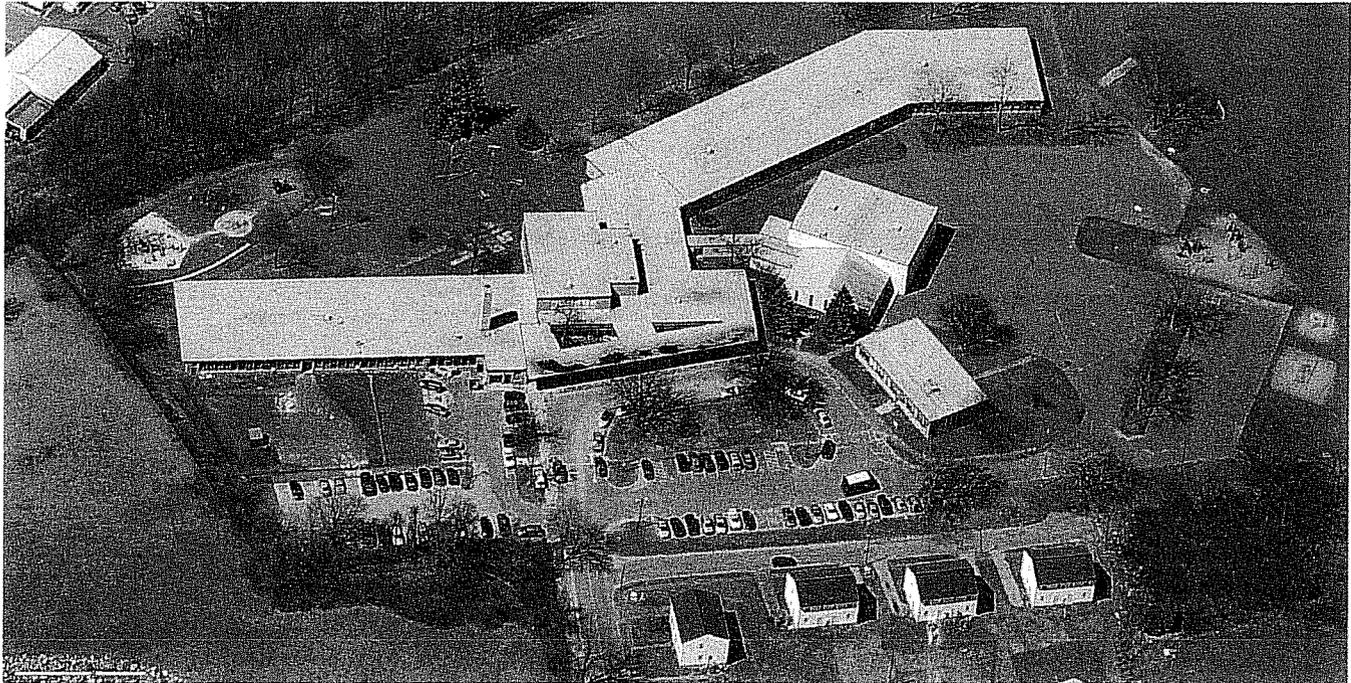


**CITY OF DANBURY
FACILITY PLANNING STUDY FOR
PROPOSED ADDITION AND MIDDLE SCHOOL for STEM/AIS SCHOOLS**

**MILL RIDGE INTERMEDIATE SCHOOL
1 SCHOOL RIDGE ROAD, DANBURY, CT 06810**



**Director of Public Works:
City Engineer:
Superintendent:
Asst. Superintendent:**

**Antonio Iadarola, PE
Farid Khouri, PE
Dr. Sal V. Pascarella
Dr. William Glass**

**Architects:
Fuller & D'Angelo, PC
Architects and Planners
45 Knollwood Road
Elmsford, NY 10523**

**Engineers:
AKF Engineers
750 East Main Street, Suite 501
Stamford, CT 06902**

**Soil Borings:
Soiltesting, Inc.
140 Oxford Road
Oxford, CT 06483**

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CITY OF DANBURY
MILL RIDGE INTERMEDIATE/STEM AND AIS SCHOOLS
 Submitted by: Fuller and D'Angelo, PC
 Architects and Planners
 45 Knollwood Road
 Elmsford, NY 10523
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 Date: May 29, 2012

SECTION 1. PROJECT OVERVIEW EXECUTIVE SUMMARY

INTRODUCTION:

Mill Ridge Intermediate School is located at 1 School Ridge Road, Danbury CT 06810 just west of downtown Danbury adjacent to Route 6 in a suburban setting. The site totals 13.81 acres and the school has a large field area to the north side of the school proper.

Mill Ridge Intermediate School was originally constructed in 1958 and received an addition which consisted of a new Gym and Media center in 1972. Afterward the building has received a few upgrades and adjustment of various existing spaces completed to meet new Educational programs, including new infant care spaces.

The total interior gross square footage is 65,500 including the Curriculum Center structure.

The building consists of a single story "S" shaped structure with the core assets in the middle of the school building consisting now of the Office and Cafeteria, with the Gymnasium and Media Center in an adjacent wing to the north.

Currently the school is fully occupied with the "Head Start" Program, which includes various aged children including infant care.

Our firm is not aware of any prior feasibility studies for inclusion of other educational programs or enlargement aspects of the Mill Ridge Intermediate School.

In the near future, Mill Ridge Intermediate School is slated to be unoccupied with the existing programs being relocated elsewhere and the school open and available for improvements and an addition in order to undertake a new role as a renovated "Middle School" grades 6,7 and 8. The new students from two existing important educational programs within Danbury Public Schools would be relocated to this site. Namely they are the STEM and graduates from the current K-5 AIS programs, in grade 6 and in upcoming years, grades 7 and 8.

The overall enrollment from these two educational programs for the new Middle School shall total 600 students.

The City of Danbury and Board of Education elected to move the STEM Academy Program (Science, Technology, Engineering and Mathematics) currently at Rodgers Middle, and expand AIS (Academy of International Studies) grades 6, 7 and 8 to this

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current building, to alleviate the enrollment burden currently growing within the district, and as a future link to the elementary Schools expansions also now planned.

The two School descriptions are found below:

SCIENCE, TECHNOLOGY, ENGINEERING, MATHEMATICS (STEM)

PROGRAM OFFERINGS:

The STEM Academy offers Danbury 6th, 7th and 8th Graders an innovative and challenging middle school program. STEM themes are centered around the concepts of Science, Technology, Engineering and Math.

Our curriculum investigates essential questions through the Math, Science, English and Social Studies classrooms.

WHY STEM NOW?

"If our students are to compete successfully for the jobs of the future, we must better prepare them to be lifelong learners and give them a strong foundation in science, technology, engineering and math," said Brad Smith, a senior VP at Microsoft.

Currently, the STEM Academy is housed at Rogers Park Middle School, and approximately 300 students shall be transferring after the Mill Ridge Intermediate building is renovated and added to, and improved to a proper level for a modern educational facility. This shall include the 6th, 7th and 8th Grades, four classrooms per grade and also two new engineering laboratories along with other support spaces discussed below.

The classroom environment shall match the offer studies, with rich technology including laptop computers and Promethean interactive white boards. Engaging instructional strategies incorporate hands on exploration, inquiry learning and field studies. The program will enhance student's interest in the science field through active partnerships with area corporations and higher education centers alike.

ACADEMY FOR INTERNATIONAL STUDIES (AIS)

MISSION STATEMENT:

At the Academy for International Studies, students become socially responsible global citizens who use technology to access the world.

An emphasis on International Studies and World Languages facilitates critical thinking and broadens mastery of the district curriculum.

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Our school community creates a supportive climate where students practice collaborative problem solving and understand other's perspectives while valuing and respecting diversity. Students value that global citizenship begins with responsible citizenship in one's own world.

The AIS Program, currently a stand-alone Magnet School adjacent to Western Connecticut State University, houses Kindergarten through 5th Grade, this school shall expand and shall over the years populate an AIS 6, 7 and 8th Grade program within the remodeled Mill Ridge Middle School.

Some of the basis of educational philosophy for the school is:

The Academy is the child's "passport" to learning about the global community. They begin learning and using Spanish from kindergarten. The extensive use of technology enables our children to travel the world on a virtual electronic journey.

As they study at the Academy, students acquire and demonstrate developmentally appropriate mastery of core content matter. They apply that knowledge in contexts that relate to foreign countries, their cultures, traditions, economies, and geographic/ historic frameworks.

As the program of study gives the student an international perspective on knowledge, the school community itself provides a climate of localized individual nurturing. Enrollment of students who represent the diversity of the partner school districts heightens the child/s appreciation for human differences.

Together the school instructional program and the school climate will enhance children's comprehension of their relationship to their personal community and to the world community. The collaboration of parents, community, and school enhances learning opportunities for students. Parents participate actively in the operation of various Academy components.

It is our understanding that each of the schools shall share the newly remodeled Middle School Building, schools Grades 6, 7 and 8, with an educational specification of four classrooms per grade per school for a total of 24 standard size classrooms. The assets would be shared including an expanded Cafeteria, a new 4,500 sq ft Media Center, the existing Gymnasium, two new Music Rooms created from the older Media Center area and two new Engineering Labs created from the current district curriculum office building space.

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This curriculum office structure is currently located just north east side of the current school (See site plan). This former curriculum building/ newly remodeled Engineering Building would be attached to the complex via an enclosed canopy corridor.

Adjacencies in the original School Building structure will be such that the AIS Program is contained mostly in the southern wing and STEM in the northern wing with a few AIS classrooms in the 8th Grade overlapping into the North side. Again, all the core assets: Main Office, Gym, Media, Cafeteria etc. would all be shared.

It should be noted that the building has recently received a new boiler plant which has the capacity to service the entire building in a proper manner.

As per the new conceptual plan for the school, one can find the educational space combinations, adjacencies and configurations in proper school design which, though smaller in space for the 600 students, will have the proper ability to deliver the educational programs in proper classroom spaces for all of the students.

This redevelopment and space enhancement from the current areas will also provide excellent educational program atmospheres in the new design.

Site Selection for the addition was evident with constraints on the south east and north sides of the existing buildings, allowing Cafeteria expansion only westward as well as placement of the Media Center as to not interfere with any current classrooms window views and allowing clear natural light into all of the existing classrooms after the addition is completed.

The additions would include a 1,200 sq. ft. Cafeteria, a 4,500 Media Center and 4000 sq. ft., i.e., the former curriculum building to be the new engineering labs mostly for the STEM program. It should be noted that the old Media Center on the opposite side of the corridor from the gymnasium will be refabricated into two new Music Suites, larger in size.

This school should become ADA accessible, after all of the toilet renovations and improvements, door adjustments and other such factors that will be required to be included in the redesign of the interior of the school building.

It should be noted that the roof is at its age expectancy and should also receive a replacement roof. This is noted as an alternative in the cost estimate.

Our understanding from the schedule from the Danbury Board of Education is that it will take approximately one year to attain City/State approvals, one year for design and City/State approvals, and another year for construction.

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The first steps are for the Bureau of School Facilities EDO 49's to be approved and submitted and filed with the State to allow the BSF to register the proposed expenditure with the State. Later this year a referendum would be posted to the voters of Danbury for the project.

The budget for the concept of the remodeling of the interior of the school expansions and improvements is based on the following parameters:

Existing classroom building to be remodeled (north wing)	24,000 sq. ft.
Renovated Admin, Gym, Exist. Cafeteria. etc.	19,000 sq. ft.
A new Media Center addition	4,500 sq. ft.
A new Cafeteria addition	1,200 sq. ft.
New Music Suite in former Media Center	1,800 sq. ft.
New Engineering Classes in current curriculum building	4,050 sq. ft.
Interior reconstruction of (south wing)	11,000 sq. ft.
Revised site work improvements and playgrounds (ALT)	
Revised bus and car traffic pattern and circulation (ALT)	
Reconfiguring of parking and additional parking (ALT)	
New Roof (ALT)	
New Front Entrance Curtain wall (ALT)	

(ALT)= A bidding Alternate to the project to assist in controlling overall project costs.

Additionally the cost estimate includes hard and soft costs.

The Hard Costs include material and labor escalations to mid-point of construction duration dates and project contingencies.

The contingency figure includes fees, project development costs, surveys, borings, bonding costs, FFE, IT, Legal and other standard items.

The soft costs include A/E/Hazmat fees, special consultants, project development costs, escalation, and a contingency figure.

Conceptual Base Project Budget:

Hard Cost Total:	\$11,422,706
Soft Cost Total:	<u>\$ 3,203,958</u>
Project Total:	\$14,646,664

The project will be submitted for BSF reimbursement at the City of Danbury rate of approximately 53%. If the State reimbursement is attained, the base work cost to the City of Danbury for this project alone should be \$6,883,932.

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Alternates costs are listed separately in the spreadsheet located in the appendix.

Land Use Approvals for the City of Danbury will include the usual departments and processes, along with a full Bureau of Schools Facilities (BSF) review and approval to competitively bid process.

Community use of the fields to the north is significant after school hours and mostly on weekends. Parking is being expanded in the northern area which will better facilitate community ease of use of these fields. The addition placement should not affect any of this open "green area" athletic space, and not impact same during construction.

Fuller and D'Angelo's building design has always been sustainable. We understand that the schools can impact the environment especially through use of solid, quality recyclable materials, and these materials are what should be used in a heavily trafficked and long term expectancy structure. Also, this type of design enlightens students about the "GREEN design" aspects of a building. Further, it is truly important, with the use of proper quality materials and various insulating values, to save natural energy costs as much as possible. This provides a good "long term value".

Currently there is not a high level of Information Technology (IT) in the building, and this with the new program will include all new Smart Boards for each room and other computer improvements as per of the computer room within the Media Center. The STEM program uses laptops heavily and a new wireless infrastructure shall require to be installed, throughout the building to support same. We understand that Smart Board technology is Danbury Public Schools standard and is incorporated into the educational facilities as much as budget allows.

Further, a new electrical system shall be required within the school from then main switch gear down through intermittent panels, as they are original vintage to the building and require replacement.

Telephone systems and the like have been briefly reviewed and these can be found in then mechanical write-up.

Security in schools is also very important. This building currently does not have security systems except for a few doors and a rudimentary alarm system. This should be reviewed by District security personnel and assessment and recommendation of improvements made directly to the City.

Flexibility of Design has also been considered, and it was noted that since all of the base classrooms for both AIS and STEM are of proper square footage. Each shall be on average 900 sq. ft. However, Science Rooms shall also be the same square footage, smaller in size however be enhanced by two Engineering/Science Classroom to be constructed in the fully remodeled curriculum administration building.

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Further, the New Media Center, a new state-of-the-art space, shall attain flexibility by being able to connect and expand within the Cafeteria (when not in use) and also house within same a Computer center, Audio/Visual space and other media modern facilities.

Furniture, Fixtures and Equipment for standard new classrooms are anticipated to be included in the interior build-out of the addition. Current furnishings are for lower grades. No existing furniture would be used except perhaps retaining office furnishings.

The Architects' main thrust for the site circulation is to separate bus and car traffic as much as possible. A new vehicular circulation concept has been conceived for the building, keeping the buses circulating in front of the main entrances of the school and providing parent drop-off access on the north side of the building. In the afternoon, Parent pick-up having a new longer drive and further being able to circumnavigate through the additional parking space provides for an easy and swift pick up, buses shall be able to properly queue as well in the front of the school as this is also become a longer curbed area. This work is listed as an alternate scope of work.

The new Mill Ridge Middle School was programmed along with the City of Danbury and Danbury Board of Education Administration. The classroom counts and adjacencies of the new spaces have been agreed to by the parties, Administrators, the STEM school building Principal. All reviewed and confirmed additional spaces and areas, and the size of addition to be been completed. Initial conceptual cost estimates have been reviewed by the City. Final conceptual costs are included within this report.

DESIGN PROCESS AND SCHOOL PROFILE:

During the design process, our firm reviewed site, utility and building constraints of the project. The enrollment increase, logistics of construction and adjacencies were simpler in this building as it shall be vacant during the time of construction. No class shall be in session during this time period. Minutes of these meetings can be found in the Appendix of this report, and all discussions were open to one another so in order to create a positive and streamlined creative and inclusive concept design process.

The 600 new students within this school shall be somewhat compressed within the spaces. It appears that if properly designed through the schematic, design development and construction document process, all students shall receive a modern, satisfactory educational space in which to be taught and learn the educational program.

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PROJECT TEAM:

City:

Director of Public Works
City Engineer
City Construction Engineer
Public Buildings Superintendent

Antonio Iadarola
Farid Khouri
Thomas Hughes
Richard Palanzo

Danbury Public Schools:

Assistant Superintendent
STEM Principal
K-12 STEM Curriculum Administrator

Dr. Bill Glass
Ms. P. Joaquim
H. Rosvally, Jr.

Design Team – Fuller and D'Angelo, PC:

Lead Architectural Principal
Chief Designer
Project Architect

Joseph Fuller AIA
Said Zomorrodian
Frank DiFato RA

Engineers

Lead Engineering Principal
Mechanical Engineer
Electrical Engineer

Ryan Malin PE
Joseph Macaluso, PE
Fred Michelson, PE

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CREATING THE CONCEPT DESIGN:

The programming and planning of the project started with the site containing an existing Intermediate (K-8) school building which, after the existing functions are vacated, shall provide a building shell for rehabilitation to a Middle school (6,7-8). It should be noted that the building may require a new roof as it has exceeded its life expectancy and further, many floor finishes shall require to be replaced. The brick exterior appears to be satisfactory and it should be noted that the windows are nearing their life expectancy. However, appear adequate though not very energy efficient.

The program and enrollment were two very differing factors for this particular school, the program consisting of two existing schools being married into one facility and sharing the building assets including the offices, gymnasium, new music spaces, new Media Center and Cafeteria expansion. The Cafeteria also contains a stage.

The enrollment coming from an existing STEM Program located at Rogers Park MS (Rogers) which will allow for further expansion also within Rogers and from AIS as it expands its program from the current K-5 educational arrangement at the Magnet School to include a 6, 7 and 8th Grade Program in the oncoming years.

- A. Firstly, the design team reviewed all of the existing school and their programs at STEM and AIS. They met with the principals, educators and the City to confirm information and gathered data. All can be found in the Appendix of this report. Program Data as a summary is included within this section showing the new program requirements for the building. Objectives were determined which include fitting all students within the existing building proper with a minimal of additions to keep very reasonable City expenditure and budgeting for the expansion of this schools, in this current economy.

Current space conditions include larger size classrooms 900 sq. ft. and further information can be found in the attached Existing Plan of the school. A chart indicates the various new room spaces to be configured into the new Middle School also.

The current spaces are very different in size, shape and complexity, and are being readjusted and reviewed to "make up" a better **Middle School from the former Intermediate School**. It should be noted that the originally this building was K-8 and most areas are sized appropriately for a new 6, 7, 8 School. Other classrooms, which include older Kindergartens shall be fully remodeled, to have the inner-Kindergarten toilets/sinks removed, and become more streamlined for middle school classrooms.

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- B. The planning criteria were analyzed as well as the building, and the concepts for the addition easily conceived, expanding the Cafeteria northward and further to the north, a new Media Center. Input received from various parties noted that the Music Suite near the gymnasium, which are both isolated from the main classroom building, which serve the school best with regard to sound and keeping the sound isolated and further away from the classroom educational spaces.

SUMMARY OF DISCUSSIONS:

- C. The program, as reflected in the chart, conveys the existing spaces within the building.

Discussion with regard to the programming can be found in greater detail in the Appendix in the Minutes of Meetings. Further, agencies were closely discussed as to how they could better the educational program and also delivery an environment for the children, administrators and staff within the facility to better respond to educational issues, keeping the Cafeteria, Media Center, Gymnasium and Music Suites in the "center" of the building to better respond to these needs.

SPACE PROGRAM REQUIREMENTS:

- D. Space program requirements were reviewed again with the Administration and the City with regard to new spaces required. This is based on compromises between the City and Administration with regard to the sizes of the Science Rooms, however, with the addition of two new Engineering classrooms, which are 2000 sq. ft. in size. Further, a new state-of-the-art Media Center, which includes a computer center, AV area, expansion into a section of the Cafeteria during non-cafeteria hours, and other such flexibilities and improvements, will allow a maximum style program design all within a limited space of the existing Mill Ridge Intermediate School. These design concepts are important to be kept and spaces enhanced during the all important Schematic, Design Development and Construction Document Phase of the project, to turn the building into a proper Middle School.
- E. The final program and design concepts took into account zoning, circulation, increased parking count and other site requirements. All noted items were considered in the concept design. A new parking configuration has been decided to be an alternate cost.
- F. The next step was costing and budgeting for the design solution. Concept plans were derived for the building addition and submitted to Construction

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Program Solutions (CPS) for professional cost estimating of educational facilities.

Mr. Stuart Schiller then provided take-offs analyzed with the Architect's input including the quality of materials for construction, the areas and noted items, and provided final budget estimates based on the scope of work reflected for the addition. It should be noted that many Alternates are being conceived for this building, which shall require further investigation including destructive testing in order to come to final budgets. Currently, a higher contingency is being included in this building so as to properly budget for unknowns.

Also, the roof replacement, new front entrance curtain wall and the Parking/new Drop offs with related site work was included in the cost estimates, however as an alternate, due to overall costs of the project. See the appendix.

- G. Both the design concept and also the budgets shall be reviewed by the City of Danbury and Board of Education seeking budget approval after a PowerPoint slide presentation is made by the Architects.
- H. The Board of Education shall be required to approve this feasibility report and authorize the Superintendent's office to submit the Grant Application to the State of Connecticut Bureau of School Facilities in Hartford to commence this project.

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SECTION 2: EXISTING BUILDING AND PROGRAM

The current building consists of 65,500 square feet and contains an exterior covered area of approximately 1,200 square feet bringing the size to 66,700 square feet.

Mill Ridge Intermediate School was originally constructed in 1958 and received an addition which consisted of a new Gym and Media center in 1972. Afterward the building has received a few upgrades and adjustment of various existing spaces completed to meet new Educational programs, including Head Start in 1991.

The total interior gross square footage is 65,500 including the Curriculum Center structure.

The building consists of an "S" shaped building with two classroom wings and a central assets core including Cafeteria, main office area and a wing connecting to the Gym and present Media Center.

The school building sits at the end of School Ridge Road and, upon entrance to the site, one faces directly the front lobby area. The school is currently adjacent to a Federal Housing program to the east.

The site is elevated on top of a hill and good drainage exists around the entire site. The playfields are to the north of the building and contain 5+/- acres of athletic fields. There is also a currently playground to the west of the school, smaller in nature, in between the building and the adjacent wooded area nearing the West side property line.

The original building was designed as educational usage and currently in the building to the east of the Gymnasium and Media Center is a standalone structure of approximately 4000 sq. ft., which currently houses the Danbury District Curriculum Administration Offices.

The building inherently is a single level structure and has handicapped accessible corridors; however, other issues such as doors, clearances toilet areas and ADA issues require to be addressed with a remodeling of this building.

The school building currently has a gymnasium of 5,200 sq ft to the north of the building proper.

It is our understanding that the existing programs within the school building shall be relocated by Danbury Public Schools and City of Danbury, and that the school shall become vacant in order to remodel, modernize and prepare for a new Middle school curriculum.

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Currently, the City of Danbury and Board of Education have slated that both the STEM program (Science, Technology, Engineering and Mathematics) from Rogers Park Middle School and also a continuation of AIS (Academy of International Studies) shall be moved to this structure. STEM would be relocated, thus providing more space at Rogers and AIS would continue its K-5 program by adding Grades 6, 7 and 8 to the Mill Ridge Intermediate building.

It is thought that AIS would occupy one half of the building and STEM the other half, and that the current assets and new spaces would be share including Main Office, Cafeteria, Gym, Media Center, Music and other such easily shared areas of the school.

Our firm has visited and reviewed programs at both AIS and STEM, and attached to this report are Minutes of Meetings in the Appendix which show in detail various aspects of each school which should be included. For STEM's program two special Engineering Laboratories and for AIS two larger Music Suites and for both a state-of-the-Art Media Center shall be constructed as an addition to the current building.

It should be noted that all classrooms do have natural light and we have provided a layout which fits approximately 600 students within the current building. It should be further noted that science classrooms are slated to be regular classroom size since the engineering areas can be used as the classroom areas.

The current corridors are narrow and shall require including lockers, either built within the existing corridor walls (smoke rated) to the classrooms or with the creation of locker alcoves. This schematic, design development and construction document work goes beyond this current concept phase.

The existing bathrooms within Mill Ridge Intermediate are original and require upgrades due to Codes and the need for more modern facilities. A full rehabilitation of every bathroom and additional toilets within the school are required to meet a new Middle School level of finish.

Below please find the current Mill Ridge Intermediate plan, which was re-drafted in AutoCAD from existing documentation provided by the City of Danbury.

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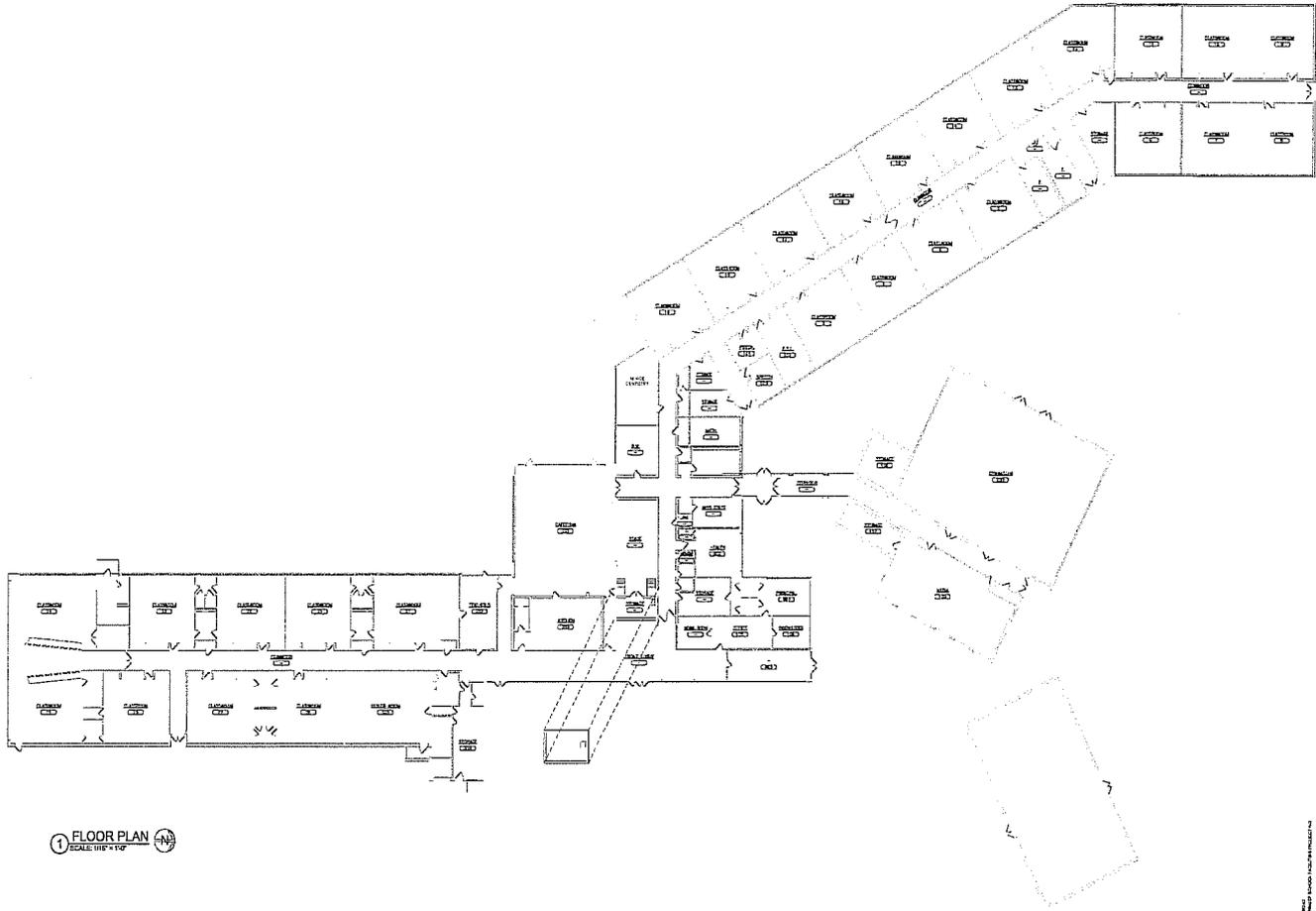
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1 FLOOR PLAN

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Further, in order to relate to the new program, please find below in table P1 the anticipated AIS and STEM program for spaces.

Mill Ridge Intermediate School
STEM and AIS Academies

Classroom Chart per grade

Grade	New
Classrooms	
STEM 6	4
STEM 7	4
STEM 8	4
AIS 6	4
AIS 7	4
AIS 8	4
STEM SPED	2
AIS SPED	2
ESL	1
World Language	2
Engineering Class/ Labs	2
Music	2
Art	2
Computer	1
Media	1
Cafeteria/ Aud.	1
Gym	1
	41

P-1

Danbury requested that both of these programs fit the current school footprint as much as possible with the creation only of minor additions as to fit within a budget parameter set by Danbury Public Schools.

The existing building will require a great deal of modification especially in the southern wing in order to be re-modeled and be able to conform to various codes and the level of education spaces required for this new 6, 7 and 7 Grade facility.

**CITY OF DANBURY
MILL RIDGE INTERMEDIATE/STEM AND AIS SCHOOLS**

Submitted by: Fuller and D'Angelo, PC
Architects and Planners

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Date: May 29, 2012

BUILDING INFRASTRUCTURE OVERVIEW

Mechanical/Electrical/Plumbing for the Mill Ridge Intermediate School were reviewed with the Architect and also AKF Engineers. As part of the conceptual feasibility requirement, AKF was asked to visually review the school's existing spaces and comment on the Mechanical/Electrical/Plumbing systems of the school to determine the impact of a proposed building addition of the school complex.

Information of the systems can be found below as well as a brief description of a conceptual scope of work for new Mechanical/Electrical/Plumbing systems for the addition.

1. Mechanical

Heating Plant: Two gas/oil fired steam boilers of 3467 MBH each. Gas service from Yankee Gas is pending service line installation. Boilers are new; installed last year in boiler upgrade project. The capacity of each boiler with the proposed building addition is 100% of full load and is sufficient for the planned additions to the existing school building. Heating is provided by perimeter steam radiation. Recommend new hot water loop for proposed addition to be run outside building to facilitate installation.

Existing classroom ventilation is provided by exhaust. New classrooms should be provided with ventilation supply systems; recommend heat recovery type rooftop systems.

Currently the existing Media Center is the only air conditioned space. The proposed new Media Center addition should also be air conditioned; recommend 15 ton rooftop air conditioning unit based on proposed area.

Automatic control system is pneumatic and can be extended into the proposed addition.

The existing Curriculum Building has its own HVAC systems independent from the existing school. This building was not accessible, but for purposes of this overview it is assumed that these systems will be sufficient since there is no planned change in building area. New classroom ventilation systems will be necessary for the change in use; recommend heat recovery type rooftop systems.

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2. Electrical

Electric Service: 600Amp rated at 480/277Volt, 3Phase, 4Wire, 60Hertz from an interior transformer vault on utility meter #89011051. Service switchboard appears original consisting of main fused switch, metering compartment, and circuit breaker distribution. Interior transformers are located in select areas of building to derive the lower utilization voltage of 208/120Volt for equipment and outlets.

Electric Upgrade: The peak KW power demand over a 2year period will be required from Utility Company to determine available capacity in the service for the approximate 50KW of diversified load by the planned addition. Due to age and inadequate working space about the switchboard, replacement in a new electric room is recommended. Subject to available service capacity, a 800 or 1200Amp service size is anticipated and a new exterior pad mount transformer typically is required by the Utility Company.

Intercom/Public Address: Bogen switch rack interfaced to the building telephone system with administrative desktop phones as the primary means for communications. Rack is an older generation, appears serviceable, and capable to support the planned addition with some upgrade to switching.

Clock: Lathem programmable master clock controller with synchronous or impulse signaling to hard-wired clocks. Controller is an older generation, system appears serviceable, and capable to support the planned addition with the aid of booster power supplies.

Fire Alarm: Simplex control panel with zoned peripheral smoke detectors, pull stations, audible/visual signals, and auxiliary devices for other systems. Panel is current, peripherals are old, system appears serviceable, and capable to support the planned addition with the aid of booster power supplies and additional controls. ADA compliance of the visual signals requires further evaluation with potential replacement and additions.

3. Plumbing

Water and sanitary Service: City water supply and sewer connection.

Domestic Hot Water: Oil fired with separate storage tank. Water heater is new; replaced under boiler replacement project.

Gas service: Pending utility installation.

These services are sufficient to support the planned addition with no expansion of the kitchen.

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SECTION 3. ENROLLMENT REVIEW MILL RIDGE MS ENROLLMENT PROJECTIONS

City of Danbury received a report dated November 21, 2011 from Peter M. Prowda, PhD, for Danbury Public Schools enrollments projections through 2021. After their review, Danbury quickly reacted to the projections by requesting the Board of Education and other City personnel to come agreement on how the projected increase of students would be handled throughout the District. As in the other reports regarding Danbury Elementary Schools Projections please find below the District's situation with regard to the Middle School student population increases. Our understanding is that since programs within the current Mill Ridge Intermediate School shall be moving to another location, it makes available this building complex to become a new Middle School.

Below please find the Danbury projected enrollment chart and Connecticut State pattern. In comparison, one can easily see the anticipated increase within Danbury.

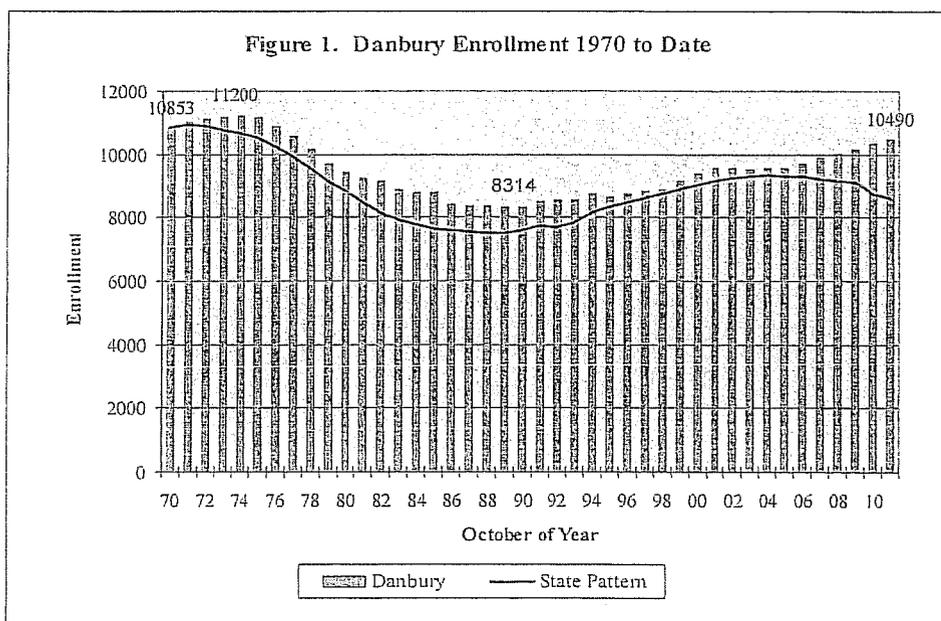


Figure 1

It is apparent as one views towards the right-hand side of the chart, that Danbury is exceeding State patterns. This is most probably due to the fair business and housing environment within Danbury during current economic times, with the tax base being

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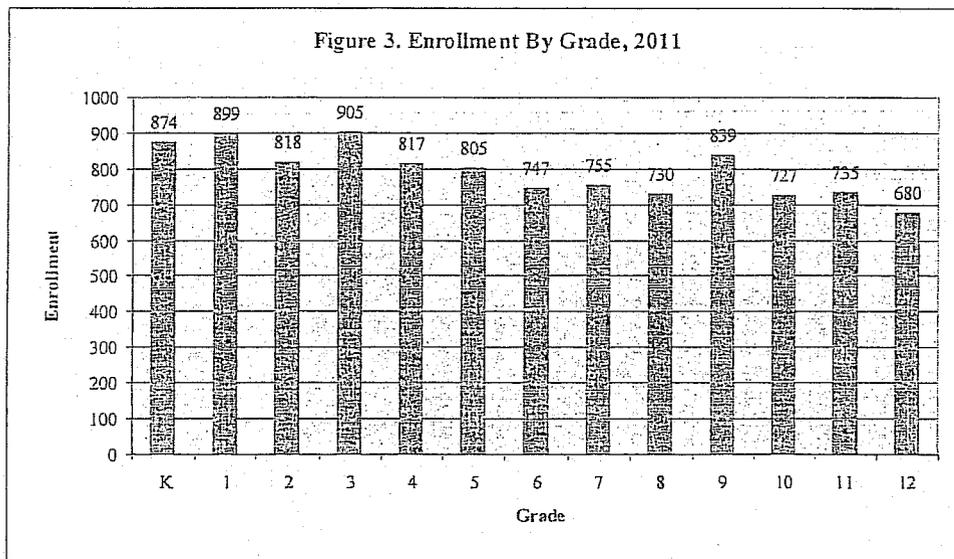
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lower than adjacent towns and cities. Also with a higher rental property distribution, this increased enrollment conclusion appears easily evident.

Please see below the Figure 1 chart below which was extracted from the report. The report notes that the Danbury School Organization of K-5, 6-8 and 9-12 should be self-explanatory and the report includes 41 years of enrollment for a wide historical prospective. The report also includes its projection methods, total district enrollment, enrollment by Grade and other such valuable planning information.



One can see that high enrollment figures in grades 2, 3 and 4 shall shortly (within the building program timeline) be in the Middle School classes and require additional space within the District relatively soon. Inclusion of these student population increases require to be addressed immediately. It should be noted that State approvals, design documentation and bidding and construction through to project completion may take two to three years.

Danbury has concluded that the population required to be enrolled within the new AIS/STEM Middle School at Mill Ridge is approximately 600 students. This building was requested to be designed at maximum capacity with a high efficiency ratio.

The enrollment is projected to provide four classrooms, per grade, per school, 6, 7, 8.

The classrooms shall consist of English, Math, Social Studies and Science, including Special Ed, Art, Music and World Language.

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All parties discussed that the English, Math, Social Studies and Science classrooms for each grade of both schools would be the size of most of the existing classrooms. This average is 900 gross sq. ft.

It should be noted that these are slightly larger than some new English and Math classes, however, also slightly smaller than a modern Science Room. It should also therefore be noted that two Engineering Rooms are being built in order to be shared as part of the design solution for this population and science classroom size confinement.

The new projected enrollment of 600 children divided by the 65,500 square foot figure of the final Middle School building will result and provide 109 sq. ft. per student.

With Grades 6, a 152 maximum allowable square footage per person and for 7th and 8th grade at 176, this figure of 109 is well below same.

One can find the construction space requirements below and in full in the Appendix of this report.

Projected Enrollment	Grades				
	Pre-K and K	1 to 4	5 to 6	7 to 9	10 to 12
	Maximum Allowable Square Footage per Pupil				
0-350	124	124	156	180	194
351-750	120	120	152	176	190
751-1500	116	116	148	170	184
Over 1500	112	112	142	164	178

It appears with the above figure, the District should be allotted full reimbursement for its State Grant compilation purposes.

The full enrollment report can be found in the Appendix.

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SECTION 4. CONCEPTUAL DESIGN SOLUTION

With regard to the current school complex site, firstly the wetland areas were reviewed and investigated, none are present and it should be indicated also there are no floodplains are within the Mill Ridge site.

On both the south and north sides of the site, building additions would be very are limited. Further, to the east side of the current building, lies the existing bus and parent drop off areas, parking and directly east of these areas is the current Federal Housing Project. It is therefore apparent that the most logical space to construct an addition is to the west. The spaces within same shall be discussed shortly, along with the design approach for expansion.

It should be noted on this west side there are also no underground obstacles which are apparent on current surveys.

Site circulation was reviewed and the existing parking areas and existing bus drop off areas require improvement. They are currently mixed in front of the school building. Our aim is to provide a continual path for both buses and cars, which are separated as much as possible for additional student safety.

Our alternate site work concept solution is to provide bus drop off and pick up in front of schools, providing adequate stacking space for buses in the afternoon. Likewise, with parent pickup, this would be performed from a peripheral road ending in a curb pick-up area to the north side of the school which will also provide an increased queuing length for student pick up in parent vehicles, thus eliminating the current site vehicular congestion. By also providing additional parking to the north of the building, a proper adjacency for the athletic fields for weekend use by the community will also be provided.

The athletic field is large and appears adequate for the school.

Further, part of the program requirements for the Middle School shall be to provide additional parking for the increase in administration and staff

The building site selection previously noted to the west of the existing Cafeteria does not block any current classroom spaces nor the windows within same.

Our understanding of the projected Danbury program is that twelve classrooms per school are required, four for Grades 6, 7 and 8. Further, one quarter of Special Education rooms for each Grade and, as agreed, an additional two Engineering rooms, two larger Art rooms, two larger Music rooms and two World Language labs would be included to be shared by the entire school population.

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Below please find the agreed new Middle Schools program as was designed towards by the architects.

Mill Ridge Intermediate School
STEM and AIS Academies

Classroom Chart per grade

Grade	Existing	New
Classrooms	28	
STEM 6		4
STEM 7		4
STEM 8		4
AIS 6		4
AIS 7		4
AIS 8		4
STEM SPED		2
AIS SPED		2
ESL		1
World Language		2
Engineering Class/ Labs		2
Music		2
Art		2
Computer		1
Media	1	1
Cafeteria/ Aud.	1	1
Gym	1	1
	31	41
		10

This is a slightly limited educational program to be provided within the school, however, appears feasible within the budget constraints of the City of Danbury. With proper design, program spaces within each of the remodeled existing classrooms can provide a valuable, proper educational environment.

It should be further noted that the Media Center with its new 4,500 sq ft size shall also contain state-of-the-art Computer area, Reading room, Media Room and Audio Visual component. It shall be able to expand its program to the Cafeteria addition when not in lunch period time slots.

The existing Cafeteria does include a stage, which shall require some ADA modifications for accessibility, however also can provide a valuable flexible theater space, sound system and lighting improvements are recommended.

The current Media Center in the school on the opposite side of the corridor from the gymnasium shall be re-programmed to two new music suites. This shall provide two oversize Music Rooms allowing for instrument storage and the spaces after being fitted with proper acoustical absorption panels shall provide for unique music spaces. It should be noted that these spaces, are isolated by the long corridor from the school,

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this is important with regard to not disrupting the educational classroom programs with the musical sounds from same.

The gymnasium space of 6,200 square feet appears appropriate. We would add a locker room space for separate boys and girls changing from street clothing to appropriate athletic wear. There would be 60 lockers for the in class and next class overlap scenario. This space would have cubby type lockers and placed adjacent to the gym area. Consideration should be given to replacing the floor and providing more energy efficient windows. As we understand, within winter months this space becomes extremely cold. Further, mechanical systems within same are outdated and should be provided on the roof top in lieu of within the space as the current unit is extremely noisy.

The two new engineering classrooms shall be place within the current educational curriculum building which shall receive a full renovation. New floors, walls and perhaps an open ceiling shall provide a high-tech environment for these new state-of-the-art Engineering areas.

The Cafeteria expansion would be included of approximately 1,200 sq ft in order to provide additional tables and allow for a three to four periods lunch within the school. The current kitchen serving area should be doubled and provided for also on the other end of the kitchen along the path from the front entrance lobby through the serving line to the Cafeteria as does the existing service line path. This would decrease the amount of time it requires for a full lunch period of students to acquire their food and be seated.

Special Education rooms (SPED), and World Language rooms would also be provided with proper spaces and FFE to help educate the children.

Attached and below please find a new floor plan which depicts spaces as noted above:

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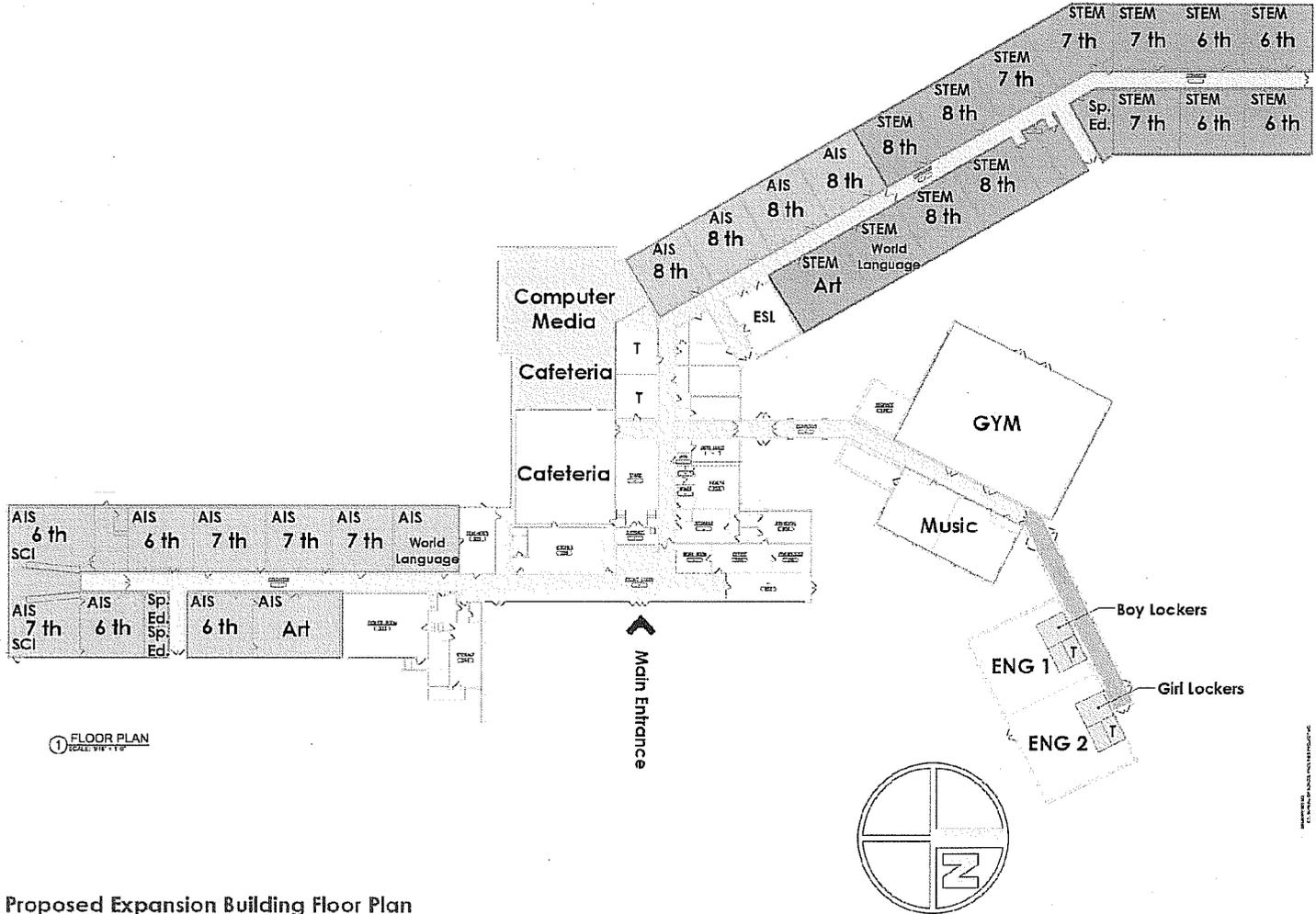
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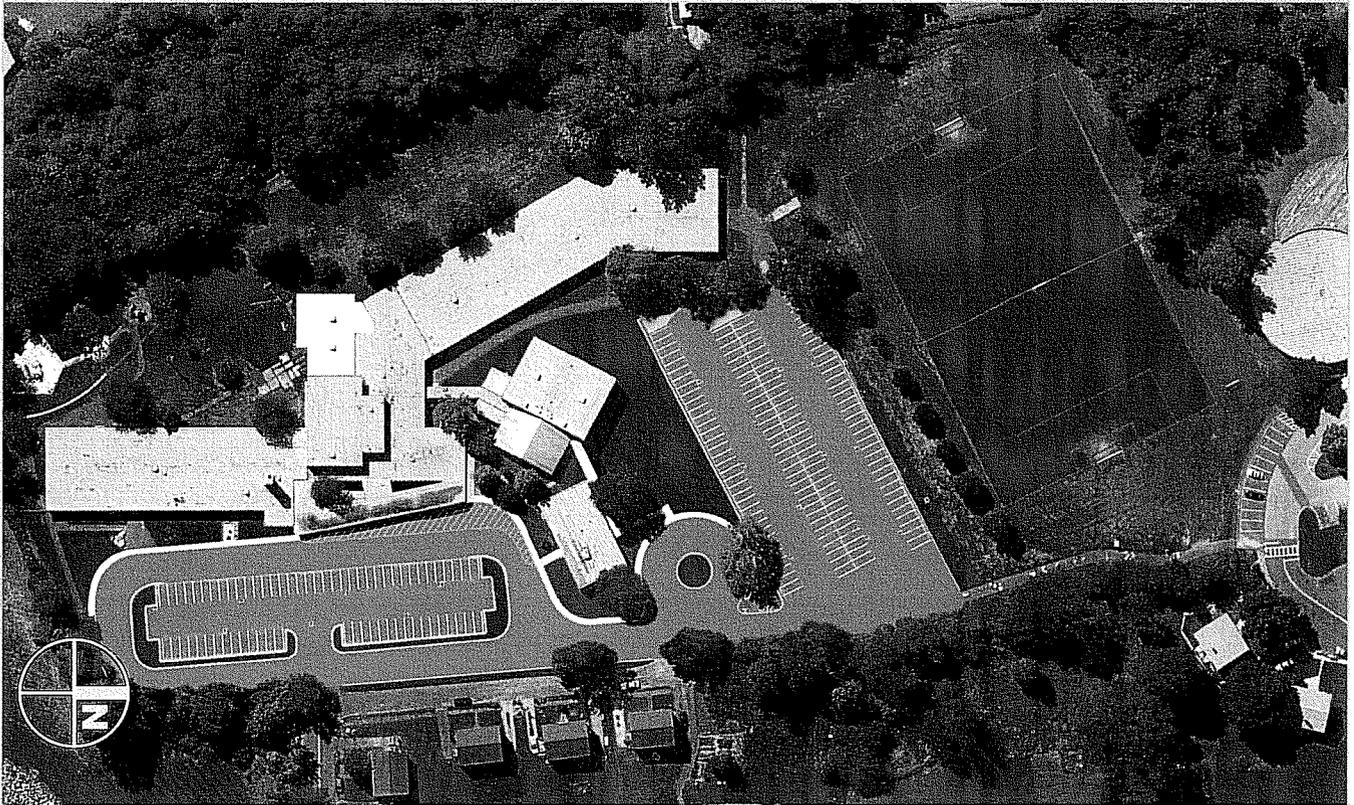


Proposed Expansion Building Floor Plan

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The Aerial overhead view shows the addition area to the West of the existing cafeteria and the intended new parking areas and vehicular circulation areas around the school.



Overall site Plan
Larger scale attached

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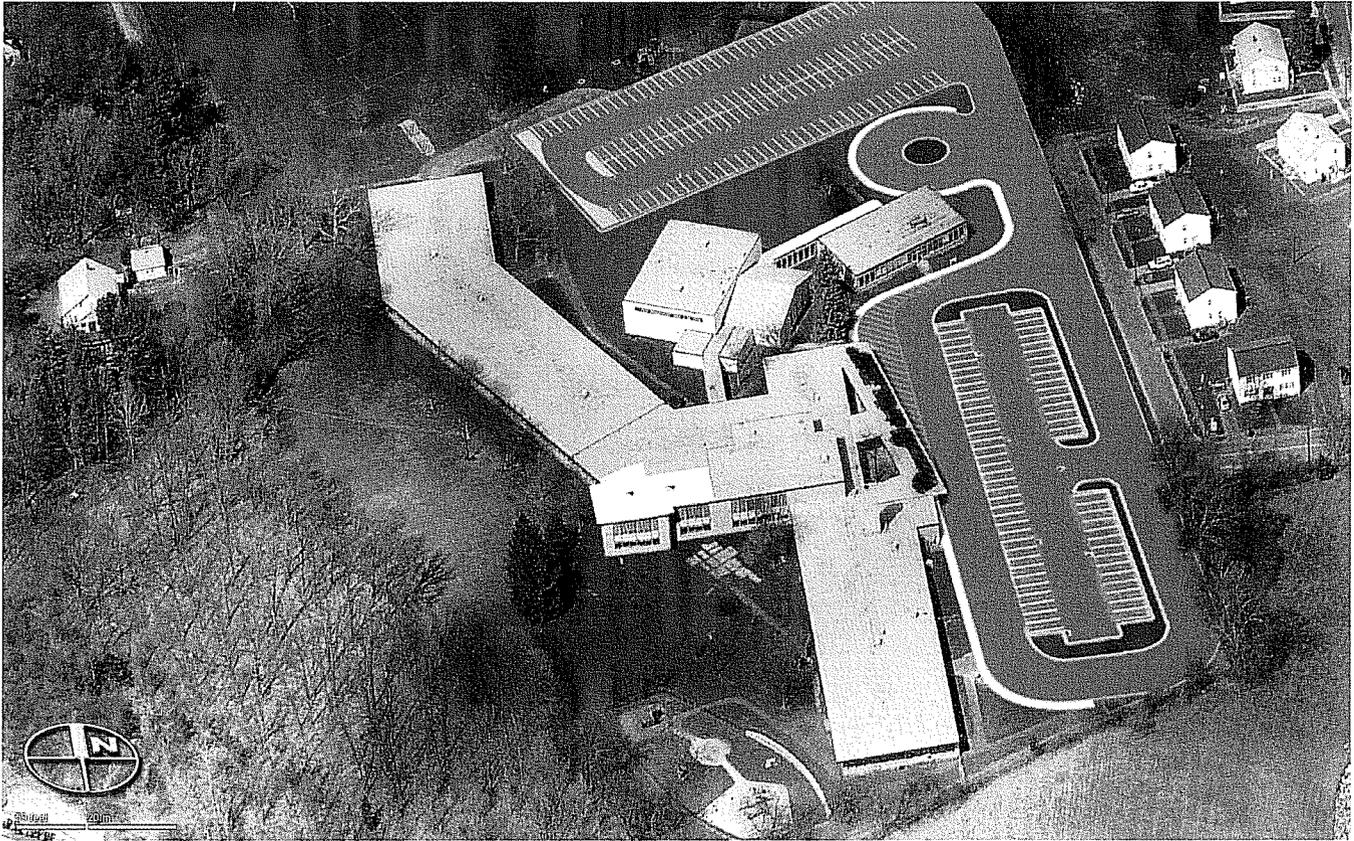
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Further, please see the prospective aerial view of the intended addition. This depicts a possible façade of the addition as described. The roof is depicted in white.



The rendering look from south to north in direction.

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COST ESTIMATING AND DESIGN, APPROVALS and CONSTRUCTION SCHEDULE

Professional Cost Estimating has been completed for the selected design solution, as performed by CPS Construction Program solutions, Inc. Mr. Stuart Schiller has been providing this service to Architects, CM's and Owners for numerous years and is close to many School building industry contractors being able to gauge current pricing levels of school construction.

The estimates include the hard cost subtotal of construction. In addition to this figure, material and labor escalation is added. The escalation is to the midpoint of construction duration. This is an estimated percentage of 4%. Also, a contingency at this early stage of the project at 15% is added. All of these items total the hard cost figure.

Costs were reviewed with the City and alternates selected to add to the projects should the budgets allow for same, alternates were selected to define specific work areas or groups of projects, i.e. parking is estimated including new curbs, walks, drainage, site lighting and landscaping items of work.

Soft costs are then added including, A/E/Hazmat fees, borings, FFE, IT, surveys, legal, bonding costs, etc. This amount is estimated at 28%.

Please refer to the attached "Notes" and "Conditions and Qualifications" for additional information.

Alternates:

Parking and traffic circulation, this would improve traffic flow and better distribute cars and busses on the site.

Roofing work is also an alternate, though the roof has met its life expectancy. This is an important item to protect the new interiors.

The front curtain wall glass replacement to better identify the Schools via aesthetics is also a selected alternate by Danbury.

Schedule:

A preliminary schedule is added at the end of the Appendix which reflects the known timeline at this stage of the project.

**CITY OF DANBURY
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Mill Ridge MS

NOTES

- 1 - UNIT COST IN 2012 DOLLARS
- 2 - ESCALATION FACTOR OF 4% TO MIDPOINT OF CONSTRUCTION (APRIL 2014)
- 3 - ESTIMATING CONTINGENCY OF 15% TO BE REDUCED UPON DEVELOPMENT OF FINAL PROGRAM AND SCOPE
- 4 - SOFT COSTS OF 28% INCLUDES PROFESSIONAL FEES, INVESTIGATIONS AND TESTING, OWNER COSTS, FFE, CONTINGENCY, ETC.
- 5 - ELEMENTARY SCHOOL ROOF REPLACEMENT NOT INCLUDED IN BASE BID.
- 6 - TRANSFORMER TO BE REMOVED FROM INTERIOR AND NEW TRANSFORMER INSTALLED AT EXTERIOR. ASSUMES ELECTRICAL SERVICE FEEDER AND CONDUITS TO BE RE-USED

CONDITIONS AND QUALIFICATIONS

- THIS COST ESTIMATE IS BASED ON CONCEPTUAL SKETCHES PREPARED BY FULLER & D'ANGELO, P.C.
- BIDDING IS ASSUMED TO OCCUR IN SPRING 2013.
- CONSTRUCTION PERIOD IS ASSUMED TO BE JULY 2013 THROUGH DECEMBER 2014.
- PROJECT TO BE PUBLICLY BID WITH AT LEAST 5 BIDS RECEIVED FOR EACH PRIME CONTRACT.
- PREVAILING WAGE RATES APPLY
- NO COSTS ARE INCLUDED FOR OVERTIME/PREMIUM LABOR EXCEPT WHERE REQUIRED FOR "SWITCHOVER" OF MECHANICAL AND ELECTRICAL SYSTEMS.
- NO COSTS ARE INCLUDED FOR CONSTRUCTION OF TEMPORARY CLASSROOMS OR OTHER SPACES FOR PHASING.
- THE ESTIMATE DOES NOT ACCOUNT FOR UNUSUAL MARKET CONDITIONS SUCH AS LABOR AND/OR MATERIAL SHORTAGES, AVAILABILITY OF BIDDERS, INFLATION, AND O

SECTION 5. APPENDIX:

MINUTES OF MEETINGS
ENROLLMENT STUDY DOCUMENT
AERIAL VIEWS EXISTING SITE
SITE PLANS & BUILDING PLANS
MAPS
COST ESTIMATE
SURVEY
SCHEDULE
SOIL BORINGS SUMMARY AND DATA SHEETS

**CITY OF DANBURY
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45 KNOLLWOOD ROAD, ELMSFORD, NEW YORK 10523

NICHOLAS A D'ANGELO, FAR
PRE

JOSEPH FULLER J
EXECUTIVE VICE PRE

JOHN D'ANGELO
EXECUTIVE VICE PRE

APRIL 10, 2012

MINUTES OF MEETING NO. 1

DATE: APRIL 5, 2012
 RE: CITY OF DANBURY
 ARCHITECTURAL/ENGINEERING SERVICES
 CITY OF DANBURY
 FEASIBILITY STUDIES:
 MILL RIDGE MS AND 3 ELEMENTARY SCHOOLS
 F&D PROJECT NO: 12083.00
 PLACE: CITY OF DANBURY
 PRESENT: A. IADAROLA - CITY OF DANBURY
 F. KHOURI - CITY OF DANBURY
 R. PALANZO - CITY OF DANBURY
 D. STASNY - CITY OF DANBURY
 S. ZOMORRODIAN - FULLER AND D'ANGELO, PC, ARCHITECTS
 J. FULLER, JR. - FULLER AND D'ANGELO, PC, ARCHITECTS

THE FOLLOWING WAS REVIEWED:

1. A. Iadarola opened the meeting and noted, that, per the architect's proposals, the various schools should be reviewed, reflecting the district's discussions between the Board of Education and the City of Danbury as to the expansion capacities at each of the buildings. A. Iadarola noted that the enrollment increases at the various elementary schools and Mill Ridge ms are not direct enrollment figures, however, also include student capacities from "sister schools" in order to relieve some of the enrollment capacity overruns at other schools. Sister school references are to be included in the feasibility report.
2. The architects noted that as well as student enrollment, they need to review the number of buses for both current and future capacities of the schools and sites.
3. Danbury has determined the school capacities along with other studies i.e. The Savin report with John Chardavoyne figures.
4. A. Iadarola reviewed various files for each of the projects including Park Avenue, Great Plain and Shelter Rock ES and also Mill Ridge MS.
5. Each school had figures, square footages, additions, enrollments and basic programming discussed.
6. A. Iadarola noted the architects should contact Bill Glass in order to further discuss various programming issues.
7. The architects noted that in some cases it may be more prudent in a school, as an example, to take an existing 2,700 sq ft library and turn it in to three (3) 900 sq ft classrooms and build a new media center for the school versus providing an addition of three

CITY OF DANBURY
FEASIBILITY STUDIES:
MILL RIDGE MS AND 3 ELEMENTARY SCHOOLS

- classrooms. This is dependent on proper school function, space adjacencies and flexibility of program in regard to the existing layouts.
8. A. Iadarola noted that he met with all of the principals – Bill Glass and others on 1/17/12 and reviewed the various schools that should obtain an addition.
 9. The first school is Park Elementary School which is slated for an addition of three k-2 spaces and five 3-5 classroom spaces as well as other ancillary and support space increases.
 10. It was noted that the cafeteria can have a maximum of five shifts.
 11. It was noted that the net to gross ratio should be 1.52 for pre-design purposes.
 12. It was noted that the square footage addition should be approximately 11,0000 sq. ft.
 13. It was noted that the two sister schools for Park are Morris Road and Mill Ridge ES.
 14. The above figures were noted by Danbury and the totals for this school should be 13 classrooms of 22, grades K-2, 8 classrooms at 25 for 3-4, and 5 classrooms for the 5th grade at 25. Of course, grades 3, 4 and 5 should be flexible and interchangeable dependent upon total grade enrollment for any particular year.
 15. All parties noted that there is some large storm drainage piping on the south side of the school.
 16. It was noted that the Park Avenue fields are heavily used on the weekends and after hours by the community.
 17. Discussions took place with regard to two possible locations for an addition.
 18. It was noted that there is no cooking at any elementary schools. Kitchens are to be warming and serving kitchens only. At Rogers Park Middle School, all of the cooking is performed.
 19. The Architects were given various plans for the building, the enrollment figures and other Danbury capacity paperwork. The Architects were asked to provide conceptual designs for each of the elementary schools and also look at bus and vehicle circulation within the sites.
 20. Architects were given direction with regard to including at Park ES separate art rooms, music rooms, language rooms, and ESL, at each of the elementary schools.
 21. The Architects were forwarded existing classrooms usage drawings from each of the principals, to use for current space identification.
 22. Great Plains ES: It was noted that currently there is an art room, music room and computer room, within the school.
 23. It was noted that the sister schools to Great Plains School are Stadley Rough and Hayestown.

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24. It was noted that existing student enrollment is current 372, an addition of 97 students along with sister school overflow is anticipated for a new grand total of 469 students.
25. It was noted that it is possible within the existing school to reclaim one classroom.
26. It was noted that an addition should be planned to include one classroom of 22 students and three classrooms of 25 students.
27. It was noted that currently there are only 314 students in this school building and/or the school is only at 84% capacity.
28. It was discussed that schools should be design to full capacity. The Architects shall further review.
29. It was noted that this school also houses three special education classrooms for district-wide use at approximately six students per classroom, Room numbers 15, 16, and 4.
30. Various further data information was forwarded from Danbury for this building.
31. Shelter Rock ES: Shelter Rock School was noted to have two sister schools, South Street and Ellsworth (the downtown school).
32. It was noted that existing enrollment is 431 and it is anticipated that 199 student increase in population will take place.
33. Danbury noted that two classrooms at 22 and three classrooms at 25 have been confirmed to handle the increase with support spaces.
34. The Architect questioned how many kindergarten classrooms. Danbury noted that the Architect should speak with Bill Glass.
35. It was noted that the addition should include approximately 6,900 sq. ft.
36. It was noted that currently an art room is being used as a classroom and should be reconverted to art, however, there is currently no music room, which should also be added.
37. General Information: The Architect noted that as well as the addition of classrooms and increasing student populations, school plumbing counts need to be confirmed in order to analyze whether additional toilets will be need for these facilities.
38. The Architects also noted that further planning meetings with Bill Glass and Marg are needed to review spaces and busses. This should take place as soon as possible. **Thursdays at 2:30 has been proposed – starting this Thursday. This still has to be confirmed.**
39. The Architect noted that weekly meetings should be held for the next three weeks in order to progress smoothly through the feasibility study process, attain confirmed results and prudently expedite the project.

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40. The Architect noted that, per their discussions with Danbury, all of the additions need to be handicapped accessible, however, this may not affect the handicapped accessibility in the entire remainder of the school buildings as they exist.
41. Danbury did note that many ADA improvements have been made to many of the schools in past projects.
42. Mill Ridge Intermediate School: It was noted that Mill Ridge Intermediate School will turn into two academic schools - STEM and AIS.
43. The Mill Ridge school cluster will include Rogers Park and Broadview.
44. The current capacity noted by different ratings is 550 and in the Savin Report, 570. After discussion, it was agreed to use a 560 student count enrollment for the current school.
45. It was discussed that after various programs, including head start. The Mill Ridge School as a building has a current enrollment of 278 students.
46. This school should be designed for 6, 7 and 8th Grade levels meaning that some of the existing rooms which were previously kindergartens will have toilets required to be removed.
47. Danbury asked the Architects to clarify will Bill Glass the function ability of each of the academic wings to see whether separate Art and Science better fit the educational program or whether these specialty educational rooms should be clustered.
48. The Architects further need to review for each school the ESL, Administration and other functions.
49. The Architects were requested to upgrade the main entrance and overall appearance of the front of the Mill Ridge Intermediate School.
50. It was stated that most of the work at Mill Ridge Intermediate School is internal and not an external project having additions.
51. The Architects were requested to review the bus and pick up and drop off situation.
52. A. Iadarola requested Fuller and D'Angelo review the lowest floor area which currently exists at Stadley Rough. It was noted that there may be space available to create two classrooms, however, if not, these two classrooms would be required to be moved to Stadley Rough's sister school and be added the current proposed enrollment and addition.
53. The Architects were forwarded various plans for schools, which they shall scan and return to the City.
54. **A meeting should be scheduled for April 12 at 2:30 with Rick Palanzo. Danbury to request W. Glass to be present.**

CITY OF DANBURY
FEASIBILITY STUDIES:
MILL RIDGE MS AND 3 ELEMENTARY SCHOOLS

It is assumed that these minutes are a true summary of the meeting. Any corrections or omissions should be brought to the attention of the writer. If not, they will be considered substantially correct.



SUBMITTED BY: _____
JOSEPH FULLER, JR., AIA

JFF/CLS

CC: W. Glass (via City of Danbury)



45 KNOLLWOOD ROAD, ELMSFORD, NEW YORK 10523

NICHOLAS A D'ANGELO, FARA, CSI
PRESIDENT

JOSEPH FULLER JR., AIA
EXECUTIVE VICE PRESIDENT

JOHN D'ANGELO, ARA
EXECUTIVE VICE PRESIDENT

APRIL 16, 2012

MINUTES OF MEETING NO. 2 – FEASIBILITY STUDIES

DATE: APRIL 16, 2012
RE: CITY OF DANBURY
ARCHITECTURAL/ENGINEERING SERVICES
CITY OF DANBURY
FEASIBILITY STUDIES:
MILL RIDGE MS AND PARK, SHELTER ROCK AND GREAT PLAIN ES
F&D PROJECT NO: 12083.00
PLACE: CITY OF DANBURY
PRESENT: DR. W. GLASS - DANBURY PUBLIC SCHOOLS
R. PALANZO - CITY OF DANBURY
J. FULLER, JR. - FULLER AND D'ANGELO, PC, ARCHITECTS

THE FOLLOWING WAS REVIEWED:

1. Dr. Glass noted that he has discussed various expansions of the schools with the Administration and Engineering, and wants to ensure that proper programming is carried out with the planning of the new additions. Also, adjacencies were discussed and it was noted they are important with regard to the students and staffing flow. Proper adjacencies are necessary in order to enhance the educational program.
2. It was discussed that there are computer rooms in the various schools, however, some schools do not have same. Various spaces are being verified in the field by the Architect.
3. It was discussed that some Computer Rooms are currently housed within media centers where other activities could be taking place.
4. The Architect reviewed various expansion concepts for the three elementary schools, Park Avenue, Shelter Rock, and Great Plain, and noted one connecting corridor characteristic is to make the schools have better student flow. The Architectural planning process for the schools starts from two ends and converges toward the center concept. One end stems from enrollment, programming, educational specifications and the proper spaces and teaching areas being supplied within a school building for a denoted population. The design being flexible so that ease of additional classrooms per grade and / or interior adjustments are available in a streamlined manner.
5. On the other end, it is also important that school additions be placed on building sites where logistically they are easier to construct and provide proper construction space and interfere less with the ongoing educational process during their construction durations.
6. The Architect reviewed various areas on aerial photographs of possible building sites for the schools and these sites were narrowed down with regard to programming and logistics.

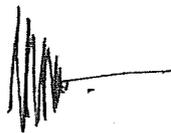
CITY OF DANBURY
FEASIBILITY STUDIES:
MILL RIDGE MS AND 3 ELEMENTARY SCHOOLS

7. The architects noted that the plans and sketches shown were conceptual in nature, and of course further studying, programming and building reviews are necessary to solidify this pre-design feasibility phase and its related work.
8. Discussions took place with regard to Mill Ridge Intermediate School and the concept of it housing STEM and AIS. Each program was discussed and reviewed with regard to their Mission Statements and Curriculum. It was noted that Science Technology, Engineering and Math have a program which the Architects shall request more details on.
9. It was noted that this program is heavily science and math oriented, and progressive with regard to IT infrastructure.
10. It was noted that both STEM and AIS shall be grades 6, 7 and 8th included. Classrooms, and specialty rooms for each of the different programs is to be included.
11. AIS, the Academy of International Studies, concentrates more on world language and the continents.
12. It was noted that the above schools can satisfactorily share both gym and cafeteria areas. It was noted though that each school should have some of the special characteristics which they currently have. The two schools would be in one building, however, along with one Administration hub.
13. It was noted that the Architects should speak with Danbury Administration to go over the PPS requirements for these schools.
14. It was noted that the main entrance should be designed in such a way to reflect the characteristics of each of the two schools and offer different entrances at each end of the current entrance lobby.
15. It was noted that STEM is an Intra-District Magnet School incorporating Broadview and Rogers Park Middle School.
16. Current and future bussing requirements needs to be discussed.
17. It was noted that the AIS School should attempt to incorporate an amphitheater, either indoor or outdoor, and it was also noted that the cafeteria is most likely in need of expansion.
18. It was noted that AIS is a very "green" program and requires a composting area, and would best serve students by entertaining a green house addition to the building.
19. STEM requires twelve classroom, four classrooms per grade, six, seven and eight.
20. The Architect discussed and it was confirmed that this portion of the school should be as hi-tech as possible with various technologies, collaboration, negotiation, ingenuity and creativity to the students. The engineering component is important to the curriculum.

CITY OF DANBURY
FEASIBILITY STUDIES:
MILL RIDGE MS AND 3 ELEMENTARY SCHOOLS

21. It was discussed that perhaps Michael Kerwin of R.G. Vanderweil Engineers, should be contacted in order to provide a summary of the latest 6, 7 and 8th Grade technology delivery systems available.
22. It was noted that the Mill Ridge Intermediate Magnet School was originally built as a K-6 building and that the kindergarten spaces would require to have toilets removed and a lot of upgrading done to make the school a proper 6, 7 and 8th Grade school. Further, other projects within the school since its inception, include the head start program and the even start programs, which have altered the interiors of the building, as required by these previous projects.
23. It was noted that during renovations of this building, the building would be empty of students.
24. It was further noted that the older superintendent's office currently called the Administration Building which houses coordinators of the district including, math, science, humanities, etc., could be made available should the space program require same.
25. It was noted that the housing project should be screened and that bussing and car drop-off needs to be reviewed and needs to be improved with regard to the current circulation.
26. The Architect noted that he would visit the current AIS school in order to review and observe more closely the program to better facilitate criteria for the feasibility report.
27. The Architect noted that they wish to meet with Dr. Glass again in a few weeks in order to review the preliminary reports and further discuss the findings and addition placements at the elementary schools and possible middle school.
28. On the overall, Dr. Glass agreed with conceptual addition locations. Mill Ridge MS requires further developments

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Submitted by: _____
Joseph Fuller, Jr., AIA

cc: A. Iadarola
F. Khouri
T. Hughes
D. Petrovich
P. Ellsworth
D. Stasny
S. Zomorrodian



45 KNOLLWOOD ROAD, ELMSFORD, NEW YORK 10523

NICHOLAS A D'ANGELO, FARA, CSI
PRESIDENT

JOSEPH FULLER JR., AIA
EXECUTIVE VICE PRESIDENT

JOHN D'ANGELO, ARA
EXECUTIVE VICE PRESIDENT

FIELD VISIT 4/18/12 - PRELIMINARY NOTES
Mill Ridge Intermediate School, Danbury, CT,
1 School Ridge Road, Danbury, CT 06810

Principal: Gregory Scails

- The Architect and R. Palanzo, City of Danbury, walked through the existing building and it was noted that the curtain wall at the front of the school is single-pane and tired in numerous places and intersections.
- It was noted that a lot of the exterior curtain wall is in fact older and energy inefficient.
- Mill Ridge Intermediate will be receiving the AIS School and STEM School.
- The Architect visited the AIS K-5 School for which grades 6, 7 and 8 will now be continuing from the existing magnet school to this site and location.
- After reviewing the building, it was noted that STEM would take one half, AIS the other half, and that the joint functions of gymnasium, media center and possible new auditorium would be via the center corridor link between the two wings of the building.
- It was noted that there is asbestos floor tile in floors under the current VCT and in other areas of the school building, i.e. gymnasium.
- It was noted that ceilings are old and light fixtures are older prismatic type with inefficient bulbs.
- It was noted that the cafeteria perhaps could have the stage area removed in order to expand the cafeteria seating. Unless this function is required.
- Seating capacity for the cafeteria needs to be verified it is not many.
- Circulation was reviewed and it was also noted that screening from the adjacent neighbors' to the East homes would be advantageous to the property.
- It was noted that the AIS program needs to involve the "continents" and other decorative elements within the existing AIS school should be carried through to this new design to enhance the program.
- It was noted that to the north of the gym is a possible area for building.
- Another idea arose to take the existing administration building where currently curriculum program directors are housed and turn the structure into a black box theater.
- It was confirmed that the media center would require expansion to properly house the students of both schools.
- The Architect noted that a compost area and possible external green house could be added in order to enhance the AIS program and carry over educational specification requirements from the current school.

- The boiler room was reviewed. It was noted that the boilers are both new as well as insulation of all the breaching, new exterior louvers and the rest of the work that was associated with this Honeywell project.
- It was noted that the roof has reach its 20 year life expectancy. The roof should be replaced in its entirety. Also noted was that the under-side of the soffit is peeling from moisture within the system.
- The current roof is a John's Manville built up roof with a granular cap sheet.
- It was noted that the corridors are quite narrow and that lockers shall have to be added. Discussions took place with regard to how this can be accomplished while maintaining the rating between the corridor and adjacent classrooms. One concept was to provide locker alcoves along all of the corridors in areas.
- It was noted that additional space at the ends of the schools may be available within the existing site footprint.
- It was noted that the cafeteria may require exterior expansion.
- The kitchen serving line was reviewed, which enters from the front and goes towards the rear cafeteria and/or enters from the cafeteria and students do a U-turn at the beginning of the serving line.
- The Architect noted the serving line may not have proper length to adequately serve students' lunches in a short period of time without exterior cafeteria kiosks.
- Parking lots shall require expansion and car and bus drop-off further reviewed in order to acquire better safety of the pedestrians.
- The current kindergarten playground area should be removed along with the fencing in its entirety. It was noted that this is also maybe an area where possible expansion of the school could take place.
- During the AIS school visit, the Architect visited the interior amphitheater/auditorium, gymnasium, typical rooms and the music room.
- It was noted that the Mill Ridge toilet rooms, both male and female, are tired and require new tile fixtures, partitions and rehabilitation. They are not ADA compliant.
- All parties walked the site and the Architect took various photographs.



45 KNOLLWOOD ROAD, ELMSFORD, NEW YORK 10523

NICHOLAS A D'ANGELO, FARA, CSI
PRESIDENT

JOSEPH FULLER JR., AIA
EXECUTIVE VICE PRESIDENT

JOHN D'ANGELO, ARA
EXECUTIVE VICE PRESIDENT

MAY 3, 2012 (VIA E-MAIL)

MINUTES OF MEETING NO. 3 – FEASIBILITY STUDIES

DATE: MAY 1, 2012
RE: CITY OF DANBURY
ARCHITECTURAL/ENGINEERING SERVICES
CITY OF DANBURY
FEASIBILITY STUDIES:
MILL RIDGE MS
STEM AND AIS PROGRAM REVIEW
STADLEY ROUGH ES
F&D PROJECT NO: 12083.00

PLACE: CITY OF DANBURY

PRESENT: P. JOAQUIM - PRINCIPAL, ROGERS PARK MIDDLE SCHOOL
H. ROSVALLY, JR. - K-12 STEM CURRICULUM ADMINISTRATOR
R. PALANZO - CITY OF DANBURY
S. ZOMORRODIAN - FULLER AND D'ANGELO, PC, ARCHITECTS
J. FULLER, JR. - FULLER AND D'ANGELO, PC, ARCHITECTS

THE FOLLOWING WAS REVIEWED:

1. Currently, STEM is looking to move 100 students per Grade, 6, 7, 8 and/or 300 children at 25 children per class into Mill Ridge Intermediate (MRI).
2. It was noted that STEM specifically speaks to Science, Technology, Engineering and Math.
3. It was noted that MRI was originally at 1950's K-8 school building.
4. It was noted that four home rooms per grade would be needed in order to accomplish same, and those rooms would also teach the four basic classes, Math, English, Social Studies and Science.
5. It was noted that for the school of 300, also a full Art class and full Music class (25) is required, and two Language World labs for approximately six to ten students.
6. Sharing of the Cafeteria, Gym and Media Center was agreed.
7. It was noted that the Science rooms require spaces to build smaller bridges and other such structures, and require storage space for all 100 students per Grade.
8. Storage for 100 students per grade or 300 projects are required within each grade's storage area.
9. It was noted that a Technology, Media and Computing area is needed within the Media Center proper.
10. The Science Lab spaces should have a lab area and classroom area if space allows.

CITY OF DANBURY
FEASIBILITY STUDIES:
MILL RIDGE MS – MINUTES OF MEETING 5/1/12 – STEM AND AIS PROGRAM REVIEW

11. In Rogers Park, the current STEM program is taking place. The Architects were requested to visit same. A meeting will be set up for next week.
12. The Architects noted they are trying to design as much flexible space and/or interdisciplinary areas where work together can take place.
13. It was noted that the educators that the thematic concept of STEM is to teach steps in engineering thinking/creating of process/problem solving.
14. STEM Program hopes to have an exploration center as part of their study area, also noting they wish to share any theater or black box with AIS as they do hold an invention/convention and also require space for audience presentations.
15. Various adjacencies were discussed and it was hoped that all grades could be blocked together i.e. 6th Grade, 7th Grade and 8th Grade along the linear corridor.
16. A Special Ed room is required for each grade level.
17. It was noted that the Board of Ed is trying to remove 600 children out of the current middle schools by the 2014. The Architects questioned as to whether Mill Ridge Intermediate could carry this capacity and felt that with the new educational program, a capacity of approximately 75-100 students less and/or 225 or 200 would be the maximum with the above program.
18. It was noted that currently the parking at the Mill Ridge Intermediate site is currently full, however, it is due to the numerous staff that assists with the current programs in the building. Some additional parking shall still be required.
19. It was noted that car and bus circulation needs to be worked on at the Mill Ridge Intermediate site.
20. It was noted that a clear entrance for both AIS and STEM should try to be attained by the Architects.
21. It was noted that the roof is at the end of its life expectancy and shall require full replacement.
22. It was noted that some curtain wall is in disrepair and requires replacement.
23. The Architects shall be reviewing the school building and trying conceive a conceptual solution for the maximum-size program which may be able to be attained.
24. **A walkthrough of Rodgers is scheduled for next Tuesday, May 8 at 9:00 am.**

CITY OF DANBURY
FEASIBILITY STUDIES:
MILL RIDGE MS – MINUTES OF MEETING 5/1/12 – STEM AND AIS PROGRAM REVIEW

It is assumed that these minutes are a true summary of the meeting. Any corrections or omissions should be brought to the attention of the writer. If not, they will be considered substantially correct.



Submitted by: _____
Joseph Fuller, Jr., AIA

JFF/clis

cc: A. Iadarola
F. Khouri
T. Hughes
D. Petrovich
P. Ellsworth
D. Stasny
S. Zomorrodian

MAY 9, 2012 (VIA E-MAIL)

MINUTES OF MEETING NO. 4 – FIELD REVIEW

DATE: MAY 8, 2012

RE: CITY OF DANBURY
ARCHITECTURAL/ENGINEERING SERVICES
CITY OF DANBURY
FEASIBILITY STUDIES:
MILL RIDGE MS
RODGERS PARK ES – STEM AND AIS PROGRAM REVIEW
STADLEY ROUGH ES
F&D PROJECT NO: 12083.00

PLACE: CITY OF DANBURY

PRESENT: P. JOAQUIM - PRINCIPAL, ROGERS PARK MIDDLE SCHOOL
S. ZOMORRODIAN - FULLER AND D'ANGELO, PC, ARCHITECTS
J. FULLER, JR. - FULLER AND D'ANGELO, PC, ARCHITECTS

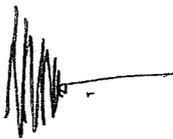
THE FOLLOWING WAS REVIEWED:

1. A chart of potential necessary classes to fit within the new Mill Ridge Intermediate school complex.
2. Miss. Joaquim reiterated that a 600 student middle school is requested.
3. The architects noted that without substantial expansion of the complex. This number of students does not seem feasible. However more likely 375 – 425 students.
4. A space program review was produced by Miss. Joaquim and Harry Rosvally for both stem and AIS and is attached to these minutes.
5. It was confirmed that engineering room is not a science room, and also needed. However possibly if a large enough space was provided these areas could be joined as long as storage and support rooms for each class are attained separately.
6. It was also noted that the engineering classroom needs to be designed flexibly with open tables so that further programs can be enveloped i.e. robotics and new technologies.
7. Architects noted that with the current program it only appears that one of the two schools may be able to fit within the existing building. Should 5 classrooms per grades at 25 plus other required spaces, Art room, Music room, Language Arts, SPED etc. be allowed within same 375 could fit within existing Mill Ridge School.
8. It was noted that these discussions of capacity needs to be undertaken between Board of Ed. and City Engineering.
9. It was noted that AIS shall take 3 years to fill. As first the 6th grade and then later 7th and 8th would populate the school in a continual fashion.

CITY OF DANBURY
FEASIBILITY STUDIES:
MILL RIDGE MS – MINUTES OF MEETING 5/1/12 – STEM AND AIS PROGRAM REVIEW

10. It was noted that should engineering rooms be able to be designed in the "middle area" of the school that sharing of spaces could be provided. This would attain an interaction of students both the AIS and STEM population of the school.
11. It was noted that the academic wings of each school should be separated as much as possible.
12. Miss. Joaquim noted that state certified teachers of Math, Science, English and Social Studies are required for 4 classes minimum per grade.
13. It was noted that the science rooms do not require any chemicals. However only proper storage and one sink.
14. A separate engineering room is preferred.
15. The architects did a field walk through of the standard math classroom, larger science room, and larger engineering room. Noting appurtenances, equipment and various setups.
16. It should be noted that each classroom had a smart board and adequate storage cabinetry.

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Submitted by: _____
Joseph Fuller, Jr., AIA

JFF/cm

cc: A. Iadarola
F. Khouri
T. Hughes
R. Palanzo
H. Rosvally, Jr.
D. Petrovich
P. Ellsworth
D. Stasny

MAY 14, 2012 (VIA E-MAIL)

MINUTES OF MEETING NO. 5

DATE: MAY 10, 2012

RE: CITY OF DANBURY
ARCHITECTURAL/ENGINEERING SERVICES
CITY OF DANBURY – ELEMENTARY AND MIDDLE SCHOOL FEASIBILITY STUDIES
F&D PROJECT NO: 12083.00

PLACE: CITY OF DANBURY

PRESENT: A. IADAROLA - CITY OF DANBURY
F. KHOURI - CITY OF DANBURY
T. HUGHES - CITY OF DANBURY
R. PALANZO - CITY OF DANBURY
H. ROSVALLY, JR. - DANBURY PUBLIC SCHOOLS
P. JOAQUIM - DANBURY PUBLIC SCHOOLS
W. GLASS - DANBURY PUBLIC SCHOOLS
K. ZAleta - DANBURY PUBLIC SCHOOLS
S. ZOMORRODIAN - FULLER AND D'ANGELO, PC, ARCHITECTS
J. FULLER, JR. - FULLER AND D'ANGELO, PC, ARCHITECTS

THE FOLLOWING WAS REVIEWED:

MILL RIDGE ES:

1. A. Iadarola opened up the meeting to review, with all present, the improvements and expansion to Mill Ridge Intermediate School. A. Iadarola suggested that Mill Ridge Intermediate be reviewed with all parties, including the current Principal of STEM, Administrators and other Greenwich Public Schools personnel at the meeting.
2. The Architect and Chief Designer of Fuller and D'Angelo presented their concept design, which includes taking over of the CRC space for engineering labs, re-working most of the southern half of the current building, providing a new media center and cafeteria extension, and grouping and grades with other adjacencies. It was noted that a new curtain wall would also be included.
3. The Architects presented an exterior site plan, separating buses and car traffic, and making the site more navigable, including additional queuing and other such features.
4. It was confirmed that site work would be performed with all bituminous materials, including curbs and sidewalks.
5. A. Iadarola noted that there is a limited Danbury budget with regard to providing improvements at all of the schools.
6. It was noted that the CRC building does have a roof top unit and a small boiler in the basement areas.

CITY OF DANBURY
FEASIBILITY STUDIES:
MILL RIDGE MS – AND ELEMENTARY FEASIBILITY STUDY REVIEWS
MINUTES OF MEETING 5/10/12

7. After further discussion and review of various spaces, all parties agreed on the concept.
8. The Architects noted that lockers will need to be reviewed in later phases as they are not necessarily part of the concept design, but could be included either in alcoves and/or perhaps single-sided in the corridors, should existing clearances be Code-conforming.
9. It was noted that small locker rooms and small toilets need to be included in the Middle School space study.
10. It was noted that the existing playground shall be relocated by Danbury.
11. It was noted that the existing roof is currently at its end of life span, and should be estimated as an Alternate.
12. It was noted that the planned school should fit just fewer than 600 children.
13. The Architects noted designing at 100% capacity is not standard procedure. The Architects commented that the Danbury educational planning schedule is somewhat aggressive.
14. It was agreed that Science Rooms could be only typical classroom size for 6th and 7th Grades, for spaces to fit within the existing footprint.
15. Science Rooms are to include a couple of sinks, as the Science Room curriculum does not require chemicals or excessive cleaning of beakers and other instruments used.
16. All parties agreed to the proposed concept design for the Mill Ridge Intermediate School.
17. The Architects noted that all costing and square footages need to be reviewed, refined and provided to Danbury.
18. Next three Elementary Schools, namely, Park Avenue, Shelter Rock and Great Plain, for planned expansions at those campuses was discussed after Ms. Joaquin, Ms. Zaleta and H. Rosvally departed.

PARK AVENUE ES:

19. The Architects proposed to provide a new addition to the rear of the current Park Avenue School allowing for a triangular set up and proper student flow on the first floor level.
20. It was noted that a lower level addition, creating a new media center, would align with the proposed 5th Grade wing, located in the existing building.
21. It was noted that the current Media Center would be turned into an Art Room and Language Arts.
22. It was noted that the current office would be slightly moved to the west, encompassing the current Language Arts space, enabling the lobby area and egress areas to increase.

CITY OF DANBURY
FEASIBILITY STUDIES:
MILL RIDGE MS – AND ELEMENTARY FEASIBILITY STUDY REVIEWS
MINUTES OF MEETING 5/10/12

23. The Architects noted that the Cafeteria should be expanded in order to create more tables, however, that the existing serving line appears satisfactory and is larger than in some other elementary schools.
24. Park Avenue ES shall be receiving eight new classrooms. The adjacencies were reviewed and of course are being left flexible with regard to one grade being slightly larger or smaller, based on any particular year's enrollment.
25. The Architects noted that toilets, janitor closets, mechanical rooms, electrical closets and other such support spaces are mandatory items to be included within the 8 standard classroom addition.

Shelter Rock ES:

26. Shelter Rock ES was presented similarly to Park Avenue ES with Option 1 and Option 2. Option 1 connected to the second and third, and fourth and fifth grade wings, and Option 2 connected to the Kindergarten and second/third grade wings.
27. All parties, after reviewing same, agreed that connecting to the Kindergarten wing and Option 2 was more logistically feasible for construction, and created slightly less hardship on the educational program while being constructed.
28. The Architects suggested also providing more windows for the current Media Center.
29. The Architects provided an improved site plan with separated car and bus traffic. After further discussions it was noted that the current parking lot and circle area in front of the main office and Kindergarten area would remain as-is. Provision of final costing for same was approved by Danbury.

Great Plain ES:

30. Great Plain ES was reviewed and it was noted that a three-classroom addition should be built towards the rear of the school.
31. There is a 50' setback in this area, which can either be adhered to with irregular shaped classrooms or a variance can be requested to provide standard rectangular shaped classrooms.
32. The Architects noted that the Cafeteria would also require an expansion due to an additional six tables of ten needing to be placed within same.
33. The Architects noted that the serving line in this school is too small.

CITY OF DANBURY
FEASIBILITY STUDIES:
MILL RIDGE MS – AND ELEMENTARY FEASIBILITY STUDY REVIEWS
MINUTES OF MEETING 5/10/12

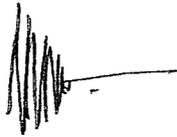
34. After some discussion, it was noted that site is still on septic and this would require to be modified to a sewer system in order to properly add classrooms and make modification to toilet areas for the additional students.
35. After further discussion, Danbury requested the Architects to abandon the addition concept at Great Plain and concentrate on the Stadley Rough School, a "sister" school to Great Plain, along with Hayestown School. Stadley Rough having more land and perhaps an easier building area appears a more logical space for an addition.
36. The Architects shall expand their Scope of Work to include Stadley Rough School, as additional services to Danbury.

Stadley Rough ES:

37. Stadley Rough ES was reviewed. The Architect noted that a retaining wall and a large window could be placed in the lower level area and would represent 8% of the total area allowed to be built, i.e. a glass to floor area ratio. It was noted that this space would need to be made accessible if used as a school, via a new elevator.
38. The Architects, per the previous Minutes, reviewed the concepts of moving the music room to the lower level allowing the Art Room to go to the Music Room and a new classroom to be placed where the current Art Room is, on an outside wall with exterior glass facing east. However, after some review and a short cost analysis, it was noted that placing students in the lower level area of Stadley Rough School does not appear cost-effective on a dollar per student cost basis. An elevator would be mandatory, per Code.
39. Danbury and the Architects reviewed the Stadley Rough School briefly and noted that a three classroom addition could be placed at Stadley Rough School in lieu of Great Plain School.
40. Various areas were reviewed briefly and the Architects stated that they would "go back to the drafting board" in order to review the best design possible, taking into account adjacencies, location of support facilities, circulation, cost of building with regard to grade and topographies, and other such design criteria.
41. The Architects noted they would forward a Change Order request for this additional service to the City of Danbury.
42. The Architects requested Danbury to review, on a cost per square foot basis, a preliminary estimate.

CITY OF DANBURY
FEASIBILITY STUDIES:
MILL RIDGE MS – AND ELEMENTARY FEASIBILITY STUDY REVIEWS
MINUTES OF MEETING 5/10/12

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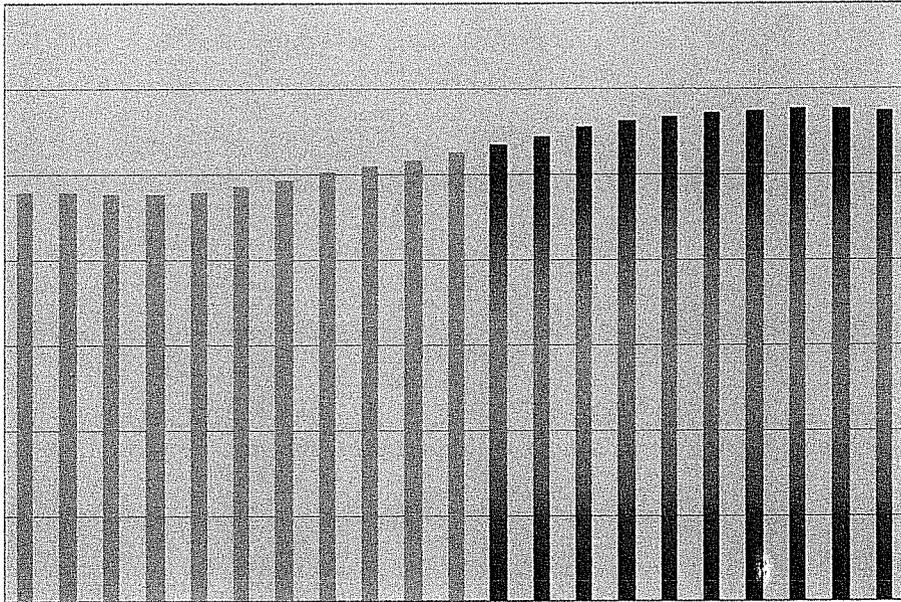


Submitted by: _____
Joseph Fuller, Jr., AIA

JFF/cm

cc: D. Petrovich
P. Ellsworth
D. Stasny

DANBURY PUBLIC SCHOOLS ENROLLMENT PROJECTED TO 2021



Peter M. Prowda, PhD
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November 21, 2011

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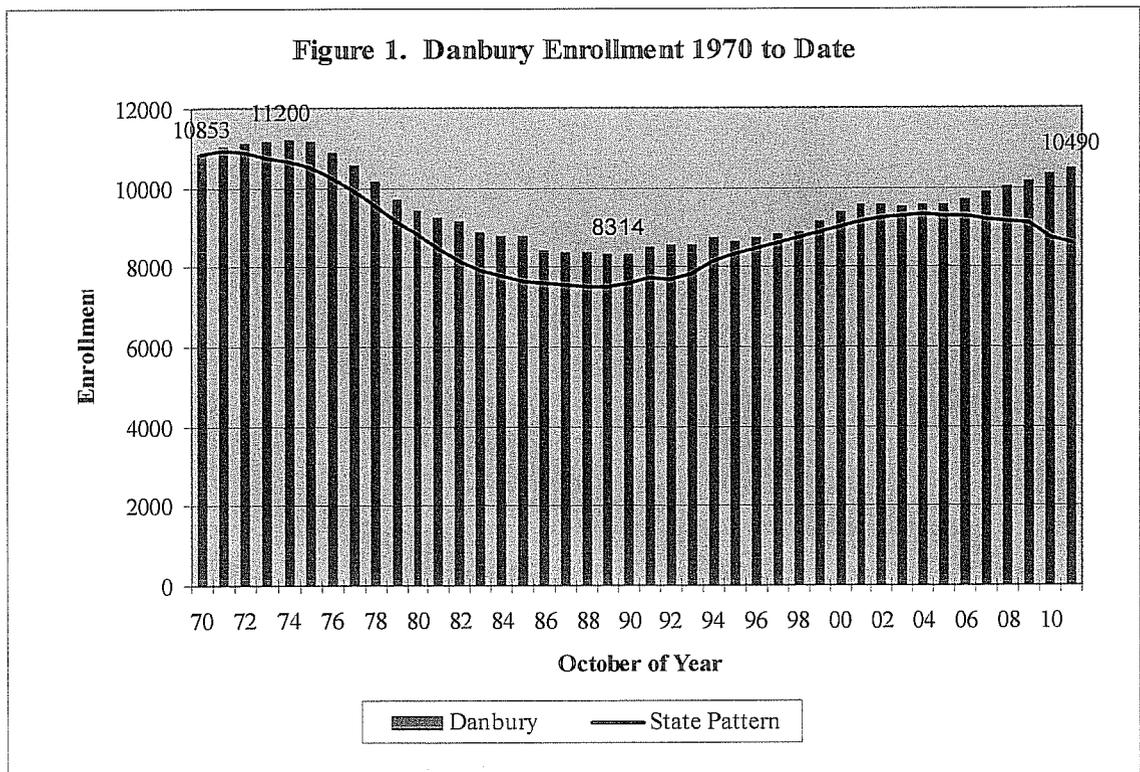
Introduction

This report presents a ten-year projection of enrollment for the Danbury Public Schools. It is based on students enrolled in Danbury schools. The projection is divided into the three grade levels that represent how the Danbury schools are organized: K-5, 6-8 and 9-12. The report includes 41 years of enrollment to place the projection into a wider historical perspective. One of the primary drivers of future enrollment is births to residents. The report examines births and their relationship to kindergarten enrollment. Several factors that influence school enrollment - city population, women of child-bearing age, the workforce, housing, non-public enrollment, non-resident enrollment in Danbury schools, resident enrollment in other public schools, retention in Grade 9 and migration - are presented. Finally, the accuracy of earlier projections is examined.

Enrollment projections are a valuable planning tool. For budgeting, the numbers can place requested expenditures into a per pupil context. This can inform the public about which expenditures represent continuing expenditures to support on-going programs and expenditures for school improvement and program expansion. They are an essential step in determining the staffing that will be needed in the future. This may facilitate the transfer of teachers from one grade to another or allow the hiring process to start earlier, which can increase the likelihood of attracting the best teachers in the marketplace. Projections are a critical and required step in planning for school facilities. The State of Connecticut requires eight-year projections as a critical component of determining the size of the project for which reimbursement is eligible. In some communities the projection can determine the number of places they can make available to urban students as part of a regional desegregation effort.

Perspective

Enrollment projections typically use the most recent five years of data. While the most recent past is viewed as the best predictor of the near future, it is informative to look at a broader perspective. Figure 1 shows the enrollment in Danbury from 1970 to date.



Enrollment in the Danbury Public Schools grew from 10,853 students in 1970 to 11,200 in 1974. Between then and 1990, enrollment moved downward to 8,314 students. In those 16 years, enrollment declined by 2,886 students or 25.8 percent. Between 1990 and 2011 enrollment grew by 2,176 students or 26.2 percent. The 2011 enrollment of 10,490 was last at this level in 1977.

Danbury's enrollment pattern is different than that of the state's public schools. Between its 1971 peak and 1988, Connecticut public school enrollment declined by 31.5 percent. State enrollment hit a secondary peak in 2004. It grew 24.5 percent between the 1988 low and 2004. State enrollment declined by 2.8 percent between 2004 and 2010. The 1974 to 1990 decline in Danbury was about the same duration but less deep than the state's. The subsequent enrollment gain in Danbury has yet to abate and has been more robust than the state's. While the state entered a second cycle of decline in 2005, Danbury has yet to do so. Had Danbury followed the state pattern of enrollment since 1970, it would have had 8,629 students in October of 2011 instead of the 10,490 that were enrolled on that date.

Current Enrollment

Table 1 and Figure 2 provide a picture of where Danbury residents attended school in October of 2011. The non-public enrollment is projected and the home schooled count is from 2010. They show that 86.2 percent of Danbury's school-age residents attended the Danbury Public Schools in 2011. An estimated 10.5 percent of the school-age residents attended non-public schools in state. The number attending private schools out-of-state is not known. Other school-age residents attended Henry Abbott Technical High School (2.8 percent) or public schools in other districts (0.3 percent). Few (24 children or 0.2 percent) were reported as being home schooled. There were 181 non-residents enrolled in the Danbury Public Schools in 2011. The projections in this report are based upon the 10,163 residents and 181 non-residents who attend the Danbury Public Schools in 2011.

	Number	Percent
Residents		
A. Danbury Public	10,163	86.2%
B. Tech	335	2.8%
C. Other Public	30	0.3%
D. Non-Public	1,233	10.5%
E. Home Schooled	24	0.2%
Total (A+B+C+D+E)	11,785	
F. Non-Residents	181	
Total Enrollment (A+F)	10,344	

Figure 2. Schools Attended by Town Residents, 2011

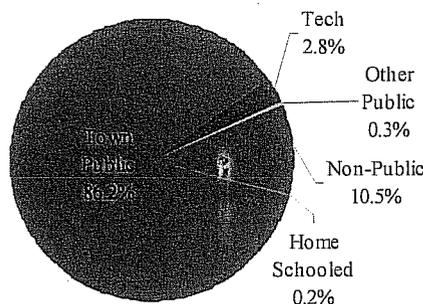
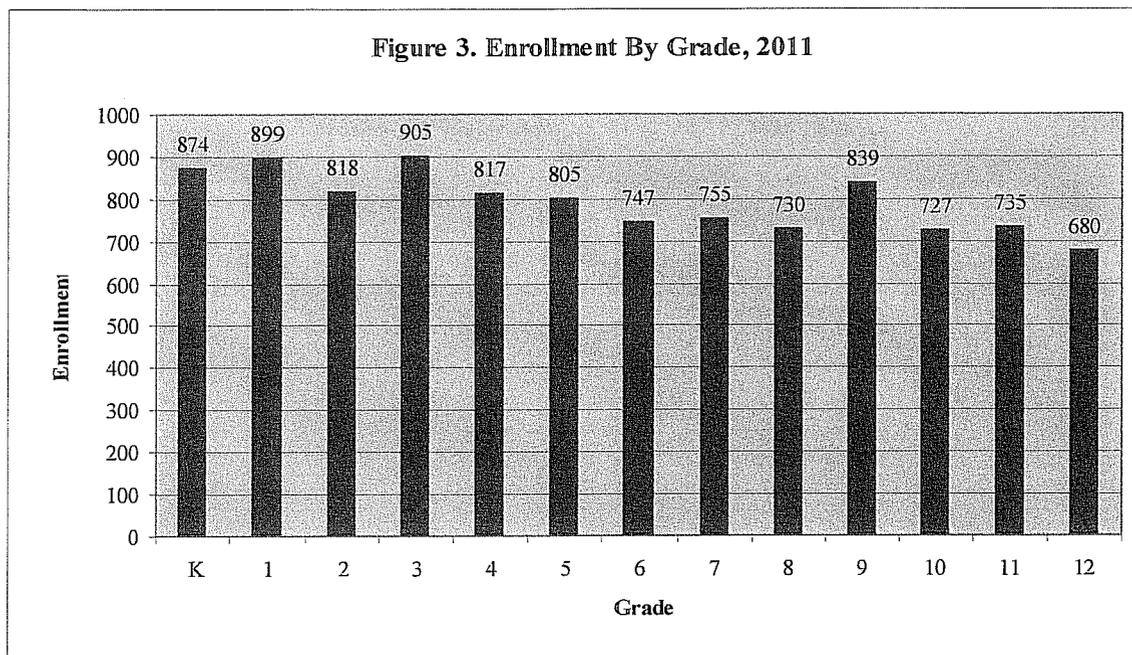


Figure 3 shows the October 2011 grade-by-grade enrollment by of students in the Danbury Public Schools. The children in pre-kindergarten programs are not shown. Grade 3 had the largest enrollment with 905 students. This was followed by Grade 1 with 899 students and Kindergarten with 874 students enrolled. Grade 12 was the smallest class with only 680 students followed by Grade 8 with 730 students and Grade 10 with 727 students. If current conditions continue, this year's Kindergarten class of 874 students will have 874 students when it enters Grade 6 in middle school in 2017 and 1,036 students when it enters Grade 9 in 2020. Both these figures are above the current enrollment in each of those grades. The current year enrollment by grade is the starting point for this projection. How it moves forward is discussed below.

Figure 3. Enrollment By Grade, 2011



Projection Method

The projections in this report were generated primarily using the cohort survival method. This is the standard method used by people running enrollment projections. For the grades above kindergarten, I compute grade-to-grade growth rates for ten years (see Appendices A and B). For example, if the number of fourth graders this year is 795 and the number of third graders last year was 800, then the growth rate is 0.994. Growth rates above 1.000 indicate that students moved in, transferred from non-public schools or other public schools or were retained. Growth rates below one mean that students moved out, transferred to private or other public schools, dropped out, or were not promoted from the prior grade. For each grade I calculate four different averages of the year-to-year growth rates: a ten-year median, a 3-year average, a five-year average and a weighted five year average. I choose the average that seems to best fit the data. The average growth rate for a grade is applied to the current enrollment from the prior grade. The projection builds grade by grade and year by year.

To project enrollment of students in Danbury schools, I utilized, in most cases, a five-year weighted average of the annual growth rates. This usually responds more rapidly to recent trends. In Danbury's case, however all four of the averages I computed were very close. I broke kindergarten into five year olds, six year olds entering kindergarten for the first time, and repeaters. I used the five-year weighted average of each component in the projection. I assumed that the Western Connecticut Academy of International Studies would accept 30 non-residents annually in Kindergarten. This figure should keep non-resident enrollment in the school at or above 40 percent of the enrollment. In 2011, 3.3 percent of the Danbury Public School kindergarten enrollment was students who entered late and 2.5 percent was students who had been retained. I believe that this approach will improve the kindergarten projection modestly.

In Grade 6 I had to make an adjustment for the magnet school students who will return to their home districts. I recalculated the Grade 6 individual growth rates based on Danbury residents in Grade 5 and then applied the weighted five-year average to the adjusted rates.

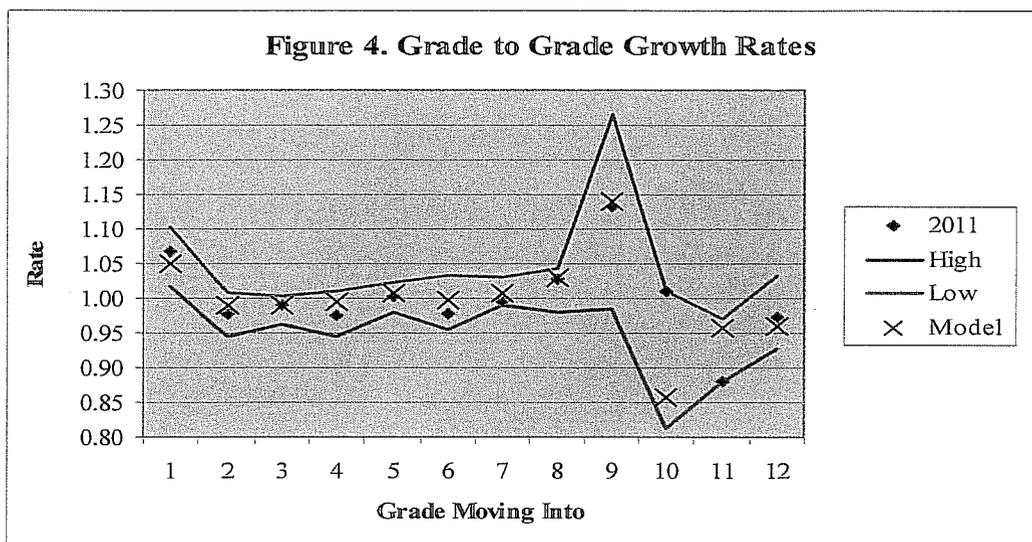
I had to make adjustments to the growth rates in high school because the policy of not retaining students in Grade 9 that was introduced in 2010 was abandoned in 2011. I based the Grade 9 growth rate on the

average of the 2011, 2009 and 2008 growth rates. I based the grade 10-12 growth rates on the average of 2007, 2008 and 2009 growth rates.

To extend the projections beyond four years, I needed to estimate births for the years 2011 to 2016. The Connecticut State Department of Public Health recorded 1,176 births to Danbury residents as their preliminary count for 2009. To estimate births in 2010, I used the 1,088 that were recorded in state in 2010 plus 52 that occurred out-of-state in 2010 plus four that were recorded in New York City in 2009 (the most recent data available). There were 758 in-state births through September of 2011 compared to 843 through September of 2010. I added to the 2011 count the average number of births in 2009 and 2010 that occurred in October to December and the estimated births that occurred out-of-state in 2010. To estimate births in 2012 to 2016, I utilized the Connecticut State Data Center's (CtSDC) projection of children ages 0-4 in 2010, 2015 and 2020. I calculated the projected growth in this interval, annualized it and applied it to the running two-year average of births starting with 2010 and 2011 to get an estimate for 2012 and beyond.

Figure 4 gives a perspective of the grade-to-grade growth rates for students attending the Danbury schools. An "x" indicates the average growth rate used in this projection. The diamond is the growth observed between last year and this year. The upper line indicates the largest growth rate observed over the past ten years and the lower line, the lowest. In general, the narrower the gap between the two lines is, the greater the accuracy of the projection. The growth rates used in the projection were based on a weighted five-year average of the observed grade-to-grade growth.

The elementary growth rates have been in a fairly narrow band for the past 10 years. The wide bands in high school reflect to some extent the recent policy change. The wide bands introduce some uncertainty into the high school projection. The growth rates in grades 2 to 7 are all right around 1.000 which indicates a balance between students entering and leaving the system. The high rate at Grade 1 is fairly typical for systems that do not offer universal full-day kindergarten. The high rate in Grade 9 is a reflection of retention in that grade. The lower rates in grades 10-12 are usually an indicator of drop-outs.



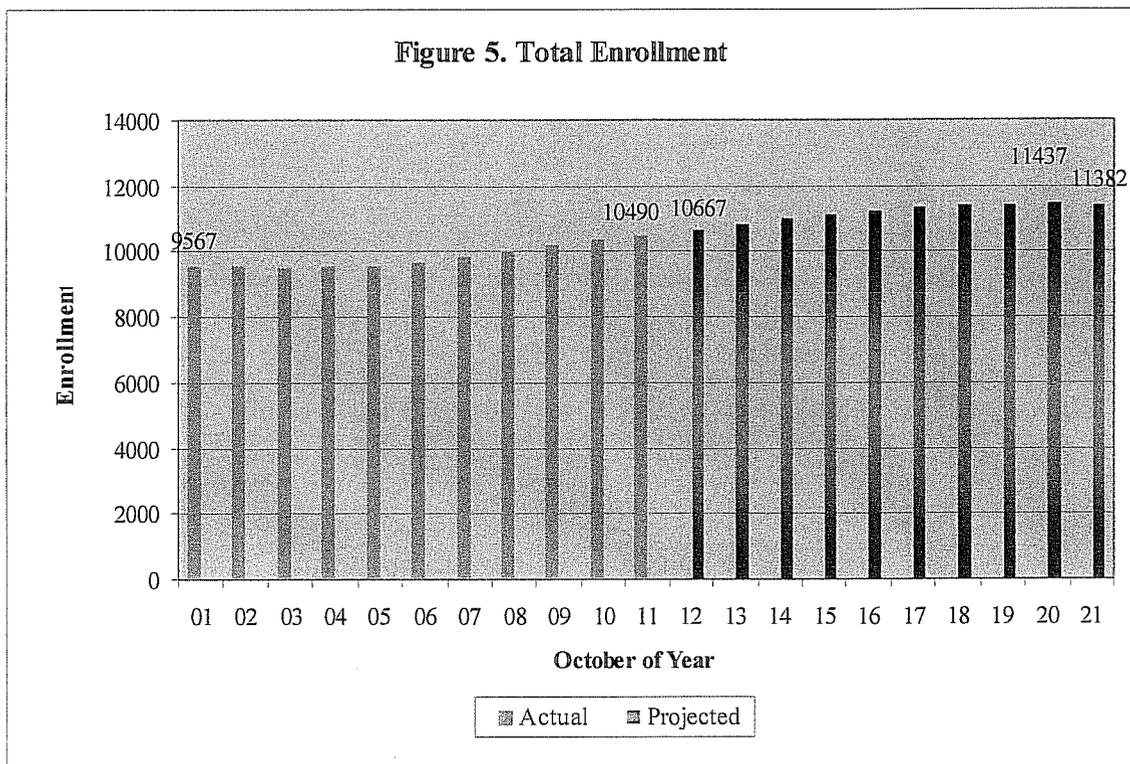
Enrollment data from 2001 to 2010 were taken from the files of the Connecticut State Department of Education. The public school data are available on the Department's website at www.sde.ct.gov under the Grants Management section. Data for 2011 were provided by the Department's Bureau of Data Collection, Research and Evaluation. All enrollment data after 2009 are subject to minor changes as they are reviewed and audited. Births from 1980 to 2011 were provided by the Healthcare Quality, Statistics, Analysis and Reporting Unit of the State Department of Public Health.

Total Enrollment

Table 2 and Figure 5 present the observed total enrollment in Danbury schools from 2001 to 2011 and projected enrollment through 2021. Detailed grade-by-grade data may be found in Appendices A and B. Total enrollment in Danbury increased from 9,567 students in 2001 to 10,490 in 2011. That was an increase of 923 students or 9.6 percent. Without the addition of non-residents at the magnet school, the increase would have been 751 students or 7.8 percent. Statewide public school enrollment declined 2.8 percent in that period. Between 2001 and 2011, the enrollment gain in Danbury was greater than similar towns in the area. Stamford enrollment grew by 3.0 percent and Norwalk's by 0.2 percent. Meriden's enrollment declined by 5.0 percent and West Haven's declined by 17.7 percent.

I project that your enrollment will continue to grow through 2020. Next year, I anticipate that total enrollment will increase by 170-185 students. Danbury should surpass its current peak enrollment of 11,200 in 2016. At its peak, I expect an enrollment of about 11,400 students. By the year 2021, enrollment should be about 11,380 students. The projected 10-year growth is over 890 students or between 8 and 9 percent. In the state's public schools, I am projecting an 8.6 percent decline between 2011 and 2021. Total enrollment in Danbury should average about 11,180 students over the ten-year projection period compared to an average total enrollment of 9,883 students over the past ten years.

Year	Students	Percent Change
2001	9567	
2002	9559	-0.1%
2003	9521	-0.4%
2004	9556	0.4%
2005	9586	0.3%
2006	9707	1.3%
2007	9875	1.7%
2008	10040	1.7%
2009	10179	1.4%
2010	10344	1.6%
2011	10490	1.4%
2012	10667	1.7%
2013	10837	1.6%
2014	10996	1.5%
2015	11146	1.4%
2016	11250	0.9%
2017	11327	0.7%
2018	11379	0.5%
2019	11418	0.3%
2020	11437	0.2%
2021	11382	-0.5%



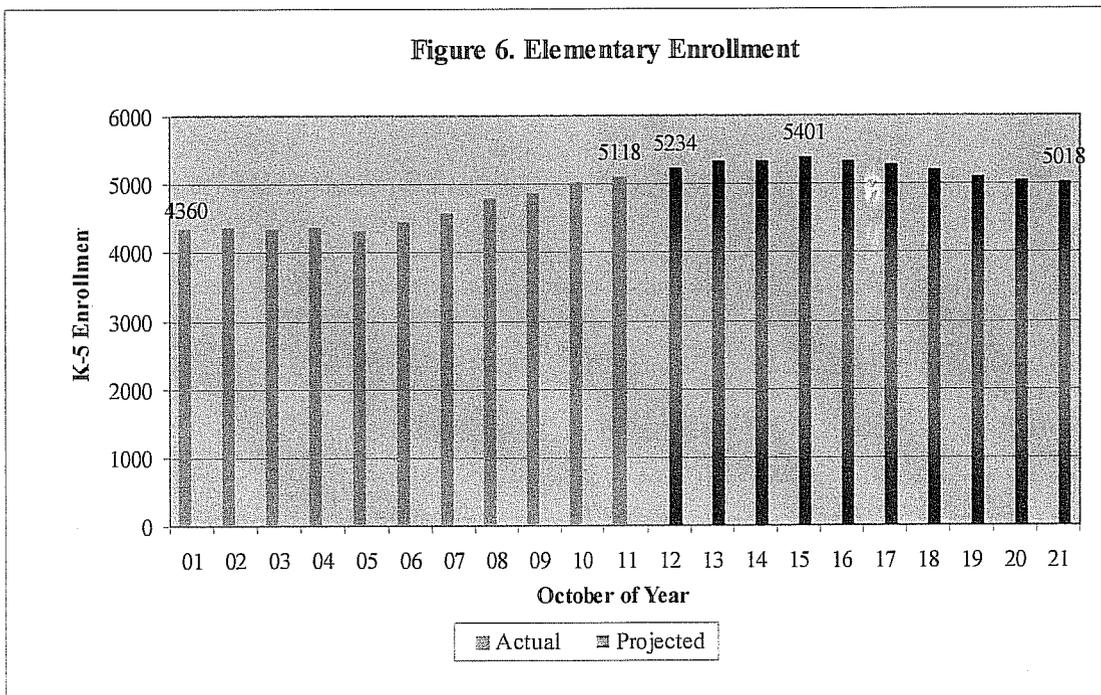
K-5 Enrollment

Table 3 and Figure 6 present actual enrollment in grades K-5 in 2001 to 2011 and projected enrollment to 2021 at your 13 elementary schools. Enrollment by grade may be found in Appendix A. Enrollment in grades K-5 rose from 4,360 students in 2001 to 5,118 students in 2011. This was a gain of 758 students and represented 17.4 percent of the enrollment in 2001. Some of the gain can be attributed to 172 non-residents in your magnet school. Without them, the gain would have been 13.4 percent. Public school enrollment statewide in grades K-5 declined by 8.2 percent in that period.

I expect that enrollment will continue to move upward for four more years, but end the projection fairly close to the current enrollment. Next year, I anticipate that enrollment in these grades will increase by 110-120 students. The peak enrollment should come in 2015 when I anticipate that enrollment will be about 5,400 students. By 2021 I project that grade K-5 enrollment will fall to about 5,020 students. That is roughly the number enrolled in 2010. This will be about 100 students less than 2011, a loss of about two percent. In grades K-5 in the state's public schools, I am projecting a 9.3 percent enrollment decline. Over the ten-year projection period, I believe enrollment in grades K-5 will average about 5,230 students compared to the average of 4,627 students observed over the past ten years.

These figures do not include the children in your pre-kindergarten programs. In the past ten years, pre-kindergarten enrollment ranged from 106 to 323 children. There were 159 children in these programs in 2011. My projection model keeps pre-kindergarten enrollment at 159 children for the next ten years.

Year	Students	Percent Change
2001	4360	
2002	4379	0.4%
2003	4355	-0.5%
2004	4369	0.3%
2005	4336	-0.8%
2006	4444	2.5%
2007	4578	3.0%
2008	4794	4.7%
2009	4876	1.7%
2010	5019	2.9%
2011	5118	2.0%
2012	5234	2.3%
2013	5348	2.2%
2014	5340	-0.1%
2015	5401	1.1%
2016	5347	-1.0%
2017	5288	-1.1%
2018	5206	-1.6%
2019	5111	-1.8%
2020	5051	-1.2%
2021	5018	-0.7%

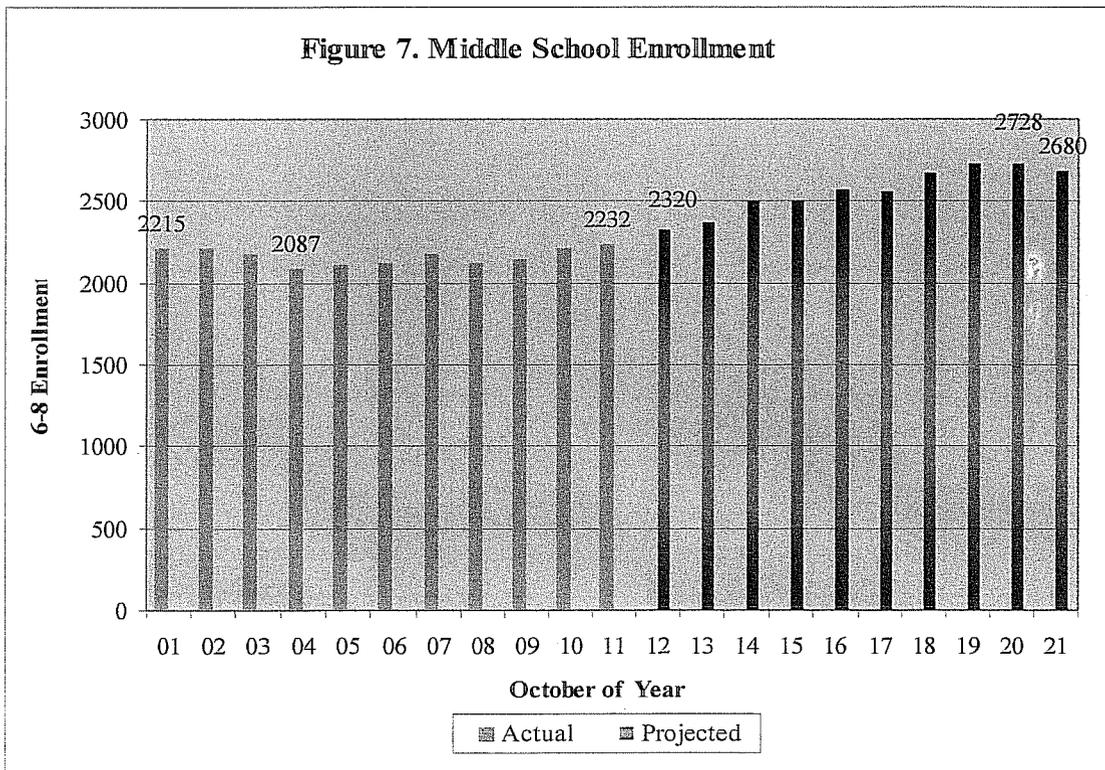


Middle School Enrollment

Table 4 and Figure 7 present actual enrollment in middle school in grades 6-8 in 2001 to 2011 and projected enrollment at Broadview and Rogers Park middle schools to 2021. Enrollment by grade may be found in Appendix B. Middle school enrollment declined from 2,215 students in 2001 to 2,087 students in 2004 and then rebounded to 2,232 students in 2011. Between 2001 and 2011 enrollment at the schools grew by 17 students or 0.8 percent. Enrollment in grades 6-8 declined by 6.9 percent in that period in the state's public schools.

I believe that future enrollment at Broadview and Rogers Park middle schools will move upward through 2019 or 2020. Next year I anticipate an increase of almost 90 students. I expect the peak enrollment will come in 2019 or 2020 at almost 2,730 students. At the projection's end, I believe enrollment will be about 2,680 students. Over the ten-years, I project a net increase of almost 450 students or 20 percent. Over the ten-year projection period, I believe enrollment at the schools will average about 2,560 students compared to the average of 2,159 students observed over the past ten years. You have reported the combined capacity of the two schools as 2,451 students. It appears that you will be operating the schools above capacity starting in 2014. In the state's public schools, I project that enrollment in grades 6-8 will decline by 12.0 percent in that period.

Year	Students	Percent Change
2001	2215	
2002	2208	-0.3%
2003	2178	-1.4%
2004	2087	-4.2%
2005	2114	1.3%
2006	2121	0.3%
2007	2176	2.6%
2008	2125	-2.3%
2009	2144	0.9%
2010	2209	3.0%
2011	2232	1.0%
2012	2320	3.9%
2013	2370	2.2%
2014	2504	5.7%
2015	2505	0.0%
2016	2568	2.5%
2017	2560	-0.3%
2018	2669	4.3%
2019	2725	2.1%
2020	2728	0.1%
2021	2680	-1.8%



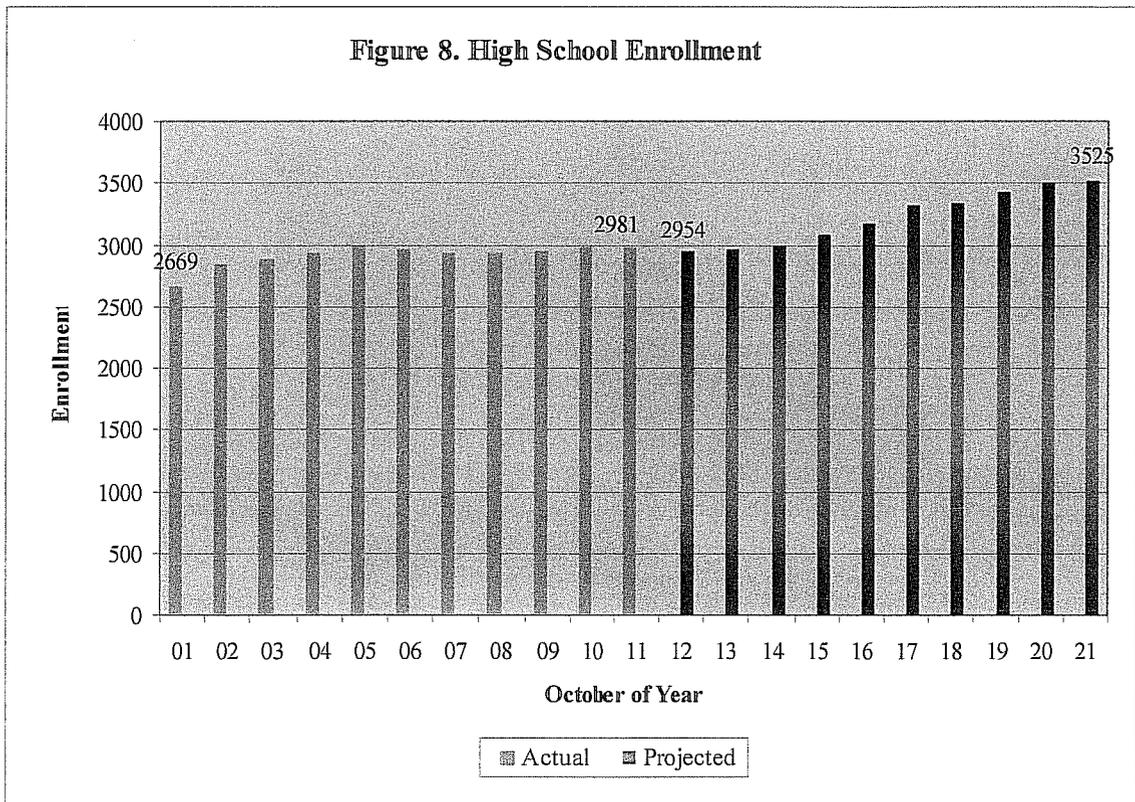
High School Enrollment

In most districts, Grade 9 is the time when the opportunity to attend state technical high schools and agriculture science and technology centers first becomes available. In October 2011, 85.8 percent of Danbury residents enrolled in Grade 9 were enrolled in the district. An estimated 4.5 percent were enrolled in non-public schools in state. 9.5 percent were enrolled in a state technical high school. Only two students (0.5 percent) were enrolled in other public schools.

Table 5 and Figure 8 present enrollment at the Danbury High School and the Alternative Center for Excellence. Grade-by-grade enrollment may be found in Appendix B. Enrollment grew from 2,669 students in 2001 to 2,981 in 2011. In that 10-year span, grade 9-12 enrollment increased by 312 students or 11.7 percent. Statewide, enrollment in grades 9-12 grew 6.9 percent in that period.

I expect that next year's high school enrollment will be 25-30 students less than this year. I then anticipate that enrollment will grow to 3,525 students by 2021. That will be almost 550 students (18.2 percent) more than the October 2011 count. Statewide, I have projected a 9.2 percent decline in public school grade 9-12 enrollment between 2011 and 2021. I believe enrollment in grades 9-12 will average about 3,225 students over the next ten years compared to the average of 2,937 students observed over the past ten years.

Year	Students	Percent Change
2001	2669	
2002	2848	6.7%
2003	2882	1.2%
2004	2932	1.7%
2005	2986	1.8%
2006	2966	-0.7%
2007	2933	-1.1%
2008	2925	-0.3%
2009	2942	0.6%
2010	2978	1.2%
2011	2981	0.1%
2012	2954	-0.9%
2013	2960	0.2%
2014	2993	1.1%
2015	3081	2.9%
2016	3176	3.1%
2017	3320	4.5%
2018	3345	0.8%
2019	3423	2.3%
2020	3499	2.2%
2021	3525	0.7%



Factors Affecting the Elementary Projection

The primary reasons for elementary enrollment change lie in the births and yield from the birth cohort. Figure 9 presents the births from 1980 to 2009 and estimated births through 2016. Births ranged from a low of 848 in 1981 to a high of 1,223 in 1990. There were 1,176 births in 2009. From recorded births in-state and out-of-state births less New York City through December, I estimate there will be 1,144 births in calendar year 2010. Based on in-state births through September of 2011, I estimate there will be 1,081 births in 2011. In the 1990s there was an average of 1,099 births annually. In the five years from 2002 to 2006 (this fall's kindergarten through 4th graders) births averaged 1,140. Births in the 2007 through 2011 period will likely average 1,169. The projection in years 2017 to 2021 assumes an average of 1,102 births annually between 2012 and 2016. This is based in part upon the Connecticut State Data Center projection of Danbury children ages 0-4.

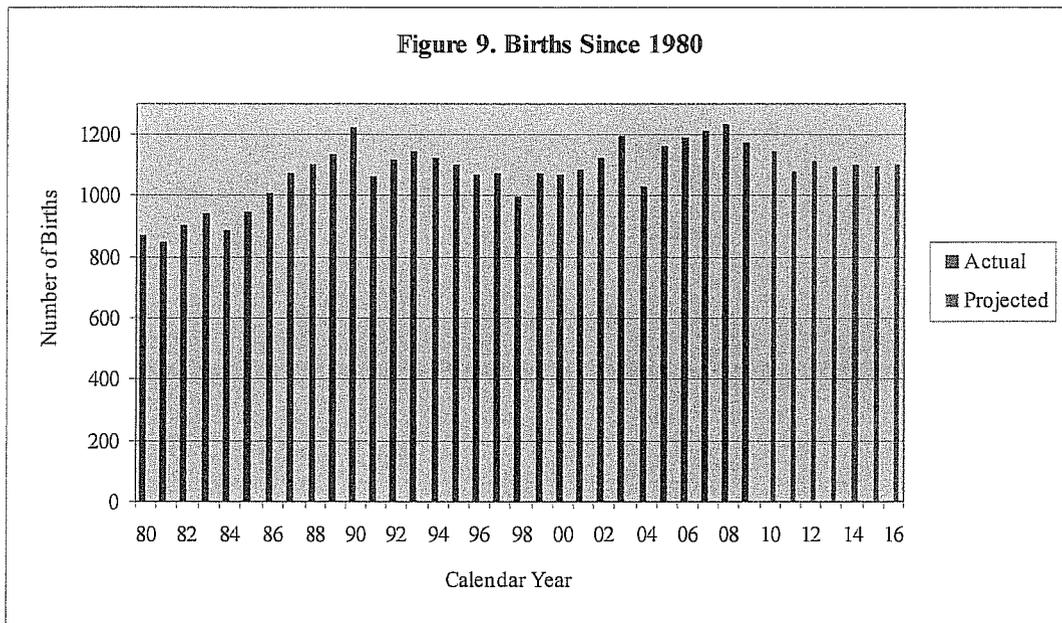
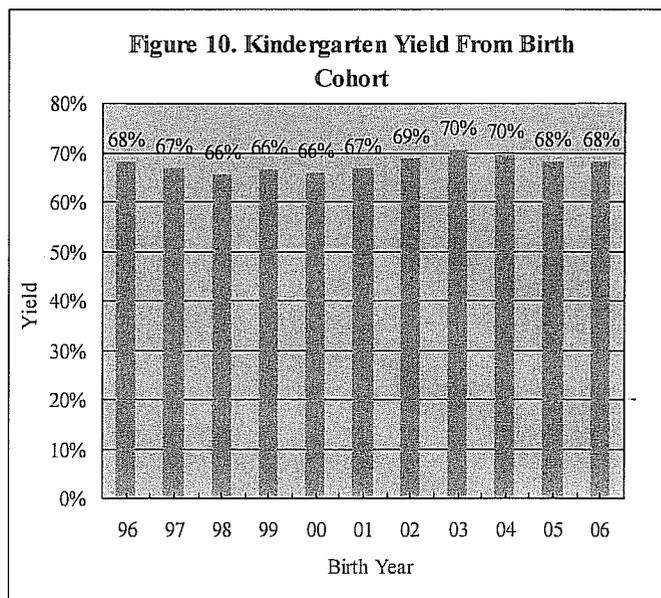


Figure 10 depicts the kindergarten yield five and six years later from the birth cohorts of 1996 to 2006 for Danbury residents attending kindergarten in Danbury. For example, there were 1,165 births in 2005 and 767 children enrolled in Danbury kindergarten at age five in 2010 and an additional 29 who first enrolled in kindergarten at age six in 2011. That is a yield of 68.3 percent. The yield from the birth cohort ranged from a low 66 percent in 1998 to a high of 70 percent in 2003 and 2004. The estimated yield for births in 2006 is 68 percent. Note that 2006 yield is an estimate because we will not know the actual number of children who will enter kindergarten for the first time as six-year olds until October 2012. Yields below 100 percent generally mean that parents



move out of town after giving birth in town or choose another school system for their child. In the five-year look-back period for the projection, the yield was 69 percent with three percent retentions.

Table 6 gives a history of enrollment in kindergarten since 2001 and relates the components of kindergarten enrollment back to the appropriate birth cohort. Retention is tied to the prior year's kindergarten enrollment. To estimate kindergarten enrollment, I used the five-year weighted average of retentions, and yields from births five and six years ago. I estimated kindergarten from 66.7 percent of births five years ago, 2.3 percent of births six years ago, and 3.0 percent of current kindergarten students retained.

Year	Birth Year	Births	K	Retained From Prior Year				Yield From Births 5-Years Prior	Yield From Births 6-Years Prior	Total Yield From Birth Cohort	
				Retained From Prior Year	---- Non-Resident	Non-Resident	---- Born 6 Years Prior				
2001	1996	1067	747	11	700	0	36	1.6%	65.6%	3.3%	68.2%
2002	1997	1076	720	12	680	0	28	1.6%	63.2%	2.6%	67.0%
2003	1998	991	661	13	607	0	41	1.8%	61.3%	3.8%	65.7%
2004	1999	1076	754	22	688	0	44	3.3%	63.9%	4.4%	66.4%
2005	2000	1070	743	28	688	0	27	3.7%	64.3%	2.5%	66.0%
2006	2001	1086	763	28	700	17	18	3.8%	64.5%	1.7%	67.0%
2007	2002	1122	825	17	753	27	28	2.2%	67.1%	2.6%	69.0%
2008	2003	1196	898	27	814	36	21	3.3%	68.1%	1.9%	70.4%
2009	2004	1028	787	33	698	28	28	3.7%	67.9%	2.3%	69.9%
2010	2005	1165	842	26	767	28	21	3.3%	65.8%	2.0%	68.3%
2011	2006	1190	874	21	786	38	29	2.5%	66.1%	2.5%	68.3%
3-Year Average								3.2%	66.5%	2.3%	68.9%
Weighted 3-Year Average								3.0%	66.3%	2.3%	68.6%
5-Year Average								3.0%	67.0%	2.3%	69.2%
Weighted 5-Year Average								3.0%	66.7%	2.3%	69.0%

The correlation between births and kindergarten enrollment five-year later was a moderate 0.63 over the 1990 to 2011 period. If this relationship were used to predict kindergarten enrollment, the estimate would have been off by an average of 46 children annually over the past ten years. The cohort survival method, even with my breakout into five-year olds, six-year old delayed entrants and children retained, cannot overcome the underlying unpredictability of kindergarten enrollment from earlier births.

Context of the Projection

The cohort-survival method typically needs only births and a few years of recent enrollment data to generate a projection. Mathematically, nothing else matters. But enrollment changes do not occur in a vacuum. Events and policies in the district, community and region all have some bearing on enrollment. Remember that a basic assumption of the cohort-survival method is that the recent past can be a good predictor of the near future. It is incumbent for every receiver of a projection to determine what events happened in the past five years and whether they are likely to change.

To assist in this endeavor, this report examines ten factors that could affect enrollment: city population, women of child-bearing age; the size of the work force, new home construction; sales of existing homes; Grade 9 repeaters, non-public enrollment; non-resident enrollment in your magnet school, resident enrollment in other public schools and student migration.

Figure 11 presents the US Census Bureau estimate of Danbury population since July of 2000. Between 2000 and 2009, the city population is estimated to have grown from 75,139 to 79,748 people. The population growth of 6.1 percent ranked it 58th in the state. In contrast, Fairfield County grew by 1.9 percent, the state grew by 3.1 percent and communities with similar economic and need characteristics grew by 2.0 percent. The 2010 census population data show that from April 2000 to April 2010 Danbury's population grew from 74,848 people to 80,893. The 6,045 person growth was the second smallest in the past six decades. The 8.1 percent increase between 2000 and 2010 was the 55th ranked in the state. If you exclude people residing in group quarters such as dorms, prisons or nursing homes, the growth was 7.3 percent.

Figure 12 presents the number of women of child-bearing age from the 2000 and 2010 censuses. There were 1,070 births to Danbury residents in 2000 and an estimated 1,144 in 2010. In communities like yours, women in the 25-29 age-group have the highest rate of births. The number in this group rose 6.9 percent from 2,874 in 2000 to 3,073 in 2010. The second highest birth rate in communities like yours is women ages 30-34. The number in that age range fell 7.0 percent from 3,248 in 2000 to 3,022 in 2010. The only other age range that decreased significantly was 35-39.

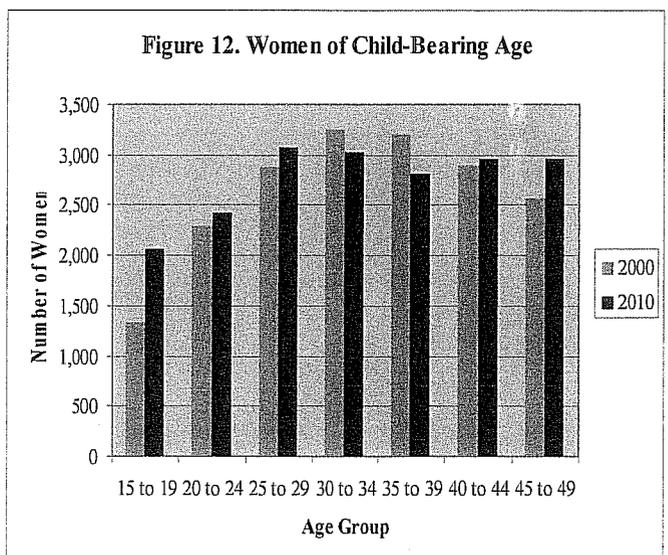
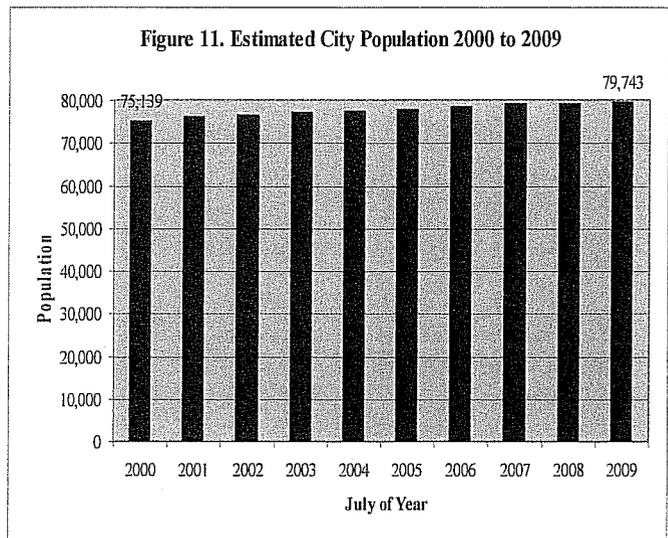


Figure 13 examines the number of people in the labor market from the US Department of Labor, Bureau of Labor Statistics. These are people 16 years of age or older who were working or actively seeking employment. Since it excludes most students and the elderly, I find it a very rough proxy of the number of school-age families. The Danbury labor force increased 2.6 percent between 2006 and 2010. This was lower than the state (3.9 percent) and Fairfield County (3.1 percent). The 2010 unemployment level of 7.9 percent was up 0.4 percentage points over 2009. It is worse than the state rate of 9.1 percent and the Fairfield County rate of 8.3 percent.

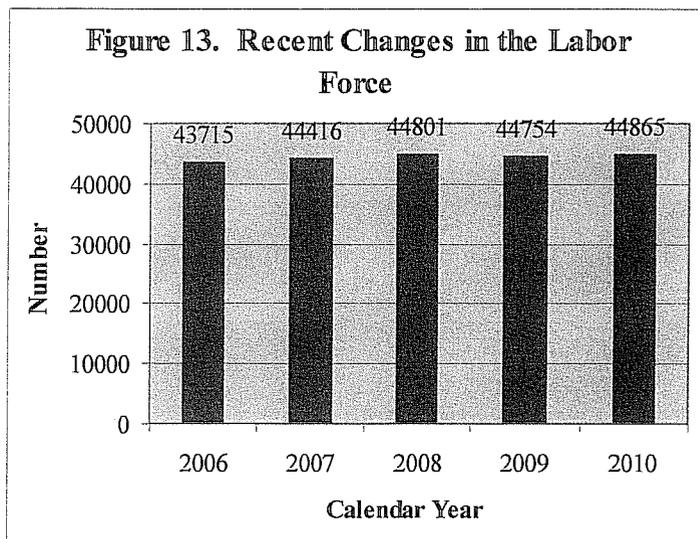


Figure 14 presents the net new housing units constructed from 2000 to 2010 from the State Department of Economic and Community Development. In the past ten years the number of net (of demolitions) new housing units constructed in Danbury ranged from a high 598 in 2005 down to a low of 81 in 2008. There were permits for 116 new housing units issued in 2010. In the five-year look-back period for this projection, there was an average of 175 net new housing units constructed. The 2010 census indicated that Danbury had 31,154 housing units of which 7.2 percent were unoccupied in April 2010. Permits issued through August indicate there will be no rebound in 2011.

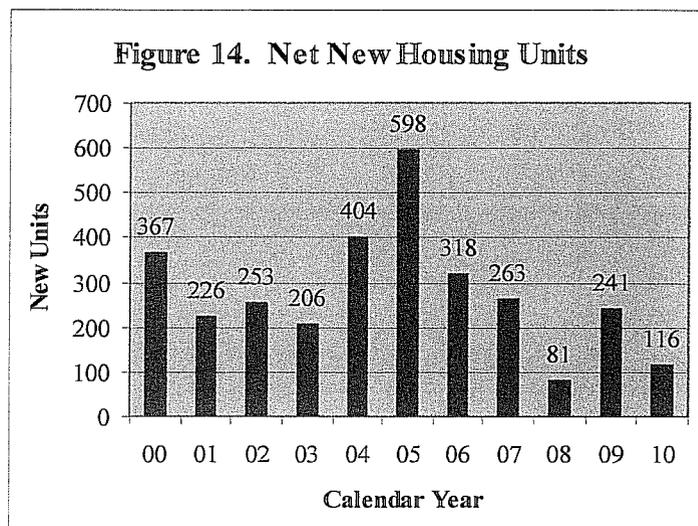


Figure 15 presents my estimate of the number of sales of existing homes. I derived it by taking the number of real estate transactions from The Warren Group/Commercial Record and subtracting the number of new single-family housing units authorized. This is an estimate because of the lag between the time a new house is authorized and it is sold. The estimated number of sales of existing homes ranged from a low of 622 in 2011 to a high of 1,568 in 2003. In the five-year look back period for the projection, there were 741 sales annually. Based on sales through July, I anticipate there will be about 575 sales of existing houses in 2011.

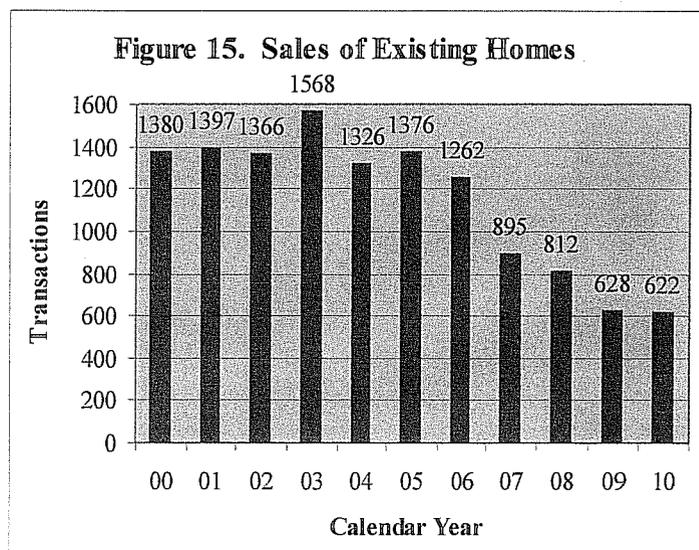


Figure 16 presents the percentage of Grade 9 students who were reported as being in that grade last year. Between 2005 and 2009 an average of 14.2 percent of the students enrolled in Grade 9 were repeating the grade. In 2010, the policy was changed and the percentage repeating plunged to 1.4 percent. In 2011, the former policy was restored and the percentage repeating was 13.2 percent. The projection used enrollment from 2008, 2009 and 2011 to project Grade 9 enrollment. The percentage repeating the grade in that period was 13.6 percent.

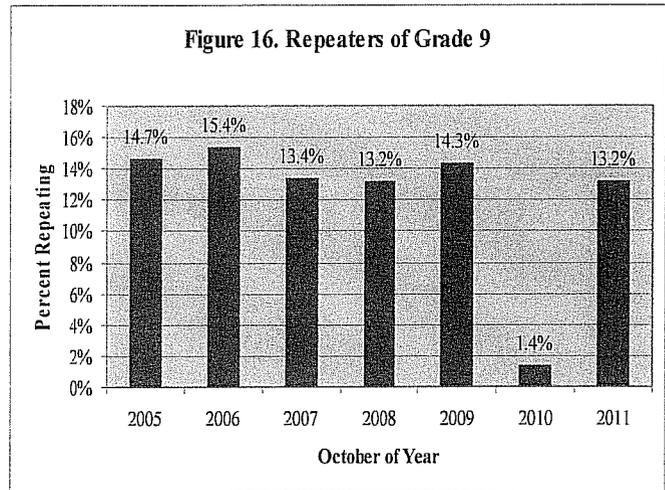


Figure 17 presents the non-public enrollment over the past ten years for students from the city of Danbury. The data are from the records of the Connecticut State Department of Education. Non-public enrollment ranged from a high of 1,741 students in 2000 to a low of 1,290 students in 2010, the latest data available. In the past ten years, enrollment in the non-public schools decreased by 451 students or 25.9 percent. The 2010 enrollment represented 10.9 percent of all students from Danbury. That is down from 12.6 percent in 2009 and the 13.6 percent recent high set in 2007. I expect the non-public enrollment from Danbury will be down 60 students in 2011.

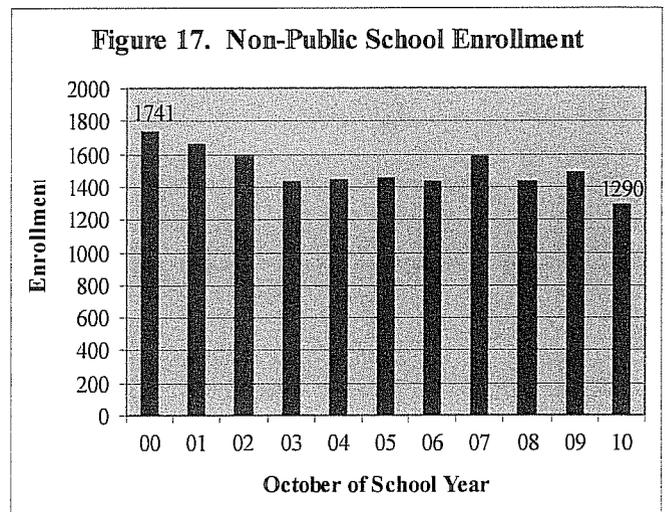


Figure 18 presents the non-resident enrollment in the Western Connecticut Academy of International Studies Magnet. The magnet school opened in 2006 with grades K-4 with an initial non-resident enrollment of 85 students. They represented 33.1 percent of the school's 257-student enrollment. In 2011 there were 172 students enrolled in grades K-5 from 12 surrounding communities. That represented 44.2 percent of the school's 389-student enrollment. The projection assumed the school will enroll 30 non-resident students annually in kindergarten.

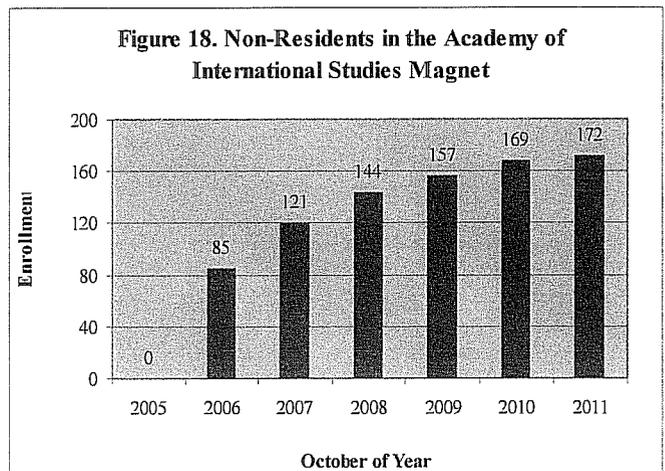


Figure 19 presents the enrollment of Danbury residents in other public schools in Connecticut from 2002 to 2011. The number educated out-of-district went from 373 in 2002 to 289 in 2006 and then recovered to 365 in 2011. Most of the students attended Henry Abbott State Technical High School. In 2011, 18 students attended a special education program run by a regional educational service center, 11 attended another public school, 335 attended Abbott Tech and one attended the agriculture science program at Nonnewaug High School.

Figure 20 presents the estimated migration of students from Danbury. The estimate takes into account non-residents in Danbury and Danbury residents attending other public schools. Estimated migration ranged from a low of -1.9 percent in 2004 to a high of +1.7 percent in 2000. The estimated migration was +1.0 percent in 2011. The data behind these figures may be found in Appendices A and B. The average migration in the projection's five-year look-back period was +0.59 percent.

Figure 19. Residents Enrolled in Other Public Schools

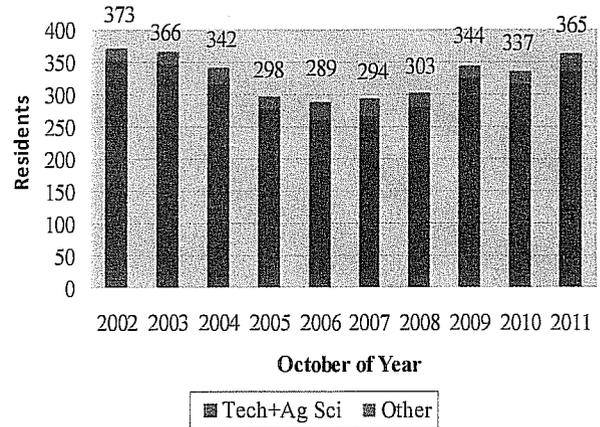
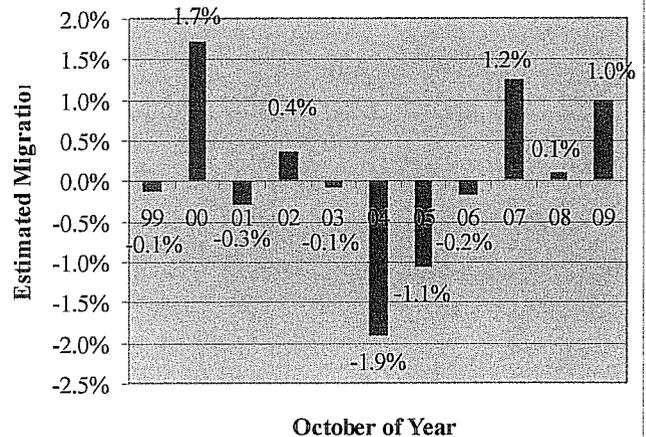


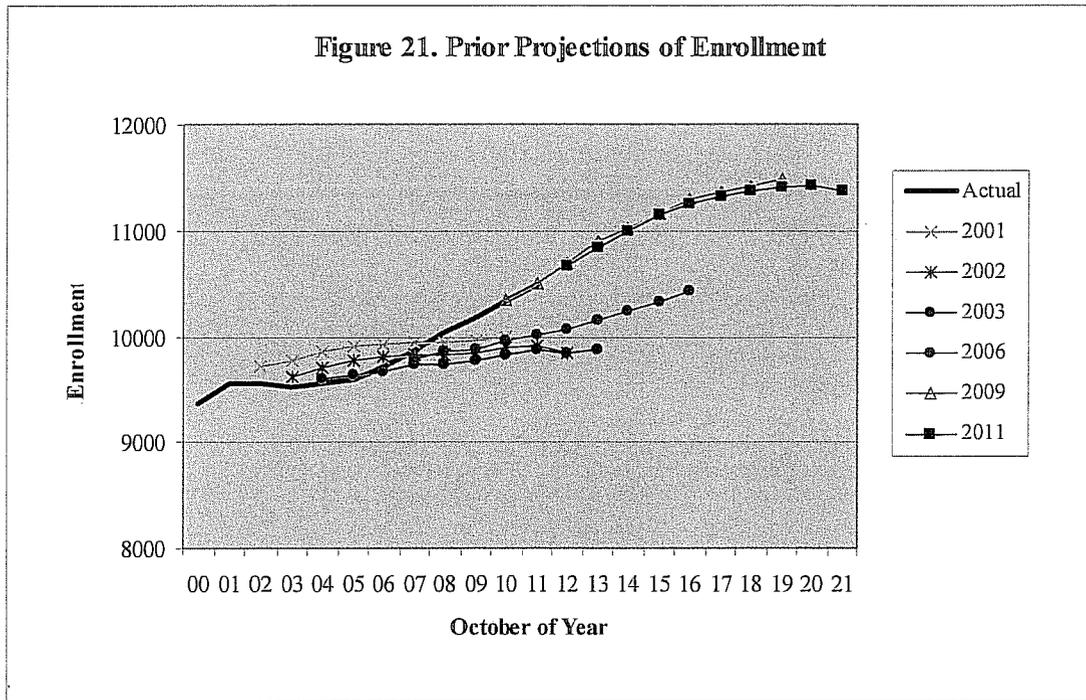
Figure 20. Estimated Student Migration



Prior Projections of Enrollment

The cohort-survival projection method works by moving forward the pattern of recent events that are subsumed within the grade-by-grade enrollment. This works very well when communities are stable. That includes places that are growing or declining at a steady rate. One way to know if that assumption is valid is to examine how past projections have fared. Figure 21 presents the enrollment projections that I have run for Danbury since 2001. The five enrollment projections that I did between 2001 and 2009 had one-year error rates that averaged 0.8 percent. The four projections done between 2001 and 2006 had an average five-year error rate of 2.6 percent, which is 0.51 percent annualized.

My 2009 projection for Danbury is running 0.01 percent high after two years. In that analysis, I projected that K-5 enrollment would be 5,068 students in 2011. The actual enrollment of 5,118 was 50 students more than projected. The projection was low by 1.0 percent over two years. I projected that enrollment in grades 6-8 would be 2,273 students in 2011. The actual enrollment of 2,232 was 41 students less than projected. The projection was high by 1.85 percent. I projected that high school enrollment would be 2,942 students in 2011. The actual enrollment of 2,981 was 39 students more than projected. The projection was low by 1.31 percent over two years. The 2011 projection kept pre-kindergarten enrollment constant at 208 children. The actual enrollment in 2011 was 159 children.



In my work I have found the cohort-survival method provides estimates that are sufficiently accurate for intermediate-range policy planning. The eight-year planning horizon for school construction grants is at the limit of the useful accuracy of the method. I analyzed the eight-year accuracy of the district projections from across the state that I ran in 1999. I found for the 66 district-level projections, the 1999 projection had a 7.5 percent error rate in predicting 2007 enrollment. The error was less than five percent in 38 percent of the projections and more than 15 percent in 11 percent of the projections. The projections run in 1999 under-estimated the 2007 enrollment by an average of 1.7 percent.

Summary

I project that total enrollment will increase 8-9 percent, going from 10,490 students in 2011 to about 11,380 students in 2021. The system should establish a new peak enrollment in 2016 and continue to expand through 2020. I project that K-5 enrollment will move upward from 5,118 in 2011 to about 5,400 students in 2015 and then fall back to about 5,020 students in 2021. This will be about a 100 student loss, a decline of about two percent. I believe that future middle school enrollment will move upward from 2,232 in 2011 to about 2,730 in 2019 or 2020 and then fall off to about 2,680 students at the end of the projection. The net increase between 2011 and 2021 will be about 450 students or about 20 percent. Between 2011 and 2021, I project that high school enrollment will grow from 2,981 students to about 3,525 students. That is a projected increase of 550 students, representing more than an 18 percent increase.

This 2011 projection is projecting the same basic pattern of enrollment in the future as my 2009 projection. The most the two projections vary in any year is 71 students. Births in 2010 to 2016 are lower in this projection than in 2009. The kindergarten yield from births is virtually identical in the two projections. Pre-kindergarten classes were cut in 2010 and although they grew a little in 2011, they still are about 60 children less than carried forward in 2009. The yield from Grade 8 was 1.141 percent in this projection and 1.169 percent in the 2009 projection. The underlying migration rate over the past five years was +0.59 percent in this projection and +0.45 percent in my 2009 projection.

These projections are based upon several other assumptions revolving around the notion that the recent past is a good predictor of the near future. The projection assumes that the following school policies will continue: kindergarten will remain a mixture of half- and full-day; retention policies will not change; no expansion of area magnet schools and no change in the drop-out rate. The projection assumes the following population growth factors will not change appreciably: births will average 1,102 over the 2012 to 2016 period; a 31 percent decrease between the number of births and subsequent kindergarten enrollment; and a student migration of +0.59 percent. Additionally, there will be a slight decline in non-public school enrollment; 175 new housing units will be constructed annually; there will be an average of 741 sales of existing homes and a slowly increasing labor force.

This remains a difficult time to predict future enrollment. A high unemployment rate, a sputtering economic recovery and mortgage foreclosures all make conditions today different than a couple of years ago. Danbury's 7.9 percent unemployment rate for 2010 is the highest since these data were reported in the Local Area Unemployment Statistics of the US Department of Labor starting in 1990. The economy likely played a role in the decline of non-public school enrollment. These conditions are only a part of the five-year enrollment history that is used to look forward to the next ten years. We cannot know today how long these conditions will continue. The cohort survival method relies on observed data from the recent past. The method is somewhat unresponsive to change. However, I know of no alternative data-based model that is responsive and produces grade-level data.

This projection should be used as a starting point for local planning. Examine the factors and assumptions underlying the method. You know your community best. Apply your knowledge of the specific conditions in Danbury and then make adjustments as necessary.

Appendix A. Danbury Enrollment Projected by Grade to 2021: Grades PK-5

School Year	Birth Year	Births ¹	K	1	2	3	4	5	PK	Total K-5	Total PK-5
2001-02	1996	1067	747	734	774	704	688	713	323	4360	4683
2002-03	1997	1076	720	777	721	769	688	704	124	4379	4503
2003-04	1998	991	660	781	743	721	756	694	106	4355	4461
2004-05	1999	1076	754	728	738	715	682	752	168	4369	4537
2005-06	2000	1070	743	776	699	725	711	682	150	4336	4486
2006-07	2001	1086	763	791	774	703	717	696	176	4444	4620
2007-08	2002	1122	825	802	767	763	700	721	188	4578	4766
2008-09	2003	1196	898	855	808	769	756	708	196	4794	4990
2009-10	2004	1028	787	914	845	796	773	761	217	4876	5093
2010-11	2005	1165	842	836	915	837	803	786	138	5019	5157
2011-12	2006	1190	874	899	818	905	817	805	159	5118	5277
Projected											
2012-13	2007	1212	892	919	890	810	899	824	159	5234	5393
2013-14	2008	1234	908	937	910	881	805	907	159	5348	5507
2014-15	2009	1176	870	954	927	901	876	812	159	5340	5499
2015-16	2010	1144	846	914	944	918	896	883	159	5401	5560
2016-17	2011	1081	802	889	905	935	912	904	159	5347	5506
2017-18	2012	1112	820	843	880	896	929	920	159	5288	5447
2018-19	2013	1095	811	862	834	871	891	937	159	5206	5365
2019-20	2014	1103	815	852	853	826	866	899	159	5111	5270
2020-21	2015	1099	812	857	843	845	821	873	159	5051	5210
2021-22	2016	1101	814	853	848	835	840	828	159	5018	5177
Projection Growth²				1.051	0.990	0.990	0.994	1.009			
Annual Growth Rates											Estimated Migration⁴
2002			0.669	1.040	0.982	0.994	0.977	1.023			0.37%
2003			0.666	1.085	0.956	1.000	0.983	1.009			-0.09%
2004			0.701	1.103	0.945	0.962	0.946	0.995			-1.92%
2005			0.694	1.029	0.960	0.982	0.994	1.000			-1.07%
2006			0.703	1.043	0.973	0.980	0.968	0.979			-0.19%
2007			0.735	1.051	0.970	0.986	0.996	1.006			1.24%
2008			0.751	1.036	1.007	1.003	0.991	1.011			0.09%
2009			0.766	1.018	0.988	0.985	1.005	1.007			0.98%
2010			0.723	1.062	1.001	0.991	1.009	1.017			1.47%
2011			0.734	1.068	0.978	0.989	0.976	1.002			-0.28%
5 Year Ave.			0.742	1.047	0.989	0.991	0.995	1.009			
3 Year Ave.			0.741	1.049	0.989	0.988	0.997	1.009			
Weighted 5-Year Ave.			0.740	1.051	0.990	0.990	0.994	1.009			
Median, Past 10 Years			0.713	1.047	0.976	0.987	0.987	1.006			

¹ The 2010 births were based upon in-state births and out-of-state births less New York City through December.

2011 births were based on in-state births through September.

2012 - 2016 births were derived, in part, from the Connecticut State Data Center projection of children 0-4 years old.

² Grades 1-5 based on 5-year weighted averages of annual growth rates by grade.

³ Kindergarten based on five-year weighted averages of estimated yield from births five- and six-years ago and retention at each of the elementary schools.

⁴ Estimated by comparing the enrollment in grades 3-8 one year with the enrollment in grades 2-7 the prior year with an adjustment for residents out and non-residents in.

Appendix B. Danbury Enrollment Projected by Grade to 2021: Grades 6-12

School Year	6	7	8	9	10	11	12	6-8 Total	9-12 Total	PK-12 Total
2001-02	753	721	741	813	679	615	562	2215	2669	9567
2002-03	708	762	738	885	692	657	614	2208	2848	9559
2003-04	697	711	770	847	719	666	650	2178	2882	9521
2004-05	685	706	696	906	726	660	640	2087	2932	9556
2005-06	719	679	716	880	770	676	660	2114	2986	9586
2006-07	691	725	705	852	724	728	662	2121	2966	9707
2007-08	719	701	756	837	722	699	675	2176	2933	9875
2008-09	693	713	719	843	729	680	673	2125	2925	10040
2009-10	700	714	730	845	721	701	675	2144	2942	10179
2010-11	758	710	741	719	835	700	724	2209	2978	10344
2011-12	747	755	730	839	727	735	680	2232	2981	10490
Projected										
2012-13	789	753	778	833	720	695	706	2320	2954	10667
2013-14	798	796	776	888	715	689	668	2370	2960	10837
2014-15	879	805	820	885	762	684	662	2504	2993	10996
2015-16	789	886	830	936	759	729	657	2505	3081	11146
2016-17	859	796	913	947	803	726	700	2568	3176	11250
2017-18	874	866	820	1042	812	768	698	2560	3320	11327
2018-19	896	881	892	936	894	777	738	2669	3345	11379
2019-20	913	904	908	1018	803	855	747	2725	3423	11418
2020-21	875	921	932	1036	873	768	822	2728	3499	11437
2021-22	849	882	949	1063	889	835	738	2680	3525	11382
Projection Growth Rates¹	0.999	1.008	1.031	1.141	0.858	0.956	0.961			
Annual Growth Rates										Migration²
2002	0.993	1.012	1.024	1.194	0.851	0.968	0.998			0.37%
2003	0.990	1.004	1.010	1.148	0.812	0.962	0.989			-0.09%
2004	0.987	1.013	0.979	1.177	0.857	0.918	0.961			-1.92%
2005	0.956	0.991	1.014	1.264	0.850	0.931	1.000			-1.07%
2006	1.013	1.008	1.038	1.190	0.823	0.945	0.979			-0.19%
2007	1.033	1.014	1.043	1.187	0.847	0.965	0.927			1.24%
2008	0.982	0.992	1.026	1.115	0.871	0.942	0.963			0.09%
2009	1.010	1.030	1.024	1.175	0.855	0.962	0.993			0.98%
2010	1.016	1.014	1.038	0.985	0.988	0.971	1.033			1.47%
2011	0.978	0.996	1.028	1.132	1.011	0.880	0.971			-0.28%
5 Year Ave.	1.004	1.009	1.032	1.119	0.915	0.944	0.977			
3 Year Ave.	1.001	1.014	1.030	1.097	0.952	0.938	0.999			
Weighted 5-Year	0.999	1.008	1.031	1.103	0.944	0.935	0.988			
Median, Past 10	0.992	1.010	1.025	1.176	0.853	0.954	0.984			

¹ Grades 7 and 8 based on 5-year weighted averages of annual growth rates. Grade 6 based on resident enrollment in Grade 5. Grade 9 based on average of 2008, 2009 and 2011 to reflect change in promotion policy in 2010. Grades 10-12 based on average of 2007 to 2009 to reflect change in policy in 2010 and return to the former promotion policy in 2011.

² Estimated by comparing the enrollment in grades 3-8 one year with the enrollment in grades 2-7 the prior year with an adjustment for residents out to public schools and non-residents in to the Danbury magnet.

Location:

SCHOOLS - CONSTRUCTION;

Scope:

Connecticut laws/regulations; Background;



February 15, 2011

2011-R-0073

SCHOOL CONSTRUCTION SPACE REQUIREMENTS

By: John Moran, Principal Analyst

You asked for background information and an explanation of space requirements for school construction projects.

SUMMARY

Among the limitations on how much state funding is awarded to a local school construction project is the maximum allowable square footage per pupil in a proposed facility. The square footage is related to projected enrollment and the number of grades the school will serve.

There are some variations and exceptions to the regular space standards. For school expansion or extension projects involving a school building constructed before 1950, the space standard is increased by 25% for any pre-1950 building that remains part of the new project when it is completed. Also, certain aspects of projects, such as corrections for code or health violations, are not subject to the square footage reimbursement limitation.

A project that exceeds the maximum allowable square footage may still go forward, but the school district will receive a lower state reimbursement based on how much the project exceeds the maximum for the number of students it serves.

SPACE STANDARDS AND PROJECT REIMBURSEMENT GRANTS

School construction grants are based on eligible project costs, which are limited by state standards and criteria. Towns are reimbursed for from 20% to 80% of those costs, depending on town wealth (CGS § 10-283). So for example, if a town's reimbursement rate is 50% and the entire project has a total eligible cost of \$50

there is pre-1950 footage (see link below).

Space standards do not apply to projects solely for correction of code or health violations, roof replacements, vocational agriculture equipment projects, board of education central administration projects, and projects solely for purchase of a building if there is not alteration, extension, or renovation component to the project.

LINKS

SDE's webpage under "School Construction Grant Process" provides worksheets with a range of examples covering instances where there is no part of the project including pre-1950 building footage and other examples where there is pre-1950 footage (see: www.sde.ct.gov/sde/cwp/view.asp?a=2636&q=320550 then click on "Ineligible and Limited Eligible Costs"). SDE's main web page: www.sde.ct.gov.

JM:ro

million, the town will receive a \$25 million state reimbursement.

For grant purposes, the state sets a maximum allowable square footage per pupil for a facility. The maximum is based upon the projected enrollment for the project; grades housed in the school; and the amount of square footage, if any, constructed prior to 1950 (Conn. Agencies Reg. § 10-287c-15(a)).

To calculate the reimbursement, the grade range and projected enrollment for a project are applied to Table 1 below to calculate a maximum allowable square footage per pupil.

Table 1: State Space Specifications for Reimbursement Purposes

Projected Enrollment	Grades				
	Pre-K and K	1 to 4	5 to 6	7 to 9	10 to 12
	Maximum Allowable Square Footage per Pupil				
0-350	124	124	156	180	194
351-750	120	120	152	176	190
751-1500	116	116	148	170	184
Over 1500	112	112	142	164	178

The maximum allowable square footage per pupil is then compared to the actual per-pupil square footage. If the resulting ratio is less than one, the building is considered to be oversized for grant computation purposes. Therefore, the ratio is applied to all project costs, except site and building purchase costs, and the reimbursement is corresponding reduced.

For school expansion or extension projects involving a school building constructed before 1950, the space standard is increased by 25% for any pre-1950 building that remains part of the new project when it is completed. This means if a project has considerable square footage built before 1950, the standard is more generous so, within limits, a larger project could be fully reimbursable. SDE's webpage provides worksheets with a range of examples covering instances where there is no part of the project including pre-1950 building footage and other examples where

Connecticut State Department of Education
Division of Finance and Internal Operations

BUREAU OF SCHOOL FACILITIES

Office Address:

165 Capitol Avenue, Room 258
Hartford, CT 06106

Mailing Address:

P. O. Box 2219
Hartford, CT 06145

Grant Questions

Application Procedures
Progress Payment Process
General Project and Grant Questions
Ineligible and Limited Eligible Worksheet
Project Closeout
Form ED045, ED045R, ED046, ED049, ED049R, ED049F

Plan Review Questions

Code Questions
Change Orders
Plan Approval Status
Plan Review Meetings (PREP and PCT)
Plan Submission
Renovation Status Reviews
Roof Sketches
Site Inspections
Forms ED042, ED042CO, ED053

BUREAU OF SCHOOL FACILITIES

Contacts for Grant Questions

Grant Office Phone: (860) 713-6480

Grant Office Fax: (860) 713-7020

ED049 Form and Project Application Process	John Goldrick	(860) 713-6481 john.goldrick@ct.gov
ED045 and ED045R Forms, Bonding and Refinancing Questions	Michelle Dixon	(860) 713-6477 michelle.dixon@ct.gov
ED046, ED049R Forms; Progress Payment Process; Ineligible and Limited Eligible Costs Worksheet; General Project and Grant Questions;	Michelle Dixon	(860) 713-6477 michelle.dixon@ct.gov
ED049F Form and Closeout	Paige Farnham	(860) 713-6479 paige.farnham@ct.gov
	Tom Reault	(860) 713-6469 thomas.reault@ct.gov

BUREAU OF SCHOOL FACILITIES

Contacts for Plan Review Questions

Plan Review Office Phone: (860) 713-6490

Plan Review Office Fax: (860) 713-7020

Scheduling of Plan Review Meetings (PREP and PCT)	Lisa Rochester	(860) 713-6491 lisa.rochester@ct.gov
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ED042 Local Review ED042CO Change Orders Renovation Status Reviews Roof Sketches (local review) ED053 and Site Inspections	George Semenech	(860) 713-6485 george.semenech@ct.gov
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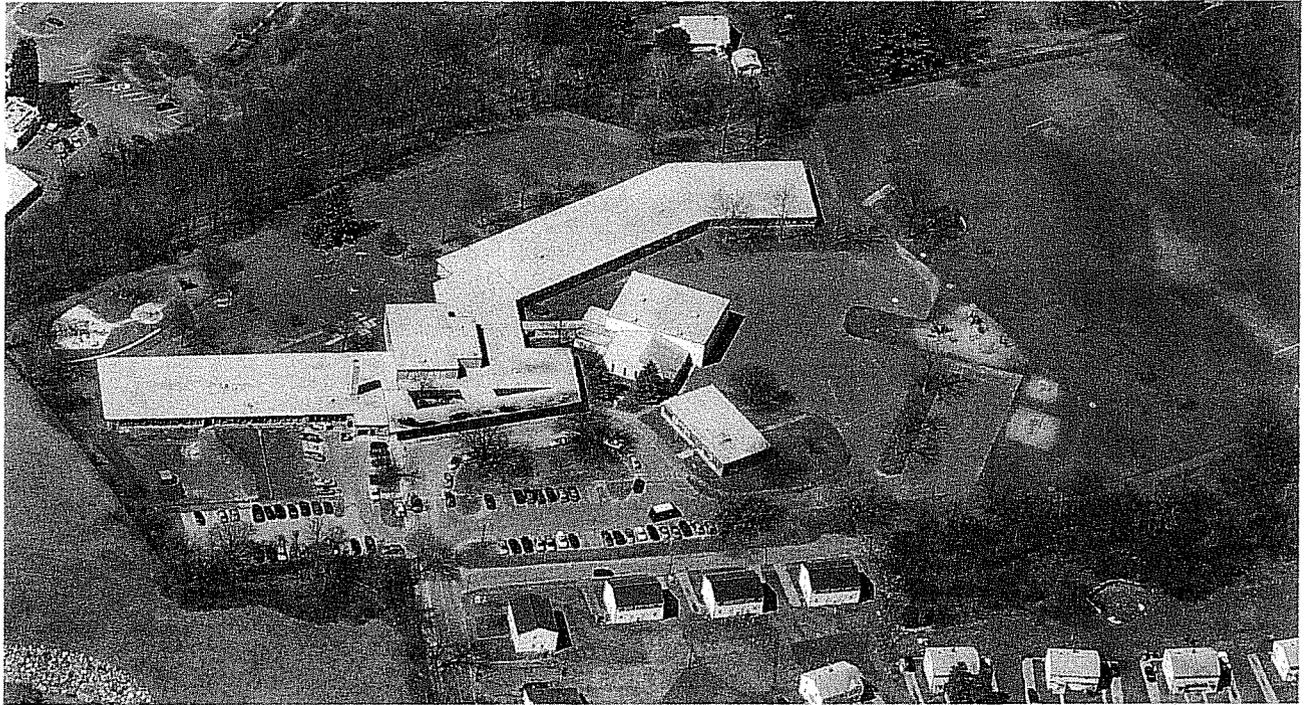
Code Questions ED042 Plan Review (SDE) Plan Approval Status Plan Submission Roof Sketches (SDE review)	Rich Snedeker Craig Smith	(860) 713-6487 richard.snedeker@ct.gov (860) 713-6486 craig.a.smith@ct.gov
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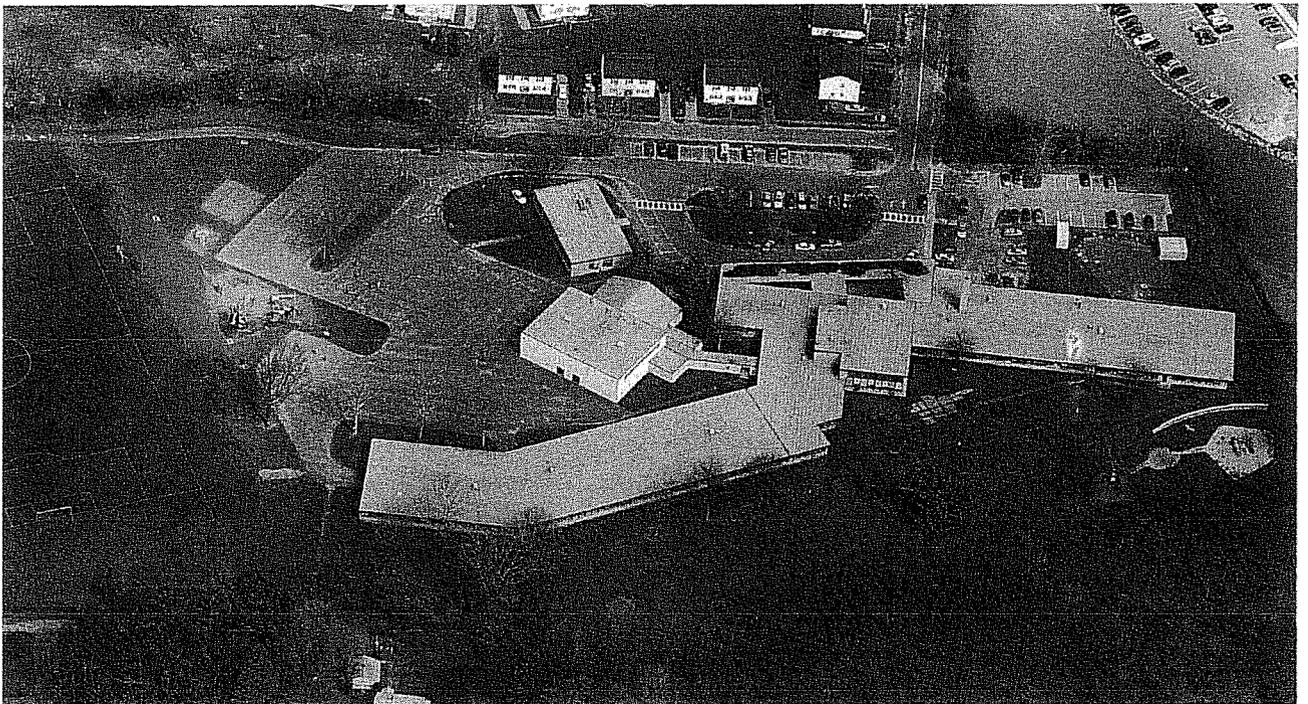
EXISTING AERIAL SOUTH TO NORTH VIEW



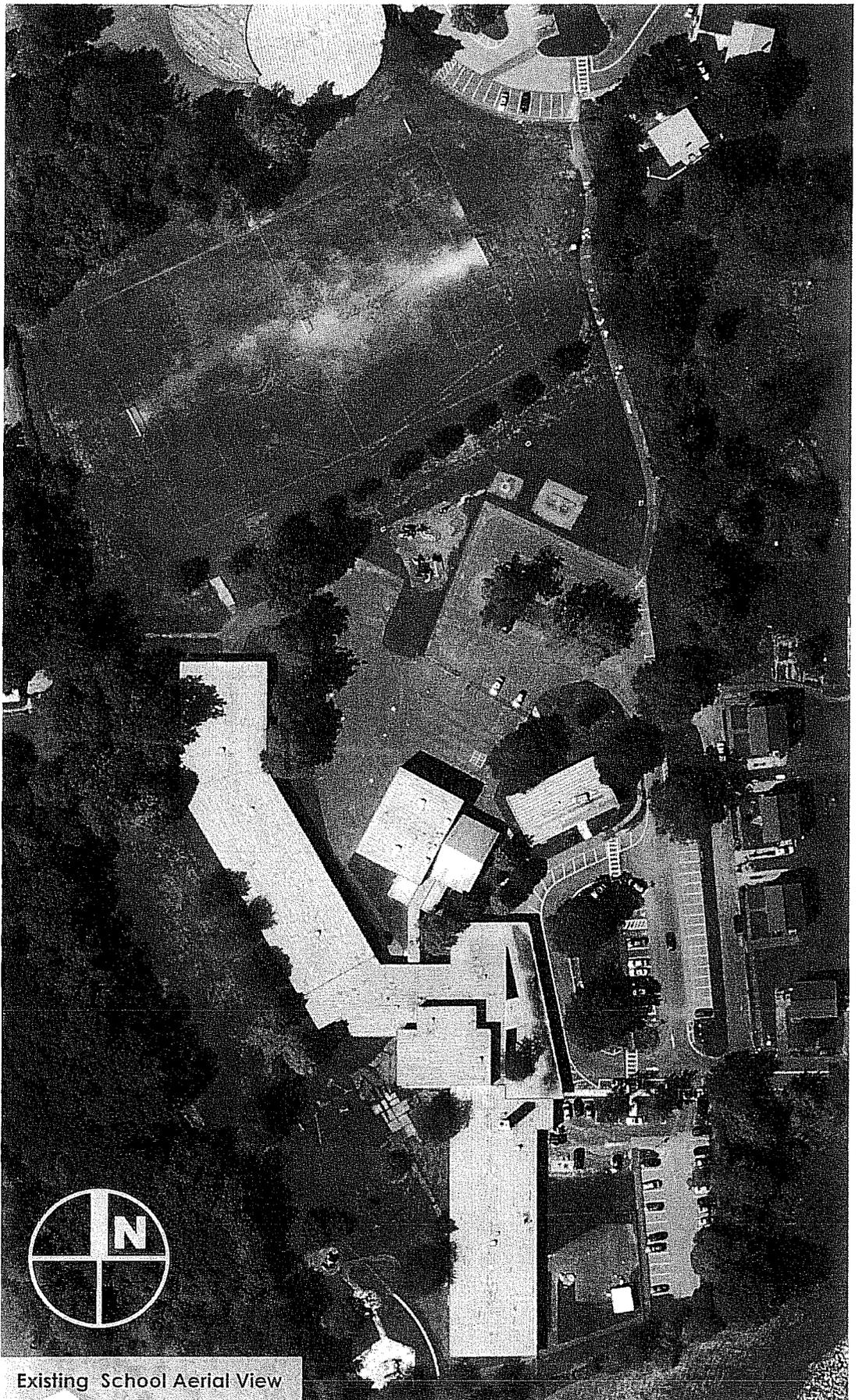
EXISTING AERIAL NORTH TO SOUTH VIEW



EXISTING AERIAL EAST TO WEST VIEW



EXISTING AERIAL WEST TO EAST VIEW



Existing School Aerial View

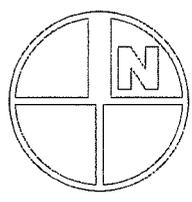
STUDY INFORMATION TABLE: MILL RIDGE SCHOOL (ASSESSING LOT: 115H)
 ZONE: CA-80 & RA-40 PRINCIPLE USE SCHOOL
 EX. 2140 BLDG. (SCHOOL) (CITY) (CITY) OVERBRIDGE 7200 SQ. FT.
 EXISTING LOT AREA 49220 SQ. FT. (1.13 ACRES)

ZONE CRITERIA	REQUIRED	EXISTING	PROPOSED
MINIMUM LOT AREA (ACRES)	2 - 2	13.82	---
MINIMUM FRONT YARD SETBACK	25 - 40	12.2	---
MINIMUM SIDE YARD SETBACK	20 - 30	11.6	---
MINIMUM REAR YARD SETBACK	20 - 30	11.7	---
MINIMUM BUILDING HEIGHT (FEET)	15 - 15	13.7	---
MINIMUM BUILDING COVERAGE (%)	20 - 15	13.6	---



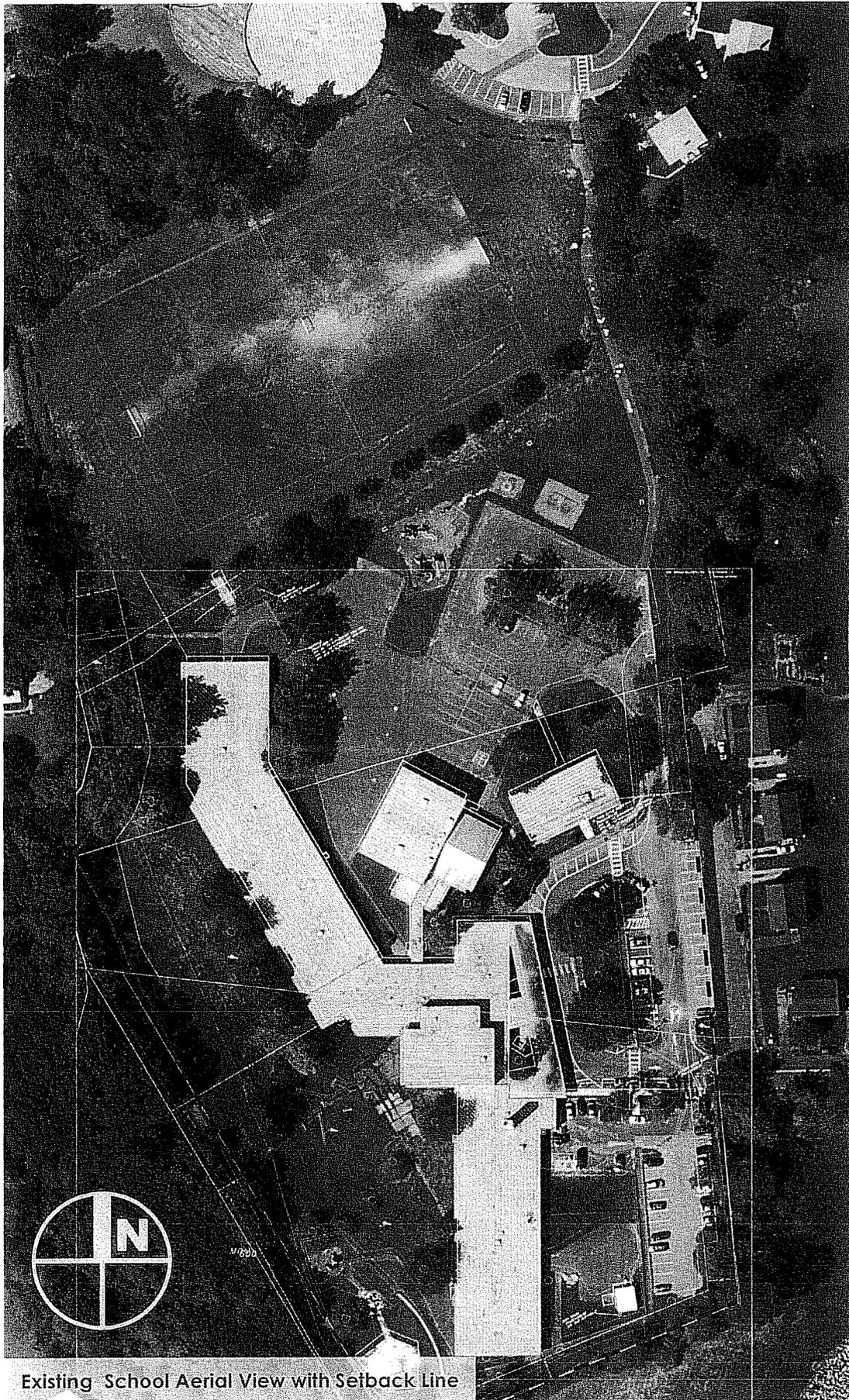
CITY OF DANBURY
 ENGINEERING DEPARTMENT
 FARID L. KHOURI, P.E. CITY ENGINEER

MAP SHOWING THE LAND OF
 THE CITY OF DANBURY
 MILL RIDGE INTERMEDIATE SCHOOL
 SCHOOL RIDGE ROAD DANBURY, CONNECTICUT
 ZONE: CA-80 & RA-40 AREA: 13.821 ACRES
 SCALE: 1" = 40' FEBRUARY 23, 2012

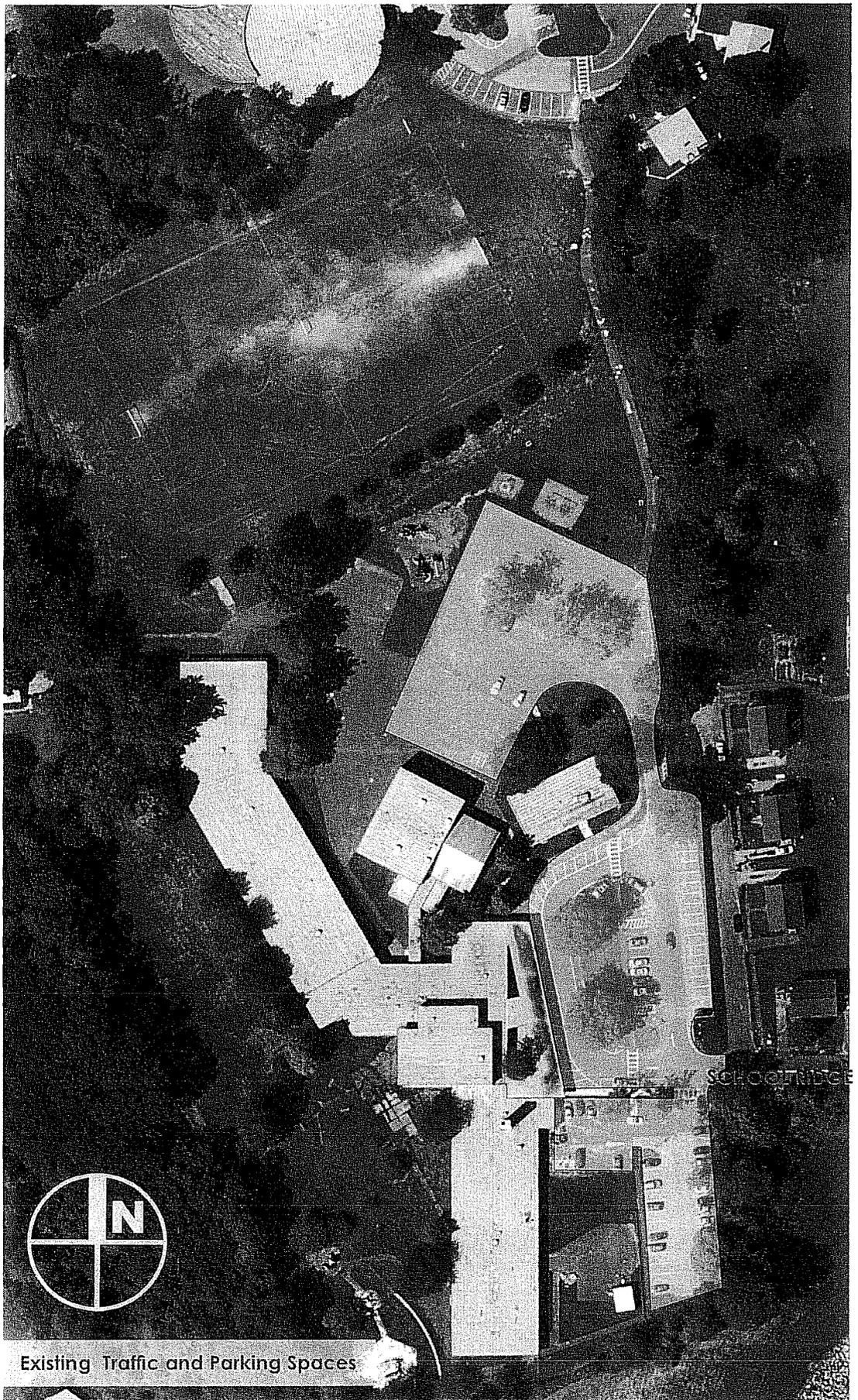


Existing School Site Plan (Whole Site)

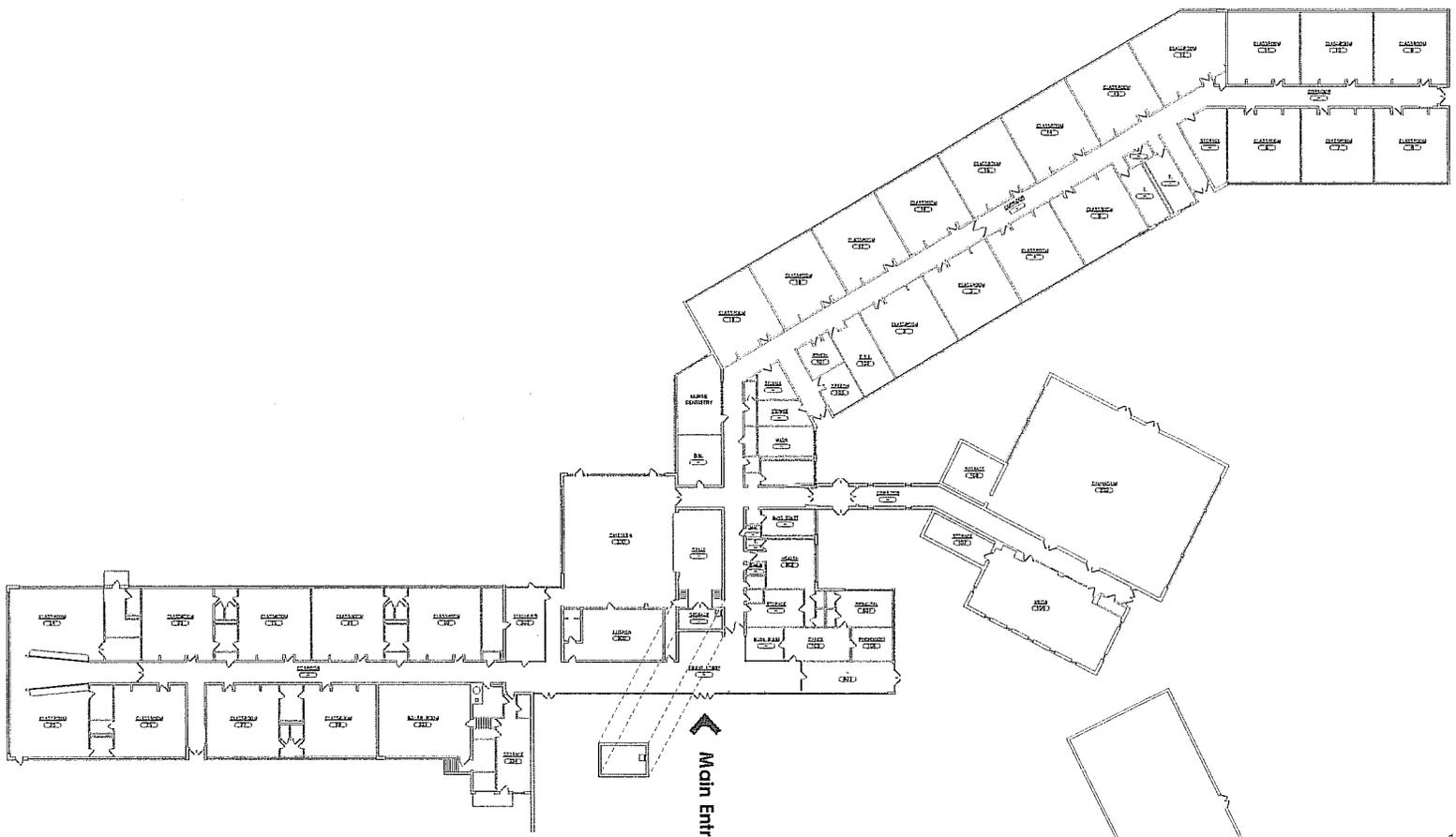




Existing School Aerial View with Setback Line



Existing Traffic and Parking Spaces

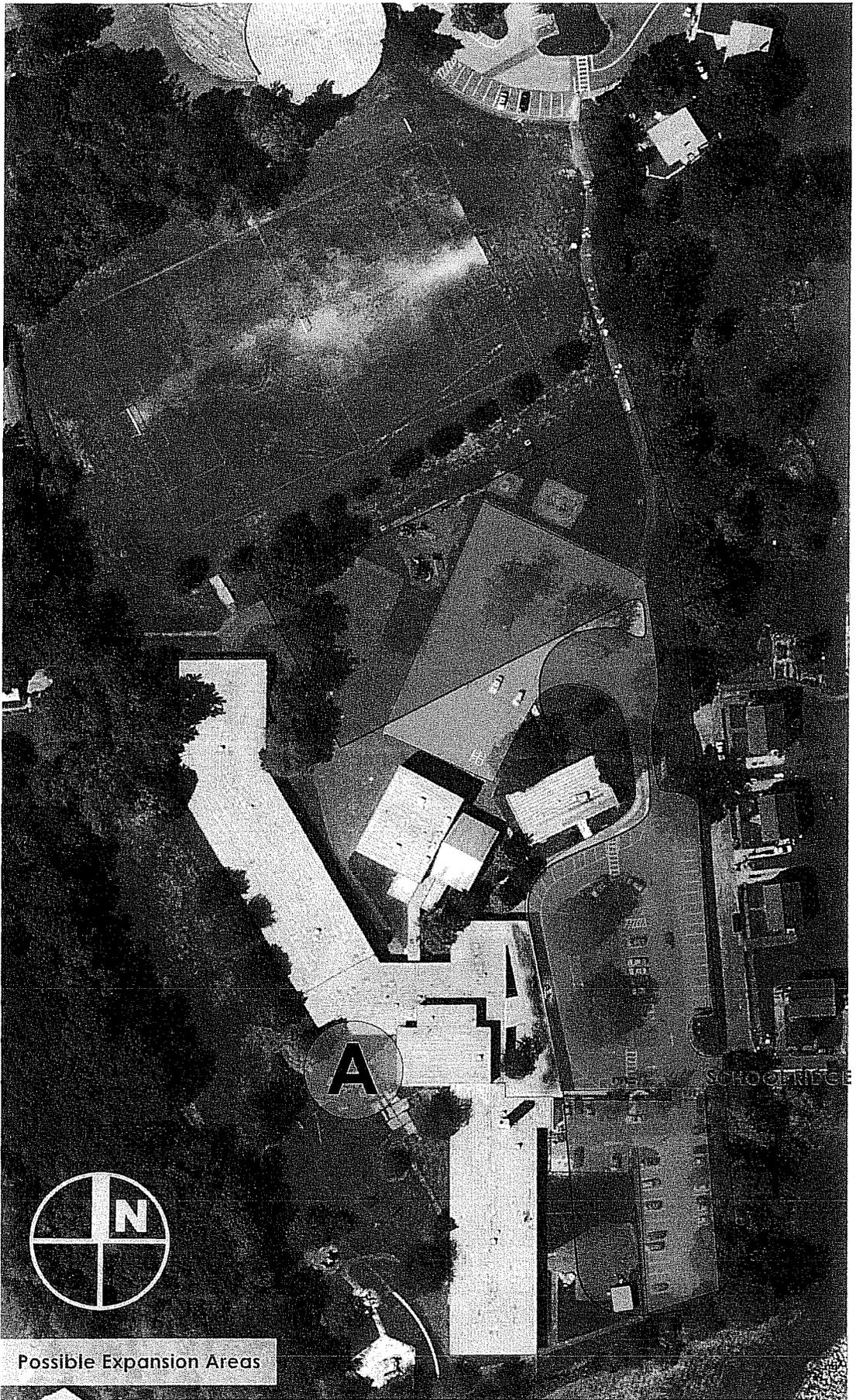


1 FLOOR PLAN
SCALE: 1/8" = 1'-0"

Existing Building Floor Plan



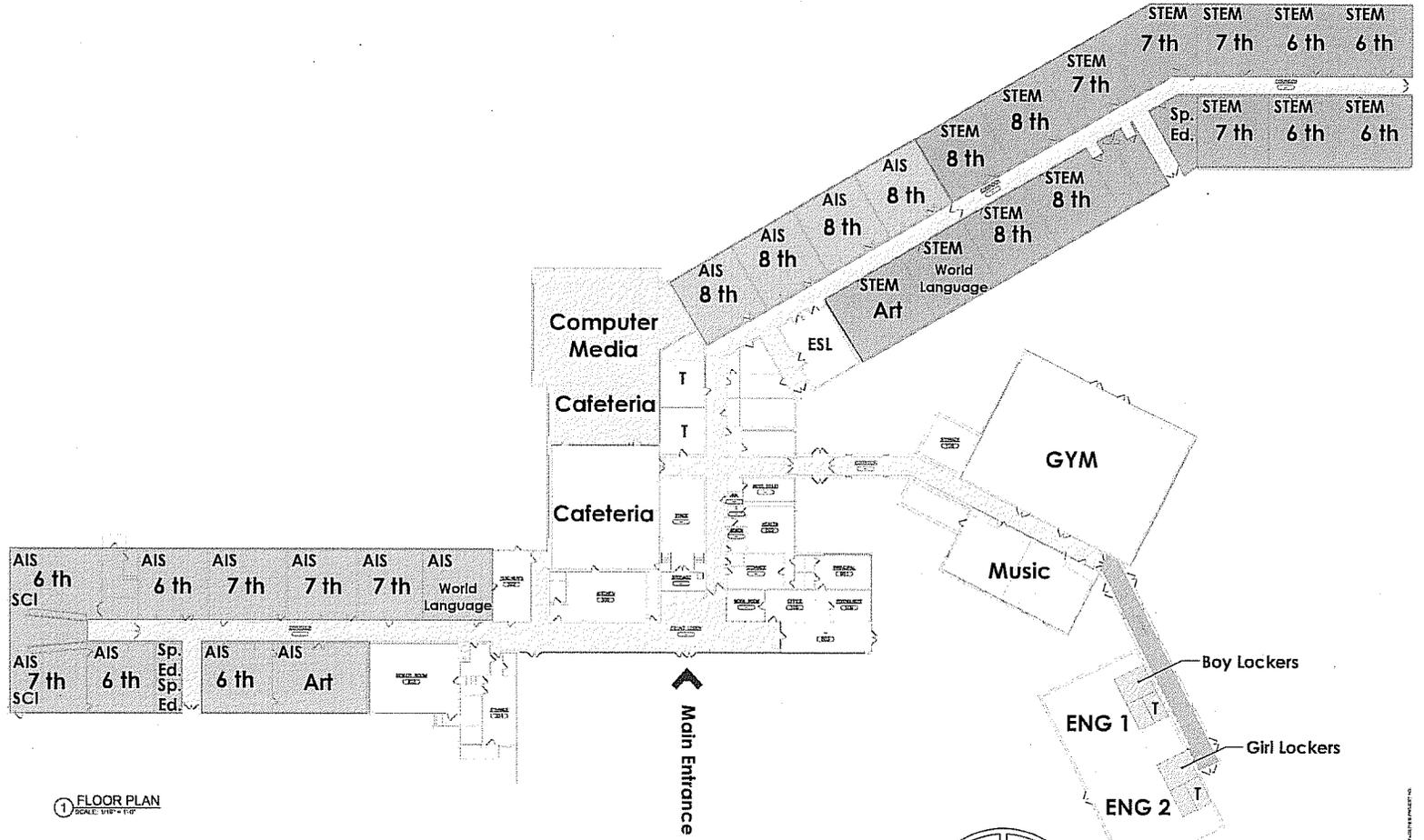
CITY OF DANBURY
MILL RIDGE INTERMEDIATE SCHOOL
FACILITIES PLANNING STUDY AND MASTER PLAN FOR ADDITIONS AND ALTERATIONS



Possible Expansion Areas

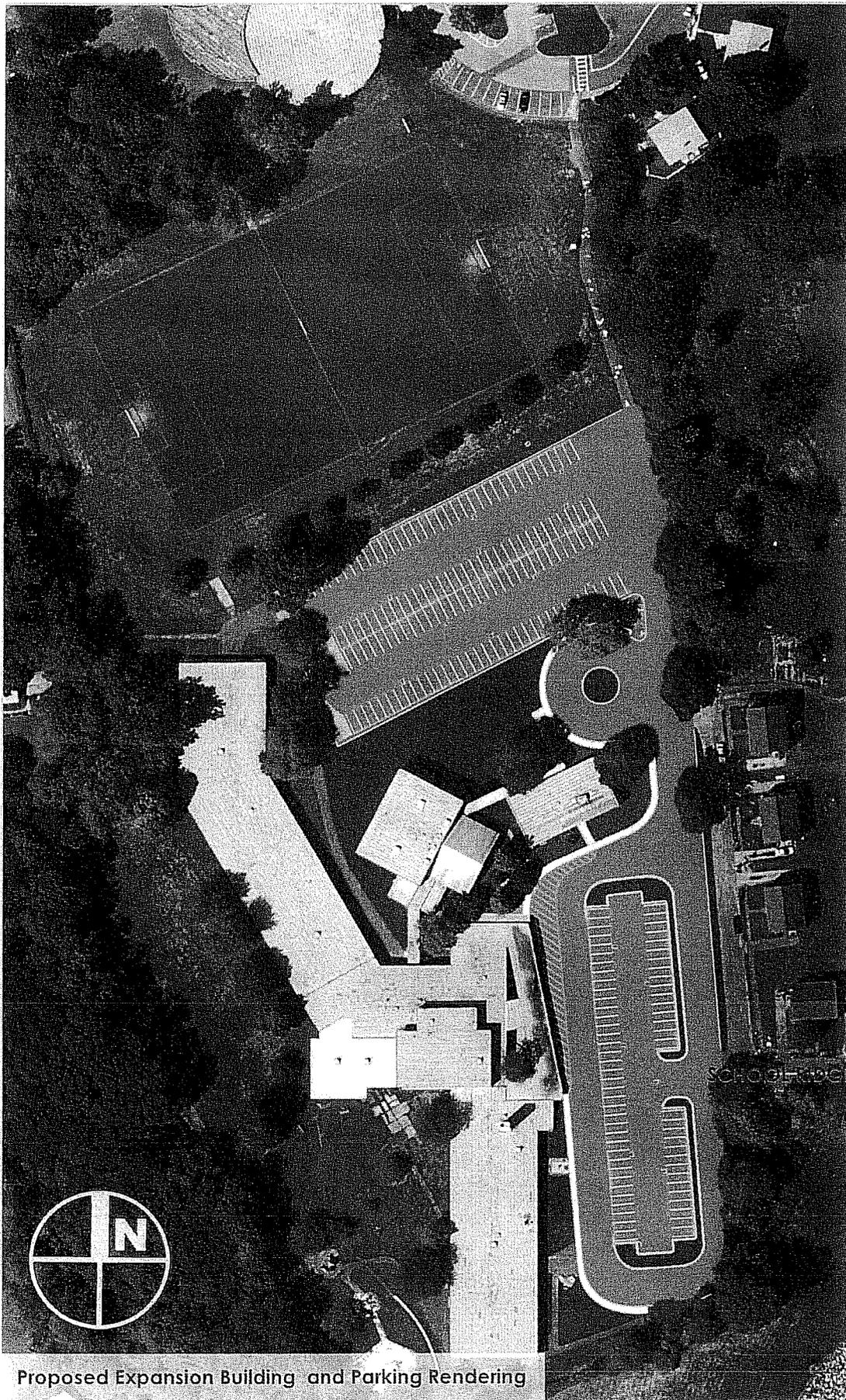


CITY OF DANBURY
MILL RIDGE INTERMEDIATE SCHOOL
FACILITIES PLANNING STUDY AND MASTER PLAN FOR ADDITIONS AND ALTERATIONS

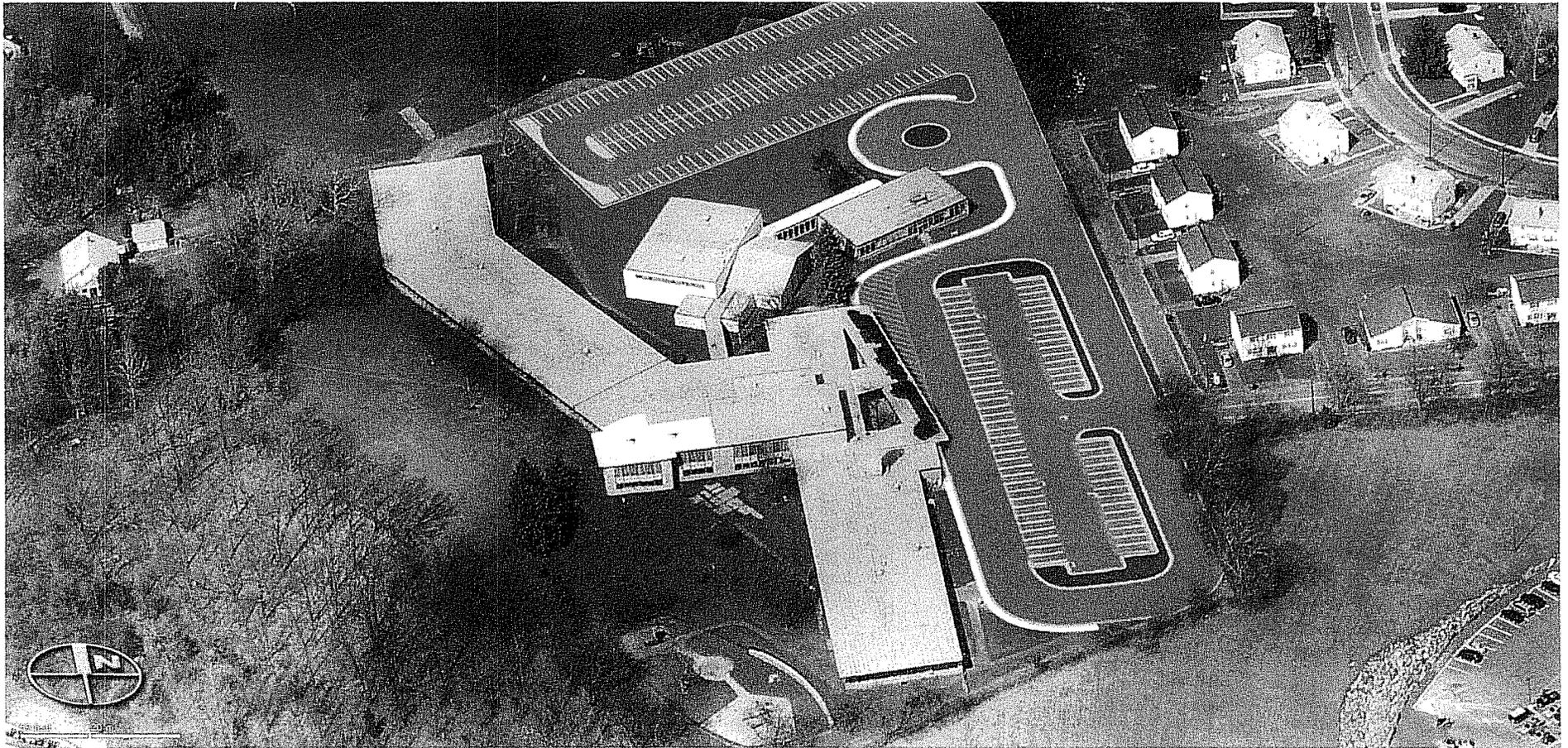


1 FLOOR PLAN
SCALE: 1/8" = 1'-0"

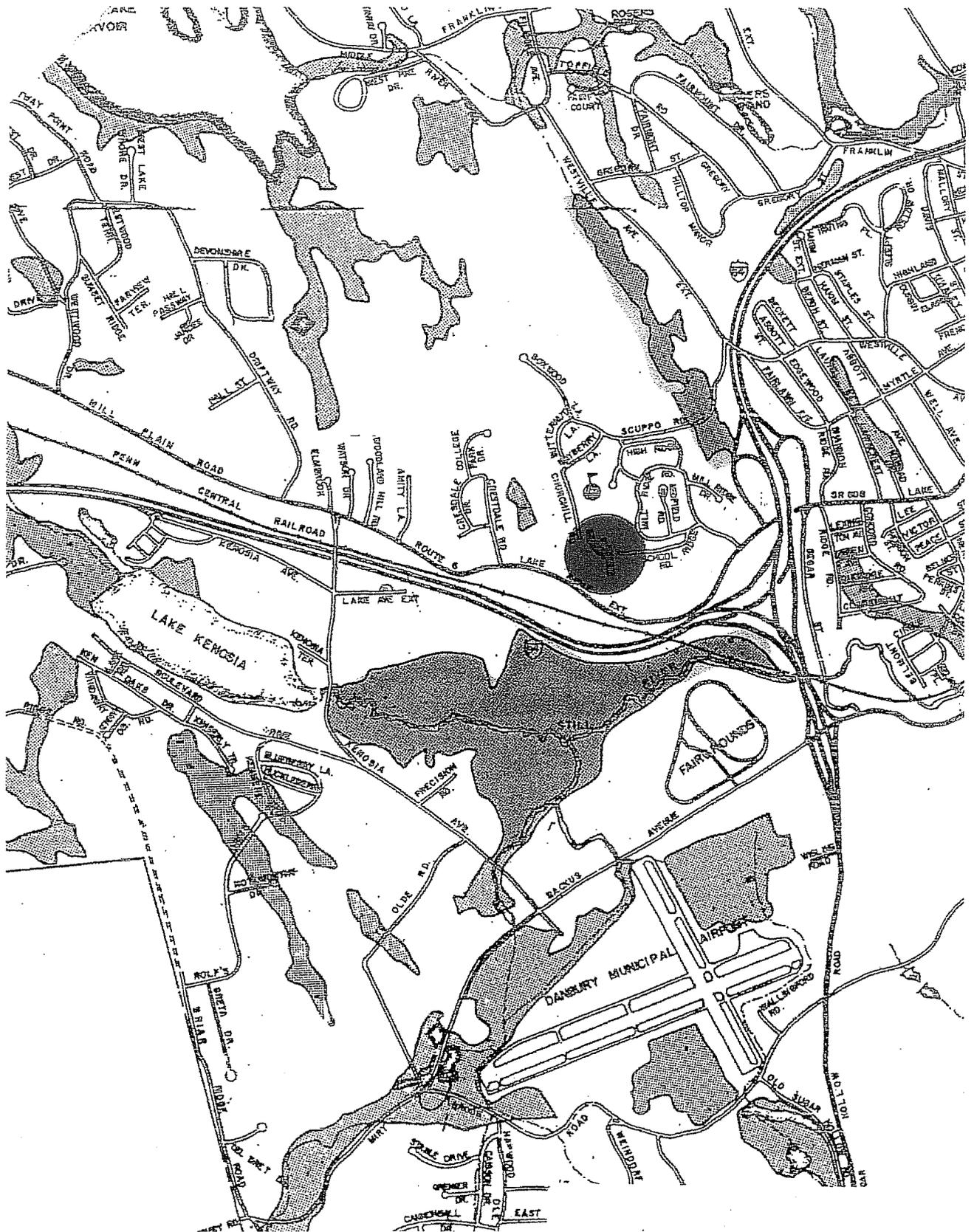
Proposed Expansion Building Floor Plan



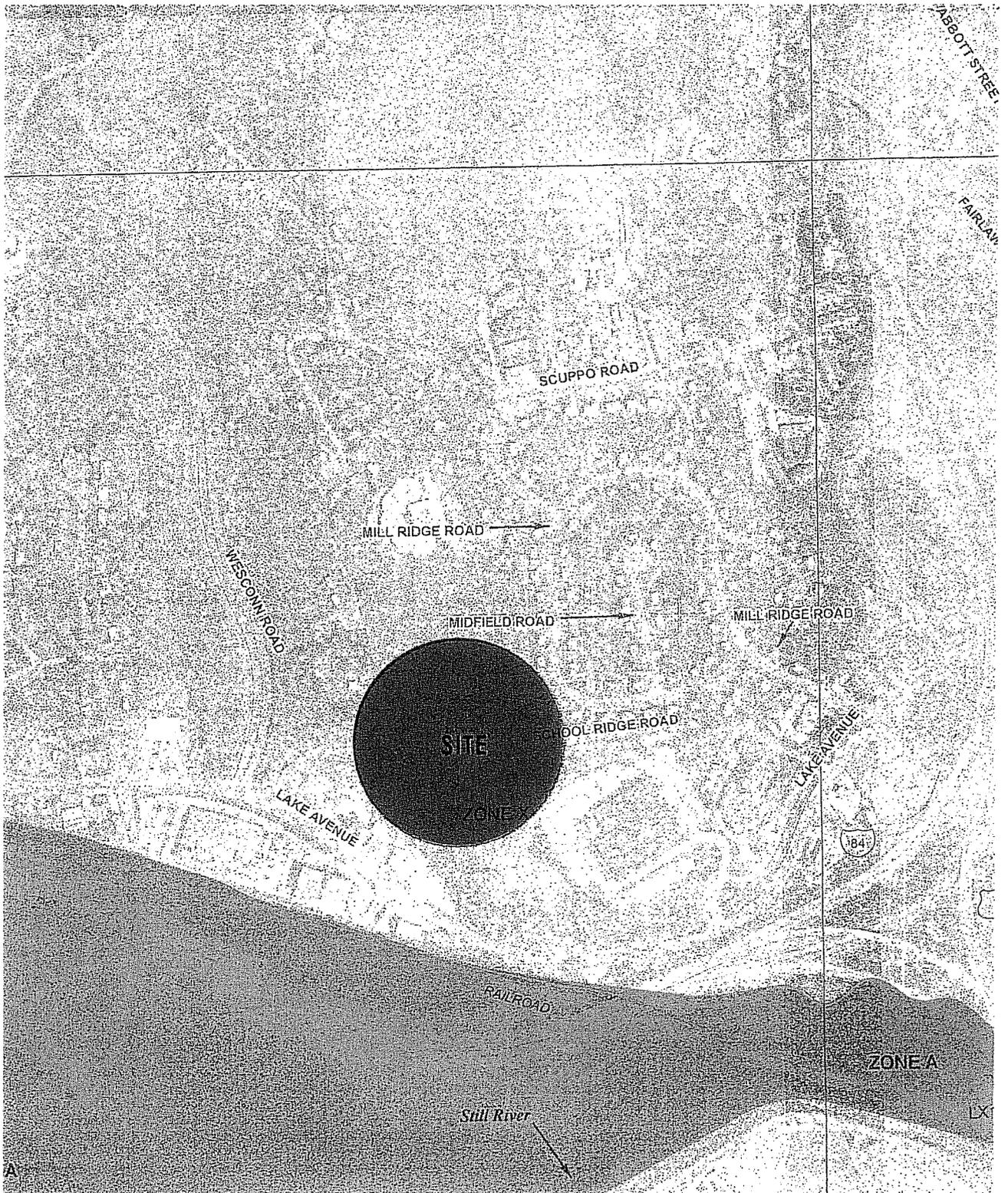
Proposed Expansion Building and Parking Rendering



Proposed Expansion Building and Parking Rendering



Welland Areas



Flood Plain Areas Details



CONCEPTUAL COST ESTIMATE
DETAIL

DATE: 6/4/2012
PAGE: 5 OF 6

OWNER: DANBURY PUBLIC SCHOOLS
PROJECT: ADDITIONS AND RENOVATIONS

ARCHITECT: FULLER & D'ANGELO, P.C.

DESCRIPTION	QUANTITY	UNIT COST ¹	HARD COST SUBTOTAL	MAT AND LAB ESCALATION ² 4%	ESTIMATE CONTINGENCY ³ 15%	HARD COST TOTAL	SOFT COST TOTAL ⁴ 28%	PROJECT TOTAL	NOTES
MILL RIDGE INTERMEDIATE SCHOOL - MILL RIDGE MIDDLE SCHOOL (STEM / AIS)									
<u>NEW CONSTRUCTION AND ASSOCIATED ALTERATIONS</u>									
MEDIA CENTER ADDITION	4,500	SF	300.00	1,350,000	54,000	210,600	1,614,600	452,088	2,066,688
CAFETERIA ADDITION (SEATING AREA ONLY)	1,200	SF	275.00	330,000	13,200	51,480	394,680	110,510	505,190
COVERED WALKWAY	900	SF	80.00	72,000	2,880	11,232	86,112	24,111	110,223
SITework AT ADDITION	1	LS	100,000	100,000	4,000	15,600	119,600	33,488	153,088
<u>RENOVATIONS</u>									
CLASSROOMS RENOVATIONS - LIGHT	16,450	SF	60.00	987,000	39,480	153,972	1,180,452	330,527	1,510,979
LOBBY RENOVATIONS - LIGHT	2,100	SF	50.00	105,000	4,200	16,380	125,580	35,162	160,742
CORRIDOR RENOVATIONS - LIGHT	6,940	SF	35.00	242,900	9,716	37,892	290,508	81,342	371,851
CLASSROOMS/SCIENCE RENOVATIONS - MEDIUM	5,300	SF	125.00	662,500	26,500	103,350	792,350	221,858	1,014,208
MUSIC CLASSROOMS RENOVATIONS - MEDIUM	2,220	SF	120.00	266,400	10,656	41,558	318,614	89,212	407,826
CAFETERIA RENOVATIONS - MEDIUM	2,240	SF	90.00	201,600	8,064	31,450	241,114	67,512	308,625
CLASSROOMS/ART/SCIENCE RENOVATIONS - HEAVY	12,360	SF	200.00	2,472,000	98,880	385,632	2,956,512	827,823	3,784,335
ENGINEERING ROOMS RENOVATIONS - HEAVY	4,050	SF	214.00	866,700	34,668	135,205	1,036,573	290,240	1,326,814
TOILET ROOMS RENOVATIONS - HEAVY	2,430	SF	290.00	704,700	28,188	109,933	842,821	235,990	1,078,811
ABATEMENT (ALLOWANCE)	65,600	SF	5.00	328,000	13,120	51,168	392,288	109,841	502,129
STUDENT LOCKERS	600	EA	100.00	60,000	2,400	9,360	71,760	20,093	91,853
GYMNASIUM HV SYSTEM REPLACEMENT	1	LS	340,000.00	340,000	13,600	53,040	406,640	113,859	520,499
ELECTRIC TRANSFORMER REPLACEMENT ⁶	1	LS	80,000.00	80,000	3,200	12,480	95,680	26,790	122,470
ELECTRIC SWITCHGEAR UPGRADE	1	LS	125,000.00	125,000	5,000	19,500	149,500	41,860	191,360
ELECTRIC PANEL REPLACEMENT	12	EA	7,500.00	90,000	3,600	14,040	107,640	30,139	137,779
ELECTRIC WIRING REPLACEMENT	65,600	SF	2.80	183,680	7,347	28,654	219,681	61,511	281,192
MILL RIDGE MIDDLE SCHOOL TOTAL				9,567,480	382,699	1,492,527	11,442,706	3,203,958	14,646,664
ALTERNATE: ROOF REPLACEMENT				1,213,600	48,544	189,322	1,451,466	406,410	1,857,876
ALTERNATE: CURTAINWALL REPLACEMENT				140,000	5,600	21,840	167,440	46,883	214,323
ALTERNATE: PARKING AND DROP-OFF	1	LS	1,573,610.00	1,234,610	49,384	192,599	1,476,594	413,446	1,890,040

CONCEPTUAL COST ESTIMATE
DETAIL

DATE: 6/4/2012
PAGE: 6 OF 6

OWNER: DANBURY PUBLIC SCHOOLS
PROJECT: ADDITIONS AND RENOVATIONS

ARCHITECT: FULLER & D'ANGELO, P.C.

DESCRIPTION	QUANTITY	UNIT COST ¹	HARD COST SUBTOTAL	MAT AND LAB ESCALATION ²	ESTIMATE CONTINGENCY ³	HARD COST TOTAL	SOFT COST TOTAL ⁴	PROJECT TOTAL	NOTES
				4%	15%		28%		

NOTES

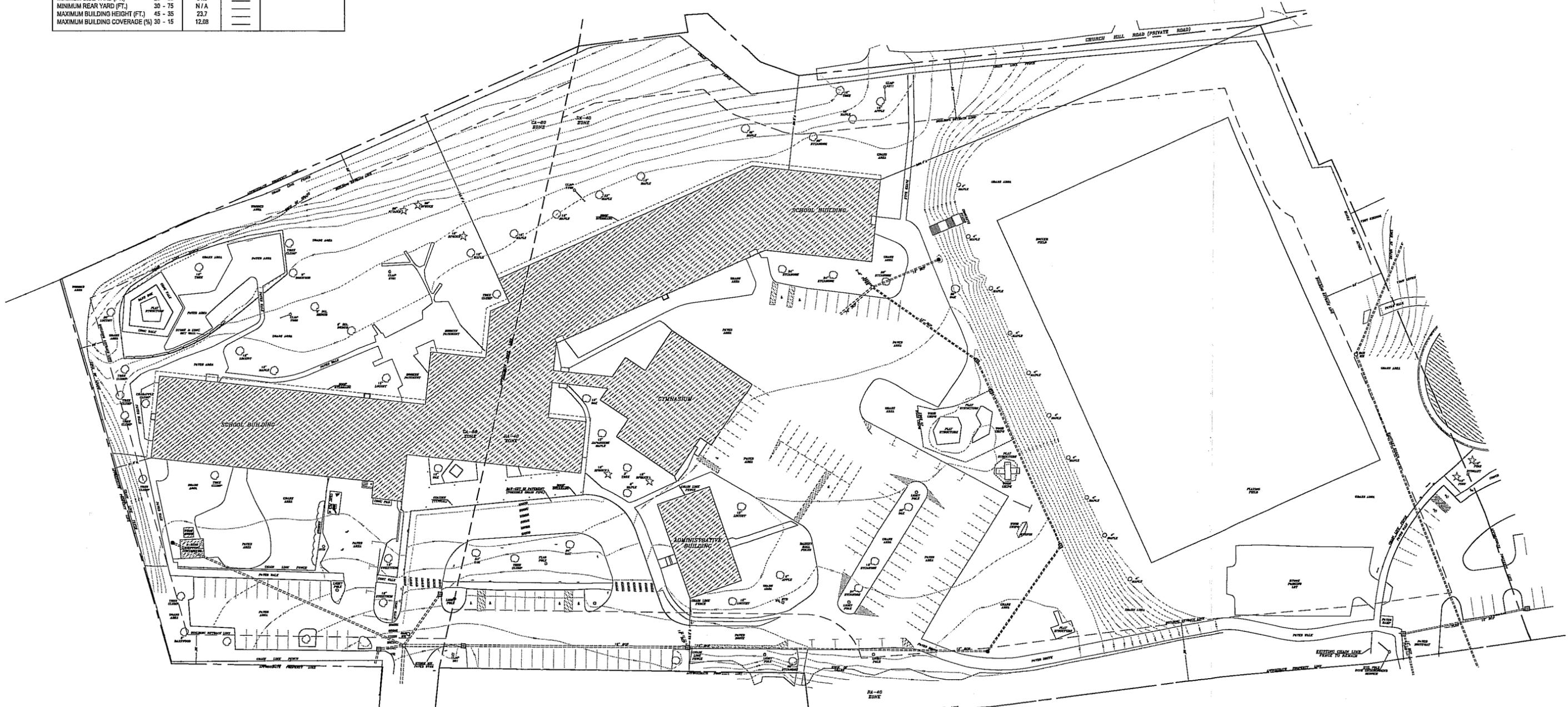
- 1 - UNIT COST IN 2012 DOLLARS
- 2 - ESCALATION FACTOR OF 4% TO MIDPOINT OF CONSTRUCTION (APRIL 2014)
- 3 - ESTIMATING CONTINGENCY OF 15% TO BE REDUCED UPON DEVELOPMENT OF FINAL PROGRAM AND SCOPE
- 4 - SOFT COSTS OF 28% INCLUDES PROFESSIONAL FEES, INVESTIGATIONS AND TESTING, OWNER COSTS, FFE, CONTINGENCY, ETC.
- 5 - ELEMENTARY SCHOOL ROOF REPLACEMENT NOT INCLUDED IN BASE BID.
- 6 - TRANSFORMER TO BE REMOVED FROM INTERIOR AND NEW TRANSFORMER INSTALLED AT EXTERIOR. ASSUMES ELECTRICAL SERVICE FEEDER AND CONDUITS TO BE RE-USED.

CONDITIONS AND QUALIFICATIONS

- THIS COST ESTIMATE IS BASED ON CONCEPTUAL SKETCHES PREPARED BY FULLER & D'ANGELO, P.C.
- BIDDING IS ASSUMED TO OCCUR IN SPRING 2013.
- CONSTRUCTION PERIOD IS ASSUMED TO BE JULY 2013 THROUGH DECEMBER 2014.
- PROJECT TO BE PUBLICLY BID WITH AT LEAST 5 BIDS RECEIVED FOR EACH PRIME CONTRACT.
- PREVAILING WAGE RATES APPLY
- NO COSTS ARE INCLUDED FOR OVERTIME/PREMIUM LABOR EXCEPT WHERE REQUIRED FOR "SWITCHOVER" OF MECHANICAL AND ELECTRICAL SYSTEMS.
- NO COSTS ARE INCLUDED FOR CONSTRUCTION OF TEMPORARY CLASSROOMS OR OTHER SPACES FOR PHASING.
- THE ESTIMATE DOES NOT ACCOUNT FOR UNUSUAL MARKET CONDITIONS SUCH AS LABOR AND/OR MATERIAL SHORTAGES, AVAILABILITY OF BIDDERS, INFLATION, AND OTHER FACTORS.

ZONING INFORMATION TABLE: MILL RIDGE SCHOOL ASSESSORS LOT: F15015
 ZONE: CA-80 AND RA-40 PRINCIPLE USE: SCHOOL
 EXISTING BUILDING FOOTPRINT (INCLUDES ROOF OVERHANGS): 72,699 SQ. FT.
 EXISTING LOT AREA: 602,030 SQ. FT. (13.821 ACRES)

ZONE CRITERIA	REQUIRED		EXISTING	PROPOSED
	CA-80	RA-40		
MINIMUM LOT AREA (ACRES)	2 - 2	13.821	13.821	
MINIMUM FRONT YARD (FT.)	25 - 50	62.2	62.2	
MINIMUM SIDE YARD (FT.)	20 - 50	31.8	31.8	
MINIMUM REAR YARD (FT.)	30 - 75	N/A		
MAXIMUM BUILDING HEIGHT (FT.)	45 - 35	23.7		
MAXIMUM BUILDING COVERAGE (%)	30 - 15	12.08		



CITY OF DANBURY
 ENGINEERING DEPARTMENT
 FARID L. KHOURI, P.E. CITY ENGINEER

MAP SHOWING THE LAND OF
 THE CITY OF DANBURY
 MILL RIDGE INTERMEDIATE SCHOOL
 SCHOOL RIDGE ROAD DANBURY, CONNECTICUT
 ZONE: CA-80 & RA-40 AREA: 13.821 ACRES
 SCALE: 1" = 40' FEBRUARY 23, 2012

BORING REPORT SUMMARY

The requirements, per the proposal for school feasibility reports services, were to obtain via a third party soil testing company a soil borings report for the Mill Ridge Middle School. The findings of these bore probes and the soil boring company analysis for same are attached.

The City requested, in areas of the additions, to find information on existing soils. Although we are not engineers, we were requested to confirm soil analysis consistency and a ground water level reading. Soil collection of the top twelve feet was also performed and delivered to the City's On- Call Environmental Consultants for analysis and review of any possible soil contaminates.

The soil boring engineers' basic findings showed various soil types. One boring was completed due to the limited size of the addition in one area of the site. The boring did not show rock in the areas of purposed construction. This is important knowledge which would relate to increased construction costs for the project.

It should be noted further borings shall be required during the future construction document design phases of this project.

The soils as they appear are suitable for bearing a structure this was confirmed with the soil boring consultant. The Mill Ridge MS soil material findings are comprised of the below:

DEPTH	CASING BLOWS PER FOOT	SAMPLE				BLOWS PER 6 IN ON SAMPLER (FORCE ON TUBE)		CORE TIME PER FT (MIN)	DENSITY OR CONSIST	STRATA CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.
		NO	Type	PEN	REC	DEPTH @ BOT	0 - 6				
5	1	ss	24"	14"	2'0"	1	3		l moist	0'6"	TOPSOIL
	2	ss	24"	19"	4'0"	6	9		compact		brn SILT & FM SAND, ill F gravel, clay, lr roots, C gravel
						12	12		compact		blk brn SILT, sm clay, Fmsand, ill F gravel
	3	ss	24"	18"	6'0"	16	18		l moist		olv brn SILT, sm clay, ill FM sand, F gravel
	4	ss	24"	19"	8'0"	28	29		dense		olv brn SILT, sm F sand, ill clay, F-C gravel, M sand, lr cobbles, C gravel
10						24	21		v dense		
	5	ss	24"	20"	10'0"	6	11		l moist		
	6	ss	24"	18"	12'0"	14	20		compact		SAME
						22	27		l moist		
						31	35		v dense		

**CITY OF DANBURY
MILL RIDGE INTERMEDIATE/STEM AND IS SCHOOLS**

Submitted by: Fuller and D'Angelo, PC
Architects and Planners
45 Knollwood Road
Elmsford, NY 10523
914.592.4444
914.592.1717
Date: May 29, 2012

Further review to access current below grade water levels at the test hole MB-1 were found at a level of 14'-11" below grade on June 14, 2012, 7 days after the probe was drilled.

Water level findings noted ground water below the addition not close to proposed footing and foundation heights.

After consultation with the soil boring engineer, it is thought this water is run off can be managed through perimeter foundation drainage systems.

With regard to environmental aspects of the project and any related issues, we believe the City shall receive a report under separate cover from their on-call Environmental Engineers. We would appreciate a copy of this report when forwarded.

This environmental report should be added to the Appendix of the feasibility study in order to attain a complete feasibility report. It should become the last document in the Appendix directly after the schedule.

CITY OF DANBURY
MILL RIDGE INTERMEDIATE/STEM AND IS SCHOOLS

Submitted by: Fuller and D'Angelo, PC
Architects and Planners

45 Knollwood Road
Elmsford, NY 10523

914.592.4444

914.592.1717

Date: May 29, 2012

SOILTESTING, INC.
 90 DONOVAN RD.
 OXFORD, CT 06478
 CT (203) 262-9328
 NY (914) 946-4850

CLIENT: **Fuller & D'Angelo Architects**

SHEET 1 OF 1
 HOLE NO. **MB-1**

PROJECT NO. **G88-9119-12**

PROJECT NAME **Mill Ridge Intermediate School**

BORING LOCATIONS
 per Plan

OPERMAN - DRILLER
TP/tb

LOCATION **#1 School Ridge Road
 Danbury, CT**

INSPECTOR

CASING SAMPLER CORE BAR
 TYPE **HSA SS**

OFFSET
 DATE START **6/6/12**

GROUND WATER OBSERVATIONS
 AT none FT AFTER 0 HOURS
 AT 14'11" FT on 6/14/12

SIZE I.D. **3 3/4" 1 3/8"**
 HAMMER WT. **140# BIT**
 HAMMER FALL **30"**

DATE FINISH **6/6/12**
 SURFACE ELEV.
 GROUND WATER ELEV.

DEPTH	CASING BLOWS PER FOOT	SAMPLE					BLOWS PER 6 IN ON SAMPLER (FORCE ON TUBE)				CORE TIME PER FT (MIN)	DENSITY OR CONSIST	STRATA CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.
		NO	Type	PEN	REC	DEPTH @ BOT	0-6	6-12	12-18	MOIST				
5	1	ss	24"	14"	2'0"	1	3				I moist compact	0'6"	TOPSOIL	
	2	ss	24"	19"	4'0"	6	9				I moist compact		brn SILT & FM SAND, lit F gravel, clay, tr roots, C gravel blk brn SILT, sm clay, Fmsand, lit F gravel	
	3	ss	24"	18"	6'0"	16	18				I moist dense		olv brn SILT, sm clay, lit FM sand, F gravel	
	4	ss	24"	19"	8'0"	28	29				I moist v dense		olv brn SILT, sm F sand, lit clay, F-C gravel, M sand, tr cobbles, C gravel	
	5	ss	24"	20"	10'0"	24	21				I moist compact			
10	6	ss	24"	18"	12'0"	6	11				I moist v dense		SAME	
						14	20							
						22	27							
20	7	ss	24"	21"	17'0"	31	35				I moist dense		SAME	
						11	20							
						21	33							
25	8	ss	18"	18"	21'6"						dry/l mst v dense		SAME	
						19	26							
						41								
30	9	ss	18"	18"	26'6"						dry v dense	28'0"	SAME	
						29	37							
						48								
35	10	ss	1"	0"	30'1"	50/1"					dry v dense	30'1"	poss fractured BEDROCK from 28'	
40													E.O.B. 30'1"	
													Installed 1" SCH 40 PVC Observation Well w/10' screen to 20' depth	

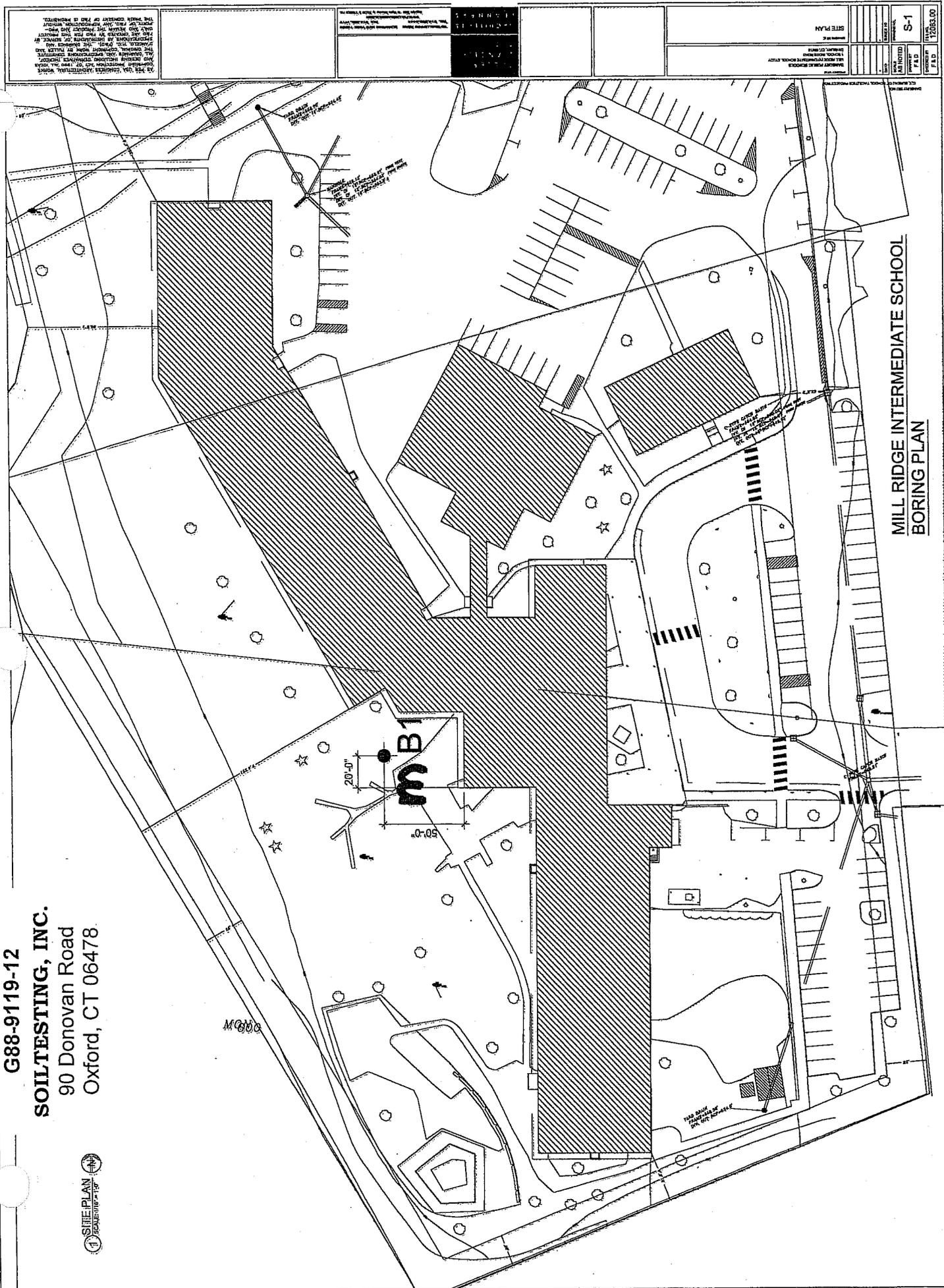
NOTE: Subsoil conditions revealed by this investigation represent conditions at specific locations and may not represent conditions at other locations or times.

GROUND SURFACE TO _____ FT. USED _____ CASING THEN _____ CASING TO _____ FT. [HOLE NO. **MB-1**]
 A = AUGER UP = UNDISTURBED PISTON T = THINWALL V = VANE TEST
 WOR = WEIGHT OF RODS WOH = WEIGHT OF HAMMER & RODS C = COARSE
 SS = SPLIT TUBE SAMPLER H.S.A. = HOLLOW STEM AUGER M = MEDIUM
 PROPORTIONS USED: TRACE = 0 - 10% LITTLE = 10 - 20% SOME = 20 - 35% AND = 35 - 50% F = FINE

JOB NO.

G88-9119-12

SOILTESTING, INC.
90 Donovan Road
Oxford, CT 06478



**MILL RIDGE INTERMEDIATE SCHOOL
BORING PLAN**

DATE	NO.	DESCRIPTION
10/15/13	1	ISSUED FOR PERMIT
10/15/13	2	REVISED PER COMMENTS
10/15/13	3	REVISED PER COMMENTS
10/15/13	4	REVISED PER COMMENTS
10/15/13	5	REVISED PER COMMENTS
10/15/13	6	REVISED PER COMMENTS
10/15/13	7	REVISED PER COMMENTS
10/15/13	8	REVISED PER COMMENTS
10/15/13	9	REVISED PER COMMENTS
10/15/13	10	REVISED PER COMMENTS
10/15/13	11	REVISED PER COMMENTS
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