DOVER HIGH SCHOOL AND CAREER TECHNICAL CENTER

Feasibility Study

Dover, New Hampshire

August 2015

Volume 1 of 3

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Acknowledgements

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Section 1

Introduction

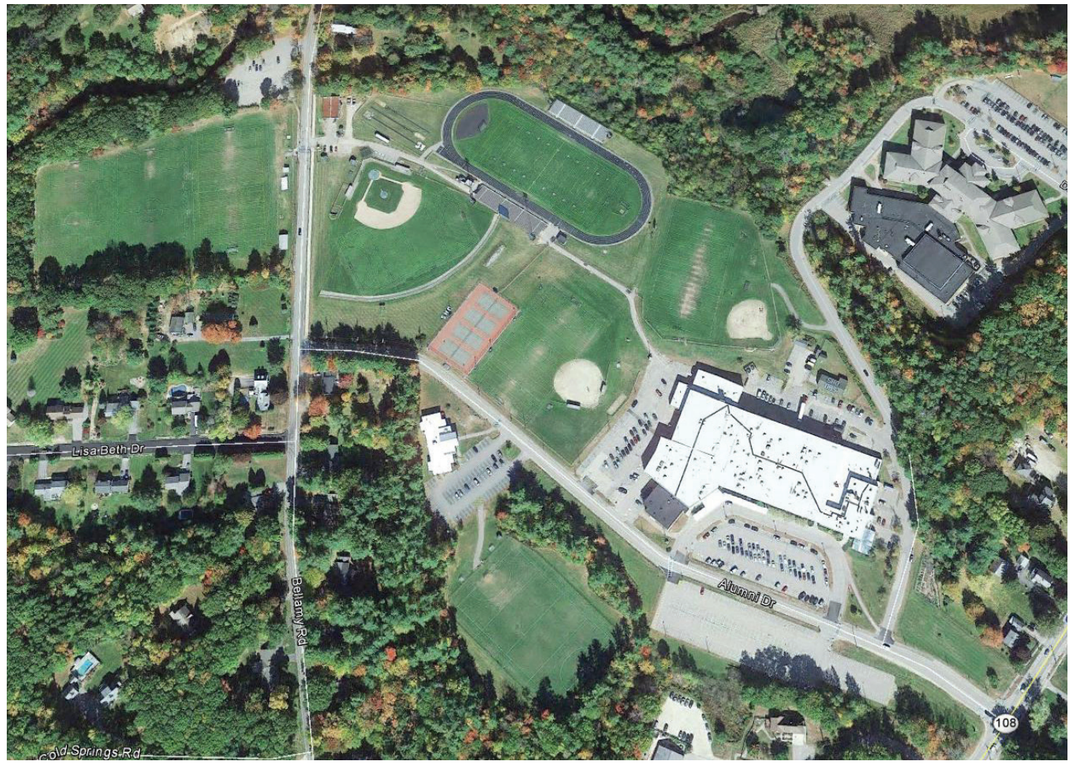

Image courtesy Google Maps

Aerial View of Dover High School & Career Technical Center

Feasibility Study Overview

Since being hired in December HMFH Architects in conjunction with our consulting engineers have completed the following tasks to determine the most cost effective and educationally appropriate solution for the Dover High School & CTC students, and the Town of Dover.

The team began by surveying the existing school property and undertaking a thorough analysis of the existing buildings. The **Existing Conditions Report** chronicles all of the systems and finishes in the buildings and also reviews life safety and building codes. Please refer to **Volume 2** for the complete report.

A **Visioning Study** was also conducted. The Visioning Study was led by Dr. Frank Locker and involved members of the community, students, staff and teachers, and JBC members. The Visioning session resulted in setting the following goals for the project:

- Integrate the career education programs with the traditional programs to the greatest degree reasonable.
- Create flexibility in all aspects of the planning and thinking about the future of education at Dover
- Continue to shift the educational mode to one that is research based and student centered
- Teach 21st century skills of communication collaboration, creativity and critical thinking
- Foster relationship building in all aspects of education including relationships among students, relationships between students and faculty, relationships between students and community, and relationships between students and family
- Inspire to create independent, life-long learners
- Create programs of staff professional development to support these principles.

Facility Concepts: The facility concepts evolved from the educational vision. They establish key relationships and goals in laying out the physical organization of the school. They include the following:

- Create a centralizing space to be called the Commons or Town Square that will be used by all students and by the public as well and will be viewed as the heart of the school
- Provide easy public access to the public career tech spaces such as cosmetology, marketing and culinary arts, ideally as part of the central space
- Organize the school into smaller learning communities, each with access to a full range of academic resources
- Integrate career tech education spaces and traditional academic spaces within each small learning community to the greatest extent possible
- Provide opportunities for hands-on project based learning and interdisciplinary learning throughout the building
- Encourage a high level of visual connection throughout the school and visual connection to the out-of-doors.
- Provide a range of spaces for different types of learning experiences to take place
- Assure flexibility and adaptability in all planning
- Take in to account safety and security concerns in all planning

See **Appendix A.1** for the complete Visioning Report.

In addition to the Visioning process, the Joint Building Committee (JBC) has conducted, a series of public meetings and high school tours and a public Green Charrette to review the project with the community. The project was openly discussed to confirm project scope, educational program and key design decisions throughout the process.

HMFH met with the high school and career technical teachers and staff to determine the **Academic and CTE Space Needs** for a new or renovated facility for 1500 students. See **Appendix A.2** for complete account of space needs, adjacencies and ammenities. From these detailed lists of space requirements, HMFH built the Space Summary spreadsheet that is included in **Section 2.3**. This program will continue to be vetted and tested during schematic design to verify that there is adequate space given to each of the individual programs. This program was then assembled into a conceptual diagrm and tested on the site in various locations to determine which areas of the site were large enough to accommodate the new school.

The **Site Exploration** exercise explored 4 possible areas on the high school campus as potential building sites. In addition HMFH explored the potential of rehabilitating the existing high school building and expolored the site of McIntosh College as a possible swing spaces during a full rehibilitation process. Criteria for the site included:

- Safety (minimizing street crossings, ease of access for emergency vehicles)
- Impacts on students during construction
- Impact on traffic
- Plan for flexibility and adaptability as needs change
- Minimize impact on parking and ball fields to reduce replacement costs
- Pedestrian access
- Servicing for deliveries
- Solar orientation to optimize natural light

A detailed account of the site exploration documentation is provided in **Section 3.1.** The area directly west of the existing school was determined to be the best location for both new construction and for the potential additions to the existing school because it best met all of the criteria listed above.

A preliminary Geotechnical investigation was undertaken and a Phase I Environmental Report was completed. See **Appendix A.3** for the full reports. Once the site was determined initial borings were done and a Preliminary Foundation Report was completed. These are also documented in **Appendix A.2**. The results from the preliminary borings show that the worst soils for bearing are immediately adjacent to the existing building to the west of the Gymnasium and Auditorium. Most of the remaining area could support a facility on standard spread footings with soil improvement.

HMFH explored a range of options in this location for both new construction and a new addition and a renovation of the existing Gymnasium and Auditorium. These options were reviewed by the JBC.

The Joint Building Committee (JBC) has held opening meetings bi-monthly to track the progress of the feasibility study. All aspects of the study have been vetted at these meetings to confirm project scope, educational program and key design decisions throughout the process.

The JBC selected three options to estimate; new construction, renovation of the Gymnasium and Auditorium with a new addition to the west of the existing school and a base rehabilitation option. The base rehabilitation option was not a preferred option for the JBC because it would entail a seven year phased occupied construction project that would have the greatest amount of disruption for the students and staff of the high school and CTC. The JBC chose to estimate this option to determine if it would be a cost effective way to move forward. The all new option and the renovation with addition option were the preferred options because they met all of the Visioning goals and accommodated the Educational Space Program. These options as well as a base rehabilitation option are described in detail in **Section 4.**

HMFH Architects' estimator PM&C and PC Construction did simultaneous but separate estimates on all three options. These estimates were then reconciled to within 1% of each other. The Estimates for all three options are provided in **Appendix A.3.**

These two estimates were done to provide checks and balances to ensure a true representation of the cost of construction for the project. The estimates showed that all of the options are very similar in cost, but the all new option has the highest cost at approximately $87 million. The base rehabilitation option was not significantly less expensive than the preferred options. It does not achieve any of the educational goals for the school and only replaces aging systems and brings the building up to meet life safety and building codes. This option is the most invasive and disruptive to the students because the construction will be phased over 7 years. The contractors and the students will share the school for that period of time. This option has the highest level of unknowns and therefore the most risk. The estimates showed that subcontractor pricing would increase due to the inefficient schedule and long duration of construction. This option will require temporary modular classrooms for students and this cost will not benefit the educational program.

From all of the information produced for the Feasibility Study, the estimates and the public feedback the JBC determined that the all new option is the Preferred Solution. This option meets all of the Educational Goals, is preferred by the public, has the least impact to the students and staff, has the most future flexibility, best long term value and least amount of risk. The JBC would also like to explore the potential of reusing the existing gym as a practice gymnasium.

Construction costs continue to rise at approximately 4.5% per year. That means that this same project will cost more if the town continues to put off the project. In five years the cost could rise from $87 million to over $108 million. Currently borrowing rates are at a historic low of 2%, but are beginning to rise. For these reasons, the JBC is recommending that the project proceed immediately.

Section 2

Educational Program / Visioning Report

2.1 Visioning Report Summary

The Visioning Process involved 45 participants, educators, community members, and students. They all came together to discuss the future of education at the Dover High School and Dover Regional Career Technical Center. Over the course of 5 different meeting the group was exposed to the educational trends, best practices, and issues affecting the delivery of 21st century education from around the country and around the world. The larger group broke into smaller groups to discuss concepts, to problem solve, and to prioritize what they heard, taking into consideration what had the greatest relevance to Dover and imagining how the concepts might manifest themselves in Dover. The smaller groups would then present to the larger group and share their ideas. The very process of collaborating, creative thinking, creating, and communicating, came to represent many of the outcomes that resulted from the process. The outcomes focused in 2 primary areas, **Educational Vision** and **Facility Concepts.**

Educational Vision: The educational vision is a set of guidelines developed to define the values and beliefs for the future of the school as they were determined over the course of the visioning. These values include:

- Integrate the career education programs with the traditional programs to the greatest degree reasonable.
- Create flexibility in all aspects of the planning and thinking about the future of education at Dover
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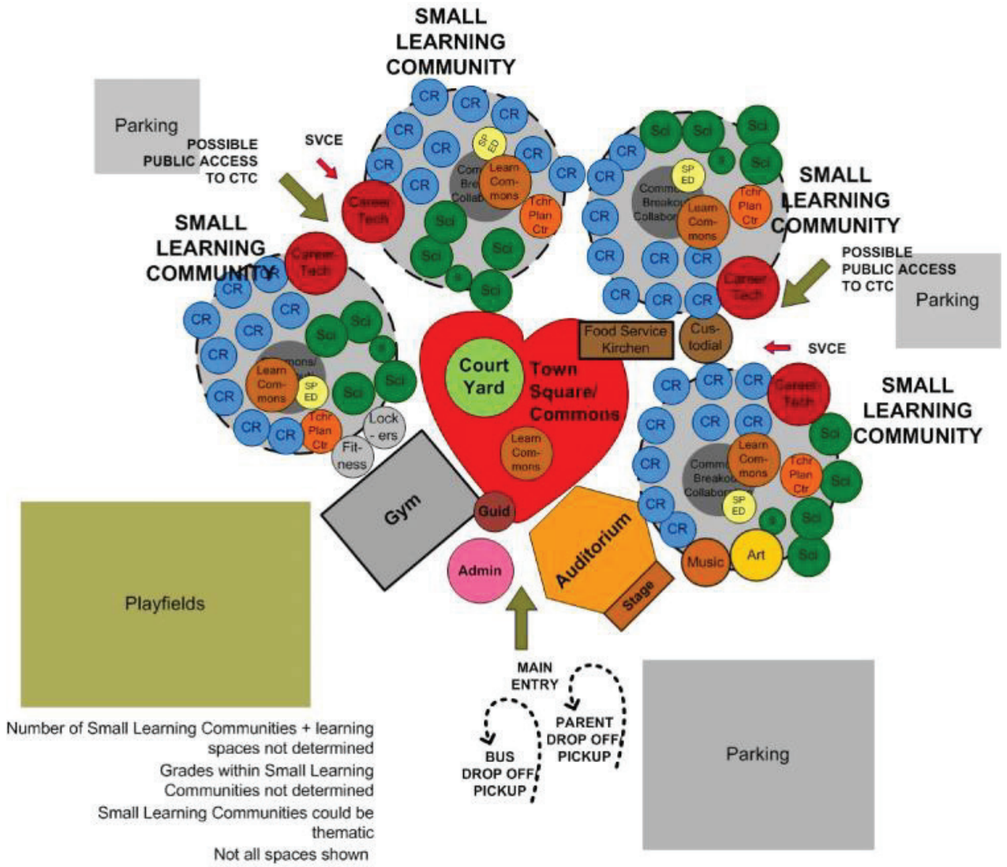


Need for Natural Light in Classrooms


Poor Ventilation

Facility Concepts: The facility concepts evolved from the educational vision. They establish key relationships and goals in laying out the physical organization of the school. They include the following:

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2.2 Faculty & Teacher Interview Summary, and Meeting Notes

In addition to the Visioning, HMFH met with all of the educators and staff in both the high school and the CTC to discuss their current spaces, what works for them and what does not and what they would like to see in a new or renovated facility. Ideal locations for each space and adjacent departments were discussed. The notes from each department or CTC program interview are listed below. The most common responses were the need for windows, a working heating and ventilation system, technology that was accessible and reliable, and more space to meet collaboratively for both students and staff. Collaborative space was requested for large groups but also for small groups. Loud areas that were potentially messy as well as quiet personal spaces were both deemed necessary to allow for all types of learning styles to be accommodated. Direct and easy accessible routes to allow for equity among all of the students and staff were emphasized as a must. Flexible furniture that could be rearranged easily and marker boards or idea paint on all walls of the classroom were also requested.

Dover HS – Teacher interview Notes 2/11 through 2/13/15

Guidance

- Air purifier filters are dirty quickly-IAQ issues in current space
- Windows natural light would be great, current space is interior
- Small spaces with students in crisis often need view to the outside
- Fluorescent lighting is a problem with students with migraines
- Group meetings – could use conference rooms, 1 larger up to 12, 1 smaller up to 4

Offices for:

- 6 counselors
- 1 psychologist

Issues

- If population increased, need for more counselors, provide extra office for growth
- Outside agencies come in often, could meet in conference rooms
- Educational talent search
- Could share conference rooms with other departments, could be distributed throughout school
- In school therapist- 2 days per week
- Guidance should be located in one area
- Don't want to be connected to the Main Office because they are not part of discipline
- Near entrance near admin but not connected
- Central location near the students near the commons area,
- Accessible to students but private- avoid the fish bowl
- Need for display to promote services offered to students
- 2 secretary/administration people
- Could share teacher planning area
- Sink and frig/ microwave in suite
- 301/counselor has a good room size (150 sf)
- Could use a forum space for presentations to 60 to 90 students
- The auditorium would be much too big
- Tack boards for display of posters in offices
- Printer copy shredder for main office
- Storage file cabinets in each office
- Back storage-old cumulative files /vault now
- Door with a window

Library

- Fiction collection is growing and nonfiction is diminishing
- Database and internet are the things that classes most go to the library for
- Help with research papers
- No assigned classes
- Work room
- Laminator
- ½ the storage is needed
- Daylight
- Outside space if students could use it

Social Studies

Issues

- Classrooms that overlook the CTC roof (which is metal) sun reflects off the roof and heats up the space and there is terrible glare.
- Storage cabinets in classrooms now are too tall
- Child in a wheelchair does not have an accessible route through the classroom and no accessible workstation
- Department offices with the classrooms-currently they are not
- Store old textbox and materials and over summer everything has to be locked up
- CTC noise and smells are a problem
- Furniture does not fit all of the students-too small
- Department meetings are held in an open classroom

Wants

- Space to meet with a student currently they use department head office
- Project display areas outside of the classrooms
- Need for reliable technology, use smart boards
- White boards are needed everywhere
- Currently the teachers that travel have desks in a classroom that they share.
- Kids are up working on boards on multiple sides of the room, hard to keep kids engaged for 90 minutes need multiple spaces in a classroom
- Small group work within the room 4-6 students
- 32 students per class/ smallest class is 28
- Pass through doors are good
- Folding walls may not work due to scheduling issues but it could be useful
- Learning Commons would work because they do work in small groups and would send kids out of the room to work independently
- 32 students in a classroom
- Lecture hall that can be scheduled-smaller than an auditorium

- Lecture hall for criminal justice and honor society should be next to a public entrance?
- Forum could be used for movies
- Need space for Independent study/ clubs that teachers advise/ place to make phone calls
- Flexile classrooms that can be set up in multiple ways/ different types of workstations
- Learning commons/space for students to be social or go to for study hall
- Teacher dining should be central for all school not part of planning
- All 30 student classes/ 21-22 students are a rarity
- Share room with another teacher/2 desks
- Central storage area
- Lab space between two classrooms shared by both – not worth having if that sf has to come from the classrooms
- Windows natural light very important
- Flexible set up so others can swap out of classes
- Project work area-kids lay on the floor
- AP tests often and it has to be safe-individual work stations
- Working shades/glare control
- Multi copy books stored in bookcases along window wall
- Central book collection with movable books
- 3-4 different set ups over the years since it was built so it needs flexibility for the future
- Teacher collaboration/planning rooms with department head office adjacent to the classrooms where everyone teaches
- laptops with printers in classrooms and planning center
- Planning center with English would be fine
- Book and newspaper donations –need to be accessible to the students-learning commons
- Ceiling tracks for hanging display in the classrooms
- Get rid of bells go to a light system and use flat screen tv to do announcements
- Would like to project on multiple walls at the same
- Flat screen TV's for announcements
- TV studio? Money set aside?
- Should be designed for kids comfort-booths for lunch tables acknowledging teenage ergonomics
- One wall could be tack surface for posters and student work could be displayed
- Paintable ceiling tiles in the new school?

- Offices for two teachers between every room would be nice
- Planning could be two departments English and SS-collaboration
- Concord- designated places around the school teacher was assigned to an office and kids can schedule extra help
- Small group room could be extra help/teacher offices/SPED/ small group projects
- Advisory services is starting so teachers will need spaces to meet with 8-10 students

Adjacencies

- Music/ Art/ SS
- Culinary Arts could be in the Humanity House
- Library should be central to everyone-2 floors/ access from everywhere
- Collaborate with Art and Music-history Chris Stricklen
- SS and English teach together-could collaborate more if schedule allowed
- World Language- world cultures and world language
- Marketing/Psychology
- Library adjacency would be the most important

Other Spaces to See

- Noble HS- inviting space with benches and plants communal feel, commons with terraced middle has the main office cafeteria off of it
- Cafeteria should have a variety of seating, with beautiful huge murals that depict history. Dover is the 7th oldest continuously lived in community.
- Portsmouth Middle School has a lot of glass at the entrance-glass bridges that connect buildings.

Math Department

- 14-15 teachers in department-some travel
- Staff bathroom on the second floor is a joke
- Classrooms are hot in the summer and freezing in the winter.
- Math and Science could be adjacent to each other
- Adjoining rooms that could combine with movable partitions as long as they are acoustic
- 32 students with room to move and rearrange tables/furniture and access whiteboards
- Could use a small group room for independent study
- Current storage: bookshelves and two double tall cabinets in classrooms plus one storage room for book storage which needs to be locked.
- SMART boards do not have math software and teachers have not had training.
- 75% of walls should be white boards
- Small amount of tack board

- Would be better to have work on chrome books so students could project their work on the SMART boards.
- Flexible furniture that you can make into tables
- 75% of kids use their lockers
- Like being all together
- Chair travels
- Sink with closed cabinets work well
- Lower level classes tend to lose things so they store more things in the classrooms
- Larger classroom can have separate area with tables for tutoring or projects-Math Resource room or math lab for special help
- Average class is 30
- Assortment of furniture in classrooms
- Classroom of the future with all marker boards or idea paint
- Lecture hall for three classes of students so you can teach all three honors classes at once for lecture then they break out into smaller groups for "lab" work.
- AP classes have kids at the board all of the time
- Adjacencies: Science/ lecture hall spaces could be used by CTC for math lectures then apply lesson in their CTC lab
- Teacher planning is done in Math Department head office
- Dinning should be separate
- Math Lab could be a maker space as long as it had supervision
- Small group rooms could be used by upper level kids
- 7th and 8th graders come up and take math classes
- White boards
- Room for 20 kids to be at the board
- Sink
- 29 students in classes-room is too small
- 326 has two tall cabinets and low cabinets
- Could use storage closet if it was centrally located
- Forum could be used for calculus and physics
- STEM academy
- Project work- maker space
- Teacher planning would be great/dinning should be separate
- Timberlane has a math lab
- Science and SPED adjacencies
- 337 is an okay size for 11-19
- All math classrooms should be in the same area to share materials and provide coverage for other classes

- Small Group room could be used as teacher office, advisory, SPED pull out
- Faculty planning office might be too loud to get work done so a small conference room might be needed or they could use the Small Group Rooms
- Math lab
- Family and Consumer Science should be adjacent to Culinary –teacher

SCIENCE

Science teachers have their own classrooms, so planning typically happens in classroom where they have all the resourced they need. Don't see much benefit from joint teacher planning centers because they need access to their specific resources to plan, but like the idea of being about to go into a space where teachers could meet to collaborate.

Chemistry

- currently 3 teachers, and 3 classroom, free 1 block a day each
- current chemistry storage is inadequate and dangerous
- Prep Room to have lots of storage and dishwasher (around 250 sf)
- Earth Science & Physical Science (geology is taught with this)
- Two Earth Science Teachers – 2 classrooms
- Two Physical Science teachers 2 classrooms
- Would like to be closer to exterior, takes students outside to walk to Bellemy Park.
- Would like to see classroom layouts all the same, similar to current Chemistry Model. Two classrooms with joint Prep/storage room in between. Each room should have minimum of 6 lab stations, and flexible chairs for lecture area. Lots of white board space needed
- Physical Science also introductory, for freshman
- Need lots of storage, the geology class has very heavy rocks
- Physical Science would needs gas, multiple sinks, and 6 lab stations for classroom
- Biology - (teacher came in late only talked to for 5 minutes)
- Likes the "Brewster Academy Model", a technology driven school, where each lab station is equipped with a computer hook up station
- Currently 4 classrooms & 4.5 teachers (1/2 teacher is BioTechnology)
- Has need for Seminar/forum area to bring together multiple classes (2 or 3), bring in guest speakers and open it up to other classes. Auditorium is too large of a space
- Wants to introduce technology into lab area
- Look into "Portal" and "Moodle" used in Brewster Academy
- Like to have larger tables for group work, maybe gas for one room

Adjacencies
Physical Science teacher frequently takes trips to CTC (electrical and Automotive) for demonstrations on how things work, said it is the most popular part of his class, being adjacent to these spaces would be great, a STEAM suite would be great too

Teamed up with CTC to make soap (can't remember what program)
A natural fit with CTC Biotechnology, Math, Arts, STEAM suite would be ideal

General Needs/Wants
- As much whiteboard space as possible, current requirement to post class goals and agenda for every class takes up space. Some science teachers still like chalkboards
- Need for adequate storage
- Lab table for teacher is not necessary, movable table is better
- Like to have classroom area, lab area, and prep area
- Consistent and reliable technology, interactive projector
- Maker Space type areas would be would be used by science teachers
- Want lab set up to be very accessible, current fixed tables are really wide and hard to get around, prefer more narrow lab tables, Peninsula's work
- Room 302, has plenty of upper and lower cabinet storage for reference
- 6 lab spaces work for 24 kids (4 students per lab station) one teacher like to work in groups of 2 students (12 lab stations)
- Size of the classroom #307- too small, enough white board, not enough storage
- Chem room 301 labs are stuck in place and take up too much room, so kids are squished, not size appropriate, too much storage but not enough white boards
- Lots of safety concerns
- Movement in space is very limited
- Nice to have office space to meet with a kid or group of kids,
- Access to computers a lab station, Would be great
- Need safety showers in all rooms

Examples of good science rooms
- Pinkerton Academy
- Brewster Academy

World Language
8 teachers – 8 Classrooms
- Sinks in room with drinking fountains
- White boards are okay but could use more.
- Door alcoves are strange not good visual connections to the hallway
- No built in storage at all-empty room in the summer
- Enclosed stairwell is bad for monitoring-doors are too small circulation is poor; solid doors
- Takes a long time to get from bathrooms and lockers to the WL wing
- Accessibility to the second floor very difficult
- Windows leak, windows don't close noticeable draft
- Remote from everyone else, never see anyone else in the building
- Telephones
- Rectangular rooms
- Flexible furniture/ group size changes frequently during class
- Standing desk
- Projects and display
- Support materials for students, workbooks posters, artwork,
- History, art marketing community culinary
- Shared kitchen classroom for the department/maker space
- WL is loud group
- 75 person presentation space for guest lecturers
- Teacher planning is done frequently
- Classes are up to 30 but prefer 24/current classrooms are too small-800 sf classrooms
- No lockers in the world language wing-good less distractions
- MS has lockers in a central area- good
- Language department is loud- good acoustical treatment needed
- Like the sinks in their rooms sometimes they cook
- Drafty windows- view is nice
- Being above the ground level is better so they can't see people outside coming and going
- Lots of white boards posting objectives and notes
- Two boards at the front and two at the back works well
- Built for classes of 24 so they are too small for 30 students, furniture that they need no built in storage
- Built in storage especially for summer
- Flexible furniture so they can reconfigure class
- Ants
- Exterminate before building

- Technology
- Isolation
- Culinary
- Math-recognizing patterns
- Music in the classroom
- Toilet access for students and teachers on every floor
- Language lab or one to one technology
- ADA access
- Reliable technology
- Fire doors that work
- Overall building:
- Lactation stations/ place to change
- Macintosh schools for relocation- 2 schools

English Teachers

- Having a classroom works well, stores books for all prep, currently there is unreliable book storage. A bathroom has been converted to English book storage room, the books are being destroyed by mold because it is not proper storage. It was suggested that a more central system where academic books could be stored, checked out, and then returned would be helpful, both to save time for individual teachers, provide proper storage, and have a better follow up system to reclaim books. Currently when books are not returned, unless someone spends the time to fill out reorder forms, and follow through the books are not replaced, and then they are short books at the start of the semester. Could this be the function of the librarian?
- Room 316 (approximately 820 sf) has 34 desks, very crowded, very noisy
- Mythology Class
- need ability to show lots of films, consistent wireless ability, area to store stuff, more space for kids, would utilize small group rooms, variety of space in classroom is needed, and would be willing to give up classroom space for a small group room space. (one teacher)
- Journalism to 20 computers with color printers /cubicles

Adjacencies

- English and SS work well together
- Greek Mythology taught from a western civilization perspective
- Art
- Graphic novel class is teaming up with art,
- As a senior elective teacher she teaches a lot of CTC students for English requirements, more connection with CTC would be nice
- Humanities Wing would be great
- Social Studies/Humanities

Student Needs

- Kids need more space to process, experiment, to try, need to be more social, need ability to be more on their own. Need to be more part of the community
- Enjoys watching the kids before the school, it is interesting how kids group together as pods, and those pods find locations within the school to gather
- Seniors have late arrival or early release if they met their credit requirements.
- Better storage for the kids to use, doesn't necessarily have to be more lockers. Maybe cubbies within a classroom. Place to hang up their coat and leave their bags closer to their classrooms
- General Needs
- As much whiteboard space as possible, current requirement to post class goals and agenda for every class takes up space.
- Need for adequate storage of books (space to close down classrooms at end of year)
- Consistent and reliable technology, interactive projector
- Designated outdoor classroom area, could be in a courtyard, or away from building, shade protected
- Seminar/Forum space to hold two classrooms would be sufficient, and utilized a lot
- A maker type space within a Humanities wing would be great
- Teacher planning areas separate from teacher lunch areas, and located more central to the teaching
- Like square classrooms, lots of windows
- More community type spaces the provide more opportunities for students and teachers to connect
- Would like option to take kids out of class
- Need for laptop cart storage if not one to one ratio
- Internal rooms are the worst; classes with movable partitions have ATC on one side and heat on the other
- Journalism classroom-rectangle doesn't work bank of computers on one wall
- Departmental wing with office within it
- Noble 3 pods 2 teams each per floors 9/10 first floor 11/12 second floor
- Freshman and sophomore need more coddling
- Outside space for teaching and relaxing
- Office is tiny/no common planning time/ dining room should be separate from planning
- White boards would be good-the more the better
- Storage-organize books/multi-copy book rooms
- Need more computers/have to go to the library now-competing with other classes to get in there now.
- Writing Lab- could go during study hall to type and print during study hall
- "Nice" space for the students to be

IT Department issues

- Two laptop carts for English was purchased through a grant, but they are not supported, because it was not part of the grant, so they basically go un used. A better way to support technology gifted or provided through securing grants is needed.

Music

- Practice Rooms – Current rooms are sized appropriately
- Equipment storage is needed, podium, uniforms, easy access to the stage, adjacent to the band rooms allowing for pianos,
- Deep sink in band room, and regular sink in chorus room
- Band room outside and theater
- Piano Lab use computers, song writing – 20 with computers (need dedicated computers with specific software)
- Wenger Cart – tables, with Piano Keyboard
- Close to theater department, close access to green room
- Theater is needed for concerts and practice
- Audio system in rooms for recording, in practice
- Music production class, could be taught in music room with computers
- Music pit would be on a wish list
- Technology, lots of white boards, some with musical staff on part of boards
- Good visual connections in practice rooms
- Their current storage needs to be larger
- Program
- Large Band and Chorus room 70+ kids each room (trying to grow program)
- Storage for instruments
- Large Storage for uniforms, outfits, gowns, large band equipment (podium/colorguard)
- Large Practice Rooms
- Small Ensemble rooms

Adjacencies

- Need access to exterior for band, should be on first floor
- Adjacent to theater, double doors to roll equipment on stage is preferred

Theater Needs

- Fly space with lots of space in wings
- Green Room with Bathroom
- Boys and Girls Changing Rooms
- Set building area
- Sound and lighting booth

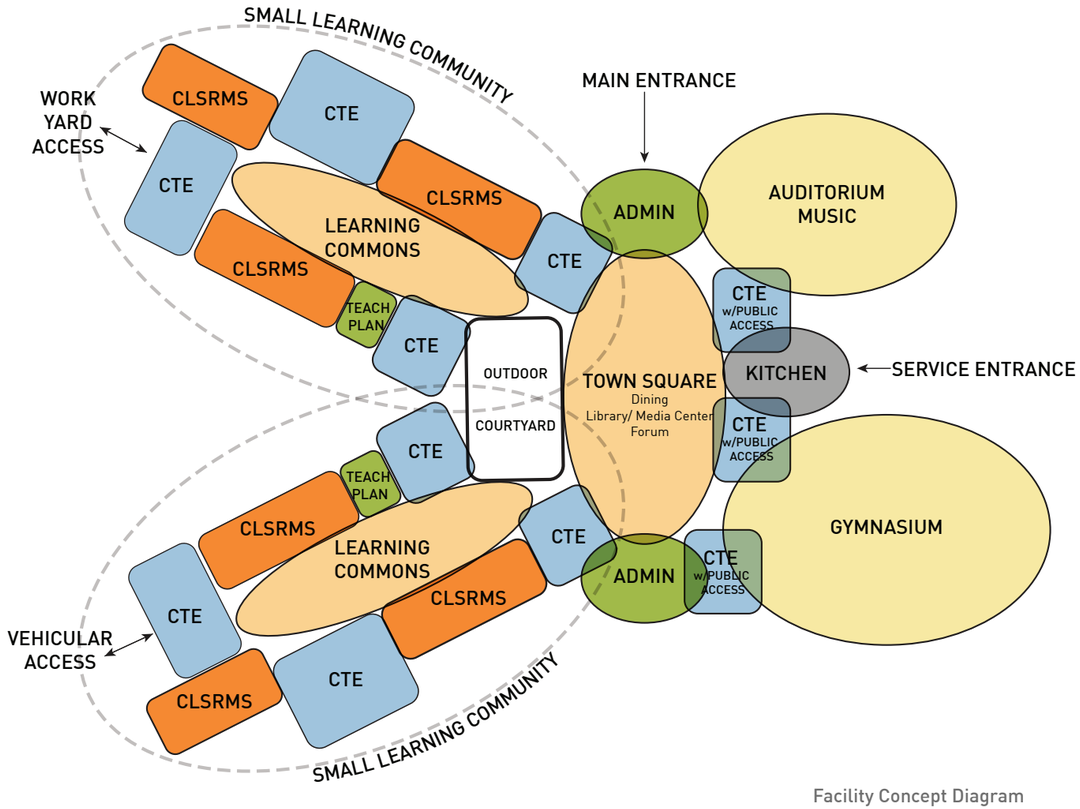
Misc Program Spaces

Robotics

One room 32x40 would meet needs, if Robotics club could have access to a maker type space or one of the CTC programs, it would not need its own space, but would need some secure storage space.

The Mez

- Is liked as an icon of the school, and its centrally located. People know Dover School by the "Mez".
- Other teachers feel it's a safety concern and seemed to feel more responsible to make sure students are safe when they are hanging our around the Mez
- Mezzanine is a safety issue-kids could get pushed over or jump over
- Mixed feelings some of the younger teachers feel like the identify with the mezz- it s a symbol of Dover...safer way to design it
- Mezz- identifying feature of the school; memorable should be repeated in the new facility



Facility Concept Diagram

Conclusions

From the information that we gathered from the high school and CTE educators combined with the information that came out of the Visioning sessions, HMFH was able to diagram a building layout. Please see the Facility Concept Diagram on the next page. The concept is to have the school organized around a Town Square. The Town Square will be the heart of the new school and will be open to the larger Dover community. The CTC programs such as Cosmetology, Culinary Arts and the school store will be accessible to the school and to the larger community from the Town Square. Other spaces that will be located in or adjacent to the Town Square include the cafeteria, kitchen, book collection, and an exterior learning space. The Town Square will act as the lobby space for the Gymnasium and the Auditorium and will be open longer hours during the day than the academic wings of the school to accommodate the community and also the students before and after school.

The new school will have small learning communities or houses. Each house will have a smaller number of students and integrated high school and CTE spaces. The school will be laid out in such a way that the size of the small learning communities can be flexible. The small learning communities could be one floor or two and could also become departmental if the school chooses to organize itself differently in the future. Possible adjacencies within the small learning communities include Science, Bio-Engineering, Arts, Engineering, Electrical, Woodworking, and Building Sciences. The Arts programs, Electrical, Woodworking and Building Technologies would like to share an exterior work yard and loading area for materials. Sports Medicine, EMT, and Health Sciences could be co-located with the Gymnasium and the Athletic Trainer. English, Marketing, Business and Technology classes could also be co-located. World Languages had a desire to be adjacent to the culinary program and Culinary would like to be located adjacent to the Life Sciences program. The Animal Sciences programs which include Dog Grooming and Obedience Training, Small Animals and the Equestrian program will be co-located in separate free standing buildings adjacent to the current barn for small animals.

The vision of the school is to allow for a broad range of educational delivery methods. These may involve individual endeavors or small group endeavors. There very likely will be a higher level student directed learning and technology will need to be accessible in most instances. There need to be physical spaces that support hands-on building projects with access to infrastructure and materials to support those efforts.

A manifestation of this will be the Learning Commons within each small learning community. Instead of one large Library space, there will be a book collection area. Each small learning community will have its own Learning Commons area where students can collaborate in large or small groups. There will be small group rooms,

conference rooms, presentation areas and quiet areas within the Learning Commons as well as teacher work rooms and staff collaboration space. This space will be available for students during the entire school day. The Learning Commons may also have a snack bar for students who wish to eat at times other than when lunch is served in the main dining area. Along with the Learning Commons, each small learning community will have project areas where hands on learning can happen. Learning by doing already occurs in the CTE labs and in the new facility these project areas will make hands-on activities more readily accessible for the high school classes as well.

2.3 Educational Space Program & Template

The development of the Education Program Space requirements started with a thorough analysis of Dover High School and Career Technical Center's current master class schedule. HMFH analyzed various data provided by the school, such as how many classes per subject, current enrollment in each class, max enrollment in each class, how many periods per week the class meets, and how many sections the class is taught. From this data HMFH was able to create a baseline for the number of classrooms needed to run the school efficiently. Due to a projected increase in enrollments in the coming years, the Joint Building Committee requested the HMFH provide a program for an anticipated school population of 1500 students. The baseline classroom number was multiplied by approximately 10%, to represent the projected increase to 1500 students from 1375 students. For the remaining and special program spaces for the high school, HMFH met with representatives from the the Athletic Department, Music Department, Art Department, Administration, Nurse, Guidance, Special Education, and Kitchen management representatives. In each case the disussions with the faculty resulted in an understanding of the programs space needs and of critical adjacencies. For the Career Technical Center Administration, and all of the Career Technical Center Programs, HMFH met directly with the Program Directors and came up with prelimary space requirements for each program. Per Department of Education guidelines, each CTC program must be reviewed by the advisors of each of the programs and agreed to by the advisors. HMFH attended a CTC event where the program was reviewed by the advisors, and then updated the CTC space program to reflect any comments that came from this review.

All the space program information was gathered and input into a Space Program Template, which can be viewed on the following pages. Getting the program correct is very important, not only to ensure the new school will function, but also to ensure every square footage is being highly utilized, and purposeful. HMFH has passed along our recommended space program from our analysis, and requested the DHS – CTC do a test fit schedule to ensure it has captured the correct amount of spaces. As the design process moves forward, the space program will evolve, and continually be tested to ensure the most appropriate and flexible spaces are being created for the new Dover High School and Career Technical Center.

SPACE PROGRAM TEMPLATE - EXISTING DHS/CTC & NEW 1500 STUDENT DHS/CTC

Proposed Space Summary - Dover High School & Regional Career Technical Center

DHS & CTC	Existing Dover High School 1375 Students			New School 1500 Students		
ROOM TYPE	ROOM NFA[1]	# OF Classroom	Area Totals	ROOM NFA[1]	# OF Classroom	Area Totals
CORE ACADEMIC SPACES		**58**	**53,130**		**65**	**69,470**
Classroom - General 1 (Up to 30 Students)				850	44	37,400
General Classroom 3 (Up to 15 seats)				500	2	1,000
Small Group / Pull Out Rooms	110	1	110	175	8	1,400
Self-Contained SPED		4	850	900	4	3,600
Self-Contained SPED Toilet				60	2	120
SPED Coordinator Office	230	1	230	200	1	200
SPED Resource (Case Managers Office/reception)	990	1	990	1,200	1	1,200
Testing	860	1	860	400	1	400
PAD Room	220	1	220	400	1	400
Para Professionals Storage (33 in building)	300	1	300	150	1	150
Life Skills	350	2	700	1,200	1	1,200
Lower Level General Classrooms (Existing)	570	2	1,140			
Main Level General Classrooms (Existing)						
World Language	810	4	3,240			
General Classrooms (820 sf - 840sf)	830	10	8,300			
General Classrooms	860	3	2,580			
2nd Level General Classrooms (Existing)						
World Language	840	4	3,360			
General Classrooms	810	4	3,240			
General Classrooms	830	7	5,810			
General Classrooms	840	5	4,200			
General Classrooms	860	1	860			
General Classrooms	990	2	1,980			
General Classrooms	1,240	1	1,240			
Science Classroom / Lab						
Physical Science Classrooms	840	2	1,680	1,200	2	2,400
Physics Science Classrooms	850	2	1,700	1,200	2	2,400
Earth Science Classrooms	860	2	1,720	1,200	2	2,400
Chem Science Classrooms	1,100	3	3,300	1,200	3	3,600
Biology Science Classrooms	970	2	1,940	1,200	4	4,800
Science Prep	410	3	1,230	200	7	1,400
Science Chemical Storage	150	1	150	300	1	300
Teacher Planning	190	1	190	900	4	3,600
World Language Office	250	1	250			
SS Office	250	1	250			
Math Office	250	1	250			
Science Office	250	1	250			
English Office	260	1	260			
Forum (up to 3 Classrooms)				1,500	1	1,500
ART & MUSIC		**7,700**				**9,650**
Art Classrooms	3,640	3	3,640			
Ceramics/Sculpture CR				1,000	1	1,000
2D Drawing CR				1,000	2	2,000
Jewelry CR				1,000	1	1,000
Kiln (1 room 2 large Kilns)				150	1	150
Art Storage				150	2	300
Spray Booth				150	1	150
Photography Dark Room				150	1	150
Band - 50 - 100 seats	2,820	1	2,820	1,400	1	1,400
Music Practice	248	5	1,240	150	3	450
Large Practice				500	1	500
Music/Chorus Offices				100	2	200
Chorus - 50 - 100 seats				1,400	1	1,400
Ensemble				200	1	200
Uniform/Band Storage				250	1	250
Music Storage				500	1	500

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High School Space Summary 1500

Proposed Space Summary - Dover High School & Regional Career Technical Center

DHS & CTC	Existing Dover High School 1375 Students			New School 1500 Students		
ROOM TYPE	ROOM NFA[1]	# Of Classroom	Area Totals	ROOM NFA[1]	# Of Classroom	Area Totals
Building Construction - max class size (20)	5,130		5,130			5600
Classroom				600	1	600
Lab Area				1,500	1	1500
Lab Storage (Up Area (Tall Ceilings)				2,500	1	2500
Tool Storage				750	1	750
Office				150	1	150
Dust Collection (outdoor)						
Work yard with Shared Wood Storage						
Electrical Technology - max class size (20)	2,720		2,720			3200
Classroom				800	1	800
Open Stud Bays				65	10	650
Motor Control Bay				65	1	65
Solar Lab Bay				65	1	65
Shop Area				65	1	65
Office				1,000	1	1000
Storage				150	1	150
Storage				405	1	405
Computer Networking - max class size (25)	1,630		1,630			2500
Classroom				800	1	800
Computer Lab (25 Stations)				1,000	1	1000
Lab Space (25 Stations)				500	1	500
Storage				400	1	400
Testing				250	1	250
Detailic Entry				50	1	50
Computer Programming (Future Program) - max class size (25)	830		830			1500
Computer Lab (25 Stations) (U shaped Set Up)				1,000	1	1000
Open Collaboration Area				250	1	250
Small Gaming Room				250	1	250
Cosmetology - max class size (40 total) 2 Classrooms (40 total)	3,700		3,700			3500
Classrooms				800	2	1600
Salon Area				800	1	800
Aesthetics Area				100	1	100
Shampoo Area				100	1	100
Toilet/Locker Room				150	1	150
Laundry Area				75	1	75
Storage				200	1	200
Storage				200	1	200
Pantry				100	1	100
Waiting Area				100	1	100
Bathroom For Patrons				75	1	75
Culinary Arts - max class size (24)	3,880		3,880			3500
Culinary Dining (35 to 40 Seats)				1,000	1	1000
Classroom (tiered seating)				400	1	400
Kitchen Office				100	1	100
Locker Room				150	2	300
Kitchen Area / Storage				2,100	1	2100

SPACE PROGRAM TEMPLATE - EXISTING DHS/CTC & NEW 1500 STUDENT DHS/CTC

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High School Space Summary 1500

Proposed Space Summary - Dover High School & Regional Career Technical Center

DHS & CTC	Existing Dover High School 1375 Students			New School 1500 Students		
ROOM TYPE	ROOM NFA[1]	# Of Classroom	Area Totals	ROOM NFA[1]	# Of Classroom	Area Totals
CAREER TECHNICAL PROGRAM			**46,680**			**69,150**
CTC Admin Offices	1,640		1,640	300	1	300
Main Admin/Waiting				300	1	300
CTC Director Office w/ Conference				250	1	250
Conference Room/ Technology Room				450	1	450
Career Services Office				125	1	125
Career Assessor Office				125	1	125
Student Support Workroom				200	1	200
CTE Storage						
Tech Crim. (E.G. Drafting, Business)						
Animal Science - max class size (20-26)	2,090		2,090	600	2	1200
Classrooms				600	1	600
Science Lab				300	1	300
Tub Room				300	1	300
Small Animal Room				200	1	200
Bathrooms / Locker Rooms				100	1	100
Laundry Area				50	1	50
Storage				200	2	400
Office				200	1	200
Washing Area/Reception/Store				4,000	1	4000
Main Animal Area (Animals) with hay storage				100	1	100
Tractor/Equipment Storage				150	1	150
Feed Room						
Covered Round Pen (50ft Diameter)						
Training Area (Indoor)						
Outdoor Fenced in Kennel/Training Space (400 sf)						
Pasture/Paddock Space for Animals (600 sf)						
Parking Spaces (4 Spaces)						
Automotive Collision - max class size (20)	3,970		3,970	800	1	7475
Classroom				800	1	800
Aluminum Clean Room				375	1	375
Car Bays				375	6	2250
Shop Area (space between and around bays)				2,000	1	2000
Paint Booth / Spray Booth				800	1	800
Wash / Detail Bay				350	1	350
Shop Area (space between and around bays)				2,000	1	2000
Tool / Auto Part Storage				800	1	800
Office				150	1	150
Bathroom/Locker Room				100	1	100
Outdoor - 4 Parking Spaces						
Welding (Future Program) - max class size TBD	3,960		3,960	600	1	1200
Classroom				600	1	600
Shop Area				700	1	700
Automotive Technology - max class size (20)	3,960		3,960	800	1	7475
Classroom				800	1	800
Car Bays				375	7	2625
Auto Shop Area (space between and around bays)				2,000	1	2000
Tool Storage				800	1	800
Office				100	1	100
Bathroom/Locker Room				100	1	100
Outdoor - 4 Parking Spaces						
Bio Medical - max class size (20)	820		820	500	1	1900
Classroom				500	1	500
Lab Area				1,000	1	1000
Storage Area				400	1	400
Business - max class size (28)	2,660		2,660	800	1	3000
Classroom (25 Work Stations)				600	2	600
Computer Labs (25 Stations)				1,000	1	1000
Office				50	1	50
Shared Work Room				200	1	200

THESE PROGRAMS TOGETHER FIRST FLOOR

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High School Space Summary 1500

Proposed Space Summary - Dover High School & Regional Career Technical Center

DHS & CTC	Existing Dover High School 1375 Students			New School 1500 Students			
BOOM TYPE	ROOM NFA[1]	# OF Classroom	Area Totals	ROOM NFA[1]	# OF Classroom	Area Totals
HEALTH & PHYSICAL EDUCATION			**24,440**			**28,600**
Gymnasium	13,090	1	13,090	13,500	1	13,500
Fitness Rooms				2,500	1	2,500
Athletic Director's Office	230	1	230	160	1	160
Men's Coaching Offices	123	3	370	75	3	225
Women's Coaching Offices	95	2	190	75	3	225
Coaches / Ref Rooms / Toilets (Men and Women)				150	2	300
Changing Area for Referee's				200	0	0
Locker Rooms - Boys w/ Toilets	4,480	1	4,480			
Locker Rooms - Girls w/ Toilets				800	2	1,600
Team Rooms	2,520	1	2,520	800	2	1,600
PE Locker Room				450	1	450
Private Showers				25	4	100
Toilets				200	1	200
Equipment Storage				6000	1	6000
Weight Room	1,220	1	1,220	2,000	1	2,000
Trainer Room	300	1	300	600	1	600
Cardio Room				1,000	1	1,000
Phys. Ed. Storage	286	5	1,430	800	1	800
Gym Storeroom				500	1	500
Equipment Storage						
MEDIA CENTER	**6,110**		**6,110**			**8,600**
Media Center / Reading Room	6,110	1	6,110	8,800	1	8,600
AUDITORIUM / DRAMA			**9,240**			**10,450**
Auditorium	6,290	1	6,290	7,500	1	7,500
Stage	2,150	1	2,150	2,450	1	2,450
Auditorium Storage	150	1	150	500	1	500
Controls / Lighting / Projection	540	1	540	200	1	200
Band Booster CL	110	1	110	100	0	0
Scene Shop Area				500	0	0
Make-up / Dressing Rooms w Bathrooms				300	2	600
	6380					
DINING & FOOD SERVICE			**13,410**			**13,650**
Kitchen / Student Lounge / Break-out	8,600	1	8,600	7,000	1	7,000
Kitchen	3,100	1	3,100	2,900	1	2,900
Dry Storage	1,000	1	1,000	800	1	800
Dish Washer	570	1	570	250	1	250
Cooler / Adult Dining Area	690	1	690	1,650	1	1,650
Kitchen Office	150	3	450	150	2	300
						-
Chair / Table Storage				525	1	525
Staff Lunch Room	990	1	990	625	1	625
MEDICAL			**750**			**910**
General Nurse Area	750					
Medical Suite Toilet				60	1	60
Nurses' Office / Waiting Room				250	1	250
Interview Room				100	3	300
Examination Room / Resting				100	3	300

SPACE PROGRAM TEMPLATE - EXISTING DHS/CTC & NEW 1500 STUDENT DHS/CTC

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High School Space Summary 1500

Proposed Space Summary - Dover High School & Regional Career Technical Center

DHS & CTC	Existing Dover High School 1375 Students			New School 1500 Students		
BOOM TYPE	ROOM NFA[1]	# OF Classroom	Area Totals	ROOM NFA[1]	# OF Classroom	Area Totals
Firefighter Academy (EMT Program in House) - max class size (14)						**1900**
Office at front fire station			0	500	1	500
Classroom EMT				500	1	500
Health Sciences - max class size (20)	1,460		1,460			**2050**
Classroom Health Science				800	1	800
Lab Health Science				800	1	800
Adaptive Kitchen				100	1	100
Storage				150	1	150
Office				100	1	100
Toilet Room with Hoyer Lift				100	1	100
Locker Changing Area				100	1	100
Washer/Dryer				50	1	50
Sports Medicine (Future Program) - max class size TBD						**1500**
Classroom				800	1	800
Lab Space				500	1	500
	3,080		3,080			**2300**
Classroom				800	1	800
Lab Space				600	1	600
Storage				200	1	200
Green House Room				700	1	700
NJROTC - max class size (30)	1,460		1,460			**2300**
Classroom				1,000	1	1,000
Storage Area				600	1	600
Office				200	1	200
Drill Space - (oversized classroom provided to accommodate)						
Marketing - max class size (24)	1,600		1,600			**2000**
Classroom (24 Work Stations)				1,200	1	1,200
Conference Area				300	1	300
Storage Room				200	1	200
Student Store				300	1	300
						-
Pre Engineering Academy - max class size (22)	2,750		2,750			**3200**
Classroom				600	1	600
Computer Lab Area				1,000	1	1,000
Prototype Manufacturing				1,000	1	1,000
Storage				500	1	500
Office				100	1	100

THESE PROGRAMS TOGETHER

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High School Space Summary 1500

Proposed Space Summary - Dover High School & Regional Career Technical Center

DHS & CTC	Existing Dover High School 1375 Students			New School 1500 Students		
ROOM TYPE	ROOM NFA[1]	# OF Classroom	Area Totals	ROOM NFA[1]	# OF Classroom	Area Totals
ADMINISTRATION & GUIDANCE			**5,210**			**5,045**
Main Administration	3,140		3,140			
Administration	1,770		1,770			
General Office / Waiting Room / Toilet				750	1	750
Teachers' Mail and Time Room				100	1	100
Duplicating Room	90	1	90	200	1	200
Records Room				200	1	200
Principal's Office w/ Conference Area				375	1	375
Principal's Secretary / Waiting				125	1	125
Assistant Principal's Office - AP1				150	1	150
Assistant Principal's Office - AP2				150	2	300
Supervisory / Spare Office				120	1	120
Conference Room				450	1	450
Records Room	210	1	210	200	1	200
Guidance						
Guidance Office				150	8	1,200
Guidance Admin (2 desks)				200	1	200
Guidance Waiting Room				100	1	100
Guidance Storeroom/Copy Room				100	1	100
Career Center/Conference Room				475	1	475
CUSTODIAL/ Facilities & MAINTENANCE			**4,510**			**5,150**
Facilities Office	110	1	110	200	1	200
Loading Dock 1	710	1	710	1,000	1	1,000
Loading Dock 2	570	1	570			
Facilities Storage				500	1	500
Facilities Maintenance Shop	400	1	400	800	1	800
Maintenance Building (offsite "practical")				4,000	0	0
Custodian's Office	40	1	40	150	1	150
Custodian Maintenance Area				150	1	150
Custodian's Storage	690	6	690	375	2	750
Recycling Room / Trash				400	1	400
Receiving and General Supply				500	1	500
Cust Service Closet	720	11	720	50	10	500
Cust Break Room	200	1	200			0
IT Office	250	1	250			0
IT Room	200	2	200			0
IT Storage	240	2	240			0
Network / Telecom Room	60	1	60	200	1	200
School Supply Room (2nd Level)	320	1	320			
OTHER			**2,590**			**7,440**
Robotics Club	440	1	440	440	1	440
Book Paper Storage	80	1	80	80	0	0
Family & Consumer Science	2,070		2,070			**2000**
Classroom				1,000	1	1000
Lab Area				800	1	800
Storage				200	1	200
District Storage			**250**			**250**
District Storage	250	1	250	250	1	250
Total Building Net Floor Area (NFA)			**174,230**			**227,315**
Proposed Student Capacity / Enrollment						
Total Building Gross Floor Area (GFA)[2]			**250,000**			**309,148**
Grossing factor (GFA/NFA)			**1.43**			**1.36**

[1] **Individual Room Net Floor Area (NFA)** Includes the net

[2] **Total Building Gross Floor Area (GFA)** Includes the entire building gross square footage measured from the outside face of exterior walls

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High School Space Summary 1500

Section 3

Site Exploration & Preliminary Evaluation of Options

Site Exploration

The Dover High School and Career Technical Center sits on approximately 44 acres of land. Nearly all of the land surrounding the High School and Alternative High School has been developed into drives, paved parking or athletic fields. The small percentage of undeveloped land is either steeply graded, wetlands, or within the wetland buffer zone. The survey above highlights the footprints of existing structures as well as graphically highlights the wetlands and their setback requirements.

Alternate Building Areas

HMFH explored 4 possible areas on the high school campus as potential building sites. In addition explored the potential of renovating the existing high school building. The 2 sites adjacent to the existing school were considered for both new construction and for the potential for renovations and additions. Sites further from the existing school were only considered for new construction. Criteria for the site exploration were established. The criteria included:

- Safety (minimizing street crossings, ease of access for emergency vehicles)
- Minimal impact to students during construction
- Improved traffic conditions
- Plan for flexibility and adaptability as needs change
- Minimize impact on parking and ball fields to reduce replacement costs
  Strong pedestrian access and easy servicing for deliveries
- Servicing for deliveries
- Solar orientation to optimize natural light

HMFH developed conceptual options for each site to test the appropriateness of each site. The conceptual options were based upon an Educational Space Program that was developed through discussions with educators and an analysis of the existing facilities. This Educational Program lists the size and number of all spaces required for the high school and career tech programs. The Educational Program was integrated with the Educational Facility Goals to create conceptual floor plan options for the school. The options were then judged against the criteria above. The sites explored included:

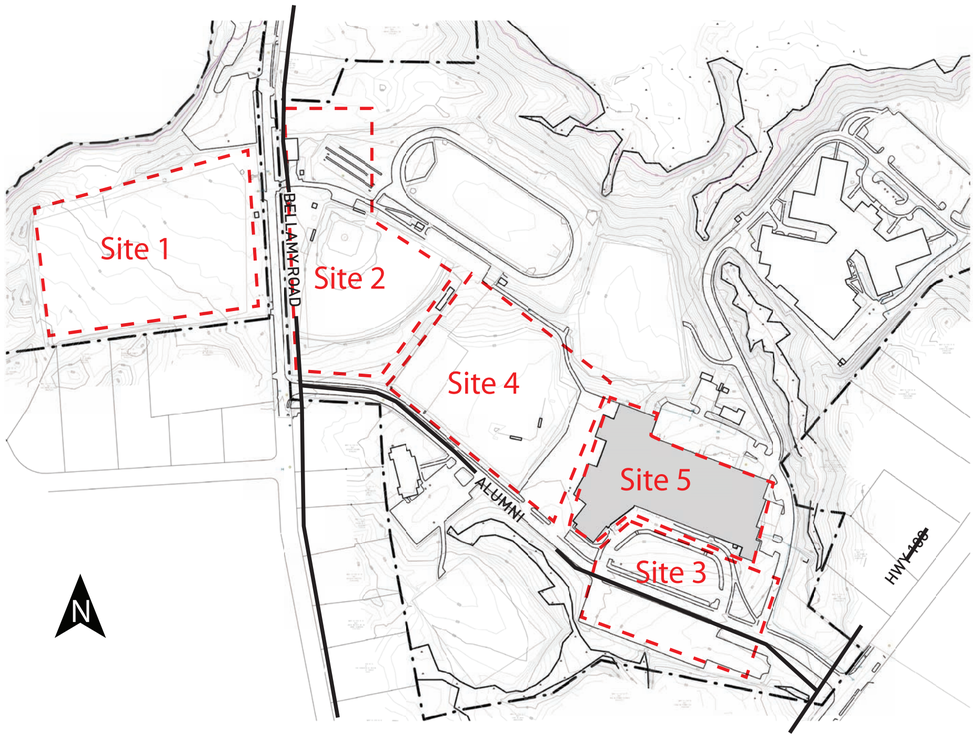
Site 1 - Bellamy Fields (new construction)

Site 2 – At the intersection of Alumni Drive and Bellamy Road (new construction)

Site 3– On the parking lot south of the existing school and including parts of Alumni Drive (additions and renovations)

Site 4 – Immediately west of the existing school on the ball field and tennis courts (both new construction and additions renovations options)

Site 5 -Base Rehabilitation of the Existing Building



THIRD FLOOR

SECOND FLOOR

FIRST FLOOR

OPTIONS ANALYSIS - SITE 1 - New Construction

Site 1: The site across Bellamy Road and west of the existing school

Site 1 Pros:

- New structure would meet some educational goals
- Less impact on play fields
- Minimal impact on students during construction
- Good solar orientation

Site 1 Cons:

- Parcel size not quite large enough to fit new facility
- Integration of CTE and Academic programs difficult
- Access challenges: Safety/Emergency vehicles, service and delivery vehicles, drop off / pick up queuing
- Parking and athletic fields across Bellamy Road requiring constant road crossing by pedestrians
- Remoteness from the existing barn is also a concern

Despite the advantages of having minimal impact to current students during construction, the physical site was deemed too small to accommodate a new facility which would provide adequate educational and access needs. Safety concerns due to the significant amount of foot traffic that would have to cross Bellamy Road to/from parking and athletic fields were also made this option less attractive. These factors led the JBC to vote against pursuing this option any further.

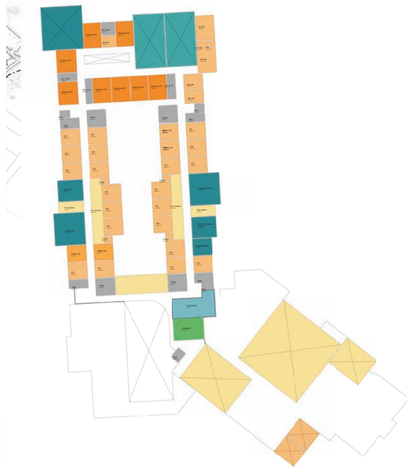
OPTIONS ANALYSIS - SITE 2 - New Construction

Site 2: The site at the intersection of Alumni Drive and Bellamy Road

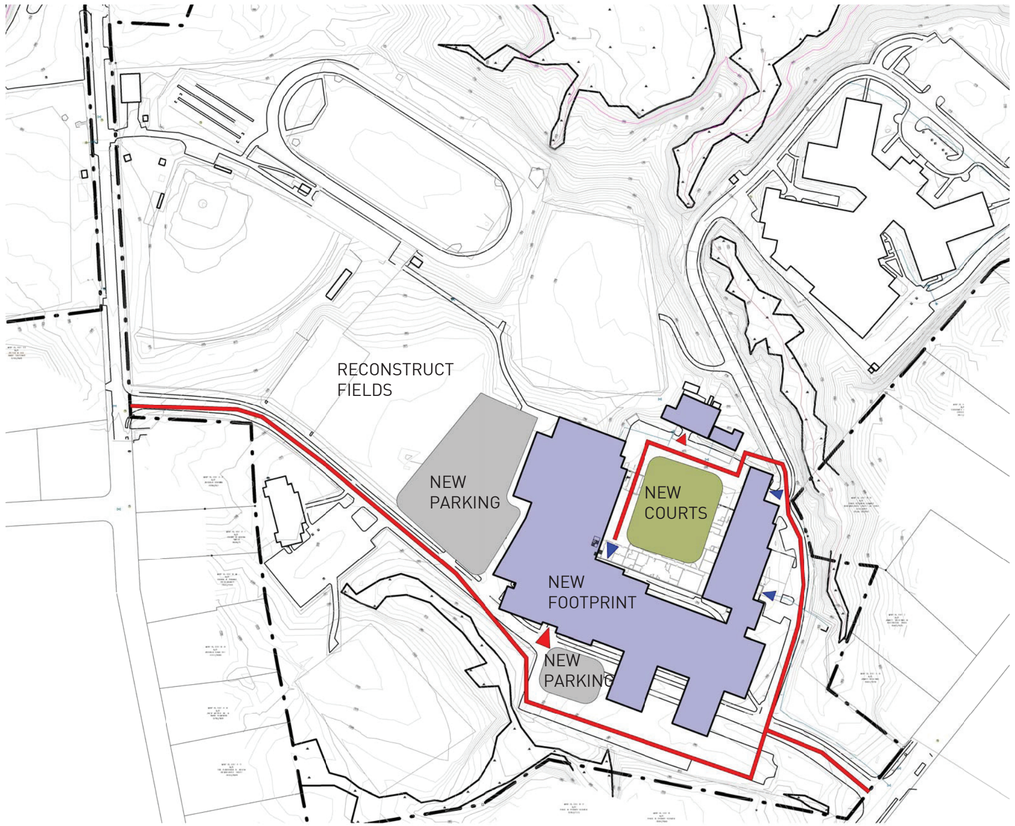
Site 2 Pros
- Minimal impact of the construction to on-going programs.
- Able to meet many of the academic goals.
-

Site 2 Cons
- Does not have a good solar orientation
- Has major impact on the ball fields including eliminating vehicular access to the track and football field.
- Drop off and pick up area for buses is very constrained by the location
- May worsen traffic concerns at the intersection of Alumni Drive and Bellamy Roads.
- Emergency access around the building is incomplete making safety a concern.
- Remoteness from the existing barn is also a concern

Although the site could fully accommodate the program, and the solar orientation was positive, the location proved to be problematic. JBC voted not to pursue this site because of the traffic and safety concerns at the Alumni Drive– Bellamy Road intersection and due to long term impact on the playing fields.


SECOND FLOOR


FIRST FLOOR



OPTIONS ANALYSIS - SITE 3 - Additions and Renovations

This option preserves and renovates the Career Tech Center and the Gym and Auditorium wings of the high school while demolishing the central classroom portion of the existing building. The classroom portion is replaced with a new entrance and academic center placed on the existing parking lot to the south of the high school. This approach was suggested by the findings of the existing conditions report. The existing conditions report determined that the central classroom portion of the high school would be the most complex and costly portion of the school to renovate. This is due primarily to the structural upgrades that would accompany any significant renovation in that portion of the building. In contrast, neither the CTC wing nor the Gym and Auditorium portions of the building require significant structural upgrades.

Site 3 Pros

- Minimal impact of the construction to on-going programs.
- Achieves some academic goals.
- Minimal impact on play fields

Site 3 Cons

- Does not integrate the CTE programs with the academic programs.
- Would have significant impact on the students during construction.
- Challenges for emergency access to all sides of the existing building during construction
- Longer construction duration than new construction option
- Length of construction challenging. The construction duration would be approximately 6 months beyond a new construction option.
- The impact of having the construction adjacent to the classrooms would be significant. Many of the classrooms that would be adjacent to the construction rely on the operable windows for ventilation and cooling.
- Acoustical impacts would also be great for those south facing classrooms.
- Entry and bus drop off would be challenging
- Access to the animal sciences barn and building service area would be severely constrained by the new layout.
-

The JBC voted not to pursue this option primarily because of construction impacts on the ongoing programs. With construction immediately adjacent to the existing building ventilation and acoustics would be compromised over an extended period of time. In addition both vehicular and pedestrian access to and from the existing school including would be difficult for the duration of the construction. The desired educational goals were not fully accomplished through this approach with the CTC and the academic program still primarily separated.

OPTIONS ANALYSIS - SITE 4 - Additions and Renovations

Renovation of the gym and auditorium and contiguous new construction immediately west of the gym and auditorium:

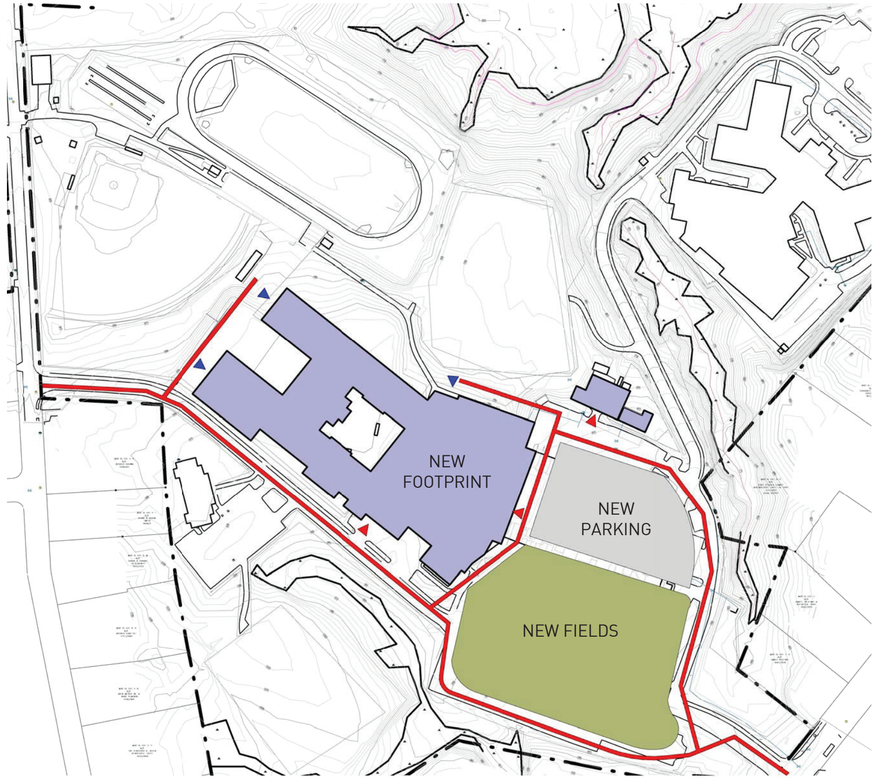
Site 4 Pros

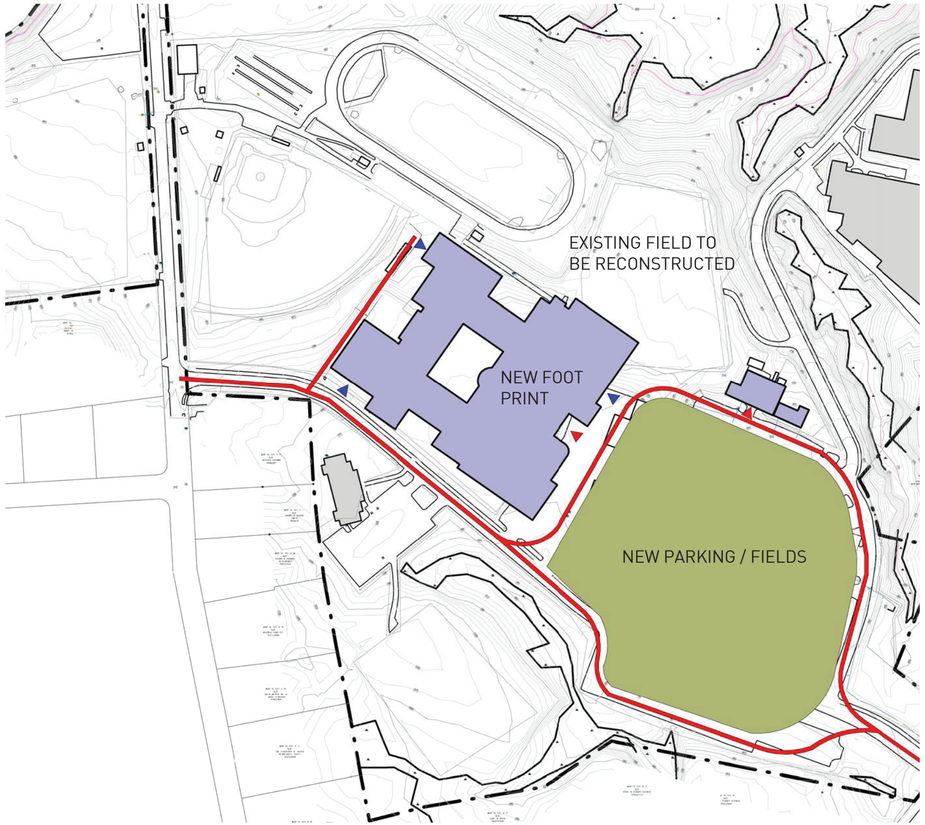
- Creates small learning communities and integrates the CTE and the academic programs.
- Generally good solar orientation.
- The existing barn can be reused and there is easy access to it.
- Access around the building, while not complete, will provide safety vehicles access to all sides of the building.

Site 4 Cons

- New construction is adjacent to the existing building so that there will be some impact on the students and teachers. The west parking lot will no longer be accessible.
- The renovations of the Gym and Auditorium would need to be done during the summer and thus might lengthen the construction period beyond an all-new construction option.
- A new ball field and basketball courts would need to be constructed.

This option achieves the educational goals and does not cause major disruption to the ongoing education of the students. The JBC voted to pursue this as one of the options to be more fully developed and then to proceed with cost estimating for it.





OPTIONS ANALYSIS - SITE 4 - NEW CONSTRUCTION

Site 4 All New Construction immediately to the west of, and adjacent to the existing building:

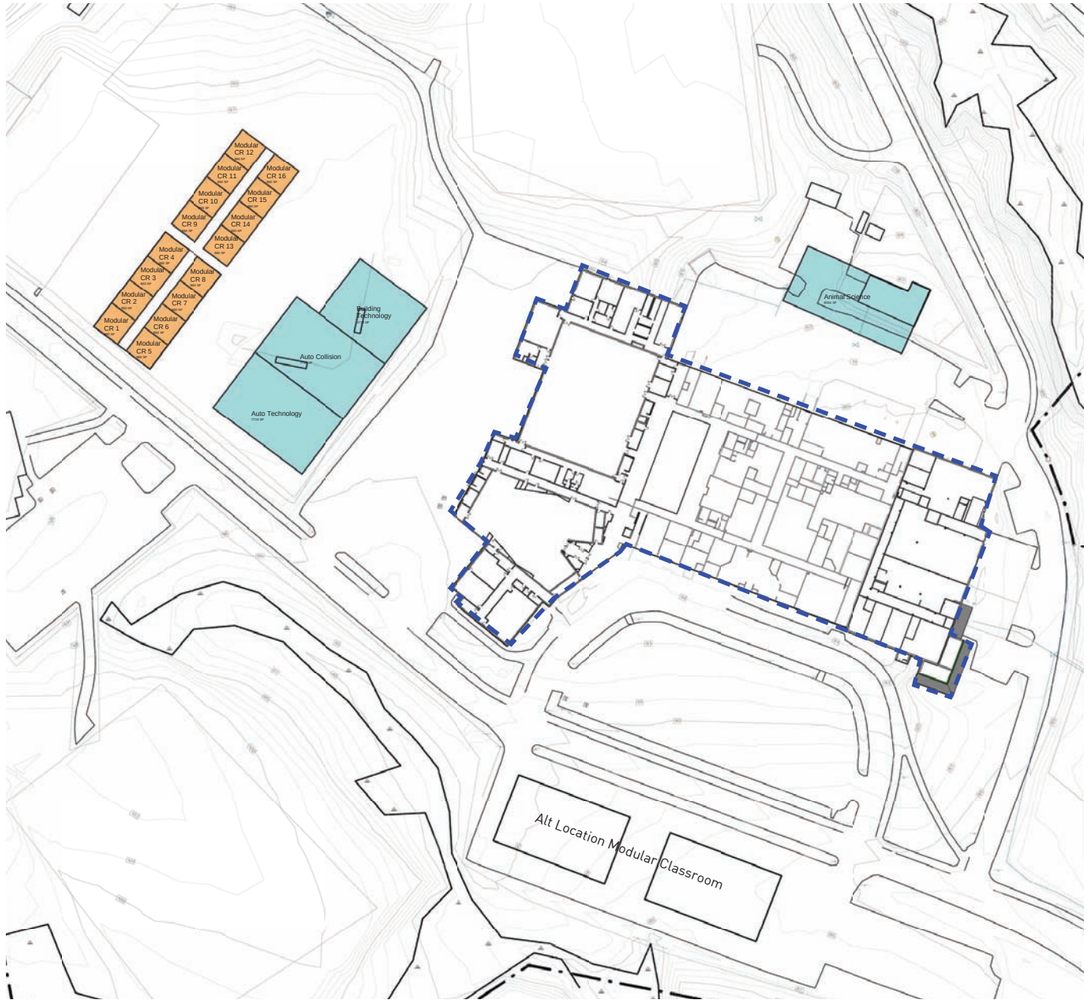
Site 4 Pros

- Creates small learning communities and integrates the CTE and the academic programs.
- Generally good solar orientation.
- The existing barn can be reused and there is easy access to it.
- Access around the building, while not complete, will provide safety vehicles access to all sides of the building.

Site 4 Cons

- Due to adjacency to the existing building there would be some impacts students and teachers. The west parking lot will no longer be accessible.
- 1 Ball field and the basketball courts will need to be re-constructed

This option achieves the educational goals and does not cause major disruption to the ongoing education of the students. The JBC voted to pursue this as one of the options to be more fully developed and then to proceed with cost estimating for it.



OPTIONS ANALYSIS - SITE 5 - Base Rehabilitation and CTC Addition

This approach only addresses replacement of mechanical, electrical, plumbing, and fire protection systems that have out lived their useful life and brings the building up to code in terms of life safety and accessibility. It has the greatest impact on the students and faculty and provides the least in terms of educational improvements. While several CTE programs would be moved into larger spaces because the current spaces do have required safety clearances, there would be no other net gain in space for the other academic programs. In fact some rooms would be made smaller due to the necessity of enlarging some toilet rooms and the need for additional vertical chases for new mechanical ductwork. The concerns about size and numbers of classrooms would still be the same and there still would be large numbers of classrooms without natural light. Because some of the CTE programs would be moved into the separate building, the CTE programs would be even more segregated from the academic programs.

Site 6 Pros:

- Several CTE programs would be moved into larger new spaces
- The renovated building will meet code and life safety requirements and will be upgraded with new mechanical, plumbing and electrical systems

Site 6 Cons:

- The general layout will be identical to existing layout
- Most programs will remain where they are after the renovation with no gain in area
- Some rooms would be made smaller due to the necessity of enlarging toilet rooms and the need for additional vertical chases for new mechanical ductwork.
- Concerns about size and numbers of classrooms would still be the same. There still would be large numbers of classrooms without natural light.
- CTE programs would be even more segregated from the academic programs with more CTE classrooms remote from the main building than there are now.

The JBC was not in favor of this approach although they did recommend that this option be further investigated and a cost estimate be pursued for this approach. The JBC felt with an intensive renovation of this nature, the risks for delays, and unforeseen costs were extremely high. They were concerned that student safety was compromised throughout the construction process and that the extended construction period would have a significant impact on both learning and on the tuition program. The dispersed facilities that resulted from this approach were not ideal and that, despite the extended period of construction, there was a reduced potential for having a positive impact on students once the building was complete.

Section 4

Final Evaluation of Options & Cost Estimates

PHASE 1 - YEAR 1

4.1 - Base Rehabilitation Option

With direction from the JBC to further investigate the base rehabilitation in order for the option to be cost estimated, HMFH conducted further analysis into alternate locations to house approximately 1/4 of the students during the phased renovation, as swing space would be required for this option during the renovation phases. In order to renovate the high school, approximately

HMFH investigated the possibility of reusing the McIntosh College campus as a temporary swing space for students during construction. The building is wood construction. The building could be set up with a dining area, reading/ study area, offices and approximately 12 classrooms. It is reported to be an Educational Use. While there are numerous visual aspects of the building that are of concern, poor condition of baseboards due to flooding, staining of ceiling tiles, and generally run down, the owner has said that the building will be brought back to an " as new" condition before any new lease would be put in place. More seriously, the existing conditions analysis of the buildings resulted in concerns about accessibility, structural integrity of the roofs and general durability of the construction for this age group. In addition, approximately 1/3 of the building is heated with electricity. A new elevator would be required and toilet rooms would have to be expanded and made accessible.

There were also concerns expressed about additional operational costs of running the facility, hiring additional teachers and administering a remote campus. 4 modular classrooms would still be required in addition to the necessary upgrades to the building described above.

For all of these reasons it was determined that the investment in the building was not favorable for the City. The alternative is to locate approximately 16 modular classrooms on the high school campus. The location of the modular classrooms is represented in orange on the site plan to the left

Before the renovation can commence new construction for 4 new CTE programs would have to be completed. As these programs require very specific spaces, and can not be relocated into modular classroom. These programs are Automotive Repair, Collision, Electronics and Animal Sciences. The construction of these spaces would take approximately 1 year to complete and would be Phase 1. Once those programs can be relocated into their new spaces, approximately 400 students would be

Renovation
250,000 sf
New Construction
30,000 SF

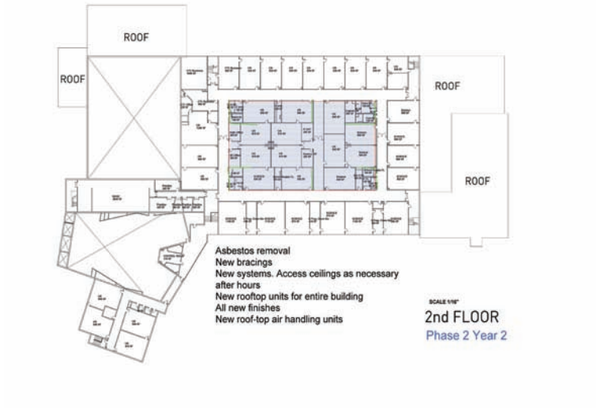
Estimated Schedule
Phase 1 - 12 Months
Phase 2 - 12 Months
Phase 3 - 12 Months
Phase 4 - 12 Months
Phase 5 - Summer
Phase 6 - Summer
Phase 7 - Summer

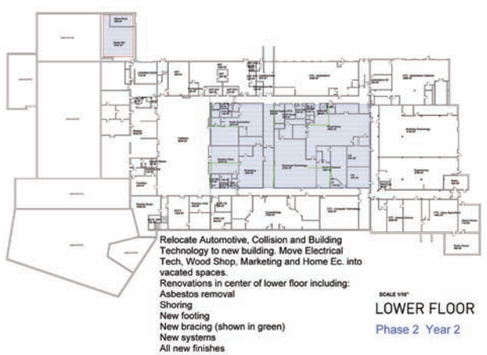
Estimated Costs
Construction Cost:
$64,418,000

Soft Costs:
$20,141,010

Total Project Costs
$84,559,010

See 4.5 - PC Cost Estimates For all detail of cost estimate



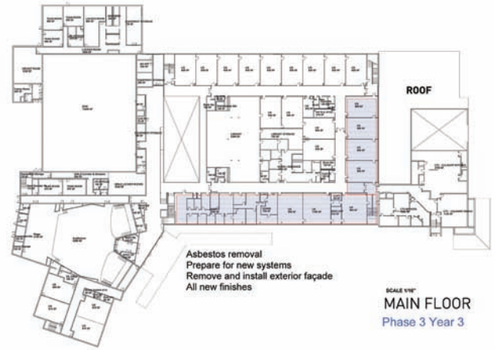


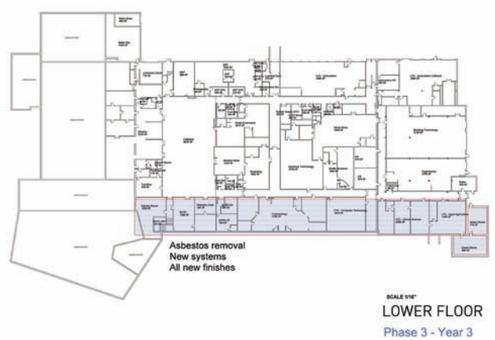
PHASE 2 - YEAR 2

relocated into the modular classrooms. At that point, the renovation of the existing building can commence. The renovation will have to occur over 3 full years and an additional 3 summers beyond. The relocation of students would be necessary for the 3 years of renovation.

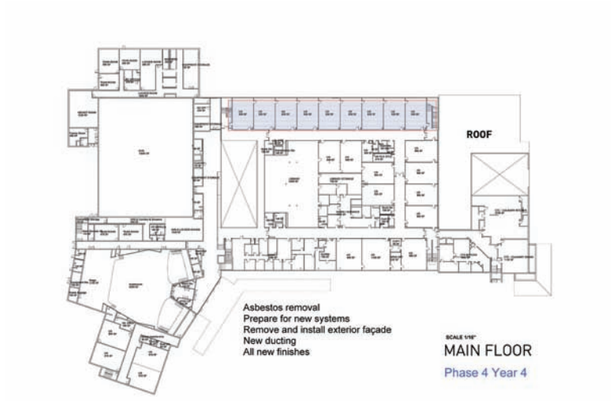
As indicated in the phasing diagrams Phase 2, year 2 of the renovation will require significant structural reinforcing of the central, interior classroom portion of the building including installing new mini pile foundations and new structural bracing. All three floors of that internal portion of the building would be segregated off from the rest of the school to allow this to happen. Once the structural work is completed new mechanical, electrical and plumbing systems will be put in place. Students would be able to circulate around the inner core classrooms that were being renovated and construction workers would be limited to a single egress stairs but there would still be points of intersection between the students and the workers.

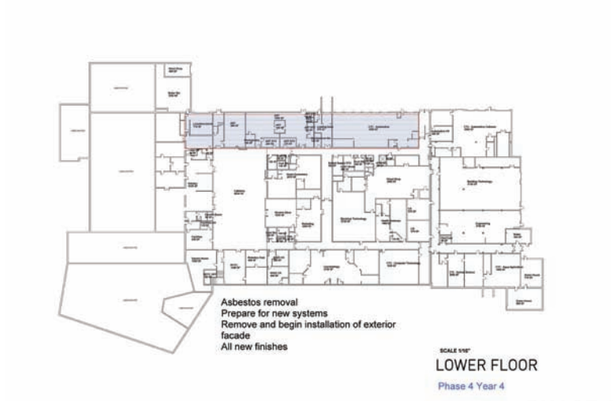
The following year the classrooms in the front of the building facing the parking lot would be completely renovated, including the replacement of the window and window framing system. Again, all 3 floors would be closed off from the students. The 4th year all 3 floors of the rear facing classrooms would be closed off to students. Over the course of the following 3 summers the Career Tech Center would get renovated, the Gym and Cafeteria would be renovated and the Auditorium and World Language classrooms would be renovated.



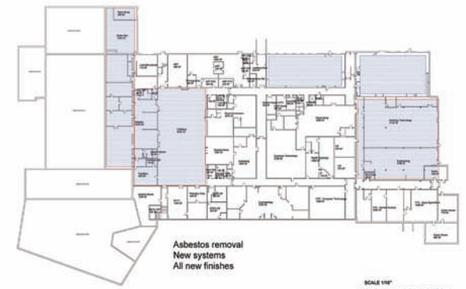


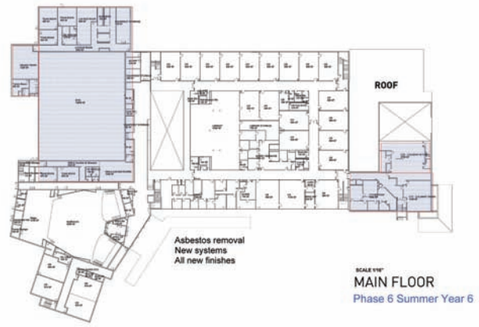
PHASE 3- YEAR 3

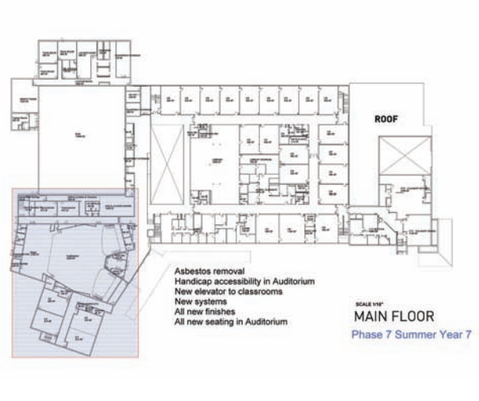




PHASE 4- YEAR 4







PHASE 5, 6 & 7- YEAR 5, 6 & 7 - SUMMERS

4.2 - Option 2B- Renovation of the Gymnasium and Auditorium with New Additions

This approach builds the school to the west of the existing high school. It preserves and renovates the Gymnasium and Auditorium, and the rest of the building is demolished once the new construction is completed. This approach creates small learning communities or small "houses" and integrates the CTE and the academic programs. There is generally good solar orientation for all of the classrooms. The existing small animal barn can be reused and there is easy access to it from the new facility. Access roads around the building, while not complete, will allow access for safety vehicles to all sides of the building.

A challenge for this option is that the new construction is directly adjacent to the existing building so that there will be some impact on the students. The renovations of the boiler plant, Gym, Auditorium and Small Animal barn total approximately 66,000 SF. These renovations would need to be done during the summers throughout the construction project and thus might lengthen the construction period beyond an all new construction option. The CM should determine ways to complete renovations during the allotted new construction period. The existing boilers located under the locker room were replaced in 2002 and can remain in this option. The Gymnasium is in very good physical condition and will require mostly systems upgrades. The small animal barn is also relatively new and does not need any major upgrades. For these reasons this option could provide a significant project cost savings.

This option is two stories high and provides a courtyard between the Academic wings for a protected outdoor classroom and performing arts area. A new parking lot, a new softball field and new tennis courts would need to be constructed where the existing building currently sits as a second phase to the construction project.

Renovation
66,000 sf
New Construction
239,000 SF

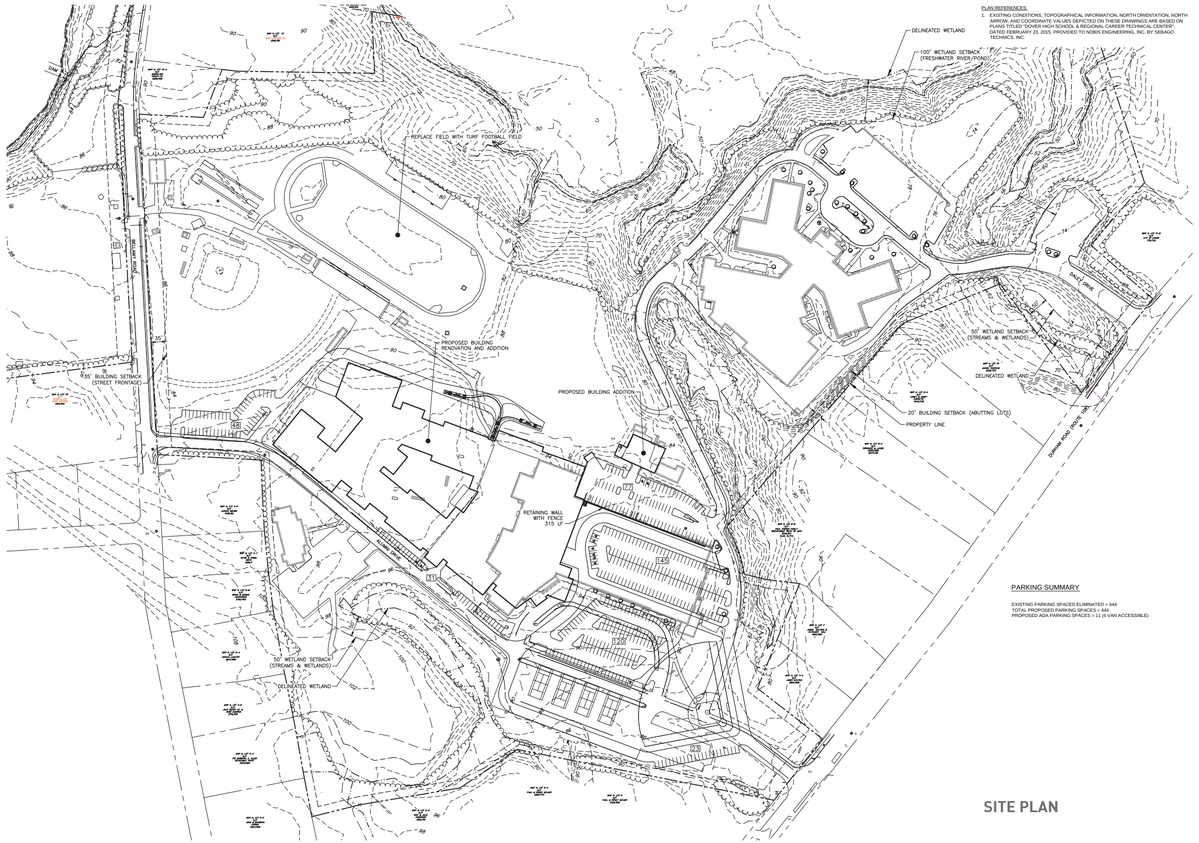
Estimated Schedule
Phase 1 - 24 Months
Phase 2 - 12 Months

Estimated Costs
Construction Cost:
$67,450,000

Soft Costs:
$16,731,050

Total Project Costs
$84,181,050

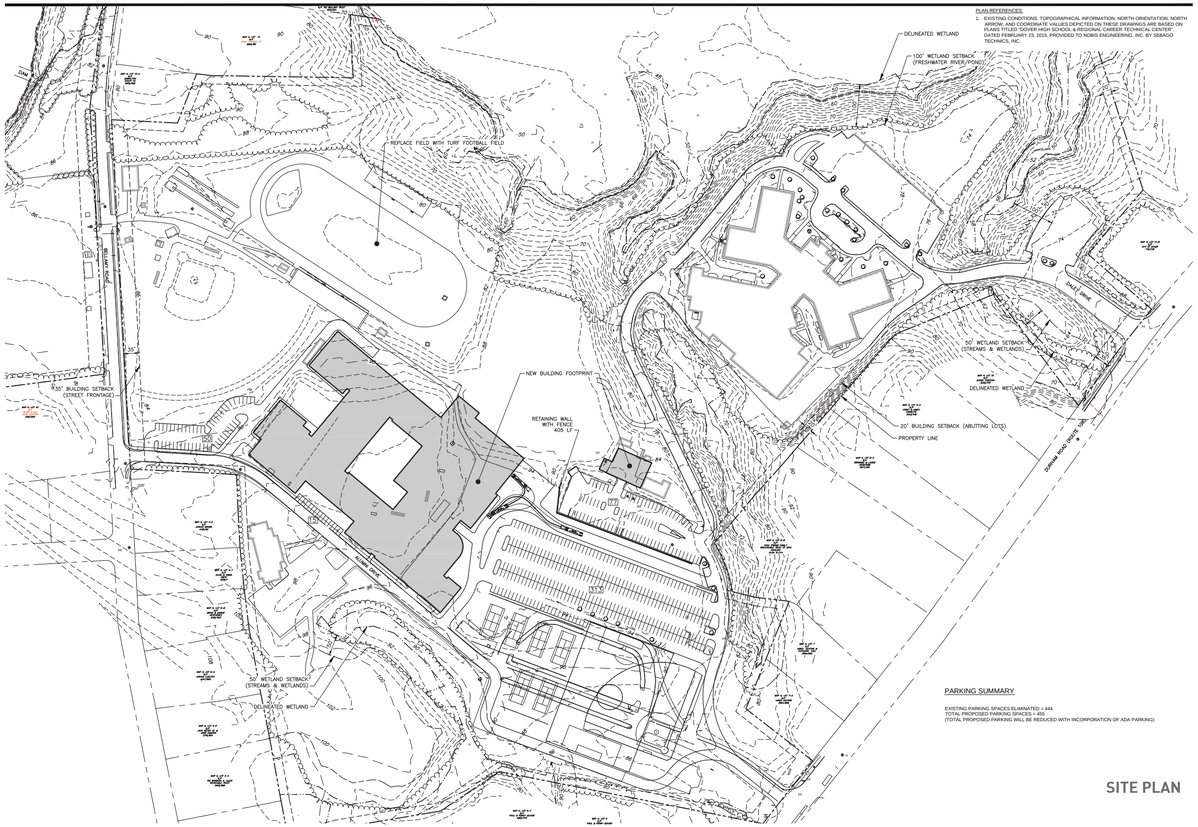
See 4.5 - PC Cost Estimates For all detail of cost estimate


PLAN REFERENCES:
1. EXISTING CONDITIONS, TOPOGRAPHICAL INFORMATION, NORTH ORIENTATION, NORTH ARROW, AND COORDINATE VALUES DEPICTED ON THESE DRAWINGS ARE BASED ON PLANS TITLED "DOVER HIGH SCHOOL & REGIONAL CAREER TECHNICAL CENTER", DATED FEBRUARY 23, 2015, PROVIDED TO NOBIS ENGINEERING, INC. BY SEBAGO TECHNICS, INC.
DELINEATED WETLAND
100' WETLAND SETBACK (FRESHWATER RIVER/POND)
REPLACE FIELD WITH TURF FOOTBALL FIELD
PROPOSED BUILDING RENOVATION AND ADDITION
PROPOSED BUILDING ADDITION
55' BUILDING SETBACK (STREET FRONTAGE)
50' WETLAND SETBACK (STREAMS & WETLANDS)
DELINEATED WETLAND
20' BUILDING SETBACK (ABUTTING LOTS)
PROPERTY LINE
RETAINING WALL WITH FENCE 315' LF
PARKING SUMMARY
EXISTING PARKING SPACES ELIMINATED = 444
TOTAL PROPOSED PARKING SPACES = 444
PROPOSED ADA PARKING SPACES = 11 (4 VAN ACCESSIBLE)

SITE PLAN


RENOVATED AREA
Administration
Community / Shared
Classroom
Special Education
Science
CTC Integrated
CTC Public
CTC Service
CTC Stand Alone
Mechanical
Storage
Support
Toilet Rooms
Circulation
Learning Commons
FIRST FLOOR PLAN
GROUND FLOOR PLAN

SECOND FLOOR



SITE PLAN

4.3 - Option 3A- New Construction

The new option is located adjacent to the existing building on the left hand side where there is currently teacher parking. The existing building would be demolished once the new building is completed. The new option has an exterior courtyard created by the academic wings for outdoor classroom space. Two legs of the courtyard are three stories tall which helps to minimize the overall footprint and foundations.

This option creates small learning communities or "houses" and integrates the CTE and the academic programs. There is generally good solar orientation. The existing barn can be reused and there is easy access to it. Access roads around the building, while not complete, will allow access for safety vehicles to all sides of the building. The new construction is adjacent to the existing building and thus there would be some impacts students but not as much as the renovation and additions option because there will be a buffer zone of approximately 25' separating the new construction from the existing building. A new parking lot, a new softball field and new tennis courts would need to be constructed where the existing building sits currently as a second phase to the construction project.

New Construction
305,000 SF

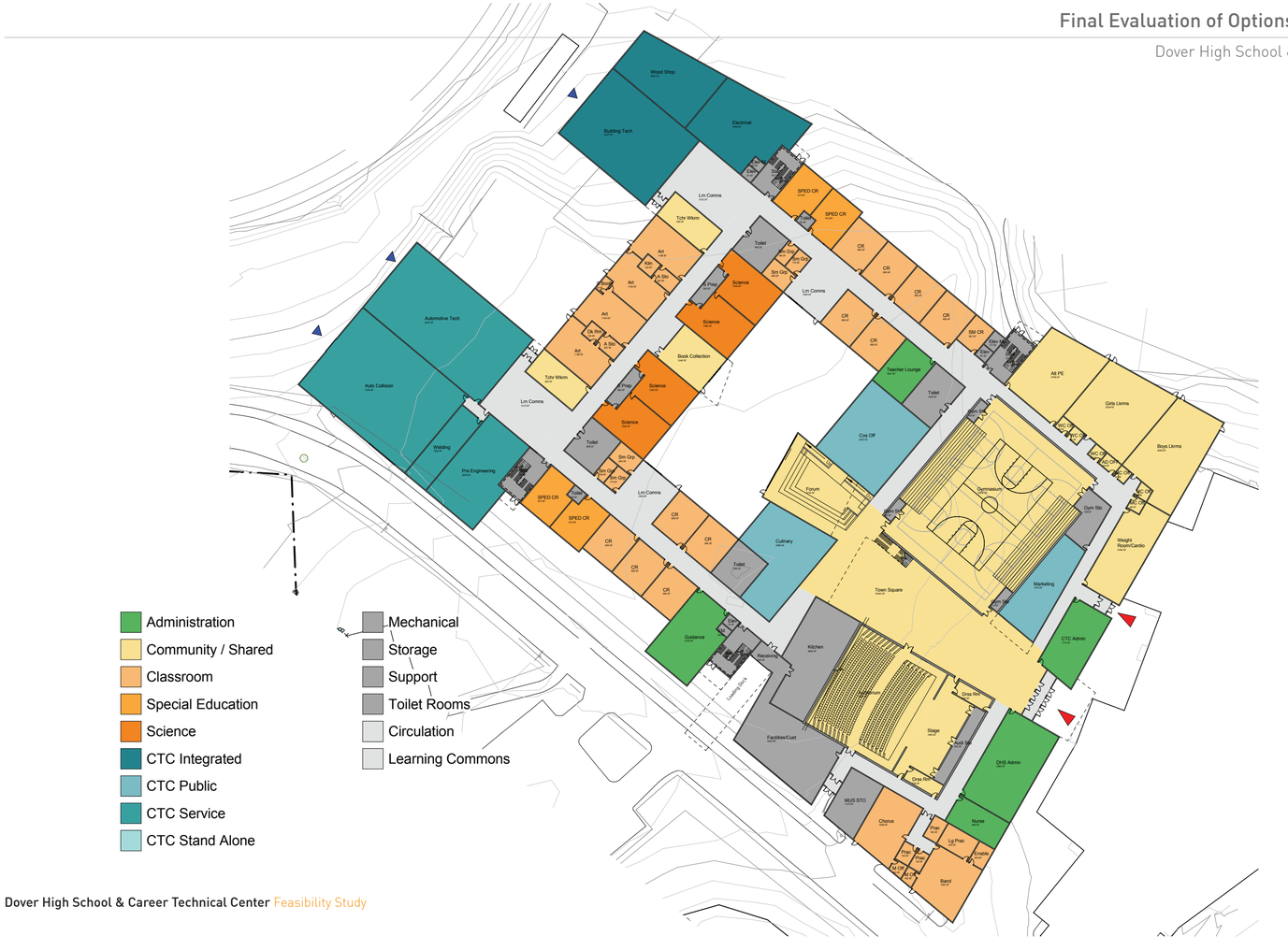
Estimated Schedule
Phase 1 - 24 Months
Phase 2 - 6 Months

Estimated Costs
Construction Cost:
$71,593,000

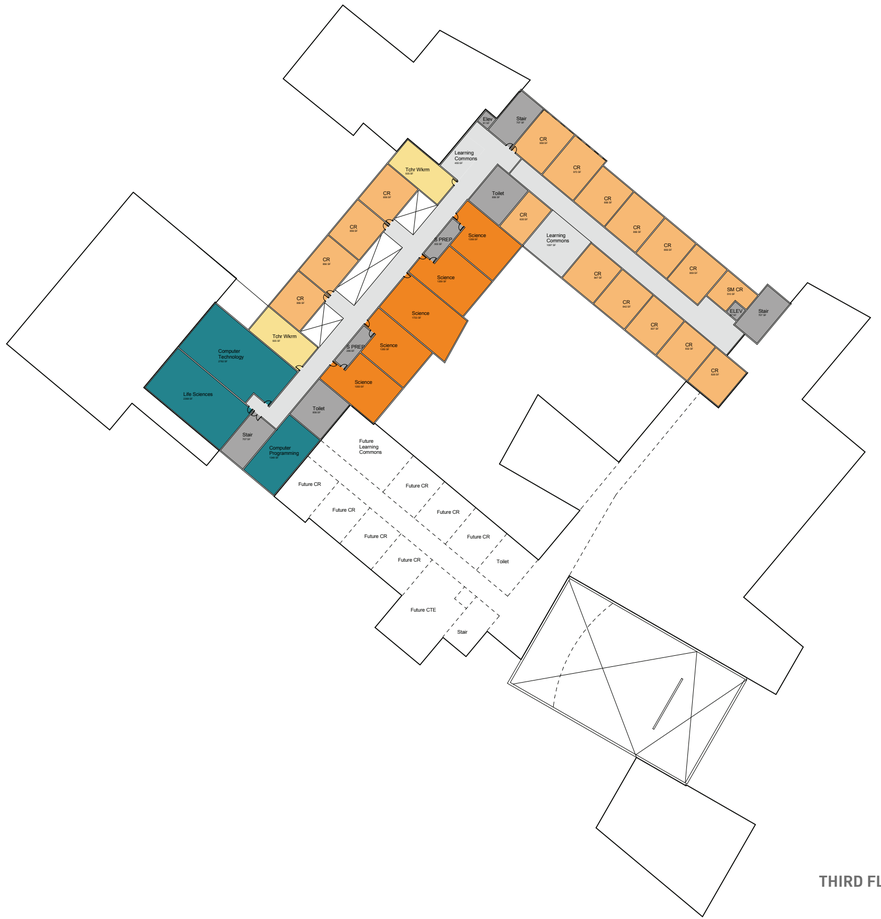
Soft Costs:
$15,594,105

Total Project Costs
$87,187,105

See 4.5 - PC Cost Estimates For all detail of cost estimate


Administration
Community / Shared
Classroom
Special Education
Science
CTC Integrated
CTC Public
CTC Service
CTC Stand Alone
Mechanical
Storage
Support
Toilet Rooms
Circulation
Learning Commons

SECOND FLOOR PLAN



THIRD FLOOR PLAN

4.4 - Final Conclusions & Assumptions for New Construction

An overall design goal has been to develop an efficient layout that minimizes the footprint of the building and maximizes the open space on the site to allow a majority of existing play fields and roadways to remain untouched. The efficient plan and the simple exterior façade of metal stud back up with brick veneer will provide Dover with a very cost effective facility to operate. Aluminum windows and curtain wall will make up 30% of the façade. The roof will be a white thermoplastic membrane roof.

The interior finishes will consist of GWB with tile wainscot for a majority of the corridor, stairs and town square walls, linoleum for corridors, lobbies and classroom floors and rubber floor stair coverings. Acoustical ceiling tile for all learning spaces with some exposed ceilings in common areas. The Gymnasium in the new option would have a wood floor and CMU walls. The Auditorium in any option would have a wood floor at the stage and exposed concrete floor at the seating with carpeted aisles. The walls will have wood panels and acoustical treatments and the ceiling will have reflective wood clouds.

The functional diagram of the building has the High School Main entrance in the location of the existing building along the East side of the facility and the CTC entrance along Alumni Drive. Spaces such as the Cafeteria, Gymnasium, Auditorium, Cosmetology, and Culinary Restaurant, Marketing and school store and kitchen are centrally located off of the Town Square. The Vocational Programs with large equipment have public access or require vehicular access and programs that serve the severely challenged special needs students of the high school are located on the first floor. All of the general classrooms and science labs are located on all floors of the building. In the center of each classroom wing are Learning Commons which are multipurpose project areas for students to do project based, collaborative learning. The Learning Commons will also have small quiet spaces for students to work in smaller groups or receive tutorial assistance. These commons will have teacher planning and offices which will provide supervision of students working outside of their classrooms. Classrooms surrounding collaborative spaces will have windows looking onto the commons to promote both casual supervision and an awareness of learning in all of its forms. These borrowed lights will have blinds so that the teacher can control visibility from the classrooms to the collaborative space. The Library/Book Collection will be centrally located between the houses.

Presently the High School has a small number of outdated computers in some of the classroom, and limited interactive white boards. Technology supports a balanced teaching approach that is both learner –centered and teacher-directed. The Learner-centered approach takes advantage of the technology's ability to support self-directed, collaborative and interactive learning. Teacher-directed instruction and core knowledge based

instruction are supported by technology by opening broad opportunities for teachers to customize instruction in order to engage and reach learners of different abilities and to engage learners with different learning styles. Technology is expanding the boundaries of the classrooms and creating worldwide learners. The proposed technology plan is designed to expand the classroom and support learning everywhere. The building will have a wireless network. Each classroom will have casework designed to accept a cart of laptops or tablets for charging. The goal is to have a cart of laptops or tablets shared between two classes of students. Separate Project Areas will have hard wired data outlets that can be set up as a computer lab stations when necessary for a class or for testing but will not have desk top computers permanently installed. These Project Areas will also have printers and Interactive White boards. Each teaching space within the building will have an interactive white board. Each teaching space will also have a ceiling mounted projector. Projectors will also be located in the Gymnasium, Auditorium, Town Square /cafeteria and all other potential teaching stations.

The High School and CTC will have two separate main entrances. Each entrance will have a secured vestibule which is visually monitored by the adjacent Main Office staff who will have the ability to first screen and then buzz visitors into the school facility. All other doors to the exterior of the school will be egress only and will be locked at all times. Security cameras at the main entrances and the loading dock will also allow staff to monitor the exterior of the building.

The new school will be designed to be a sustainable building. The site will have student and community gardens, minimized parking and will limit heat-island effect through the use of landscaping and roof material. Energy efficiency measures will be met by minimized air conditioning and the use of displacement ventilation to dehumidify the school. A wood chip plant and PV systems will be studied. Water reduction will be achieved through the use of low flow fixtures. Reuse of rainwater for irrigation system will be studied. Electricity usage will be minimized by use of natural light in 90% of classroom spaces and through the use of automatic daylight dimming systems in 100% of teaching spaces. High efficiency light fixtures will also be used. The indoor environmental air quality will be enhanced by the use of low-emitting materials, improved acoustic quality and providing access to views from all classrooms. Ductwork and all absorptive materials will be protected during construction to ensure no mold or contamination is established in the building. The facility will receive a full flush out after construction is complete and before occupancy. Whenever possible, materials will be selected with recycled content, manufactured from a regional source and use certified wood.

4.5 - PC Construction Cost Estimate - All Options

Dover High School
Schematic Estimate

OPTION 1 - Complete Renovation

ESTIMATE SUMMARY

Project #: 15027
Building GSF: 268,330

			Totals
Direct Cost	%	$	49,932,184
Material Sales Tax (N/A)	0.00%	$	-
Labor & Material Escalation (Years 3 through 6)	3.00%	$	6,266,929
Gross Cost		$	56,199,113
Building Permit - by Owner	0.00%	$	-
Builder's Risk insurance	0.07%	$	43,993
Liability Insurance	0.75%	$	483,135
Construction Manager's Contingency	10.00%	$	5,619,911
P & P Bond ($7.77 per $1,000)		$	500,528
Sub Total		$	62,846,680
CM Fee	2.50%	$	1,571,167
Total		$	64,418,000
Total Cost per square foot		$	240

June 23, 2015 | **PC Construction Company**

4.5 - PC Construction Cost Estimate - All Options

Dover High School Schematic Estimate

CONSTRUCTION

Job #: 15027
Project Size: 0 SF
Recap - With Taxes and Insurance

Estimator: KN, JS, JB, MT, MP
Group 1: School Options
Group 2: Uniformat 1

Item Code	Description	Quantity	UM	Total UnitCost	Total Cost
Option 1 - Full Rehabilitation					
A10	**FOUNDATIONS**				**1,725,883**
B10	**SUPERSTRUCTURE**				**846,199**
B20	**EXTERIOR CLOSURE**				**3,424,367**
B30	**ROOFING**				**361,327**
C10	**INTERIOR CONSTRUCTION**				**3,999,625**
C20	**STAIRCASES**				**123,729**
C30	**INTERIOR FINISHES**				**3,971,902**
D10	**CONVEYING SYSTEMS**				**199,423**
D20	**PLUMBING**				**2,359,536**
D30	**HVAC**				**8,870,778**
D40	**FIRE PROTECTION**				**970,299**
D50	**ELECTRICAL**				**7,157,151**
E10	**EQUIPMENT**				**509,818**
E20	**FURNISHINGS**				**211,477**
F10	**SPECIAL CONSTRUCTION**				**16,574**
F20	**SELECTIVE BUILDING DEMOLITION**				**2,123,957**
G10	**SITE PREPARATION**				**99,328**
G20	**SITE IMPROVEMENTS**				**788,722**
G30	**SITE UTILITIES**				**228,929**
Z10	**GENERAL**				**7,492,992**
Z20	**MAJOR CUSTOM PROGRAM ELEMEN**				**4,450,166**
*****	**Total Option 1 - Full Rehabilitation**				**49,932,184**
Total Gross Cost					**49,932,184**

Dover High School Schematic Estimate

CONSTRUCTION

Job #: 15027
Project Size: 0 SF
Detail - With Taxes and Insurance

Estimator: KN, JS, JB, MT, MP
Group 1: School Options
Group 2: Uniformat 1

Item Code	Description	Quantity	UM	Total UnitCost	Total Cost
Option 1 - Full Rehabilitation					
A10 - FOUNDATIONS					
A1010 - STANDARD FOUNDATIONS					
2210.205	Structure Excavation (AT, AC, BT)	900.00	CY	12.13	10,915
2210.205	Structure Excavation (Barn Addition)	300.00	CY	12.13	3,638
2220.335	BF Frost Wall w/ Crushed Stone (AT, AC, BT)	600.00	CY	42.51	25,506
2220.335	BF Frost Wall w/ Crushed Stone (Barn Addition)	180.00	CY	42.51	7,652
2220.340	BF Frost Wall w/ On Site Matl (AT, AC, BT)	300.00	CY	17.51	5,253
2220.340	BF Frost Wall w/ On Site Matl (Barn Addition)	180.00	CY	17.51	3,152
3300.010	8" x 16" Continuous Footing (Barn Addition)	294.00	LF	38.00	11,172
3300.012	1' x 2' Continuous Footing (AT, AC, BT)	852.00	LF	45.00	38,340
3300.020	1' x 3' Grade Beam	3,100.00	LF	52.00	161,200
3300.028	1' x 3' Grade Beam - At H Piles	2,578.00	LF	52.00	134,056
3300.040	8" x 5' Frost Wall (Barn Addition)	294.00	LF	124.00	36,456
3300.042	12" x 5' Frost Wall (AT, AC, BT)	852.00	LF	151.00	128,652
3300.152	18" x 4' Concrete Pier with 2' x 2' x 1' Footing (50' Dia Riding RIng)	14.00	EA	321.92	4,507
7110.100	Damproof Frost Wall (AT, AC, BT)	2,862.00	SF	1.50	4,293
7110.100	Damproof Frost Wall (Barn Addition)	1,323.00	SF	1.50	1,985
7200.105	Rigid Insulation - 2" Frost Wall (AT, AC, BT)	3,160.00	SF	2.08	6,585
7200.105	Rigid Insulation - 2" Frost Wall (Barn Addition)	1,323.00	SF	2.08	2,757
***** Total A1010 - STANDARD FOUNDATIONS**					**586,118**
A1020 - SPECIAL FOUNDATIONS					
2080.500	Temp Shoring of 1967 Wing Structure to replace pile caps & grade beams	10,800.00	SF	11.00	118,800
2490.105	HP10 Steel Piles - 30' Grid, 3 per location: 84 @ 30' Deep (AT,AC, BT)	2,520.00	LF	60.00	151,200
2490.110	Drilled Micro Piles - 30' Grid, 4 per location: 210 @ 30' Deep (1967 Wing)	1,440.00	LF	85.00	122,400
***** Total A1020 - SPECIAL FOUNDATIONS**					**392,400**
A1030 - LOWEST FLOOR CONSTRUCTION					
2220.332	Crushed Stone Under Slab - 8" (AT, AC, BT)	700.00	CY	42.51	29,757
2220.332	Crushed Stone Under Slab - 8" (Barn Addition)	200.00	CY	42.51	8,502
3250.451	15 Mil Stego Wrap Under Slab Vapor Barrier - Taped Seams	46,000.00	SF	0.71	32,793
3250.451	15 Mil Stego Wrap Under Slab Vapor Barrier - Taped Seams (AT, AC, BT)	22,650.00	SF	0.71	16,147
3250.451	15 Mil Stego Wrap Under Slab Vapor Barrier - Taped Seams (Barn Addition)	6,710.00	SF	0.71	4,784
3300.008	10" SOG - (AT, AC, BT)	21,574.00	SF	14.00	302,049
3300.008	10" SOG - (Drilled Micro Pile Areas)	10,800.00	SF	14.00	151,206
3300.008	5" SOG - (Barn Addition)	6,100.00	SF	8.71	53,133
3300.012	Alter Auditorium Floor for ADA compliance	15,500.00	SF	8.71	135,011
7200.108	Rigid Insulation - 2" Underslab (Barn Addition)	6,710.00	SF	2.08	13,982
***** Total A1030 - LOWEST FLOOR CONSTRU**					**747,366**
**** Total A10 - FOUNDATIONS**					**1,725,883**
B10 - SUPERSTRUCTURE					
B1010 - FLOOR CONSTRUCTION					
5010.000	Reinforce existing structural steel (1967 Wing, 10,800 SF/Flr totalling 32,400 SF) 4 lbs/sf	65.00	TON	8,000.00	520,000
7850.001	Spray Fireproofing - Structural Steel		SF	2.50	
7850.010	Spray Fireproofing - at new bracing only	1.00	LS	50,000.00	50,000
***** Total B1010 - FLOOR CONSTRUCTION**					**570,000**
B1020 - ROOF CONSTRUCTION					
5200.100	Steel Joists (2 lbs/ SF) (AT, AC, BT)	23.00	TON	1,800.00	41,400

Dover High School Schematic Estimate

CONSTRUCTION

Job #: 15027
Project Size: 0 SF
Detail - With Taxes and Insurance

Estimator: KN, JS, JB, MT, MP
Group 1: School Options
Group 2: Uniformat 1

Item Code	Description	Quantity	UM	Total UnitCost	Total Cost
5300.205	1-1/2"X20ga Galv Mtl Deck (AT, AC, BT)	23,731.00	SF	1.70	40,343
6000.500	Roof Trusses w/ sheathing (Barn Addition)	6,100.00	SF	8.00	48,800
6000.510	Pavilion Framing (50' Dia Riding Ring)	3,300.00	SF	18.38	60,657
7530.004	Entrance Canopy	1.00	EA	45,000.00	45,000
7530.004	Entrance Canopy - Premium	1.00	EA	40,000.00	40,000
*** Total B1020 - ROOF CONSTRUCTION					276,199
** Total B10 - SUPERSTRUCTURE					846,199
B20 - EXTERIOR CLOSURE					
B2010 - EXTERIOR WALLS					
4000.205	Brick Veneer (AT, AC, BT)	12,720.00	SF	24.00	305,280
4020.205	10" CMU Partitions - 20' Ht (AT, AC, BT)	17,040.00	SF	12.00	204,480
4020.460	Repair/Repoint existing masonry veneer (Locations unknown)	15,000.00	SF	18.00	270,000
6100.612	2x6 Partitions w/ 1/2" OSB Sheathing - 12' Ht (Barn Addition)	3,880.00	SF	4.60	17,836
6200.512	T&G Siding - Red Cedar (6" Exposure) (Barn Addition)	3,880.00	SF	8.00	31,036
7210.806	3" Spray Foam Insulation (R-21) (Existing Building)	46,000.00	SF	3.00	138,000
7210.809	3" Spray Foam Insulation (R-21) (AT,AC, BT)	12,720.00	SF	3.00	38,160
7260.120	Air Infiltration Barrier - Spray-On / Roll-On (AT, AC, BT)	12,720.00	SF	3.00	38,160
9280.031	3-5/8 LGS w/ abuse resistant GWB Back-up (AT, AC, BT)	13,992.00	SF	8.11	113,510
*** Total B2010 - EXTERIOR WALLS					1,156,462
B2020 - WINDOWS					
8800.800	Curtainwall	28,000.00	SF	75.00	2,100,000
8800.820	4x8 Storefront Windows (AT, AC, BT)	12.00	EA	1,760.00	21,120
8800.840	Barn Windows (Barn Addition)	10.00	EA	600.00	6,000
*** Total B2020 - WINDOWS					2,127,120
B2030 - EXTERIOR DOORS					
6200.300	Sliding Barn Door (Barn Addition)	3.00	EA	1,788.76	5,366
8010.010	3070 Exterior Door	16.00	EA	1,404.76	22,476
8010.010	3070 HM Door (Barn Additon)	8.00	EA	1,104.76	8,838
8010.010	3070 HM Door Frame (AT, AC, BT)	12.00	EA	1,104.76	13,257
8010.020	6070 Exterior Door	13.00	EA	2,065.16	26,847
8300.100	Overhead Door (AT, AC, BT)	6.00	EA	8,000.00	48,000
8300.100	Overhead Door (Loading Dock & Woodshop)	2.00	EA	8,000.00	16,000
*** Total B2030 - EXTERIOR DOORS					140,785
** Total B20 - EXTERIOR CLOSURE					3,424,367
B30 - ROOFING					
B3010 - ROOF COVERINGS					
7200.015	12" Batt Insulation (R38) (Barn Addition)	8,020.00	SF	1.15	9,217
7310.015	Asphalt Single Roof (50' Dia Riding Ring)	3,300.00	SF	5.79	19,119
7310.015	Asphalt Single Roof (Barn Addition)	8,020.00	SF	5.79	46,465
7530.026	Thermoplastic Membrane Roof		SF	10.00	
7530.026	Thermoplastic Membrane Roof (AT, AC, BT)	21,574.00	SF	0.50	10,787
7530.026	Thermoplastic Membrane Roof (AT, AC, BT)	21,574.00	SF	10.00	215,740
7530.028	Roof Canopy	1.00	LS	60,000.00	60,000
*** Total B3010 - ROOF COVERINGS					361,327
** Total B30 - ROOFING					361,327
C10 - INTERIOR CONSTRUCTION					
C1010 - PARTITIONS					
6010.000	In Wall Blocking	1.00	LS	50,000.00	50,000
6010.000	In Wall Blocking	1.00	LS	24,437.84	24,438
8800.000	Glazed Partitions	2,200.00	SF	60.00	132,000

Dover High School Schematic Estimate

CONSTRUCTION

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Item Code	Description	Quantity	UM	Total UnitCost	Total Cost
9270.001	Tape Gypsum Walls - Level 4 (String coat, 2 finish coats, sanding)	326,145.00	SF	0.75	244,609
9280.030	Classroom Fit Up (AT,AC,BT) 3 - 20'x20' classrooms	1,200.00	SF	30.00	36,000
9280.030	Classroom Fit Up (Barn Addition) 2 - Classrooms	450.00	SF	30.00	13,500
9285.005	LGS Partitions (50% of existing building)	59,000.00	SF	8.61	508,055
9285.013	LGS Furred Partition - Interior	9,500.00	SF	5.09	48,391
9285.023	Fire Stopping	1.00	LS	18,000.00	18,000
9285.023	Fire Stopping	1.00	LS	48,000.00	48,000
9288.039	Misc Drywall Work	1.00	LS	35,000.00	35,000
9288.039	Misc Drywall Work	1.00	LS	9,000.00	9,000
*** Total C1010 - PARTITIONS					1,166,993
C1020 - INTERIOR DOORS					
8012.010	3070 Interior Door	379.00	EA	1,204.76	456,604
8012.020	6070 Interior Door	64.00	EA	1,765.16	112,970
8014.000	Corridor Lock Down Hardware	1.00	LS	50,000.00	50,000
8014.020	Interior Borrowed Lites	45.00	EA	609.52	27,428
9900.205	Misc Painting - Door Frames, Misc Metals	1.00	LS	10,000.00	10,000
9900.205	Misc Painting - Door Frames, Misc Metals	1.00	LS	40,000.00	40,000
*** Total C1020 - INTERIOR DOORS					697,003
C1030 - SPECIALTIES / MILLWORK					
6400.000	6'-0" Laminated Maple Bench	20.00	EA	992.58	19,852
6400.004	Base Cabinets (Classrooms)	760.00	LF	266.10	202,239
6400.052	Full Height Cabinets (Classrooms)	335.00	LF	306.10	102,545
6400.052	Wall Cabinets (Classrooms)	559.00	LF	191.10	106,827
6400.054	Full Height Cabinets (Mail Room)	24.00	LF	306.10	7,346
6400.102	Restroom Wood Apron at Solid Surface	132.00	LF	159.92	21,109
6400.300	Solid Surface Restroom Counter w/ integral sink	132.00	LF	221.90	29,291
6400.308	Countertops-Solid Surface (Classrooms)	760.00	LF	191.10	145,239
6400.308	Wall Mount Solid Surface Counter (Mail/Work Room)	71.00	LF	216.10	15,343
6400.315	Countertops - Epoxy Resin	468.00	LF	161.64	75,646
6400.348	Solid Surface Window Sill and Apron (New Const Only)	1,785.00	LF	64.26	114,700
6401.052	Wall Cabinets - Solid Surface (Science Labs)	351.00	LF	161.65	56,738
6401.054	Full Height Cabinets - Solid Surface (Science Labs)	351.00	LF	255.73	89,760
6405.006	Wood Cubbies - Mail Room	24.00	LF	251.10	6,026
6405.008	Casework Allowance (Misc)	1.00	LS	231,000.00	231,000
6405.010	Closet Shelving	1.00	LS	10,000.00	10,000
6408.000	*** DESK MILLWORK***				
6408.080	Admin/Guidance Front Desk	31.00	LF	441.10	13,674
6408.100	Library Desk	78.00	LF	491.10	38,306
6510.919	FRP Panels 10' ht - Kitchen	3,518.00	SF	7.14	25,133
6510.919	FRP Panels 8' ht - at Janitorial sinks only	1,510.22	SF	7.14	10,789
6510.921	FRP Panels - Art Rooms	80.00	SF	7.14	572
10180.102	Toilet Partitions W/ Door - Phenolic	34.00	EA	430.52	14,638
10180.103	Urinal Screen - Phenolic	8.00	EA	305.52	2,444
10180.204	Shower Door	18.00	EA	277.76	5,000
10180.206	Locker Room Bench	80.00	LF	80.28	6,422
10191.100	Privacy Curtain: Track W/Supports (No Curtain) - Nurse	64.00	LF	22.50	1,440
10195.101	Display & Trophy Case Allowance	1.00	LS	40,000.00	40,000
10410.150	Sigange	1.00	LS	10,000.00	10,000
10410.150	Sigange	1.00	LS	78,000.00	78,000

4.5 - PC Construction Cost Estimate - All Options

Dover High School Schematic Estimate

CONSTRUCTION

Job #: 15027
Project Size: 0 SF
Detail - With Taxes and Insurance

Estimator: KN, JS, JB, MT, MP
Group 1: School Options
Group 2: Uniformat 1

Item Code	Description	Quantity	UM	Total UnitCost	Total Cost
10500.002	Staff Lockers - Single Tier (3' X 15" X 15") - Kitchen	15.00	EA	227.76	3,416
10500.002	Staff Lockers - Single Tier (3' X 15" X 15") - Staff	100.00	EA	227.76	22,776
10500.004	Lockers - Double Tier (6' X 18" X 18") - Student	1,500.00	EA	317.76	476,640
10500.006	Lockers - Double Tier - Locker Rooms (100 per Room)	200.00	EA	317.76	63,552
10500.006	Lockers - Double Tier - Student Athletic	50.00	EA	317.76	15,888
10520.000	Fire Extinguishers	80.00	EA	125.46	10,037
10520.050	Fire Ext Cabinets	80.00	EA	302.76	24,221
10649.102	Operable Wall Partition (57' L x 28' HT)		SF	99.95	
10800.106	Grab Bar	30.00	EA	101.38	3,041
10800.151	Surface Mtd Double Roll Tph	30.00	EA	197.38	5,921
10800.174	Surface Mounted SND	16.00	EA	377.38	6,038
10800.202	Surf Mtd Waste Receptacle	18.00	EA	282.38	5,083
10800.400	Liquid Soap Dispenser	18.00	EA	177.38	3,193
10800.602	Folding Shower Seat	18.00	EA	301.38	5,425
10800.610	Electric Hand Dryer	16.00	EA	301.38	4,822
10810.100	30"x30" Framed Mirror	26.00	EA	211.38	5,496
***** Total C1030 - SPECIALTIES / MILLWORK**					**2,135,630**
**** Total C10 - INTERIOR CONSTRUCTION**					**3,999,625**
C20 - STAIRCASES					
C2010 - STAIR CONSTRUCTION					
5520.050	Hand Rail - Standard Metal Picket	650.00	LF	119.42	77,624
5520.072	Steel Wallrail - Primed	650.00	LF	70.93	46,105
***** Total C2010 - STAIR CONSTRUCTION**					**123,729**
**** Total C20 - STAIRCASES**					**123,729**
C30 - INTERIOR FINISHES					
C3010 - WALL FINISHES					
6200.040	Wood Wall Finish - Auditorium	11,520.00	SF	25.00	288,000
9300.200	Tile Wainscot - 4' AFF (Corridors)	15,000.00	SF	10.00	150,000
9300.202	Tile Wainscot - 4' AFF (Town Square)	2,700.00	SF	10.00	27,000
9300.204	Tile Wainscot - 4' AFF (Toilet Rooms)	4,100.00	SF	10.00	41,000
9300.204	Tile Wainscot - Premium for 5' AFF everywhere including stairwells	5,450.00	SF	10.00	54,500
9900.100	Paint Interior Walls (AT, AC, BT)	21,360.00	SF	0.82	17,515
9900.100	Paint Interior Walls (Barn Addition)	3,528.00	SF	0.82	2,893
9900.100	Paint Walls	345,330.00	SF	0.85	293,531
***** Total C3010 - WALL FINISHES**					**874,439**
C3020 - FLOOR FINISHES					
9300.105	Tile Base	871.00	LF	10.00	8,710
9330.000	Quarry Tile Floors - Culinary	3,315.00	SF	15.00	49,725
9330.000	Quarry Tile Floors - Kitchen	4,527.00	SF	15.00	67,905
9330.005	Quarry Tile Base	760.00	LF	12.00	9,120
9400.005	Mosaic Tile - Bath, Locker Rooms	5,175.00	SF	12.00	62,100
9550.100	Wood Floor - Gym	13,710.00	SF	18.00	246,780
9550.120	Wood Floor - Stage	2,620.00	SF	16.00	41,920
9650.010	Linoleum	163,752.00	SF	6.00	982,512
9650.025	Rubber Base	35,167.00	LF	1.85	65,059
9650.032	Replace Stone Treads (40% of existing)	2,328.00	SF	40.00	93,120
9680.000	Carpet - Auditorium	1,722.00	SY	45.00	77,490
9690.000	Carpet Tile	1,100.00	SY	35.00	38,500
9760.011	Rubber Sports Flooring	4,158.00	SF	12.45	51,756
9760.126	Moisture Mitigation		SF	8.00	
9900.400	Sealed Concrete	31,306.00	SF	1.50	46,959
9900.400	Sealed Concrete (AT, AC, BT)	21,574.00	SF	1.50	32,361
9900.400	Sealed Concrete (Barn Addition)	6,100.00	SF	1.50	9,150
9900.506	Paint Gym Floor Logo	1.00	LS	3,000.00	3,000
12671.103	Walk-Off Foot Grilles (Alum Grid W/ Frame & Pan)	400.00	SF	72.08	28,831
***** Total C3020 - FLOOR FINISHES**					**1,914,998**
C3030 - CEILING FINISHES					
9285.037	Gypsum Ceiling: Suspended drywall grid 5/8" type X GWB (1 layer), taped (lvl 4)	16,056.00	SF	5.31	85,211
9285.039	Misc Drywall Soffits	1.00	LS	95,000.00	95,000
9285.039	Misc Drywall Soffits	1.00	LS	35,000.00	35,000
9500.100	ACT - Auditorium		SF	5.00	
9500.102	ACT	162,350.00	SF	4.00	649,400
9500.104	ACT(Cleanable) - Kitchen	7,215.00	SF	8.00	57,720
9500.200	24x24x5/8 Lay-In (AT, AC, BT)	1,200.00	SF	3.00	3,600
9500.200	24x24x5/8 Lay-In (Barn Addition)	450.00	SF	3.00	1,350
9500.390	Acoustical Wood Clouds - Auditorium	1.00	LS	40,000.00	40,000
9500.612	Tectum Ceilng Panels - 2"	6,870.00	SF	8.00	54,960
9900.110	Paint Ceilings	9,520.00	SF	0.85	8,092
9900.120	Paint Exposed Ceiling Structure	53,550.00	SF	1.75	93,713
9900.625	Paint exposed ceiling - Gym	13,710.00	SF	2.00	27,420
9900.628	Paint exposed ceiling - Auditorium	15,500.00	SF	2.00	31,000
***** Total C3030 - CEILING FINISHES**					**1,182,465**
**** Total C30 - INTERIOR FINISHES**					**3,971,902**
D10 - CONVEYING SYSTEMS					
D1010 - ELEVATOR					
3300.008	12" Base Slab	128.00	SF	14.42	1,846
3300.025	12" x 5' Foundation Wall	72.00	LF	128.35	9,241
5530.122	Elevator Pit Misc Metals	2.00	EA	1,813.09	3,626
9400.000	Drywall Partition	2,640.00	SF	9.36	24,710
14200.115	Hydraulic Passenger Elevator (1 Ea)	4.00	STOP	40,000.00	160,000
***** Total D1010 - ELEVATOR**					**199,423**
**** Total D10 - CONVEYING SYSTEMS**					**199,423**
D20 - PLUMBING					
D20 - PLUMBING					
15400.000	Domestic Water - Temporary Service - Modulars	1.00	LS	5,000.00	5,000
15400.001	Natural Gas - Temporary Service - Modulars	1.00	LS	3,500.00	3,500
15401.320	Domestic Water Heater, Residential Gas-Fired (NG/P) Atmospheric, Foam Lined Tank, Vent Not Included, 100 Gal.	2.00	EA	1,863.51	3,727
15401.338	Domestic Water Heater, Commercial Gas-Fired (NG/P) Atmospheric, Std. Controls, Vent Not Included, 250 MBH Input, 245 GPH	2.00	EA	20,205.11	40,410
15401.554	Potable Water Storage Tank, Indoor, Glass-Lined PE, 605 Gal., 48" OD, 87" Long	1.00	EA	14,272.02	14,272
15401.556	Round, Stainless Steel, 26 ga., 8" OD - Water Heater Vent	160.00	LF	28.50	4,560
15410.208	Comm. Water Closet, Floor Mounted VC, Flush Valve, Bowl only, incl. Seat, w/Floor Outlet 1.28 gpf ADA	37.00	EA	760.73	28,147
15410.210	Rough-In, Supply, Waste and Vent for Comm. Floor Mounted WC	37.00	EA	697.37	25,803
15410.404	Urinal, Wall Hung VC w/ Hanger and Valve, Water Saving 0.5 gpf	6.00	EA	857.02	5,142
15410.406	Rough-In, Supply, Waste and Vent for Wall Hung Urinal	6.00	EA	858.39	5,150

4.5 - PC Construction Cost Estimate - All Options

Dover High School Schematic Estimate

CONSTRUCTION

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Project Size: 0 SF
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Item Code	Description	Quantity	UM	Total UnitCost	Total Cost
15410.640	Rough-In, Supply, Waste and Vent for Res. Vanity Top Lavatories	44.00	EA	769.85	33,873
15410.640	Rough-In, Supply, Waste and Vent for Salon Lavatories (no fixture)	10.00	EA	769.85	7,699
15410.698	Sink w/Faucet and Drain, SS Self Rimming, 43"x22" Double Bowl	14.00	EA	1,295.00	18,130
15410.702	Rough-In, Supply, Waste and Vent for Sinks	14.00	EA	841.37	11,779
15410.826	Laboratory Sink, Corrosion Resistant, 12"x12"x8" Sink, 14.5"x14.5" OD	38.00	EA	482.03	18,317
15410.832	Rough-In, Supply, Waste and Vent for Laboratory Sinks	38.00	EA	623.02	23,675
15410.834	Laboratory Faucet, Gooseneck Spout, Wrist Handles	38.00	EA	238.01	9,044
15410.840	Service Sink, Floor (Corner), PE, 28"x28" w/Rim Guard	10.00	EA	1,242.96	12,430
15410.844	Rough-In, Supply, Waste and Vent for Floor Service Sink	10.00	EA	1,972.62	19,726
15411.101	Hose Bibb, Exterior Freeze-Proof, Lockable	20.00	EA	106.10	2,122
15411.314	Stall Shower, One-Piece Fiberglass w/Three Walls, Drain Only, 32" Square	18.00	EA	653.38	11,761
15411.326	Thermostatic Valve for Shower	18.00	EA	585.00	10,530
15411.328	Rough-In, Supply, Waste and Vent for Shower	18.00	EA	938.10	16,886
15411.901	Emergency Shower, Single Head, Drench, Ball Valve, Pull Style, Freestanding, No Rough-In	8.00	EA	584.03	4,672
15411.908	Emergency Eyewash Fountain, SS Bowl, Pedestal Mount, No Rough-In	8.00	EA	544.03	4,352
15412.222	Electric Water Cooler, Wall Mounted, Full Recessed, SS, Bi-Level	10.00	EA	1,883.15	18,832
15412.236	Rough-In, Supply, Waste and Vent for Electric Water Cooler	10.00	EA	564.12	5,641
15412.434	Floor Drain, Heavy Ducty, Galvanized w/Sediment Bucket, 12" OD Grate, 2"-6" Pipe Size	23.00	EA	1,135.69	26,121
15412.730	Roof Drain, Integral Expansion Joint, Galvanized, 12" Dome, 4" Pipe Size	70.00	EA	1,081.02	75,671
15412.730	Roof Drain, Integral Expansion Joint, Galvanized, 12" Dome, 4" Pipe Size - Emergency	70.00	EA	1,081.02	75,671
15414.126	Water Meter, Bronze, Comm./Dom., Flanged, 4" OD, 320 GPM	2.00	EA	5,394.09	10,788
15420.106	Copper Type L, Solder Joint W/Couplings And Hangers 10ft OC, 3/4" OD	13,100.00	LF	10.93	143,127
15420.108	Copper Type L, Solder Joint W/Couplings And Hangers 10ft OC, 1" OD	8,750.00	LF	14.34	125,479
15420.114	Copper Type L, Solder Joint W/Couplings And Hangers 10ft OC, 2" OD	3,900.00	LF	32.45	126,555
15420.118	Copper Type L, Solder Joint W/Couplings And Hangers 10ft OC, 3" OD	1,200.00	LF	77.68	93,213
15420.122	Copper Type L, Solder Joint W/Couplings And Hangers 10ft OC, 4" OD	400.00	LF	127.33	50,932
15421.104	Fiberglass 1" Insulation With All Service Jacket 3/4" Pipe	13,100.00	LF	4.12	53,977
15421.106	Fiberglass 1" Insulation With All Service Jacket 1" Pipe	8,750.00	LF	4.33	37,848
15421.204	Fiberglass 1-1/2" Insulation With All Service Jacket 2" Pipe	3,900.00	LF	6.06	23,636
15421.208	Fiberglass 1-1/2" Insulation With All Service Jacket 3" Pipe	1,200.00	LF	6.79	8,149
15421.212	Fiberglass 1-1/2" Insulation With All Service Jacket 4" Pipe	400.00	LF	8.04	3,216
15421.500	Valves and Accessories	1.00	LS	25,000.00	25,000
15421.500	Valves and Accessories	1.00	LS	150,000.00	150,000
15440.028	UG Hub & Spigot, CI, No Hangers, 6" Pipe	250.00	LF	53.47	13,368
15440.052	Casty Iron SW&V, Hangers 5' OC, 1-1/2" Pipe	5,750.00	LF	18.61	107,019
15440.054	Casty Iron SW&V, Hangers 5' OC, 2" Pipe	3,000.00	LF	22.45	67,350
15440.058	Casty Iron SW&V, Hangers 5' OC, 4" Pipe	1,650.00	LF	31.69	52,290
15440.382	Corrosion Resistant Pipe, Sch. 40 Polypropylene, No Coupling/Hangers, 2" OD - GW	2,500.00	LF	25.61	64,024
15440.386	Corrosion Resistant Pipe, Sch. 40 Polypropylene, No Coupling/Hangers, 4" OD - GW	1,300.00	LF	46.16	60,006
15440.500	Limestone Chip Acid Neutralizer - 200 Gallon	2.00	EA	17,500.00	35,000
15450.410	Sch40 PVC W/Couplings and Hangers, 10ft OC, 4" OD	500.00	LF	25.34	12,668
15450.412	Sch40 PVC W/Couplings and Hangers, 10ft OC, 6" OD	500.00	LF	38.16	19,081
15460.100	Black Steel, Schedule 40, Threaded W/Couplings And Hangers, 10ft OC, 2" OD - NG	5,600.00	LF	21.70	121,529
15460.102	Black Steel, Schedule 40, Threaded W/Couplings And Hangers, 10ft OC, 1-1/4" OD - NG	5,600.00	LF	14.93	83,615
15460.200	Valves and Accessories	1.00	LS	10,000.00	10,000
15460.200	Valves and Accessories	1.00	LS	50,000.00	50,000
15470.100	Air Compressor, Reciprocating, Air-Cooled, Tank Mounted, Two Stage, 3 Phase, 105 CFM @ 125 PSI, 25 HP, 250 Gal. Tank	1.00	EA	14,100.00	14,100
15470.100	Copper Type L, Solder Joint W/Couplings And Hangers 10ft OC, 3/4" OD - CA	1,000.00	LF	10.93	10,926
15470.102	Copper Type L, Solder Joint W/Couplings And Hangers 10ft OC, 1" OD	500.00	LF	14.34	7,170
15470.212	Compressed Air Outlet, Recessed Wall, Single	50.00	EA	126.51	6,325
15495.004	Commissioning Support	1.00	LS	7,000.00	7,000
15495.004	Commissioning Support	1.00	LS	60,000.00	60,000
15495.006	Coordination & Management	1.00	LS	10,000.00	10,000
15495.006	Coordination & Management	1.00	LS	75,000.00	75,000
15495.008	Coring & Patching & Firestopping	1.00	LS	2,500.00	2,500
15495.008	Coring & Patching & Firestopping	1.00	LS	25,000.00	25,000
15495.010	Flushing & Sanitizing	1.00	LS	2,000.00	2,000
15495.010	Flushing & Sanitizing	1.00	LS	20,000.00	20,000
15495.018	Fees & Permits	1.00	LS	4,000.00	4,000
15495.018	Fees & Permits	1.00	LS	25,000.00	25,000
***** Total D20 - PLUMBING**					**2,359,536**
**** Total D20 - PLUMBING**					**2,359,536**
D30 - HVAC					
D30 - HVAC					
15620.000	Custom, 20" High, Insulated Roof Curb	37.00	EA	1,200.00	44,400
15620.206	AHU-21, 22, Indoor, Central Station AHU, HC, CC, Filters, Mixing, Single Zone, CV, 6500 CFM	2.00	EA	1,034.00	2,068
15620.323	Outdoor, MAU, Indirect Gas-Fired (NG), Gravity Vent, SS Exchanger, 70degF Rise, 550 MBH Input	3.00	EA	18,107.34	54,322
15620.421	RTU 1-20, Stnd Controls, Curb, Econ., Multi-Zone, Gas Heat, 12 Ton Dx Cooling, 180 MBH Heating, Heat Wheel, 4000 CFM	20.00	EA	3,061.13	61,223

4.5 - PC Construction Cost Estimate - All Options

Dover High School Schematic Estimate

CONSTRUCTION

Job #: 15027
Project Size: 0 SF
Detail - With Taxes and Insurance

Estimator: KN, JS, JB, MT, MP
Group 1: School Options
Group 2: Uniformat 1

Item Code	Description	Quantity	UM	Total UnitCost	Total Cost	
15620.422	RTU 23, Stnd Controls, Curb, Econ., Multi-Zone, Gas Heat, 7.5 Ton Dx Cooling, 130 MBH Heating, 2500 CFM	1.00	EA	3,061.13	3,061	
15620.423	RTU 24, Stnd Controls, Curb, Econ., Multi-Zone, Gas Heat, 6.5 Ton Dx Cooling, 120 MBH Heating, 2000 CFM	1.00	EA	3,061.13	3,061	
15620.423	RTU 34, Stnd Controls, Curb, Econ., Multi-Zone, Gas Heat, 200 MBH Heating, Heat Wheel, 3500 CFM	1.00	EA	31,061.13	31,061	
15620.424	RTU 25, 26, Stnd Controls, Curb, Econ., Multi-Zone, Gas Heat, 10 Ton Dx Cooling, 200 MBH Heating, 3200 CFM	2.00	EA	3,061.13	6,122	
15620.424	RTU 35, Stnd Controls, Curb, Econ., Multi-Zone, Gas Heat, 400 MBH Heating, Heat Wheel, 8000 CFM	1.00	EA	67,061.13	67,061	
15620.425	RTU 27, Stnd Controls, Curb, Econ., Multi-Zone, Gas Heat, 35 Ton Dx Cooling, 480 MBH Heating, 10000 CFM	1.00	EA	3,061.13	3,061	
15620.425	RTU 36, Stnd Controls, Curb, Econ., Multi-Zone, Gas Heat, 300 MBH Heating, Heat Wheel, 6000 CFM	1.00	EA	51,061.13	51,061	
15620.426	RTU 28, Stnd Controls, Curb, Econ., Multi-Zone, Gas Heat, 10 Ton Dx Cooling, 180 MBH Heating, 4000 CFM	1.00	EA	3,061.13	3,061	
15620.426	RTU 37, Stnd Controls, Curb, Econ., Multi-Zone, Gas Heat, 300 MBH Heating, Heat Wheel, 6200 CFM	1.00	EA	52,661.13	52,661	
15620.427	RTU 29, Stnd Controls, Curb, Econ., Multi-Zone, Gas Heat, 15 Ton Dx Cooling, 200 MBH Heating, 3500 CFM	1.00	EA	3,061.13	3,061	
15620.428	RTU 30, Stnd Controls, Curb, Econ., Multi-Zone, Gas Heat, 32 Ton Dx Cooling, 450 MBH Heating, 10500 CFM	1.00	EA	3,061.13	3,061	
15620.429	RTU 31, Stnd Controls, Curb, Econ., Multi-Zone, Gas Heat, 10 Ton Dx Cooling, 150 MBH Heating, 2500 CFM	1.00	EA	3,061.13	3,061	
15620.430	RTU 32, Stnd Controls, Curb, Econ., Multi-Zone, Gas Heat, 300 MBH Heating, Heat Wheel, 6000 CFM	1.00	EA	51,061.13	51,061	
15620.431	RTU 33, Stnd Controls, Curb, Econ., Multi-Zone, Gas Heat, 300 MBH Heating, Heat Wheel, 6000 CFM	1.00	EA	51,061.13	51,061	
15620.500	Daikin Rebel / Maverick II RTU's - VFD's, Extended Warranties	1.00	LS	1,090,000.00	1,090,000	
15624.003	Split System, Ductless, Cooling Only, Wall Mount, Single Zone, 1-1/2 Ton	8.00	EA	6,040.07	48,321	
15630.220	Single Bathroom Exhaust Fan, 100 CFM	10.00	EA	406.01	4,060	
15630.226	Bathroom Exhaust Fan, 1000 CFM	6.00	EA	1,683.76	10,103	
15630.226	Exhaust Fan, 1500 CFM	2.00	EA	2,183.76	4,368	
15630.416	Kitchen Exhaust Fan, Centrifugal, 4000 CFM	2.00	EA	4,226.70	8,453	
15640.114	Hot Water Condensing Boiler, Packaged w/Controls/Circulator/Trim, NG, 3000 MBH Output	4.00	EA	62,995.14	251,981	
15640.114	Hot Water Condensing Boiler, Packaged w/Controls/Circulator/Trim, NG, 330 MBH Output	6.00	EA	10,270.14	61,621	
15640.200	Salvage Existing Boilers	1.00	LS	-25,000.00	-25,000	
15650.002	Glycol Treatment System	1.00	LS	10,000.00	10,000	
15651.005	Chiller, Air Cooled, High Efficiency, 100 Ton	1.00	EA	70,660.58	70,661	
15660.000	Fume Hood, Fan, Ductwork	2.00	EA	5,500.00	11,000	

Dover High School Schematic Estimate

CONSTRUCTION

Job #: 15027
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Detail - With Taxes and Insurance

Estimator: KN, JS, JB, MT, MP
Group 1: School Options
Group 2: Uniformat 1

Item Code	Description	Quantity	UM	Total UnitCost	Total Cost	
15660.002	Vehicle Exhaust System, 2000 CFM	1.00	LS	15,000.00	15,000	
15660.004	Vehicle Exhaust System, 5000 CFM	1.00	LS	25,000.00	25,000	
15660.006	Paint Booth Exhaust System, 12000 CFM	1.00	LS	25,000.00	25,000	
15660.008	Dust Collection System, 4000 CFM	1.00	LS	65,000.00	65,000	
15660.010	Duct Collection System, 6000 CFM	1.00	LS	87,000.00	87,000	
15660.202	Chilled Water Pump, Centrifugal, Base Mounted, End Suction, 210 gpm w/VFD	2.00	EA	5,627.77	11,256	
15660.206	Hot Water Pump, Centrifugal, Base Mounted, End Suction, 100 gpm w/VFD	4.00	EA	4,046.80	16,187	
15660.206	Hot Water Pump, Centrifugal, Base Mounted, End Suction, 800 gpm w/VFD	2.00	EA	21,046.80	42,094	
15680.040	Displacement Ventilation System (per Classroom)	65.00	EA	1,250.00	81,250	
15680.042	Sound Attenuator Device / Double Wall Ductwork (per RTU)	37.00	EA	2,500.00	92,500	
15680.112	Galvanized Ductwork, > 5000 LB	215,000.00	LB	10.34	2,222,197	
15684.102	Duct Insulation, Blanket Type, Fiberglass, FSK, 1.0Lb Density, 1-1/2" Thick	195,000.00	SF	2.65	516,809	
15688.014	Gas Vent, Double Wall, Galvanized Steel, UL Listed, 12" Dia.	1,000.00	LF	49.25	49,252	
15690.102	Fin Tube Radiation, Wall Hung, 14" Slope Top, 1-1/4" Cu Tube, 4-1/4" Aluminum Fin	2,500.00	LF	65.24	163,099	
15691.004	Cabinet Unit Heater, Horizontal, Floor Mount, 60 MBH	35.00	EA	1,623.44	56,821	
15691.312	Unit Heater, Hot Water, Horizontal, 47 MBH	14.00	EA	723.44	10,128	
15692.210	Variable Air Volume Box, Pl, w/Damper, Actuator, T-Stat, 1000 CFM	156.00	EA	895.01	139,622	
15699.000	Chilled Beam	280.00	LF	100.00	28,000	
15700.106	Copper Type L, Solder Joint W/Couplings And Hangers 10ft OC, 3/4" OD	11,000.00	LF	10.93	120,183	
15700.112	Copper Type L, Solder Joint W/Couplings And Hangers 10ft OC, 1-1/2" OD	5,500.00	LF	22.82	125,516	
15700.118	Copper Type L, Solder Joint W/Couplings And Hangers 10ft OC, 3" OD	1,250.00	LF	63.09	78,860	
15700.122	Copper Type L, Solder Joint W/Couplings And Hangers 10ft OC, 4" OD	200.00	LF	106.41	21,283	
15704.104	Fiberglass 1" Insulation With All Service Jacket 3/4" Pipe	11,000.00	LF	4.12	45,324	
15704.202	Fiberglass 1-1/2" Insulation With All Service Jacket 1-1/2" Pipe	5,500.00	LF	5.67	31,187	
15704.308	Fiberglass 2" Insulation With All Service Jacket 3" Pipe	1,250.00	LF	8.32	10,401	
15704.312	Fiberglass 2" Insulation With All Service Jacket 4" Pipe	200.00	LF	9.99	1,997	
15705.004	Air Separator w/Strainer, 2-1/2" Dia.	3.00	EA	1,447.82	4,343	
15705.008	Air Separator w/Strainer, 4" Dia.	1.00	EA	3,113.04	3,113	
15706.206	Expansion Tank, Steel, ASME, Rubber Diaphragm, 61 Gal. Accep. Vol.	3.00	EA	3,794.04	11,382	
15706.214	Expansion Tank, Steel, ASME, Rubber Diaphragm, 211 Gal. Accep. Vol.	1.00	EA	6,586.85	6,587	
15708.106	ARC Tubing, Type L Copper, Hard Tempered, No Couplings/Hangers, 5/8"	800.00	LF	7.26	5,808	
15708.112	ARC Tubing, Type L Copper, Hard Tempered, No Couplings/Hangers, 1-1/8"	800.00	LF	11.05	8,840	
15708.500	Valves & Accessories	1.00	LS	15,000.00	15,000	
15708.500	Valves & Accessories	1.00	LS	120,000.00	120,000	
15780.000	DDC Controls	268,330.00	SF	7.50	2,012,475	
15780.010	CO2 Sensor	153.00	EA	85.00	13,005	
15792.001	Air & Water Balance	268,330.00	SF	0.50	134,165	
15801.501	Coordination & Management	1.00	LS	20,000.00	20,000	

Dover High School Schematic Estimate

CONSTRUCTION

Job #: 15027
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Group 1: School Options
Group 2: Uniformat 1

Item Code	Description	Quantity	UM	Total UnitCost	Total Cost
15801.501	Coordination & Management	1.00	LS	175,000.00	175,000
15801.502	Commissioning Support	1.00	LS	5,000.00	5,000
15801.502	Commissioning Support	1.00	LS	50,000.00	50,000
15801.503	Coring, Patching & Firestopping	1.00	LS	1,000.00	1,000
15801.503	Coring, Patching & Firestopping	1.00	LS	25,000.00	25,000
15801.504	Seismic Restraint	1.00	LS	15,000.00	15,000
15801.504	Seismic Restraint	1.00	LS	65,000.00	65,000
15801.505	Fees & Permits	1.00	LS	10,000.00	10,000
15801.505	Fees & Permits	1.00	LS	50,000.00	50,000
***** Total D30 - HVAC**					**8,870,778**
**** Total D30 - HVAC**					**8,870,778**
D40 - FIRE PROTECTION					
D40 - FIRE PROTECTION					
15500.000	Fire Protection - Temporary FP Service - Modulars	1.00	LS	5,000.00	5,000
15500.030	Interface w/Existing Sprinkler System - Daily	1.00	LS	50,000.00	50,000
15502.002	Fire Service Main - 6" Ductile Iron, Mech. Joint	150.00	LF	29.65	4,447
15502.024	6" Double Check Backflow Preventer W/OS&Y Valves, 4 Test Cocks	2.00	EA	5,868.66	11,737
15502.110	FDC - Two Way Siamese - 3x3x6	2.00	EA	1,561.99	3,124
15502.116	4" Zone Flow Control Valve W/Trim And Gauges	13.00	EA	6,038.56	78,501
15502.128	Tamper Switch	25.00	EA	156.50	3,912
15502.202	Sprinkler Main Sch 40 BS - 4", Grooved Joint, W/Hangers 10 Ft O.C.	7,820.00	LF	40.66	317,939
15502.222	Sprinkler Branch Sch 40 BS - 1" Threaded W/ Hangers 10 Ft O.C.	15,650.00	LF	12.94	202,588
15502.226	Sprinkler Branch Sch 40 BS - 1-1/2" Threaded W/ Hangers 10 Ft O.C.	7,725.00	LF	16.90	130,551
15502.300	Temporary Water Line to Pre-Plumbed Modular Classrooms	1.00	LS	10,000.00	10,000
15502.400	Sprinkler Heads - Standard Pendant, 1/2" NPT, 1/2" Orifice	2,350.00	EA	37.85	88,946
15505.006	2" Dry Pipe Valve With Trim And Gauges - RR	1.00	EA	2,548.98	2,549
15505.012	30 Gal., 1 HP Comp Air Sys For Fire Protection - RR	1.00	EA	1,110.76	1,111
15505.202	Sprinkler Main Sch 40 BS - 4", Grooved Joint, W/Hangers 10 Ft O.C. - RR	115.00	LF	40.66	4,676
15505.222	Sprinkler Branch Sch 40 BS - 1" Threaded W/ Hangers 10 Ft O.C. - RR	190.00	LF	12.94	2,460
15505.400	Sprinkler Heads - Standard Upright, 1/2" NPT, 1/2" Orifice - RR	20.00	EA	37.85	757
15535.002	Coordination & Management	1.00	LS	5,000.00	5,000
15535.002	Coordination & Management	1.00	LS	12,000.00	12,000
15535.010	Hydraulic Calculations	1.00	LS	2,000.00	2,000
15535.010	Hydraulic Calculations	1.00	LS	8,000.00	8,000
15535.016	Coring & Patching & Firestopping	1.00	LS	4,000.00	4,000
15535.016	Coring & Patching & Firestopping	1.00	LS	11,000.00	11,000
15535.024	Fees & Permits	1.00	LS	2,000.00	2,000
15535.024	Fees & Permits	1.00	LS	8,000.00	8,000
***** Total D40 - FIRE PROTECTION**					**970,299**
**** Total D40 - FIRE PROTECTION**					**970,299**
D50 - ELECTRICAL					
D50 - ELECTRICAL					
16000.100	Temporary Electrical - Modulars	1.00	LS	10,000.00	10,000
16020.210	300 kW NG Emergency Generator w/Sound Attenuated Enclosure	1.00	EA	154,364.83	154,365
16020.212	Emergency Power Equipment and Distribution	240,130.00	SF	1.50	360,195

Dover High School Schematic Estimate

CONSTRUCTION

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Item Code	Description	Quantity	UM	Total UnitCost	Total Cost
16020.214	Emergency Generator - Testing	1.00	LS	5,000.00	5,000
16030.000	3000 Amp Switchgear, 480/277V	1.00	EA	75,000.00	75,000
16030.004	Transformer / Primary / Conduit ** ALLOWANCE **	1.00	LS	50,000.00	50,000
16040.006	Panel Feeders	68.00	EA	2,500.00	170,000
16040.008	Primary Conduit Only - (1) 4"	800.00	LF	4.40	3,520
16040.010	Secondary Feeder - (8) 4" Conduits	800.00	LF	4.40	3,520
16040.011	Secondary Feeder - #600 MCM Conductor	3,200.00	LF	34.35	109,920
16040.060	Grounding/Bonding	1.00	LS	3,500.00	3,500
16040.060	Grounding/Bonding	1.00	LS	10,000.00	10,000
16040.200	20 KW UPS	2.00	EA	20,000.00	40,000
16040.218	Panel 277/480V 100A - Lighting	17.00	EA	1,688.95	28,712
16040.218	Panel 277/480V 100A - Mechanical	17.00	EA	1,688.95	28,712
16040.224	Panel 277/480V 400A - Distribution	17.00	EA	3,361.74	57,150
16040.228	Triple Tub Panel 120/208V 250 Amp	17.00	EA	9,850.14	167,452
16040.300	Transformer Dry Type, Three Phase, 30kVA	17.00	EA	4,977.90	84,624
16040.302	Transformer Dry Type, Three Phase, 75kVA	17.00	EA	7,257.30	123,374
16050.100	Branch Devices	268,330.00	SF	1.00	268,330
16050.102	Power and Branch Circuitry	28,200.00	SF	3.00	84,600
16050.102	Power and Branch Circuitry	240,130.00	SF	4.00	960,520
16060.414	RTU Feeder	38.00	EA	2,730.06	103,742
16060.416	Boiler Feeder	10.00	EA	1,415.03	14,150
16060.418	Pump Feeder	9.00	EA	1,985.05	17,865
16060.420	Chiller Feeder	1.00	EA	8,380.11	8,380
16080.008	2x4 Flourescent - MER	50.00	EA	345.01	17,251
16080.010	Recessed LED's - Classrooms/Offices	1,426.00	EA	295.01	420,687
16080.012	Direct LED's - Gymnasium	20.00	EA	1,090.02	21,800
16080.014	Linear Indirect LED's - Corridor	305.00	EA	445.01	135,729
16080.016	Pendant Mount / Indirect Flourescent - Cafeteria	58.00	EA	735.02	42,631
16080.018	2x2 LED Panels - Kitchen/Servery	45.00	EA	610.02	27,451
16080.020	Direct Recessed LED's - Library	36.00	EA	295.01	10,620
16080.022	Dimmable Flourescent - Auditorium	60.00	EA	345.01	20,701
16080.024	Exterior Wall Mount - LED	32.00	EA	635.02	20,321
16080.026	Exterior Pole Fixture - Custom LED	27.00	EA	5,000.00	135,000
16080.030	Exterior Pendant - LED - RR	15.00	EA	635.02	9,525
16081.100	Lighting Circuitry	268,330.00	SF	2.25	603,743
16081.102	Lighting Controls	268,330.00	SF	1.25	335,413
16081.104	Lighting Controls & Panels - Testing	1.00	LS	5,000.00	5,000
16081.104	Lighting Controls & Panels - Testing	1.00	LS	15,000.00	15,000
16081.150	Stage Lights / Sound System / Dimmer Rack ** ALLOWANCE **	1.00	LS	375,000.00	375,000
16100.000	Sound System - Cafeteria ??	1.00	LS	20,000.00	20,000
16100.001	Sound System - Gymnasium	1.00	LS	20,000.00	20,000
16100.002	Sound System - Music Room	1.00	LS	10,000.00	10,000
16110.020	Bi-Directional Antennae	1.00	LS	50,000.00	50,000
16110.100	Tel/ Data/ CATV	28,200.00	SF	1.25	35,250
16110.100	Tel/ Data/ CATV	240,130.00	SF	2.50	600,325
16170.100	Card Reader System - Head End Equipment	1.00	EA	9,000.00	9,000
16170.101	Card Readers - Swipes/Wires	40.00	EA	1,700.00	68,000
16180.000	Master Clock	268,330.00	SF	0.35	93,916
16180.001	Intercom	268,330.00	SF	0.60	160,998
16180.100	Communications - Testing	1.00	LS	5,000.00	5,000
16180.100	Communications - Testing	1.00	LS	15,000.00	15,000
16200.000	Security System - Head End Equipment	1.00	LS	35,000.00	35,000
16200.002	Fixed Interior CCTV Cameras	35.00	EA	3,000.00	105,000
16200.004	Pan-Tilt-Zoom Exterior CCTV Cameras	18.00	EA	5,000.00	90,000
16300.102	Fire Alarm	268,330.00	SF	2.00	536,660
16300.104	Fire Alarm Testing	1.00	LS	3,500.00	3,500
16300.104	Fire Alarm Testing	1.00	LS	5,000.00	5,000

Dover High School Schematic Estimate

CONSTRUCTION

Job #: 15027
Project Size: 0 SF
Detail - With Taxes and Insurance

Estimator: KN, JS, JB, MT, MP
Group 1: School Options
Group 2: Uniformat 1

Item Code	Description	Quantity	UM	Total UnitCost	Total Cost
16400.002	Lightning Protection	1.00	LS	5,000.00	5,000
16400.100	Commissioning	1.00	LS	15,000.00	15,000
16400.100	Commissioning	1.00	LS	50,000.00	50,000
16400.102	Firestopping	1.00	LS	7,000.00	7,000
16400.102	Firestopping	1.00	LS	15,000.00	15,000
16400.104	Identification	1.00	LS	2,000.00	2,000
16400.104	Identification	1.00	LS	5,000.00	5,000
16400.106	Seismic Restraint	1.00	LS	2,000.00	2,000
16400.106	Seismic Restraint	1.00	LS	10,000.00	10,000
16400.108	Fees & Permits	1.00	LS	5,000.00	5,000
16400.108	Fees & Permits	1.00	LS	40,000.00	40,000
*** Total D50 - ELECTRICAL					7,157,151
** Total D50 - ELECTRICAL					7,157,151
E10 - EQUIPMENT					
E10 - EQUIPMENT, GENERALLY					
11160.034	12" Dock Seal - OH Doors	1.00	EA	1,585.04	1,585
11160.043	Rubber Dock Bumper 4 1/2"x14"x12"	2.00	EA	166.38	333
11480.006	OUTDOOR SCOREBOARDS - NOT INCLUDED				
11480.008	Gym Bleachers (One Side Only)	1.00	LS	25,000.00	25,000
11480.014	Gym Divider Curtain	1.00	LS	25,000.00	25,000
11480.014	Gym Divider Curtain - Existing to remain		LF	160.00	
11480.020	Basketball Hoop	6.00	EA	5,333.33	32,000
11480.020	Basketball Hoop - Existing to remain		EA	5,333.33	
11480.030	Volley Ball Net w/ Floor Inserts	1.00	EA	1,900.00	1,900
11480.040	Score Board - Existing to remain		EA	8,500.00	
11480.060	Upgrade Motorized Retraction System for Existing Bleachers		LS	20,000.00	
11480.062	Plastic Telescoping Stands - Hussey Maxam 26 Motorized Bleachers		EA	110.00	
11480.065	Gym Wall Padding - 6' Ht	470.00	LF	100.00	47,000
11480.080	Temporarily Relocate Existing Bleachers for Floor Replacement	1.00	LS	-18,000.00	-18,000
11480.080	Temporarily Relocate Existing Bleachers for Floor Replacement	1.00	LS	20,000.00	20,000
11650.000	Stage Set Fastening Equipment - In Line set Allowance				
11651.000	Lecture Hall Tables - 18" X 5'		EA	1,085.15	
11653.000	Auditorium Seating - Quattro By Hussey Seating	800.00	EA	250.00	200,000
11654.000	Line Sets & Shell Allowance - Auditorium	1.00	LS	175,000.00	175,000
*** Total E10 - EQUIPMENT, GENERALLY					509,818
** Total E10 - EQUIPMENT					509,818
E20 - FURNISHINGS					
E2010 - FIXED FURNISHINGS					
10000.020	Smart Boards - N/A per HMFH		EA	2,677.73	
10100.004	Marker Board W/ Alum Trim - Classrooms & Labs	2,400.00	SF	15.63	37,518
10100.006	Tack Board W/O Trim	2,400.00	SF	8.32	19,959
12500.010	Hunter Douglas Roller Shades (50% of glazing)	14,000.00	SF	11.00	154,000
*** Total E2010 - FIXED FURNISHINGS					211,477
** Total E20 - FURNISHINGS					211,477
F10 - SPECIAL CONSTRUCTION					
F10 - SPECIAL CONSTRUCTION					
2100.022	50' Riding Ring w/ Fence (Roof in B10)	1.00	LS	10,000.00	10,000
2220.330	Crushed Stone Under Slab - Kennel	20.00	CY	42.51	850

Dover High School Schematic Estimate

CONSTRUCTION

Job #: 15027
Project Size: 0 SF
Detail - With Taxes and Insurance

Estimator: KN, JS, JB, MT, MP
Group 1: School Options
Group 2: Uniformat 1

Item Code	Description	Quantity	UM	Total UnitCost	Total Cost
2220.332	4" SOG - Kennel	400.00	SF	7.71	3,084
2720.115	Chain Link Fence - Vinyl Coated 6' H - Kennel (10' x 10')	120.00	LF	22.00	2,640
*** Total F10 - SPECIAL CONSTRUCTION					16,574
** Total F10 - SPECIAL CONSTRUCTION					16,574
F20 - SELECTIVE BUILDING DEMOLITION					
F2010 - BUILDING ELEMENTS DEMOLITION					
2020.110	Demo grade beams & pile caps	250.00	CY	103.95	25,988
2032.000	Interior Demolition - Strip Walls & Clg GWB, Flooring, Casework, MEP	238,130.00	SF	8.00	1,905,040
2032.100	Remove gypsum fireproofing from exist columns for structural upgrades	70.00	EA	138.31	9,681
2032.550	Roof Penetrations - Roof Top Units	37.00	EA	838.08	31,009
2032.570	Remove Membrane	111,649.00	SF	0.84	93,573
2032.750	Remove Curtain Wall	28,000.00	SF	2.10	58,666
*** Total F2010 - BUILDING ELEMENTS DEMO					2,123,957
** Total F20 - SELECTIVE BUILDING DEMOLIT					2,123,957
G10 - SITE PREPARATION					
G1020 - SITE DEMOLITION					
2013.240	Demo Bit Conc Pvmt - Large Area	230,562.00	SF	0.16	37,927
2013.240	Demo Bit Conc Pvmt - Large Area (For Animal Barn)	6,000.00	SF	0.16	987
2013.280	Demo Conc Walk	11,800.00	SF	0.63	7,414
*** Total G1020 - SITE DEMOLITION					46,328
G1030 - EARTHWORK					
2110.290	Misc Erosion Control	1.00	LS	20,000.00	20,000
2110.306	Site Access/Laydown	1.00	LS	25,000.00	25,000
2300.155	Dewatering	1.00	LS	8,000.00	8,000
*** Total G1030 - EARTHWORK					53,000
** Total G10 - SITE PREPARATION					99,328
G20 - SITE IMPROVEMENTS					
G2010 - SITE PAVING					
2600.050	Compact Road Subgrade	22,535.22	SY	0.23	5,219
2600.060	Fine Grade Road Subgrade	22,535.22	SY	1.04	23,482
2600.200	Added 2" for Heavy Duty Paving - Lot C (33,106 SF)	408.00	TONS	110.00	44,880
2600.200	Bituminous Concrete P3.96g (4")	4,961.72	TON	110.00	545,789
2600.201	22535.22	1.00	EACH		
2600.210	**Paved Area**	22,535.22	SY		
2610.002	Grading For Curbs	5,000.00	LF	2.68	13,400
2610.050	Bituminous Curbs	5,000.00	LF	2.25	11,250
2610.150	Bituminous Sidewalk	203.87	TON	110.00	22,425
2610.151	**Bituminous Sidewalk Area**	11,001.00	SF		
*** Total G2010 - SITE PAVING					666,444
G2050 - LANDSCAPING					
2710.200	Landscaping	1.00	LS	120,000.00	120,000
10000.010	Flag Pole	1.00	EA	2,277.73	2,278
*** Total G2050 - LANDSCAPING					122,278
** Total G20 - SITE IMPROVEMENTS					788,722
G30 - SITE UTILITIES					
G3010 - SITE UTILITIES					
2540.110	Water Line	800.00	LF	54.08	43,264
2540.114	Sanitary Sewer	800.00	LF	52.08	41,664
2540.118	Prim/Sec Electrical/Telcom Trenching	900.00	LF	32.08	28,872

4.5 - PC Construction Cost Estimate - All Options

Dover High School Schematic Estimate

CONSTRUCTION

Job #: 15027
Project Size: 0 SF
Detail - With Taxes and Insurance

Estimator: KN, JS, JB, MT, MP
Group 1: School Options
Group 2: Uniformat 1

Item Code	Description	Quantity	UM	Total UnitCost	Total Cost
2540.120	Reconfigure Natural Gas (Assumes existing size is adequate)		LS	15,000.00	
2540.122	Reconfigure Storm Drainage	1.00	LS	30,000.00	30,000
2540.124	Alter Underdrain at existing ball field for CTC building	1.00	LS	10,000.00	10,000
2580.110	Elec Trench-Direct Burial (Site Lighting)	3,600.00	LF	8.04	28,944
2580.120	Elec Trench-Duct Bank (Secondary/Primary Under Roads)	140.00	LF	12.32	1,725
2580.130	Elec Ductbank Forms	560.00	SF	4.42	2,473
2580.140	Elec Ductbank Concrete	48.53	CY	121.08	5,876
2580.300	Grease Interceptor, Steel, 50 GPM, 100 LB Fat Capacity	1.00	EA	9,983.05	9,983
2580.302	Grease Interceptor, Steel, 250 GPM, 500 LB Fat Capacity	1.00	EA	26,127.79	26,128
***** Total G3010 - SITE UTILITIES**					**228,929**
**** Total G30 - SITE UTILITIES**					**228,929**
Z10 - GENERAL					
Z1010 - GENERAL CONDITIONS					
0080.100	***DESIGN & ENGINEERING FEES BY CITY OF DOVER***				
0100.000	Mobilize / Demobilize	1.00	LS	28,000.00	28,000
0100.020	Office Supplies	334.00	WK	150.00	50,100
0100.030	Office Furniture / Systems	1.00	LS	48,000.00	48,000
0100.040	Engineer's Furniture / Equipment - N/A		LS		
0100.041	Engineer's Computer / Software - N/A		LS		
0100.045	Project Kiosk 30" - Purchase	4.00	EA	5,000.00	20,000
0100.060	Janitorial Services	334.00	WK	80.00	26,720
0100.064	Temporary Wiring	1.00	LS	3,000.00	3,000
0100.065	Electrical Energy Costs	76.00	MO	450.00	34,200
0100.066	Water Usage Costs	76.00	MO	200.00	15,200
0100.100	Telephone / Communication	76.00	MO	1,000.00	76,000
0100.110	Sanitary / Facilities	76.00	MO	1,500.00	114,000
0110.080	Security / Watchman		WK		
0110.120	Photographs		MO		
0110.160	Documents & Reproductions	1.00	LS	15,000.00	15,000
0120.002	Estimating - GMP	1.00	LS	50,000.00	50,000
0120.003	Officer in Charge		MW	7,000.00	
0120.005	Construction Executive	17.00	MW	5,400.00	91,800
0120.008	Senior Project Manager	68.00	MW	4,720.00	320,960
0120.010	Project Manager	200.00	MW	3,800.00	760,000
0120.018	Senior Project Engineer		MW	2,880.00	
0120.020	Project Engineer (Full Time)	334.00	MW	2,400.00	801,600
0120.022	Office Engineer		MW	1,920.00	
0120.024	Senior Superintendent	334.00	MW	4,720.00	1,576,480
0120.025	Project Superintendent	84.00	MW	3,720.00	312,480
0120.034	Construction Coordination - SCP		MW	2,400.00	
0120.050	Scheduling Engineer		MW	2,280.00	
0120.058	Safety Manager		MW	3,720.00	
0120.060	Safety Engineer (1 Days/Week)	67.00	MW	2,280.00	152,760
0120.220	Administration	200.00	MW	1,720.00	344,000
0130.000	Living Allowance - Management	501.00	MWK	400.00	200,400
0130.005	Living Allowance - Foremen		MWK	125.00	
0130.020	Travel and Expenses	76.00	MO	600.00	45,600
0140.000	Scheduling	1.00	WK	2,280.00	2,280
0140.200	Permit's & Fee's		LS		
0140.205	Building Permit - Excluded		LS		
0140.300	Design (Means & Methods)		LS		
0140.800	Professional Services		LS		
0150.200	Equipment Trucking		WK		
0150.250	Off - Site Parking		WK		
0150.500	Personnel Elevator		MO		
0150.520	Field Office	76.00	TM	1,200.00	91,200
0150.540	Engineer / Architect Office		TM	400.00	
0150.560	Storage Trailers (2 Trailers)	152.00	TM	150.00	22,800
0160.300	Sub Bonds (Include w/ Subs)		LS		
0180.010	Gross Receipts Tax		LS		
0180.020	Sales Tax		LS		
***** Total Z1010 - GENERAL CONDITIONS**					**5,202,580**
Z1020 - GENERAL REQUIREMENTS					
0200.010	Materials Testing		LS		
0200.040	Snow Removal	1.00	LS	40,000.00	40,000
0200.110	Field Engineering	4.00	WK	5,000.00	20,000
0200.140	Temporary GWB Partitions	48,300.00	SF	7.80	376,740
0200.160	ICRA / ILSM - N/A		LS		
0200.180	Scaffolding - In COW		LS		
0200.200	OSHA / First Aid	334.00	WK	771.89	257,812
0200.300	Material Handling	334.00	WK	940.00	313,960
0200.310	Cranes - In COW		CM		
0200.320	Progress Cleanup (Labor & Dumpster)	334.00	WK	707.04	236,151
0200.360	Final Cleanup	268,330.00	SF	0.45	120,749
0200.400	Temporary Heat	1.00	LS	175,000.00	175,000
0200.410	Temporary Enclosure	1.00	LS	150,000.00	150,000
0200.970	Support Equipment		LS		
0200.972	Sub Mobilization Costs	1.00	LS	600,000.00	600,000
***** Total Z1020 - GENERAL REQUIREMENTS**					**2,290,412**
**** Total Z10 - GENERAL**					**7,492,992**
Z20 - MAJOR CUSTOM PROGRAM ELEMENTS					
Z2010 - MAJOR CUSTOM PROGRAM ELEMENTS					
0060.002	Precon Services - N/A (Included under separate contract)		LS	96,000.00	
2032.500	Asbestos Abatement Contract	1.00	LS	1,300,000.00	1,300,000
2032.505	Asbestos Abatement - 5% Increase per year	1.00	LS	359,166.00	359,166
2762.100	Replace existing football field with turf	1.00	LS	750,000.00	750,000
11400.001	Kitchen Equipment	1,820.00	SF	150.00	273,000
13120.000	Modular Classroom Rental - 16 EA for 78 Months (ModSpace)	78.00	Mo	12,000.00	936,000
13120.020	Modular Classroom Delivery/Install (ModSpace)	16.00	EA	36,000.00	576,000
13120.040	Modular Classroom Tear Down (ModSpace)	16.00	EA	16,000.00	256,000
***** Total Z2010 - MAJOR CUSTOM PROGRAM**					**4,450,166**
**** Total Z20 - MAJOR CUSTOM PROGRAM EL**					**4,450,166**
*** Total Option 1 - Full Rehabilitation**					**49,932,184**
Total Gross Cost					**49,932,184**

4.5 - PC Construction Cost Estimate - All Options

	Dover High School - Option #1 - Full Renovation - Estimate Comparison			
		PC	PM&C	Cost Variance
	High School Total	**$64,417,847**	**$65,141,515**	**$723,668**
A1010	Standard Foundations	$586,118	$281,788	-$304,330
A1020	Special Foundations	$392,400	$566,000	$173,600
A1030	Lowest Floor Construction	$747,366	$659,778	-$87,588
B1010	Floor Construction	$570,000	$820,825	$250,825
B1020	Roof Construction	$276,199	$448,000	$171,801
B2010	Exterior Walls	$1,156,462	$918,878	-$237,584
B2020	Windows	$2,127,120	$2,052,062	-$75,058
B2030	Exterior Doors	$140,785	$182,490	$41,705
B3010/3020	Roof Coverings & Openings	$361,327	$481,000	$119,673
C1010	Partitions	$1,166,993	$1,423,750	$256,757
C1020	Interior Doors	$697,003	$794,250	$97,247
C1030	Specialties / Millwork	$2,135,630	$2,163,748	$28,118
C2010	Stair Construction	$123,729	$77,000	-$46,729
C3010	Wall Finishes	$874,439	$1,059,000	$184,561
C3020	Floor Finishes	$1,914,998	$2,080,534	$165,536
C3030	Ceiling Finishes	$1,182,465	$1,330,822	$148,357
D1010	Elevator	$199,423	$122,500	-$76,923
D2010	Plumbing	$2,359,536	$2,485,125	$125,589
D3010	HVAC	$8,870,778	$8,585,251	-$285,527
D4010	Fire Protection	$970,299	$926,625	-$43,674
D5010	Electrical	$7,157,151	$7,433,138	$275,987
E1010	Equipment, Generally	$509,818	$980,800	$470,982
E2010	Fixed Furnishings	$211,477	$288,399	$76,922
F10	Special Construction	$16,574	$425,000	$408,426
F2010	Building Elements Demolition	$2,123,957	$2,125,232	$1,275
G1020/1030	Site Demolition & Earthwork	$99,328	$2,793,500	$2,694,172
G2010	Site Paving	$666,444		-$666,444
G2050	Landscaping	$122,278		-$122,278
G3010	Site Utilities	$228,929		-$228,929
Z1010	General Conditions	$5,202,580	$5,202,580	$0
Z1020	General Requirements	$2,290,412	$1,690,412	-$600,000
Z2010	Major Custom Program Elements	$4,450,166	$4,205,000	-$245,166
	Option #1 Total Direct Cost	**$49,932,184**	**$52,603,487**	**$2,671,303**

1

	Dover High School - Option #1 - Full Renovation - Estimate Comparison			
	Labor and Material Escalation	$6,266,929	$3,382,139	-$2,884,790
	Builders Risk Insurance	$43,993		-$43,993
	Liability Insurace	$483,135	$444,114	-$39,021
	Construction Manager's Contingency (PC @ 10%)	$5,619,911	$7,090,491	$1,470,580
	P & P Bond	$500,528	$283,591	-$216,937
	CM Fee (2.5%)	$1,571,167	$1,337,693	-$233,474
	Option #1 Total Indirect Cost	**$14,485,663**	**$12,538,028**	**-$1,947,635**
	Option #1 Total Gross Cost	**$64,417,847**	**$65,141,515**	**$723,668**

2

OPTION 2 - Partial Renovation with Addition

ESTIMATE SUMMARY

Project #: 15027
Building GSF: 303,000

		Totals
Direct Cost	%	$ 60,606,764
Material Sales Tax (N/A)	0.00%	$ -
Labor & Material Escalation	0.00%	$ -
Gross Cost		$ 60,606,764
Building Permit - by Owner	0.00%	$ -
Builder's Risk insurance	0.07%	$ 46,064
Liability Insurance	0.75%	$ 505,875
Construction Manager's Contingency	7.00%	$ 4,242,473
P & P Bond ($5.99 per $1,000)		$ 404,026
Sub Total		$ 65,805,202
CM Fee	2.50%	$ 1,645,130
Total		$ 67,450,000
Total Cost per square foot		$ 223

4.5 - PC Construction Cost Estimate - All Options

Dover High School Schematic Estimate

Job #: 15027
Project Size: 0 SF
Recap - With Taxes and Insurance

Estimator: KN, JS, JB, MT, MP
Group 1: School Options
Group 2: Uniformat 1

Item Code	Description	Quantity	UM	Total UnitCost	Total Cost
	Option 2b - Partial Addition & Rehab				
A10	FOUNDATIONS				4,339,527
B10	SUPERSTRUCTURE				6,288,028
B20	EXTERIOR CLOSURE				6,167,022
B30	ROOFING				1,793,174
C10	INTERIOR CONSTRUCTION				5,803,467
C20	STAIRCASES				331,790
C30	INTERIOR FINISHES				4,159,973
D10	CONVEYING SYSTEMS				199,423
D20	PLUMBING				2,659,492
D30	HVAC				8,104,390
D40	FIRE PROTECTION				974,143
D50	ELECTRICAL				6,867,084
E10	EQUIPMENT				511,736
E20	FURNISHINGS				246,257
F10	SPECIAL CONSTRUCTION				326,474
F20	SELECTIVE BUILDING DEMOLITION				1,465,023
G10	SITE PREPARATION				692,468
G20	SITE IMPROVEMENTS				1,576,630
G30	SITE UTILITIES				484,555
Z10	GENERAL				4,831,941
Z20	MAJOR CUSTOM PROGRAM ELEMEN				2,784,166
	* Total Option 2b - Partial Addition & Rehab				60,606,764
	Total Gross Cost				60,606,764

4.5 - PC Construction Cost Estimate - All Options

Dover High School Schematic Estimate

CONSTRUCTION

Job #: 15027
Project Size: 0 SF
Detail - With Taxes and Insurance

Estimator: KN, JS, JB, MT, MP
Group 1: School Options
Group 2: Uniformat 1

Item Code	Description	Quantity	UM	Total UnitCost	Total Cost
	Option 2b - Partial Addition & Rehab				
	A10 - FOUNDATIONS				
	A1010 - STANDARD FOUNDATIONS				
2210.205	Structure Excavation	4,000.00	CY	12.13	48,510
2210.205	Structure Excavation (Barn Addition)	300.00	CY	12.13	3,638
2210.205	Structure Excavation (Site Retaining Wall)	1,200.00	CY	12.13	14,553
2220.335	BF Foundation Wall w/ Crushed Stone (Site Retaining Wall)	1,600.00	CY	37.51	60,016
2220.335	BF Frost Wall w/ Crushed Stone	2,600.00	CY	37.51	97,526
2220.335	BF Frost Wall w/ Crushed Stone (Barn Addition)	180.00	CY	37.51	6,752
2220.340	BF Frost Wall w/ On Site Matl	2,200.00	CY	17.51	38,522
2220.340	BF Frost Wall w/ On Site Matl (Barn Addition)	180.00	CY	17.51	3,152
2500.110	4" PVC Footing Drains (Addition only)	4,300.00	LF	14.00	60,200
3300.010	8" x 16" Continuous Footing (Barn Addition)	294.00	LF	32.30	9,496
3300.014	1' x 3' Continuous Footing	3,325.00	LF	44.20	146,965
3300.016	1' x 5' Continuous Footing (Site Retaining Wall)	3,325.00	LF	55.25	183,706
3300.018	3' x 3' x 1' Isolated Footing	69.00	EA	242.25	16,715
3300.028	1' x 3' Grade Beam - At H Piles	2,578.00	LF	44.20	113,948
3300.032	2' x 2' x 1'-6" Pile Cap Concrete	48.00	EA	182.75	8,772
3300.040	8" x 5' Frost Wall (Barn Addition)	294.00	LF	105.40	30,988
3300.045	12" x 5' Frost Wall	3,017.00	LF	128.35	387,232
3300.128	12" x 8' Foundation Wall	290.00	LF	191.25	55,463
3300.148	12" x 13' Site Retaining Wall	315.00	LF	350.20	110,313
3300.152	18" x 4' Concrete Pier with 2' x 2' x 1' Footing (50' Dia Riding RIng)	14.00	EA	273.63	3,831
3300.156	1' x 1' - 5' Pilaster	79.00	EA	178.50	14,102
7110.100	Damproof Frost Wall	17,405.00	SF	1.50	26,108
7110.100	Damproof Frost Wall (Barn Addition)	1,323.00	SF	1.50	1,985
7200.105	Rigid Insulation - 2" Frost Wall	17,405.00	SF	2.08	36,269
7200.105	Rigid Insulation - 2" Frost Wall (Barn Addition)	1,323.00	SF	2.08	2,757
	***** Total A1010 - STANDARD FOUNDATIONS**				**1,481,516**
	A1020 - SPECIAL FOUNDATIONS				
2490.105	HP10 Steel Piles - 30' Grid, 3 piles per location: 144 @ 30' Deep (Adjacent to Gym/Auditorium)	4,320.00	LF	60.00	259,200
2492.105	Aggregate Piers - 8' Grid: 418 @ 20' Deep (Northeast corner of Addition)	8,360.00	LF	97.01	811,000
	***** Total A1020 - SPECIAL FOUNDATIONS**				**1,070,200**
	A1030 - LOWEST FLOOR CONSTRUCTION				
2220.332	Crushed Stone Under Slab - 8"	4,800.00	CY	37.51	180,048
2220.332	Crushed Stone Under Slab - 8" (Barn Addition)	200.00	CY	37.51	7,502
3250.451	15 Mil Stego Wrap Under Slab Vapor Barrier - Taped Seams	64,000.00	SF	0.71	45,626
3250.451	15 Mil Stego Wrap Under Slab Vapor Barrier - Taped Seams (Barn Addition)	6,710.00	SF	0.71	4,784
3300.006	4" SOG (Non pile/pier areas)	75,867.00	SF	6.55	497,217
3300.008	10" SOG - (Agg Pier Areas)	26,106.00	SF	11.90	310,674
3300.008	10" SOG - (H Pile Areas)	46,032.00	SF	11.90	547,804
3300.008	5" SOG - (Barn Addition)	6,100.00	SF	7.40	45,163
3300.012	Alter Auditorium Floor for ADA compliance	15,500.00	SF	8.71	135,011
7200.108	Rigid Insulation - 2" Underslab (Barn Addition)	6,710.00	SF	2.08	13,982
	***** Total A1030 - LOWEST FLOOR CONSTRU**				**1,787,811**
	**** Total A10 - FOUNDATIONS**				**4,339,527**
	B10 - SUPERSTRUCTURE				
	B1010 - FLOOR CONSTRUCTION				
3000.015	Trowel Finish (SOD)	78,210.00	SF	0.56	43,571
3000.200	Protect & Cure	78,210.00	SF	0.10	7,571
3200.052	Re-Steel @ Slabs On Metal Deck	31,066.75	LB	0.79	24,543
3200.315	6x6 4/4 Wwf	86,031.00	SF	0.78	67,104
3200.350	Wire Mesh Accessories	78,210.00	SF		
3300.033	Slab On Metal Deck Concrete	1,242.67	CY	36.57	45,446
3300.115	3000 Psi Concrete	1,242.67	CY	98.00	121,782
3300.200	Concrete Pumping	1,242.67	CY	8.00	9,941
5010.050	Structural Steel at Addition - 12 lbs/ sf	1,361.00	TON	3,100.00	4,219,100
5300.605	2"X20ga Painted Mtl Deck	86,031.00	SF	1.95	167,760
7850.001	Spray Fireproofing - Roof Deck (New Only)	148,005.00	SF	1.50	222,008
7850.001	Spray Fireproofing - Structural Steel (New Only)	226,925.00	SF	2.50	567,313
	***** Total B1010 - FLOOR CONSTRUCTION**				**5,496,138**
	B1020 - ROOF CONSTRUCTION				
5200.100	Steel Joists (2 lbs/ SF)	123.00	TON	1,800.00	221,400
5200.100	Steel Joists (2 lbs/ SF) CTC	28.00	TON	1,800.00	50,400
5300.205	1-1/2"X20ga Galv Mtl Deck	141,302.00	SF	1.70	240,213
5300.205	1-1/2"X20ga Galv Mtl Deck CTC	32,600.00	SF	1.70	55,420
5500.000	Miscellaneous Metals (Angle at Roof Curb)	1.00	LS	15,000.00	15,000
6000.500	Roof Trusses w/ sheathing (Barn Addition)	6,100.00	SF	8.00	48,800
6000.510	Pavilion Framing (50' Dia Riding Ring)	3,300.00	SF	18.38	60,657
7530.004	Entrance Canopy	2.00	EA	50,000.00	100,000
	***** Total B1020 - ROOF CONSTRUCTION**				**791,890**
	**** Total B10 - SUPERSTRUCTURE**				**6,288,028**
	B20 - EXTERIOR CLOSURE				
	B2010 - EXTERIOR WALLS				
4020.460	Repair/Repoint existing masonry veneer (Locations unknown)	5,000.00	SF	18.00	90,000
4070.200	Brick Veneer (70% Envelope)	73,580.00	SF	24.00	1,765,920
6100.612	2x6 Partitions w/ 1/2" OSB Sheathing - 12' Ht (Barn Addition)	3,880.00	SF	4.60	17,836
6200.512	T&G Siding - Red Cedar (6" Exposure) (Barn Addition)	3,880.00	SF	8.00	31,036
7210.806	3" Spray Foam Insulation (R-21)	73,564.72	SF	3.00	220,694
7210.806	3" Spray Foam Insulation (R-21) - East Wall Infill	18,200.00	SF	3.00	54,600
7260.120	Air Infiltration Barrier - Fluid Applied	73,580.00	SF	2.50	183,950
7260.120	Air Infiltration Barrier - Fluid Applied - East Wall Infill	18,200.00	SF	2.50	45,500
9280.051	6" LGS Stud w/ 5/8" GWB and 5/8" Densglass - Ext Partitions	73,580.00	SF	12.42	913,621
9280.051	6" LGS Stud w/ 5/8" GWB and 5/8" Densglass - Ext Partitions - East Wall Infill	18,200.00	SF	12.42	225,984
10000.010	Roof, Ext Wall Expansion Joints	500.00	LF	157.08	78,539
	***** Total B2010 - EXTERIOR WALLS**				**3,627,680**
	B2020 - WINDOWS				
8800.800	Curtainwall (30% Envelope)	31,920.00	SF	75.00	2,394,000
8800.840	Barn Windows (Barn Addition)	10.00	EA	600.00	6,000
	***** Total B2020 - WINDOWS**				**2,400,000**
	B2030 - EXTERIOR DOORS				
6200.300	Sliding Barn Door (Barn Addition)	3.00	EA	1,788.76	5,366
8010.010	3070 Exterior Door	20.00	EA	1,404.76	28,095
8010.010	3070 HM Door (Barn Additon)	8.00	EA	1,104.76	8,838
8010.020	6070 Exterior Door	16.00	EA	2,065.16	33,043
8300.100	Overhead Door	2.00	EA	8,000.00	16,000
8300.100	Overhead Door (AT, AC, BT)	6.00	EA	8,000.00	48,000
	***** Total B2030 - EXTERIOR DOORS**				**139,342**

Dover High School Schematic Estimate

Job #: 15027
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Detail - With Taxes and Insurance

Estimator: KN, JS, JB, MT, MP
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Group 2: Uniformat 1

Item Code	Description	Quantity	UM	Total UnitCost	Total Cost
	**** Total B20 - EXTERIOR CLOSURE**				**6,167,022**
	B30 - ROOFING				
	B3010 - ROOF COVERINGS				
6000.000	Roof edge blocking	7,200.00	LF	7.78	55,981
7200.015	12" Batt Insulation (R38) (Barn Addition)	8,020.00	SF	1.15	9,217
7310.015	Asphalt Single Roof (50' Dia Riding Ring)	3,300.00	SF	5.79	19,119
7310.015	Asphalt Single Roof (Barn Addition)	8,020.00	SF	5.79	46,465
7530.026	Thermoplastic Membrane Roof	151,209.00	SF	10.50	1,587,695
7530.030	Entrance Canopy Roof	2.00	EA	30,000.00	60,000
	***** Total B3010 - ROOF COVERINGS**				**1,778,475**
	B3020 - ROOF OPENINGS				
5550.162	4' Sq Hatch Cover - Stainless Steel	2.00	EA	7,349.20	14,698
	***** Total B3020 - ROOF OPENINGS**				**14,698**
	**** Total B30 - ROOFING**				**1,793,174**
	C10 - INTERIOR CONSTRUCTION				
	C1010 - PARTITIONS				
5500.000	Miscellaneous Metals (Angle at CMU Partitions)	1.00	LS	15,000.00	15,000
6010.000	In Wall Blocking	1.00	LS	74,437.84	74,438
8800.000	Glazed Partitions	2,200.00	SF	60.00	132,000
9270.001	Tape Gypsum Walls - Level 4 (String coat, 2 finish coats, sanding)	461,605.00	SF	0.75	346,204
9280.030	Classroom Fit Up (Barn Addition) 2 - Classrooms	450.00	SF	30.00	13,500
9285.005	LGS Partitions w/ 5/8" GWB, Sound Batt - Interior	230,803.00	SF	8.61	1,987,468
9285.013	LGS Furred Partition - Interior	13,440.00	SF	5.09	68,461
9285.023	Fire Stopping	1.00	LS	20,000.00	20,000
9285.023	Fire Stopping	1.00	LS	55,000.00	55,000
9288.039	Misc Drywall Work	1.00	LS	40,000.00	40,000
9288.039	Misc Drywall Work	1.00	LS	10,000.00	10,000
	***** Total C1010 - PARTITIONS**				**2,762,070**
	C1020 - INTERIOR DOORS				
8012.010	3070 Interior Door	466.00	EA	1,204.76	561,418
8012.020	6070 Interior Door	79.00	EA	1,765.16	139,448
8014.000	Corridor Lock Down Hardware	1.00	LS	50,000.00	50,000
8014.020	Interior Borrowed Lites	55.00	EA	609.52	33,524
9900.205	Misc Painting - Door Frames, Misc Metals	1.00	LS	10,000.00	10,000
9900.205	Misc Painting - Door Frames, Misc Metals	1.00	LS	40,000.00	40,000
	***** Total C1020 - INTERIOR DOORS**				**834,390**
	C1030 - SPECIALTIES / MILLWORK				
6400.000	6'-0" Laminated Maple Bench	20.00	EA	992.58	19,852
6400.004	Base Cabinets (Classrooms)	844.00	LF	266.10	224,592
6400.052	Full Height Cabinets (Classrooms)	372.00	LF	306.10	113,871
6400.052	Wall Cabinets (Classrooms)	620.00	LF	191.10	118,484
6400.054	Full Height Cabinets (Mail Room)	24.00	LF	306.10	7,346
6400.102	Restroom Wood Apron at Solid Surface	216.00	LF	159.92	34,543
6400.300	Solid Surface Restroom Counter w/ integral sink	216.00	LF	221.90	47,931
6400.308	Countertops-Solid Surface (Classrooms)	844.00	LF	191.10	161,292
6400.308	Wall Mount Solid Surface Counter (Mail/Work Room)	71.00	LF	216.10	15,343
6400.315	Countertops - Epoxy Resin	520.00	LF	161.64	84,051
6400.348	Solid Surface Window Sill and Apron (New Const Only)	2,100.00	LF	64.26	134,941
6401.052	Wall Cabinets - Solid Surface (Science Labs)	390.00	LF	161.65	63,042

Dover High School Schematic Estimate

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Item Code	Description	Quantity	UM	Total UnitCost	Total Cost
6401.054	Full Height Cabinets - Solid Surface (Science Labs)	390.00	LF	255.73	99,734
6405.006	Wood Cubbies - Mail Room	24.00	LF	251.10	6,026
6405.008	Casework Allowance (Misc)	1.00	LS	231,000.00	231,000
6405.010	Closet Shelving	1.00	LS	10,000.00	10,000
6408.000	*** DESK MILLWORK***				
6408.080	Admin/Guidance Front Desk	31.00	LF	441.10	13,674
6408.100	Library Desk	78.00	LF	491.10	38,306
6510.919	FRP Panels 10' ht - Kitchen	3,518.00	SF	7.14	25,133
6510.919	FRP Panels 8' ht - at Janitorial sinks only	1,510.22	SF	7.14	10,789
6510.921	FRP Panels - Art Rooms	80.00	SF	7.14	572
10180.102	Toilet Partitions W/ Door - Phenolic	43.00	EA	430.52	18,512
10180.103	Urinal Screen - Phenolic	10.00	EA	305.52	3,055
10180.204	Shower Door	18.00	EA	277.76	5,000
10180.206	Locker Room Bench	120.00	LF	80.28	9,633
10191.100	Privacy Curtain: Track W/Supports (No Curtain) - Nurse	64.00	LF	22.50	1,440
10195.101	Display & Trophy Case Allowance	1.00	LS	40,000.00	40,000
10410.150	Sigange	1.00	LS	10,000.00	10,000
10410.150	Sigange	1.00	LS	78,000.00	78,000
10500.002	Staff Lockers - Single Tier (3' X 15" X 15") - Kitchen	15.00	EA	180.55	2,708
10500.002	Staff Lockers - Single Tier (3' X 15" X 15") - Staff	100.00	EA	180.55	18,055
10500.004	Lockers - Double Tier (6' X 18" X 18") - Student	1,500.00	EA	270.55	405,819
10500.006	Lockers - Double Tier - Locker Rooms (100 per Room)	200.00	EA	270.55	54,109
10500.006	Lockers - Double Tier - Student Athletic	50.00	EA	270.55	13,527
10520.000	Fire Extinguishers	98.00	EA	125.46	12,295
10520.050	Fire Ext Cabinets	98.00	EA	302.76	29,670
10649.102	Operable Wall Partition (57' L x 28' HT)		SF	99.95	
10800.106	Grab Bar	36.00	EA	101.38	3,650
10800.151	Surface Mtd Double Roll Tph	26.00	EA	197.38	5,132
10800.174	Surface Mounted SND	20.00	EA	377.38	7,548
10800.202	Surf Mtd Waste Receptacle	22.00	EA	282.38	6,212
10800.400	Liquid Soap Dispenser	22.00	EA	177.38	3,902
10800.602	Folding Shower Seat	18.00	EA	301.38	5,425
10800.610	Electric Hand Dryer	20.00	EA	301.38	6,028
10810.100	30"x30" Framed Mirror	32.00	EA	211.38	6,764
	***** Total C1030 - SPECIALTIES / MILLWORK**				**2,207,007**
	**** Total C10 - INTERIOR CONSTRUCTION**				**5,803,467**
	C20 - STAIRCASES				
	C2010 - STAIR CONSTRUCTION				
5510.000	****Metal Stairs****		****		
5510.050	Metal Pan Stair - Standard	192.00	TRD	433.27	83,187
5510.050	Metal Pan Stair - Town Center	40.00	TRD	433.27	17,331
5510.052	Metal Pan Stair Landing - Standard	236.00	SF	71.60	16,897
5510.052	Metal Pan Stair Landing - Town Center	236.00	SF	71.60	16,897
5520.000	*** Handrails & Railings ***		****		
5520.050	Hand Rail - Standard Metal Picket	270.00	LF	119.42	32,244
5520.050	Hand Rail - Town Center	140.00	LF	229.42	32,119
5520.072	Steel Wallrail - Standard	270.00	LF	65.93	17,801
9420.205	Drywall Partition	12,320.00	SF	9.36	115,315
	***** Total C2010 - STAIR CONSTRUCTION**				**331,790**
	**** Total C20 - STAIRCASES**				**331,790**
	C30 - INTERIOR FINISHES				
	C3010 - WALL FINISHES				

4.5 - PC Construction Cost Estimate - All Options

Dover High School Schematic Estimate

CONSTRUCTION

Job #: 15027
Project Size: 0 SF
Detail - With Taxes and Insurance

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Item Code	Description	Quantity	UM	Total UnitCost	Total Cost
6200.040	Wood Wall Finish - Auditorium	11,520.00	SF	25.00	288,000
9300.200	Tile Wainscot - 4' AFF (Corridors)	17,000.00	SF	10.00	170,000
9300.202	Tile Wainscot - 4' AFF (Town Square)	2,800.00	SF	10.00	28,000
9300.204	Tile Wainscot - 4' AFF (Toilet Rooms)	4,550.00	SF	10.00	45,500
9300.204	Tile Wainscot - Premium for 5' AFF everywhere including stairwells	6,088.00	SF	10.00	60,880
9900.100	Paint Interior Walls (Barn Addition)	3,528.00	SF	0.82	2,893
9900.100	Paint Walls	383,700.00	SF	0.85	326,145
10000.020	Interior Expansion Joint Covers	80.00	LF	107.08	8,566
*** Total C3010 - WALL FINISHES					929,984
C3020 - FLOOR FINISHES					
9300.105	Tile Base	783.00	LF	10.00	7,830
9330.000	Quarry Tile Floors - Culinary	3,900.00	SF	15.00	58,500
9330.000	Quarry Tile Floors - Kitchen	5,030.00	SF	15.00	75,450
9330.005	Quarry Tile Base	682.00	LF	12.00	8,184
9400.005	Mosaic Tile - Bath, Locker Rooms	5,750.00	SF	12.00	69,000
9550.100	Wood Floor - Gym	13,710.00	SF	18.00	246,780
9550.120	Wood Floor - Stage	2,620.00	SF	16.00	41,920
9650.010	Linoleum	192,650.00	SF	6.00	1,155,900
9650.025	Rubber Base	38,389.00	LF	1.85	71,020
9650.032	Rubber Treads & Risers	5,820.00	SF	14.00	81,480
9680.000	Carpet - Auditorium	1,722.00	SY	35.00	60,270
9690.000	Carpet Tile	1,260.00	SY	35.00	44,100
9760.011	Rubber Sports Flooring	4,620.00	SF	12.45	57,507
9760.126	Moisture Mitigation - N/A per HMFH		SF	4.00	
9900.400	Sealed Concrete	36,830.00	SF	1.50	55,245
9900.400	Sealed Concrete (Barn Addition)	6,100.00	SF	1.50	9,150
9900.506	Paint Gym Floor Logo	1.00	LS	3,000.00	3,000
12671.103	Walk-Off Foot Grilles (Alum Grid W/ Frame & Pan)	110.00	SF	72.08	7,929
*** Total C3020 - FLOOR FINISHES					2,053,264
C3030 - CEILING FINISHES					
9285.037	Gypsum Ceiling: Suspended drywall grid 5/8" type X GWB (1 layer), taped (lvl 4)	18,890.00	SF	5.31	100,251
9285.039	Misc Drywall Soffits	1.00	LS	110,000.00	110,000
9285.039	Misc Drywall Soffits	1.00	LS	40,000.00	40,000
9500.100	ACT - Auditorium	15,500.00	SF	5.00	77,500
9500.100	ACT - Auditorium (N/A per HMFH)	-15,500.00	SF	5.00	-77,500
9500.102	ACT	191,000.00	SF	3.00	573,000
9500.104	ACT(Cleanable) - Kitchen	8,930.00	SF	8.00	71,440
9500.200	24x24x5/8 Lay-In (Barn Addition)	450.00	SF	3.00	1,350
9500.390	Acoustical Wood Clouds - Auditorium	1.00	LS	40,000.00	40,000
9500.612	Tectum Ceilng Panels - 2"	6,870.00	SF	8.00	54,960
9900.110	Paint Ceilings	18,890.00	SF	0.85	16,057
9900.120	Paint Exposed Ceiling Structure	63,570.00	SF	1.75	111,248
9900.625	Paint exposed ceiling - Gym	13,710.00	SF	2.00	27,420
9900.628	Paint exposed ceiling - Auditorium	15,500.00	SF	2.00	31,000
*** Total C3030 - CEILING FINISHES					1,176,725
** Total C30 - INTERIOR FINISHES					4,159,973
D10 - CONVEYING SYSTEMS					
D1010 - ELEVATOR					
3300.008	12" Base Slab	128.00	SF	14.42	1,846
3300.025	12" x 5' Foundation Wall	72.00	LF	128.35	9,241
5530.122	Elevator Pit Misc Metals	2.00	EA	1,813.09	3,626
9400.000	Drywall Partition	2,640.00	SF	9.36	24,710
14200.115	Hydraulic Passenger Elevator (1 Ea)	4.00	STOP	40,000.00	160,000
*** Total D1010 - ELEVATOR					199,423
** Total D10 - CONVEYING SYSTEMS					199,423

Dover High School Schematic Estimate

CONSTRUCTION

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Item Code	Description	Quantity	UM	Total UnitCost	Total Cost
D20 - PLUMBING					
D20 - PLUMBING					
15401.320	Domestic Water Heater, Residential Gas-Fired (NG/P) Atmospheric, Foam Lined Tank, Vent Not Included, 100 Gal.	2.00	EA	1,846.55	3,693
15401.338	Domestic Water Heater, Commercial Gas-Fired (NG/P) Atmospheric, Std. Controls, Vent Not Included, 250 MBH Input, 245 GPH	2.00	EA	20,161.00	40,322
15401.554	Potable Water Storage Tank, Indoor, Glass-Lined PE, 605 Gal., 48" OD, 87" Long	1.00	EA	14,258.38	14,258
15401.556	Round, Stainless Steel, 26 ga., 8" OD - Water Heater Vent	120.00	LF	28.30	3,396
15402.452	Sump Pump, Wet-Pit Mounted, Vertical, Single Stage, 25 GPM, 1 HP, 1-1/2" Disch.	2.00	EA	4,055.67	8,111
15410.208	Comm. Water Closet, Floor Mounted VC, Flush Valve, Bowl only, incl. Seat, w/Floor Outlet 1.28 gpf ADA	60.00	EA	753.67	45,220
15410.210	Rough-In, Supply, Waste and Vent for Comm. Floor Mounted WC	60.00	EA	562.00	33,720
15410.404	Urinal, Wall Hung VC w/ Hanger and Valve, Water Saving 0.5 gpf	13.00	EA	843.38	10,964
15410.406	Rough-In, Supply, Waste and Vent for Wall Hung Urinal	13.00	EA	705.00	9,165
15410.640	Rough-In, Supply, Waste and Vent for Res. Vanity Top Lavatories	72.00	EA	547.00	39,384
15410.640	Rough-In, Supply, Waste and Vent for Salon Lavatories (no fixture)	10.00	EA	547.00	5,470
15410.698	Sink w/Faucet and Drain, SS Self Rimming, 43"x22" Double Bowl	28.00	EA	1,286.48	36,022
15410.702	Rough-In, Supply, Waste and Vent for Sinks	28.00	EA	702.00	19,656
15410.826	Laboratory Sink, Corrosion Resistant, 12"x12"x8" Sink, 14.5"x14.5" OD	44.00	EA	471.80	20,759
15410.832	Rough-In, Supply, Waste and Vent for Laboratory Sinks	44.00	EA	461.00	20,284
15410.834	Laboratory Faucet, Gooseneck Spout, Wrist Handles	44.00	EA	235.80	10,375
15410.840	Service Sink, Floor (Corner), PE, 28"x28" w/Rim Guard	14.00	EA	1,233.66	17,271
15410.844	Rough-In, Supply, Waste and Vent for Floor Service Sink	14.00	EA	1,827.00	25,578
15411.101	Hose Bibb, Exterior Freeze-Proof, Lockable	24.00	EA	105.40	2,529
15411.314	Stall Shower, One-Piece Fiberglass w/Three Walls, Drain Only, 32" Square	18.00	EA	645.94	11,627
15411.326	Thermostatic Valve for Shower	18.00	EA	585.00	10,530
15411.328	Rough-In, Supply, Waste and Vent for Shower	18.00	EA	818.00	14,724
15411.901	Emergency Shower, Single Head, Drench, Ball Valve, Pull Style, Freestanding, No Rough-In	8.00	EA	573.80	4,590
15411.908	Emergency Eyewash Fountain, SS Bowl, Pedestal Mount, No Rough-In	8.00	EA	533.80	4,270
15412.222	Electric Water Cooler, Wall Mounted, Full Recessed, SS, Bi-Level	21.00	EA	1,871.46	39,301
15412.236	Rough-In, Supply, Waste and Vent for Electric Water Cooler	21.00	EA	504.00	10,584
15412.434	Floor Drain, Heavy Ducty, Galvanized w/Sediment Bucket, 12" OD Grate, 2"-6" Pipe Size	24.00	EA	1,131.14	27,147
15412.730	Roof Drain, Integral Expansion Joint, Galvanized, 12" Dome, 4" Pipe Size	87.00	EA	1,074.20	93,455

4.5 - PC Construction Cost Estimate - All Options

Dover High School Schematic Estimate

CONSTRUCTION

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Group 2: Uniformat 1

Item Code	Description	Quantity	UM	Total UnitCost	Total Cost
15412.730	Roof Drain, Integral Expansion Joint, Galvanized, 12" Dome, 4" Pipe Size - Emergency	87.00	EA	1,074.20	93,455
15414.104	Water Meter, UL/FM Approved, 4" Main x 2" By-Pass, 700 GPM	2.00	EA	7,535.08	15,070
15414.126	Water Meter, Bronze, Comm./Dom., Flanged, 4" OD, 320 GPM	3.00	EA	5,366.82	16,100
15420.106	Copper Type L, Solder Joint W/Couplings And Hangers 10ft OC, 3/4" OD	11,000.00	LF	10.64	116,999
15420.108	Copper Type L, Solder Joint W/Couplings And Hangers 10ft OC, 1" OD	8,500.00	LF	14.02	119,129
15420.114	Copper Type L, Solder Joint W/Couplings And Hangers 10ft OC, 2" OD	4,000.00	LF	31.93	127,706
15420.118	Copper Type L, Solder Joint W/Couplings And Hangers 10ft OC, 3" OD	1,000.00	LF	76.22	76,215
15420.122	Copper Type L, Solder Joint W/Couplings And Hangers 10ft OC, 4" OD	250.00	LF	125.23	31,308
15421.104	Fiberglass 1" Insulation With All Service Jacket 3/4" Pipe	11,000.00	LF	3.96	43,588
15421.106	Fiberglass 1" Insulation With All Service Jacket 1" Pipe	8,500.00	LF	4.16	35,367
15421.204	Fiberglass 1-1/2" Insulation With All Service Jacket 2" Pipe	4,000.00	LF	5.87	23,484
15421.208	Fiberglass 1-1/2" Insulation With All Service Jacket 3" Pipe	1,000.00	LF	6.58	6,579
15421.212	Fiberglass 1-1/2" Insulation With All Service Jacket 4" Pipe	250.00	LF	7.78	1,946
15421.500	Valves and Accessories	1.00	LS	25,000.00	25,000
15421.500	Valves and Accessories	1.00	LS	125,000.00	125,000
15440.028	UG Hub & Spigot, CI, No Hangers, 6" Pipe	1,000.00	LF	52.21	52,214
15440.052	Casty Iron SW&V, Hangers 5' OC, 1-1/2" Pipe	11,000.00	LF	18.61	204,732
15440.054	Casty Iron SW&V, Hangers 5' OC, 2" Pipe	6,500.00	LF	22.45	145,925
15440.058	Casty Iron SW&V, Hangers 5' OC, 4" Pipe	2,750.00	LF	31.69	87,150
15440.382	Corrosion Resistant Pipe, Sch. 40 Polypropylene, No Coupling/Hangers, 2" OD - GW	2,000.00	LF	24.95	49,900
15440.386	Corrosion Resistant Pipe, Sch. 40 Polypropylene, No Coupling/Hangers, 4" OD - GW	1,000.00	LF	45.25	45,248
15440.500	Limestone Chip Acid Neutralizer - 200 Gallon	1.00	EA	17,500.00	17,500
15450.410	Sch40 PVC W/Couplings and Hangers, 10ft OC, 4" OD	2,000.00	LF	24.48	48,968
15450.412	Sch40 PVC W/Couplings and Hangers, 10ft OC, 6" OD	500.00	LF	37.11	18,557
15460.100	Black Steel, Schedule 40, Threaded W/Couplings And Hangers, 10ft OC, 2" OD - NG	5,500.00	LF	21.06	115,844
15460.102	Black Steel, Schedule 40, Threaded W/Couplings And Hangers, 10ft OC, 1-1/4" OD - NG	6,000.00	LF	14.47	86,826
15460.200	Valves and Accessories	1.00	LS	10,000.00	10,000
15460.200	Valves and Accessories	1.00	LS	50,000.00	50,000
15470.100	Air Compressor, Reciprocating, Air-Cooled, Tank Mounted, Two Stage, 3 Phase, 105 CFM @ 125 PSI, 25 HP, 250 Gal. Tank	2.00	EA	14,100.00	28,200
15470.100	Copper Type L, Solder Joint W/Couplings And Hangers 10ft OC, 3/4" OD - CA	1,200.00	LF	10.64	12,764
15470.102	Copper Type L, Solder Joint W/Couplings And Hangers 10ft OC, 1" OD	600.00	LF	14.02	8,409
15470.212	Compressed Air Outlet, Recessed Wall, Single	80.00	EA	123.75	9,900

Dover High School Schematic Estimate

CONSTRUCTION

Job #: 15027
Project Size: 0 SF
Detail - With Taxes and Insurance

Estimator: KN, JS, JB, MT, MP
Group 1: School Options
Group 2: Uniformat 1

Item Code	Description	Quantity	UM	Total UnitCost	Total Cost
15495.000	Kitchen Rough-In	2.00	LS	15,000.00	30,000
15495.004	Commissioning Support	1.00	LS	8,000.00	8,000
15495.004	Commissioning Support	1.00	LS	50,000.00	50,000
15495.006	Coordination & Management	1.00	LS	8,500.00	8,500
15495.006	Coordination & Management	1.00	LS	65,000.00	65,000
15495.008	Coring & Patching & Firestopping	1.00	LS	2,000.00	2,000
15495.008	Coring & Patching & Firestopping	1.00	LS	20,000.00	20,000
15495.010	Flushing & Sanitizing	1.00	LS	1,500.00	1,500
15495.010	Flushing & Sanitizing	1.00	LS	15,000.00	15,000
15495.018	Fees & Permits	1.00	LS	3,000.00	3,000
15495.018	Fees & Permits	1.00	LS	25,000.00	25,000
***** Total D20 - PLUMBING**					**2,659,492**
**** Total D20 - PLUMBING**					**2,659,492**
D30 - HVAC					
D30 - HVAC					
15620.000	Custom, 20" High, Insulated Roof Curb	25.00	EA	1,200.00	30,000
15620.323	Outdoor, MAU, Indirect Gas-Fired (NG), Gravity Vent, SS Exchanger, 70degF Rise, 550 MBH Input	2.00	EA	18,086.92	36,174
15620.421	RTU 1-4, Stnd Controls, Curb, Econ., Multi-Zone, Gas Heat, 42 Ton Dx Cooling, 530 MBH Heating, Heat Wheel, 12000 CFM	4.00	EA	2,907.71	11,631
15620.422	RTU 5, Stnd Controls, Curb, Econ., Multi-Zone, Gas Heat, 42 Ton Dx Cooling, 530 MBH Heating, Heat Wheel, 12500 CFM	1.00	EA	2,907.71	2,908
15620.423	RTU 6, Stnd Controls, Curb, Econ., Multi-Zone, Gas Heat, 20 Ton Dx Cooling, 200 MBH Heating, Heat Wheel, 5500 CFM	1.00	EA	2,907.71	2,908
15620.424	RTU 7, Stnd Controls, Curb, Econ., Multi-Zone, Gas Heat, 15 Ton Dx Cooling, 200 MBH Heating, Heat Wheel, 3500 CFM	1.00	EA	2,907.71	2,908
15620.425	RTU 8, Stnd Controls, Curb, Econ., Multi-Zone, Gas Heat, 27 Ton Dx Cooling, 350 MBH Heating, Heat Wheel, 7200 CFM	1.00	EA	2,907.71	2,908
15620.426	RTU 11, Stnd Controls, Curb, Econ., Multi-Zone, Gas Heat, 7.5 Ton Dx Cooling, 130 MBH Heating, 2500 CFM	1.00	EA	2,907.71	2,908
15620.426	RTU 9, 10, Stnd Controls, Curb, Econ., Multi-Zone, Gas Heat, 22 Ton Dx Cooling, 320 MBH Heating, 6500 CFM	2.00	EA	54,907.71	109,815
15620.427	RTU 12, Stnd Controls, Curb, Econ., Multi-Zone, Gas Heat, 6.5 Ton Dx Cooling, 120 MBH Heating, 2000 CFM	1.00	EA	2,907.71	2,908
15620.427	RTU 15, Stnd Controls, Curb, Econ., Multi-Zone, Gas Heat, 35 Ton Dx Cooling, 480 MBH Heating, 10000 CFM	1.00	EA	82,907.71	82,908
15620.428	RTU 13, 14, Stnd Controls, Curb, Econ., Multi-Zone, Gas Heat, 10 Ton Dx Cooling, Heat Wheel, 200 MBH Heating, 3200 CFM	2.00	EA	2,907.71	5,815
15620.428	RTU 16, Stnd Controls, Curb, Econ., Multi-Zone, Gas Heat, 10 Ton Dx Cooling, 180 MBH Heating, 4000 CFM	1.00	EA	34,907.71	34,908
15620.429	RTU 17, Stnd Controls, Curb, Econ., Multi-Zone, Gas Heat, 15 Ton Dx Cooling, 200 MBH Heating, Heat Wheel, 3500 CFM	1.00	EA	2,907.71	2,908
15620.430	RTU 18, Stnd Controls, Curb, Econ., Multi-Zone, Gas Heat, 32 Ton Dx Cooling, 450 MBH Heating, Heat Wheel, 10500 CFM	1.00	EA	2,907.71	2,908

Dover High School Schematic Estimate

CONSTRUCTION

Job #: 15027
Project Size: 0 SF
Detail - With Taxes and Insurance

Estimator: KN, JS, JB, MT, MP
Group 1: School Options
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Item Code	Description	Quantity	UM	Total UnitCost	Total Cost
15620.431	RTU 19, Stnd Controls, Curb, Econ., Multi-Zone, Gas Heat, 10 Ton Dx Cooling, 150 MBH Heating, Heat Wheel, 2500 CFM	1.00	EA	2,907.71	2,908
15620.432	RTU 20, Stnd Controls, Curb, Econ., Multi-Zone, Gas Heat, 300 MBH Heating, Heat Wheel, 6000 CFM	1.00	EA	2,907.71	2,908
15620.433	RTU 21, Stnd Controls, Curb, Econ., Multi-Zone, Gas Heat, 300 MBH Heating, Heat Wheel, 6000 CFM	1.00	EA	2,907.71	2,908
15620.434	RTU 22, Stnd Controls, Curb, Econ., Multi-Zone, Gas Heat, 200 MBH Heating, Heat Wheel, 3500 CFM	1.00	EA	2,907.71	2,908
15620.435	RTU 23, Stnd Controls, Curb, Econ., Multi-Zone, Gas Heat, 400 MBH Heating, Heat Wheel, 8000 CFM	1.00	EA	2,907.71	2,908
15620.436	RTU 24, Stnd Controls, Curb, Econ., Multi-Zone, Gas Heat, 300 MBH Heating, Heat Wheel, 6000 CFM	1.00	EA	2,907.71	2,908
15620.437	RTU 25, Stnd Controls, Curb, Econ., Multi-Zone, Gas Heat, 300 MBH Heating, Heat Wheel, 6200 CFM	1.00	EA	2,907.71	2,908
15620.500	Daikin Rebel / Maverick II RTU's - VFD's, Extended Warranties	1.00	LS	878,500.00	878,500
15624.003	Split System, Ductless, Cooling Only, Wall Mount, Single Zone, 1-1/2 Ton	5.00	EA	6,013.00	30,065
15630.220	Single Bathroom Exhaust Fan, 100 CFM	9.00	EA	403.45	3,631
15630.226	Bathroom Exhaust Fan, 1000 CFM	4.00	EA	1,680.56	6,722
15630.228	Exhaust Fan, 1500 CFM	2.00	EA	2,180.56	4,361
15630.416	Kitchen Exhaust Fan, Centrifugal, 4000 CFM	2.00	EA	4,215.33	8,431
15640.112	Hot Water Condensing Boiler, Packaged w/Controls/Circulator/Trim, NG, 330 MBH Output	3.00	EA	10,214.00	30,642
15640.114	Hot Water Condensing Boiler, Packaged w/Controls/Circulator/Trim, NG, 2700 MBH Output	4.00	EA	59,364.00	237,456
15650.002	Glycol Treatment System	1.00	LS	8,000.00	8,000
15651.005	Chiller, Air Cooled, High Efficiency, 50 Ton	1.00	EA	42,927.00	42,927
15660.000	Fume Hood, Fan, Ductwork	2.00	EA	5,500.00	11,000
15660.002	Vehicle Exhaust System, 2000 CFM	1.00	LS	15,000.00	15,000
15660.004	Vehicle Exhaust System, 5000 CFM	1.00	LS	25,000.00	25,000
15660.006	Paint Booth Exhaust System, 12000 CFM	1.00	LS	25,000.00	25,000
15660.008	Dust Collection System, 4000 CFM	1.00	LS	65,000.00	65,000
15660.010	Duct Collection System, 6000 CFM	1.00	LS	87,000.00	87,000
15660.202	Chilled Water Pump, Centrifugal, Base Mounted, End Suction, 105 gpm w/VFD	2.00	EA	4,096.31	8,193
15660.206	Hot Water Pump, Centrifugal, Base Mounted, End Suction, 100 gpm w/VFD	2.00	EA	3,994.33	7,989
15660.206	Hot Water Pump, Centrifugal, Base Mounted, End Suction, 720 gpm w/VFD	2.00	EA	18,994.33	37,989
15680.040	Displacement Ventilation System (per Classroom)	71.00	EA	1,250.00	88,750
15680.042	Sound Attenuator Device / Double Wall Ductwork (per RTU)	25.00	EA	2,500.00	62,500
15680.112	Galvanized Ductwork, > 5000 LB	250,000.00	LB	7.50	1,874,975
15684.102	Duct Insulation, Blanket Type, Fiberglass, FSK, 1.0Lb Density, 1-1/2" Thick	215,000.00	SF	2.53	544,595
15688.014	Gas Vent, Double Wall, Galvanized Steel, UL Listed, 12" Dia.	700.00	LF	48.66	34,064
15690.102	Fin Tube Radiation, Wall Hung, 14" Slope Top, 1-1/4" Cu Tube, 4-1/4" Aluminum Fin	3,650.00	LF	64.10	233,965

Dover High School Schematic Estimate

CONSTRUCTION

Job #: 15027
Project Size: 0 SF
Detail - With Taxes and Insurance

Estimator: KN, JS, JB, MT, MP
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Item Code	Description	Quantity	UM	Total UnitCost	Total Cost
15691.004	Cabinet Unit Heater, Horizontal, Floor Mount, 60 MBH	26.00	EA	1,617.26	42,049
15691.312	Unit Heater, Hot Water, Horizontal, 47 MBH	15.00	EA	717.26	10,759
15692.210	Variable Air Volume Box, PI, w/Damper, Actuator, T-Stat, 1000 CFM	100.00	EA	890.00	89,000
15699.000	Chilled Beam	830.00	LF	100.00	83,000
15700.106	Copper Type L, Solder Joint W/Couplings And Hangers 10ft OC, 3/4" OD	20,400.00	LF	10.64	216,981
15700.112	Copper Type L, Solder Joint W/Couplings And Hangers 10ft OC, 1-1/2" OD	10,200.00	LF	22.40	228,444
15700.118	Copper Type L, Solder Joint W/Couplings And Hangers 10ft OC, 3" OD	2,000.00	LF	62.36	124,713
15700.316	Black Steel, Schedule 40, Welded W/Couplings And Hangers, 10ft OC, 4" OD	400.00	LF	45.02	18,010
15704.104	Fiberglass 1" Insulation With All Service Jacket 3/4" Pipe	20,400.00	LF	3.96	80,835
15704.202	Fiberglass 1-1/2" Insulation With All Service Jacket 1-1/2" Pipe	10,200.00	LF	5.49	55,998
15704.308	Fiberglass 2" Insulation With All Service Jacket 3" Pipe	2,000.00	LF	8.10	16,190
15704.312	Fiberglass 2" Insulation With All Service Jacket 4" Pipe	400.00	LF	9.71	3,883
15705.004	Air Separator w/Strainer, 2-1/2" Dia.	1.00	EA	1,439.16	1,439
15705.008	Air Separator w/Strainer, 4" Dia.	1.00	EA	3,098.60	3,099
15706.206	Expansion Tank, Steel, ASME, Rubber Diaphragm, 61 Gal. Accep. Vol.	1.00	EA	3,786.82	3,787
15706.214	Expansion Tank, Steel, ASME, Rubber Diaphragm, 211 Gal. Accep. Vol.	1.00	EA	6,573.73	6,574
15708.106	ARC Tubing, Type L Copper, Hard Tempered, No Couplings/Hangers, 5/8"	1,000.00	LF	7.11	7,110
15708.112	ARC Tubing, Type L Copper, Hard Tempered, No Couplings/Hangers, 1-1/8"	1,000.00	LF	10.84	10,840
15708.500	Valves & Accessories	1.00	LS	1,500.00	1,500
15708.500	Valves & Accessories	1.00	LS	200,000.00	200,000
15780.000	DDC Controls	302,324.00	SF	5.50	1,662,782
15780.010	CO2 Sensor	119.00	EA	85.00	10,115
15792.001	Air & Water Balance	302,324.00	SF	0.50	151,162
15801.501	Coordination & Management	1.00	LS	10,000.00	10,000
15801.501	Coordination & Management	1.00	LS	175,000.00	175,000
15801.502	Commissioning Support	1.00	LS	2,500.00	2,500
15801.502	Commissioning Support	1.00	LS	50,000.00	50,000
15801.503	Coring, Patching & Firestopping	1.00	LS	2,000.00	2,000
15801.503	Coring, Patching & Firestopping	1.00	LS	25,000.00	25,000
15801.504	Seismic Restraint	1.00	LS	5,000.00	5,000
15801.504	Seismic Restraint	1.00	LS	25,000.00	25,000
15801.505	Fees & Permits	1.00	LS	5,000.00	5,000
15801.505	Fees & Permits	1.00	LS	50,000.00	50,000
***** Total D30 - HVAC**					**8,104,390**
**** Total D30 - HVAC**					**8,104,390**
D40 - FIRE PROTECTION					
D40 - FIRE PROTECTION					
15502.002	Fire Service Main - 6" Ductile Iron, Mech. Joint	75.00	LF	29.06	2,179
15502.024	6" Double Check Backflow Preventer W/OS&Y Valves, 4 Test Cocks	2.00	EA	5,847.73	11,695
15502.110	FDC - Two Way Siamese - 3x3x6	2.00	EA	1,541.40	3,083
15502.116	4" Zone Flow Control Valve W/Trim And Gauges	10.00	EA	6,009.14	60,091
15502.128	Tamper Switch	10.00	EA	153.65	1,537

4.5 - PC Construction Cost Estimate - All Options

Dover High School Schematic Estimate

CONSTRUCTION

Job #: 15027
Project Size: 0 SF
Detail - With Taxes and Insurance

Estimator: KN, JS, JB, MT, MP
Group 1: School Options
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Item Code	Description	Quantity	UM	Total UnitCost	Total Cost
15502.202	Sprinkler Main Sch 40 BS - 4", Grooved Joint, W/Hangers 10 Ft O.C.	8,800.00	LF	39.75	349,796
15502.222	Sprinkler Branch Sch 40 BS - 1" Threaded W/ Hangers 10 Ft O.C.	17,700.00	LF	12.53	221,777
15502.226	Sprinkler Branch Sch 40 BS - 1-1/2" Threaded W/ Hangers 10 Ft O.C.	8,750.00	LF	16.39	143,413
15502.400	Sprinkler Heads - Standard Pendant, 1/2" NPT, 1/2" Orifice	2,650.00	EA	36.43	96,526
15505.006	2" Dry Pipe Valve With Trim And Gauges	1.00	EA	2,507.80	2,508
15505.012	30 Gal., 1 HP Comp Air Sys For Fire Protection	1.00	EA	1,093.23	1,093
15505.202	Sprinkler Main Sch 40 BS - 4", Grooved Joint, W/Hangers 10 Ft O.C. - RR	115.00	LF	39.75	4,571
15505.222	Sprinkler Branch Sch 40 BS - 1" Threaded W/ Hangers 10 Ft O.C. - RR	190.00	LF	12.53	2,381
15505.400	Sprinkler Heads - Standard Upright, 1/2" NPT, 1/2" Orifice - RR	20.00	EA	36.43	729
15525.004	Sprinkler Main Sch 40 BS - 4", Grooved Joint, W/Hangers 10 Ft O.C.	240.00	LF	39.75	9,540
15525.102	Fd Standpipe Angle Valve, 2-1/2", Brass, W/Wheel, Handle Chain And Cap	6.00	EA	287.34	1,724
15535.002	Coordination & Management	1.00	LS	20,000.00	20,000
15535.010	Hydraulic Calculations	1.00	LS	12,000.00	12,000
15535.016	Coring & Patching & Firestopping	1.00	LS	17,500.00	17,500
15535.024	Fees & Permits	1.00	LS	12,000.00	12,000
***** Total D40 - FIRE PROTECTION**					**974,143**
**** Total D40 - FIRE PROTECTION**					**974,143**
D50 - ELECTRICAL					
D50 - ELECTRICAL					
16020.210	300 kW NG Emergency Generator w/Sound Attenuated Enclosure	1.00	EA	154,146.07	154,146
16020.212	Emergency Power Equipment and Distribution	234,400.00	SF	1.50	351,600
16020.214	Emergency Generator - Testing	1.00	LS	5,000.00	5,000
16030.000	4000 Amp Switchgear, 480/277V	1.00	EA	90,000.00	90,000
16030.004	Transformer / Primary / Conduit ** ALLOWANCE **	1.00	LS	50,000.00	50,000
16040.006	Panel Feeders	52.00	EA	2,500.00	130,000
16040.008	Primary Conduit Only - (1) 4"	800.00	LF	4.40	3,520
16040.010	Secondary Feeder - (8) 4" Conduits	800.00	LF	4.40	3,520
16040.011	Secondary Feeder - #600 MCM Conductor	3,200.00	LF	34.35	109,920
16040.060	Grounding/Bonding	1.00	LS	10,000.00	10,000
16040.200	20 KW UPS	2.00	EA	20,000.00	40,000
16040.218	Panel 277/480V 100A - Lighting	13.00	EA	1,664.44	21,638
16040.218	Panel 277/480V 100A - Mechanical	13.00	EA	1,664.44	21,638
16040.224	Panel 277/480V 400A - Distribution	13.00	EA	3,328.57	43,271
16040.228	Triple Tub Panel 120/208V 250 Amp	13.00	EA	9,795.00	127,335
16040.300	Transformer Dry Type, Three Phase, 30kVA	13.00	EA	4,928.89	64,076
16040.302	Transformer Dry Type, Three Phase, 75kVA	13.00	EA	7,194.29	93,526
16050.100	Branch Devices	302,324.00	SF	1.00	302,324
16050.102	Power and Branch Circuitry	67,924.00	SF	2.50	169,810
16050.102	Power and Branch Circuitry	234,400.00	SF	3.50	820,400
16060.414	RTU Feeder	25.00	EA	2,706.00	67,650
16060.416	Boiler Feeder	4.00	EA	1,401.75	5,607
16060.418	Pump Feeder	7.00	EA	1,965.75	13,760
16060.420	Chiller Feeder	1.00	EA	8,336.00	8,336
16080.008	2x4 Flourescent - MER	30.00	EA	340.25	10,208
16080.010	Recessed LED's - Classrooms/Offices	1,340.00	EA	290.25	388,935
16080.012	Direct LED's - Gymnasium	56.00	EA	1,080.50	60,508
16080.014	Linear Indirect LED's - Corridor	445.00	EA	440.25	195,911

Dover High School Schematic Estimate

CONSTRUCTION

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Item Code	Description	Quantity	UM	Total UnitCost	Total Cost
16080.016	Pendant Mount / Indirect Flourescent - Cafeteria	58.00	EA	728.25	42,239
16080.018	2x2 LED Panels - Kitchen/Servery	50.00	EA	603.25	30,162
16080.020	Direct Recessed LED's - Library	36.00	EA	290.25	10,449
16080.022	Dimmable Flourescent - Auditorium	60.00	EA	2,090.25	125,415
16080.024	Exterior Wall Mount - LED	42.00	EA	628.25	26,387
16080.026	Exterior Pole Fixture - Custom LED	35.00	EA	4,000.00	140,000
16080.030	Exterior Pendant - LED - RR	15.00	EA	628.25	9,424
16081.100	Lighting Circuitry	67,924.00	SF	1.25	84,905
16081.100	Lighting Circuitry	234,400.00	SF	2.00	468,800
16081.102	Lighting Controls	302,324.00	SF	1.25	377,905
16081.104	Lighting Controls & Panels - Testing	1.00	LS	5,000.00	5,000
16081.104	Lighting Controls & Panels - Testing	1.00	LS	15,000.00	15,000
16081.150	Stage Lights / Sound System / Dimmer Rack ** ALLOWANCE **	1.00	LS	375,000.00	375,000
16100.000	Sound System - Cafeteria	1.00	LS	20,000.00	20,000
16100.001	Sound System - Gymnasium	1.00	LS	20,000.00	20,000
16100.002	Sound System - Music Room	1.00	LS	10,000.00	10,000
16110.020	Bi-Directional Antennae	1.00	LS	50,000.00	50,000
16110.100	Tel/ Data/ CATV	302,324.00	SF	1.75	529,067
16170.100	Card Reader System - Head End Equipment	1.00	EA	9,000.00	9,000
16170.101	Card Readers - Swipes/Wires	25.00	EA	1,700.00	42,500
16180.000	Master Clock	302,324.00	SF	0.35	105,813
16180.001	Intercom	302,324.00	SF	0.60	181,394
16180.100	Communications - Testing	1.00	LS	5,000.00	5,000
16180.100	Communications - Testing	1.00	LS	15,000.00	15,000
16200.000	Security System - Head End Equipment	1.00	LS	35,000.00	35,000
16200.002	Fixed Interior CCTV Cameras	25.00	EA	3,000.00	75,000
16200.004	Pan-Tilt-Zoom Exterior CCTV Cameras	10.00	EA	5,000.00	50,000
16300.102	Fire Alarm	302,324.00	SF	1.50	453,486
16300.104	Fire Alarm Testing	1.00	LS	2,000.00	2,000
16300.104	Fire Alarm Testing	1.00	LS	5,000.00	5,000
16400.002	Lightning Protection	1.00	LS	5,000.00	5,000
16400.002	Lightning Protection	1.00	LS	25,000.00	25,000
16400.100	Commissioning	1.00	LS	10,000.00	10,000
16400.100	Commissioning	1.00	LS	50,000.00	50,000
16400.102	Firestopping	1.00	LS	5,000.00	5,000
16400.102	Firestopping	1.00	LS	15,000.00	15,000
16400.104	Identification	1.00	LS	2,000.00	2,000
16400.104	Identification	1.00	LS	5,000.00	5,000
16400.106	Seismic Restraint	1.00	LS	3,500.00	3,500
16400.106	Seismic Restraint	1.00	LS	10,000.00	10,000
16400.108	Fees & Permits	1.00	LS	15,000.00	15,000
16400.108	Fees & Permits	1.00	LS	40,000.00	40,000
***** Total D50 - ELECTRICAL**					**6,867,084**
**** Total D50 - ELECTRICAL**					**6,867,084**
E10 - EQUIPMENT					
E10 - EQUIPMENT, GENERALLY					
11160.034	12" Dock Seal - OH Doors	2.00	EA	1,585.04	3,170
11160.043	Rubber Dock Bumper 4 1/2"x14"x12"	4.00	EA	166.38	666
11480.006	OUTDOOR SCOREBOARDS - NOT INCLUDED				
11480.008	Gym Bleachers (One Side Only)	1.00	LS	25,000.00	25,000
11480.014	Gym Divider Curtain	1.00	LS	25,000.00	25,000
11480.020	Basketball Hoop	6.00	EA	5,333.33	32,000
11480.030	Volley Ball Net w/ Floor Inserts	1.00	EA	1,900.00	1,900
11480.040	Score Board - Existing to remain		EA	8,500.00	
11480.060	Upgrade Motorized Retraction System for Existing Bleachers		LS	20,000.00	

4.5 - PC Construction Cost Estimate - All Options

Dover High School Schematic Estimate

CONSTRUCTION

Job #: 15027
Project Size: 0 SF
Detail - With Taxes and Insurance

Estimator: KN, JS, JB, MT, MP
Group 1: School Options
Group 2: Uniformat 1

Item Code	Description	Quantity	UM	Total UnitCost	Total Cost
11480.062	Plastic Telescoping Stands - Hussey Maxam 26 Motorized Bleachers		EA	110.00	
11480.065	Gym Wall Padding - 6' Ht	470.00	LF	100.00	47,000
11480.080	Temporarily Relocate Existing Bleachers for Floor Replacement	1.00	LS	2,000.00	2,000
11650.000	Stage Set Fastening Equipment - In Line set Allowance				
11651.000	Lecture Hall Tables - 18" X 5'		EA	1,085.15	
11653.000	Auditorium Seating - Quattro By Hussey Seating	800.00	EA	250.00	200,000
11654.000	Line Sets & Shell Allowance - Auditorium	1.00	LS	175,000.00	175,000
***** Total E10 - EQUIPMENT, GENERALLY**					**511,736**
**** Total E10 - EQUIPMENT**					**511,736**
E20 - FURNISHINGS					
E2010 - FIXED FURNISHINGS					
10000.020	Smart Boards - N/A per HMFH		EA	2,677.73	
10100.004	Marker Board W/ Alum Trim - Classrooms & Labs	2,952.00	SF	15.63	46,147
10100.006	Tack Board W/O Trim	2,952.00	SF	8.32	24,550
12500.010	Hunter Douglas Roller Shades (50% of glazing)	15,960.00	SF	11.00	175,560
***** Total E2010 - FIXED FURNISHINGS**					**246,257**
**** Total E20 - FURNISHINGS**					**246,257**
F10 - SPECIAL CONSTRUCTION					
F10 - SPECIAL CONSTRUCTION					
2100.022	50' Riding Ring w/ Fence (Roof in B10)	1.00	LS	10,000.00	10,000
2220.330	Crushed Stone Under Slab - Kennel	20.00	CY	37.51	750
2220.332	4" SOG - Kennel	400.00	SF	7.71	3,084
2720.115	Chain Link Fence - Vinyl Coated 6' H - Kennel (10' x 10')	120.00	LF	22.00	2,640
2760.100	Tennis Court	4.00	EA	40,000.00	160,000
2762.110	Baseball Field (Includes new drainage system)	1.00	EA	150,000.00	150,000
***** Total F10 - SPECIAL CONSTRUCTION**					**326,474**
**** Total F10 - SPECIAL CONSTRUCTION**					**326,474**
F20 - SELECTIVE BUILDING DEMOLITION					
F2010 - BUILDING ELEMENTS DEMOLITION					
2022.100	Mass Demolition - High School	61,802.00	SF	5.00	309,010
2022.100	Mass Demolition - High School	116,198.00	SF	6.00	697,188
2032.000	Gym Floor Demo	13,027.00	SF	1.21	15,765
2032.000	Interior Demolition - Strip Walls & Clg GWB, Flooring, Casework, MEP	52,027.00	SF	8.00	416,216
2032.110	Remove Face Brick at West Wall of 1966 Wing	18,200.00	SF	1.30	23,715
2032.310	Demo Entrance Canopy	4,600.00	SF	0.68	3,129
***** Total F2010 - BUILDING ELEMENTS DEMO**					**1,465,023**
**** Total F20 - SELECTIVE BUILDING DEMOLIT**					**1,465,023**
G10 - SITE PREPARATION					
G1020 - SITE DEMOLITION					
2012.010	Remove underdrain system at existing baseball field	1.00	LS	10,000.00	10,000
2013.240	Demo Bit Conc Pvmt - Large Area	230,562.00	SF	0.16	37,927
2013.240	Demo Bit Conc Pvmt - Large Area (For Animal Barn)	6,000.00	SF	0.16	987
2013.280	Demo Conc Walk	11,800.00	SF	0.63	7,414
***** Total G1020 - SITE DEMOLITION**					**56,328**
G1030 - EARTHWORK					
2110.290	Misc Erosion Control	1.00	LS	50,000.00	50,000

Dover High School Schematic Estimate

CONSTRUCTION

Job #: 15027
Project Size: 0 SF
Detail - With Taxes and Insurance

Estimator: KN, JS, JB, MT, MP
Group 1: School Options
Group 2: Uniformat 1

Item Code	Description	Quantity	UM	Total UnitCost	Total Cost
2110.306	Site Access/Laydown	1.00	LS	35,000.00	35,000
2200.130	Site Excavation	15,000.00	CY	12.13	181,913
2200.160	Site Fill From Borrow (Demolished Wing)	25,000.00	CY	3.17	79,228
2200.905	Granular Fill (M) (Demolished Wing)	25,000.00	CY	10.00	250,000
2300.155	Dewatering	1.00	LS	40,000.00	40,000
***** Total G1030 - EARTHWORK**					**636,140**
**** Total G10 - SITE PREPARATION**					**692,468**
G20 - SITE IMPROVEMENTS					
G2010 - SITE PAVING					
2600.050	Compact Road Subgrade	28,875.89	SY	0.23	6,688
2600.060	Fine Grade Road Subgrade	28,875.89	SY	1.04	30,089
2600.075	Stabilization Fabric-Medium	33,207.27	SY	1.31	43,402
2600.130	Install Road Base (L)	20,213.12	CY	3.96	80,070
2600.136	Base - Crushed Gravel (M)	20,213.12	CY	16.00	323,410
2600.200	Added 2" for Heavy Duty Paving - Lot C (35,052 SF)	432.00	TONS	110.00	47,520
2600.200	Bituminous Concrete P3.96g (4")	6,357.78	TON	95.00	603,989
2600.201	28875.89	1.00	EACH		
2600.210	**Paved Area**	28,875.89	SY		
2610.002	Grading For Curbs	6,000.00	LF	2.68	16,079
2610.060	Concrete Curbs 6" X 18"	6,000.00	LF	12.00	72,000
2610.175	4" Concrete Sidewalk	11,000.00	SF	3.00	33,000
3200.055	CIP Stairs at Retaining Wall	140.00	SF	55.00	7,700
***** Total G2010 - SITE PAVING**					**1,263,947**
G2050 - LANDSCAPING					
2710.200	Landscaping	1.00	LS	140,000.00	140,000
2710.250	Landscaping - Courtyard	1.00	LS	150,000.00	150,000
5520.060	Steel Handrail - Site Retaining Wall	328.00	LF	62.21	20,405
10000.010	Flag Pole	1.00	EA	2,277.73	2,278
***** Total G2050 - LANDSCAPING**					**312,683**
**** Total G20 - SITE IMPROVEMENTS**					**1,576,630**
G30 - SITE UTILITIES					
G3010 - SITE UTILITIES					
2500.790	Storm Drainage Line	4,200.00	LF	44.08	185,136
2510.507	4' Dia PC Catch Basin	40.00	EA	3,469.33	138,773
2540.110	Water Line	300.00	LF	54.08	16,224
2540.114	Sanitary Sewer	300.00	LF	52.08	15,624
2540.118	Prim/Sec Electrical/Telcom Trenching	300.00	LF	32.08	9,624
2540.122	Natural Gas Trenching	300.00	LF	32.08	9,624
2540.128	Alter Underdrain at existing ball field for new addition	1.00	LS	10,000.00	10,000
2540.130	Alter Underdrain at existing lacrosse field at kitchen laoding dock due to const access	1.00	LS	10,000.00	10,000
2580.110	Elec Trench-Direct Burial (Site Lighting)	5,400.00	LF	8.04	43,416
2580.120	Elec Trench-Duct Bank (Secondary/Primary Under Roads)	140.00	LF	12.32	1,725
2580.130	Elec Ductbank Forms	560.00	SF	4.42	2,473
2580.140	Elec Ductbank Concrete	48.53	CY	121.08	5,876
15440.500	Grease Interceptor, Steel, 50 GPM, 100 LB Fat Capacity	1.00	EA	9,962.60	9,963
15440.502	Grease Interceptor, Steel, 250 GPM, 500 LB Fat Capacity	1.00	EA	26,096.32	26,096
***** Total G3010 - SITE UTILITIES**					**484,555**
**** Total G30 - SITE UTILITIES**					**484,555**
Z10 - GENERAL					
Z1010 - GENERAL CONDITIONS					

4.5 - PC Construction Cost Estimate - All Options

Dover High School Schematic Estimate

CONSTRUCTION

Job #: 15027
Project Size: 0 SF
Detail - With Taxes and Insurance

Estimator: KN, JS, JB, MT, MP
Group 1: School Options
Group 2: Uniformat 1

Item Code	Description	Quantity	UM	Total UnitCost	Total Cost
0080.100	***DESIGN & ENGINEERING FEES BY CITY OF DOVER***				
0100.000	Mobilize / Demobilize	1.00	LS	28,000.00	28,000
0100.020	Office Supplies	165.00	WK	275.00	45,375
0100.030	Office Furniture / Systems	1.00	LS	48,000.00	48,000
0100.040	Engineer's Furniture / Equipment - N/A		LS		
0100.041	Engineer's Computer / Software - N/A		LS		
0100.045	Project Kiosk 30" - Purchase	4.00	EA	5,000.00	20,000
0100.060	Janitorial Services	168.00	WK	150.00	25,200
0100.064	Temporary Wiring	1.00	LS	3,000.00	3,000
0100.065	Electrical Energy Costs	38.00	MO	350.00	13,300
0100.066	Water Usage Costs	38.00	MO	200.00	7,600
0100.100	Telephone / Communication	38.00	MO	1,000.00	38,000
0100.110	Sanitary / Facilities	38.00	MO	1,500.00	57,000
0110.080	Security / Watchman		WK		
0110.120	Photographs		MO		
0110.160	Documents & Reproductions	1.00	LS	15,000.00	15,000
0120.002	Estimating - GMP	1.00	LS	50,000.00	50,000
0120.003	Officer in Charge		MW	7,000.00	
0120.005	Construction Executive	16.00	MW	5,400.00	86,400
0120.008	Senior Project Manager	59.00	MW	4,720.00	278,480
0120.010	Project Manager	135.00	MW	3,800.00	513,000
0120.018	Senior Project Engineer		MW	2,880.00	
0120.020	Project Engineer (Full Time)	168.00	MW	2,400.00	403,200
0120.022	Office Engineer	115.00	MW	1,920.00	220,800
0120.024	Senior Superintendent	150.00	MW	4,720.00	708,000
0120.025	Project Superintendent	162.00	MW	3,720.00	602,640
0120.034	Construction Coordination - SCP (2 Days/Week)	37.00	MW	2,400.00	88,800
0120.050	Scheduling Engineer		MW	2,280.00	
0120.058	Safety Manager		MW	3,720.00	
0120.060	Safety Engineer (2 Days/Week)	67.00	MW	2,280.00	152,760
0120.220	Administration	139.00	MW	1,720.00	239,080
0130.000	Living Allowance - Management	336.00	MWK	300.00	100,800
0130.005	Living Allowance - Foremen		MWK	125.00	
0130.020	Travel and Expenses	38.00	MO	600.00	22,800
0140.000	Scheduling	1.00	WK	2,280.00	2,280
0140.200	Permit's & Fee's		LS		
0140.205	Building Permit		LS		
0140.300	Design (Means & Methods)		LS		
0140.800	Professional Services		LS		
0150.200	Equipment Trucking		WK		
0150.250	Off - Site Parking		WK		
0150.500	Personnel Elevator		MO		
0150.520	Field Office	38.00	TM	1,200.00	45,600
0150.540	Engineer / Architect Office		TM	400.00	
0150.560	Storage Trailers (2 Trailers)	76.00	TM	150.00	11,400
0160.300	Sub Bonds (Include w/ Subs)		LS		
0180.010	Gross Receipts Tax		LS		
0180.020	Sales Tax		LS		
*** Total Z1010 - GENERAL CONDITIONS					3,826,515
	Z1020 - GENERAL REQUIREMENTS				
0200.010	Materials Testing		LS		
0200.040	Snow Removal	1.00	LS	40,000.00	40,000
0200.110	Field Engineering	4.00	WK	5,000.00	20,000
0200.140	Temporary GWB Partitions	10,000.00	SF	7.80	78,000
0200.160	ICRA / ILSM - N/A		LS		
0200.180	Scaffolding - In COW		LS		
0200.200	OSHA / First Aid	168.00	WK	771.89	129,678
0200.300	Material Handling	168.00	WK	940.00	157,920
0200.310	Cranes - In COW		CM		
0200.320	Progress Cleanup (Labor & Dumpster)	168.00	WK	707.04	118,783
0200.360	Final Cleanup	302,324.00	SF	0.45	136,046
0200.400	Temporary Heat	1.00	LS	175,000.00	175,000
0200.410	Temporary Enclosure	1.00	LS	150,000.00	150,000
0200.970	Support Equipment		LS		
*** Total Z1020 - GENERAL REQUIREMENTS					1,005,426
** Total Z10 - GENERAL					4,831,941
	Z20 - MAJOR CUSTOM PROGRAM ELEMENTS				
	Z2010 - MAJOR CUSTOM PROGRAM ELEMENTS				
0060.002	Precon Services - N/A (Included under separate contract)		LS	96,000.00	
2032.500	Asbestos Abatement Contract	1.00	LS	1,300,000.00	1,300,000
2032.505	Asbestos Abatement - 5% Increase per year	1.00	LS	359,166.00	359,166
2762.100	Replace existing football field with turf	1.00	LS	750,000.00	750,000
11400.001	Kitchen Equipment	2,500.00	SF	150.00	375,000
*** Total Z2010 - MAJOR CUSTOM PROGRAM					2,784,166
** Total Z20 - MAJOR CUSTOM PROGRAM EL					2,784,166
* Total Option 2b - Partial Addition & Rehab					60,606,764
Total Gross Cost					60,606,764

4.5 - PC Construction Cost Estimate - All Options

Dover High School - Option #2 - Partial Renovation - Estimate Comparison				
		PC	PM&C	Cost Variance
	High School Total	$67,450,331	$70,408,834	$2,958,503
A1010	Standard Foundations	$1,481,516	$2,218,107	$736,591
A1020	Special Foundations	$1,070,200	$231,000	-$839,200
A1030	Lowest Floor Construction	$1,787,811	$1,692,284	-$95,527
B1010	Floor Construction	$5,496,138	$2,569,336	-$2,926,802
B1020	Roof Construction	$791,890	$3,623,284	$2,831,394
B2010	Exterior Walls	$3,627,680	$3,636,348	$8,668
B2020	Windows	$2,400,000	$2,372,767	-$27,233
B2030	Exterior Doors	$139,342	$136,963	-$2,379
B3010/3020	Roof Coverings & Openings	$1,793,174	$1,812,366	$19,192
C1010	Partitions	$2,762,070	$2,605,880	-$156,190
C1020	Interior Doors	$834,390	$801,750	-$32,640
C1030	Specialties / Millwork	$2,207,007	$1,945,100	-$261,907
C2010	Stair Construction	$331,790	$200,500	-$131,290
C3010	Wall Finishes	$929,984	$944,263	$14,279
C3020	Floor Finishes	$2,053,264	$2,037,898	-$15,366
C3030	Ceiling Finishes	$1,176,725	$1,205,112	$28,387
D1010	Elevator	$199,423	$157,600	-$41,823
D2010	Plumbing	$2,659,492	$2,665,902	$6,410
D3010	HVAC	$8,104,390	$8,135,150	$30,760
D4010	Fire Protection	$974,143	$1,030,750	$56,607
D5010	Electrical	$6,867,084	$8,086,699	$1,219,615
E1010	Equipment, Generally	$511,736	$950,800	$439,064
E2010	Fixed Furnishings	$246,257	$426,210	$179,953
F10	Special Construction	$326,474	$425,000	$98,526
F2010	Building Elements Demolition	$1,465,023	$457,020	-$1,008,003
G1020/1030	Site Demolition & Earthwork	$692,468	$5,684,349	$4,991,881
G2010	Site Paving	$1,263,947		-$1,263,947
G2050	Landscaping	$312,683		-$312,683
G3010	Site Utilities	$484,555		-$484,555
Z1010	General Conditions	$3,826,515	$3,826,515	$0
Z1020	General Requirements	$1,005,426	$1,005,426	$0
Z2010	Major Custom Program Elements	$2,784,166	$1,300,000	-$1,484,166
	Option #2 Total Direct Cost	$60,606,763	$62,184,379	$1,577,616

Dover High School - Option #2 - Partial Renovation - Estimate Comparison				
	Labor and Material Escalation	$0	$0	$0
	Builders Risk Insurance	$46,064		-$46,064
	Liability Insurace	$505,875	$509,347	$3,472
	Construction Manager's Contingency (PC @ 7%)	$4,242,473	$5,855,684	$1,613,211
	P & P Bond	$404,026	$325,246	-$78,780
	CM Fee (2.5%)	$1,645,130	$1,534,178	-$110,952
	Option #2 Total Indirect Cost	$6,843,568	$8,224,455	$1,380,887
	Option #2 Total Gross Cost	$67,450,331	$70,408,834	$2,958,503

1 2

Dover High School
Schematic Estimate

CONSTRUCTION

OPTION 3 - All New Construction

ESTIMATE SUMMARY

Project #: 15027
Building GSF: 304,514

		Totals
Direct Cost	%	$ 65,565,715
Material Sales Tax (N/A)	0.00%	$ -
Labor & Material Escalation	0.00%	$ -
Gross Cost		$ 65,565,715
Building Permit - by Owner	0.00%	$ -
Builder's Risk insurance	0.07%	$ 48,893
Liability Insurance	0.75%	$ 536,948
Construction Manager's Contingency	5.00%	$ 3,278,286
P & P Bond ($5.83 per $1,000)		$ 417,387
Sub Total		$ 69,847,228
CM Fee	2.50%	$ 1,746,181
Total		$ 71,593,000
Total Cost per square foot		$ 235

June 23, 2015 | **PC Construction Company**

Dover High School Schematic Estimate

CONSTRUCTION

Job #: 15027
Project Size: 0 SF
Recap - With Taxes and Insurance

Estimator: KN, JS, JB, MT, MP
Group 1: School Options
Group 2: Uniformat 1

Item Code	Description	Quantity	UM	Total UnitCost	Total Cost
Option 3 - All New Construction					
A10	FOUNDATIONS				4,701,798
B10	SUPERSTRUCTURE				8,364,713
B20	EXTERIOR CLOSURE				7,774,394
B30	ROOFING				1,886,518
C10	INTERIOR CONSTRUCTION				5,378,566
C20	STAIRCASES				362,660
C30	INTERIOR FINISHES				4,469,534
D10	CONVEYING SYSTEMS				253,253
D20	PLUMBING				2,728,183
D30	HVAC				8,281,029
D40	FIRE PROTECTION				971,111
D50	ELECTRICAL				7,230,576
E10	EQUIPMENT				468,918
E20	FURNISHINGS				308,132
F10	SPECIAL CONSTRUCTION				606,474
F20	SELECTIVE BUILDING DEMOLITION				1,623,129
G10	SITE PREPARATION				687,260
G20	SITE IMPROVEMENTS				1,576,859
G30	SITE UTILITIES				474,931
Z10	GENERAL				4,500,611
Z20	MAJOR CUSTOM PROGRAM ELEMEN				2,917,066
*	Total Option 3 - All New Construction				65,565,715
Total Gross Cost					65,565,715

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4.5 - PC Construction Cost Estimate - All Options

Dover High School Schematic Estimate

CONSTRUCTION

Job #: 15027
Project Size: 0 SF
Detail - With Taxes and Insurance

Estimator: KN, JS, JB, MT, MP
Group 1: School Options
Group 2: Uniformat 1

Item Code	Description	Quantity	UM	Total UnitCost	Total Cost
Option 3 - All New Construction					
A10 - FOUNDATIONS					
A1010 - STANDARD FOUNDATIONS					
2210.205	Structure Excavation	6,500.00	CY	12.13	78,829
2210.205	Structure Excavation (Barn Addition)	300.00	CY	12.13	3,638
2220.335	BF Foundation Wall w/ Crushed Stone (Site Retaining Wall)	2,100.00	CY	37.51	78,771
2220.335	BF Frost Wall w/ Crushed Stone	4,300.00	CY	37.51	161,293
2220.335	BF Frost Wall w/ Crushed Stone (Barn Addition)	180.00	CY	37.51	6,752
2220.340	BF Frost Wall w/ On Site Matl	3,600.00	CY	17.51	63,036
2220.340	BF Frost Wall w/ On Site Matl (Barn Addition)	180.00	CY	17.51	3,152
2500.110	4" PVC Footing Drains	6,800.00	LF	14.00	95,200
3300.010	8" x 16" Continuous Footing (Barn Addition)	294.00	LF	32.30	9,496
3300.014	1' x 3' Continuous Footing	3,113.00	LF	44.20	137,595
3300.016	1' x 3' Continuous Footing (Auditorium)	450.00	LF	44.20	19,890
3300.016	1' x 5' Continuous Footing (Auditorium)	450.00	LF	55.25	24,862
3300.016	1' x 5' Continuous Footing (Site Retaining Wall)	405.00	LF	55.25	22,376
3300.018	3' x 3' x 1' Isolated Footing	52.00	EA	242.25	12,597
3300.040	8" x 5' Frost Wall (Barn Addition)	294.00	LF	105.40	30,988
3300.045	12" x 5' Frost Wall	1,441.00	LF	128.35	184,952
3300.128	12" x 8' Foundation Wall	1,624.00	LF	191.25	310,590
3300.148	12" x 13' Site Retaining Wall	405.00	LF	350.20	141,831
3300.152	18" x 4' Concrete Pier with 2' x 2' x 1' Footing (50' Dia Riding RIng)	14.00	EA	273.63	3,831
3300.156	1' x 1' - 5' Pilaster	66.00	EA	178.50	11,781
7110.100	Damproof Frost Wall	20,197.00	SF	1.50	30,295
7110.100	Damproof Frost Wall (Barn Addition)	1,323.00	SF	1.50	1,985
7200.105	Rigid Insulation - 2" Frost Wall	20,197.00	SF	2.08	42,087
7200.105	Rigid Insulation - 2" Frost Wall (Barn Addition)	1,323.00	SF	2.08	2,757
***** Total A1010 - STANDARD FOUNDATIONS**					**1,478,583**
A1020 - SPECIAL FOUNDATIONS					
2492.105	Aggregate Piers - 8' Grid: 836 @ 20' Deep	16,720.00	LF	17.01	284,407
2492.105	Aggregate Piers - 8' Grid: 836 @ 20' Deep	16,720.00	LF	80.00	1,337,600
***** Total A1020 - SPECIAL FOUNDATIONS**					**1,622,007**
A1030 - LOWEST FLOOR CONSTRUCTION					
2220.332	Crushed Stone Under Slab - 8"	5,600.00	CY	37.51	210,056
2220.332	Crushed Stone Under Slab - 8" (Barn Addition)	200.00	CY	37.51	7,502
3250.451	15 Mil Stego Wrap Under Slab Vapor Barrier - Taped Seams	199,167.00	SF	0.71	141,986
3250.451	15 Mil Stego Wrap Under Slab Vapor Barrier - Taped Seams (Barn Addition)	6,710.00	SF	0.71	4,784
3300.006	4" SOG (Non pile/pier areas)	122,967.00	SF	6.55	805,901
3300.008	5" SOG - (Agg Pier Areas)	50,222.00	SF	7.40	371,834
3300.008	5" SOG - (Barn Addition)	6,100.00	SF	7.40	45,163
7200.108	Rigid Insulation - 2" Underslab (Barn Addition)	6,710.00	SF	2.08	13,982
***** Total A1030 - LOWEST FLOOR CONSTRU**					**1,601,208**
**** Total A10 - FOUNDATIONS**					**4,701,798**
B10 - SUPERSTRUCTURE					
B1010 - FLOOR CONSTRUCTION					
3000.015	Trowel Finish	124,281.00	SF	0.56	69,237
3000.200	Protect & Cure	124,281.00	SF	0.10	12,030
3200.052	Re-Steel @ Slabs On Metal Deck	49,367.18	LB	0.79	39,000
3200.315	6x6 4/4 Wwf	136,709.10	SF	0.78	106,633
3200.350	Wire Mesh Accessories	124,281.00	SF		
3300.033	Slab On Metal Deck Concrete	1,974.69	CY	36.57	72,217

Dover High School Schematic Estimate

CONSTRUCTION

Job #: 15027
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Item Code	Description	Quantity	UM	Total UnitCost	Total Cost
3300.115	3000 Psi Concrete	1,974.69	CY	98.00	193,519
3300.200	Concrete Pumping	1,974.69	CY	8.00	15,797
5010.050	Structural Steel at Addition - 12 lbs/ sf	1,783.00	TON	3,100.00	5,527,300
5300.605	2"X20ga Painted Mtl Deck	136,709.10	SF	1.95	266,583
7850.001	Spray Fireproofing - Roof Deck	172,967.00	SF	1.50	259,451
7850.001	Spray Fireproofing - Structural Steel	316,091.00	SF	2.50	790,228
***** Total B1010 - FLOOR CONSTRUCTION**					**7,351,995**
B1020 - ROOF CONSTRUCTION					
5200.100	Steel Joists (2 lbs/ SF)	161.00	TON	1,800.00	289,800
5200.100	Steel Joists (2 lbs/ SF) CTC		TON	1,800.00	
5300.205	1-1/2"X20ga Galv Mtl Deck	198,912.00	SF	1.70	338,150
5300.205	1-1/2"X20ga Galv Mtl Deck CTC		SF	1.70	
5500.000	Miscellaneous Metals (Angle at Roof Curb)	1.00	LS	20,000.00	20,000
6000.000	Roof edge blocking	8,400.00	LF	7.78	65,311
6000.500	Roof Trusses w/ sheathing (Barn Addition)	6,100.00	SF	8.00	48,800
6000.510	Pavilion Framing (50' Dia Riding Ring)	3,300.00	SF	18.38	60,657
7530.004	Entrance Canopy	2.00	EA	45,000.00	90,000
7530.004	Entrance Canopy	2.00	EA	50,000.00	100,000
***** Total B1020 - ROOF CONSTRUCTION**					**1,012,718**
**** Total B10 - SUPERSTRUCTURE**					**8,364,713**
B20 - EXTERIOR CLOSURE					
B2010 - EXTERIOR WALLS					
4070.200	Brick Veneer (70% Envelope)	104,260.00	SF	24.00	2,502,240
6100.612	2x6 Partitions w/ 1/2" OSB Sheathing - 12' Ht (Barn Addition)	3,880.00	SF	4.60	17,836
6200.512	T&G Siding - Red Cedar (6" Exposure) (Barn Addition)	3,880.00	SF	8.00	31,036
7210.806	3" Spray Foam Insulation (R-21)	104,260.00	SF	3.00	312,780
7260.120	Air Infiltration Barrier - Fluid Applied	104,260.00	SF	2.50	260,650
9280.051	6" LGS Stud w/ 5/8" GWB and 5/8" Densglass - Ext Partitions	104,260.00	SF	12.42	1,294,565
***** Total B2010 - EXTERIOR WALLS**					**4,419,107**
B2020 - WINDOWS					
8800.800	Curtainwall (30% Envelope)	42,753.00	SF	5.00	213,765
8800.800	Curtainwall (30% Envelope)	42,753.00	SF	70.00	2,992,710
8800.840	Barn Windows (Barn Addition)	10.00	EA	600.00	6,000
***** Total B2020 - WINDOWS**					**3,212,475**
B2030 - EXTERIOR DOORS					
6200.300	Sliding Barn Door (Barn Addition)	3.00	EA	1,788.76	5,366
8010.010	3070 Exterior Door	21.00	EA	1,404.76	29,500
8010.010	3070 HM Door (Barn Additon)	8.00	EA	1,104.76	8,838
8010.020	6070 Exterior Door	17.00	EA	2,065.16	35,108
8300.100	Overhead Door	2.00	EA	8,000.00	16,000
8300.100	Overhead Door (AT, AC, BT)	6.00	EA	8,000.00	48,000
***** Total B2030 - EXTERIOR DOORS**					**142,812**
**** Total B20 - EXTERIOR CLOSURE**					**7,774,394**
B30 - ROOFING					
B3010 - ROOF COVERINGS					
7200.015	12" Batt Insulation (R38) (Barn Addition)	8,020.00	SF	1.15	9,217
7310.015	Asphalt Single Roof (50' Dia Riding Ring)	3,300.00	SF	5.79	19,119
7310.015	Asphalt Single Roof (Barn Addition)	8,020.00	SF	5.79	46,465
7530.026	Thermoplastic Membrane Roof	172,967.00	SF	10.00	1,729,670
7530.030	Entrance Canopy Roof	2.00	EA	30,000.00	60,000
***** Total B3010 - ROOF COVERINGS**					**1,864,470**
B3020 - ROOF OPENINGS					

Dover High School Schematic Estimate

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Item Code	Description	Quantity	UM	Total UnitCost	Total Cost
5550.162	4' Sq Hatch Cover - Stainless Steel	3.00	EA	7,349.20	22,048
*** Total B3020 - ROOF OPENINGS					22,048
** Total B30 - ROOFING					1,886,518
C10 - INTERIOR CONSTRUCTION					
C1010 - PARTITIONS					
4020.205	8" CMU Partitions - 14' Ht (Gym)	6,720.00	SF	10.00	67,200
5500.000	Miscellaneous Metals (Angle at CMU Partitions)	1.00	LS	18,000.00	18,000
6010.000	In Wall Blocking	1.00	LS	50,000.00	50,000
6010.000	In Wall Blocking	1.00	LS	24,437.84	24,438
8800.000	Glazed Partitions	2,200.00	SF	60.00	132,000
9270.001	Tape Gypsum Walls - Level 4 (String coat, 2 finish coats, sanding)	484,380.00	SF	0.75	363,285
9280.030	Classroom Fit Up (Barn Addition) 2 - Classrooms	450.00	SF	30.00	13,500
9285.005	LGS Partitions w/ 5/8" GWB, Sound Batt - Interior	160,400.00	SF	8.61	1,381,220
9285.013	LGS Furred Partition - Interior	21,100.00	SF	5.09	107,479
9285.023	Fire Stopping	1.00	LS	15,000.00	15,000
9285.023	Fire Stopping	1.00	LS	60,000.00	60,000
9288.039	Misc Drywall Work	1.00	LS	40,000.00	40,000
9288.039	Misc Drywall Work	1.00	LS	10,000.00	10,000
*** Total C1010 - PARTITIONS					2,282,122
C1020 - INTERIOR DOORS					
8012.010	3070 Interior Door	482.00	EA	1,204.76	580,694
8012.020	6070 Interior Door	82.00	EA	1,765.16	144,743
8014.000	Corridor Lock Down Hardware	1.00	LS	50,000.00	50,000
8014.020	Interior Borrowed Lites	57.00	EA	609.52	34,743
*** Total C1020 - INTERIOR DOORS					810,180
C1030 - SPECIALTIES / MILLWORK					
6400.000	6'-0" Laminated Maple Bench	20.00	EA	992.58	19,852
6400.004	Base Cabinets (Classrooms)	886.00	LF	266.10	235,768
6400.052	Full Height Cabinets (Classrooms)	391.00	LF	306.10	119,687
6400.052	Wall Cabinets (Classrooms)	651.00	LF	191.10	124,409
6400.054	Full Height Cabinets (Mail Room)	24.00	LF	306.10	7,346
6400.102	Restroom Wood Apron at Solid Surface	288.00	LF	159.92	46,057
6400.300	Solid Surface Restroom Counter w/ integral sink	288.00	LF	221.90	63,908
6400.308	Countertops-Solid Surface (Classrooms)	886.00	LF	191.10	169,318
6400.308	Wall Mount Solid Surface Counter (Mail/Work Room)	71.00	LF	216.10	15,343
6400.315	Countertops - Epoxy Resin	546.00	LF	161.64	88,254
6400.348	Solid Surface Window Sill and Apron (New Const Only)	2,205.00	LF	64.26	141,688
6401.052	Wall Cabinets - Solid Surface (Science Labs)	410.00	LF	161.65	66,275
6401.054	Full Height Cabinets - Solid Surface (Science Labs)	410.00	LF	255.73	104,848
6405.006	Wood Cubbies - Mail Room	24.00	LF	251.10	6,026
6405.008	Casework Allowance (Misc)	1.00	LS	231,000.00	231,000
6405.010	Closet Shelving	1.00	LS	10,000.00	10,000
6408.000	*** DESK MILLWORK***				
6408.080	Admin/Guidance Front Desk	31.00	LF	441.10	13,674
6408.100	Library Desk	78.00	LF	491.10	38,306
6510.919	FRP Panels 10' ht - Kitchen	3,518.00	SF	7.14	25,133
6510.919	FRP Panels 8' ht - at Janitorial sinks only	1,510.22	SF	7.14	10,789
6510.921	FRP Panels - Art Rooms	80.00	SF	7.14	572
10180.102	Toilet Partitions W/ Door - Phenolic	42.00	EA	430.52	18,082
10180.103	Urinal Screen - Phenolic	10.00	EA	305.52	3,055

Dover High School Schematic Estimate

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Item Code	Description	Quantity	UM	Total UnitCost	Total Cost
10180.204	Shower Door	18.00	EA	277.76	5,000
10180.206	Locker Room Bench	80.00	LF	80.28	6,422
10191.100	Privacy Curtain: Track W/Supports (No Curtain) - Nurse	64.00	LF	22.50	1,440
10195.101	Display & Trophy Case Allowance	1.00	LS	40,000.00	40,000
10410.150	Sigange	1.00	LS	10,000.00	10,000
10410.150	Sigange	1.00	LS	78,000.00	78,000
10500.002	Staff Lockers - Single Tier (3' X 15" X 15") - Kitchen	15.00	EA	180.55	2,708
10500.002	Staff Lockers - Single Tier (3' X 15" X 15") - Staff	100.00	EA	180.55	18,055
10500.004	Lockers - Double Tier (6' X 18" X 18") - Student	1,500.00	EA	270.55	405,819
10500.006	Lockers - Double Tier - Locker Rooms (100 per Room)	200.00	EA	270.55	54,109
10500.006	Lockers - Double Tier - Student Athletic	50.00	EA	270.55	13,527
10520.000	Fire Extinguishers	102.00	EA	125.46	12,797
10520.050	Fire Ext Cabinets	102.00	EA	302.76	30,882
10649.102	Operable Wall Partition (57' L x 28' HT)		SF	99.95	
10800.106	Grab Bar	38.00	EA	101.38	3,852
10800.151	Surface Mtd Double Roll Tph	38.00	EA	197.38	7,500
10800.174	Surface Mounted SND	20.00	EA	377.38	7,548
10800.202	Surf Mtd Waste Receptacle	23.00	EA	282.38	6,495
10800.400	Liquid Soap Dispenser	23.00	EA	177.38	4,080
10800.602	Folding Shower Seat	18.00	EA	301.38	5,425
10800.610	Electric Hand Dryer	20.00	EA	301.38	6,028
10810.100	30"x30" Framed Mirror	34.00	EA	211.38	7,187
*** Total C1030 - SPECIALTIES / MILLWORK					2,286,264
** Total C10 - INTERIOR CONSTRUCTION					5,378,566
C20 - STAIRCASES					
C2010 - STAIR CONSTRUCTION					
4020.205	8" CMU Partitions - 14' Ht (Stair Shafts)	15,344.00	SF	10.00	153,440
5510.000	****Metal Stairs****		****		
5510.050	Metal Pan Stair - Standard	240.00	TRD	433.27	103,984
5510.052	Metal Pan Stair Landing - Standard	600.00	SF	71.60	42,958
5520.000	*** Handrails & Railings ***		****		
5520.050	Hand Rail - Standard Metal Picket	336.00	LF	119.42	40,126
5520.072	Steel Wallrail - Standard	336.00	LF	65.93	22,153
*** Total C2010 - STAIR CONSTRUCTION					362,660
** Total C20 - STAIRCASES					362,660
C30 - INTERIOR FINISHES					
C3010 - WALL FINISHES					
6200.040	Wood Wall Finish - Auditorium	11,200.00	SF	25.00	280,000
9300.200	Tile Wainscot - 4' AFF (Corridors)	23,840.00	SF	10.00	238,400
9300.202	Tile Wainscot - 4' AFF (Town Square)	7,680.00	SF	10.00	76,800
9300.204	Tile Wainscot - 4' AFF (Toilet Rooms)	5,830.00	SF	10.00	58,300
9300.204	Tile Wainscot - Premium for 5' AFF everywhere including stairwells	9,338.00	SF	10.00	93,380
9900.100	Paint Interior Walls (Barn Addition)	3,528.00	SF	0.82	2,893
9900.100	Paint Walls	484,380.00	SF	0.85	411,723
9900.205	Misc Painting - Door Frames, Misc Metals	1.00	LS	10,000.00	10,000
9900.205	Misc Painting - Door Frames, Misc Metals	1.00	LS	40,000.00	40,000
*** Total C3010 - WALL FINISHES					1,211,496
C3020 - FLOOR FINISHES					
9300.105	Tile Base	871.00	LF	10.00	8,710
9330.000	Quarry Tile Floors - Culinary	2,000.00	SF	15.00	30,000
9330.000	Quarry Tile Floors - Kitchen	3,300.00	SF	15.00	49,500

Dover High School Schematic Estimate

CONSTRUCTION

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Item Code	Description	Quantity	UM	Total UnitCost	Total Cost
9330.005	Quarry Tile Base	760.00	LF	12.00	9,120
9332.000	Porecelain Tile Floor - Culinary	950.00	SF	15.00	14,250
9400.005	Mosaic Tile - Bath, Locker Rooms	12,230.00	SF	12.00	146,760
9550.100	Wood Floor - Gym	13,740.00	SF	18.00	247,320
9550.120	Wood Floor - Stage	2,620.00	SF	16.00	41,920
9650.010	Linoleum	185,040.00	SF	6.00	1,110,240
9650.025	Rubber Base	35,167.00	LF	1.85	65,059
9650.032	Rubber Treads & Risers	5,760.00	SF	14.00	80,640
9680.000	Carpet - Auditorium	820.00	SY	35.00	28,700
9690.000	Carpet Tile	1,200.00	SY	35.00	42,000
9760.011	Rubber Sports Flooring	4,934.00	SF	12.45	61,415
9760.126	Moisture Mitigation	4,934.00	SF	4.00	19,736
9760.126	Moisture Mitigation	-4,934.00	SF	8.00	-39,472
9900.400	Sealed Concrete	44,180.00	SF	1.50	66,270
9900.400	Sealed Concrete (Barn Addition)	12,200.00	SF	1.50	18,300
9900.506	Paint Gym Floor Logo	1.00	LS	3,000.00	3,000
12671.103	Walk-Off Foot Grilles (Alum Grid W/ Frame & Pan)	570.00	SF	72.08	41,085
***** Total C3020 - FLOOR FINISHES**					**2,044,553**
C3030 - CEILING FINISHES					
9285.037	Gypsum Ceiling: Suspended drywall grid 5/8" type X GWB (1 layer), taped (lvl 4)	17,990.00	SF	5.31	95,475
9285.039	Misc Drywall Soffits	1.00	LS	119,999.73	120,000
9285.039	Misc Drywall Soffits	1.00	LS	29,999.96	30,000
9500.100	ACT - Restaurant	7,380.00	SF	8.00	59,040
9500.102	ACT	196,410.00	SF	3.00	589,230
9500.104	ACT(Cleanable) - Kitchen	5,330.00	SF	8.00	42,640
9500.200	24x24x5/8 Lay-In (Barn Addition)	900.00	SF	3.00	2,700
9500.390	Acoustical Wood Clouds - Auditorium	2.00	LS	40,000.00	80,000
9500.612	Tectum Ceilng Panels - 2"	6,870.00	SF	8.00	54,960
9900.110	Paint Ceilings	29,190.00	SF	0.85	24,812
9900.120	Paint Exposed Ceiling Structure	49,800.00	SF	1.75	87,150
9900.625	Paint exposed ceiling - Gym	13,740.00	SF	2.00	27,480
***** Total C3030 - CEILING FINISHES**					**1,213,486**
**** Total C30 - INTERIOR FINISHES**					**4,469,534**
D10 - CONVEYING SYSTEMS					
D1010 - ELEVATOR					
3300.008	12" Base Slab	128.00	SF	14.42	1,846
3300.025	12" x 5' Foundation Wall	72.00	LF	128.35	9,241
4020.205	Drywall Partitions - 14' Ht (Elevator)	3,854.00	SF	10.00	38,540
5530.122	Elevator Pit Misc Metals	2.00	EA	1,813.09	3,626
14200.115	Hydraulic Passenger Elevator (1 Ea)	5.00	STOP	40,000.00	200,000
***** Total D1010 - ELEVATOR**					**253,253**
**** Total D10 - CONVEYING SYSTEMS**					**253,253**
D20 - PLUMBING					
D20 - PLUMBING					
15401.320	Domestic Water Heater, Residential Gas-Fired (NG/P) Atmospheric, Foam Lined Tank, Vent Not Included, 100 Gal.	2.00	EA	1,846.55	3,693
15401.338	Domestic Water Heater, Commercial Gas-Fired (NG/P) Atmospheric, Std. Controls, Vent Not Included, 250 MBH Input, 245 GPH	2.00	EA	20,161.00	40,322
15401.554	Potable Water Storage Tank, Indoor, Glass-Lined PE, 605 Gal., 48" OD, 87" Long	1.00	EA	14,258.38	14,258
15401.556	Round, Stainless Steel, 26 ga., 8" OD - Water Heater Vent	120.00	LF	28.30	3,396

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CONSTRUCTION

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Item Code	Description	Quantity	UM	Total UnitCost	Total Cost
15402.452	Sump Pump, Wet-Pit Mounted, Vertical, Single Stage, 25 GPM, 1 HP, 1-1/2" Disch.	2.00	EA	4,055.67	8,111
15410.208	Comm. Water Closet, Floor Mounted VC, Flush Valve, Bowl only, incl. Seat, w/Floor Outlet 1.28 gpf ADA	80.00	EA	753.67	60,294
15410.210	Rough-In, Supply, Waste and Vent for Comm. Floor Mounted WC	80.00	EA	562.00	44,960
15410.404	Urinal, Wall Hung VC w/ Hanger and Valve, Water Saving 0.5 gpf	16.00	EA	843.38	13,494
15410.406	Rough-In, Supply, Waste and Vent for Wall Hung Urinal	16.00	EA	705.00	11,280
15410.640	Rough-In, Supply, Waste and Vent for Res. Vanity Top Lavatories	96.00	EA	547.00	52,512
15410.640	Rough-In, Supply, Waste and Vent for Salon Lavatories (no fixture)	10.00	EA	547.00	5,470
15410.698	Sink w/Faucet and Drain, SS Self Rimming, 43"x22" Double Bowl	30.00	EA	1,286.48	38,595
15410.702	Rough-In, Supply, Waste and Vent for Sinks	30.00	EA	702.00	21,060
15410.826	Laboratory Sink, Corrosion Resistant, 12"x12"x8" Sink, 14.5"x14.5" OD	44.00	EA	471.80	20,759
15410.832	Rough-In, Supply, Waste and Vent for Laboratory Sinks	44.00	EA	461.00	20,284
15410.834	Laboratory Faucet, Gooseneck Spout, Wrist Handles	44.00	EA	235.80	10,375
15410.840	Service Sink, Floor (Corner), PE, 28"x28" w/Rim Guard	15.00	EA	1,233.66	18,505
15410.844	Rough-In, Supply, Waste and Vent for Floor Service Sink	15.00	EA	1,827.00	27,405
15411.101	Hose Bibb, Exterior Freeze-Proof, Lockable	29.00	EA	105.40	3,056
15411.314	Stall Shower, One-Piece Fiberglass w/Three Walls, Drain Only, 32" Square	18.00	EA	645.94	11,627
15411.326	Thermostatic Valve for Shower	18.00	EA	585.00	10,530
15411.328	Rough-In, Supply, Waste and Vent for Shower	18.00	EA	818.00	14,724
15411.901	Emergency Shower, Single Head, Drench, Ball Valve, Pull Style, Freestanding, No Rough-In	8.00	EA	573.80	4,590
15411.908	Emergency Eyewash Fountain, SS Bowl, Pedestal Mount, No Rough-In	8.00	EA	533.80	4,270
15412.222	Electric Water Cooler, Wall Mounted, Full Recessed, SS, Bi-Level	27.00	EA	1,871.46	50,530
15412.236	Rough-In, Supply, Waste and Vent for Electric Water Cooler	27.00	EA	504.00	13,608
15412.434	Floor Drain, Heavy Ducty, Galvanized w/Sediment Bucket, 12" OD Grate, 2"-6" Pipe Size	22.00	EA	1,131.14	24,885
15412.730	Roof Drain, Integral Expansion Joint, Galvanized, 12" Dome, 4" Pipe Size	87.00	EA	1,074.20	93,455
15412.730	Roof Drain, Integral Expansion Joint, Galvanized, 12" Dome, 4" Pipe Size - Emergency	87.00	EA	1,074.20	93,455
15414.104	Water Meter, UL/FM Approved, 4" Main x 2" By-Pass, 700 GPM	1.00	EA	7,535.08	7,535
15414.126	Water Meter, Bronze, Comm./Dom., Flanged, 4" OD, 320 GPM	2.00	EA	5,366.82	10,734
15420.106	Copper Type L, Solder Joint W/Couplings And Hangers 10ft OC, 3/4" OD	11,075.00	LF	10.64	117,797
15420.108	Copper Type L, Solder Joint W/Couplings And Hangers 10ft OC, 1" OD	8,525.00	LF	14.02	119,480
15420.114	Copper Type L, Solder Joint W/Couplings And Hangers 10ft OC, 2" OD	5,000.00	LF	31.93	159,632

Dover High School Schematic Estimate

Job #: 15027
Project Size: 0 SF
Detail - With Taxes and Insurance

Estimator: KN, JS, JB, MT, MP
Group 1: School Options
Group 2: Uniformat 1

Item Code	Description	Quantity	UM	Total UnitCost	Total Cost
15420.118	Copper Type L, Solder Joint W/Couplings And Hangers 10ft OC, 3" OD	1,200.00	LF	76.22	91,458
15420.122	Copper Type L, Solder Joint W/Couplings And Hangers 10ft OC, 4" OD	300.00	LF	125.23	37,570
15421.104	Fiberglass 1" Insulation With All Service Jacket 3/4" Pipe	11,075.00	LF	3.96	43,885
15421.106	Fiberglass 1" Insulation With All Service Jacket 1" Pipe	8,525.00	LF	4.16	35,471
15421.204	Fiberglass 1-1/2" Insulation With All Service Jacket 2" Pipe	5,000.00	LF	5.87	29,355
15421.208	Fiberglass 1-1/2" Insulation With All Service Jacket 3" Pipe	1,200.00	LF	6.58	7,894
15421.212	Fiberglass 1-1/2" Insulation With All Service Jacket 4" Pipe	300.00	LF	7.78	2,335
15421.500	Valves and Accessories	1.00	LS	500.00	500
15421.500	Valves and Accessories	1.00	LS	145,000.00	145,000
15440.028	UG Hub & Spigot, CI, No Hangers, 6" Pipe	1,500.00	LF	52.21	78,321
15440.052	Casty Iron SW&V, Hangers 5' OC, 1-1/2" Pipe	8,075.00	LF	18.61	150,292
15440.054	Casty Iron SW&V, Hangers 5' OC, 2" Pipe	5,050.00	LF	22.45	113,373
15440.058	Casty Iron SW&V, Hangers 5' OC, 4" Pipe	2,040.00	LF	31.69	64,650
15440.382	Corrosion Resistant Pipe, Sch. 40 Polypropylene, No Coupling/Hangers, 2" OD - GW	2,000.00	LF	24.95	49,900
15440.386	Corrosion Resistant Pipe, Sch. 40 Polypropylene, No Coupling/Hangers, 4" OD - GW	1,000.00	LF	45.25	45,248
15440.500	Limestone Chip Acid Neutralizer - 200 Gallon	2.00	EA	17,500.00	35,000
15450.410	Sch40 PVC W/Couplings and Hangers, 10ft OC, 4" OD	2,000.00	LF	24.48	48,968
15450.412	Sch40 PVC W/Couplings and Hangers, 10ft OC, 6" OD	500.00	LF	37.11	18,557
15460.100	Black Steel, Schedule 40, Threaded W/Couplings And Hangers, 10ft OC, 2" OD - NG	6,000.00	LF	21.06	126,375
15460.102	Black Steel, Schedule 40, Threaded W/Couplings And Hangers, 10ft OC, 1-1/4" OD - NG	6,000.00	LF	14.47	86,826
15460.200	Valves and Accessories	1.00	LS	55,000.00	55,000
15470.100	Air Compressor, Reciprocating, Air-Cooled, Tank Mounted, Two Stage, 3 Phase, 105 CFM @ 125 PSI, 25 HP, 250 Gal. Tank	2.00	EA	14,100.00	28,200
15470.100	Copper Type L, Solder Joint W/Couplings And Hangers 10ft OC, 3/4" OD - CA	1,200.00	LF	10.64	12,764
15470.102	Copper Type L, Solder Joint W/Couplings And Hangers 10ft OC, 1" OD	600.00	LF	14.02	8,409
15470.212	Compressed Air Outlet, Recessed Wall, Single	80.00	EA	123.75	9,900
15495.000	Kitchen Rough-In	2.00	LS	15,000.00	30,000
15495.004	Commissioning Support	1.00	LS	1,000.00	1,000
15495.004	Commissioning Support	1.00	LS	60,000.00	60,000
15495.006	Coordination & Management	1.00	LS	1,000.00	1,000
15495.006	Coordination & Management	1.00	LS	75,000.00	75,000
15495.008	Coring & Patching & Firestopping	1.00	LS	500.00	500
15495.008	Coring & Patching & Firestopping	1.00	LS	30,000.00	30,000
15495.010	Flushing & Sanitizing	1.00	LS	250.00	250
15495.010	Flushing & Sanitizing	1.00	LS	20,000.00	20,000
15495.018	Fees & Permits	1.00	LS	500.00	500
15495.018	Fees & Permits	1.00	LS	30,000.00	30,000
***** Total D20 - PLUMBING**					**2,728,183**
**** Total D20 - PLUMBING**					**2,728,183**
D30 - HVAC					

Dover High School Schematic Estimate

Job #: 15027
Project Size: 0 SF
Detail - With Taxes and Insurance

Estimator: KN, JS, JB, MT, MP
Group 1: School Options
Group 2: Uniformat 1

Item Code	Description	Quantity	UM	Total UnitCost	Total Cost
D30 - HVAC					
15620.000	Custom, 20" High, Insulated Roof Curb	24.00	EA	1,200.00	28,800
15620.323	Outdoor, MAU, Indirect Gas-Fired (NG), Gravity Vent, SS Exchanger, 70degF Rise, 550 MBH Input	2.00	EA	18,086.92	36,174
15620.421	RTU 1-6, Stnd Controls, Curb, Econ., Multi-Zone, Gas Heat, 42.5 Ton Dx Cooling, 530 MBH Heating, Heat Wheel, 12000 CFM	6.00	EA	2,907.71	17,446
15620.422	RTU 7, Stnd Controls, Curb, Econ., Multi-Zone, Gas Heat, 17.5 Ton Dx Cooling, 200 MBH Heating, Heat Wheel, 4500 CFM	1.00	EA	2,907.71	2,908
15620.423	RTU 8, Stnd Controls, Curb, Econ., Multi-Zone, Gas Heat, 30 Ton Dx Cooling, 350 MBH Heating, Heat Wheel, 8000 CFM	1.00	EA	2,907.71	2,908
15620.424	RTU 9, 10, Stnd Controls, Curb, Econ., Multi-Zone, Gas Heat, 22 Ton Dx Cooling, 320 MBH Heating, 6500 CFM	2.00	EA	2,907.71	5,815
15620.425	RTU 11, Stnd Controls, Curb, Econ., Multi-Zone, Gas Heat, 7.5 Ton Dx Cooling, 130 MBH Heating, 2500 CFM	1.00	EA	2,907.71	2,908
15620.426	RTU 12, Stnd Controls, Curb, Econ., Multi-Zone, Gas Heat, 6.5 Ton Dx Cooling, 120 MBH Heating, 2000 CFM	1.00	EA	2,907.71	2,908
15620.427	RTU 13, 14, Stnd Controls, Curb, Econ., Multi-Zone, Gas Heat, 10 Ton Dx Cooling, 200 MBH Heating, 3200 CFM	2.00	EA	2,907.71	5,815
15620.428	RTU 15, Stnd Controls, Curb, Econ., Multi-Zone, Gas Heat, 35 Ton Dx Cooling, 480 MBH Heating, 10000 CFM	1.00	EA	2,907.71	2,908
15620.429	RTU 16, Stnd Controls, Curb, Econ., Multi-Zone, Gas Heat, 10 Ton Dx Cooling, 180 MBH Heating, 4000 CFM	1.00	EA	2,907.71	2,908
15620.430	RTU 17, Stnd Controls, Curb, Econ., Multi-Zone, Gas Heat, 15 Ton Dx Cooling, 200 MBH Heating, 3500 CFM	1.00	EA	2,907.71	2,908
15620.431	RTU 18, Stnd Controls, Curb, Econ., Multi-Zone, Gas Heat, 35 Ton Dx Cooling, 550 MBH Heating, Heat Wheel, 12500 CFM	1.00	EA	2,907.71	2,908
15620.432	RTU 19, Stnd Controls, Curb, Econ., Multi-Zone, Gas Heat, 300 MBH Heating, Heat Wheel, 6000 CFM	1.00	EA	2,907.71	2,908
15620.433	RTU 20, Stnd Controls, Curb, Econ., Multi-Zone, Gas Heat, 300 MBH Heating, Heat Wheel, 6000 CFM	1.00	EA	2,907.71	2,908
15620.434	RTU 21, Stnd Controls, Curb, Econ., Multi-Zone, Gas Heat, 200 MBH Heating, Heat Wheel, 3500 CFM	1.00	EA	2,907.71	2,908
15620.435	RTU 22, Stnd Controls, Curb, Econ., Multi-Zone, Gas Heat, 400 MBH Heating, Heat Wheel, 8000 CFM	1.00	EA	2,907.71	2,908
15620.436	RTU 23, Stnd Controls, Curb, Econ., Multi-Zone, Gas Heat, 300 MBH Heating, Heat Wheel, 6000 CFM	1.00	EA	2,907.71	2,908
15620.437	RTU 24, Stnd Controls, Curb, Econ., Multi-Zone, Gas Heat, 300 MBH Heating, Heat Wheel, 6200 CFM	1.00	EA	2,907.71	2,908
15620.500	Daikin Rebel / Maverick II RTU's - VFD's, Extended Warranties	1.00	LS	1,100,000.00	1,100,000

Dover High School Schematic Estimate

CONSTRUCTION

Job #: 15027
Project Size: 0 SF
Detail - With Taxes and Insurance

Estimator: KN, JS, JB, MT, MP
Group 1: School Options
Group 2: Uniformat 1

Item Code	Description	Quantity	UM	Total UnitCost	Total Cost
15624.003	Split System, Ductless, Cooling Only, Wall Mount, Single Zone, 1-1/2 Ton	5.00	EA	6,013.00	30,065
15630.220	Single Bathroom Exhaust Fan, 100 CFM	7.00	EA	403.45	2,824
15630.226	Bathroom Exhaust Fan, 1000 CFM	10.00	EA	1,680.56	16,806
15630.228	Exhaust Fan, 1500 CFM	3.00	EA	2,180.56	6,542
15630.416	Kitchen Exhaust Fan, Centrifugal, 4000 CFM	2.00	EA	4,215.33	8,431
15640.112	Hot Water Condensing Boiler, Packaged w/Controls/Circulator/Trim, NG, 330 MBH Output	3.00	EA	10,214.00	30,642
15640.114	Hot Water Condensing Boiler, Packaged w/Controls/Circulator/Trim, NG, 2500 MBH Output	4.00	EA	47,814.00	191,256
15650.002	Glycol Treatment System	1.00	LS	8,000.00	8,000
15651.005	Chiller, Air Cooled, High Efficiency, 50 Ton	1.00	EA	42,927.00	42,927
15660.000	Fume Hood, Fan, Ductwork	2.00	EA	5,500.00	11,000
15660.002	Vehicle Exhaust System, 2000 CFM	1.00	LS	15,000.00	15,000
15660.004	Vehicle Exhaust System, 5000 CFM	1.00	LS	25,000.00	25,000
15660.006	Paint Booth Exhaust System, 12000 CFM	1.00	LS	25,000.00	25,000
15660.008	Dust Collection System, 4000 CFM	1.00	LS	65,000.00	65,000
15660.010	Duct Collection System, 6000 CFM	1.00	LS	87,000.00	87,000
15660.202	Chilled Water Pump, Centrifugal, Base Mounted, End Suction, 105 gpm w/VFD	2.00	EA	4,096.31	8,193
15660.206	Hot Water Pump, Centrifugal, Base Mounted, End Suction, 100 gpm w/VFD	2.00	EA	3,994.33	7,989
15660.206	Hot Water Pump, Centrifugal, Base Mounted, End Suction, 680 gpm w/VFD	2.00	EA	17,994.33	35,989
15680.040	Displacement Ventilation System (per Classroom)	95.00	EA	1,250.00	118,750
15680.042	Sound Attenuator Device / Double Wall Ductwork (per RTU)	24.00	EA	2,500.00	60,000
15680.112	Galvanized Ductwork, > 5000 LB	252,000.00	LB	7.50	1,889,975
15684.102	Duct Insulation, Blanket Type, Fiberglass, FSK, 1.0Lb Density, 1-1/2" Thick	217,000.00	SF	2.53	549,661
15688.014	Gas Vent, Double Wall, Galvanized Steel, UL Listed, 12" Dia.	700.00	LF	48.66	34,064
15690.102	Fin Tube Radiation, Wall Hung, 14" Slope Top, 1-1/4" Cu Tube, 4-1/4" Aluminum Fin	3,630.00	LF	64.10	232,683
15691.004	Cabinet Unit Heater, Horizontal, Floor Mount, 60 MBH	32.00	EA	1,617.26	51,752
15691.312	Unit Heater, Hot Water, Horizontal, 47 MBH	17.00	EA	717.26	12,193
15692.210	Variable Air Volume Box, PI, w/Damper, Actuator, T-Stat, 1000 CFM	125.00	EA	890.00	111,250
15699.000	Chilled Beam	640.00	LF	100.00	64,000
15700.106	Copper Type L, Solder Joint W/Couplings And Hangers 10ft OC, 3/4" OD	22,000.00	LF	10.64	233,999
15700.112	Copper Type L, Solder Joint W/Couplings And Hangers 10ft OC, 1-1/2" OD	11,000.00	LF	22.40	246,362
15700.118	Copper Type L, Solder Joint W/Couplings And Hangers 10ft OC, 3" OD	2,400.00	LF	62.36	149,656
15700.316	Black Steel, Schedule 40, Welded W/Couplings And Hangers, 10ft OC, 4" OD	400.00	LF	45.02	18,010
15704.104	Fiberglass 1" Insulation With All Service Jacket 3/4" Pipe	22,000.00	LF	3.96	87,175
15704.202	Fiberglass 1-1/2" Insulation With All Service Jacket 1-1/2" Pipe	11,000.00	LF	5.49	60,390
15704.308	Fiberglass 2" Insulation With All Service Jacket 3" Pipe	2,400.00	LF	8.10	19,428
15704.312	Fiberglass 2" Insulation With All Service Jacket 4" Pipe	400.00	LF	9.71	3,883
15705.004	Air Separator w/Strainer, 2-1/2" Dia.	1.00	EA	1,439.16	1,439

Dover High School Schematic Estimate

CONSTRUCTION

Job #: 15027
Project Size: 0 SF
Detail - With Taxes and Insurance

Estimator: KN, JS, JB, MT, MP
Group 1: School Options
Group 2: Uniformat 1

Item Code	Description	Quantity	UM	Total UnitCost	Total Cost
15705.008	Air Separator w/Strainer, 4" Dia.	1.00	EA	3,098.60	3,099
15706.206	Expansion Tank, Steel, ASME, Rubber Diaphragm, 61 Gal. Accep. Vol.	1.00	EA	3,786.82	3,787
15706.214	Expansion Tank, Steel, ASME, Rubber Diaphragm, 211 Gal. Accep. Vol.	1.00	EA	6,573.73	6,574
15708.106	ARC Tubing, Type L Copper, Hard Tempered, No Couplings/Hangers, 5/8"	1,000.00	LF	7.11	7,110
15708.112	ARC Tubing, Type L Copper, Hard Tempered, No Couplings/Hangers, 1-1/8"	1,000.00	LF	10.84	10,840
15708.500	Valves & Accessories	1.00	LS	200,000.00	200,000
15780.000	DDC Controls	302,514.00	SF	5.50	1,663,827
15780.000	DDC Controls	2,000.00	SF	7.50	15,000
15780.010	CO2 Sensor	167.00	EA	85.00	14,195
15792.001	Air & Water Balance	304,514.00	SF	0.50	152,257
15801.501	Coordination & Management	1.00	LS	1,000.00	1,000
15801.501	Coordination & Management	1.00	LS	200,000.00	200,000
15801.502	Commissioning Support	1.00	LS	500.00	500
15801.502	Commissioning Support	1.00	LS	65,000.00	65,000
15801.503	Coring, Patching & Firestopping	1.00	LS	250.00	250
15801.503	Coring, Patching & Firestopping	1.00	LS	40,000.00	40,000
15801.504	Seismic Restraint	1.00	LS	500.00	500
15801.504	Seismic Restraint	1.00	LS	25,000.00	25,000
15801.505	Fees & Permits	1.00	LS	75,000.00	75,000
***** Total D30 - HVAC**					**8,281,029**
**** Total D30 - HVAC**					**8,281,029**
D40 - FIRE PROTECTION					
D40 - FIRE PROTECTION					
15502.002	Fire Service Main - 6" Ductile Iron, Mech. Joint	150.00	LF	29.06	4,358
15502.024	6" Double Check Backflow Preventer W/OS&Y Valves, 4 Test Cocks	2.00	EA	5,847.73	11,695
15502.110	FDC - Two Way Siamese - 3x3x6	2.00	EA	1,541.40	3,083
15502.116	4" Zone Flow Control Valve W/Trim And Gauges	8.00	EA	6,009.14	48,073
15502.128	Tamper Switch	8.00	EA	153.65	1,229
15502.202	Sprinkler Main Sch 40 BS - 4", Grooved Joint, W/Hangers 10 Ft O.C.	8,860.00	LF	39.75	352,181
15502.222	Sprinkler Branch Sch 40 BS - 1" Threaded W/ Hangers 10 Ft O.C.	17,770.00	LF	12.53	222,655
15502.226	Sprinkler Branch Sch 40 BS - 1-1/2" Threaded W/ Hangers 10 Ft O.C.	8,760.00	LF	16.39	143,576
15502.400	Sprinkler Heads - Standard Pendant, 1/2" NPT, 1/2" Orifice	2,670.00	EA	36.43	97,255
15505.006	2" Dry Pipe Valve With Trim And Gauges	1.00	EA	2,507.80	2,508
15505.012	30 Gal., 1 HP Comp Air Sys For Fire Protection	1.00	EA	1,093.23	1,093
15505.202	Sprinkler Main Sch 40 BS - 4", Grooved Joint, W/Hangers 10 Ft O.C. - RR	115.00	LF	39.75	4,571
15505.222	Sprinkler Branch Sch 40 BS - 1" Threaded W/ Hangers 10 Ft O.C. - RR	190.00	LF	12.53	2,381
15505.400	Sprinkler Heads - Standard Upright, 1/2" NPT, 1/2" Orifice - RR	20.00	EA	36.43	729
15525.004	Sprinkler Main Sch 40 BS - 4", Grooved Joint, W/Hangers 10 Ft O.C.	300.00	LF	39.75	11,925
15525.102	Fd Standpipe Angle Valve, 2-1/2", Brass, W/Wheel, Handle Chain And Cap	8.00	EA	287.34	2,299
15535.002	Coordination & Management	1.00	LS	20,000.00	20,000
15535.010	Hydraulic Calculations	1.00	LS	12,000.00	12,000
15535.016	Coring & Patching & Firestopping	1.00	LS	17,500.00	17,500
15535.024	Fees & Permits	1.00	LS	12,000.00	12,000
***** Total D40 - FIRE PROTECTION**					**971,111**

4.5 - PC Construction Cost Estimate - All Options

Dover High School Schematic Estimate

CONSTRUCTION

Job #: 15027
Project Size: 0 SF
Detail - With Taxes and Insurance

Estimator: KN, JS, JB, MT, MP
Group 1: School Options
Group 2: Uniformat 1

Item Code	Description	Quantity	UM	Total UnitCost	Total Cost
** Total D40 - FIRE PROTECTION					971,111
D50 - ELECTRICAL					
D50 - ELECTRICAL					
16020.210	350 kW NG Emergency Generator w/Sound Attenuated Enclosure	1.00	EA	169,146.07	169,146
16020.212	Emergency Power Equipment and Distribution	302,514.00	SF	1.50	453,771
16020.214	Emergency Generator - Testing	1.00	LS	5,000.00	5,000
16030.000	4000 Amp Switchgear, 480/277V	1.00	EA	90,000.00	90,000
16030.004	Transformer / Primary / Conduit ** ALLOWANCE **	1.00	LS	50,000.00	50,000
16040.006	Panel Feeders	64.00	EA	2,500.00	160,000
16040.008	Primary Conduit Only - (1) 4"	800.00	LF	4.40	3,520
16040.010	Secondary Feeder - (8) 4" Conduits	800.00	LF	4.40	3,520
16040.011	Secondary Feeder - #600 MCM Conductor	3,200.00	LF	34.35	109,920
16040.060	Grounding/Bonding	1.00	LS	10,000.00	10,000
16040.200	20 KW UPS	2.00	EA	20,000.00	40,000
16040.218	Panel 277/480V 100A - Lighting	16.00	EA	1,664.44	26,631
16040.218	Panel 277/480V 100A - Mechanical	16.00	EA	1,664.44	26,631
16040.224	Panel 277/480V 400A - Distribution	16.00	EA	3,328.57	53,257
16040.228	Triple Tub Panel 120/208V 250 Amp	16.00	EA	9,795.00	156,720
16040.300	Transformer Dry Type, Three Phase, 30kVA	16.00	EA	4,928.89	78,862
16040.302	Transformer Dry Type, Three Phase, 75kVA	16.00	EA	7,194.29	115,109
16050.100	Branch Devices	304,514.00	SF	1.00	304,514
16050.102	Power and Branch Circuitry	302,514.00	SF	3.50	1,058,799
16060.414	RTU Feeder	24.00	EA	2,706.00	64,944
16060.416	Boiler Feeder	7.00	EA	1,401.75	9,812
16060.418	Pump Feeder	7.00	EA	1,965.75	13,760
16060.420	Chiller Feeder	1.00	EA	8,336.00	8,336
16080.008	2x4 Flourescent - MER	30.00	EA	340.25	10,208
16080.010	Recessed LED's - Classrooms/Offices	1,316.00	EA	290.25	381,969
16080.012	Direct LED's - Gymnasium	20.00	EA	1,080.50	21,610
16080.014	Linear Indirect LED's - Corridor	500.00	EA	440.25	220,125
16080.016	Pendant Mount / Indirect Flourescent - Cafeteria	58.00	EA	728.25	42,239
16080.018	2x2 LED Panels - Kitchen/Servery	36.00	EA	603.25	21,717
16080.020	Direct Recessed LED's - Library	36.00	EA	290.25	10,449
16080.022	Dimmable Flourescent - Auditorium	70.00	EA	2,090.25	146,317
16080.024	Exterior Wall Mount - LED	42.00	EA	628.25	26,387
16080.026	Exterior Pole Fixture - Custom LED	35.00	EA	4,000.00	140,000
16080.030	Exterior Pendant - LED - RR	15.00	EA	628.25	9,424
16081.100	Lighting Circuitry	2,000.00	SF	1.25	2,500
16081.100	Lighting Circuitry	302,514.00	SF	2.00	605,028
16081.102	Lighting Controls	304,514.00	SF	1.25	380,642
16081.104	Lighting Controls & Panels - Testing	1.00	LS	1,000.00	1,000
16081.104	Lighting Controls & Panels - Testing	1.00	LS	25,000.00	25,000
16081.150	Stage Lights / Sound System / Dimmer Rack ** ALLOWANCE **	1.00	LS	375,000.00	375,000
16100.000	Sound System - Cafeteria	1.00	LS	20,000.00	20,000
16100.001	Sound System - Gymnasium	1.00	LS	20,000.00	20,000
16100.002	Sound System - Music Room	1.00	LS	10,000.00	10,000
16110.020	Bi-Directional Antennae	1.00	LS	50,000.00	50,000
16110.100	Tel/ Data/ CATV	304,514.00	SF	1.75	532,899
16170.100	Card Reader System - Head End Equipment	1.00	EA	9,000.00	9,000
16170.101	Card Readers - Swipes/Wires	25.00	EA	1,700.00	42,500
16180.000	Master Clock	304,514.00	SF	0.35	106,580
16180.001	Intercom	304,514.00	SF	0.60	182,708
16180.100	Communications - Testing	1.00	LS	20,000.00	20,000
16200.000	Security System - Head End Equipment	1.00	LS	35,000.00	35,000
16200.002	Fixed Interior CCTV Cameras	25.00	EA	3,000.00	75,000
16200.004	Pan-Tilt-Zoom Exterior CCTV Cameras	10.00	EA	5,000.00	50,000
16300.102	Fire Alarm	304,514.00	SF	1.50	456,771
16300.104	Fire Alarm Testing	1.00	LS	750.00	750
16300.104	Fire Alarm Testing	1.00	LS	7,500.00	7,500
16400.002	Lightning Protection	1.00	LS	30,000.00	30,000
16400.100	Commissioning	1.00	LS	60,000.00	60,000
16400.102	Firestopping	1.00	LS	20,000.00	20,000
16400.104	Identification	1.00	LS	7,500.00	7,500
16400.106	Seismic Restraint	1.00	LS	12,500.00	12,500
16400.108	Fees & Permits	1.00	LS	50,000.00	50,000
*** Total D50 - ELECTRICAL					7,230,576
** Total D50 - ELECTRICAL					7,230,576
E10 - EQUIPMENT					
E10 - EQUIPMENT, GENERALLY					
11160.034	12" Dock Seal - OH Doors	1.00	EA	1,585.04	1,585
11160.043	Rubber Dock Bumper 4 1/2"x14"x12"	2.00	EA	166.38	333
11480.006	OUTDOOR SCOREBOARDS - NOT INCLUDED				
11480.008	Gym Bleachers (One Side Only)	1.00	LS	25,000.00	25,000
11480.014	Gym Divider Curtain - Existing to remain		LF	160.00	
11480.020	Basketball Hoop - Existing to remain		EA	5,333.33	
11480.030	Volley Ball Net w/ Floor Inserts		EA	1,900.00	
11480.040	Score Board - Existing to remain		EA	8,500.00	
11480.060	Upgrade Motorized Retraction System for Existing Bleachers		LS	20,000.00	
11480.062	Plastic Telescoping Stands - Hussey Maxam 26 Motorized Bleachers		EA	110.00	
11480.065	Gym Wall Padding - 6' Ht	470.00	LF	100.00	47,000
11480.080	Temporarily Relocate Existing Bleachers for Floor Replacement	1.00	LS	20,000.00	20,000
11650.000	Stage Set Fastening Equipment - In Line set Allowance				
11651.000	Lecture Hall Tables - 18" X 5'		EA	1,085.15	
11653.000	Auditorium Seating - Quattro By Hussey Seating	800.00	EA	250.00	200,000
11654.000	Line Sets & Shell Allowance - Auditorium	1.00	LS	175,000.00	175,000
*** Total E10 - EQUIPMENT, GENERALLY					468,918
** Total E10 - EQUIPMENT					468,918
E20 - FURNISHINGS					
E2010 - FIXED FURNISHINGS					
10000.020	Smart Boards - N/A per HMFH		EA	2,677.73	
10100.004	Marker Board W/ Alum Trim - Classrooms & Labs	3,048.00	SF	15.63	47,648
10100.006	Tack Board W/O Trim	3,048.00	SF	8.32	25,348
12500.010	Hunter Douglas Roller Shades (50% of glazing)	21,376.00	SF	11.00	235,136
*** Total E2010 - FIXED FURNISHINGS					308,132
** Total E20 - FURNISHINGS					308,132
F10 - SPECIAL CONSTRUCTION					
F10 - SPECIAL CONSTRUCTION					
2100.022	50' Riding Ring w/ Fence (Roof in B10)	1.00	LS	10,000.00	10,000
2220.330	Crushed Stone Under Slab - Kennel	20.00	CY	37.51	750
2220.332	4" SOG - Kennel	400.00	SF	7.71	3,084
2720.115	Chain Link Fence - Vinyl Coated 6' H - Kennel (10' x 10')	120.00	LF	22.00	2,640
2760.100	Tennis Court	6.00	EA	40,000.00	240,000
2762.110	Baseball Field (Includes new drainage system)	1.00	EA	150,000.00	150,000

4.5 - PC Construction Cost Estimate - All Options

Dover High School Schematic Estimate

CONSTRUCTION

Job #: 15027
Project Size: 0 SF
Detail - With Taxes and Insurance

Estimator: KN, JS, JB, MT, MP
Group 1: School Options
Group 2: Uniformat 1

Item Code	Description	Quantity	UM	Total UnitCost	Total Cost
2762.115	Soccer Field Operlapping Baseball Field (Includes new drainage system)	1.00	EA	200,000.00	200,000
*** Total F10 - SPECIAL CONSTRUCTION					606,474
** Total F10 - SPECIAL CONSTRUCTION					606,474
F20 - SELECTIVE BUILDING DEMOLITION					
F2010 - BUILDING ELEMENTS DEMOLITION					
2022.100	Mass Demolition - High School	270,000.00	SF	6.00	1,620,000
2032.310	Demo Entrance Canopy	4,600.00	SF	0.68	3,129
*** Total F2010 - BUILDING ELEMENTS DEMO					1,623,129
** Total F20 - SELECTIVE BUILDING DEMOLIT					1,623,129
G10 - SITE PREPARATION					
G1020 - SITE DEMOLITION					
2013.240	Demo Bit Conc Pvmt - Large Area	230,562.00	SF	0.16	37,927
2013.240	Demo Bit Conc Pvmt - Large Area (For Animal Barn)	6,000.00	SF	0.16	987
2013.280	Demo Conc Walk	11,800.00	SF	0.63	7,414
*** Total G1020 - SITE DEMOLITION					46,328
G1030 - EARTHWORK					
2110.290	Misc Erosion Control	1.00	LS	60,000.00	60,000
2110.306	Site Access/Laydown	1.00	LS	35,000.00	35,000
2200.130	Site Excavation	20,000.00	CY	12.13	242,550
2200.160	Site Fill From Borrow (Demolished Wing) - FFE to be lowered to further balance site	20,000.00	CY	3.17	63,382
2200.905	Granular Fill (M) (Demolished Wing)	20,000.00	CY	10.00	200,000
2300.155	Dewatering	1.00	LS	40,000.00	40,000
*** Total G1030 - EARTHWORK					640,932
** Total G10 - SITE PREPARATION					687,260
G20 - SITE IMPROVEMENTS					
G2010 - SITE PAVING					
2600.050	Compact Road Subgrade	29,319.22	SY	0.23	6,790
2600.060	Fine Grade Road Subgrade	29,319.22	SY	1.04	30,551
2600.075	Stabilization Fabric-Medium	33,717.11	SY	1.31	44,068
2600.130	Install Road Base (L)	20,523.46	CY	3.96	81,300
2600.136	Base - Crushed Gravel (M)	20,523.46	CY	16.00	328,375
2600.200	Added 2" for Heavy Duty Paving - Lot C (33,891 SF)	418.00	TONS	110.00	45,980
2600.200	Bituminous Concrete P3.96g (4")	6,455.39	TON	95.00	613,262
2600.201	29319.22	1.00	EACH		
2600.210	**Paved Area**	58,195.11	SY		
2610.002	Grading For Curbs	4,500.00	LF	2.68	12,060
2610.060	Concrete Curbs 6" X 18"	4,500.00	LF	12.00	54,000
2610.175	4" Concrete Sidewalk	11,000.00	SF	3.00	33,000
*** Total G2010 - SITE PAVING					1,249,386
G2050 - LANDSCAPING					
2710.200	Landscaping	1.00	LS	150,000.00	150,000
2710.250	Landscaping - Courtyard	1.00	LS	150,000.00	150,000
5520.060	Steel Handrail - Site Retaining Wall	405.00	LF	62.21	25,195
10000.010	Flag Pole	1.00	EA	2,277.73	2,278
*** Total G2050 - LANDSCAPING					327,473
** Total G20 - SITE IMPROVEMENTS					1,576,859
G30 - SITE UTILITIES					
G3010 - SITE UTILITIES					
2500.790	Storm Drainage Line	4,000.00	LF	44.08	176,320
2510.507	4' Dia PC Catch Basin	40.00	EA	3,469.33	138,773
2540.110	Water Line	300.00	LF	54.08	16,224
2540.114	Sanitary Sewer	300.00	LF	52.08	15,624
2540.118	Prim/Sec Electrical/Telcom Trenching	300.00	LF	32.08	9,624
2540.122	Natural Gas Trenching	350.00	LF	32.08	11,228
2540.128	Alter Underdrain at existing ball field for new addition	1.00	LS	10,000.00	10,000
2540.130	Alter Underdrain at existing lacrosse field at north side of building due to const access	1.00	LS	10,000.00	10,000
2580.110	Elec Trench-Direct Burial (Site Lighting)	5,100.00	LF	8.04	41,004
2580.120	Elec Trench-Duct Bank (Secondary/Primary Under Roads)	140.00	LF	12.32	1,725
2580.130	Elec Ductbank Forms	560.00	SF	4.42	2,473
2580.140	Elec Ductbank Concrete	48.53	CY	121.08	5,876
15412.614	Grease Interceptor, Steel, 50 GPM, 100 LB Fat Capacity	1.00	EA	9,962.60	9,963
15412.624	Grease Interceptor, Steel, 250 GPM, 500 LB Fat Capacity	1.00	EA	26,096.32	26,096
*** Total G3010 - SITE UTILITIES					474,931
** Total G30 - SITE UTILITIES					474,931
Z10 - GENERAL					
Z1010 - GENERAL CONDITIONS					
0080.100	***DESIGN & ENGINEERING FEES BY CITY OF DOVER***				
0100.000	Mobilize / Demobilize	1.00	LS	28,000.00	28,000
0100.020	Office Supplies	155.00	WK	275.00	42,625
0100.030	Office Furniture / Systems	1.00	LS	48,000.00	48,000
0100.040	Engineer's Furniture / Equipment - N/A		LS		
0100.041	Engineer's Computer / Software - N/A		LS		
0100.045	Project Kiosk 30" - Purchase	4.00	EA	5,000.00	20,000
0100.060	Janitorial Services	155.00	WK	150.00	23,250
0100.064	Temporary Wiring	1.00	LS	3,000.00	3,000
0100.065	Electrical Energy Costs	35.00	MO	350.00	12,250
0100.066	Water Usage Costs	35.00	MO	200.00	7,000
0100.100	Telephone / Communication	35.00	MO	1,000.00	35,000
0100.110	Sanitary / Facilities	35.00	MO	1,500.00	52,500
0110.080	Security / Watchman		WK		
0110.120	Photographs		MO		
0110.160	Documents & Reproductions	1.00	LS	15,000.00	15,000
0120.002	Estimating - GMP	1.00	LS	50,000.00	50,000
0120.003	Officer in Charge		MW	7,000.00	
0120.005	Construction Executive	15.00	MW	5,400.00	81,000
0120.008	Senior Project Manager	56.00	MW	4,720.00	264,320
0120.010	Project Manager	128.00	MW	3,800.00	486,400
0120.018	Senior Project Engineer		MW	2,880.00	
0120.020	Project Engineer	155.00	MW	2,400.00	372,000
0120.022	Office Engineer	115.00	MW	1,920.00	220,800
0120.024	Senior Superintendent	137.00	MW	4,720.00	646,640
0120.025	Project Superintendent	149.00	MW	3,720.00	554,280
0120.034	Construction Coordination - SCP	37.00	MW	2,400.00	88,800
0120.050	Scheduling Engineer		MW	2,280.00	
0120.058	Safety Manager		MW	3,720.00	
0120.060	Safety Engineer (2 Days/Week)	62.00	MW	2,280.00	141,360
0120.220	Administration	132.00	MW	1,720.00	227,040
0130.000	Living Allowance - Management	310.00	MWK	300.00	93,000
0130.005	Living Allowance - Foremen		MWK	125.00	
0130.020	Travel and Expenses	35.00	MO	600.00	21,000
0140.000	Scheduling	1.00	WK	2,280.00	2,280
0140.200	Permit's & Fee's		LS		
0140.205	Building Permit		LS		
0140.300	Design (Means & Methods)		LS		

Dover High School Schematic Estimate

CONSTRUCTION

Job #: 15027
Project Size: 0 SF
Detail - With Taxes and Insurance

Estimator: KN, JS, JB, MT, MP
Group 1: School Options
Group 2: Uniformat 1

Item Code	Description	Quantity	UM	Total UnitCost	Total Cost
0140.800	Professional Services		LS		
0150.200	Equipment Trucking		WK		
0150.250	Off - Site Parking		WK		
0150.500	Personnel Elevator		MO		
0150.520	Field Office	35.00	TM	1,200.00	42,000
0150.540	Engineer / Architect Office		TM	400.00	
0150.560	Storage Trailers (2 Trailers)	70.00	TM	150.00	10,500
0160.300	Sub Bonds (Include w/ Subs)		LS		
0180.010	Gross Receipts Tax		LS		
0180.020	Sales Tax		LS		
*** Total Z1010 - GENERAL CONDITIONS					3,588,045
Z1020 - GENERAL REQUIREMENTS					
0200.010	Materials Testing		LS		
0200.040	Snow Removal	1.00	LS	40,000.00	40,000
0200.110	Field Engineering	4.00	WK	5,000.00	20,000
0200.140	Temporary GWB Partitions	2,000.00	SF	7.80	15,600
0200.160	ICRA / ILSM - N/A		LS		
0200.180	Scaffolding - In COW		LS		
0200.200	OSHA / First Aid	155.00	WK	771.89	119,643
0200.300	Material Handling	155.00	WK	940.00	145,700
0200.310	Cranes - In COW		CM		
0200.320	Progress Cleanup (Labor & Dumpster)	155.00	WK	707.04	109,591
0200.360	Final Cleanup	304,514.00	SF	0.45	137,031
0200.400	Temporary Heat	1.00	LS	175,000.00	175,000
0200.410	Temporary Enclosure	1.00	LS	150,000.00	150,000
0200.970	Support Equipment		LS		
*** Total Z1020 - GENERAL REQUIREMENTS					912,566
** Total Z10 - GENERAL					4,500,611
Z20 - MAJOR CUSTOM PROGRAM ELEMENTS					
Z2010 - MAJOR CUSTOM PROGRAM ELEMENTS					
0060.002	Precon Services - N/A (Included under separate contract)		LS	96,000.00	
2032.500	Asbestos Abatement Contract	1.00	LS	1,300,000.00	1,300,000
2032.505	Asbestos Abatement - 5% Increase per year	1.00	LS	359,166.00	359,166
2762.100	Replace existing football field with turf	1.00	LS	750,000.00	750,000
11400.001	Kitchen Equipment	3,386.00	SF	150.00	507,900
*** Total Z2010 - MAJOR CUSTOM PROGRAM					2,917,066
** Total Z20 - MAJOR CUSTOM PROGRAM EL					2,917,066
* Total Option 3 - All New Construction					65,565,715
Total Gross Cost					65,565,715

4.5 - PC Construction Cost Estimate - All Options

CONSTRUCTION

Dover High School - Option #3 - New Construction - Estimate Comparison

		PC	PM&C	Cost Variance
	High School Total	**$71,593,411**	**$75,210,418**	**$3,617,007**
A1010	Standard Foundations	$1,478,583	$2,798,096	$1,319,513
A1020	Special Foundations	$1,622,007		-$1,622,007
A1030	Lowest Floor Construction	$1,601,208	$1,264,280	-$336,928
B1010	Floor Construction	$7,351,995	$3,796,200	-$3,555,795
B1020	Roof Construction	$1,012,718	$4,197,862	$3,185,144
B2010	Exterior Walls	$4,419,107	$3,457,843	-$961,264
B2020	Windows	$3,212,475	$2,469,971	-$742,504
B2030	Exterior Doors	$142,812	$149,383	$6,571
B3010/3020	Roof Coverings & Openings	$1,886,518	$2,047,146	$160,628
C1010	Partitions	$2,282,122	$3,503,210	$1,221,088
C1020	Interior Doors	$810,180	$867,922	$57,742
C1030	Specialties / Millwork	$2,286,264	$2,177,814	-$108,450
C2010	Stair Construction	$362,660	$192,500	-$170,160
C3010	Wall Finishes	$1,211,496	$1,035,248	-$176,248
C3020	Floor Finishes	$2,044,553	$2,133,640	$89,087
C3030	Ceiling Finishes	$1,213,486	$1,319,365	$105,879
D1010	Elevator	$253,253	$192,800	-$60,453
D2010	Plumbing	$2,728,183	$2,812,133	$83,950
D3010	HVAC	$8,281,029	$8,024,600	-$256,429
D4010	Fire Protection	$971,111	$1,036,049	$64,938
D5010	Electrical	$7,230,576	$8,082,036	$851,460
E1010	Equipment, Generally	$468,918	$960,800	$491,882
E2010	Fixed Furnishings	$308,132	$202,770	-$105,362
F10	Special Construction	$606,474	$425,000	-$181,474
F2010	Building Elements Demolition	$1,623,129		-$1,623,129
G1020/1030	Site Demolition & Earthwork	$687,260	$6,778,594	$6,091,334
G2010	Site Paving	$1,249,386		-$1,249,386
G2050	Landscaping	$327,473		-$327,473
G3010	Site Utilities	$474,931		-$474,931
Z1010	General Conditions	$3,588,045	$3,240,000	-$348,045
Z1020	General Requirements	$912,566	$1,965,331	$1,052,765
Z2010	Major Custom Program Elements	$2,917,066	$1,300,000	-$1,617,066
	Option #3 Total Direct Cost	**$65,565,716**	**$66,430,593**	**$864,877**

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4.5 - PC Construction Cost Estimate - All Options

Dover High School - Option #3 - New Construction - Estimate Comparison			
Labor and Material Escalation	$0	$0	$0
Builders Risk Insurance	$48,893		-$48,893
Liability Insurace	$536,948	$543,742	$6,794
Construction Manager's Contingency (PC @ 5%)	$3,278,286	$6,251,099	$2,972,813
P & P Bond	$417,387	$347,208	-$70,179
CM Fee (2.5%)	$1,746,181	$1,637,776	-$108,405
Option #3 Total Indirect Cost	$6,027,695	$8,779,825	$2,752,130
Option #3 Total Gross Cost	**$71,593,411**	**$75,210,418**	**$3,617,007**

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4.6 - PM&C Cost Estimate - All Options

Conceptual Options

Dover Regional High School and Career Technical Center

Dover, NH

Prepared for:

HMFH Architects, Inc

June 22, 2015

PM&C

Dover Regional High School and Career Technical Center
Dover, NH

22-Jun-15

Conceptual Options

MAIN CONSTRUCTION COST SUMMARY

	Construction Start	Gross Floor Area	$/sf	Estimated Construction Cost
Option 1 - BASE RENOVATION				
PHASE 1; NEW CTC BUILDING; AUTOMOTIVE REPAIR, COLLISION AND ELECTRONICS		20,000	$213.62	$4,272,425
PHASE 1; ANIMAL BARN; 2000 GSF RENOVATION, 6,500 GSF ADDITION		8,500	$130.00	$1,105,000
PHASE 1; SWING SPACE - TEMPORARY MODULAR CLASSROOMS		16 #	n/a	$1,800,000
PHASE 2-7; RENOVATE EXISTING SCHOOL		244,750	$140.71	$34,439,570
REMOVE HAZARDOUS MATERIALS allowance per Universal Environmental Consultants dated February 10, 2015 [1]				$1,300,000
SITEWORK				$2,793,500
SUB-TOTAL	May-16	273,250	$167.28	$45,710,495
ESCALATION PH1				INCL
ESCALATION PH2 - 7	6.00%			$2,311,984
DESIGN AND PRICING CONTINGENCY	12%			$5,485,259
SUB-TOTAL WITH CONTINGENCY & ESCALATION	May-16	273,250	$195.82	$53,507,738
GENERAL CONDITIONS [2]				$5,202,580
GENERAL REQUIREMENTS [2]				$1,690,412
PHASING PREMIUM	2.00%			$1,070,155
BONDS	0.53%			$283,591
INSURANCE	0.83%			$444,114
PERMIT				NIC
GMP CONTINGENCY	3.00%			$1,605,232
OVERHEAD AND FEE	2.5%			$1,337,693
TOTAL OF CONSTRUCTION - BASE RENOVATION OPTION	May-16	273,250	$238.40	**$65,141,515**

++ With this option 1# ball field is eliminated

PM&C

Dover Regional High School and Career Technical Center
Dover, NH

22-Jun-15

Conceptual Options

Option 2 - RENOVATION/ ADDITION

RENOVATION AND ADDITION TO EXISTING BUILDING		294,500	$171.03	$50,368,089
ANIMAL BARN; 2000 GSF RENOVATION, 6,500 GSF ADDITION		8,500		INCL
DEMOLISH PORTION OF EXISTING BUILDING		178,826	$6.00	$1,072,956
REMOVE HAZARDOUS MATERIALS allowance per Universal Environmental Consultants dated February 10, 2015 [1]				$1,300,000
SITEWORK				$4,611,393
SUB-TOTAL	May-16	303,000	$189.28	$57,352,438
ESCALATION	0.00%			Incl
DESIGN AND PRICING CONTINGENCY	7%			$4,014,671
SUB-TOTAL WITH CONTINGENCY & ESCALATION	May-16	303,000	$202.53	$61,367,109
GENERAL CONDITIONS [2]	38	mths		$3,826,515
GENERAL REQUIREMENTS [2]	3.00%			$1,005,426
BONDS	0.53%			$325,246
INSURANCE	0.83%			$509,347
PERMIT				NIC
GMP CONTINGENCY	3.00%			$1,841,013
OVERHEAD AND FEE	2.5%			$1,534,178
TOTAL OF ALL CONSTRUCTION ADDITION/RENOVATION OPTION	May-16	303,000	$232.37	**$70,408,834**

PM&C

Dover Regional High School and Career Technical Center
Dover, NH 22-Jun-15

Conceptual Options

OPTION 3 - NEW BUILDING

NEW SCHOOL BUILDING		296,014	$179.54	$53,146,668
ANIMAL BARN; 2000 GSF RENOVATION, 6,500 GSF ADDITION		8,500		INCL
DEMOLISH EXISTING SCHOOL		244,650	$8.00	$1,957,200
REMOVE HAZARDOUS MATERIALS allowance per Universal Environmental Consultants dated February 10, 2015 [1]				$1,300,000
SITEWORK				$4,821,394
SUB-TOTAL	May-16	304,514	$201.06	$61,225,262
ESCALATION	0.00%			INCL
DESIGN AND PRICING CONTINGENCY	7%			$4,285,768
SUB-TOTAL WITH CONTINGENCY & ESCALATION	May-16	304,514	$215.13	$65,511,030
GENERAL CONDITIONS [2]	36	mths	$90,000	$3,240,000
GENERAL REQUIREMENTS [2]	3.00%			$1,965,331
BONDS	0.53%			$347,208
INSURANCE	0.83%			$543,742
PERMIT				NIC
GMP CONTINGENCY	3.00%			$1,965,331
OVERHEAD AND FEE	2.5%			$1,637,776
TOTAL OF ALL CONSTRUCTION NEW BUILDING OPTION	May-16	304,514	$246.99	**$75,210,418**

PM&C

Dover Regional High School and Career Technical Center
Dover, NH 22-Jun-15

Conceptual Options

[1] HazMat removal costs include design, construction monitoring and air sampling services.

[2] Priced as CM at Risk project.

This Feasibility cost estimate was produced from preliminary drawings, narratives and other documentation prepared by HMFH Architects Inc. and their design team dated April 21, 2015. Design and engineering changes occurring subsequent to the issue of these documents have not been incorporated in this estimate.

This estimate includes all direct construction costs, general contractor's overhead and profit and design contingency. Cost escalation assumes start dates indicated above.

We have assumed procurement will utilize a public bid to pre-qualified subcontractors, open specifications for materials and manufactures.

The estimate is based on prevailing wage rates for construction in this market and represents a reasonable opinion of cost. It is not a prediction of the successful bid from a contractor as bids will vary due to fluctuating market conditions, errors and omissions, proprietary specifications, lack or surplus of bidders, perception of risk, etc. Consequently the estimate is expected to fall within the range of bids from a number of competitive contractors or subcontractors, however we do not warrant that bids or negotiated prices will not vary from the final construction cost estimate.

ITEMS NOT CONSIDERED IN THIS ESTIMATE

Items not included in this estimate are:

- Land acquisition, feasibility, and financing costs
- All professional fees and insurance
- Site or existing conditions surveys investigations costs, including to determine subsoil conditions
- All Furnishings, Fixtures and Equipment
- Items identified in the design as Not In Contract (NIC)
- Items identified in the design as by others
- Owner supplied and/or installed items as indicated in the estimate
- Utility company back charges, including work required off-site
- Work to City streets and sidewalks, (except as noted in this estimate)
- Construction contingency

4.6 - PM&C Cost Estimate - All Options

PM&C

Dover Regional High School and Career Technical Center 22-Jun-15
Dover, NH

Conceptual Options GFA 20,000

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
Option 1 - BASE RENOVATION							
	NEW CTC BUILDING						
	GROSS FLOOR AREA CALCULATION						
	First Floor			20,000			
	TOTAL GROSS FLOOR AREA (GFA)				**20,000** ***sf***		
	A10 FOUNDATIONS						
A1010	**STANDARD FOUNDATIONS**						
	Pile foundations						
	Excavation	**681**	cy	10.00	6,810		
	Remove off site	**681**	cy	12.00	8,172		
	Backfill with gravel	**227**	cy	28.00	6,356		
	Grade beams - allow 24" x 48"	**311**	cy	500.00	155,500		
	Pile caps - allowance (assume 25' grid)	**143**	cy	650.00	92,950		
	Dampproofing & insulation at grade beams	**2,400**	sf	5.00	12,000		
	SUBTOTAL					281,788	
A1020	**SPECIAL FOUNDATIONS**						
	Mobilize/ Demobilize	**1**	ls	30,000.00	30,000		
	HP Steel piles, assume 30' deep	**1,200**	lf	80.00	96,000		
	SUBTOTAL					126,000	
A1030	**LOWEST FLOOR CONSTRUCTION**						
	Gravel fill, 8"	**494**	cy	35.00	17,290		
	Rigid insulation, 4' perimeter	**2,400**	sf	1.87	4,488		
	Vapor barrier	**20,000**	sf	0.55	11,000		
	Structural Slab, 10" thick	**20,000**	sf	12.00	240,000		
	SUBTOTAL					272,778	
	TOTAL - FOUNDATIONS						**$680,566**
	A20 BASEMENT CONSTRUCTION						
A2010	**BASEMENT EXCAVATION**						
	No Work in this section						
	SUBTOTAL						
A2020	**BASEMENT WALLS**						
	No Work in this section						
	SUBTOTAL						
	TOTAL - BASEMENT CONSTRUCTION						
	B10 SUPERSTRUCTURE						
B1010	**FLOOR CONSTRUCTION**						
	No Work in this section						
	SUBTOTAL						
B1020	**ROOF CONSTRUCTION**						
	Roof Structure - Steel:						
	Steel Joists; allowance 11 lbs per SF	**110**	tns	3,100.00	341,000		
	Roof Deck						
	1-1/2" Cold formed steel deck	**20,000**	sf	2.50	50,000		
	Miscellaneous						
	Fire proofing			Not required			
	Fire stopping	**1**	ls	2,000.00	2,000		
	Misc. angles	**1**	ls	20,000.00	20,000		
	SUBTOTAL					413,000	
	TOTAL - SUPERSTRUCTURE						**$413,000**
	B20 EXTERIOR CLOSURE						
B2010	**EXTERIOR WALLS - 70% solid/30% Glazed**	*12,000*	sf				
	Interior skin						
	10" CMU walls	**8,400**	sf	16.00	134,400		
	Insulation	**8,400**	sf	2.25	18,900		
	Air barrier	**8,400**	sf	4.00	33,600		
	Air barrier/flashing at windows	**1,188**	lf	6.50	7,722		
	Gypsum Sheathing	**8,400**	sf	2.50	21,000		
	Exterior skin						
	Brick veneer	**8,400**	sf	26.00	218,400		
	Miscellaneous						
	Staging to exterior wall	**12,000**	sf	2.00	24,000		
	SUBTOTAL					458,022	
B2020	**WINDOWS**	*3,600*	sf				
	Windows/Curtainwall/Storefront	**3,500**	sf	75.00	262,500		
	Louvers (allowance)	**100**	sf	50.00	5,000		
	Backer rod & double sealant	**1,188**	lf	4.00	4,752		
	Wood blocking at openings	**1,188**	lf	2.50	2,970		
	SUBTOTAL					275,222	
B2030	**EXTERIOR DOORS**						
	Glazed entrance doors including frame and hardware; double door	**3**	pr	7,000.00	21,000		
	HM doors, frames and hardware	**4**	ea	2,000.00	8,000		
	Overhead doors at Workshops	**3**	ea	5,000.00	15,000		
	Backer rod & double sealant	**140**	lf	4.00	560		
	Wood blocking at openings	**140**	lf	3.00	420		
	SUBTOTAL					44,980	
	TOTAL - EXTERIOR CLOSURE						**$778,224**
	B30 ROOFING						
B3010	**ROOF COVERINGS**						
	Flat roofing						
	White TPO roofing	**20,000**	sf	5.00	100,000		
	Insulation	**20,000**	sf	4.50	90,000		
	Reinforced vapor barrier	**20,000**	sf	0.45	9,000		
	Rough blocking	**2,400**	lf	5.00	12,000		
	Roof coping/ fascia	**600**	lf	30.00	18,000		

PM&C

Dover Regional High School and Career Technical Center
Dover, NH

22-Jun-15

Conceptual Options

GFA 20,000

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
Option 1 - BASE RENOVATION							
	SUBTOTAL					229,000	
B3020	**ROOF OPENINGS**						
	Roof hatch	**1**	loc	2,000.00	2,000		
	SUBTOTAL					2,000	
	TOTAL - ROOFING						**$231,000**
C10	***INTERIOR CONSTRUCTION***						
C1010	**PARTITIONS**						
	New Interior partitions; abuse resistant GWB	**20,000**	gsf	10.00	200,000		
	SUBTOTAL					200,000	
C1020	**INTERIOR DOORS**						
	Interior doors, frames and hardware	**20,000**	gsf	3.00	60,000		
	SUBTOTAL					60,000	
C1030	**SPECIALTIES / MILLWORK**						
	Toilet Partitions and accessories	**20,000**	gsf	0.80	16,000		
	Backer panels in electrical closets	**1**	ls	500.00	500		
	Marker boards/tackboards	**20,000**	sf	0.50	10,000		
	Signage & Directories	**20,000**	gsf	0.30	6,000		
	Fire extinguisher cabinets	**6**	ea	350.00	2,100		
	Lockers	**20,000**	sf	1.50	30,000		
	Miscellaneous metals throughout building	**20,000**	sf	0.50	10,000		
	Miscellaneous sealants throughout building	**20,000**	sf	0.50	10,000		
	SUBTOTAL					84,600	
	TOTAL - INTERIOR CONSTRUCTION						**$344,600**
C20	***STAIRCASES***						
C2010	**STAIR CONSTRUCTION**						
	No items in this section						
	SUBTOTAL						
C2020	**STAIR FINISHES**						
	No items in this section						
	SUBTOTAL						
	TOTAL - STAIRCASES						
C30	***INTERIOR FINISHES***						
C3010	**WALL FINISHES**						
	Wall finishes allowance for all finishes; CT tile in bathrooms; CT wainscot in corridors; paint to walls	**20,000**	sf	4.00	80,000		
	SUBTOTAL					80,000	
C3020	**FLOOR FINISHES**						
	Concrete sealer in Collision, Auto body and Electronics workshops	**14,000**	sf	2.00	28,000		
	Flooring at corridors/lobby/ admin areas; linoleum	**5,580**	sf	6.50	36,270		
	Flooring in toilet rooms	**420**	sf	14.00	5,880		

4.6 - PM&C Cost Estimate - All Options

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Dover Regional High School and Career Technical Center
Dover, NH

22-Jun-15

Conceptual Options

GFA 20,000

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
Option 1 - BASE RENOVATION							
	Allowance for bases and miscellaneous floor finishes	**20,000**	sf	0.50	10,000		
	Allowance for moisture mitigation	**5,580**	sf	2.00	11,160		
	SUBTOTAL					91,310	
C3030	**CEILING FINISHES**						
	ACT ceilings	**6,000**	sf	4.00	24,000		
	Paint exposed decking in workshops	**14,000**	sf	2.00	28,000		
	SUBTOTAL					52,000	
	TOTAL - INTERIOR FINISHES						**$223,310**
D10	***CONVEYING SYSTEMS***						
D1010	**ELEVATOR**						
	No items in this section						
	SUBTOTAL						
	TOTAL - CONVEYING SYSTEMS						
D20	***PLUMBING***						
D20	**PLUMBING, GENERALLY**						
	Plumbing	**20,000**	gsf	8.00	160,000		
	SUBTOTAL					160,000	
	TOTAL - PLUMBING						**$160,000**
D30	***HVAC***						
D30	**HVAC, GENERALLY**						
	HVAC system	**20,000**	gsf	32.00	640,000		
	SUBTOTAL					640,000	
	TOTAL - HVAC						**$640,000**
D40	***FIRE PROTECTION***						
D40	**FIRE PROTECTION, GENERALLY**						
	Fire protection system	**20,000**	gsf	3.50	70,000		
	SUBTOTAL					70,000	
	TOTAL - FIRE PROTECTION						**$70,000**
D50	***ELECTRICAL***						
	Electrical system, complete	**20,000**	gsf	28.00	560,000		
	SUBTOTAL					560,000	
	TOTAL - ELECTRICAL						**$560,000**
E10	***EQUIPMENT***						
E10	**EQUIPMENT, GENERALLY**						

PM&C

Dover Regional High School and Career Technical Center 22-Jun-15
Dover, NH

Conceptual Options GFA 20,000

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
Option 1 - BASE RENOVATION							
	Electrically operated projection screens, smart boards, break room appliances	**1**	loc	20,000.00	20,000		
	Collision, Auto body and Electronics workshops equipment				FF+E		
	SUBTOTAL					20,000	
	TOTAL - EQUIPMENT						**$20,000**
E20	***FURNISHINGS***						
E2010	**FIXED FURNISHINGS**						
	Entry mats & frames	**225**	sf	45.00	10,125		
	Window blinds	**3,600**	sf	6.00	21,600		
	Admin/Back of house casework- allowance	**80**	lf	500.00	40,000		
	Counters, base cabinets, tall storage in Workshops	**20,000**	gsf	4.00	80,000		
	SUBTOTAL					151,725	
E2020	**MOVABLE FURNISHINGS**						
	All movable furnishings to be provided and installed by owner						
	SUBTOTAL					NIC	
	TOTAL - FURNISHINGS						**$151,725**
F10	***SPECIAL CONSTRUCTION***						
F10	**SPECIAL CONSTRUCTION**						
	No items in this section						
	SUBTOTAL						
	TOTAL - SPECIAL CONSTRUCTION						
F20	***SELECTIVE BUILDING DEMOLITION***						
F2010	**BUILDING ELEMENTS DEMOLITION**						
	No items in this section						
	SUBTOTAL						
F2020	**HAZARDOUS COMPONENTS ABATEMENT**						
	No items in this section						
	SUBTOTAL						
	TOTAL - SELECTIVE BUILDING DEMOLITION						
	TOTAL OPTION 1 NEW CTC BUILDING						**$4,272,425**

4.6 - PM&C Cost Estimate - All Options

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Dover Regional High School and Career Technical Center 22-Jun-15
Dover, NH

Conceptual Options GFA 244,750

CONSTRUCTION COST SUMMARY

BUILDING SYSTEM		SUB-TOTAL	TOTAL	$/SF	%
Option 1 - BASE RENOVATION					
A10	**FOUNDATIONS**				
A1010	Standard Foundations	$0			
A1020	Special Foundations	$440,000			
A1030	Lowest Floor Construction	$387,000	**$827,000**	$3.38	2.4%
B10	**SUPERSTRUCTURE**				
B1010	Upper Floor Construction	$820,825			
B1020	Roof Construction	$35,000	**$855,825**	$3.50	2.5%
B20	**EXTERIOR CLOSURE**				
B2010	Exterior Walls	$460,856			
B2020	Windows/Curtainwall	$1,776,840			
B2030	Exterior Doors	$137,510	**$2,375,206**	$9.70	6.9%
B30	**ROOFING**				
B3010	Roof Coverings	$230,000			
B3020	Roof Openings	$20,000	**$250,000**	$1.02	0.7%
C10	**INTERIOR CONSTRUCTION**				
C1010	Partitions	$1,223,750			
C1020	Interior Doors	$734,250			
C1030	Specialties/Millwork	$2,079,148	**$4,037,148**	$16.49	11.7%
C20	**STAIRCASES**				
C2010	Stair Construction	$57,000			
C2020	Stair Finishes	$20,000	**$77,000**	$0.31	0.2%
C30	**INTERIOR FINISHES**				
C3010	Wall Finishes	$979,000			
C3020	Floor Finishes	$1,989,224			
C3030	Ceiling Finishes	$1,278,822	**$4,247,046**	$17.35	12.3%
D10	**CONVEYING SYSTEMS**				
D1010	Elevator	$122,500	**$122,500**	$0.50	0.4%
D20	**PLUMBING**				
D20	Plumbing	$2,325,125	**$2,325,125**	$9.50	6.8%
D30	**HVAC**				
D30	HVAC	$7,945,251	**$7,945,251**	$32.46	23.1%
D40	**FIRE PROTECTION**				
D40	Fire Protection	$856,625	**$856,625**	$3.50	2.5%

PM&C

Dover Regional High School and Career Technical Center
Dover, NH

22-Jun-15

Conceptual Options

GFA 244,750

CONSTRUCTION COST SUMMARY

	BUILDING SYSTEM	SUB-TOTAL	TOTAL	$/SF	%
Option 1 - BASE RENOVATION					
D50	**ELECTRICAL**				
D5010	Electrical Systems	$6,873,138	**$6,873,138**	$28.08	20.0%
E10	**EQUIPMENT**				
E10	Equipment	$960,800	**$960,800**	$3.93	2.8%
E20	**FURNISHINGS**				
E2010	Fixed Furnishings	$136,674			
E2020	Movable Furnishings	NIC	**$136,674**	$0.56	0.4%
F10	**SPECIAL CONSTRUCTION**				
F10	Special Construction	$425,000	**$425,000**	$1.74	1.2%
F20	**SELECTIVE BUILDING DEMOLITION**				
F2010	Building Elements Demolition	$2,125,232			
F2020	Hazardous Components Abatement	$0	**$2,125,232**	$8.68	6.2%
TOTAL DIRECT COST (Trade Costs)			**$34,439,570**	$140.71	100.0%

4.6 - PM&C Cost Estimate - All Options

PM&C

Dover Regional High School and Career Technical Center
Dover, NH

22-Jun-15

Conceptual Options

GFA 244,750

	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	Option 1 - BASE RENOVATION						
	GROSS FLOOR AREA CALCULATION						
		Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7
	Lower Floor	17,000	17,000	11,000	36,000		
	First Floor	14,000	12,000	9,000		34,000	
	Second Floor	17,000	12,000	9,000			22,000
	Corridors - Lower, Main and 2nd floor				8,000	13,750	13,000
	TOTAL GROSS FLOOR AREA (GFA)	*48,000*	*41,000*	*29,000*	*44,000*	*47,750*	22,000
	A10 FOUNDATIONS						
	A1010 STANDARD FOUNDATIONS						
	No items in this section						
	SUBTOTAL						
	A1020 SPECIAL FOUNDATIONS						
	Phase 2 Structural work						
	Allowance to upgrade existing foundations at columns						
	Allowance for temporary shoring	**12**	loc	10,000.00	120,000		
	New grade beams	**1**	ls	140,000.00	140,000		
	Demo and removal of existing pile caps and grade beams	**12**	loc	5,000.00	60,000		
	Allowance for new Helical augured piles or drilled mini-piles at existing columns including premium for restricted working conditions	**12**	loc	10,000.00	120,000		
	SUBTOTAL					440,000	
	A1030 LOWEST FLOOR CONSTRUCTION						
	All phases						
	Remove and replace slabs for new plumbing and service lines etc.	**4,050**	sf	10.00	40,500		
	Allowance to patch existing slab @ structural work	**2,400**	sf	10.00	24,000		
	Alter slope at auditorium to meet ADA requirements	**6,300**	sf	25.00	157,500		
	New equipment pads	**1**	ls	10,000.00	10,000		
	Phase 7; New elevator pits	**1**	ea	25,000.00	25,000		
	Animal barn foundations	**1**	ls	130,000.00	130,000		
	SUBTOTAL					387,000	
	TOTAL - FOUNDATIONS						**$827,000**
	B10 SUPERSTRUCTURE						
	B1010 FLOOR CONSTRUCTION						
	Phase 2 Structural work						
	Existing HSS columns -						
	Allowance to expose existing columns for upgrades - remove gypsum fireproofing enclosure and sheet metal outer shell; 12 columns per floor, 3 floors	**36**	loc	2,000.00	72,000		
	Allowance for supplemental reinforcement at existing columns for new bracing and augmentation of existing base plates and an/or bolts - new full height plates or channels welded to the existing column	**36**	loc	3,500.00	126,000		

PM&C

Dover Regional High School and Career Technical Center 22-Jun-15
Dover, NH

Conceptual Options **GFA** 244,750

	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	Option 1 - BASE RENOVATION						
	3-Story Vertical HSS bracing bays attached to existing columns including minor structural reinforcement of existing floor and roof framing member	**8**	loc	25,000.00	200,000		
	Auditorium and Gymnasium wing			No additional lateral supports necessary			
	All phases						
	Allowance to patch existing upper floors at new MEP penetrations - All Phases	**163,750**	sf	1.50	245,625		
	Allowance for ADA upgrades - new ramps to allow HC access	**500**	sf	70.00	35,000		
	Fire stopping floors	**1**	ls	15,000.00	15,000		
	Phase 7; Create new openings in structure for elevator	**288**	sf	25.00	7,200		
	New penetrations to existing structure	**1**	ls	20,000.00	20,000		
	Fire proofing to new steel	**1**	ls	100,000.00	100,000		
	SUBTOTAL					820,825	
B1020	**ROOF CONSTRUCTION**						
	All phases						
	Structural upgrades at roof				Not required		
	Allowance for penetrations and dunnage at existing roof structure for new MEP systems	**1**	ls	25,000.00	25,000		
	Phase 7; New openings in structure for elevator	**1**	loc	10,000.00	10,000		
	SUBTOTAL					35,000	
	TOTAL - SUPERSTRUCTURE						**$855,825**
B20	***EXTERIOR CLOSURE***						
B2010	**EXTERIOR WALLS**	*62,800*	*sf*				
	Allowance for minor patching/ repair at existing closure	**41,896**	sf	7.00	293,272		
	Insulate existing walls	**41,896**	sf	4.00	167,584		
	SUBTOTAL					460,856	
B2020	**WINDOWS/CURTAINWALL**	*20,904*	*sf*				
	New Kalwal window system at 3 story Classroom wing						
	Phase 3	**12,384**	sf	85.00	1,052,640		
	Phase 4	**8,520**	sf	85.00	724,200		
	SUBTOTAL					1,776,840	
B2030	**EXTERIOR DOORS**						
	Allowance to replace all existing exterior doors						
	Glazed entrance doors including frame and hardware; per leaf	**6**	pr	7,000.00	42,000		
	HM doors, HM frames and hardware (leafs)	**30**	lvs	1,300.00	39,000		
	Overhead doors @ Loading and Workshops	**10**	ea	5,000.00	50,000		
	Backer rod & double sealant	**930**	lf	4.00	3,720		
	Wood blocking at openings	**930**	lf	3.00	2,790		
	SUBTOTAL					137,510	
	TOTAL - EXTERIOR CLOSURE						**$2,375,206**
B30	***ROOFING***						

4.6 - PM&C Cost Estimate - All Options

PM&C

Dover Regional High School and Career Technical Center 22-Jun-15
Dover, NH

Conceptual Options **GFA** 244,750

	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	Option 1 - BASE RENOVATION						
B3010	**ROOF COVERINGS**						
	Flat roofing						
	Remove existing membrane roofing	**81,000**	sf	2.25	ETR		
	TPO roof membrane fully adhered	**81,000**	sf	5.00	ETR		
	Insulation	**81,000**	sf	4.50	ETR		
	1/2" protection board	**81,000**	sf	1.50	ETR		
	Reinforced vapor barrier	**81,000**	sf	0.45	ETR		
	Miscellaneous Roofing						
	Roof edge detail - fascia	**2,000**	lf	80.00	ETR		
	Rough blocking	**12,000**	lf	4.00	ETR		
	Allowance for additional roof drains and scuppers	**1**	ls	15,000.00	15,000		
	Allowance for new gutters and downspouts	**1**	ls	10,000.00	10,000		
	New drop-off canopy allowance	**1**	ls	200,000.00	200,000		
	Walk pads	**1**	ls	5,000.00	5,000		
	SUBTOTAL					230,000	
B3020	**ROOF OPENINGS**						
	Allowance for elevator vent, roof hatches, ladders etc	**1**	ls	20,000.00	20,000		
	SUBTOTAL					20,000	
	TOTAL - ROOFING						**$250,000**
C10	***INTERIOR CONSTRUCTION***						
C1010	**PARTITIONS**						
	Minimal patch, repair of existing partitions ; allowance Phases 2 - 7	**244,750**	sf	2.00	489,500		
	Allowance for MEP chases, new partitions for ADA requirements; allowance Phases 2 - 7	**244,750**	sf	3.00	734,250		
	SUBTOTAL					1,223,750	
C1020	**INTERIOR DOORS**						
	New interior doors, frames and hardware in existing openings; allowance Phases 2 - 7	**244,750**	sf	3.00	734,250		
	SUBTOTAL					734,250	
C1030	**SPECIALTIES / MILLWORK**						
	Toilet Partitions and accessories	**244,750**	sf	0.50	122,375		
	Backer panels in electrical closets	**1**	ls	2,000.00	2,000		
	Marker boards/tack boards in classrooms, offices, conference rooms, library and MP rooms (Smart boards in Equipment section)	**244,750**	sf	0.50	122,375		
	Shelving in storage rooms	**1**	ls	10,000.00	10,000		
	Staff mailboxes/casework	**1**	ls	10,000.00	10,000		
	Signage & Directories	**244,750**	gsf	0.30	73,425		
	Fire extinguisher cabinets	**70**	ea	350.00	24,500		
	Lockers; corridors	**1,500**	opng	190.00	285,000		
	Lockers; athletic	**100**	opng	210.00	21,000		
	Lockers; team	**200**	opng	290.00	58,000		
	Lockers; staff	**115**	opng	240.00	27,600		

4.6 - PM&C Cost Estimate - All Options

PM&C

Dover Regional High School and Career Technical Center 22-Jun-15
Dover, NH

Conceptual Options **GFA** 244,750

	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	Option 1 - BASE RENOVATION						
136	Janitors Closet Accessories	**12**	rms	300.00	3,600		
137	Reception/ Library/ Circulation desks	**1**	ls	50,000	50,000		
#REF!	Science classroom casework	**14**	rm	50,000.00	700,000		
#REF!	Counters, base cabinets, tall storage in classrooms/Cart storage	**50**	rms	2,600.00	130,000		
#REF!	New/repair casework in Specialty classrooms; Home Economics, Kitchen, Cosmetology etc	**58,920**	sf	3.00	176,760		
138	Library shelving				F,F & E		
139	Display cases	**1**	ls	30,000	30,000		
140	Miscellaneous metals throughout building	**244,750**	sf	0.60	146,850		
141	Miscellaneous sealants throughout building	**244,750**	sf	0.35	85,663		
142	SUBTOTAL					2,079,148	
143							
144	***TOTAL - INTERIOR CONSTRUCTION***						**$4,037,148**
145							
146							
147	***C20 STAIRCASES***						
148							
149	**C2010 STAIR CONSTRUCTION**						
150	Add new handrails extensions to existing stairs	**10**	flt	5,700.00	57,000		
151	Existing stairs	**10**	flt		ETR		
152	SUBTOTAL					57,000	
153							
154	**C2020 STAIR FINISHES**						
155	New finishes to stairs	**10**	flts	2,000.00	20,000		
156	SUBTOTAL					20,000	
157							
158	***TOTAL - STAIRCASES***						**$77,000**
159							
160							
161	***C30 INTERIOR FINISHES***						
162							
163	**C3010 WALL FINISHES**						
164	Wall finishes; painting; wall tile etc. - all Phases	**244,750**	gsf	4.00	979,000		
165	SUBTOTAL					979,000	
166							
167	**C3020 FLOOR FINISHES**						
168	Prepare existing floors	**232,513**	sf	2.00	465,026		
169	Flooring at corridors/lobby/classrooms; linoleum	**174,093**	sf	6.00	1,044,558		
170	Carpet in Library, assoc. areas	**7,880**	sf	5.00	39,400		
171	Repair/ refinish wood floor in Gymnasium	**13,690**	sf	8.00	109,520		
172	New stage floor, stairs including repairs to existing substrate	**2,150**	sf	20.00	43,000		
173	Sealed concrete in Workshops and back of house spaces	**16,480**	sf	1.50	24,720		
174	Kitchen/ Culinary flooring; tile	**9,750**	sf	17.00	165,750		
175	Locker room/Weight room floor finish	**5,960**	sf	10.00	59,600		
176	New tile floors to toilet rooms	**2,510**	sf	15.00	37,650		
177	SUBTOTAL					1,989,224	
178							
179	**C3030 CEILING FINISHES**						
180	Ceiling finishes; allowance for all ceiling finishes/soffits etc. - all Phases	**232,513**	sf	5.50	1,278,822		
181	SUBTOTAL					1,278,822	
182							

PM&C

Dover Regional High School and Career Technical Center 22-Jun-15
Dover, NH

Conceptual Options **GFA** 244,750

	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	Option 1 - BASE RENOVATION						
183	***TOTAL - INTERIOR FINISHES***						**$4,247,046**
184							
185							
186	***D10 CONVEYING SYSTEMS***						
187							
188	**D1010 ELEVATORS**						
189	Phase 7; New passenger elevator, 3 stop	**1**	ea	105,000.00	105,000		
190	New lift at Stage	**1**	ls	15,000.00	15,000		
191	Pit ladder, elevator rails etc	**1**	ls	2,500.00	2,500		
192	SUBTOTAL					122,500	
193							
194	***TOTAL - CONVEYING SYSTEMS***						**$122,500**
195							
196							
197	***D20 PLUMBING***						
198							
199	**D20 PLUMBING, GENERALLY**						
200	Plumbing; replace fixtures and piping	**244,750**	gsf	9.50	2,325,125		
201	SUBTOTAL					2,325,125	
202							
203	***TOTAL - PLUMBING***						**$2,325,125**
204							
205							
206	***D30 HVAC***						
207							
208	**D30 HVAC, GENERALLY**						
209	Heating equipment						
210	Hot water heating plant	**12,000**	mbh	20.00	240,000		
211	Hot water heating plant, Auto Technology	**990**	mbh	35.00	34,650		
212	Hot water heating plant, Animal Science	**990**	mbh	35.00	34,650		
213	Perimeter heating devices	**264,750**	sf	1.00	264,750		
214	Cooling Equipment						
215	Air-cooled chilled water plant	**100**	ton	1,500.00	150,000		
216	Terminal cooling equipment	**1**	ls	50,000.00	50,000		
217	Chilled beams	**1**	ls	100,000.00	100,000		
218	Air distribution						
219	Air Handling Unit						
220	Packaged rooftop AC units	**372**	ton	3,750.00	1,395,000		
221	Packaged rooftop AC units, modular classrooms	**40**	ton	3,750.00	150,000		
222	Air handling units, heating only	**37,500**	cfm	7.00	262,500		
223	Make-up air unit	**2**	ea	6,000.00	12,000		
224	Miscellaneous air distribution equipment	**264,750**	sf	1.25	330,938		
225	Exhaust fan s						
226	Dishwasher exhaust fan	**2**	ea	3,500.00	7,000		
227	Kitchen exhaust fan	**2**	ea	7,500.00	15,000		
228	Paint booth exhaust fan	**1**	ea	25,000.00	25,000		
229	Dust collection system	**2**	ea	75,000.00	150,000		
230	Exhaust fans	**1**	ls	25,000.00	25,000		
231	Vehicle exhaust system	**1**	ls	25,000.00	25,000		
232	Sheet metal & Accessories						
233	Ductwork, insulation and accessories	**215,000**	lbs	8.00	1,720,000		
234	Piping						
235	Piping, valves and insulation	**264,750**	sf	7.00	1,853,250		
236	Controls (DDC)						

PM&C

Dover Regional High School and Career Technical Center 22-Jun-15
Dover, NH

Conceptual Options **GFA** 244,750

	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	Option 1 - BASE RENOVATION						
	Automatic temperature controls	**264,750**	sf	4.50	1,191,375		
	Balancing						
	System testing & balancing	**264,750**	sf	0.45	119,138		
	Miscellaneous						
	Phasing allowance	**1**	ls	100,000.00	100,000		
	Demolition	**1**	ls	75,000.00	75,000		
	Coordination & management	**1**	ls	50,000.00	50,000		
	Commissioning support	**1**	ls	40,000.00	40,000		
	Coring, sleeves & fire stopping	**1**	ls	20,000.00	20,000		
	Equipment start-up and inspection	**1**	ls	15,000.00	15,000		
	Rigging & equipment rental	**1**	ls	50,000.00	50,000		
	Deduct for CTC building	**(20,000)**	sf	28.00	(560,000)		
	SUBTOTAL					7,945,251	
	TOTAL - HVAC						**$7,945,251**
	D40 FIRE PROTECTION						
D40	**FIRE PROTECTION, GENERALLY**						
	Fire protection system	**244,750**	gsf	3.50	856,625		
	SUBTOTAL					856,625	
	TOTAL - FIRE PROTECTION						**$856,625**
	D50 ELECTRICAL						
D5010	**SERVICE & DISTRIBUTION**						
	Gear & Distribution						
	Normal Power						
	3000A Gear and distribution allowance	**264,750**	sf	3.00	794,250		
	Emergency power						
	300kW natural gas genset	**1**	ea	175,000.00	175,000		
	Gear and distribution allowance	**264,750**	sf	1.35	357,413		
	30kW UPS system	**2**	ea	25,000.00	50,000		
	Equipment Wiring						
	Equipment wiring allowance	**264,750**	sf	2.00	529,500		
	Kitchen equipment allowance	**1**	ls	20,000.00	20,000		
	SUBTOTAL					1,926,163	
D5020	**LIGHTING & POWER**						
	Lighting & Branch Power						
	Lighting allowance (LED)	**264,750**	sf	5.00	1,323,750		
	Lighting controls						
	Lighting controls, local, daylight sensing and dimming	**264,750**	sf	1.00	264,750		
	Branch devices						
	Branch devices	**264,750**	sf	0.40	105,900		
	Lighting and branch circuitry						
	Branch & lighting circuitry	**264,750**	sf	5.00	1,323,750		
	SUBTOTAL					3,018,150	
D5030	**COMMUNICATION & SECURITY SYSTEMS**						

4.6 - PM&C Cost Estimate - All Options

PM&C

Dover Regional High School and Career Technical Center 22-Jun-15
Dover, NH

Conceptual Options **GFA** 244,750

	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	Option 1 - BASE RENOVATION						
	Fire Alarm						
	Fire alarm system	**264,750**	sf	1.50	397,125		
	Security System						
	Security System	**264,750**	sf	1.00	264,750		
	Telephone/Data/CATV						
	Telecommunications rough in & devices and cabling	**264,750**	sf	2.50	661,875		
	Sound Systems						
	Gymnasium sound system	**1**	ls	20,000.00	20,000		
	Cafeteria sound system	**1**	ls	20,000.00	20,000		
	Music room sound system	**1**	ls	10,000.00	10,000		
	Bi-Directional Amplification System						
	BDA system	**1**	ls	50,000.00	50,000		
	Master Clock & PA System						
	Master clock and PA system	**264,750**	sf	0.80	211,800		
	Speech Amplification System						
	Speech amplification system	**NIC**					
	Audio/Visual						
	AV rough-in and power (devices and cabling by other)	**264,750**	sf	0.40	105,900		
	Theatrical						
	Stage lighting, dimming and controls	**1**	ls	200,000.00	200,000		
	A/V rough-in and power only	**1**	ls	100,000.00	100,000		
	Gymnasium						
	Gym equipment feed and connection (scoreboard carried by other)	**1**	ls	10,000.00	10,000		
	SUBTOTAL					2,051,450	
D5040	**OTHER ELECTRICAL SYSTEMS**						
	Miscellaneous						
	Temp power and lights	**1**	ls	100,000.00	100,000		
	Coordination study and testing	**1**	ls	20,000.00	20,000		
	Demo & make safe	**264,750**	sf	0.50	132,375		
	Lightning Protection	**1**	ls	75,000.00	75,000		
	Phasing	**1**	ls	30,000.00	30,000		
	Fees & Permits	**1**	ls	80,000.00	80,000		
	SUBTOTAL					437,375	
	Deduct for CTC building	**(20,000)**	sf	28.00	(560,000)		
	SUBTOTAL					(560,000)	
	TOTAL - ELECTRICAL						**$6,873,138**
	E10 EQUIPMENT						
E10	**EQUIPMENT, GENERALLY**						
	Gymnasium						
	Gym wall pads	**1**	ls	20,000.00	20,000		
	Basketball backstops; swing up; electric operated	**6**	ea	9,800.00	58,800		
	Gymnasium dividing net; electrically operated	**1**	loc	25,000.00	25,000		
	Volleyball net and standards	**1**	ea	2,000.00	2,000		
	Telescoping bleachers - allowance	**1**	ls	30,000.00	30,000		

4.6 - PM&C Cost Estimate - All Options

PM&C

Dover Regional High School and Career Technical Center 22-Jun-15
Dover, NH

Conceptual Options **GFA** 244,750

	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	Option 1 - BASE RENOVATION						
#REF!	See summary						
#REF!	SUBTOTAL						
#REF!							
#REF!	***TOTAL - SELECTIVE BUILDING DEMOLITION***						**$2,125,232**
#REF!							

PM&C

Dover Regional High School and Career Technical Center 22-Jun-15
Dover, NH

Conceptual Options **GFA** 244,750

	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	Option 1 - BASE RENOVATION						
340	Auditorium						
341	Theatrical Equipment Stage curtains, rigging and controls - allowance	**1**	ls	150,000	175,000		
342	New seating - assume	**800**	ea	250.00	200,000		
343	Cafeteria						
344	Food Service equipment - allowance	**1**	ls	450,000.00	450,000		
345	Classrooms, Science rooms, Specialty Classrooms						
346	Smart boards	**70**	loc	3,800.00	FF+E		
#REF!	Science room Equipment				FF+E		
#REF!	SUBTOTAL					960,800	
#REF!							
#REF!	***TOTAL - EQUIPMENT***						**$960,800**
#REF!							
#REF!							
#REF!	***E20 FURNISHINGS***						
#REF!							
#REF!	**E2010 FIXED FURNISHINGS**						
#REF!	Entry mats & frames	**250**	sf	45.00	11,250		
#REF!	Window blinds @ replaced windows	**20,904**	sf	6.00	125,424		
#REF!	SUBTOTAL					136,674	
#REF!							
#REF!	**E2020 MOVABLE FURNISHINGS**						
#REF!	All movable furnishings to be provided and installed by owner						
#REF!	SUBTOTAL					NIC	
#REF!							
#REF!	***TOTAL - FURNISHINGS***						**$136,674**
#REF!							
#REF!							
#REF!	***F10 SPECIAL CONSTRUCTION***						
#REF!							
#REF!	**F10 SPECIAL CONSTRUCTION**						
#REF!	Animal barn prefabricated building; complete	**8,500**	sf	50.00	425,000		
#REF!	Temporary Modular Classrooms			See Main Summary			
#REF!	SUBTOTAL					425,000	
#REF!							
#REF!	***TOTAL - SPECIAL CONSTRUCTION***						**$425,000**
#REF!							
#REF!							
#REF!	***F20 SELECTIVE BUILDING DEMOLITION***						
#REF!							
#REF!	**F2010 BUILDING ELEMENTS DEMOLITION**						
#REF!	Phase 2-7						
#REF!	Demo and remove interior finishes; floor finish, ceilings, wall finishes (majority of partitions to remain), doors, millwork/casework and specialties	**244,750**	sf	7.00	1,713,250		
#REF!	Remove existing interior partitions for reconfiguration of existing spaces, majority ADA reconfigurations	**244,750**	sf	0.50	122,375		
#REF!	MEP systems - removal of cut and capped systems	**244,750**	sf	0.50	122,375		
#REF!	Demo and remove existing façade at Classroom wing	**20,904**	sf	8.00	167,232		
#REF!	Demo and remove existing flat roofing	**81,000**	sf	included with roofing			
#REF!	SUBTOTAL					2,125,232	
#REF!							
#REF!	**F2020 HAZARDOUS COMPONENTS ABATEMENT**						

4.6 - PM&C Cost Estimate - All Options

PM&C

Dover Regional High School and Career Technical Center
Dover, NH

22-Jun-15

Conceptual Options

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	OPTION 1 BASE RENOVATION SITEWORK						
	G SITEWORK						
G10	**SITE PREPARATION & DEMOLITION**						
	Site Demolitions and Relocations						
	Allowance for contractor laydown area/ wheel wash etc	**1**	ls	20,000.00	20,000		
	Site construction fence/barricades/gates	**1,500**	lf	8.00	12,000		
	Miscellaneous demolition including removal of existing ball field and associated components, parking lot at Animal Science building, existing parking areas being replaced	**180,200**	sf	0.75	135,150		
	Allowance for temporary walkways for access to Modular Classrooms	1	ls	10,000.00	10,000		
	Site Earthwork						
	Minor regrading/ fine grading at new CTC and Animal Science buildings	**1**	ls	25,000.00	25,000		
	Silt fence/erosion control allowance	**1**	ls	10,000.00	10,000		
	SUBTOTAL					212,150	
G20	**SITE IMPROVEMENTS**						
	Allowance to replace 21 spaces disturbed by Animal Science building work	**4,200**	sf	3.00	12,600		
	Full depth pavement reconstruction at Lot A,B,C and 1989 Addition	**170,000**	sf	4.00	680,000		
	Bituminous concrete curb replacement - replace/ install	**5,000**	lf	12.00	60,000		
	Grind and place 1" pavement overlay at Senior lot	**59,000**	sf	1.50	88,500		
	Replace asphalt sidewalk along Alumni Drive	**6,000**	sf	3.00	18,000		
	Allowance for accessible ramps, stairs, handrails, landings at doorways etc to comply with ADA requirements	**1**	ls	30,000.00	30,000		
	Allowance for new walkways at CTC building and Animal Science building	**5,000**	sf	6.00	30,000		
	Allowance to minor reconfiguration, patch and repair Alumni Drive roadway	**20,000**	sf	1.25	25,000		
	Football Field						
	Turf football field; complete	**1**	ls	750,000.00	750,000		
	Landscaping						
	Allowance to repair landscaped areas disturbed by new work	**1**	ls	50,000.00	50,000		
	Irrigation				NIC		
	SUBTOTAL					1,744,100	
G30	**CIVIL MECHANICAL UTILITIES**						
	Stormwater						
	Allowance to remove underdrain at existing ball field	**1**	ls	20,000.00	20,000		
	Allowance for storm water reconfiguration/ extension at new building, site areas	**1**	ls	500,000.00	500,000		
	Water supply						
	Allowance to extend water supply to CTC building	**1**	ls	30,000.00	30,000		
	Sanitary / Sewer						
	Allowance to extend sanitary line to new CTC building	**1**	ls	20,000.00	20,000		
	Gas						
	Allowance to extend gas line to new CTC building	**1**	ls	5,000.00	5,000		
	Modular Classrooms				-		
	Allowance for temporary connections to Modular Classrooms	**1**	ls	75,000.00	75,000		
	SUBTOTAL					650,000	
G40	**ELECTRICAL UTILITIES**						
	Power						
	Riser pole, connection at existing	**1**	ea	2,000.00	2,000		
	Primary ductbank	**100**	lf	55.00	5,500		
	Primary cabling				Utility company		
	Pad mounted transformer	**1**	ea	50,000.00	50,000		
	Transformer pad	**1**	ea	2,000.00	2,000		
	Secondary ductbank						
	3000A Secondary ductbank cabling	**50**	lf	750.00	37,500		
	Generator ductbank						
	Generator ductbank	**50**	lf	250.00	12,500		
	Communications						
	Communications ductbank	**150**	lf	85.00	12,750		
	Site Lighting						
	Site lighting allowance	**1**	ls	40,000.00	40,000		
	Modular Classrooms				-		
	Allowance for temporary connections to Modular Classrooms	**1**	ls	25,000.00	25,000		
	SUBTOTAL					187,250	
	TOTAL - SITE DEVELOPMENT						**$2,793,500**

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Option 2 - RENOVATION/ ADDITION 22-Jun-15
Dover, NH

Conceptual Options GFA 294,500

CONSTRUCTION COST SUMMARY

	BUILDING SYSTEM		*SUB-TOTAL*	*TOTAL*	*$/SF*	*%*
Option 2 - RENOVATION/ ADDITION						
A10	**FOUNDATIONS**					
	A1010	Standard Foundations	$2,218,107			
	A1020	Special Foundations	$231,000			
	A1030	Lowest Floor Construction	$1,692,284	**$4,141,391**	$14.06	8.2%
A20	**BASEMENT CONSTRUCTION**					
	A2010	Basement Excavation	$0			
	A2020	Basement Walls	$0	**$0**	$0.00	0.0%
B10	**SUPERSTRUCTURE**					
	B1010	Upper Floor Construction	$2,569,336			
	B1020	Roof Construction	$3,623,284	**$6,192,620**	$21.03	12.3%
B20	**EXTERIOR CLOSURE**					
	B2010	Exterior Walls	$3,636,348			
	B2020	Windows	$2,372,767			
	B2030	Exterior Doors	$136,963	**$6,146,078**	$20.87	12.2%
B30	**ROOFING**					
	B3010	Roof Coverings	$1,792,366			
	B3020	Roof Openings	$20,000	**$1,812,366**	$6.15	3.6%
C10	**INTERIOR CONSTRUCTION**					
	C1010	Partitions	$2,605,880			
	C1020	Interior Doors	$801,750			
	C1030	Specialties/Millwork	$1,945,100	**$5,352,730**	$18.18	10.6%
C20	**STAIRCASES**					
	C2010	Stair Construction	$162,000			
	C2020	Stair Finishes	$38,500	**$200,500**	$0.68	0.4%
C30	**INTERIOR FINISHES**					
	C3010	Wall Finishes	$944,263			
	C3020	Floor Finishes	$2,037,898			
	C3030	Ceiling Finishes	$1,205,112	**$4,187,273**	$14.22	8.3%
D10	**CONVEYING SYSTEMS**					
	D1010	Elevator	$157,600	**$157,600**	$0.54	0.3%
D20	**PLUMBING**					

PM&C

Option 2 - RENOVATION/ ADDITION 22-Jun-15
Dover, NH

Conceptual Options GFA 294,500

CONSTRUCTION COST SUMMARY

	BUILDING SYSTEM		*SUB-TOTAL*	*TOTAL*	*$/SF*	*%*
Option 2 - RENOVATION/ ADDITION						
	D20	Plumbing	$2,665,902	**$2,665,902**	$9.05	5.3%
D30	**HVAC**					
	D30	HVAC	$8,135,150	**$8,135,150**	$27.62	16.2%
D40	**FIRE PROTECTION**					
	D40	Fire Protection	$1,030,750	**$1,030,750**	$3.50	2.0%
D50	**ELECTRICAL**					
	D5010	Electrical	$8,086,699	**$8,086,699**	$27.46	16.1%
E10	**EQUIPMENT**					
	E10	Equipment	$950,800	**$950,800**	$3.23	1.9%
E20	**FURNISHINGS**					
	E2010	Fixed Furnishings	$426,210			
	E2020	Movable Furnishings	NIC	**$426,210**	$1.45	0.8%
F10	**SPECIAL CONSTRUCTION**					
	F10	Special Construction	$425,000	**$425,000**	$1.44	0.8%
F20	**HAZMAT REMOVALS**					
	F2010	Building Elements Demolition	$457,020			
	F2020	Hazardous Components Abatement	$0	**$457,020**	$1.55	0.9%
TOTAL DIRECT COST (Trade Costs)				**$50,368,089**	$171.03	100.0%

4.6 - PM&C Cost Estimate - All Options

PM&C

Option 2 - RENOVATION/ ADDITION 22-Jun-15
Dover, NH

Conceptual Options GFA 294,500

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
Option 2 - RENOVATION/ ADDITION							
	GROSS FLOOR AREA CALCULATION						
				New	Reno		
	Ground Floor				12,810		
	First Floor			150,288	45,524		
	Third Floor			78,288	7,590		
	Total GSF			228,576	65,924		
	TOTAL GROSS FLOOR AREA (GFA)					***294,500***	***sf***
	A10 FOUNDATIONS						
A1010	**STANDARD FOUNDATIONS**						
	Pile foundations						
	Excavation	**1,355**	cy	10.00	13,550		
	Remove off site	**1,355**	cy	12.00	16,260		
	Backfill with gravel	**452**	cy	28.00	12,656		
	Grade beams - allow 24" x 48"	**684**	cy	500.00	342,000		
	Pile caps - allowance (assume 25' grid)	**219**	cy	500.00	109,500		
	Dampproofing & insulation at grade beams	**2,400**	sf	5.00	12,000		
	Auger cast pier foundations						
	Strip footings to new exterior walls						
	Excavation	**3,106**	cy	10.00	31,060		
	Remove off site	**3,106**	cy	12.00	37,272		
	Backfill with gravel	**2,866**	cy	28.00	80,248		
	Formwork	**5,300**	sf	8.00	42,400		
	Re-bar	**26,500**	lbs	1.00	26,500		
	Concrete material; 3,000 psi	**240**	cy	100.00	24,000		
	Placing concrete	**240**	cy	45.00	10,800		
	Foundation walls at exterior						
	Formwork	**21,200**	sf	9.00	190,800		
	Re-bar	**53,000**	lbs	1.00	53,000		
	Concrete material; 4,000 psi	**549**	cy	100.00	54,900		
	Placing concrete	**549**	cy	45.00	24,705		
	Dampproofing foundation wall and footing	**15,900**	sf	1.00	15,900		
	Insulation to foundation walls; 2" thick	**10,600**	sf	1.50	15,900		
	Isolated column footings						
	Excavation	**1,852**	cy	10.00	18,520		
	Remove off site	**1,852**	cy	12.00	22,224		
	Backfill with gravel	**1,074**	cy	28.00	30,072		
	Formwork	**8,000**	sf	8.00	64,000		
	Re-bar	**18,024**	lbs	1.00	18,024		
	Concrete material; 3,000 psi	**778**	cy	100.00	77,800		
	Placing concrete	**778**	cy	45.00	35,010		
	Aggregate pier system						
	Aggregate piers, assume 18" diameter, 20' deep, 8' x 8' grid	**67,288**	sf	12.00	807,456		
	Elevator Pits; 2 locations						
	Excavation	**168**	cy	15.00	2,520		
	Remove off site	**168**	cy	12.00	2,016		
	Backfill with gravel	**8**	cy	28.00	224		
	Elevator pit walls						
	formwork	**800**	sf	10.00	8,000		
	reinforcement	**1,600**	lbs	1.00	1,600		
	concrete material	**10**	cy	100.00	1,000		
	placing concrete	**10**	cy	45.00	450		
	Slab						
	formwork	**300**	sf	10.00	3,000		
	reinforcement	**1,500**	lbs	1.00	1,500		
	concrete material in slab	**12**	cy	100.00	1,200		
	placing concrete	**12**	cy	45.00	540		
	Bentonite waterstops	**1**	ls	500.00	500		
	Cementitous waterproofing to elevator pit	**600**	sf	15.00	9,000		
	SUBTOTAL					2,218,107	
A1020	**SPECIAL FOUNDATIONS**						
	Mobilize/ Demobilize	**1**	ls	15,000.00	15,000		
	HP Steel piles, assume 30' deep	**2,700**	lf	80.00	216,000		
	SUBTOTAL					231,000	
A1030	**LOWEST FLOOR CONSTRUCTION**						
	Remove and replace slabs for new plumbing and service lines etc. @ renovation areas	**1,190**	sf	10.00	11,900		
	New slab						
	Gravel fill, 8"	**3,713**	cy	28.00	103,964		
	Rigid insulation, 4' perimeter	**10,600**	sf	1.87	19,822		
	Vapor barrier	**150,288**	sf	0.55	82,658		
	Slab on grade, 4" thick	**100,288**	sf	5.00	501,440		
	Structural Slab, 10" thick	**50,000**	sf	12.00	600,000		
	Equipment pads	**1**	ls	25,000.00	25,000		
	Perimeter drain	**1**	ls	60,000.00	60,000		
	Alter slope at auditorium to meet ADA requirements	**6,300**	sf	25.00	157,500		
	Animal barn foundations	**1**	ls	130,000.00	130,000		
	SUBTOTAL					1,692,284	
	TOTAL - FOUNDATIONS						***$4,141,391***
	A20 BASEMENT CONSTRUCTION						
A2010	**BASEMENT EXCAVATION**						
	No Work in this section						
	SUBTOTAL						
A2020	**BASEMENT WALLS**						
	No Work in this section						
	SUBTOTAL						
	TOTAL - BASEMENT CONSTRUCTION						
	B10 SUPERSTRUCTURE						
		12	lbs/sf				
B1010	**FLOOR CONSTRUCTION**	1,336	tns				
	Floor Structure - Steel:						
	Steel beams and columns; allow 13 lbs per SF	**509**	tns	3,100.00	1,577,900		

4.6 - PM&C Cost Estimate - All Options

PM&C

Option 2 - RENOVATION/ ADDITION 22-Jun-15
Dover, NH

Conceptual Options GFA 294,500

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
Option 2 - RENOVATION/ ADDITION							
	Shear studs	**19,572**	ea	2.50	48,930		
	Floor Structure						
	2" Metal floor deck	**78,288**	sf	3.00	234,864		
	WWF reinforcement	**90,031**	sf	0.60	54,019		
	Concrete Fill to metal deck; 5 1/2" thick; normal weight	**1,522**	cy	100.00	152,200		
	Place and finish concrete	**78,288**	sf	2.00	156,576		
	Misc. angles	**6,400**	lf	20.00	128,000		
	Miscellaneous						
	Fire proofing to columns and beams	**78,288**	sf	1.80	140,918		
	Fire stopping floors	**78,288**	sf	0.10	7,829		
	Allowance for expansion joints/ tie existing structure into new	**908**	lf	75.00	68,100		
	SUBTOTAL					2,569,336	
B1020	**ROOF CONSTRUCTION**						
	Roof Structure - Steel:						
	Steel joist system; allowance 11 lbs per SF	**827**	tns	3,100.00	2,563,700		
	Roof Structure						
	1-1/2" Metal Roof Deck	**150,288**	sf	2.50	375,720		
	Miscellaneous						
	Fire proofing to columns, beams and deck	**150,288**	sf	3.00	450,864		
	Entrance canopy framing	**1**	ls	100,000.00	100,000		
	Allowance for dunnage/ curbs	**1**	ls	25,000.00	25,000		
	Animal barn adjustment	**1**	ls	108,000.00	108,000		
	SUBTOTAL					3,623,284	
	TOTAL - SUPERSTRUCTURE						**$6,192,620**
B20	***EXTERIOR CLOSURE***						
		102,200	sf				
B2010	**EXTERIOR WALLS - 70% masonry, 30% glazing**						
	Interior skin						
	6" metal stud backup	**71,540**	sf	5.50	393,470		
	Insulation	**71,540**	sf	2.25	160,965		
	Air barrier	**71,540**	sf	4.00	286,160		
	Air barrier/flashing at windows	**10,118**	lf	6.50	65,767		
	Gypsum Sheathing	**71,540**	sf	2.50	178,850		
	Drywall lining to interior face of stud backup	**71,540**	sf	2.40	171,696		
	Exterior skin						
	Brick veneer	**71,540**	sf	26.00	1,860,040		
	Repoint existing exterior wall	**1**	ls	90,000.00	90,000		
	Infill existing wall and insulate	**1**	ls	225,000.00	225,000		
	Miscellaneous						
	Staging to exterior wall	**102,200**	sf	2.00	204,400		
	SUBTOTAL					3,636,348	
B2020	**WINDOWS**	*30,660*	sf				
	Windows/Curtainwall/Storefront	**30,660**	sf	75.00	2,299,500		
	Louvers (allowance)	**150**	sf	50.00	7,500		
	Backer rod & double sealant	**10,118**	lf	4.00	40,472		
	Wood blocking at openings	**10,118**	lf	2.50	25,295		

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Option 2 - RENOVATION/ ADDITION 22-Jun-15
Dover, NH

Conceptual Options GFA 294,500

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
Option 2 - RENOVATION/ ADDITION							
	SUBTOTAL					2,372,767	
B2030	**EXTERIOR DOORS**						
	Glazed entrance doors including frame and hardware; double door	**12**	pr	7,000.00	84,000		
	HM doors, frames and hardware- double	**5**	pr	2,500.00	12,500		
	HM doors, frames and hardware- single	**7**	ea	1,600.00	11,200		
	Allowance for overhead doors at Workshops & Loading dock	**5**	ea	5,000.00	25,000		
	Backer rod & double sealant	**609**	lf	4.00	2,436		
	Wood blocking at openings	**609**	lf	3.00	1,827		
	SUBTOTAL					136,963	
	TOTAL - EXTERIOR CLOSURE						**$6,146,078**
B30	***ROOFING***						
B3010	**ROOF COVERINGS**						
	Flat roofing						
	White TPO roofing	**150,288**	sf	5.00	751,440		
	Insulation	**150,288**	sf	4.50	676,296		
	Reinforced vapor barrier	**150,288**	sf	0.45	67,630		
	Rough blocking	**21,000**	lf	4.00	84,000		
	Miscellaneous Roofing						
	Allowance for entrance canopy roofing, soffit	**2,000**	sf	50.00	100,000		
	Roof coping/ fascia	**3,500**	lf	30.00	105,000		
	Roof ladders	**1**	ls	3,000.00	3,000		
	Walk pads	**1**	ls	5,000.00	5,000		
	SUBTOTAL					1,792,366	
B3020	**ROOF OPENINGS**						
	Allowance for elevator vents, roof hatches, smoke hatch etc	**1**	loc	20,000.00	20,000		
	SUBTOTAL					20,000	
	TOTAL - ROOFING						**$1,812,366**
C10	***INTERIOR CONSTRUCTION***						
C1010	**PARTITIONS**						
	Corridor partitions; abuse resistant drywall	**62,800**	sf	10.00	628,000		
	Typical interior partitions	**67,100**	sf	8.00	536,800		
	Premium for elevator and stair shafts	**9,880**	sf	5.00	49,400		
	Interior glazing - allowance	**2,200**	sf	60.00	132,000		
	Allowance for interior partitions not yet shown in Addition	**228,576**	sf	5.00	1,142,880		
	Allowance for infills/repair/ furring at existing closure now interior	**14,600**	sf	8.00	116,800		
	SUBTOTAL					2,605,880	
C1020	**INTERIOR DOORS**						
	Interior doors, frames and hardware; single leaf	**220**	ea	1,300.00	286,000		
	Interior doors, frames and hardware; double leaf	**30**	pr	1,800.00	54,000		
	Coiling doors at CTE workshops, Cafeteria etc	**1**	ls	20,000.00	20,000		

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Option 2 - RENOVATION/ ADDITION 22-Jun-15
Dover, NH

Conceptual Options GFA 294,500

	CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	Option 2 - RENOVATION/ ADDITION							
203		Allowance for borrowed lites, vision panels & specialty hardware	**294,500**	sf	0.25	73,625		
204		Allowance for interior doors not yet shown	**294,500**	sf	1.25	368,125		
205		SUBTOTAL					801,750	
206								
207	**C1030**	**SPECIALTIES / MILLWORK**						
208		Toilet Partitions and accessories	**294,500**	sf	0.50	147,250		
209		Backer panels in electrical closets	**1**	ls	3,000.00	3,000		
210		Marker boards/tack boards in classrooms, offices, conference rooms, library and MP rooms (Smart boards in Equipment section)	**294,500**	sf	0.50	147,250		
211		Shelving in storage rooms	**1**	ls	10,000.00	10,000		
212		Staff mailboxes/casework	**1**	ls	10,000.00	10,000		
213		Signage & Directories	**294,500**	gsf	0.30	88,350		
214		Fire extinguisher cabinets	**84**	ea	350.00	29,400		
215		Lockers; corridors	**1,500**	opng	190.00	285,000		
216		Lockers; athletic	**100**	opng	210.00	21,000		
217		Lockers; team	**200**	opng	290.00	58,000		
218		Lockers; staff	**115**	opng	240.00	27,600		
219		Janitors Closet Accessories	**12**	rms	300.00	3,600		
220		Rail at open to below areas	**440**	lf	250.00	110,000		
221		Reception/ Library/ Circulation desks	**1**	ls	50,000	50,000		
222		Library shelving				F,F & E		
223		Display cases	**1**	ls	30,000.00	30,000		
224		Science classroom casework	**13**	rm	50,000.00	650,000		
225		Counters, base cabinets, tall storage/Cart storage in classrooms	**49**	rms	2,600.00	127,400		
226		Miscellaneous metals throughout building	**294,500**	sf	0.25	73,625		
227		Miscellaneous sealants throughout building	**294,500**	sf	0.25	73,625		
228		SUBTOTAL					1,945,100	
229								
230		***TOTAL - INTERIOR CONSTRUCTION***						**$5,352,730**
231								
232								
233	***C20***	***STAIRCASES***						
234								
235	**C2010**	**STAIR CONSTRUCTION**						
236		Metal pan stair	**6**	flt	20,000.00	120,000		
237		Concrete fill to stairs	**6**	flt	2,000.00	12,000		
238		Communicating stairs in Town square area, complete	**1**	flt	30,000.00	30,000		
239		SUBTOTAL					162,000	
240								
241	**C2020**	**STAIR FINISHES**						
242		Paint to stairs including all railings etc.	**7**	flt	2,500.00	17,500		
243		Rubber tile at stairs	**7**	lft	3,000.00	21,000		
244		SUBTOTAL					38,500	
245								
246		***TOTAL - STAIRCASES***						**$200,500**
247								
248								
249	***C30***	***INTERIOR FINISHES***						
250								
251	**C3010**	**WALL FINISHES**						
252		Paint to interior walls	**331,340**	sf	0.85	281,639		

4.6 - PM&C Cost Estimate - All Options

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Option 2 - RENOVATION/ ADDITION 22-Jun-15
Dover, NH

Conceptual Options GFA 294,500

	CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	Option 2 - RENOVATION/ ADDITION							
253		Allowance for paint to existing walls to remain	**65,924**	gsf	1.00	65,924		
254		CT wainscot to walls in corridors, stairwells and Town hall square; 5' high	**27,500**	sf	12.00	330,000		
255		CT tile in bathrooms	**5,350**	sf	12.00	64,200		
256		New acoustic & wood wall panels in Auditorium	**4,500**	sf	45.00	202,500		
257		SUBTOTAL					944,263	
258								
259	**C3020**	**FLOOR FINISHES**						
260		Linoleum tile to classrooms and general spaces	**145,881**	sf	6.00	875,286		
261		Flooring at corridors/lobby; linoleum tile with pattern	**51,335**	sf	7.00	359,345		
262		Repair/ refinish wood floor in Gymnasium	**13,310**	sf	18.00	239,580		
263		New stage floor, stairs including repairs to existing substrate	**2,150**	sf	20.00	43,000		
264		Sports flooring in Weight, Alt PE area	**5,460**	sf	11.00	60,060		
265		Carpet in Auditorium aisles, Admin areas	**10,000**	sf	5.00	50,000		
266		Kitchen, Culinary Kitchen & Restaurant flooring; quarry tile or similar	**7,994**	sf	17.00	135,898		
267		Locker room floor finish	**6,319**	sf	10.00	63,190		
268		New tile floors to toilet rooms	**3,437**	sf	15.00	51,555		
269		Sealed concrete floors in Workshops, storage, equipment areas	**22,385**	sf	1.50	33,578		
270		Allowance for bases and miscellaneous floor finishes	**252,811**	sf	0.50	126,406		
271		Lower level areas	**12,810**	sf	ETR			
272		SUBTOTAL					2,037,898	
273								
274	**C3030**	**CEILING FINISHES**						
275		Exposed ceilings in CTC workshops & Town Square	**41,241**	sf	2.00	82,482		
276		Add reflective wood/ acoustic clouds in Auditorium - allowance	**1,880**	sf	50.00	94,000		
277		Ceiling finishes; allowance for all ceiling finishes/soffits etc.	**205,726**	sf	5.00	1,028,630		
278		Gymnasium & Auditorium ceilings	**21,725**	sf	ETR			
279		Lower level areas	**12,810**	sf	ETR			
280		SUBTOTAL					1,205,112	
281								
282		***TOTAL - INTERIOR FINISHES***						**$4,187,273**
283								
284								
285	***D10***	***CONVEYING SYSTEMS***						
286								
287	**D1010**	**ELEVATOR**						
288		New elevator; 2 stop	**2**	loc	70,000.00	140,000		
289		New lift at Stage	**1**	ls	15,000.00	15,000		
290		Pit ladders	**2**	ea	900.00	1,800		
291		Sill angles	**32**	lf	25.00	800		
292		SUBTOTAL					157,600	
293								
294		***TOTAL - CONVEYING SYSTEMS***						**$157,600**
295								
296								
297	***D20***	***PLUMBING***						
298								
299	**D20**	**PLUMBING, GENERALLY**						
300		Allow for Plumbing - New Construction	**228,576**	sf	9.50	2,171,472		
301		Allow for Plumbing - Renovation	**65,924**	sf	7.50	494,430		
302		SUBTOTAL					2,665,902	
303								
304		***TOTAL - PLUMBING***						**$2,665,902**

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Option 2 - RENOVATION/ ADDITION 22-Jun-15
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Conceptual Options GFA 294,500

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	Option 2 - RENOVATION/ ADDITION						
	D30 HVAC						
D30	**HVAC, GENERALLY**						
	Heating equipment						
	Hot water heating plant	**10,800**	mbh	20.00	216,000		
	Perimeter heating devices	**294,500**	sf	1.00	294,500		
	Cooling Equipment						
	Air-cooled chilled water plant	**50**	ton	1,500.00	75,000		
	Terminal cooling equipment	**1**	ls	50,000.00	50,000		
	Chilled beams	**1**	ls	100,000.00	100,000		
	Air distribution						
	Air Handling Unit						
	Packaged rooftop AC units	**448**	ton	3,500.00	1,568,000		
	Air handling units, heating only	**37,500**	cfm	8.50	318,750		
	Make-up air unit	**2**	ea	6,000.00	12,000		
	Miscellaneous air distribution equipment	**294,500**	sf	1.00	294,500		
	Exhaust fan s						
	Dishwasher exhaust fan	**2**	ea	3,500.00	7,000		
	Kitchen exhaust fan	**2**	ea	7,500.00	15,000		
	Paint booth exhaust fan	**1**	ea	25,000.00	25,000		
	Dust collection system	**2**	ea	25,000.00	50,000		
	Exhaust fans	**1**	ls	25,000.00	25,000		
	Vehicle exhaust fans	**1**	ls	25,000.00	25,000		
	Sheet metal & Accessories						
	Ductwork, insulation and accessories	**250,000**	lbs	8.00	2,000,000		
	Piping						
	Piping, valves and insulation	**294,500**	sf	4.25	1,251,625		
	Controls (DDC)						
	Automatic temperature controls	**294,500**	sf	4.50	1,325,250		
	Balancing						
	System testing & balancing	**294,500**	sf	0.45	132,525		
	Miscellaneous						
	Phasing allowance	**1**	ls	50,000.00	50,000		
	Demolition	**1**	ls	75,000.00	75,000		
	Coordination & management	**1**	ls	100,000.00	100,000		
	Commissioning support	**1**	ls	40,000.00	40,000		
	Coring, sleeves & fire stopping	**1**	ls	20,000.00	20,000		
	Equipment start-up and inspection	**1**	ls	15,000.00	15,000		
	Rigging & equipment rental	**1**	ls	50,000.00	50,000		
	SUBTOTAL					8,135,150	
	TOTAL - HVAC						**$8,135,150**
	D40 FIRE PROTECTION						
D40	**FIRE PROTECTION, GENERALLY**						
	Fire pump - not included		NIC				
	Automatic sprinkler system - Additions	**228,576**	sf	3.50	800,016		
	Automatic sprinkler system - Renovation	**65,924**	sf	3.50	230,734		
	SUBTOTAL					1,030,750	
	TOTAL - FIRE PROTECTION						**$1,030,750**

4.6 - PM&C Cost Estimate - All Options

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Option 2 - RENOVATION/ ADDITION 22-Jun-15
Dover, NH

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CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	Option 2 - RENOVATION/ ADDITION						
	D50 ELECTRICAL						
D5010	**SERVICE & DISTRIBUTION**						
	Gear & Distribution						
	Normal Power						
	4000A Gear and distribution allowance	**294,500**	sf	3.00	883,500		
	Emergency power						
	300kW natural gas genset	**1**	ea	175,000.00	175,000		
	Gear and distribution allowance	**294,500**	sf	1.35	397,575		
	30kW UPS system	**2**	ea	25,000.00	50,000		
	PV System infrastructure						
	PV System infrastructure	**1**	LS	7,500.00	7,500		
	Equipment Wiring						
	Equipment wiring allowance	**294,500**	sf	2.00	589,000		
	Kitchen equipment allowance	**1**	ls	20,000.00	20,000		
	SUBTOTAL					2,122,575	
D5020	**LIGHTING & POWER**						
	Lighting & Branch Power						
	Lighting allowance (LED)	**294,500**	sf	5.00	1,472,500		
	Lighting controls						
	Lighting controls, local, daylight sensing and dimming	**294,500**	sf	1.00	294,500		
	Branch devices						
	Branch devices	**294,500**	sf	0.40	117,800		
	Lighting and branch circuitry						
	Branch & lighting circuitry	**294,500**	sf	5.00	1,472,500		
	SUBTOTAL					3,357,300	
D5030	**COMMUNICATION & SECURITY SYSTEMS**						
	Fire Alarm						
	Fire alarm system	**294,500**	sf	1.50	441,750		
	Security System						
	Security System	**294,500**	sf	1.00	294,500		
	Telephone/Data/CATV						
	Telecommunications rough in & devices and cabling	**294,500**	sf	2.50	736,250		
	Sound Systems						
	Gymnasium sound system	**1**	ls	20,000.00	20,000		
	Cafeteria sound system	**1**	ls	20,000.00	20,000		
	Music room sound system	**1**	ls	10,000.00	10,000		
	Bi-Directional Amplification System						
	BDA system	**1**	ls	50,000.00	50,000		
	Master Clock & PA System						
	Master clock and PA system	**294,500**	sf	0.80	235,600		
	Speech Amplification System						
	Speech amplification system	**NIC**					
	Audio/Visual						
	AV rough-in and power (devices and cabling by other)	**294,500**	sf	0.40	117,800		
	Theatrical						
	Stage lighting, dimming and controls	**1**	ls	200,000.00	200,000		

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CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
Option 2 - RENOVATION/ ADDITION							
	A/V rough-in and power only	**1**	ls	100,000.00	100,000		
	Gymnasium						
	Gym equipment feed and connection (scoreboard carried by other)	**1**	ls	10,000.00	10,000		
	SUBTOTAL					2,235,900	
D5040	**OTHER ELECTRICAL SYSTEMS**						
	Miscellaneous						
	Temp power and lights	**1**	ls	100,000.00	100,000		
	Coordination study and testing	**1**	ls	20,000.00	20,000		
	Demo & make safe	**65,924**	sf	1.00	65,924		
	Lightning Protection	**1**	ls	75,000.00	75,000		
	Phasing	**1**	ls	30,000.00	30,000		
	Fees & Permits	**1**	ls	80,000.00	80,000		
	SUBTOTAL					370,924	
	TOTAL - ELECTRICAL						**$8,086,699**
E10	***EQUIPMENT***						
E10	**EQUIPMENT, GENERALLY**						
	Gymnasium						
	Gym wall pads	**1**	ls	20,000.00	20,000		
	Basketball backstops; swing up; electric operated	**6**	ea	9,800.00	58,800		
	Gymnasium dividing net; electrically operated	**1**	loc	25,000.00	25,000		
	Volleyball net and standards	**1**	ea	2,000.00	2,000		
	Telescoping bleachers - allowance	**1**	ls	20,000.00	20,000		
	Auditorium						
	Theatrical Equipment Stage curtains, rigging and controls	**1**	ls	175,000	175,000		
	New seating - allow	**800**	ea	250.00	200,000		
	Cafeteria						
	Food Service equipment - allowance	**1**	ls	450,000.00	450,000		
	Classrooms, Science rooms, Specialty Classrooms						
	Smart boards	**86**	loc	3,800.00	FF+E		
	CTE/ Workshop Equipment				FF+E		
	SUBTOTAL					950,800	
	TOTAL - EQUIPMENT						**$950,800**
E20	***FURNISHINGS***						
E2010	**FIXED FURNISHINGS**						
	Entry mats & frames	**250**	sf	45.00	11,250		
	New casework in Specialty classrooms; Band etc	**77,000**	sf	3.00	231,000		
	Window blinds	**30,660**	sf	6.00	183,960		
	SUBTOTAL					426,210	
E2020	**MOVABLE FURNISHINGS**						

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CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
Option 2 - RENOVATION/ ADDITION							
	All movable furnishings to be provided and installed by owner						
	SUBTOTAL					NIC	
	TOTAL - FURNISHINGS						**$426,210**
F10	***SPECIAL CONSTRUCTION***						
F10	**SPECIAL CONSTRUCTION**						
	Animal barn prefabricated building; complete	**8,500**	sf	50.00	425,000		
	SUBTOTAL					425,000	
	TOTAL - SPECIAL CONSTRUCTION						**$425,000**
F20	***SELECTIVE BUILDING DEMOLITION***						
F2010	**BUILDING ELEMENTS DEMOLITION**						
	Allowance for demo of existing conditions at renovated spaces	**65,924**	sf	5.00	329,620		
	Allowance for demo at existing closure now interior	**18,200**	sf	7.00	127,400		
	SUBTOTAL					457,020	
F2020	**HAZARDOUS COMPONENTS ABATEMENT**						
	See main summary for HazMat allowance					See Summary	
	SUBTOTAL						
	TOTAL - SELECTIVE BUILDING DEMOLITION						**$457,020**

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Dover Regional High School and Career Technical Center
Dover, NH

22-Jun-15

Conceptual Options

OPTION 2 ADD/RENOVATION OPTION

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	G SITEWORK						
G10	**SITE PREPARATION & DEMOLITION**	Affected area = 18 acres					
	Site Demolitions and Relocations						
	Allowance for contractor laydown area/ wheel wash etc	**1**	ls	20,000.00	20,000		
	Site construction fence/barricades/gates	**3,000**	lf	8.00	24,000		
	Demolition of existing roadways, parking lots and associated curbs	**200,000**	sf	0.75	150,000		
	Miscellaneous demolition including existing tennis courts, ball field, utilities, site furnishings, walls etc	**18**	acres	5,000.00	90,000		
	Site Earthwork						
	Minor regrading including striping topsoil - allowance	**22,222**	cy	5.00	111,110		
	Fine grading	**63,346**	sy	1.00	63,346		
	Excavation to reduce levels; use on site	**22,000**	cy	12.00	264,000		
	Backfill at demolished wing	**25,000**	cy	10.00	250,000		
	Silt fence/erosion control allowance	**1**	ls	40,000.00	40,000		
	Hazardous Waste Remediation						
	No work in this section						
	SUBTOTAL					1,012,456	
G20	**SITE IMPROVEMENTS**						
	Roadways and Parking Lots	**203,800**	sf				
	Bituminous concrete paving						
	gravel base; 12" thick	**7,548**	cy	28.00	211,344		
	bituminous concrete; 4" thick	**22,644**	sy	22.00	498,168		
	Bituminous concrete curb	**9,860**	lf	12.00	118,320		
	Single solid lines	**455**	space	25.00	11,375		
	Wheelchair Parking	**9**	space	75.00	675		
	HC curb cuts - allowance	**10**	loc	350.00	3,500		
	Other road markings; crosswalks etc	**1**	ls	10,000.00	10,000		
	Allowance to reconfigure, patch and repair existing parking lot to remain at Animal Science barn	**36,000**	sf	1.50	54,000		
	Allowance to minor reconfiguration, patch and repair Alumni Drive roadway	**20,000**	sf	1.50	30,000		
	Pedestrian paving - allowance						
	Concrete paving						
	gravel base; 8" thick	**298**	cy	28.00	8,344		
	concrete paving; 4" thick	**12,000**	sf	6.00	72,000		
	Allowance for accessible ramps, stairs, handrails, landings at doorways etc	**1**	ls	50,000.00	50,000		
	Retaining walls w/guardrail (guardrail taken separately)	**315**	lf	445.00	140,175		
	Guardrail at retaining wall	**315**	lf	200.00	63,000		
	New site signage allowance	**1**	ls	20,000.00	20,000		
	Misc. site furnishings, bollards etc	**1**	ls	30,000.00	30,000		
	Allowance for paving/ landscape components/ furnishings in new Performing Arts/ Outdoor Classroom Courtyard	**1**	ls	150,000.00	150,000		
	Baseball Field						
	Gravel base - assumed 12" thick	**1,593**	cy	28.00	44,604		
	Soil mix; reuse amended soil from on-site spoils (taken	**1,593**	cy	15.00	23,895		
	Sports turf mix	**35,000**	sf	0.25	8,750		
	Infield mix	**8,000**	sf	0.30	2,400		

4.6 - PM&C Cost Estimate - All Options

PM&C

Dover Regional High School and Career Technical Center
Dover, NH

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Conceptual Options

OPTION 2 ADD/RENOVATION OPTION

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	Pitching mound; home plate	**1**	loc	2,750.00	2,750		
	3 bases	**1**	loc	700.00	700		
	Line markings w/ marking pins below grade	**1**	ls	3,000.00	3,000		
	Foul poles	**2**	ea	1,500.00	3,000		
	Baseball backstops 70 lf of straight backstop	**2**	ea	10,000.00	20,000		
	Players benches	**2**	ea	2,200.00	4,400		
	Portable bleachers	**2**	loc	10,000.00	20,000		
	Scoreboard	**1**	ea	15,000.00	15,000		
	Football Field						
	Turf football field; complete	**1**	ls	750,000.00	750,000		
	Tennis Courts	**4**	ea				
	Tennis court surface, complete system	**12,000**	sf	8.00	96,000		
	Net & post system	**4**	ea	1,000.00	4,000		
	Perimeter fencing	**500**	lf	50.00	25,000		
	Landscaping						
	Allowance to spread existing amended topsoil @ seeded areas disturbed by new work	**4,766**	cy	15.00	71,490		
	New seeded areas	**279,316**	sf	0.15	41,897		
	Planting allowance	**1**	ls	50,000.00	50,000		
	Irrigation				NIC		
	SUBTOTAL					2,657,787	
G30	**CIVIL MECHANICAL UTILITIES**						
	Water supply						
	Allowance to extend water supply to building	**1**	ls	30,000.00	30,000		
	Sanitary / Sewer						
	Allowance to extend sanitary line to new building	**1**	ls	20,000.00	20,000		
	Gas						
	Allowance to extend gas line to new building	**1**	ls	15,000.00	15,000		
	Stormwater						
	Remove underdrain at existing ball field	**1**	ls	10,000.00	10,000		
	New underdrain system at relocated ball field	**1**	ls	50,000.00	50,000		
	Allowance for work to underdrain system at existing lacrosse field disturbed by new work	**1**	ls	10,000.00	10,000		
	Closed drainage system at new parking lots including treatment and detention of stormwater	**203,800**	sf	3.00	611,400		
	Allowance for additional storm water reconfiguration at new building	**1**	ls	20,000.00	20,000		
	SUBTOTAL					766,400	
G40	**ELECTRICAL UTILITIES**						
	Power						
	Riser pole, connection at existing	**1**	ea	2,000.00	2,000		
	Primary ductbank	**100**	lf	55.00	5,500		
	Primary cabling				Utility company		
	Pad mounted transformer	**1**	ea	50,000.00	50,000		
	Transformer pad	**1**	ea	2,000.00	2,000		
	Secondary ductbank						
	4000A Secondary ductbank cabling	**50**	lf	1,000.00	50,000		
	Generator ductbank						
	Generator ductbank	**50**	lf	250.00	12,500		
	Communications						
	Communications ductbank	**150**	lf	85.00	12,750		
	Site Lighting						
	Site lighting allowance	**1**	ls	40,000.00	40,000		
	SUBTOTAL					174,750	

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Conceptual Options

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION 2 ADD/RENOVATION OPTION							
100	**TOTAL - SITE DEVELOPMENT NEW BUILDING**						**$4,611,393**

4.6 - PM&C Cost Estimate - All Options

PM&C

Dover Regional High School and Career Technical Center
Dover, NH

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Conceptual Options GFA 296,014

CONSTRUCTION COST SUMMARY

	BUILDING SYSTEM		SUB-TOTAL	TOTAL	$/SF	%
OPTION 3 - NEW BUILDING						
A10	**FOUNDATIONS**					
	A1010	Standard Foundations	$2,798,096			
	A1020	Special Foundations	$0			
	A1030	Lowest Floor Construction	$1,264,280	**$4,062,376**	$13.72	7.6%
A20	**BASEMENT CONSTRUCTION**					
	A2010	Basement Excavation	$0			
	A2020	Basement Walls	$0	**$0**	$0.00	0.0%
B10	**SUPERSTRUCTURE**					
	B1010	Upper Floor Construction	$3,796,200			
	B1020	Roof Construction	$4,197,862	**$7,994,062**	$27.01	15.0%
B20	**EXTERIOR CLOSURE**					
	B2010	Exterior Walls	$3,457,843			
	B2020	Windows	$2,469,971			
	B2030	Exterior Doors	$149,383	**$6,077,197**	$20.53	11.4%
B30	**ROOFING**					
	B3010	Roof Coverings	$2,027,146			
	B3020	Roof Openings	$20,000	**$2,047,146**	$6.92	3.9%
C10	**INTERIOR CONSTRUCTION**					
	C1010	Partitions	$3,503,210			
	C1020	Interior Doors	$867,922			
	C1030	Specialties/Millwork	$2,177,814	**$6,548,946**	$22.12	12.3%
C20	**STAIRCASES**					
	C2010	Stair Construction	$154,000			
	C2020	Stair Finishes	$38,500	**$192,500**	$0.65	0.4%
C30	**INTERIOR FINISHES**					
	C3010	Wall Finishes	$1,035,248			
	C3020	Floor Finishes	$2,133,640			
	C3030	Ceiling Finishes	$1,319,365	**$4,488,253**	$15.16	8.4%
D10	**CONVEYING SYSTEMS**					
	D1010	Elevator	$192,800	**$192,800**	$0.65	0.4%

PM&C

Dover Regional High School and Career Technical Center
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Conceptual Options

GFA 296,014

CONSTRUCTION COST SUMMARY

	BUILDING SYSTEM	SUB-TOTAL	TOTAL	$/SF	%
OPTION 3 - NEW BUILDING					
D20	**PLUMBING**				
D20	Plumbing	$2,812,133	**$2,812,133**	$9.50	5.3%
D30	**HVAC**				
D30	HVAC	$8,024,600	**$8,024,600**	$27.11	15.1%
D40	**FIRE PROTECTION**				
D40	Fire Protection	$1,036,049	**$1,036,049**	$3.50	1.9%
D50	**ELECTRICAL**				
D5010	Electrical	$8,082,036	**$8,082,036**	$27.30	15.2%
E10	**EQUIPMENT**				
E10	Equipment	$960,800	**$960,800**	$3.25	1.8%
E20	**FURNISHINGS**				
E2010	Fixed Furnishings	$202,770			
E2020	Movable Furnishings	NIC	**$202,770**	$0.69	0.4%
F10	**SPECIAL CONSTRUCTION**				
F10	Special Construction	$425,000	**$425,000**	$1.44	0.8%
F20	**HAZMAT REMOVALS**				
F2010	Building Elements Demolition	$0			
F2020	Hazardous Components Abatement	$0	**$0**	$0.00	0.0%
TOTAL DIRECT COST (Trade Costs)			**$53,146,668**	$179.54	100.0%

4.6 - PM&C Cost Estimate - All Options

PM&C

Dover Regional High School and Career Technical Center
Dover, NH

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Conceptual Options

GFA 296,014

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION 3 - NEW BUILDING							
	GROSS FLOOR AREA CALCULATION						
	First Floor			173,884			
	Second Floor			78,945			
	Third Floor			43,185			
	TOTAL GROSS FLOOR AREA (GFA)					**296,014**	***sf***
A10	***FOUNDATIONS***						
A1010	**STANDARD FOUNDATIONS**						
	Strip footings to new exterior walls						
	Excavation	**3,751**	cy	10.00	37,510		
	Remove off site	**3,751**	cy	12.00	45,012		
	Backfill with gravel	**3,461**	cy	28.00	96,908		
	Formwork	**6,400**	sf	8.00	51,200		
	Re-bar	**32,000**	lbs	1.00	32,000		
	Concrete material; 3,000 psi	**290**	cy	100.00	29,000		
	Placing concrete	**290**	cy	45.00	13,050		
	Foundation walls at exterior						
	Formwork	**25,600**	sf	9.00	230,400		
	Re-bar	**64,000**	lbs	1.00	64,000		
	Concrete material; 4,000 psi	**664**	cy	100.00	66,400		
	Placing concrete	**664**	cy	45.00	29,880		
	Dampproofing foundation wall and footing	**19,200**	sf	1.00	19,200		
	Insulation to foundation walls; 2" thick	**12,800**	sf	1.50	19,200		
	Isolated column footings						
	Excavation	**2,453**	cy	10.00	24,530		
	Remove off site	**2,453**	cy	12.00	29,436		
	Backfill with gravel	**2,453**	cy	28.00	68,684		
	Re-bar	**29,848**	lbs	1.20	35,818		
	Concrete material; 3,000 psi	**1,030**	cy	100.00	103,000		
	Placing concrete	**1,030**	cy	45.00	46,350		
	Aggregate pier system						
	Aggregate piers, assume 18" diameter, 20' deep, 8' x 8' grid	**143,884**	sf	12.00	1,726,608		
	Elevator Pits						
	Excavation	**168**	cy	10.00	1,680		
	Remove off site	**168**	cy	12.00	2,016		
	Backfill with gravel	**8**	cy	28.00	224		
	Elevator pit walls						
	formwork	**800**	sf	9.00	7,200		
	reinforcement	**1,600**	lbs	1.00	1,600		
	concrete material	**10**	cy	100.00	1,000		
	placing concrete	**10**	cy	45.00	450		
	Slab						
	formwork	**300**	sf	10.00	3,000		
	reinforcement	**1,500**	lbs	1.00	1,500		
	concrete material in slab	**12**	cy	100.00	1,200		
	placing concrete	**12**	cy	45.00	540		
	Bentonite waterstops	**1**	ls	500.00	500		
	Cementitous waterproofing to elevator pit	**600**	sf	15.00	9,000		

4.6 - PM&C Cost Estimate - All Options

PM&C

Dover Regional High School and Career Technical Center 22-Jun-15
Dover, NH

Conceptual Options GFA 296,014

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION 3 - NEW BUILDING							
	SUBTOTAL					2,798,096	
A1020	**SPECIAL FOUNDATIONS**						
	No items in this section						
	SUBTOTAL						
A1030	**LOWEST FLOOR CONSTRUCTION**						
	Gravel fill, 8"	**4,296**	cy	28.00	120,288		
	Rigid insulation, 4' perimeter	**12,800**	sf	1.87	23,936		
	Vapor barrier	**173,884**	sf	0.55	95,636		
	Slab on grade, 4" thick	**173,884**	sf	5.00	869,420		
	Equipment pads	**1**	ls	25,000.00	25,000		
	Animal barn foundations	**1**	ls	130,000.00	130,000		
	SUBTOTAL					1,264,280	
	TOTAL - FOUNDATIONS						**$4,062,376**
A20	***BASEMENT CONSTRUCTION***						
A2010	**BASEMENT EXCAVATION**						
	No Work in this section						
	SUBTOTAL						
A2020	**BASEMENT WALLS**						
	No Work in this section						
	SUBTOTAL						
	TOTAL - BASEMENT CONSTRUCTION						
B10	***SUPERSTRUCTURE***						
		12	lbs/sf				
B1010	**FLOOR CONSTRUCTION**	1,713	tns				
	Floor Structure - Steel:						
	Steel beams and columns; allow 13 lbs per SF	**794**	tns	3,100.00	2,461,400		
	Shear studs	**30,533**	ea	2.50	76,333		
	Floor Structure						
	2" Metal floor deck	**122,130**	sf	3.00	366,390		
	WWF reinforcement	**140,450**	sf	0.60	84,270		
	Concrete Fill to metal deck; 5 1/2" thick; normal weight	**2,375**	cy	100.00	237,500		
	Place and finish concrete	**122,130**	sf	2.00	244,260		
	Misc. angles	**4,700**	lf	20.00	94,000		
	Miscellaneous						
	Fire proofing to columns and beams	**122,130**	sf	1.80	219,834		
	Fire stopping floors	**122,130**	sf	0.10	12,213		
	SUBTOTAL					3,796,200	
B1020	**ROOF CONSTRUCTION**						
	Roof Structure - Steel:						
	Steel joist system; allowance 11 lbs per SF	**814**	tns	3,100.00	2,523,400		
	Steel truss system w/ W10 infills in Auditorium	**77**	tns	3,500.00	269,500		
	Long span joist system at Gym	**105**	tns	3,100.00	325,500		
	Roof Structure						
	1 1/2" Acoustic deck at gym	**14,000**	sf	7.00	98,000		
	1-1/2" Metal Roof Deck	**148,084**	sf	2.50	370,210		
	Miscellaneous						
	Fire proofing to columns, beams and deck	**162,084**	sf	3.00	486,252		
	Entrance canopy framing	**2,000**	sf	50.00	100,000		
	Allowance for dunnage/ curbs	**1**	ls	25,000.00	25,000		
	SUBTOTAL					4,197,862	
	TOTAL - SUPERSTRUCTURE						**$7,994,062**
B20	***EXTERIOR CLOSURE***						
B2010	**EXTERIOR WALLS - 70% brick/30% Glazed**	*106,400*	sf				
	Interior skin						
	6" metal stud backup	**74,480**	sf	5.50	409,640		
	Insulation	**74,480**	sf	2.25	167,580		
	Air barrier	**74,480**	sf	4.00	297,920		
	Air barrier/flashing at windows	**10,534**	lf	6.50	68,471		
	Gypsum Sheathing	**74,480**	sf	2.50	186,200		
	Drywall lining to interior face of stud backup	**74,480**	sf	2.40	178,752		
	Exterior skin						
	Brick veneer	**74,480**	sf	26.00	1,936,480		
	Miscellaneous						
	Staging to exterior wall	**106,400**	sf	2.00	212,800		
	SUBTOTAL					3,457,843	
B2020	**WINDOWS**	*31,920*	sf		-		
	Windows/Curtainwall/Storefront	**31,920**	sf	75.00	2,394,000		
	Louvers (allowance)	**150**	sf	50.00	7,500		
	Backer rod & double sealant	**10,534**	lf	4.00	42,136		
	Wood blocking at openings	**10,534**	lf	2.50	26,335		
	SUBTOTAL					2,469,971	
B2030	**EXTERIOR DOORS**						
	Glazed entrance doors including frame and hardware; double door	**13**	pr	7,000.00	91,000		
	HM doors, frames and hardware- double	**7**	pr	2,500.00	17,500		
	HM doors, frames and hardware- single	**7**	ea	1,600.00	11,200		
	Allowance for overhead doors at Workshops & Loading dock	**5**	ea	5,000.00	25,000		
	Backer rod & double sealant	**669**	lf	4.00	2,676		
	Wood blocking at openings	**669**	lf	3.00	2,007		
	SUBTOTAL					149,383	
	TOTAL - EXTERIOR CLOSURE						**$6,077,197**
B30	***ROOFING***						
B3010	**ROOF COVERINGS**						
	Flat roofing						
	White TPO roofing	**173,884**	sf	5.00	869,420		

4.6 - PM&C Cost Estimate - All Options

PM&C

Dover Regional High School and Career Technical Center
Dover, NH

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Conceptual Options

GFA 296,014

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION 3 - NEW BUILDING							
	Insulation	**173,884**	sf	4.50	782,478		
	Reinforced vapor barrier	**173,884**	sf	0.45	78,248		
	Rough blocking	**21,000**	lf	4.00	84,000		
	Miscellaneous Roofing						
	Allowance for entrance canopy roofing, soffit	**2,000**	sf	50.00	100,000		
	Roof coping/ fascia	**3,500**	lf	30.00	105,000		
	Roof ladders	**1**	ls	3,000.00	3,000		
	Walk pads	**1**	ls	5,000.00	5,000		
	SUBTOTAL					2,027,146	
B3020	**ROOF OPENINGS**						
	Allowance for elevator vents, roof hatches, smoke hatch etc	**1**	loc	20,000.00	20,000		
	SUBTOTAL					20,000	
	TOTAL - ROOFING						**$2,047,146**
C10	***INTERIOR CONSTRUCTION***						
C1010	**PARTITIONS**						
	CMU partitions in Gymnasium	**9,600**	sf	18.00	172,800		
	Auditorium partition	**6,300**	sf	15.00	94,500		
	Corridor partitions; abuse resistant drywall	**76,120**	sf	10.00	761,200		
	Typical interior partitions	**101,180**	sf	8.00	809,440		
	Premium for elevator and stair shafts	**10,640**	sf	5.00	53,200		
	Interior glazing - allowance	**2,200**	sf	60.00	132,000		
	Allowance for walls not yet shown	**296,014**	sf	5.00	1,480,070		
	SUBTOTAL					3,503,210	
C1020	**INTERIOR DOORS**						
	Interior doors, frames and hardware; single leaf	**265**	ea	1,300.00	344,500		
	Interior doors, frames and hardware; double leaf	**33**	pr	1,800.00	59,400		
	Coiling doors at CTE workshops, Cafeteria etc	**1**	ls	20,000.00	20,000		
	Allowance for borrowed lites, vision panels & specialty hardware	**296,014**	sf	0.25	74,004		
	Allowance for doors not yet shown	**296,014**	sf	1.25	370,018		
	SUBTOTAL					867,922	
C1030	**SPECIALTIES / MILLWORK**						
	Toilet Partitions and accessories	**296,014**	sf	0.50	148,007		
	Backer panels in electrical closets	**1**	ls	3,000.00	3,000		
	Marker boards/tack boards in classrooms, offices, conference rooms, library and MP rooms (Smart boards in Equipment section)	**296,014**	sf	0.50	148,007		
	Shelving in storage rooms	**1**	ls	10,000.00	10,000		
	Staff mailboxes/casework	**1**	ls	10,000.00	10,000		
	Signage & Directories	**296,014**	gsf	0.30	88,804		
	Fire extinguisher cabinets	**85**	ea	350.00	29,750		
	Lockers; corridors	**1,500**	opng	190.00	285,000		
	Lockers; athletic	**100**	opng	210.00	21,000		
	Lockers; team	**200**	opng	290.00	58,000		
	Lockers; staff	**115**	opng	240.00	27,600		
	Janitors Closet Accessories	**12**	rms	300.00	3,600		
	Rail at open to below areas	**580**	lf	250.00	145,000		
	Reception/ Library/ Circulation desks	**1**	ls	50,000	50,000		
	Science classroom casework	**13**	rm	50,000.00	650,000		
	Counters, base cabinets, tall storage/Cart storage in classrooms	**48**	rms	2,600.00	124,800		
	Casework in Specialty classrooms; Band etc	**65,746**	sf	3.00	197,238		
	Library shelving				F,F & E		
	Display cases	**1**	ls	30,000.00	30,000		
	Miscellaneous metals throughout building	**296,014**	sf	0.25	74,004		
	Miscellaneous sealants throughout building	**296,014**	sf	0.25	74,004		
	SUBTOTAL					2,177,814	
	TOTAL - INTERIOR CONSTRUCTION						**$6,548,946**
C20	***STAIRCASES***						
C2010	**STAIR CONSTRUCTION**						
	Metal pan stair; egress stair	**7**	flt	20,000.00	140,000		
	Concrete fill to stairs	**7**	flt	2,000.00	14,000		
	SUBTOTAL					154,000	
C2020	**STAIR FINISHES**						
	Paint to stairs including all railings etc.	**7**	flt	2,500.00	17,500		
	Rubber tile at stairs	**7**	lft	3,000.00	21,000		
	SUBTOTAL					38,500	
	TOTAL - STAIRCASES						**$192,500**
C30	***INTERIOR FINISHES***						
C3010	**WALL FINISHES**						
	Paint to interior walls	**460,880**	sf	0.85	391,748		
	CT wainscot to walls in corridors, stairwells and Town hall square; 5' high	**32,000**	sf	12.00	384,000		
	CT tile in bathrooms	**4,750**	sf	12.00	57,000		
	Acoustic & wood wall panels in Auditorium	**4,500**	sf	45.00	202,500		
	SUBTOTAL					1,035,248	
C3020	**FLOOR FINISHES**						
	Linoleum tile to classrooms and general spaces	**143,568**	sf	6.00	861,408		
	Flooring at corridors/lobby; linoleum tile with pattern	**54,303**	sf	7.00	380,121		
	Wood floor in Gymnasium	**14,000**	sf	18.00	252,000		
	New stage floor	**2,625**	sf	25.00	65,625		
	Sports flooring in Weight, Alt PE area	**6,000**	sf	11.00	66,000		
	Carpet in Auditorium aisles, Admin areas	**10,000**	sf	5.00	50,000		
	Kitchen, Culinary Kitchen & Restaurant flooring; quarry tile or similar	**6,237**	sf	17.00	106,029		
	Locker room floor finish	**4,800**	sf	10.00	48,000		
	New tile floors to toilet rooms	**7,180**	sf	15.00	107,700		
	Sealed concrete floors in Workshops, storage, equipment areas	**32,500**	sf	1.50	48,750		

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PM&C

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Conceptual Options

GFA 296,014

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION 3 - NEW BUILDING							
	Allowance for bases and miscellaneous floor finishes	**296,014**	sf	0.50	148,007		
	SUBTOTAL					2,133,640	
C3030	**CEILING FINISHES**						
	Exposed ceilings in CTE workshops, Town Square, Gymnasium & Auditorium	**68,300**	sf	2.00	136,600		
	Reflective wood/ acoustic clouds in Auditorium - allowance	**2,364**	sf	50.00	118,200		
	Ceiling finishes; allowance for all ceiling finishes/soffits etc.	**212,913**	sf	5.00	1,064,565		
	SUBTOTAL					1,319,365	
	TOTAL - INTERIOR FINISHES						**$4,488,253**
D10	***CONVEYING SYSTEMS***						
D1010	**ELEVATOR**						
	New elevator; 3 stop	**1**	loc	105,000.00	105,000		
	New elevator; 2 stop	**1**	loc	70,000.00	70,000		
	New lift at Stage	**1**	ls	15,000.00	15,000		
	Pit ladders	**2**	ea	900.00	1,800		
	Sill angles	**40**	lf	25.00	1,000		
	SUBTOTAL					192,800	
	TOTAL - CONVEYING SYSTEMS						**$192,800**
D20	***PLUMBING***						
D20	**PLUMBING, GENERALLY**						
	Plumbing	**296,014**	gsf	9.50	2,812,133		
	SUBTOTAL					2,812,133	
	TOTAL - PLUMBING						**$2,812,133**
D30	***HVAC***						
D30	**HVAC, GENERALLY**						
	Heating equipment						
	Hot water heating plant	**10,000**	mbh	20.00	200,000		
	Perimeter heating devices	**296,014**	sf	1.00	296,014		
	Cooling Equipment						
	Air-cooled chilled water plant	**50**	ton	1,500.00	75,000		
	Terminal cooling equipment	**1**	ls	50,000.00	50,000		
	Chilled beams	**1**	ls	100,000.00	100,000		
	Air distribution						
	Air Handling Unit						
	Packaged rooftop AC units	**471**	ton	3,500.00	1,648,500		
	Air handling units, heating only	**37,500**	cfm	8.50	318,750		
	Make-up air unit	**2**	ea	6,000.00	12,000		
	Miscellaneous air distribution equipment	**296,014**	sf	0.50	148,007		
	Exhaust fan s						
	Dishwasher exhaust fan	**2**	ea	3,500.00	7,000		
	Kitchen exhaust fan	**2**	ea	7,500.00	15,000		
	Paint booth exhaust fan	**1**	ea	25,000.00	25,000		
	Dust collection system	**2**	ea	75,000.00	150,000		
	Exhaust fans	**1**	ls	25,000.00	25,000		
	Vehicle exhaust	**1**	ls	25,000.00	25,000		
	Sheet metal & Accessories						
	Ductwork, insulation and accessories	**250,000**	sf	8.00	2,000,000		
	Piping						
	Piping, valves and insulation	**296,014**	sf	4.25	1,258,060		
	Controls (DDC)						
	Automatic temperature controls	**296,014**	sf	4.50	1,332,063		
	Balancing						
	System testing & balancing	**296,014**	sf	0.45	133,206		
	Miscellaneous						
	Demolition	**1**	ls	25,000.00	25,000		
	Coordination & management	**1**	ls	50,000.00	50,000		
	Commissioning support	**1**	ls	40,000.00	40,000		
	Coring, sleeves & fire stopping	**1**	ls	20,000.00	20,000		
	Equipment start-up and inspection	**1**	ls	15,000.00	15,000		
	Rigging & equipment rental	**1**	ls	50,000.00	50,000		
	Vibration & seismic restraints	**1**	ls	6,000.00	6,000		
	SUBTOTAL					8,024,600	
	TOTAL - HVAC						**$8,024,600**
D40	***FIRE PROTECTION***						
D40	**FIRE PROTECTION, GENERALLY**						
	Fire protection system	**296,014**	gsf	3.50	1,036,049		
	SUBTOTAL					1,036,049	
	TOTAL - FIRE PROTECTION						**$1,036,049**
D50	***ELECTRICAL***						
D5010	**SERVICE & DISTRIBUTION**						
	Gear & Distribution						
	Normal Power						
	4000A Gear and distribution allowance	**296,014**	sf	3.00	888,042		
	Emergency power						
	350kW natural gas genset	**1**	ea	200,000.00	200,000		
	Gear and distribution allowance	**296,014**	sf	1.35	399,619		
	30kW UPS system	**2**	ea	25,000.00	50,000		
	PV System infrastructure						
	PV System infrastructure	**1**	ls	7,500.00	7,500		
	Equipment Wiring						
	Equipment wiring allowance	**296,014**	sf	2.00	592,028		
	Kitchen equipment allowance	**1**	ls	20,000.00	20,000		
	SUBTOTAL					2,157,189	
D5020	**LIGHTING & POWER**						
	Lighting & Branch Power						
	Lighting allowance (LED)	**296,014**	sf	5.00	1,480,070		
	Lighting controls						

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Conceptual Options GFA 296,014

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	OPTION 3 - NEW BUILDING						
	Lighting controls, local, daylight sensing and	**296,014**	sf	1.00	296,014		
	Branch devices						
	Branch devices	**296,014**	sf	0.40	118,406		
	Lighting and branch circuitry						
	Branch & lighting circuitry	**296,014**	sf	5.00	1,480,070		
	SUBTOTAL					3,374,560	
D5030	**COMMUNICATION & SECURITY SYSTEMS**						
	Fire Alarm						
	Fire alarm system	**296,014**	sf	1.50	444,021		
	Security System						
	Security System	**296,014**	sf	1.00	296,014		
	Telephone/Data/CATV						
	Telecommunications rough in & devices and cabling	**296,014**	sf	2.50	740,035		
	Sound Systems						
	Gymnasium sound system	**1**	ls	20,000.00	20,000		
	Cafeteria sound system	**1**	ls	20,000.00	20,000		
	Music room sound system	**1**	ls	10,000.00	10,000		
	Bi-Directional Amplification System						
	BDA system	**1**	ls	50,000.00	50,000		
	Master Clock & PA System						
	Master clock and PA system	**296,014**	sf	0.80	236,811		
	Speech Amplification System						
	Speech amplification system	**NIC**					
	Audio/Visual						
	AV rough-in and power (devices and cabling by other)	**296,014**	sf	0.40	118,406		
	Theatrical						
	Stage lighting, dimming and controls	**1**	ls	200,000.00	200,000		
	A/V rough-in and power only	**1**	ls	100,000.00	100,000		
	Gymnasium						
	Gym equipment feed and connection (scoreboard carried by other)	**1**	ls	10,000.00	10,000		
	SUBTOTAL					2,245,287	
D5040	**OTHER ELECTRICAL SYSTEMS**						
	Miscellaneous						
	Temp power and lights	**1**	ls	100,000.00	100,000		
	Coordination study and testing	**1**	ls	20,000.00	20,000		
	Lightning Protection	**1**	ls	75,000.00	75,000		
	Phasing	**1**	ls	30,000.00	30,000		
	Fees & Permits	**1**	ls	80,000.00	80,000		
	SUBTOTAL					305,000	
	TOTAL - ELECTRICAL						**$8,082,036**
E10	***EQUIPMENT***						
E10	**EQUIPMENT, GENERALLY**						
	Gymnasium						
	Gym wall pads	**1**	ls	20,000.00	20,000		
	Basketball backstops; swing up; electric operated	**6**	ea	9,800.00	58,800		
	Gymnasium dividing net; electrically operated	**1**	loc	25,000.00	25,000		
	Volleyball net and standards	**1**	ea	2,000.00	2,000		
	Telescoping bleachers - allowance	**1**	ls	30,000.00	30,000		

4.6 - PM&C Cost Estimate - All Options

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Conceptual Options GFA 296,014

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	OPTION 3 - NEW BUILDING						
	Auditorium						
	Theatrical Equipment Stage curtains, rigging and controls	**1**	ls	175,000	175,000		
	New seating - allow	**800**	ea	250.00	200,000		
	Cafeteria						
	Food Service equipment - allowance	**1**	ls	450,000.00	450,000		
	Classrooms, Science rooms, Specialty Classrooms						
	Smart boards	**90**	loc	3,000.00	FF+E		
	CTE/ Workshop Equipment				FF+E		
	SUBTOTAL					960,800	
	TOTAL - EQUIPMENT						**$960,800**
E20	***FURNISHINGS***						
E2010	**FIXED FURNISHINGS**						
	Entry mats & frames	**250**	sf	45.00	11,250		
	Window blinds	**31,920**	sf	6.00	191,520		
	SUBTOTAL					202,770	
E2020	**MOVABLE FURNISHINGS**						
	All movable furnishings to be provided and installed by owner						
	SUBTOTAL					NIC	
	TOTAL - FURNISHINGS						**$202,770**
F10	***SPECIAL CONSTRUCTION***						
F10	**SPECIAL CONSTRUCTION**						
	Animal barn prefabricated building; complete	**8,500**	sf	50.00	425,000		
	SUBTOTAL					425,000	
	TOTAL - SPECIAL CONSTRUCTION						**$425,000**
F20	***SELECTIVE BUILDING DEMOLITION***						
F2010	**BUILDING ELEMENTS DEMOLITION**						
	See main summary for demolition of existing buildings						
	SUBTOTAL						
F2020	**HAZARDOUS COMPONENTS ABATEMENT**						
	See main summary for HazMat allowance				See Summary		
	SUBTOTAL						
	TOTAL - SELECTIVE BUILDING DEMOLITION						

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Conceptual Options

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION 3 NEW OPTION							
	G SITEWORK						
G10	**SITE PREPARATION & DEMOLITION**	Affected area = 18 acres					
	Site Demolitions and Relocations						
	Allowance for contractor laydown area/ wheel wash etc	**1**	ls	20,000.00	20,000		
	Site construction fence/barricades w one entrance gate	**3,000**	lf	8.00	24,000		
	Demolition of existing roadways, parking lots and associated curbs	**200,000**	sf	0.75	150,000		
	Miscellaneous demolition including existing tennis courts, ball field, utilities, site furnishings, walls etc	**18**	acres	5,000.00	90,000		
	Site Earthwork						
	Minor regrading including striping topsoil - allowance	**22,222**	cy	5.00	111,110		
	Fine grading	**63,346**	sy	1.00	63,346		
	Excavation to reduce levels; use on site	**22,000**	cy	12.00	264,000		
	Backfill at demolished wing	**25,000**	cy	10.00	250,000		
	Silt fence/erosion control allowance	**1**	ls	40,000.00	40,000		
	Hazardous Waste Remediation						
	No work in this section						
	SUBTOTAL					1,012,456	
G20	**SITE IMPROVEMENTS**						
	Roadways and Parking Lots	**211,500**	sf				
	Bituminous concrete paving						
	gravel base; 12" thick	**7,833**	cy	28.00	219,324		
	bituminous concrete; 4" thick	**23,500**	sy	22.00	517,000		
	Bituminous concrete curb	**7,700**	lf	12.00	92,400		
	Single solid lines	**455**	space	25.00	11,375		
	Wheelchair Parking	**9**	space	75.00	675		
	HC curb cuts - allowance	**10**	loc	350.00	3,500		
	Other road markings; crosswalks etc	**1**	ls	10,000.00	10,000		
	Allowance to reconfigure, patch and repair existing parking lot to remain at Animal Science barn	**36,000**	sf	1.50	54,000		
	Allowance to minor reconfiguration, patch and repair Alumni Drive roadway	**20,000**	sf	1.50	30,000		
	Pedestrian paving - allowance						
	Concrete paving						
	gravel base; 8" thick	**372**	cy	28.00	10,416		
	concrete paving; 4" thick	**15,000**	sf	6.00	90,000		
	Allowance for accessible ramps, stairs, handrails, landings at doorways etc	**1**	ls	50,000.00	50,000		
	Retaining walls w/guardrail (guardrail taken separately)	**405**	lf	400.00	162,000		
	Guardrail at retaining wall	**405**	lf	200.00	81,000		
	New site signage allowance	**1**	ls	20,000.00	20,000		
	Misc. site furnishings, bollards etc	**1**	ls	30,000.00	30,000		
	Football Field						
	Turf football field; complete	**1**	ls	750,000.00	750,000		
	Baseball Field and Soccer Field						
	Gravel base - assumed 12" thick	**3,037**	cy	28.00	85,036		
	Soil mix; reuse amended soil from on-site spoils (taken	**3,037**	cy	15.00	45,555		
	Sports turf mix	**74,000**	sf	0.25	18,500		
	Infield mix	**8,000**	sf	0.30	2,400		
	Pitching mound; home plate	**1**	loc	2,750.00	2,750		

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CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION 3 NEW OPTION							
	3 bases	**1**	loc	700.00	700		
	Line markings w/ marking pins below grade	**1**	ls	3,000.00	3,000		
	Foul poles	**2**	ea	1,500.00	3,000		
	Baseball backstops 70 lf of straight backstop	**2**	ea	10,000.00	20,000		
	Players benches	**2**	ea	2,200.00	4,400		
	Portable bleachers	**4**	loc	10,000.00	40,000		
	Scoreboard	**1**	ea	15,000.00	15,000		
	Soccer goals (movable)	**2**	loc	3,500.00	7,000		
	Tennis Courts	**6**	ea				
	Tennis court surface, complete system	**18,000**	sf	8.00	144,000		
	Net & post system	**6**	ea	1,000.00	6,000		
	Perimeter fencing	**600**	lf	50.00	30,000		
	Landscaping						
	Allowance for paving/ landscape components/ furnishings in new Performing Arts/ Outdoor Classroom Courtyard	**1**	ls	150,000.00	150,000		
	Allowance to spread existing amended topsoil @ seeded areas disturbed by new work	**4,141**	cy	15.00	62,115		
	New seeded areas	**223,616**	sf	0.15	33,542		
	Planting allowance	**1**	ls	50,000.00	50,000		
	Irrigation				NIC		
	SUBTOTAL					2,854,688	
G30	**CIVIL MECHANICAL UTILITIES**						
	Water supply						
	Allowance to extend water supply to building	**1**	ls	30,000.00	30,000		
	Sanitary / Sewer						
	Allowance to extend sanitary line to new building	**1**	ls	20,000.00	20,000		
	Gas						
	Allowance to extend gas line to new building	**1**	ls	5,000.00	5,000		
	Stormwater						
	Remove underdrain at existing ball field	**1**	ls	10,000.00	10,000		
	New underdrain system at relocated ball field	**1**	ls	50,000.00	50,000		
	Allowance for work to underdrain system at existing lacrosse field disturbed by new work	**1**	ls	10,000.00	10,000		
	Closed drainage system at new parking lots including treatment and detention of stormwater	**211,500**	sf	3.00	634,500		
	Allowance for additional storm water reconfiguration at new building	**1**	ls	20,000.00	20,000		
	SUBTOTAL					779,500	
G40	**ELECTRICAL UTILITIES**						
	Power						
	Riser pole, connection at existing	**1**	ea	2,000.00	2,000		
	Primary ductbank	**100**	lf	55.00	5,500		
	Primary cabling				Utility company		
	Pad mounted transformer	**1**	ea	50,000.00	50,000		
	Transformer pad	**1**	ea	2,000.00	2,000		

4.6 - PM&C Cost Estimate - All Options

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	CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
		OPTION 3 NEW OPTION						
91		Secondary ductbank						
92		4000A Secondary ductbank cabling	**50**	lf	1,000.00	50,000		
93		Generator ductbank						
94		Generator ductbank	**50**	lf	250.00	12,500		
95		Communications						
96		Communications ductbank	**150**	lf	85.00	12,750		
97		Site Lighting						
98		Site lighting allowance	**1**	ls	40,000.00	40,000		
99		SUBTOTAL					174,750	
100								
101		**TOTAL - SITE DEVELOPMENT NEW BUILDING**						**$4,821,394**