces
- -steel framing
- -wood frame construction
- -thermal and moisture
- -doors and windows
- -finishes and trim
- -equipment, specialties and equipment

- -equipment, specialties and equipment
- -special construction
- -plumbing
- -fire protection
- -HVAC
- -controls
- -power and lighting
- -electrical and communications systems
- -data systems



Cost Estimating Page 14







## **Report Options.**

Our standard estimating template provides reports including the data fields shown above for each line item.

## Analytics.

Summary reports are available with custom data sorts and analytics, displaying cost information by key parameters for easy reference, cost segregation and cost optimization studies.

## Cost Data Sets.

All material cost data is updated annually using published data from RS Means. Select volatile cost information is compiled per estimate based on published cost reports from ENR, local quotes and recent compiled bid data.

Labor rates are computed using base labor rates published for the project and modified to include historically measured rate multipliers.



Cost Estimating Page 15





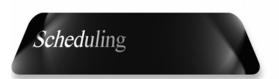
## The Project Schedule.

The Project Schedule is the document that sets forth the timing and logistics of the Work Plan for all phases of the project, including the planning, procurement and construction phases. While the Project Schedule reiterates the overall duration for each of those phases, it focuses on the procedures required to execute the development of the concept and design of the project as well as the external factors controlling the execution of the project including governmental approvals, permits, funding relocation of the owner's operations.



Scheduling Page 16

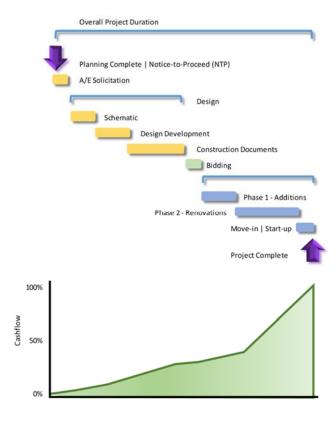




## **Conceptual Project Scheduling.**

In addition to defining what the project will be and what it will cost - we develop concepts describing how the project will be executed. The scheduling concepts that we develop allocate time for each significant step that must be taken from your notice-to-proceed — through the start-up of the facility. And as each of those steps serve as precedents for other steps, the logistics must be associated in order to set forth a workable plan.

By the conclusion of the planning phase of a project, we identify the immediate steps which must be taken in order to retain design professional and execute the design process. We'll also lay-out the longer-range schedule activities for procurement, bidding and construction as place-holders - so that an adequate context exists for interlacing the project with other projects, your operation schedules, phasing requirements or other external schedule milestones.



Scheduling Page 17



## Architectural Solicitation

Following the adoption of the Program, we will take our first step together into the design process by seeking out a skilled team of design professionals to prepare the design of your project. We will assist you in finding architects and engineers (A/E's) that are interested in the project - and from that group of interested A/E's, you will select the firm that you find to be best suited to working with your school district.

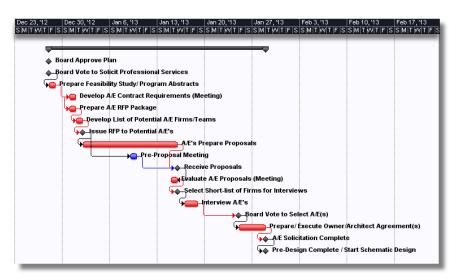
The A/E design team you select will include architects, all disciplines of engineers, abatement designers, and special design consultants. Before we can get everyone on board, several important steps must be taken in order to ensure that not only has the right team been selected, but also that all of the contractual and financial terms are set and that the expectations of the A/E are clearly understood by all parties.

The following outlines the process that we propose be executed in order to get an A/E on to the project.

## 1 – Develop RFP Package

We will start the effort by developing the Request for Proposal (RFP). Inasmuch as the A/E selected will be expected to adhere to the scope of work, budget and schedule set forth in the program adopted by the school board, we'll provide an overview of the program for inclusion as an attachment to the RFP. In addition, we'll work with the administration and the solicitor to develop and assemble a form of agreement for the contract between the A/E and the district that is custom-tailored to your standing provisions and those unique to the project.

In addition to the project background and contractual items, we will assemble qualification and experience criteria as well as all other proposal forms in order that the proposals ultimately received will be provide consistent information in a structured format.



Architectural Solicitation Page 18



## Architectural Solicitation

## 2 – Identify Potential A/E's

Once we have developed the RFP, the District must determine to which firms they would like to distribute the RFP. We will assist in reaching-out to the architecture and engineering community to stimulate interest in your project.

## 3 – Proposal Solicitation

To ensure that we get the best responses from the firms seeking to work on the project, we will be available to assist in providing constant communications with the proposing firms for the duration of the process. We will collect questions and develop responses, which will be issued to all proposing firms. At approximately the midpoint of the proposal preparation period, we will assist you by conducting a walk-through of the existing facility, at which time we will also provide a presentation of the findings of the Feasibility Study to familiarize the firms with the existing conditions and the planned upgrades.

## 4 – Evaluation of Proposals

The solicitation process will yield important qualification information about the firms vying for the project. We will assist in evaluating the proposals utilizing the following criteria:

- Demonstrated design skill
- Experience in planning, design & construction of public elementary school building renovations and additions of the magnitude contemplated for the projects.
- Work experience in this area and functional knowledge of Pennsylvania Department of Education requirements
- Knowledge of construction regulations and basic building codes and standards and local ordinances

- Ability, as evidenced by references from prior clients, to meet budget and schedule constraints
- Professional qualifications of the proposed project staff
- Strength of the A/E's proposed project manager and his/her compatibility with the other parties involved in the project
- Financial stability and insurability to the predetermined limits
- Track record of the architectural firm, working with its proposed consultants
- Change order percentages on past projects
- Professional Fees
- Exclusions and reimbursable costs

T&W will review the proposals for these criteria and develop a tabulation, confirming each proposing firm's adherence to the qualification criteria set forth. We'll forward this information to the administration for consideration in its recommendations to the school board.

## 5 - Interviews

After the board and/or administration have sufficiently reviewed the proposals and supplemental information, the top firms will be invited to provide a presentation and interview. T&W will be available to assist in the interviews.

## 6 - Selection of the A/E

Based upon all of the foregoing steps, the school board will select the A/E which it finds to be best suited to the project. Following the board's decision, the predetermined form of agreement will be drafted, reviewed among the parties and the solicitor and ultimately – the A/E contract will be in-place. Immediately thereafter, we will begin acclimating the A/E to the project and the design process will commence.

Architectural Solicitation Page 19



## PlanCon Process

## The PlanCon Process.

Any time a school district in the state of Pennsylvania enters into a construction project where they are seeking reimbursement from the state, the district enters into a process called the PlanCon process. PlanCon is an acronym for Planning and Construction. This process walks the district and its intended facility for renovations and/or new construction, through all of the steps required to seek reimbursement from the Department of Education of the state Pennsylvania. This process involves numerous forms and procedures whereby the district is responsible to document their planning process, provide justification for the project to the public, and comply with state laws and construction regulations.

Thomas & Williamson provides all of the planning information that is required for districts to enter into the PlanCon Process, with the exception of a Schematic Design. By virtue of all of the detailed steps that we take in our Planning Study, you will be well equipped to complete the first steps of the Pennsylvania Department of Education's (PDE) PlanCon Process — PlanCon Part A.

Thomas & Williamson has been providing PlanCon preparation and assistance to our clients for the past 22 years on well over 100 projects. Thomas & Williamson has established a reputation and a solid working relationship with the professionals at PDE that allow us to work with ease together to ensure timely approvals of our projects.

PDE has elements that need to be followed in a District-wide Facility study that focuses on an overview of the entire school district's facility needs. The list below summarizes the required elements that need to be touched on within the study:

- Population
- Map of Geographic Region
- Map of District
- Geography
- Overview of Educational Program
- Analysis of Projected Enrollment
- Analysis of Building's Capacity
- Analysis of Building's Condition
- Analysis of Construction Options
- Authors' Credentials

PlanCon Process Page 20



# Professional Staff

Thomas & Williamson is fortunate to be able to attract employees and consultants from the top of a variety of fields, each possessing unique skills and experience. The key employees selected specifically for the Chartiers Valley School District are:

## **Carrie Crawford**

## **Project Manager/Team Manager**

Ms. Crawford has 13 years of experience in architectural design and construction management. As well as Carrie's project management duties, she had recently worked on studies for the Fox Chapel Area School District, Portland Public Schools and the West Allegheny School District. She is an integral part of the planning team preparing programming information, providing cost savings ideas without sacrificing educational quality standards and conceptual floor designs.

## Alicia A. Zevola

## **Executive Administrator**

Mrs. Zevola has 20 years of experience in program management. As an administrator for all the firm's planning and construction assignments, she is an integral part of the team and a necessary link in the exchange of vital management information among various project stakeholders. Through the years, Alicia has participated in planning studies for such districts as Avonworth, North Allegheny, West Allegheny, Portland Public Schools and Pine-Richland School District.

### Katie Dedola

### Planner

Mrs. Dedola has 11 years of experience in the design industry, and with it, a unique set of skills. Katie had worked on a facilities master plan study for the Butler Area School District, a demographic and educational facility study for Pine-Richland School District, Portland Public Schools and a High School facility study for Warren County School District.

## Alexandra Rode

## **Project Engineer**

Ms. Rode has 2 years of experience in project engineering. Alex recently worked on a Districtwide Enrollment & Capacity Study for Portland Public Schools and a Districtwide Facilities Assessments study for the Fox Chapel Area School District and Warren County School District.

## **Ken Kramer**

## **Project Manager**

Ken brings 34 years of construction experience to our staff. Ken is responsible for coordinating the activities of architects, engineers and contractors to maintain the project schedule. Other important duties include the recording daily and weekly events, coordinating construction meetings and composing monthly project reports. Since joining T&W in 2008, Ken has been involved in many of our school construction projects for various districts throughout Allegheny, Butler, Lawrence and Crawford counties.

Planning Team Page 1

## **Carrie Crawford**

Project Manager

Ms. Crawford brings 13 years of experience in architectural design and construction management to Thomas & Williamson. Most of her design and construction management experience has been working on but not limited to K-12 projects.

Carrie's skillset has proven to be an asset to the firm. She was recently onsite managing the renovations to West Allegheny High School Science wing for the West Allegheny School District. While onsite, Ms. Crawford is responsible for maintaining daily records of the construction process, weekly and monthly reports, conducting weekly construction meetings, coordinating all the construction activities, estimating and negotiating potential change orders, and maintaining the construction project schedule.

Carrie has also been involved on a few studies for the Fox Chapel Area School District, Portland Public Schools and the West Allegheny School District. She is an integral part of the team prepare programming information and provide cost savings ideas without sacrificing educational quality standards.

Prior to joining Thomas & Williamson, she worked for another local firm as an Interior Designer and Construction Manager. Her assisted in the management of a \$65 million dollar new high school project and oversaw a \$35 million dollar middle school renovation. In the past 8 years, Carrie has also assisted in the design of several projects including work at the McKeesport Area School District, West Jefferson Hills School District, and the Borough of Blawnox.



## **Education**BS Interior Design LaRoche College

## **Experience**

13 years

## Alicia A. Zevola

Executive Administrator

With a BA in Education and 19 years of experience in project administration, Alicia brings an insider's perspective to planning and management of Thomas & Williamson's clients' projects. As an Educator, she is able to assist clients with all their instructional needs.

Alicia has been an integral part of the project management team and a necessary link in the exchange of vital management information among various team members and projects managers. She is also an essential link in the communicating between the job site and the home office. She is responsible for facilitating communication between construction managers and contractors, mangers and Owners.

As an Executive Administrator, Alicia's responsibilities include preparing and distributing Change Orders, Payment Applications and Contract documents. Alicia also assists in the preparation of Project Reports, which are presented to the school board each month.

She is currently working on projects for Fox Chapel Area School District, West Allegheny School District and Mars Area School District. Previously, Alicia has participated in planning, programming and facilitating documentation for such schools as North Allegheny School District, North Hills School District, Mars Area School District, Carlynton School District and Portland Public Schools.



## **Education**BA Elementary Education, Point Park University

## **Experience** 19 years

## Alexandra Rode

Project Engineer

Ms. Rode brings 2 years of experience in project engineering, and with it, an analytical and organized approach to project management and design that translates well to assisting Thomas & Williamson's clients.

Alex's previous experience in the robotics industry has given her a wide range of technical and interpersonal skills. Her time in the industry required she learn design, customer service, financial and organizational skills in addition to her engineering background.

As a Project Engineer, Alex's responsibilities include capacity, feasibility and facility studies for school districts. She works to create a user-friendly interface for customers to access their published studies.

Alex's has been most recently been involved in facility planning for the Portland Public Schools Fox Chapel Area School District Facility Studies and Warren County School District.



**Education**BS Mechanical Engineering
Cornell University

## **Experience** 2 years

## **Katie Dedola**

Planner

Mrs. Dedola brings 11 years of experience in the design industry, and with it, a unique set of skills that translates well to assisting Thomas & Williamson's clients.

Katie's previous design experience has given her a building trade perspective, allowing her to develop essential space planning skills, as well as the ability to interpret construction drawings. She also cultivated essential communication skills helping to identify clients' needs while balancing those needs with expectations and budget requirements.

As a Project Administrator, Katie's responsibilities include preparing, maintaining and distributing documents vital to providing and facilitating communications between the client, architect, contractors and team members. These documents include: project reports, submittal logs, RFI's, change orders and payment applications. She also assists in the bid process and in the preparation of estimates.

Katie has been involved in Facility Planning study's for the following school districts: Warren County School District, Pine-Richland School District, West Allegheny School District, Butler Area School District and the Portland Public School District.



**Education**BS Interior Design,
Indiana University of Pennsylvania

## **Experience** 11 years

## **Kennard Kramer**

Project Manager

Mr. Kramer brings 34 years of construction experience to our staff with a complete background in construction which includes 17 years of construction project management with Fortune 500 Companies. These assignments have developed a unique perspective and appreciation of quality, budget and time considerations that are paramount to all well planned and executed projects.

Ken recently managing the new construction of the Kerr Elementary School for the Fox Chapel Area School District. While onsite, Ken was responsible for coordinating the activities of architects, engineers, and contractors to maintain the project schedule. Other important duties include the recording daily and weekly events, coordinating construction meetings and composing monthly project reports.

Ken has been involved on several of our school construction projects for various districts throughout Allegheny, Butler, and Lawrence Counties.

Ken was also on a multi-school improvement project for the Crawford Central School District. He managed the renovations and additions to four of the District's elementary schools.

Once he had wrapped up the Crawford County projects, he moved on to the Mars Area School District. Ken interfaced midway into the Mars High School expansion project and helped bring it to a successful completion. He then oversaw two elementary expansion projects. The first project was the classroom expansion project to the Mars Area Elementary School, which consisted of 12 new classrooms and a cafeteria expansion. The second project was the additions to the Centennial Mars School which encompassed a three-story structure that added additional educational spaces and a



one-story addition to expand the existing kitchen/cafeteria to accommodate the growing district.

In his prior endeavors, Ken retained the position of project manager for a national restaurant chain where he coordinated a remodel and building initiative that included nearly 300 properties. Because of the international arena, this assignment required superior planning and time management skills.

It is no surprise that Ken takes great pride in his diverse experience and training. He brings the sum total of these proven organizational and communication abilities, as well as his interpersonal and team building skills, to Thomas & Williamson.

## **Education**

BS Biology & Chemistry Slippery Rock University

## **Experience**

34 years





## **Elizabeth Forward School District**

Pittsburgh, Pennsylvania

Contact:

Mr. Edward Campbell (412) 638-5630

Year of Service: 1998

## **Project Feasibility Studies:**

- -Programming
- -Space Utilization Study
- -Enrollment Projections/Capacity Analysis
- -Cost Modeling/Budget Development
- -Facility Assessments
- -Conceptual Design
- -Detailed Site Utilization Studies
- 1-Athletic Facility
- 1-High School Complex Master Plan

## **North Allegheny School District**

Pittsburgh, Pennsylvania

Contact:

Mr. Robert Gaertner, PE (412) 369-5432

Year of Service: 1999-2003

## **Project Elementary Studies Phase 2:**

- -Space Utilization Study
- -Demographics Study
- -Enrollment Projections/Capacity Analysis
- -Cost Modeling/Budget Development
- -Time/Dollar-Scaled Facility Assessments
- -Facility Assessments
- -Conceptual Design
- -Technology Planning

7-Elementary Schools

## **Warren County School District**

Warren, Pennsylvania

Contact:

Dr. Norbert Kennerknecht (814) 723-5223

Year of Service: 1999

## **Project Feasibility Studies:**

- -Programming
- -Space Utilization Study
- -Enrollment /Capacity Analysis
- -Cost Modeling/Budget Development
- -Facility Assessments
- -Conceptual Design
- 1-Middle School
- 2-Elementary Schools

## **District-wide Space Utilization Study:**

- 3-High Schools, 1-Junior/Senior High School
- 1-Middle/High School
- 3-Middle Schools
- 15-Elementary Schools

## Manhasset UFSD

Manhasset, New York

Contact:

Dr. Lawrence Bozzomo (267) 261-4360

Year of Service: 2000

## **Districtwide Facilities Master Plan:**

- -Programming
- -Space Utilization Study
- -Enrollment/Capacity Analysis
- -Cost Modeling
- -Facility Assessments
- 2-Elementary Schools
- 1-Secondary School
- 1-District Office
- 1-Transportation Facility



## Miller Place UFSD

Miller Place, New York

Contact:

Dr. Grace J. Brindley (631) 474-2700

Year of Service: 2000

## **Districtwide Facilities Master Plan:**

- -Space Utilization Study
- -Enrollment/Capacity Analysis
- -Cost Modeling
- -Facility Assessments
- 1-Primary School
- 1-Intermediate School
- 1-Middle School
- 1-High School
- 1-District Administration Facility
- 1-District Maintenance Facility
- 1-District Athletic Facility

## **Palisades School District**

Bucks County, Pennsylvania

Contact:

Mr. Dave Keppel (610) 847-5131

Year of Service: 2000-2010

## **Project Feasibility Studies:**

- -Programming
- -Space Utilization Study
- -Enrollment Projections/Capacity Analysis
- -Cost Modeling/Budget Development
- -Facility Assessments
- -Conceptual Design
- 1-High School
- 2-Elementary Schools
- 1-Athletic Facility

## **Gateway School District**

Pittsburgh, Pennsylvania

Contact:

Dr. Richard Domencic (717) 938-9577

Year of Service: 2001

## **Project Feasibility Studies:**

- -Programming
- -Space Utilization Study
- -Enrollment Projections/Capacity Analysis
- -Cost Modeling/Budget Development
- -Facility Assessments
- -Conceptual Design
- 1-High School
- 2-Athletic Facilities

## West Jefferson Hills School District

Jefferson Hills, Pennsylvania

Contact:

Mr. Bruce Elms (412) 384-6845

Year of Service: 2004

## **Project Feasibility Studies:**

- -Programming
- -Space Utilization Study
- -Enrollment Projections/Capacity Analysis
- -Cost Modeling/Budget Development
- -Time/Dollar-Scaled Facility Assessments
- -Conceptual Design
- 1-High School
- 1-Elementary School
- 1-District Office



## **Avonworth School District**

Pittsburgh, Pennsylvania

Contact:

Dr. Valerie McDonald (412) 369-8738

Year of Service: 2005, 2007 & 2009

## **Districtwide Facilities Master Plan:**

- -Project Visioning
- -Programming
- -Space Utilization Studies
- -Demographics Study
- -Enrollment/Capacity Analysis
- -Cost Modeling
- -Facility Assessments
- -Land Development Study
- 1-High School/Middle School
- 1-Intermediate School
- 1-Primary School
- 1-District Office

## **Moon Area School District**

Moon Twp., Pennsylvania

Contact:

Mr. Alan Bennett (412) 264-9440

Year of Service: 2006

## **Districtwide Facilities Master Plan:**

- -Programming
- -Space Utilization Studies
- -Enrollment/Capacity Analysis
- -Cost Modeling
- -Time/Dollar-Scaled Facility Assessments
- -Project Abandonment Risk Analysis
- 1-High School
- 1-Middle School
- 4-Elementary Schools
- 1-District Office

## **North Hills School District**

Pittsburgh, Pennsylvania

Contact:

Dr. Patrick Mannarino (412) 318-1004

Year of Service: 2009 & 2011

## **Project Feasibility Study:**

- -Project Visioning
- -Thematic Development
- -Programming
- -Space Utilization Study
- -Enrollment /Capacity Analysis
- -Cost Modeling/Budget Development
- -Facility Assessments
- -Conceptual Design
- 2-Elementary Schools 1-Middle School

## **Montour School District**

Robinson Township, Pennsylvania

Contact:

Mr. Jason Burik (412) 787-0408

Year of Service: 2011

## **Project Feasibility Study:**

- -Conceptual Estimate
- -Conceptual Design

1-Athletic Facility



## **West Allegheny School District**

Imperial, Pennsylvania

Contact: Mr. Ken Fibbi (724) 695-5223

Year of Service: 2012

## **Project Feasibility Studies:**

- -Programming
- -Space Utilization Study
- -Enrollment /Capacity Analysis
- -Cost Modeling/Budget Development
- -Time/Dollar-Scaled Facility Assessments
- -Facility Assessments
- -Conceptual Design
- 2-Elementary Schools
- 1-District Administration Office

## **Warren County School District**

Warren, Pennsylvania

Contact:

Dr. Norbert Kennerknecht (814) 723-5223

Year of Service: 2012

## **Project Feasibility Studies:**

- -Programming
- -Space Utilization Study
- -Conceptual Design
- 2-Elementary Schools

## **North Allegheny School District**

Pittsburgh, Pennsylvania

Contact:

Mr. Robert Gaertner, PE (412) 369-5432

Year of Service: 2012

## **Project Feasibility Studies:**

- -Programming
- -Space Utilization Study
- -Enrollment Projections/Capacity Analysis
- -Cost Modeling/Budget Development
- -Facility Assessments
- -Conceptual Design
- 2-High Schools
- 2-Middle Schools
- 5-Elementary Schools
- 1-District Office
- 1-Transportation Facility
- 2-Athletic Facilities

## **Warren County School District**

Warren, Pennsylvania

Contact:

Dr. Norbert Kennerknecht (814) 723-5223

Year of Service: 2014

## **Project Feasibility Studies:**

- -Programming
- -Space Utilization Study
- -Enrollment /Capacity Analysis
- -Cost Modeling/Budget Development
- -Facility Assessments
- -Conceptual Design

1-High School



## **Butler Areas School District**

Butler, Pennsylvania

Contact:

Dr. Brian Slamecka (724) 214-3106

Year of Service: 2014

## **Districtwide Facilities Master Plan:**

- -Programming
- -Space Utilization Study
- -Enrollment /Capacity Analysis
- -Cost Modeling/Budget Development
- -Facility Assessments
- -Conceptual Design

## **District-wide Facilities Master Plan:**

1-High School

- 1-Jurnior High School
- 1-Intermediate School
- 11-Elementary Schools

## **Clarence Brown Education Center**

Butler, Pennsylvania

Contact:

Mrs. Kristen White (724) 776-1581

Year of Service: 2014

## **Project Feasibility Studies:**

-Facility Assessments

1-Edcuation Center

## **Warren County Career Center**

Warren, Pennsylvania

Contact:

Dr. Norbert Kennerknecht (814) 723-5223

Year of Service: 2015, 2016 & 2017

## **Project Feasibility Study**

- -Programming
- -Space Utilization Study
- -Enrollment /Capacity Analysis
- -Cost Modeling/Budget Development
- -Facility Assessments
- -Conceptual Design

1-Cereer Center

## **Mars Area School District**

Mars, Pennsylvania

Contact:

Dr. William Pettigrew (724) 679-1596

Year of Service: 2015

## **Districtwide Facilities Master Plan:**

- -Facility Assessments
- -District Office Programming
- 1-High School
- 1-Middle School
- 4-Elementary Schools
- 1-District Administration Office





## **Pine-Richland School District**

Gibsonia, Pennsylvania

Contact:

Dr. Brian Miller (724) 625-7773

Year of Service: 2016

## **Districtwide Facilities Master Plan:**

- -Demographics & Enrollment Study
- -Building Capacity Study
- -Conceptual Redistricting Planning
- 1-High School
- 1-Middle School
- 1-Upper Elementary School
- 3-Elementary Schools

## **North Hills School District**

Pittsburgh, Pennsylvania

Contact:

Dr. Patrick Mannarino (412) 6318-1004

Year of Service: 2016

## **Facility Planning Study:**

- -Programming
- -Cost Modeling/Budget Development
- -Facility Assessments
- -Conceptual Design
- 1-District Administration Office

## **West Allegheny School District**

Imperial, Pennsylvania

Contact:

Mr. Ken Fibbi (724) 695-5223

Year of Service: 2016

## **Project Feasibility Studies:**

- -Programming
- -Cost Modeling/Budget Development
- -Limited Facility Assessments
- -Conceptual Design

1-High School (Athletic Wing) 1-High School Track & Field

## **West Allegheny School District**

Imperial, Pennsylvania

Contact:

Mr. Ken Fibbi (724) 695-5223

Year of Service: 2017

## **Project Feasibility Studies:**

- -Demographics & Enrollment Study
- -Building Capacity Study
- -Conceptual Redistricting Planning

3-Elementary Schools

1-Middle School





## **Portland Public Schools**

Portland, Maine

Contact:

Mr. Xavier Botana (207) 874-8110

Year of Service: 2019

## **Districtwide Enrollment & Capacity Studies:**

- -Space Utilization Study
- -Enrollment /Capacity Analysis
- -Cost Modeling/Budget Development
- -Conceptual Design
- 9-Elementary Schools
- 3-Middle Schools
- 3-High Schools

## **Fox Chapel Area School District**

Pittsburgh, Pennsylvania

Contact:

Mr. Dan Breitkreutz (412) 967-2474

Year of Service: 2019

## **Project Feasibility Studies:**

- -Cost Modeling/Budget Development
- -Time/Dollar-Scaled Facility Assessments
- -Facility Assessments
- 3-Elementary Schools
- 1-Middle Schools
- 1-High Schools

## **Warren County School District**

Warren, Pennsylvania

Contact:

Dr. Norbert Kennerknecht (814) 723-5223

Year of Service: 2019

## **Project Feasibility Studies:**

- -Cost Modeling/Budget Development
- -Time/Dollar-Scaled Facility Assessments
- -Facility Assessments
- 1-Elementary School
- 1-Elementary/Middle School
- 2-K-12 Schools
- 1-Middle Schools
- 1-High School

## West Allegheny School District

Imperial, Pennsylvania

Contact:

Mr. Ken Fibbi (724) 695-5223

Year of Service: 2019

## **Project Feasibility Studies:**

- -Programming
- -Cost Modeling/Budget Development
- -Space Utilization Study
- -Conceptual Design
- 1-High School (Science Dept. Wing)





## West Jefferson Hills School District

Jefferson Hills, Pennsylvania

Contact:

Dr. Michael Ghilani (412) 655-8450

Year of Service: 2019

## **Districtwide Enrollment & Capacity Studies:**

- -Demographics & Enrollment Study
- -Building Capacity Study
- 1-Middle School
- 1-Intermediate School
- 2-Elementary Schools

## **West Allegheny School District**

Imperial, Pennsylvania

Contact: Mr. Ken Fibbi (724) 695-5223

Year of Service: 2020

## **Project Feasibility Studies:**

- -Programming
- -Enrollment/Capacity Analysis
- -Space Utilization Study
- -Cost Modeling/Budget Development
- -Conceptual Design
- 1-Middle School

## **Pine-Richland School District**

Gibsonia, Pennsylvania

Contact:

Dr. Brian Miller (724) 625-7773

Year of Service: 2020

## **Demographics Study Update:**

-Demographics & Enrollment Study

- 1-High School
- 1-Middle School
- 1-Upper Elementary School
- 3-Elementary Schools





## Contacts



**Dr. Brian Slamecka, Assistant Superintendent of Secondary Schools:** Butler Area School District, 110 Campus Lane, Butler, PA 16001, Phone: (724) 214-3106, Email: brian\_slamecka@butler.k12.pa.us, Project: Districtwide Facility Study 2014.



**Dr. Brian Miller, Superintendent:** Pine-Richland School District, 702 Warrendale Road, Gibsonia, PA 15004, Phone: (724) 625-7773, Email: brmiller@pinerichland.org, Projects: Demographics & Enrollment Study and Carson and Ingomar Middle Schools (at North Allegheny School District).



**Dr. Patrick Mannarino, Superintendent:** North Hills School District, 135 Sixth Avenue, Pittsburgh, PA 15229, Phone: (412) 318-1004, Email: mannarinop@nhsd.net, 10 Projects since 2004 including: Ross ES, McIntyre ES, Highcliff ES, West View ES, Middle School and High School.



**Dr. Norbert Kennerknecht, Director Facilities Management & Planning:** Warren County School District, 6820 Market Street, Russell, PA 16345, Phone: (814) 723-6903, Email: kennerknechtn@wcsdpa.org, Client since 1998, Districtwide Studies and individual project EdSpecs.



Mr. Ken Fibbi, Director Buildings & Grounds: West Allegheny School District, 110 Bruno Lane, Imperial, PA 15126, Phone: (724) 695-5223, Email: kfibbi@westasd.org, Projects: McKee ES, Wilson ES and WAHS Pool Building WAHS.



Mr. Joe Ambrosini, Business Manager: New Castle Area School District, 420 Fern Street, New Castle, PA 16101, Phone: (724) 656-4768, Email: jambrosini@ncasd.com, Project: H. W. Lockley Early Learning Center.



**Dr. Francis Barnes, Former Superintendent and PA Secretary of Education:** Client since 1995. Huntington Area School District, Palisades School District, Chester Upland School District (as PDE receiver), Phone: (267) 718-1027, Email: fvbarnes@gmail.com, Projects: Four elementary schools at HASD, two elementary schools and one high school at PSD and two projects at CUSD.



**Dr. Lawrence Bozzomo, Former Superintendent:** North Allegheny School District and Manhasset UFSD, 3 Cornerstone Court, Doylestown, PA 18901, Phone: (267) 261-4360, Email: bozzlar@yahoo.com, Projects: One high school and five elementary schools at NASD, Facilities Master Plan at Manhasset UFSD. Client since 1995.



**Dr. William Pettigrew, School Board Director and Former Superintendent:** Mars Area School District, 106 Chancellor Court, Mars, PA 16046, Phone: (724) 679-1596, Email: grewdr@hotmail.com, Projects: Ten projects since 2002, including Centennial School, Mars Elementary, High School Auditorium, High School Additions and Alterations, DAO, MAMS Renovations and Districtwide Facility Study.



Mr. Breitkreutz, Director of Ancillary Services: Fox Chapel Area School District, 611 Field Club Road, Pittsburgh, PA 15238, Phone: (412) 967-2474, Email: Daniel\_Breitkreutz@fcasd.edu, Projects: Dorseyville MS, O'Hara ES, Fairview ES and Kerr ES.



**Dr. Michael Ghilani, Superintendent:** West Jefferson Hills School District, 835 Old Clairton Road, Clairton, PA 15025, Phone: (412) 655-8450, Email: mghilani@wjhsd.net, Projects: Gill Hall Elementary School.

References Page 1





We propose to provide the project planning services for the total fee of twenty-four thousand four hundred and twenty dollars (\$24,420.00). A detailed breakdown of our work plan and associated fees can be found in the following pages in this section.

\*Note: If the District opted to do a PlanCon project, an additional nine hundred and eighty dollars (\$980.00) would be required for T&W to do the PDE Study (as included in PlanCon A, attachment C). The overall total of the study would then be twenty-five thousand four hundred dollars (\$25,400.00).

Professional fees include all salaries, benefits, payroll expenses, standard insurances, non-volume reproductions, software, hardware, travel as specified, mileage as specified, meals, telephone, fax, regular mail and home office expenses.

Our rates are calculated using our standard insurance package which includes the following:

-Professional Liability: \$1,000,000.00
-General Liability: \$1,000,000.00
-Medical Insurance: \$500,000.00
-Automobile Liability: \$1,000,000.00
-Umbrella Policy: \$3,000,000.00

The following constitute reimbursable costs will be invoiced in addition to the indicated fees:

-Volume copying and reproducing -Testing Lab Services -Overnight/Express Mail -Special Consultants

We also want you to know that our fees are completely negotiable. If it is the case that you desire to receive the services in the way we provide them - we are not going to let a fee amount stand in the way of you retaining T&W.

## Rates

Project Assignment	Nam e	Hourly Rate				
Principal	Jon Thomas	\$225.00/hr				
Project Manager	Carrie Craw ford	\$85.00/hr				
Project Engineer	Alex Rode	\$70.00/hr				
Planner	Katie Dedola	\$50.00/hr				
Executive Administrator	Alicia Zevola	\$60.00/hr				

Fee Proposal Page 1

## Work Plan and Fee Schedule

Chartiers Valley School District | Educational Facility Study



The information contained in this document is the property of Thomas & Williamson, LLC. The Chartiers Valley School District board of directors and administration ("the district") is granted limited access to view this information solely for the purpose reviewing the author's recommended work plan and associated fee to conduct a educational facility study of the Chartiers Valley Intermediate School. The district shall not forward, copy, transcribe or in any way duplicate this document without our prior written approval. The district shall not discuss the information contained herein with any potential competitor, advisor or consultant.

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				Principal	Project Manager	Project Engineer	Executive Admin.	Planner
Volum	Task/Sub-task	Qty	Totals					
	Educational Facility Study							
1 1.1	Project Administration							
1.1.3	Study Start-up Initialize Planning Database and Project Website	1	\$140	\$0	\$0	\$140	\$0	\$0
1.1.3	Total Cost		\$140	\$0	\$0	\$140	\$0	\$0
2	Meetings, Workshops and Presentations							
2.1	Umbrella Committee Meeting 1: Start-up Meeting - Overview	1	\$170	\$0	\$170	\$0	\$0	\$0
2.2	Umbrella Committee Meeting 2: Programming and Spatial Qualities	1	\$170	\$0	\$170	\$0	\$0	\$0
2.3	Programming Workshop 1: Information Gathering	1	\$310	\$0	\$170	\$140	\$0	\$0
2.4	Umbrella Committee Meeting 3: Review Facility Assessments	1	\$310	\$0	\$170	\$140	\$0	\$0
2.5	Programming Workshop 2: Departments/ Grouping Requirements	2	\$2,480	\$0	\$1,360	\$1,120	\$0	\$0
2.14	Programming Workshop 3: Preliminary Grouping Concepts	1	\$310	\$0	\$170	\$140	\$0	\$0
2.15	Programming Workshop 4: Building Layouts	1	\$310	\$0	\$170	\$140	\$0	\$0
2.16	Umbrella Committee Meeting 5: Review Conceptual Building Plans	1	\$310	\$0	\$170	\$140	\$0	\$0
2.17	Umbrella Committee Meeting 6: Review Costs/Finalize Study	1	\$310	\$0	\$170	\$140	\$0	\$0
2.18	Presentation: Present Study Findings and Recommendations to School Board	1	\$620	\$450	\$170	\$0	\$0	\$0
	Total Costs		\$5,300	\$450	\$2,890	\$1,960	\$0	\$0
3	Educational Facility Planning Component							
3.1	Preliminary Research							
3.1.1	Review Strategic Plan	1	\$110	\$0	\$0	\$0	\$0	\$110
3.1.2	Review Curriculum	1	\$110	\$0	\$0	\$0	\$0	\$110
3.1.3	Review Current Building Master Schedules	1	\$110	\$0	\$0	\$0	\$0	\$110
3.1.4	Review District-Generated Program Data	1	\$110	\$0	\$0	\$0	\$0	\$110
	Total Costs		\$440	\$0	\$0	\$0	\$0	\$440
3.2	Space Utilization							
3.2.1	Verify Actual Room Use	1	\$170	\$0	\$170	\$0	\$0	\$0
3.2.2	Input Current Space Utilization	1	\$170	\$0	\$170	\$0	\$0	\$0
3.2.3	Prepare Facility Utilization Overview	1	\$110	\$0	\$0	\$0	\$0	\$110
3.2.4	Prepare List of Potential Additional Spaces and Loading Efficiency Tables	1	\$110	\$0	\$0	\$0	\$0	\$110
3.2.5	Prepare FTE Capacity Analysis	1	\$220	\$0	\$0	\$0	\$0	\$220
	Total Costs		\$780	\$0	\$340	\$0	\$0	\$440
3.3	Detailed Programming							
3.3.1	On-line Programming Survey Operational	1	\$230	\$0	\$0	\$0	\$120	\$110
3.3.2	Prepare Outline of Spaces	1	\$170	\$0	\$170	\$0	\$0	\$0
3.3.4	Compile End-user Program Data	1	\$240	\$0	\$0	\$0	\$240	\$0
3.3.5	Refine and Organize Program by Department	1	\$510	\$0	\$510	\$0	\$0	\$0
3.3.6	Develop Department Level Conceptual Plan	1	\$340	\$0	\$340	\$0	\$0	\$0
3.3.7	Develop Building Level Plans	1	\$340	\$0	\$340	\$0	\$0	\$0
3.3.8	Refine Conceptual Building Level Plans	1	\$170	\$0	\$170	\$0	\$0	\$0
3.3.9	Prepare Educational Program Overview  Total Costs	1	\$340 <b>\$2,340</b>	\$0 \$0	\$340 \$1,870	\$0 \$0	\$0 \$360	\$0 \$110
4	Facility Assessment Component	4	coor	ćo	Ċ42	¢040	ćo	ė.
4.1	Review Record Drawings/Write Building Narrative  Total Costs	1	\$883 <b>\$883</b>	\$0 \$0	\$43 \$43	\$840 \$840	\$0 \$0	\$0 \$0
4.3	Duilding and Site Inspections							
<b>4.2</b> 4.2.1	Building and Site Inspections	1	\$200	ćn	\$213	\$175	ćn	ċ
	Project Building	1	\$388	\$0	2213	<b>Σ112</b>	\$0	\$0
4.2.3	Re-inspection/Verification	1	\$155	\$0	\$85	\$70	\$0	\$0

### Work Plan and Fee Schedule





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					Principal	Project Manager	Project Engineer	Executive Admin.	Planner
	Volume	Task/Sub-task	Qty	Totals					
<b>*</b> *	4.3	Prepare Summary Reports of Building and Site Conditions							
	4.3.1	Architectural Systems and Accessibility	1	\$970	\$0	\$170	\$560	\$240	\$0
	4.3.2	Civil/Structural Systems	1	\$970	\$0	\$170	\$560	\$240	\$0
	4.3.3	MEP and Telecommunications Systems	1	\$970	\$0	\$170	\$560	\$240	\$0
	4.3.4	Develop Prioritized List of Upgrades/ Import Cost Estimates into Database/Finalize Facility Assessments/Provide Estimates/Prepare Time-scaled Budget Sheets	1	\$4,580	\$0	\$680	\$2,940	\$960	\$0
				\$7,490	\$0	\$1,190	\$4,620	\$1,680	\$0
	5	Cost Modeling Component for Conceptual Floor Plan							
	5.1	Prepare Estimate from Conceptual Plan	1	\$1,240	\$0	\$680	\$560	\$0	\$0
	5.2	Refine Conceptual Plan	1	\$620	\$0	\$340	\$280	\$0	\$0
	5.2	Prepare Proposed Budget	1	\$85	\$0	\$85	\$0	\$0	\$0
		Total Costs		\$1,945	\$0	\$1,105	\$840	\$0	\$0
	7	Finalize Study							
	7.1	Final Review/Printing	1	\$690	\$0	\$170	\$280	\$240	\$0
		Total Costs		\$690	\$0	\$170	\$280	\$240	\$0
k**	8	Architect Solicitation							
	1.1	Refine Scope of Work In Preparation for AE Selection / Schematic Design	1	\$2,020	\$900	\$0	\$1,120	\$0	\$0
	1.2	T&W Prepare RFP for AE Solicitation	1	\$1,400	\$450	\$170	\$420	\$360	\$0
	1.3	AE Interviews	1	\$450	\$450	\$0	\$0	\$0	\$0
		Total Cost		\$3.870	\$1.800	\$170	\$1.540	\$360	\$0

Total Recommended Base Scope of Services - Educational Planning Study:

\$24,420

### Notes:

This proposal also includes the following services at other District locations:

- Facility Assessment Studies:
  - High School Athletic Facilities;
  - Primary School Athletic Facilities;
- Review and recommendation for improvements to the existing HVAC system at the Primary School.

T&W will provide budgetary estimates of all items listed above for the District's review.

- \* T&W will conduct a full two-day Programming Workshop meeting(s) with each department head designated by the School District. Meetings will be conducted to find out the wants, needs and concerns all teachers and staff have with their classrooms, offices and other spaces throughout the building. Information from these meetings will be used to help develop the program for each type of space.
- \*\* T&W will conduct a full comprehensive Facility Assessment Report addressing all civil, structural, architectural, plumbing, HVAC and electrical systems present at the facility and form a basis for conclusions drawn with respect to the practical utility of the facility for their consideration as part of the Planning Study for the facility.
- \*\*\* T&W can help CVSD take the first step into the design process by seeking out a skilled team of design professionals to prepare the design of your project. We will assist you in finding architects and engineers (A/E's) that are interested in the project and from that group of interested A/E's, you will select the firm that you find to be best suited to working with your school district.

### **Potential Additional Service:**

6	PDE Study Requirements (as included in PlanCon A, attachment C) *If Applicable to Project							
6.1	Prepare Overview of the School District	1	\$210	\$0	\$0	\$210	\$0	\$0
6.2	Prepare Overview of the Educational Program for all Grades	1	\$210	\$0	\$0	\$210	\$0	\$0
6.3	Prepare Analysis of the Capacity of all Buildings	1	\$280	\$0	\$0	\$280	\$0	\$0
6.4	Prepare Analysis of Each Building's Condition	1	\$280	\$0	\$0	\$280	\$0	\$0
6.5	Summarize Construction Options	1	\$140	\$0	\$0	\$140	\$0	\$0
6.6	Enter EnergyStar Data	1	\$280	\$0	\$0	\$280	\$0	\$0
	Total Costs		\$980	ŚŊ	ŚŊ	\$980	ŚŊ	\$0

Total Recommended Base Scope of Services - Educational Planning Study (Including PlanCon Study):