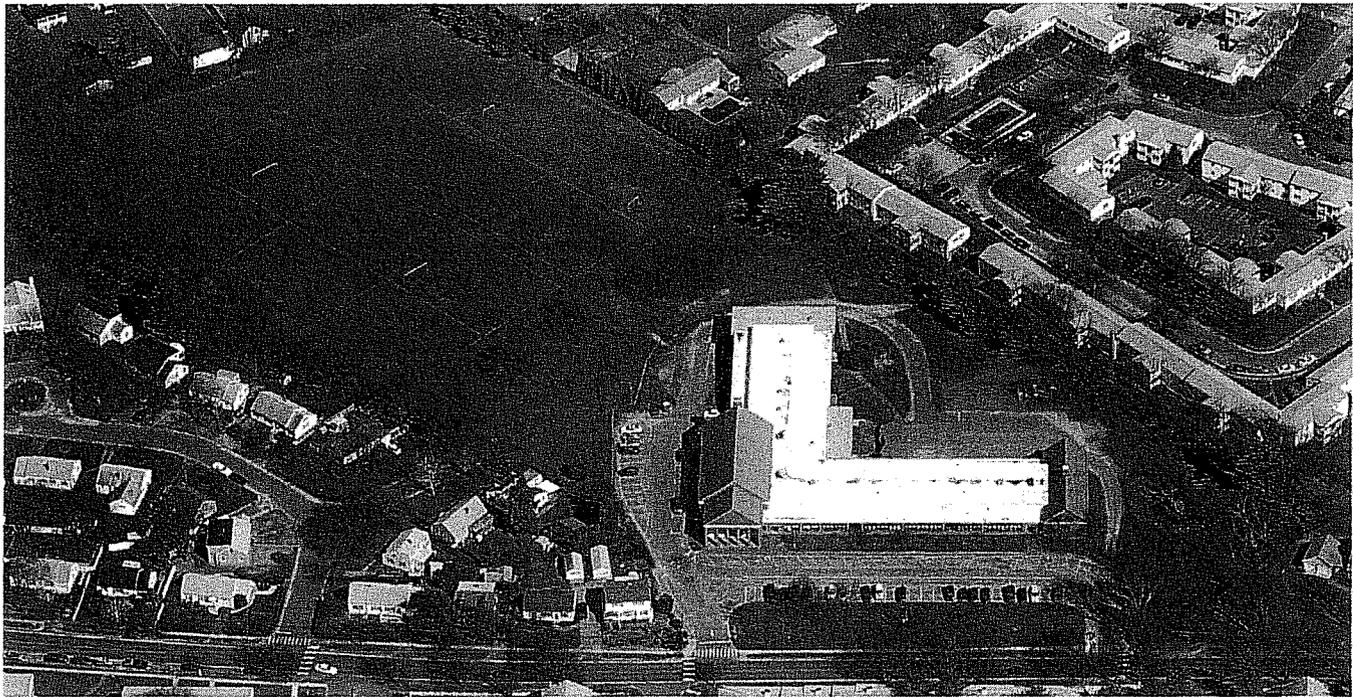


**CITY OF DANBURY
FACILITY PLANNING STUDY FOR
ELEMENTARY SCHOOL ADDITION**

**PARK AVENUE ELEMENTARY SCHOOL
82 PARK AVENUE, 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:
Soilfesting, Inc.
140 Oxford Road
Oxford, CT 06483**

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CITY OF DANBURY
PARK AVENUE ELEMENTARY SCHOOL
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

SECTION 1. PROJECT OVERVIEW EXECUTIVE SUMMARY

INTRODUCTION:

Park Avenue School (Park) is located on 82 Park Avenue just South West of downtown Danbury in a suburban setting. The site totals 10.12 acres and the school has a large field area to the North East side of the property.

Park Avenue Elementary School was originally constructed in 1951 and an addition was added in 1955. The end building consists of two peaked roof shapes at both the north and south end of the structure connected with an "L" shaped building in between. The one-and-a-half story peaked roof area on the north-west side of the structure contains the gymnasium/auditorium. It should be noted that the east side of the school is two floors, lower and upper levels (level 0 and level 1) both contain mostly classrooms.

Further modifications were made to provide new ceilings, upgraded lighting and code issues in 1985.

In 1992 two building additions were completed, including a new Media Center on the far east side and a cafeteria expansion.

The building consists of 51,100 square feet, and an exterior overhang area to the front of the gym brings the size to 51,350.

Our firm is not aware of any prior feasibility studies for other additional construction.

Mission Statement:

"We at Park Avenue School want all our children of our diverse population to become lifelong learners so that they can be successful in a rapidly changing world. We recognize and consider the whole child while providing for the physical, social, emotional, creative and academic needs of each child.

We strive to maintain a safe and caring environment in which learning can take place. We encourage and support our parents' responsible efforts to foster a positive attitude toward school and learning."

Adopted 1990

Park School has two sister schools and since Park has more land than the other sister schools and an easier logistically correct site areas to construct buildings and parking, it has been chosen by Danbury for an addition.

The overall enrollment will include some students from sister school increased counts.

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Current Student Enrollment is 420 and the Danbury anticipated enrollment is 610, requiring an addition of eight classrooms and supporting facilities, including but not limited to toilets, janitor closets, mechanical spaces and other standard support areas for educational facilities.

Project Constraints include a set back on the eastern side of the site and western side of the site dependant on the concept area to be included. Other project restraints include a large storm water line which runs for the southwest corner of the property toward the eastern portion of the property. The lower area of the property towards the east can collect some ground water.

Our understanding of the Danbury program is that eight classrooms are required in order to fulfill a proper classroom balance of the necessary student increase. As per the attached plans in Section 4 of this report, you can find the existing classrooms and space names. The new proposed classroom space allocations adjacencies and propose fifth grade section of the building in the lower level 0 area to the east.

Per the attached minutes in the appendix portion of the report there is the comparison of data. One can find the student enrollment data which calls for the increase of 190 students.

Development of Educational Program in the recommended solution is being enhanced in several ways.

Firstly the adjacencies of grades are being consolidated and Grades K, 1, 2, 3 are placed on the southeast side of the existing building and upper level of the new addition. The fourth grade gets grouped on the upper level of the existing east wing; the fifth grade gets grouped on the lower level east wing. It should also be noted that both 4th and 5th Grade has Art classes adjacent to their individual areas. The Music room is placed into the addition on the upper level. The Kindergartens (K) shall have an inner secured playground area, accessible from many K rooms directly.

On the lower level (0) floor of the new addition a new state of the art, media/computer/ A/V room is proposed to be constructed.

The above combinations of proper school design will greatly enhance ability of the educational programs to deliver better program spaces, in which to teach. This redevelopment along with other space enhancements and new spaces improves educational program adjacencies.

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Site Selection for the addition included three different site areas, Area A, B and C. Area C has more positive attributes in that the area is able to sustain a building that delivers a student circulation loop between the current south and east wings of the existing building. Also, both lower levels (existing building 0 and new addition level 0) of the east wing also become connected and with the new addition having an elevator. This now makes both of these existing building floor levels 0 and 1 also handicapped accessible, thereby becoming a cost-effective solution to ADA floor level accessibility in both structure areas.

Our understanding of the schedule from Danbury Engineering and Board of Education is that it will take approximately one year to obtain City/State approvals, one year for design and City/State approvals, and another year for construction. The first step are for EDO-49's to be approved and submitted by the City and filed with the State to allow the BSF to register the proposed expenditure with the State.

The budget for this Concept C addition and other expansions and improvements is based on the following design parameters:

A new classroom wing	13,960 sq. ft.
A new media center/computer/ mechanical room	7,200 sq. ft.
An elevator	80 sq. ft.
An enlarged front entrance	1,050 sq. ft.
A new cafeteria addition	1,160 sq. ft.
Re-distribution of classrooms	
Revised site work improvements and playgrounds	
A revised bus and car traffic pattern and circulation	
Reconfiguration of parking and additional parking	

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.

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 45 Knollwood Road
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Conceptual Project Budget:

Hard Cost Total:	\$ 9,544,983
Soft Cost Total:	<u>\$ 2,672,595</u>
Project Total:	\$12,217,578

The project will be submitted for BSF reimbursement at the City of Danbury rate of approximately 53%. If the State reimbursement is attained, the cost to the City of Danbury for this project alone should be \$5,742,261

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 Information Technology (IT) in the building includes various smart board technologies and a computer room as part of the media center, we understand that this Smart Board technology will continue to move through and be incorporated into the new building. This is of course the same with the PA and telephone systems.

Security in schools is also very important. This building placement in Area C creates an outer perimeter and also a secure inner courtyard for students to play and exercise during the day. It also does not allow for hidden or hiding areas behind the current school building, which is not as easily patrolled, as when the addition will be completed. Access to the inner courtyard will not be available from the outside and the new perimeter road can be easily patrolled and observed.

Flexibility of Design has also been considered, the current new design in Area C could be constructed with the possibility of attaining another floor level, level 2. This would

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require the elevator to be built with a larger over-run in order to later attain this additional floor level. The staircases and their structures are currently placed for the possibility of a future vertical expansion of stairs to reach this additional floor level.

The area C additions new steel columns would be designed to be placed just below the new roof surfaces in order to be later easy attached in an economical fashion. Thus eight (8) more classrooms and stacked toilets could be built in the future, very economically on level 2.

Furniture, Fixtures and Equipment for standard new classrooms are anticipated to be included in the interior build-out of the addition. Existing furniture would be used in the remainder of the School.

The Architects' main thrust for the site circulation is to separate bus and car traffic as much as possible. Proper Fire Code circulation around the entire building has been considered and is incorporated in the concept design. It is conceived that the outer loop shall be for buses and the inner loop adjacent to the front entrance for parent drop and pick up. Buses can be queued along north side of the property for afternoon pick-ups with the introduction of a new proper sidewalk there. Morning bus drop off also circumnavigating the building perimeter would be let closest to the front entrance area just to the North.

The Park Avenue School addition was programmed along with the City of Danbury and Danbury Board of Education Administration. The classroom counts and adjacencies of new spaces have been agreed to by the parties, Administrators, the school building Principal. All reviewed and confirmed additional spaces, and size of additions 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:

In the design process, our firm reviewed site, utility and building constraints of the project. The enrollment increase, logistics of construction and adjacencies were a controlling factor in the proper design of the school addition. A site requires to be constructed while school is in session. Various meetings were held with various City personnel, the Board of Education (BOE) Assistant Superintendent, Board of Education personnel, the school principal and others understand the construction impact. 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 below parties have conceived, reviewed and compared various new building addition areas, enrollment and project size, and a consensus was reached to construct

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the new 8 classroom building in area "C". The resulting design concept can be found in plan format after this section.

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
Park Avenue ES Principal

Dr. Bill Glass
Mr. David Krafick

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 school building. The positioning and fabric of the facility as it stands is the fundamental element in the design of a school addition. The process of design from this point involves Danbury's sister school concept with a projection of increased enrollment as noted by the Administration. This was derived from enrollment projections with additional sister school facility enrollments factored into the addition sizes and numbers of classes requested. A net to gross factor was added.

The process included enrollment discussions, planning concepts, student flow criteria, and size of addition agreements between all parties. Economy was a factor.

The resultant solution marries all of the above factors of concept design to meet the District's program goals and budgets, while also planning for the future with an expandable building concept.

- A. Firstly, the design team reviewed the school sites and then met with the educators and City to confirm information and gather proper data, which can be found in the appendix. Data as a summary is included within this section, including existing and new program requirements. Objectives were determined and discussed as was the survey provided by the City for the property.

Current space conditions and adjacencies were obtained and can be found in the attached plan of the school. The chart indicates the various room spaces.

The current spaces include basic Danbury Elementary School required classes, however no dedicated art and music classes. Two art room classes are being added.

- B. The planning criteria were analyzed and evaluated by the architectural team and a concept for the Park Avenue School addition was construed in three different areas. These concept areas created talking points with the stakeholders. The input received pointed all parties to the most proper design solution.

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SUMMARY OF DISCUSSIONS:

- C. The program, as reflected in the Park Avenue School chart conveys the existing requirements and also the proposed requirements for each additional space identified. This is the basis of design for the building's development. The discussions can be found in detail in the Appendix in the Minutes of Meetings.

Adjacencies were closely discussed particularly as to how they can better the educational program and also deliver an environment for the children, administrators and staff within the facility to better respond to educational issues.

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 the City and Administration review of the demographic studies, their sister school enrollment increases, and the City's plan as to which students from sister schools shall attend Park Avenue.

Educational Facility design guidelines need to be considered during the schematic, design development and construction document phases of the project. The current final program, as received from Danbury, includes twenty-five students per classroom occupancy and conforms to an educational specification with separate Art Rooms and Music Rooms within the school. This is a maximum style program design, as was noted to Danbury by the Architect.

- E. The final program and design concepts derived several different build areas. With the City of Danbury input, the design team was able to evaluate the best building area with regard to site logistics, ease of construction and least disruption of the educational program while also addressing site restrictions, zoning, circulation, increase of parking count and utilities which shall be required with the new building addition. All noted items were considered in the concept design.

The Architects reviewed each of the options with the Administrators and the City for their review and comment, and one option came to the forefront.

- F. The next step was costing and budgeting for the design solution. Concept plans were derived for the building addition in Area C and submitted to

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Construction 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, and provided final budget estimates based on the scope of work reflected for the addition.

- 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.

PARK AVENUE ELEMENTARY SCHOOL

MISSION STATEMENT:

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Adopted 1990

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SECTION 2: EXISTING BUILDING AND PROGRAM

The building consists of 51,100 square feet, and an exterior overhang area to the front of the gym brings the size to 51,350.

Park Avenue Elementary School was originally constructed in 1951 and an addition was added in 1955. The end building consists of two peaked roof shapes at both the north and south end of the structure connected with an "L" shaped building in between. The one-and-a-half story peaked roof area on the northwest side of the structure contains the gymnasium/auditorium. It should be noted that the east side of the school is two floors, lower and upper levels (level 0 and level 1) both contain mostly classrooms.

Further modifications were made to providing new ceilings, upgraded lighting and code issues in 1985.

In 1992 two building additions were completed, including a new Media Center on the far east side and a cafeteria expansion.

The school building faces Park Avenue to the west and a condominium complex to the east. The shorter southern boundary is heavily wooded. To the north of the current building, is a large playing field area surrounded by residential houses.

The site to the north also is elevated above the schools average elevation that the school sits atop. The existing building is a multi-level structure, built fairly level with the Park Avenue elevation the land slopes downward to the west along the buildings North and south facades.

The original building was designed as educational usage and the school's main entrance faces Park Avenue adjacent to the peaked roof gymnasium.

The overall building area is currently 51,350 sq ft with 12,250 sq ft being on the lower level.

The building is not fully handicapped accessibility for all levels of the school.

The school building currently has a gym auditorium of 4,600 sq ft located on the north-west corner. The only road providing vehicular accessibility to the site is Park Avenue. Attached please find an existing floor plan.

The most significant issues of the Park Avenue Elementary School are the adequacy of the current program space, especially with an increase in enrollment.

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It has become necessary to creatively utilize many small existing spaces within the building including some rooms on the lower level and some overlapping of program spaces on the upper level.

The existing program currently further lacks a Music Room and Art Room, which are both taught al-la-carte. Also, the Cafeteria appears close to its maximum capacity handling the current three-shift lunch periods.

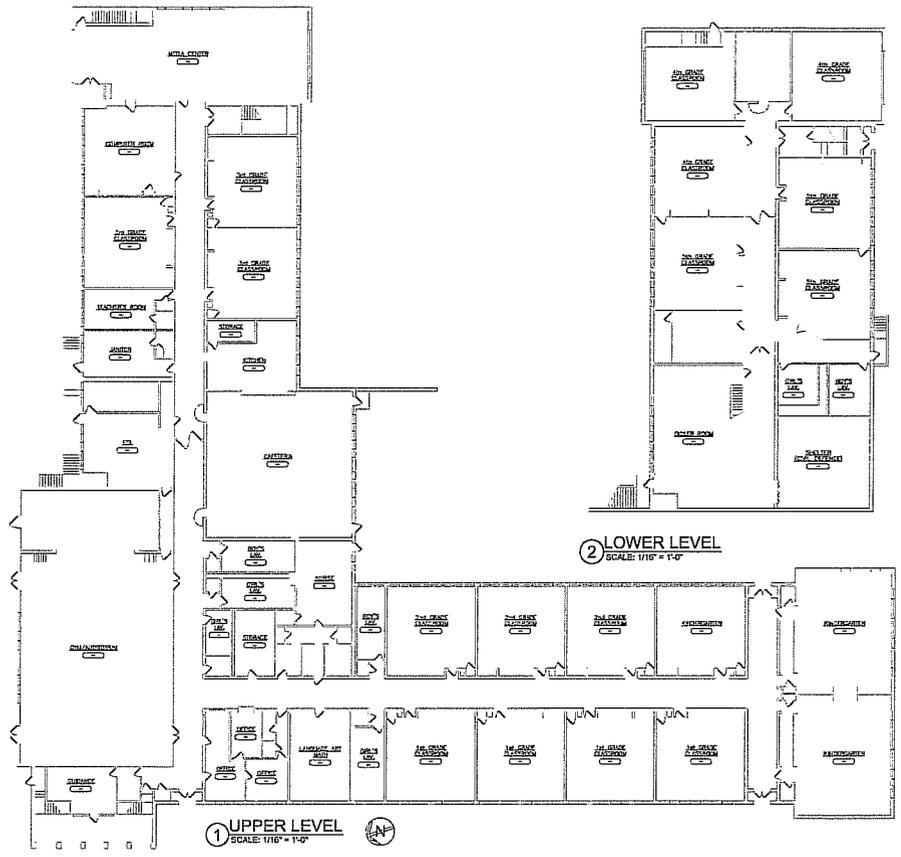
It should be noted that all classrooms do have natural light. With an addition, the increase of student enrollment can be overcome and related program goals can be met. The existing Park Avenue Elementary School major program can be found below in Table P-1. Further, in order to relate the program to the existing plans, please find the existing Architectural floor plans in Table P-2.

Park Elementary School
Existing Classroom Chart per grade

Grade	Existing
K	3
1	4
2	3
3	3
4	3
5	3
Music	0
Art	0
Lang. Art	1
Computer	1
Media	1
Gymnasium	1
Cafeteria	1
	24

P-1

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BUILDING INFRASTRUCTURE OVERVIEW

Mechanical/Electrical/Plumbing for the Park Avenue Elementary 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-fired steam boilers of 2865 MBH each. Boilers show signs of corrosion (these boilers were not included in the boiler replacement project) and could be considered for replacement. The capacity of each boiler with the proposed building addition is 98% of estimated full load and is sufficient for the planned addition. Heating is provided by perimeter steam radiation. Steam trap replacement project was completed last year. Recommend new hot water loop including heat exchanger and pumps for proposed addition with piping to be run underground outside building to facilitate installation and minimize disruption.

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

Currently there are no centrally air conditioned spaces. The proposed new Media Center addition should be air conditioned; recommend 7.5 ton rooftop air conditioning unit based on proposed area.

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

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2. Electrical

Electric Service: 1000Amp rated at 208/120Volt, 3Phase, 4Wire, 60Hertz from an exterior pad mount transformer on utility meter #89250167. Square-D service switchboard is new consisting of a main circuit breaker, metering compartment, circuit breaker distribution, and input facilities from photovoltaic system.

Electric Upgrade: The peak KW power demand over 2year period will be required from Utility Company to determine available capacity in service for the approximate 150KW of diversified load by the planned addition. Subject to available service capacity, the two options to serve the planned addition are;

Option-1: Retain switchboard, reset main breaker to full 1200Amp, rewire service conduits for 1200Amp from pad mount transformer, and possible transformer change out by Utility Company on the existing pad.

Option-2: Modify switchboard as distribution, back feed from new 1600Amp service switchboard, replace service for 1600Amp from pad mount transformer, and possible transformer change out by Utility Company on the existing pad.

In both service options, distribution feeders to the new building addition are anticipated to go underground.

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.

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Fire Alarm: Simplex control panel with zoned peripheral smoke detectors, pull stations, audible/visual signals, auxiliary devices for other systems, and voice messaging to assembly areas. 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: Primary; Storage tank with heat exchanger fed from boilers. Summer: Gas-fired independent water heater.

Gas service: Yankee Gas; meter outside of boiler room.

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

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SECTION 3. ENROLLMENT REVIEW PARK AVENUE ES ENROLLMENT PROJECTIONS

City of Danbury received a report dated November 21, 2011 from Peter M. Prowda, PhD, for Danbury Public Schools enrollments projected through 2021. After their review, they 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. Our understanding is that a sister school concept was created and that three main elementary schools, all of which have more buildable areas and land than others, were selected as the primary sister, namely Park Avenue, Shelter Rock and Stadley Rough Elementary schools.

Park Avenue ES sister schools are Morris Street and Mill Ridge Primary.

The Figure 1 chart below depicts Danbury enrollment and the State pattern.

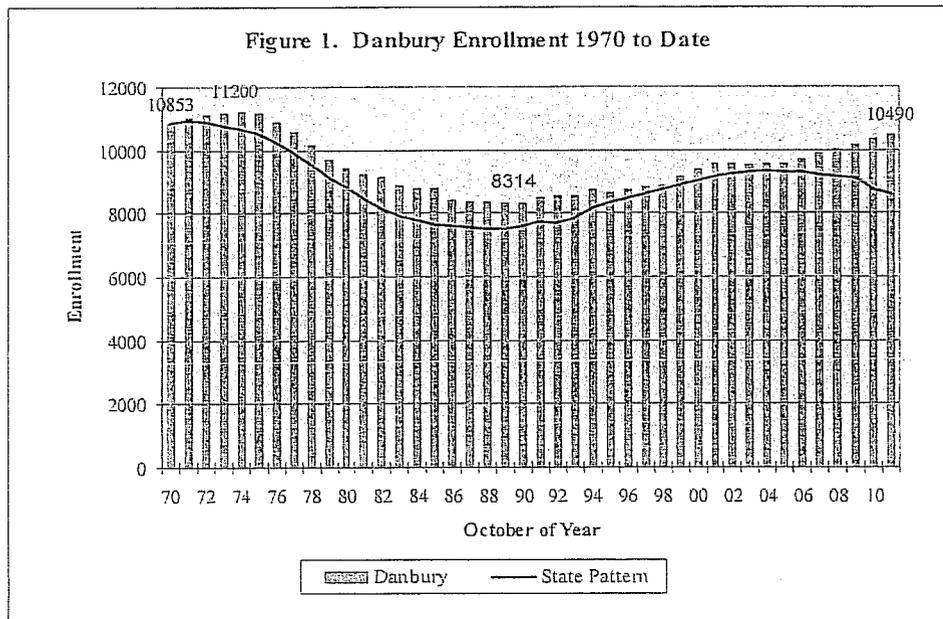


Figure 1

It is apparent as one view 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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lower than adjacent towns and cities. Also, with a higher rental property distribution, this increased enrollment conclusion appears easily evident.

Please see 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 perspective. The report also includes its projection methods, total district enrollment, enrollment by Grade and other such valuable planning information.

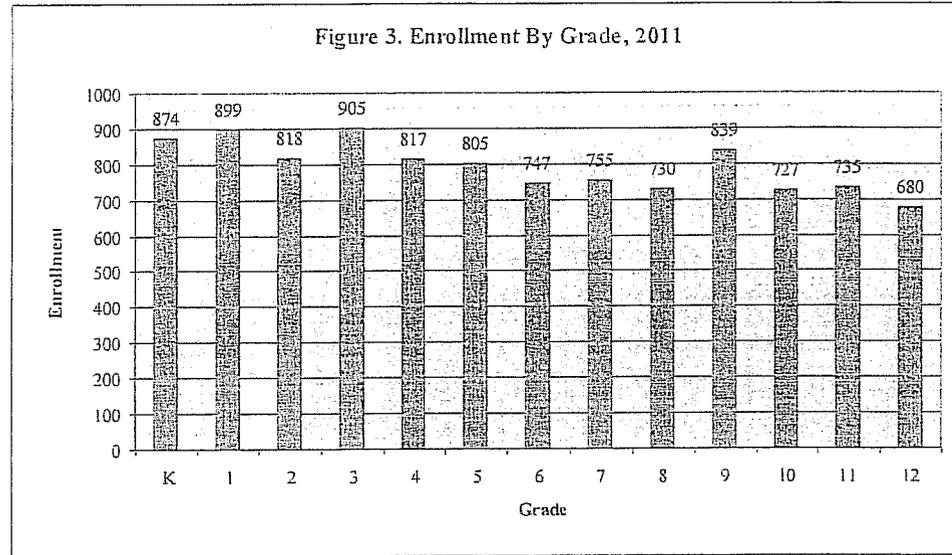


Figure 1

The City of Danbury, after analyzing this report, as well as the Board of Education, have slated Park Avenue ES and the two sister schools, Morris Street and Mill Ridge for a student population increase of 191 students.

This is from the existing pupil enrollment of 420 to a projected pupil enrollment of 611.

In order to accomplish this, nine new classrooms are being added, eight within the new addition building. It should be noted by also relocating the Media Center, an additional classroom is available to be recaptured within the existing building space.

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Architects and Planners

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Further, the existing enrollment provides 122 sq ft per child, slightly above the school construction space requirements for Pre-K and K, and Grades 1-4 of 120 and below the Grade 5-6 maximum allowable square footage per student of 152. Further, please find the February 15, 2011 School Construction Space Requirements in the Appendix of this report. It should be noted with the classroom addition to Park Avenue School, a new figure of 119 sq ft per pupil shall be below the maximum allowable square footage and therefore the District should be allotted full reimbursement for its State Grant compilation purposes. Please see Chart 1 below.

State Space Specification 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

Chart 1

The full report can be found in the Appendix.

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 Elmsford, NY 10523
 914.592.4444
 914.592.1717
 Date: April 4, 2012

SECTION 4. CONCEPTUAL DESIGN SOLUTION

Fuller and D'Angelo reviewed the existing Educational Program. We are familiar with the enrollment projects and the reviews completed by the City of Danbury with regard to their increase in student population. After several meetings with the City of Danbury, all parties agreed to the size of the new building addition – Please see the attached existing/new program Chart.

Park Elementary School
Classroom Chart per grade

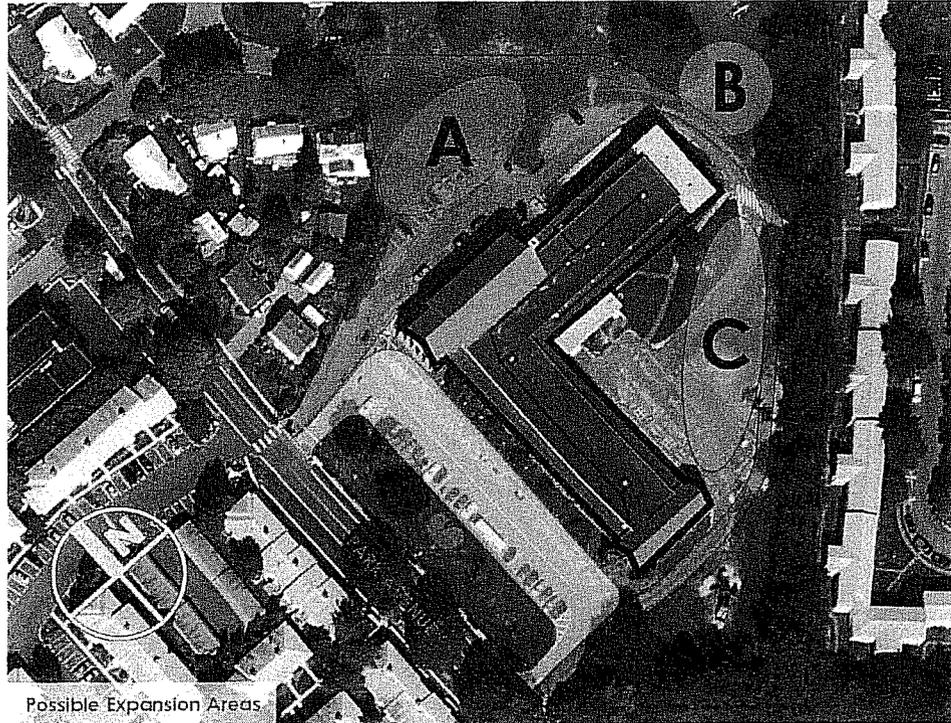
Grade	Existing	New	
K	3	4	
1	4	5	
2	3	4	
3	3	4	
4	3	4	
5	3	4	
Music	0	1	
Art	0	2	
Lang. Art	1	1	
Computer	1	1	
Media	1	1	
Gymatorium	1	1	
Cafeteria	1	1	
	24	33	9

Final Program Chart

Once agreed upon, site selection for the addition became the next critical element in the design process. Firstly, wetland area reviews investigated and analyzed, and it should be noted that there are no flood plains located within the Park Avenue site. To the north east there is a low area of the site which does collect site water occasionally. See flood plain areas in appendix.

CITY OF DANBURY
PARK AVENUE ELEMENTARY SCHOOL
 Submitted by: Fuller and D'Angelo, PC
 Architects and Planners
 45 Knollwood Road
 Elmsford, NY 10523
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 914.592.1717
 Date: April 4, 2012

Various areas for the addition placement were reviewed, as can be seen on the possible expansion areas aerial photograph, A, B and C.



The full size version of this plan is attached.

The constraints of the project include setbacks on the eastern side of the site and western side of the site, dependent upon the concept areas to be included. Other project constraints included a large storm water line which runs from the south west corner of the property toward the eastern portion of the property.

Site circulation was reviewed, existing parking areas and existing bus drop off areas, which currently are mixed in the front of the school. Our aim was to provide a continuous peripheral road which would be used for bus drop off, bus pickup and stacking in the afternoons, at the same time this perimeter roadway would also serve as fire access to the exterior portions around the building. This peripheral road would also be closed off during school hours, however on weekends would be able to be opened to the public for easier access to the athletic fields to the north of the existing Park Avenue School.

**CITY OF DANBURY
PARK AVENUE ELEMENTARY SCHOOL**

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

45 Knollwood Road
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914.592.4444
914.592.1717

Date: April 4, 2012

Part of the program requirements are additional parking for the increase in administration and staff, which shall be placed towards the north east. Most importantly separation of parent drop off and bus drop off and pick up is accomplished as can be seen on the possible expansion area diagram by the two colors, yellow and red - yellow for parent drop off and red being for bus circulation drop off and pick up, all emanating close to the current front entrance of the building.

In selecting a site to build the addition, area "B" was first eliminated as it infringes upon the existing playing fields and also cuts off this peripheral circulation.

Area "A" was next eliminated due to its limiting of additional parking and also its inability to create a continuous student circulation loop with the existing Park Avenue School building.

Concept location "C" was then investigated and analyzed after reviewed, it was agreed to by all as the prominent site selection area for the Park Avenue Elementary School addition.

Our understanding of the Danbury program is that eight classrooms are required in order to fulfill a proper classroom balance for the necessary student increase, as per the attached plans, upper and lower level, both levels "0" and "1", Concept C for the proposed building expansion floor plan. A ninth class space is required due to entrance expansion and relocation of the current art language space.

Concept design for location C has a basic arrangement of double loaded corridor classrooms, which houses Kindergarten, 1st, 2nd and 3rd Grades, in the south wing of the existing building and new addition. This allows for the 4th Grade to be grouped on Level 1 in the western portion of the building and the 5th Grade to be grouped on the Level O of the floor, also in the East Wing of the existing building. Both the 4th and 5th Grades would have an Art Room contiguous to their areas. Kindergartens would have access to the secured inner playground.

A new Media Computer Room would be built on Level O of the new addition adjacent to the 5th Grade (in the existing building) and also to the elevator and stair case connecting the Level 1 Grade spaces, 3rd and 4th Grades having closest access. Also important to the Location C Building, is that a continuous student circulation loop is acquired to help student and administration flow from the current "L" shaped building into a new circular flow pattern. This minimizes travel distances and allows for dual sided adjacencies.

A cafeteria expansion is included to house an additional six tables so that the three-period lunch can be maintained.

**CITY OF DANBURY
PARK AVENUE ELEMENTARY SCHOOL**

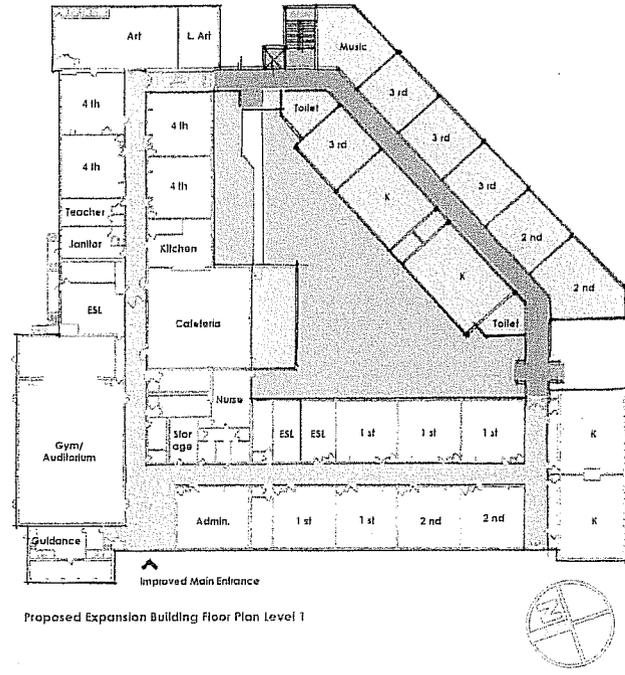
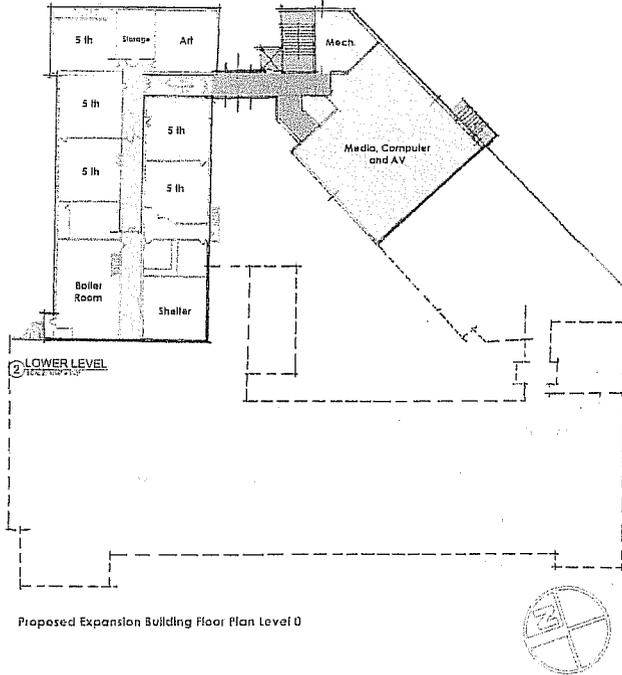
Submitted by: Fuller and D'Angelo, PC
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914.592.4444
914.592.1717

Date: April 4, 2012

An additional smaller Mechanical Room is placed on Level O in order to provide services for the building addition only.

The Front Entrance is widened in order to accommodate 600 + students ingress and egress. The present Administration space is being altered and moving slightly southward absorbing the Language Art Classroom. This space is then being relocated adjacent to the Art Room recapturing some of the current media room space.

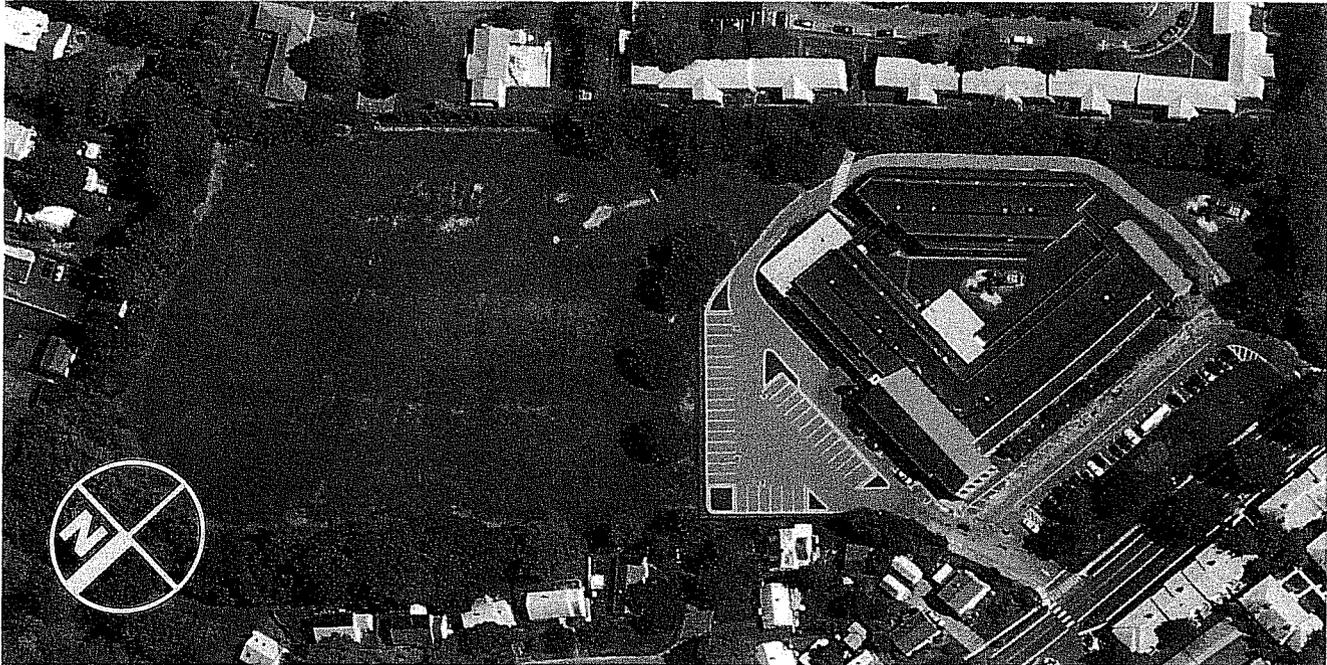


New Floor Plan
Larger scale attached.

Further, Concept Location C provides for the Kindergarten classes a new secure inner courtyard for playground and outside activities. With regard to the play areas, it is conceived that the existing Kindergarten area, after being moved into the courtyard, could possibly be swapped with the existing upper grade playground, which is currently located where it is being contemplated to place the new building. Therefore, there are two possible solutions for the relocation of the upper grade playground, either to the location where the Kindergarten playground is now to the south or to an area just slightly east of the building and south of the current athletic fields.

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Further, additional parking shall be required in order to provide for the additional staff. This parking would be elongated and a new parking area created along the northern portion of the site, opposite the gymnasium / auditorium. This also can be viewed in the aerial rendering.



Overall site Plan
Larger scale attached

**CITY OF DANBURY
PARK AVENUE ELEMENTARY SCHOOL**

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

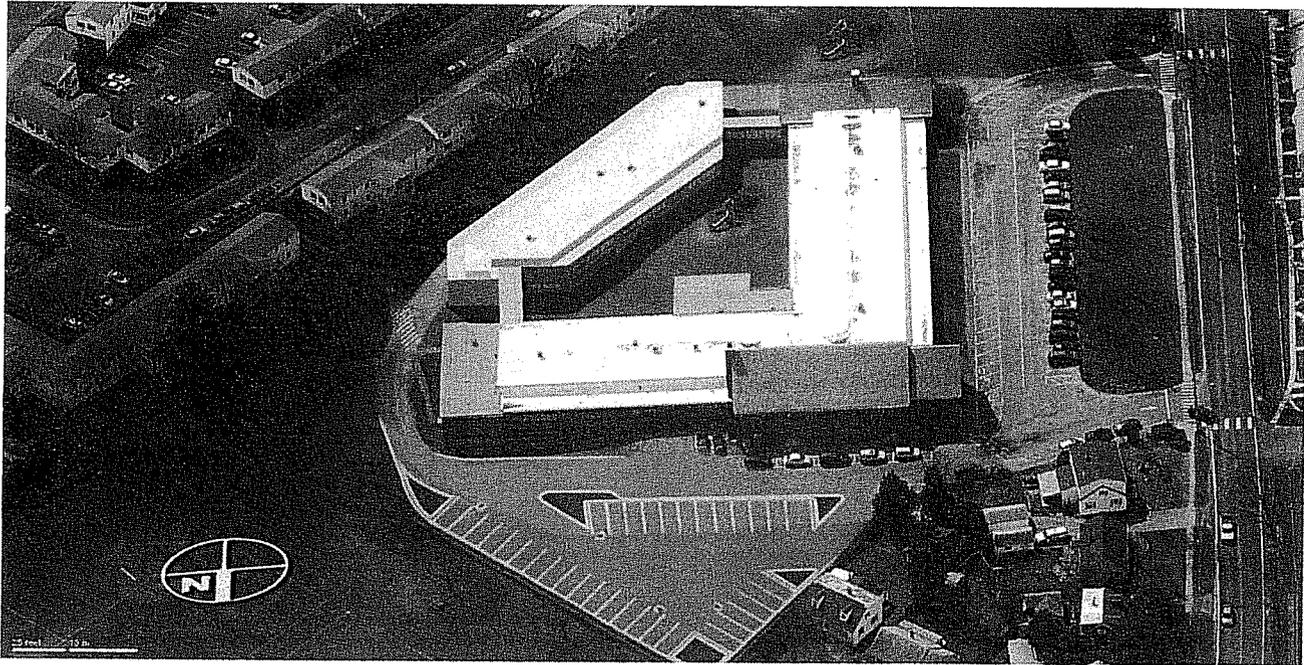
45 Knollwood Road
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914.592.4444

914.592.1717

Date: April 4, 2012

Attached also please find an overhead view of the addition facility, which depicts an addition as described above and also an aerial rendering looking from north towards the south.



Aerial view
For further detailed plan information see attached.

CITY OF DANBURY
PARK AVENUE ELEMENTARY SCHOOL
Submitted by: Fuller and D'Angelo, PC
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Date: April 4, 2012

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.

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.

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
PARK AVENUE ELEMENTARY SCHOOL**

Submitted by: Fuller and D'Angelo, PC

Architects and Planners

45 Knollwood Road

Elmsford, NY 10523

914.592.4444

914.592.1717

Date: April 4, 2012

Park Ave ES

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
- COSTS ARE BASED ON PROPOSED DESIGN WHICH WILL INCLUDE A FUTURE 2ND STORY ADDITION; ADDITIONAL COSTS ARE COMPRISED OF:
 - CONCRETE FOUNDATION AND SITEWORK
 - CONCRETE ROOF SLAB (FUTURE 2ND FLOOR SLAB)
 - STRUCTURAL STEEL AND METAL DECK
 - PREP FOR SECOND STAIRWAY
 - TAPERED INSULATION (IN LIEU OF PITCHED STEEL AND DECK)
 - HVAC PIPE AND DUCT UPSIZING
 - HVAC EQUIPMENT UPSIZING
 - ELECTRIC FEEDER/CAPACITY UPSIZING
- 6
- ELEMENTARY SCHOOL ROOF REPLACEMENT NOT INCLUDED.
- 7
- NO AIR CONDITIONING IS INCLUDED. ROOFTOP HV UNITS TO ALLOW FOR COOLING COIL TO BE ADDED AT A LATER DATE.

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.

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
PARK AVENUE ELEMENTARY SCHOOL
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



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 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. Joaqum, 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

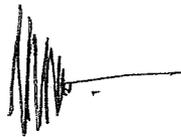
34. After some discussion, it was noted that site is still on septic and this would require to be modified to a sewer system in order to properly add classrooms and make modification to toilet areas for the additional students.
35. After further discussion, Danbury requested the Architects to abandon 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

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/cm

cc: D. Petrovich
P. Ellsworth
D. Stasny



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 4/16/12 – PRELIMINARY NOTES

Park Avenue School, Danbury, CT
82 Park Avenue Danbury, CT 06810
(203) 797-4763

April 16, 2012

- The Architect reviewed all the grounds and photographed various elevations.
- The Architect toured the current cafeteria and kitchen area which has a sufficient serving line.
- The Architect reviewed various kindergarten classrooms and also the typical lower grade classroom.
- The Architect will verify the bussing count with Danbury, a loop road is suggested.
- The Architect met with Ray, the Head Custodian.
- The Architect reviewed the lower floor classrooms spaces some of which have height windows.
- The Architect reviewed the Media Center.
- The Architect reviewed the current computer area.
- It was noted there is a low spot towards the rear of the property where there are currently exterior catch basin and storm drainage.
- The Architect reviewed the toilet areas which still have in –floor urinals and older toilet facilities, these should be upgraded.



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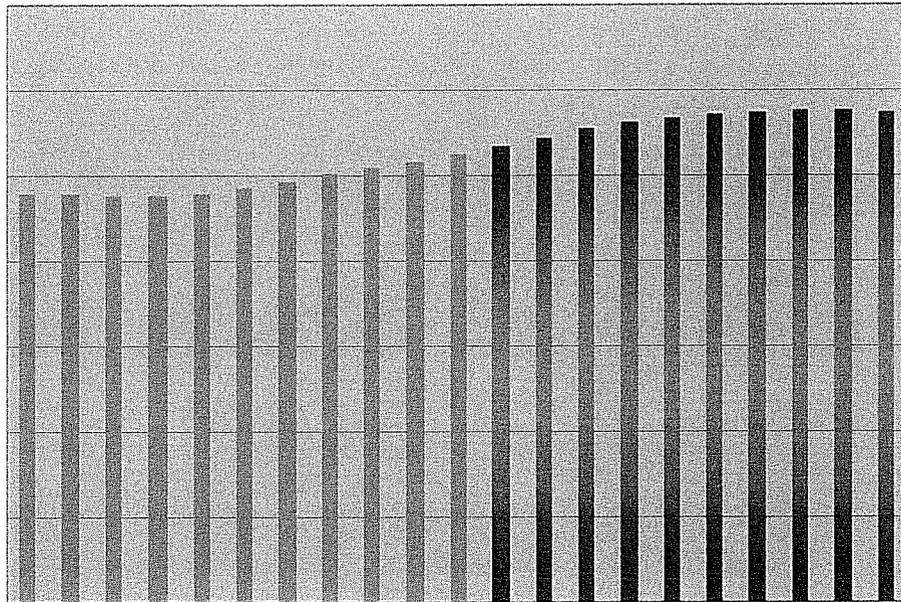
FIELD VISIT 5/1/12 – PRILIMINARY NOTES
PARK AVENUE SCHOOL, 82 PARK AVENUE DANBURY, CT 06810
(203) 797-4763

Principal : David Krafick

- It was noted that a Cafeteria expansion would be helpful in order to keep three lunch periods. Approximately 60 additional seats are required.
- Principal Krafick noted that an addition in the back would be advantageous in order to create a better student circulation loop.
- The low area needs to get a boring.
- The addition in the back where the playground currently exists was suggested.
- It was noted that proper separation of buses and cars should be accomplished with buses going around the back of the building. Currently, buses do occasionally perform this routing.
- Kindergartens were reviewed. Kindergarten Room 2 and 4. It was noted that a close adjacency would be helpful.
- It was noted that the front entrance is small for a 600-student school and that entrance expansion was suggested an alternate.
- The room adjacent to the current office is the Language Arts Room 22. This room could perhaps be acquired for Principal office and moving of the main office to make the front entrance wider.
- All of the paving in the front and the curbs are in very poor disrepair.
- It was noted that the current levels need to be maintained and elevator connecting all levels.
- The Architects reviewed the perimeter of the building again for possible expansions.
- It was noted that the bathrooms are tired with regard to an aesthetic look.
- It was noted that the existing ceilings and corridors are drooping in areas.
- It was noted that the gym ceilings are of normal tile and some are broken.
- Architects to provide a boring in the back area by Engineer.

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DANBURY PUBLIC SCHOOLS ENROLLMENT PROJECTED TO 2021



Peter M. Prowda, PhD
28 Old Mill Court
Simsbury, CT 06070
(860) 658-9919
peteprowda@yahoo.com

November 21, 2011

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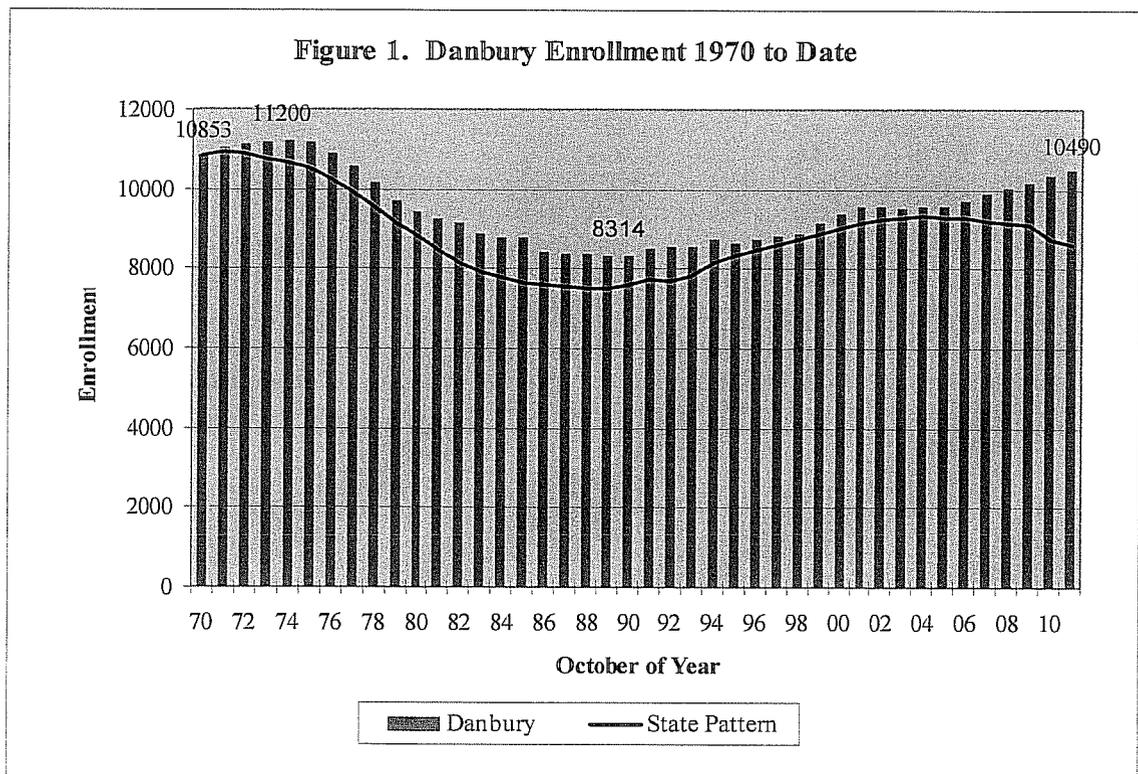
Introduction

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

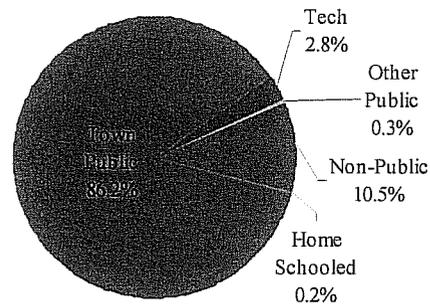
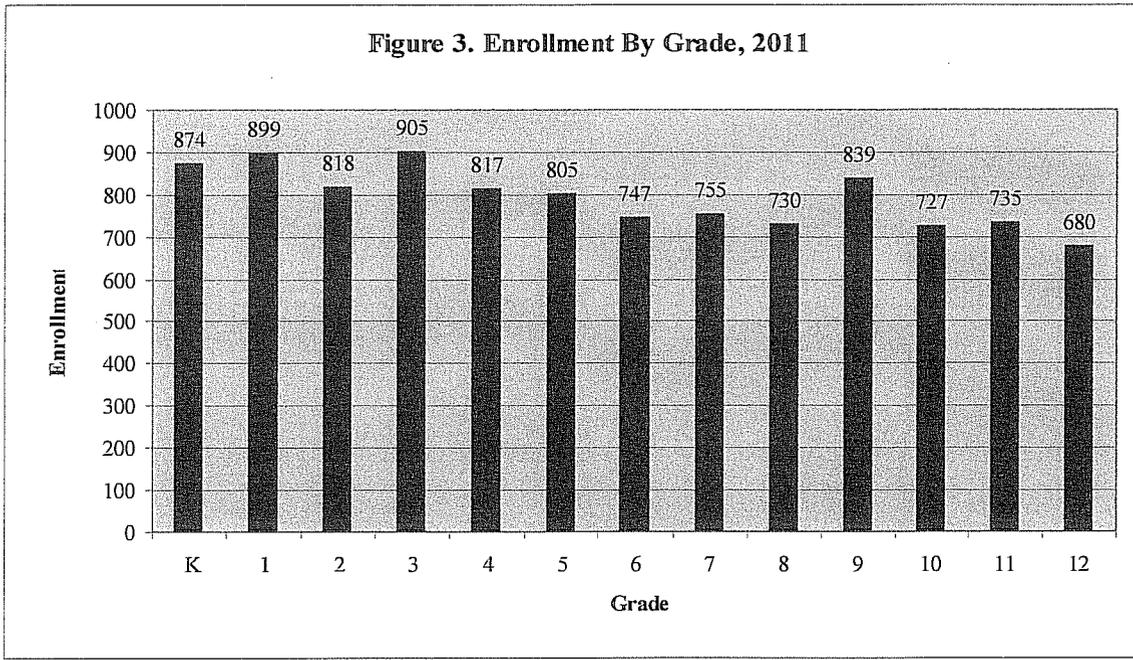


Figure 3 shows the October 2011 grade-by-grade enrollment by of students in the Danbury Public Schools. The children in pre-kindergarten programs are not shown. Grade 3 had the largest enrollment with 905 students. This was followed by Grade 1 with 899 students and Kindergarten with 874 students enrolled. 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.

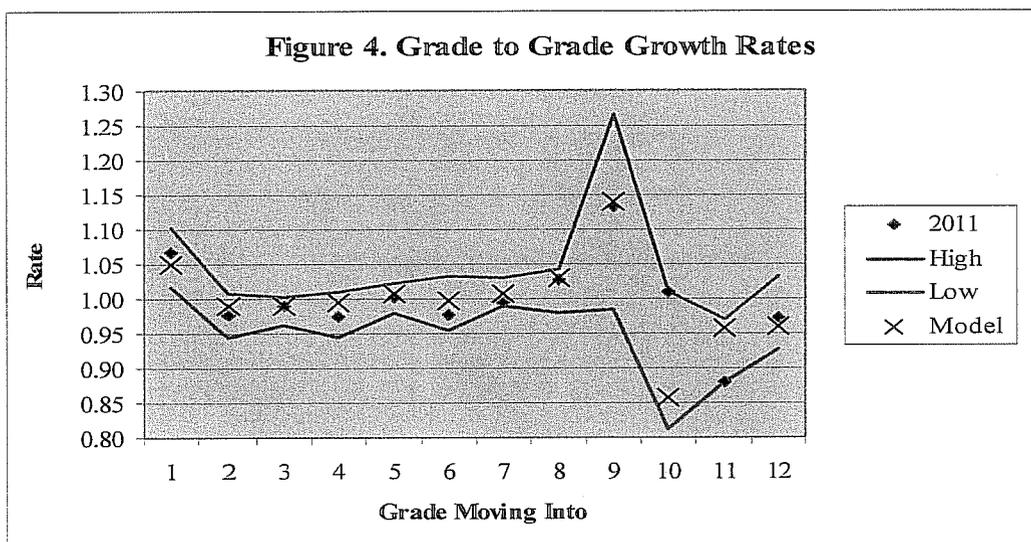
I had to make adjustments to the growth rates in high school because the policy of not retaining students in Grade 9 that was introduced in 2010 was abandoned in 2011. I based the Grade 9 growth rate on the

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.



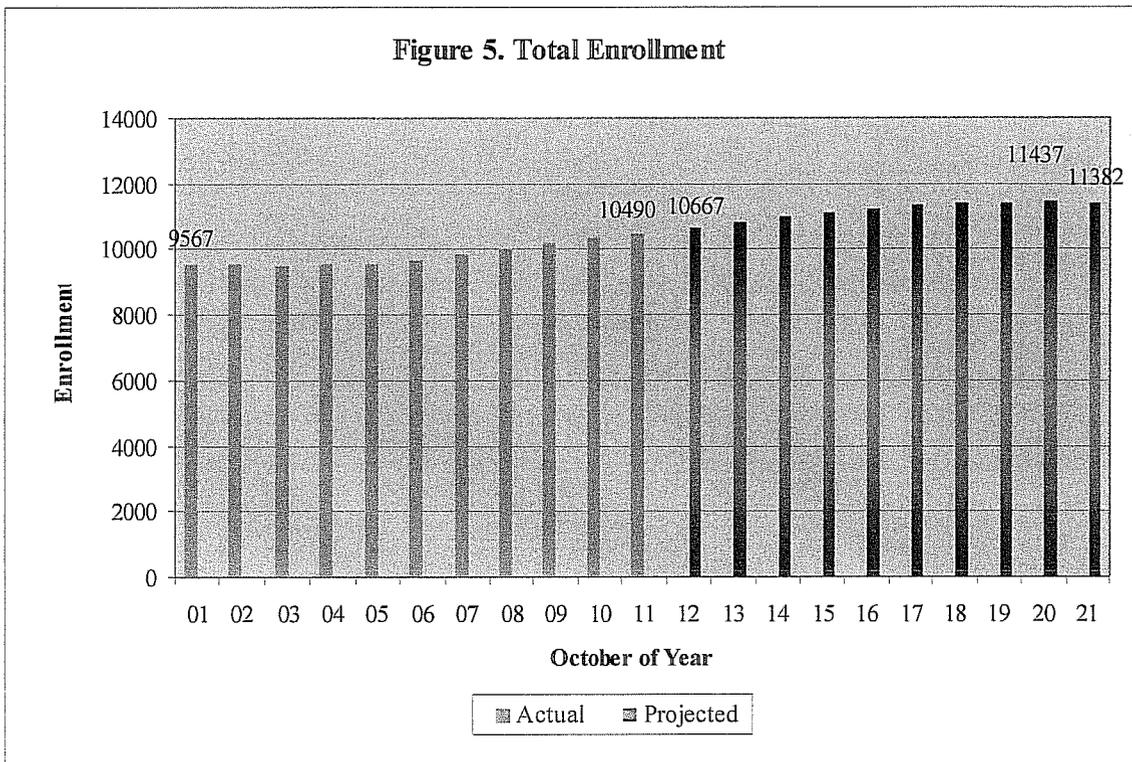
Enrollment data from 2001 to 2010 were taken from the files of the Connecticut State Department of Education. The public school data are available on the Department's website at www.sde.ct.gov under the Grants Management section. Data for 2011 were provided by the Department's Bureau of Data Collection, 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%



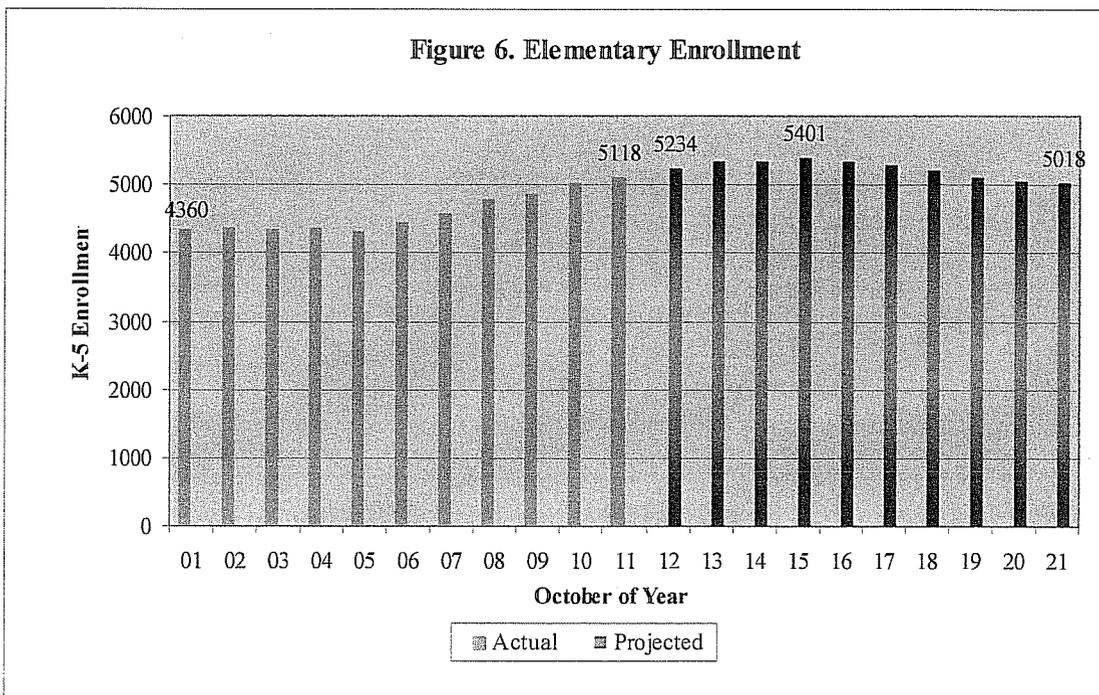
K-5 Enrollment

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%

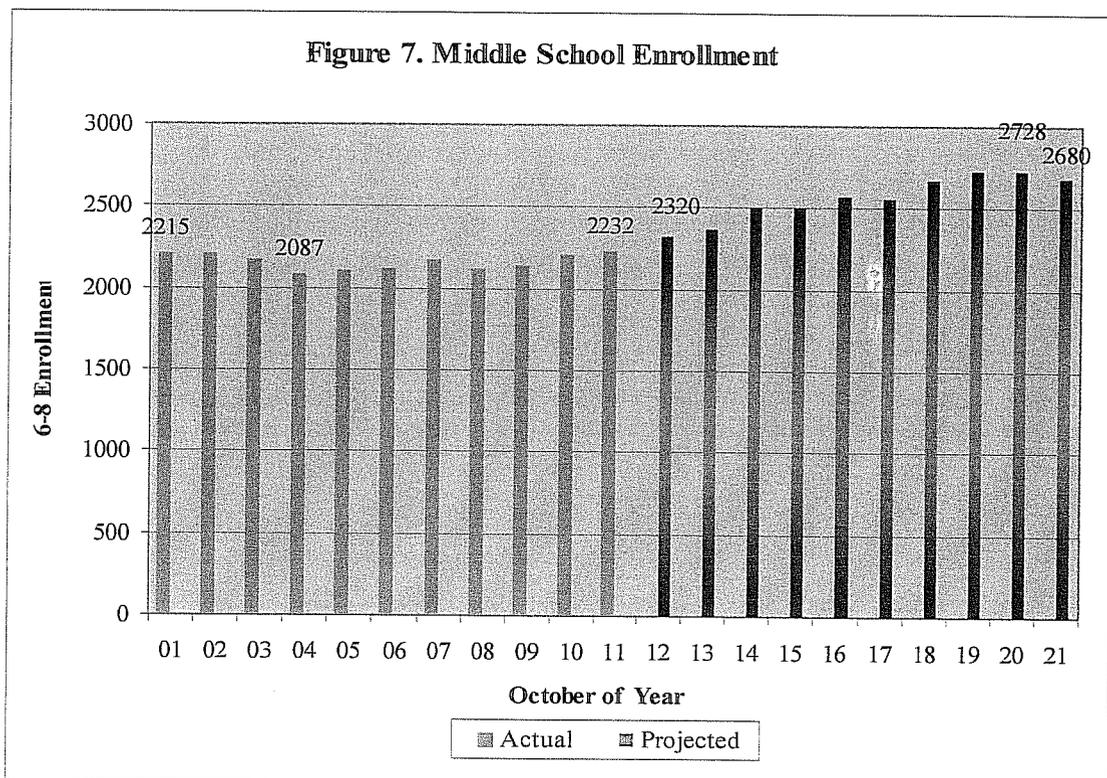


Middle School Enrollment

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%



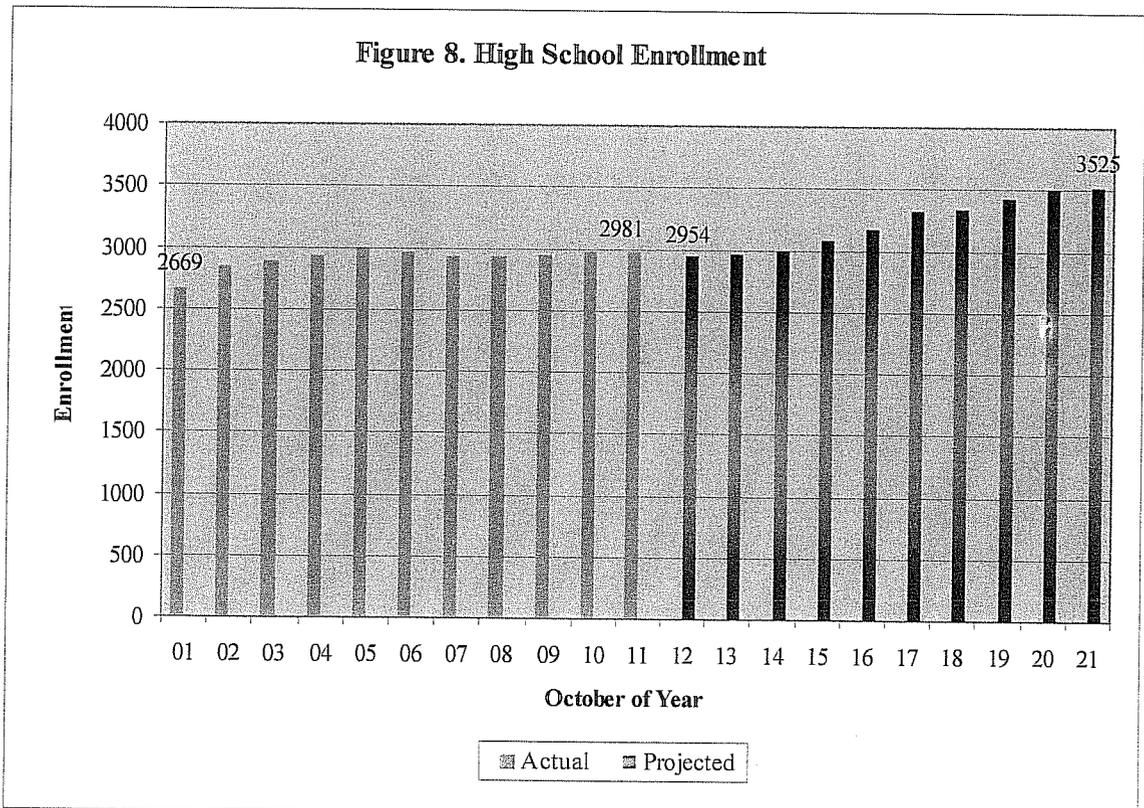
High School Enrollment

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.

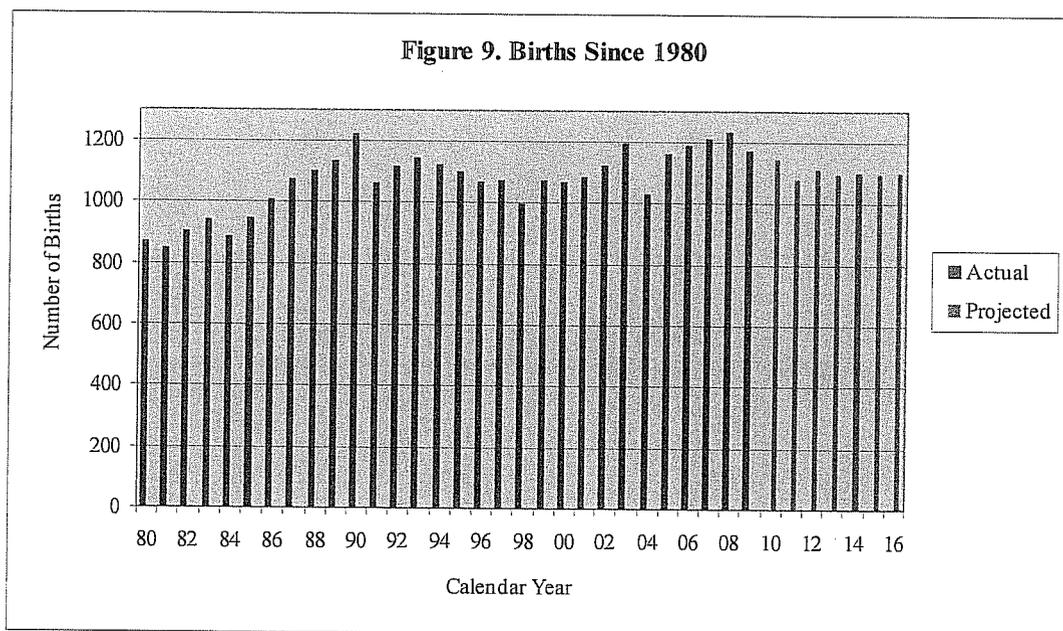
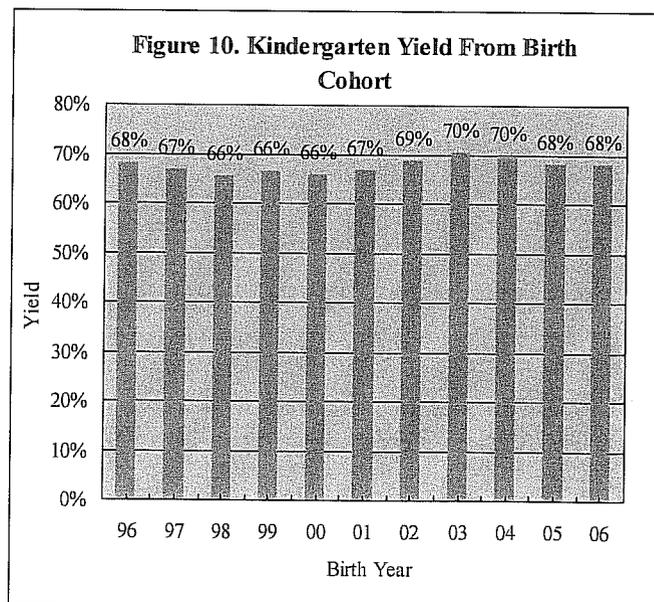


Figure 10 depicts the kindergarten yield five and six years later from the birth cohorts of 1996 to 2006 for Danbury residents attending kindergarten in Danbury. For example, there were 1,165 births in 2005 and 767 children enrolled in Danbury kindergarten at age five in 2010 and an additional 29 who 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.

Table 6. Analysis of Kindergarten Enrollment											
Year	Birth Year	Births	K	Retained		---- Non-Retained ----		Percent Retained	Yield From Births 5-Years Prior	Yield From Births 6-Years Prior	Total Yield From Birth Cohort
				From Prior Year	Born 5-Years Prior Resident	Born 6 Years Prior 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.

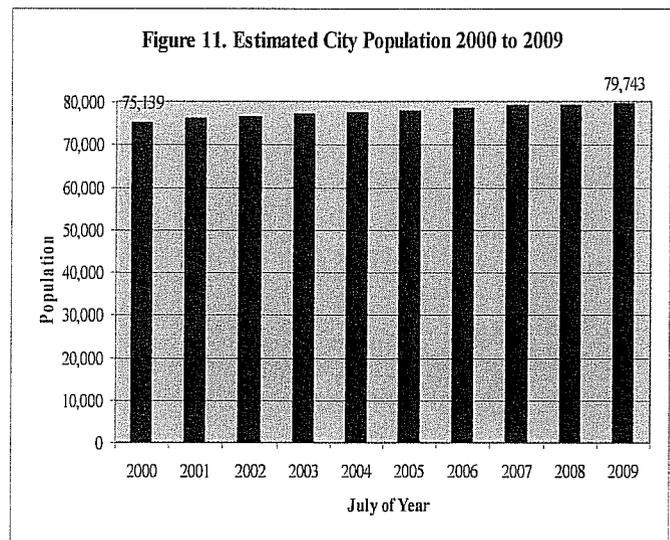


Figure 12 presents the number of women of child-bearing age from the 2000 and 2010 censuses. There were 1,070 births to Danbury residents in 2000 and an estimated 1,144 in 2010. In communities like yours, women in the 25-29 age-group have the highest rate of births. The number in this group rose 6.9 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.

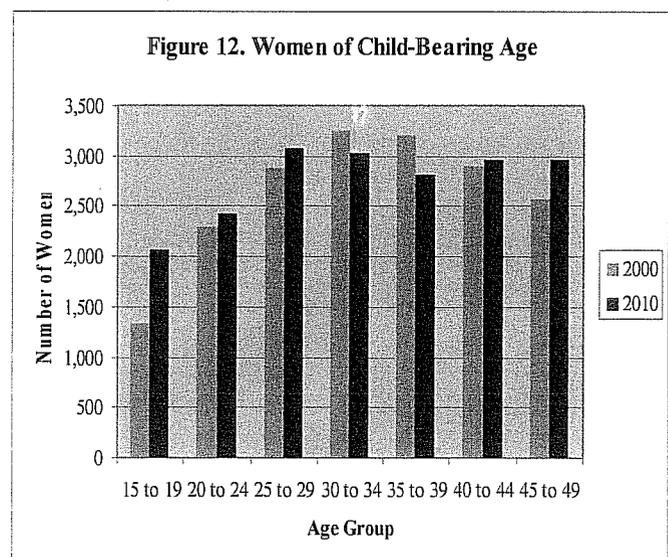


Figure 13 examines the number of people in the labor market from the US Department of Labor, Bureau of Labor Statistics. These are people 16 years of age or older who were working or actively seeking employment. Since it excludes most students and the elderly, I find it a very rough proxy of the number 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.

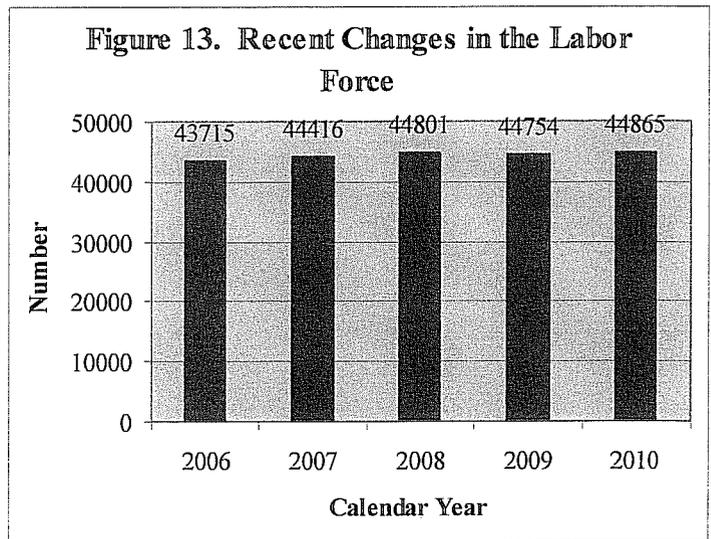


Figure 14 presents the net new housing units constructed from 2000 to 2010 from the State Department of Economic and Community Development. In the past ten years the number of net (of demolitions) new housing units constructed in Danbury ranged from a high 598 in 2005 down to a low of 81 in 2008. There 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.

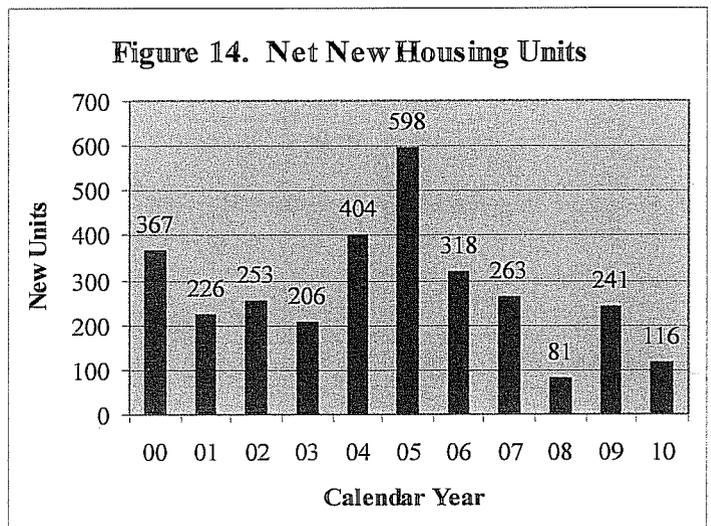


Figure 15 presents my estimate of the number of sales of existing homes. I derived it by taking the number of real estate transactions from The Warren Group/Commercial Record and subtracting the number of new single-family housing units authorized. This is an estimate because of the lag between the time 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.

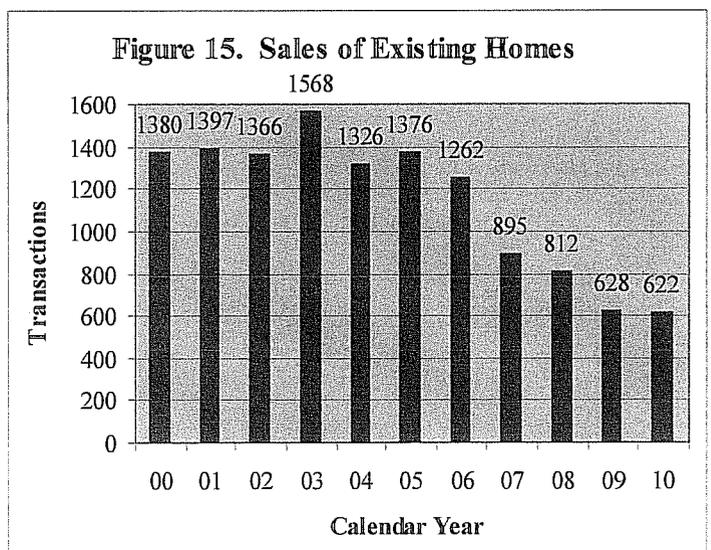


Figure 16 presents the percentage of Grade 9 students who were reported as being in that grade last year. Between 2005 and 2009 an average of 14.2 percent of the students enrolled in Grade 9 were repeating the grade. In 2010, the policy was changed and the percentage repeating plunged to 1.4 percent. 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.

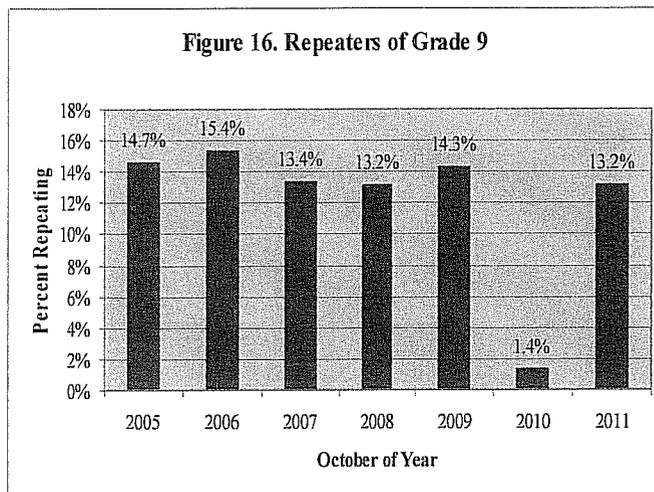


Figure 17 presents the non-public enrollment over the past ten years for students from the city of Danbury. The data are from the records of the Connecticut State Department of Education. Non-public enrollment ranged from a high of 1,741 students in 2000 to a low of 1,290 students in 2010, the latest 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.

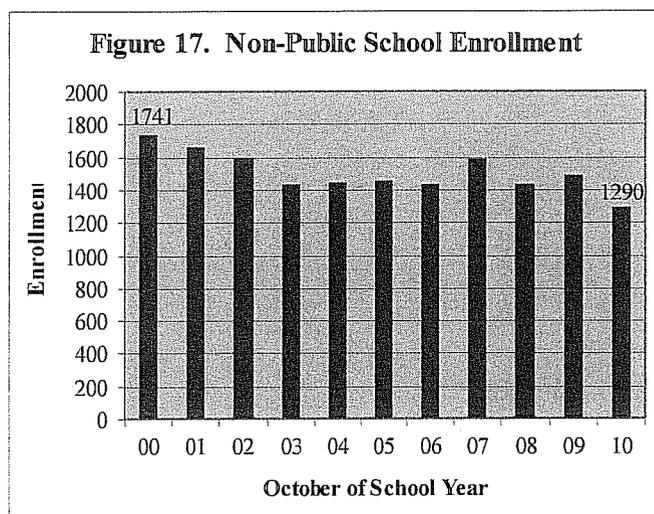


Figure 18 presents the non-resident enrollment in the Western Connecticut Academy of International Studies Magnet. The magnet school opened in 2006 with grades K-4 with an initial non-resident enrollment of 85 students. They represented 33.1 percent of the school's 257-student enrollment. In 2011 there 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.

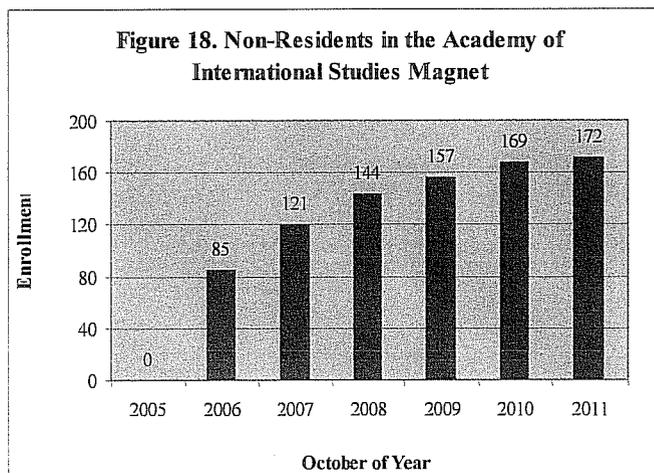


Figure 19 presents the enrollment of Danbury residents in other public schools in Connecticut from 2002 to 2011. The number educated out-of-district went from 373 in 2002 to 289 in 2006 and then recovered to 365 in 2011. Most of the students attended Henry Abbott State Technical High School. In 2011, 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

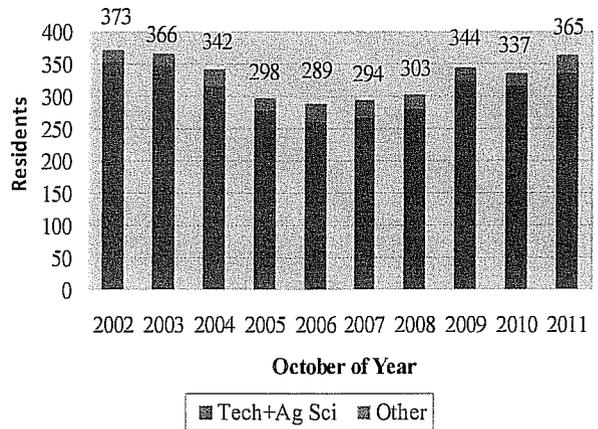
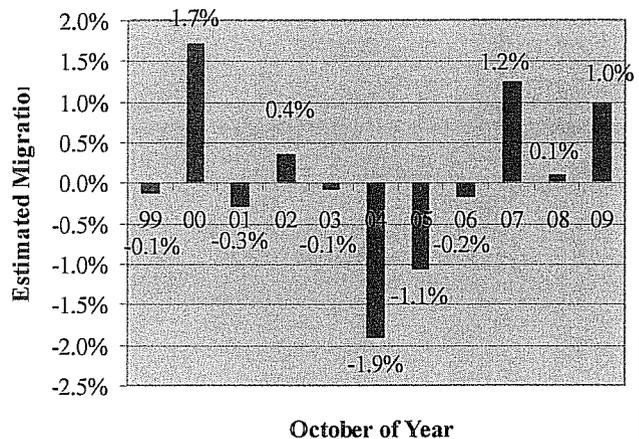


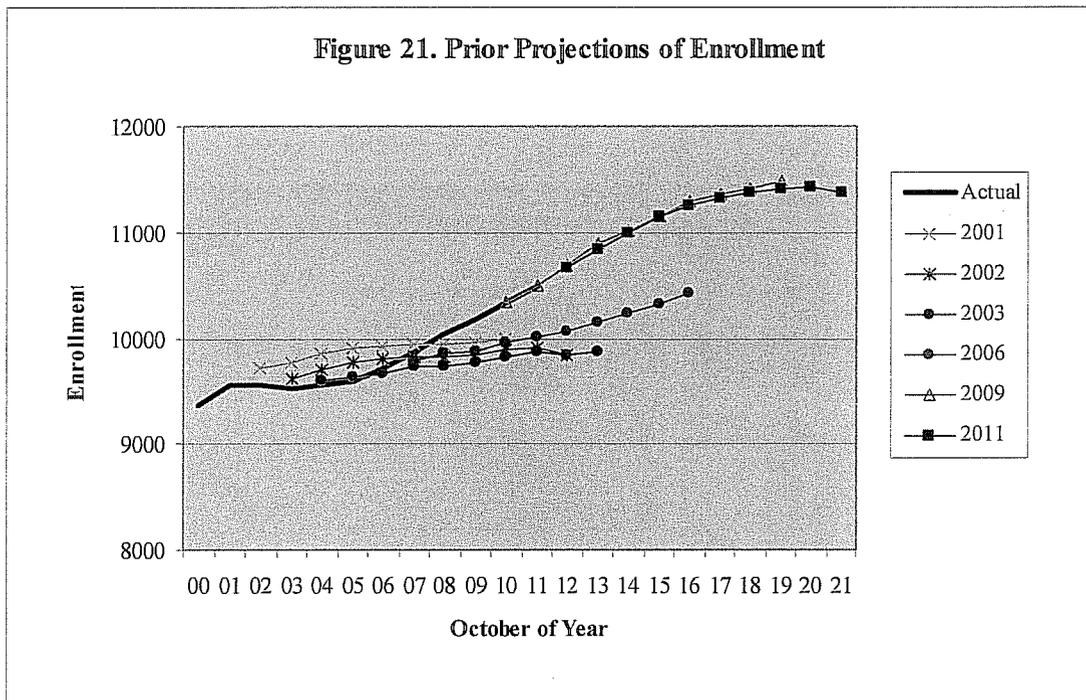
Figure 20. Estimated Student Migration



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.

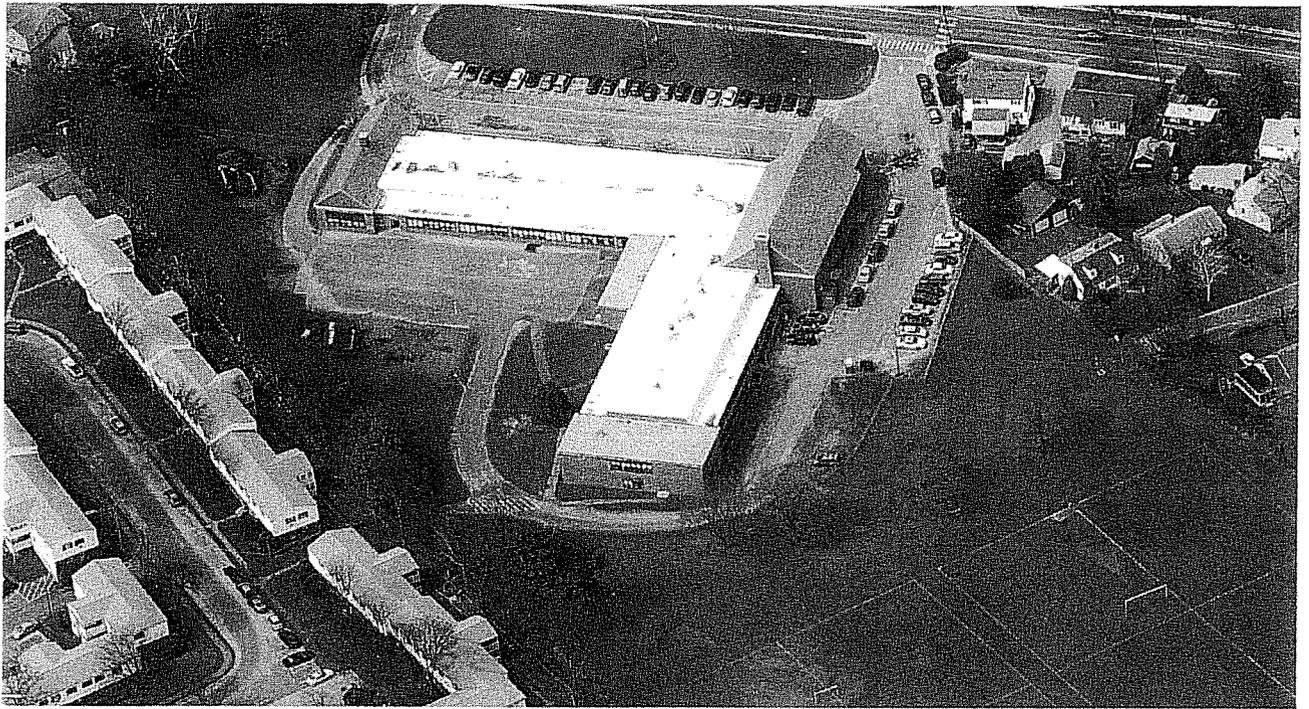
⁴ Estimated by comparing the enrollment in grades 3-8 one year with the enrollment in grades 2-7 the prior year with an adjustment for residents out and non-residents in.

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

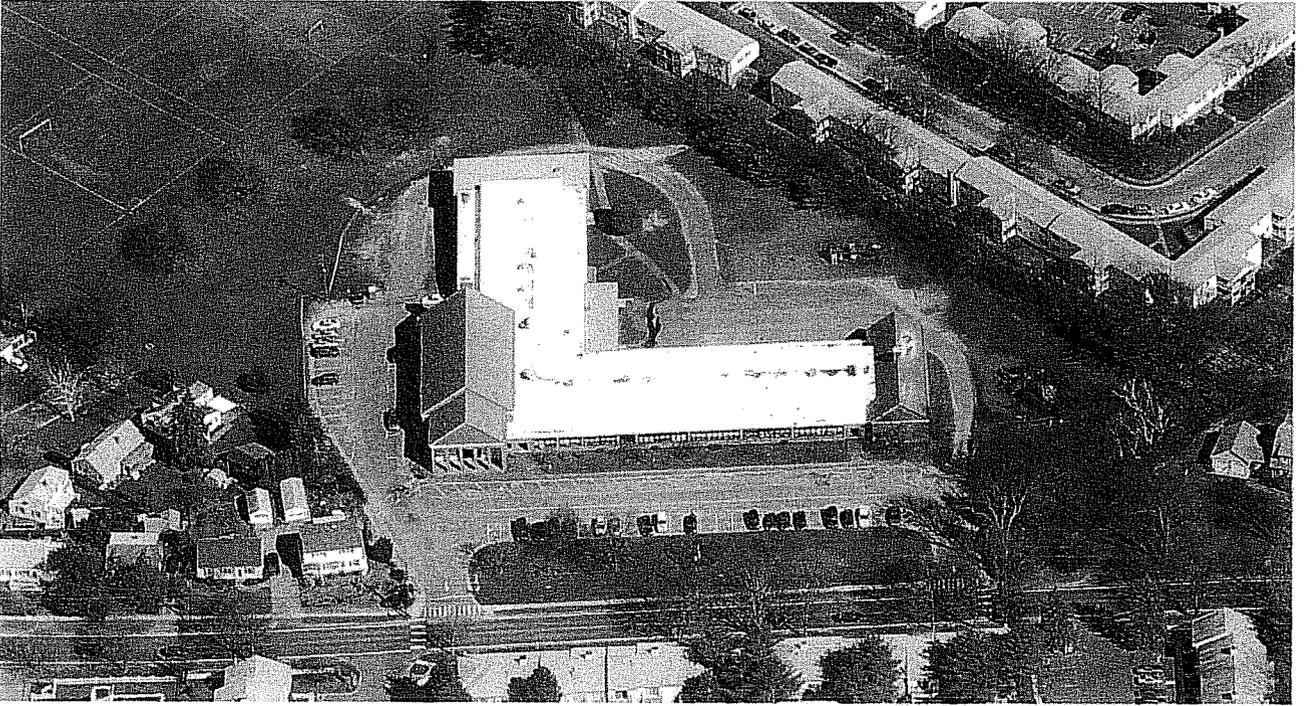
School Year	6	7	8	9	10	11	12	6-8 Total	9-12 Total	PK-12 Total
2001-02	753	721	741	813	679	615	562	2215	2669	9567
2002-03	708	762	738	885	692	657	614	2208	2848	9559
2003-04	697	711	770	847	719	666	650	2178	2882	9521
2004-05	685	706	696	906	726	660	640	2087	2932	9556
2005-06	719	679	716	880	770	676	660	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.

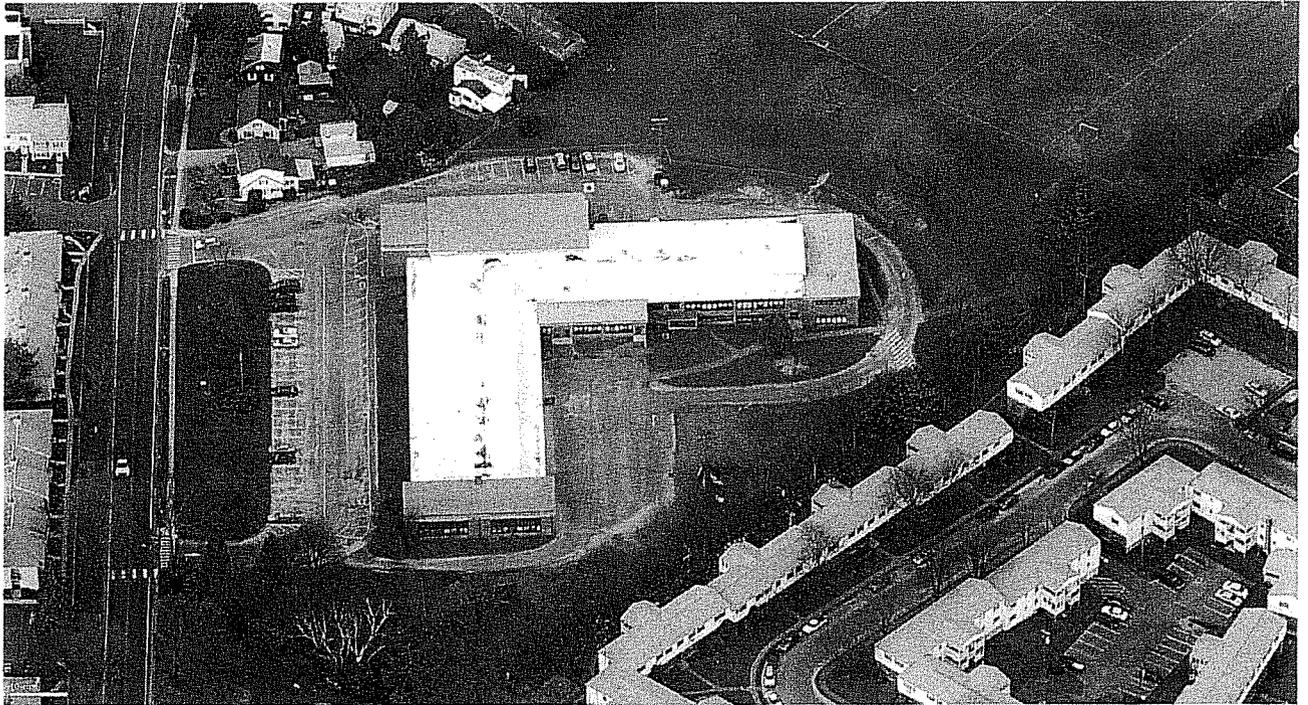
² Estimated by comparing the enrollment in grades 3-8 one year with the enrollment in grades 2-7 the prior year with an adjustment for residents out to public schools and non-residents in to the Danbury magnet.



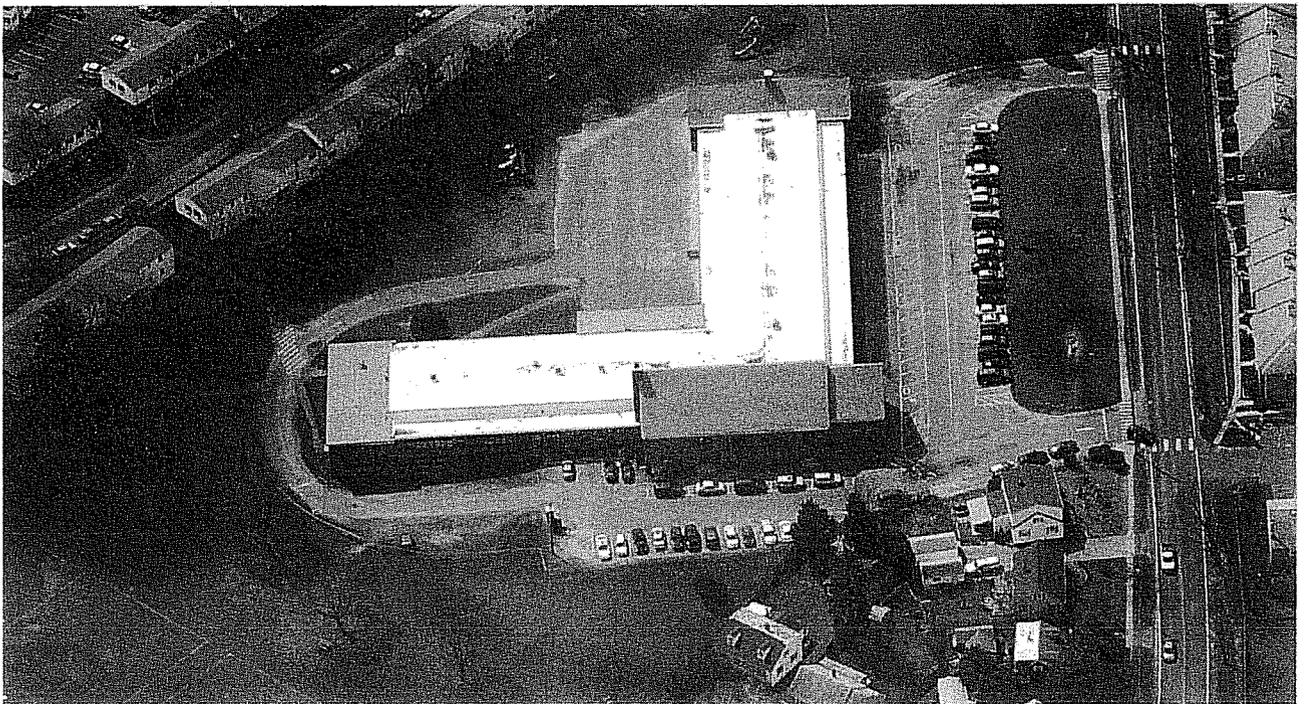
EXISTING AERIAL EAST TO WEST VIEW



EXISTING AERIAL WEST TO EAST VIEW



EXISTING AERIAL SOUTH TO NORTH VIEW



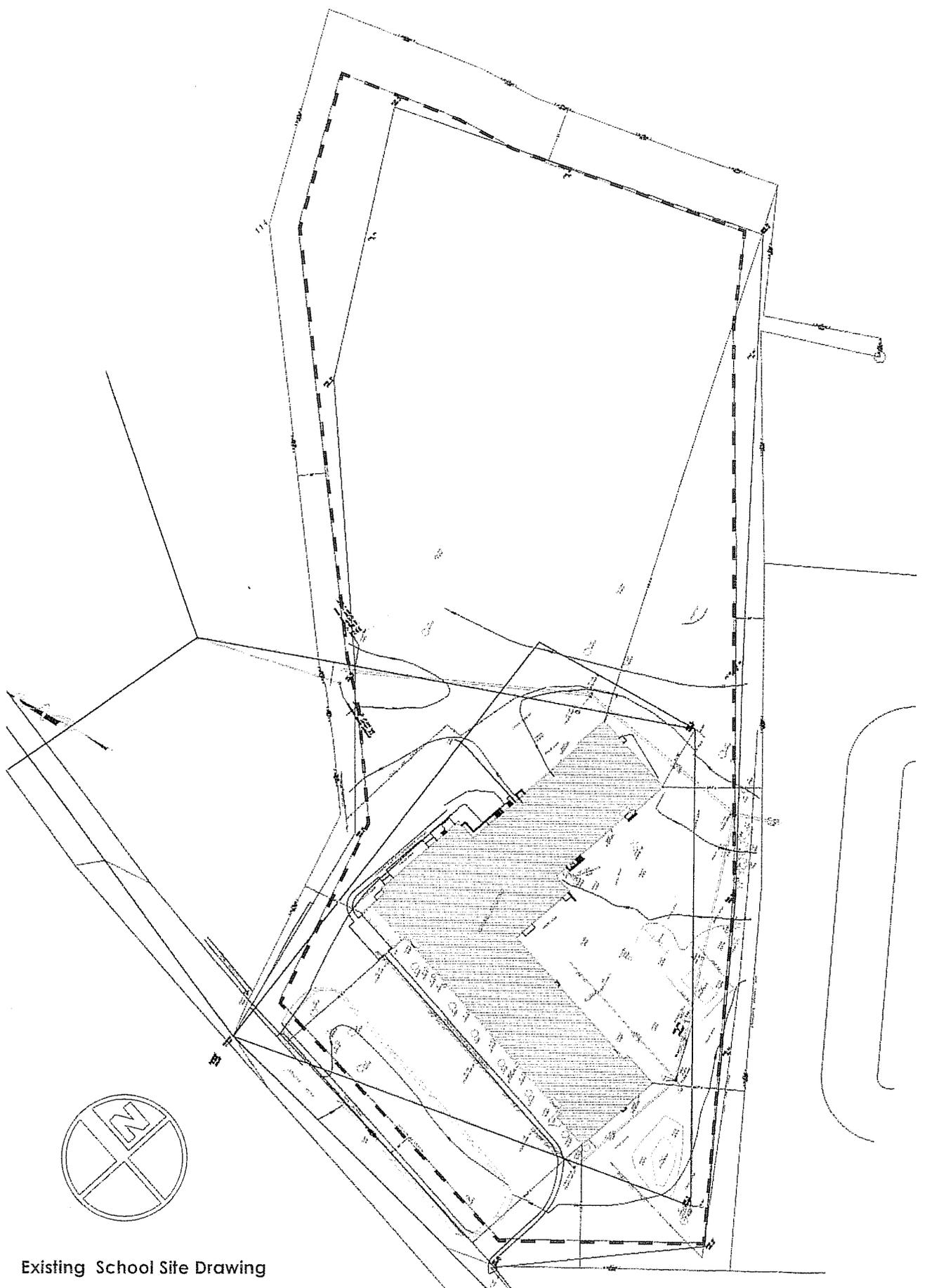
EXISTING AERIAL NORTH TO SOUTH VIEW



Existing School Aerial View



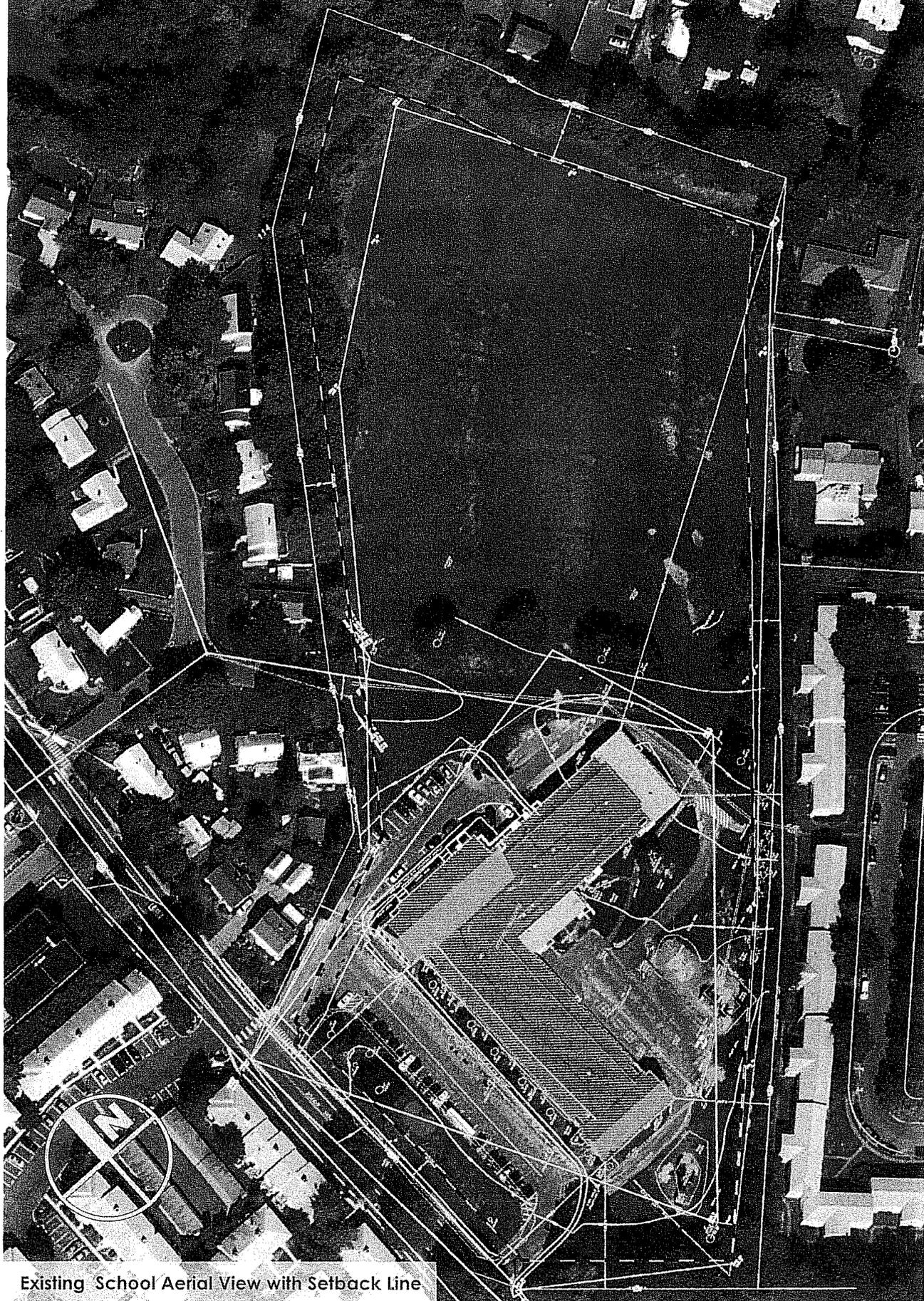
CITY OF DANBURY
PARK AVENUE ELEMENTARY SCHOOL
FACILITIES PLANNING STUDY AND MASTER PLAN FOR ADDITIONS AND ALTERATIONS



Existing School Site Drawing



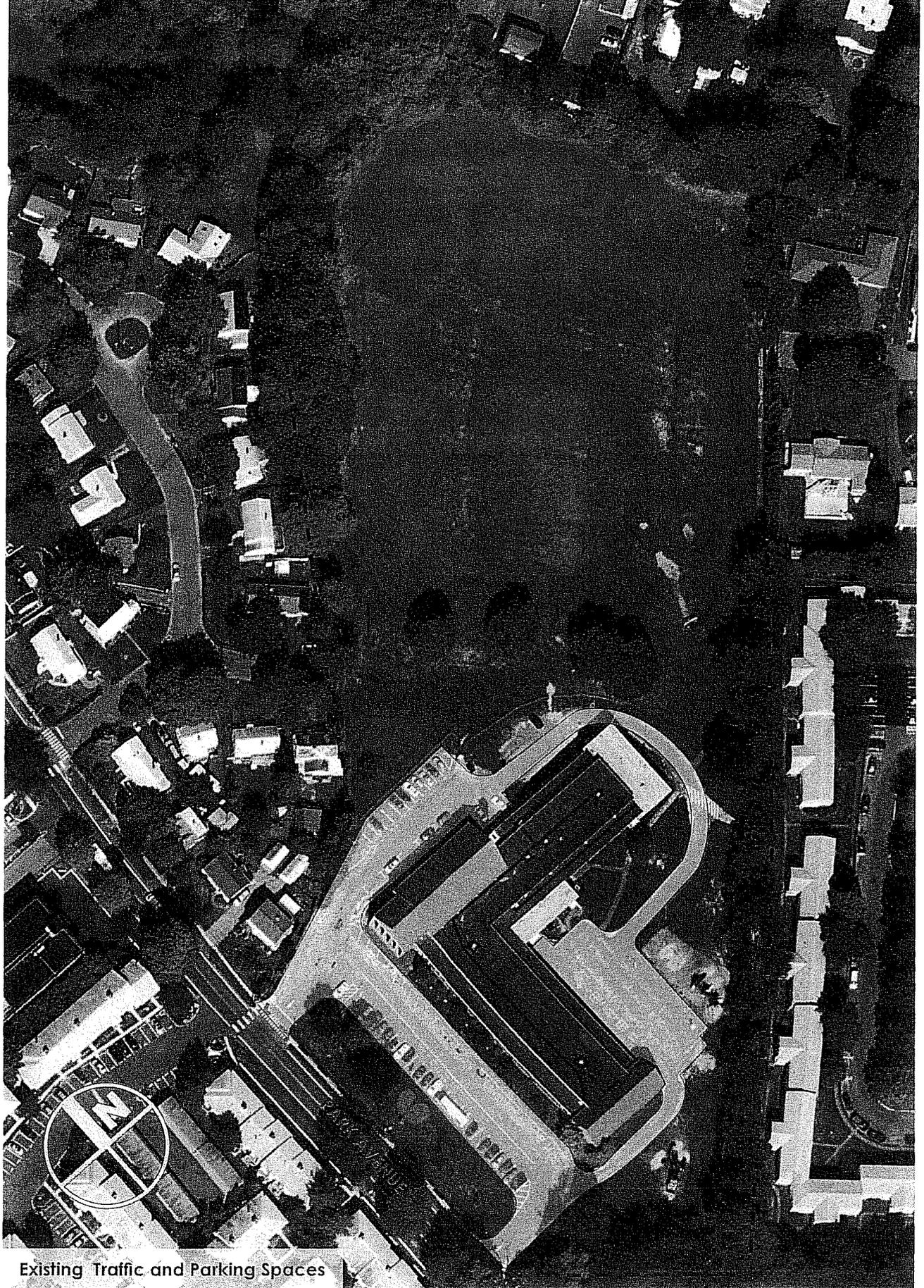
CITY OF DANBURY
PARK AVENUE ELEMENTARY SCHOOL
FACILITIES PLANNING STUDY AND MASTER PLAN FOR ADDITIONS AND ALTERATIONS



Existing School Aerial View with Setback Line



CITY OF DANBURY
PARK AVENUE ELEMENTARY SCHOOL
FACILITIES PLANNING STUDY AND MASTER PLAN FOR ADDITIONS AND ALTERATIONS

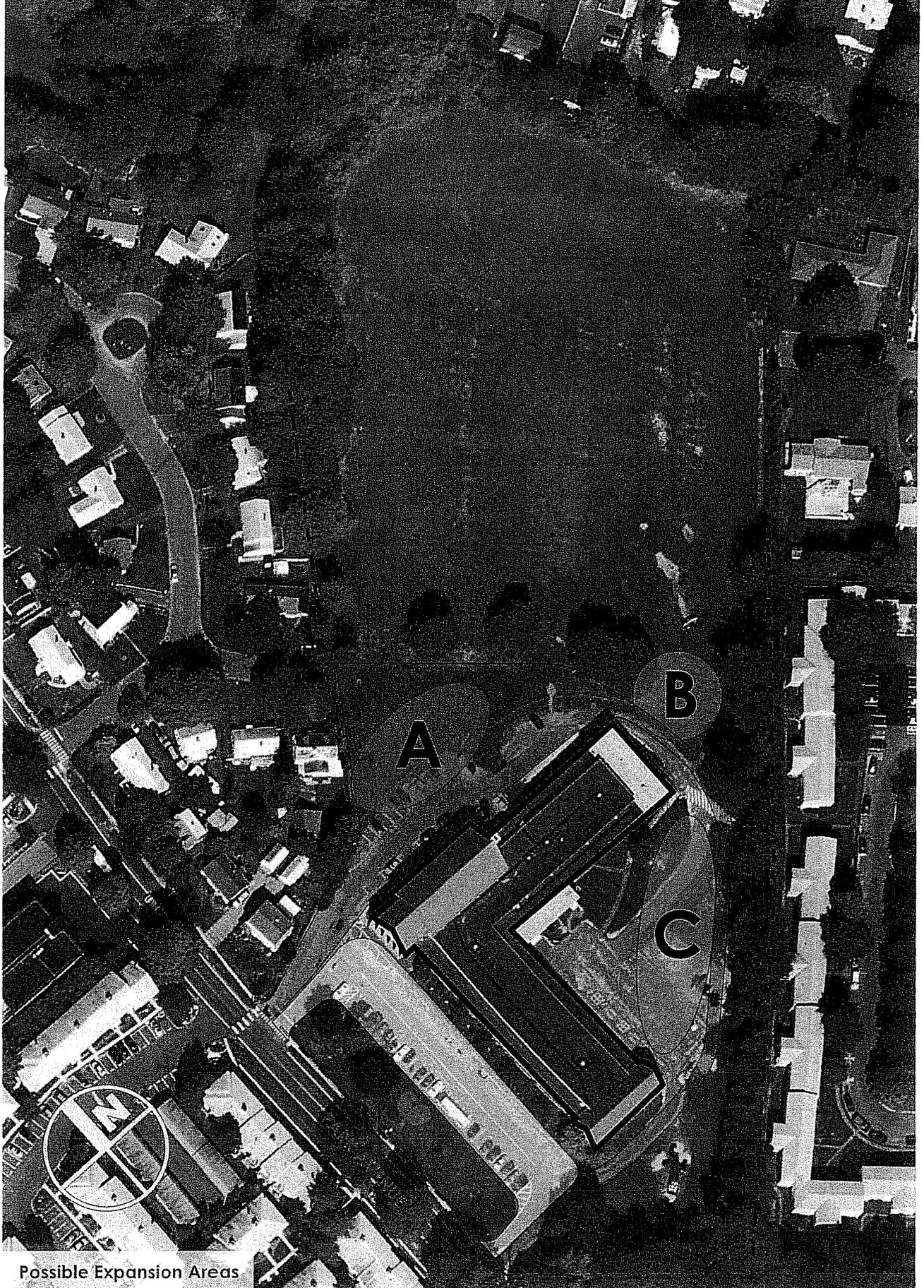


Existing Traffic and Parking Spaces



Existing Building Floor Plans

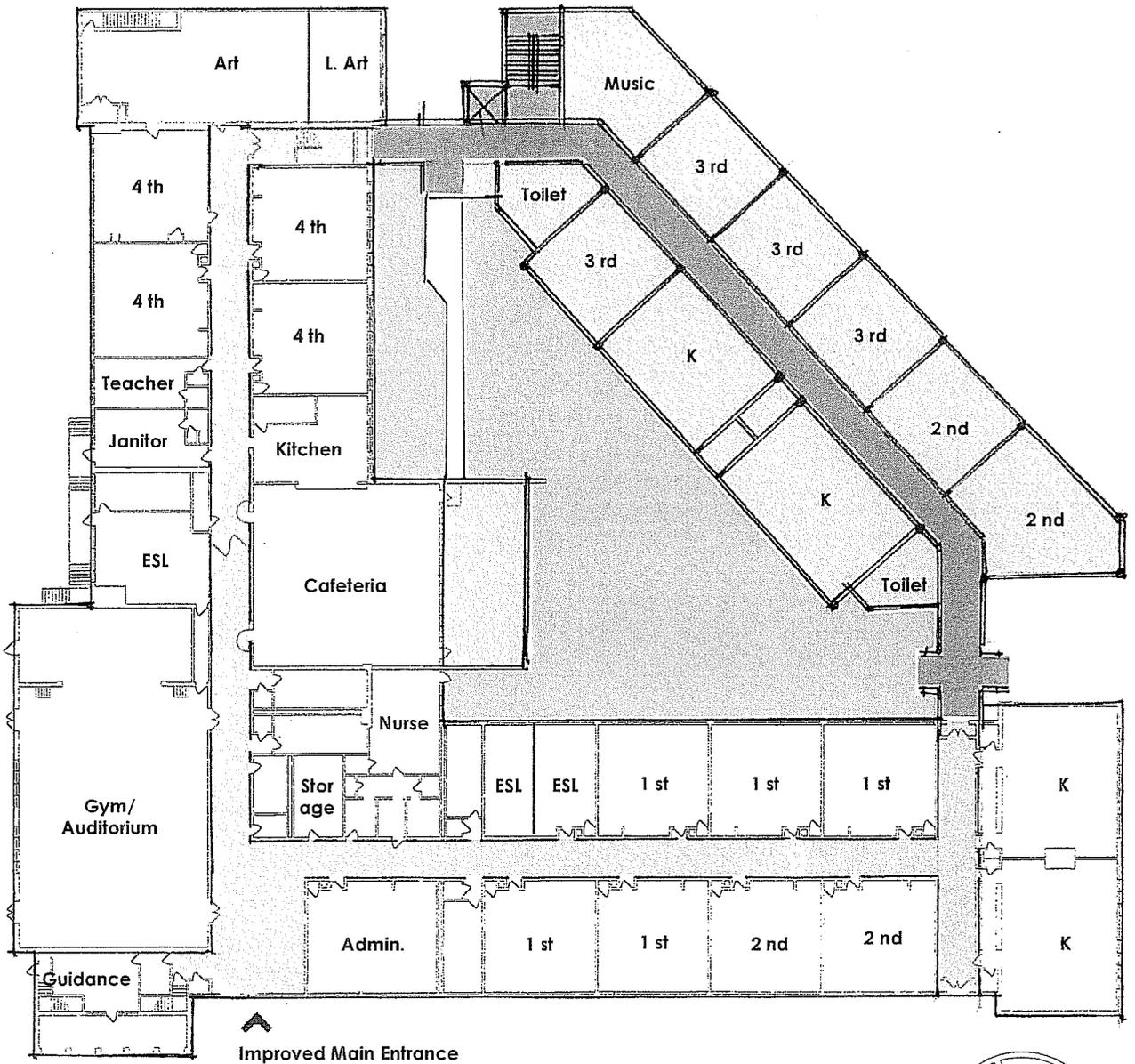




Possible Expansion Areas

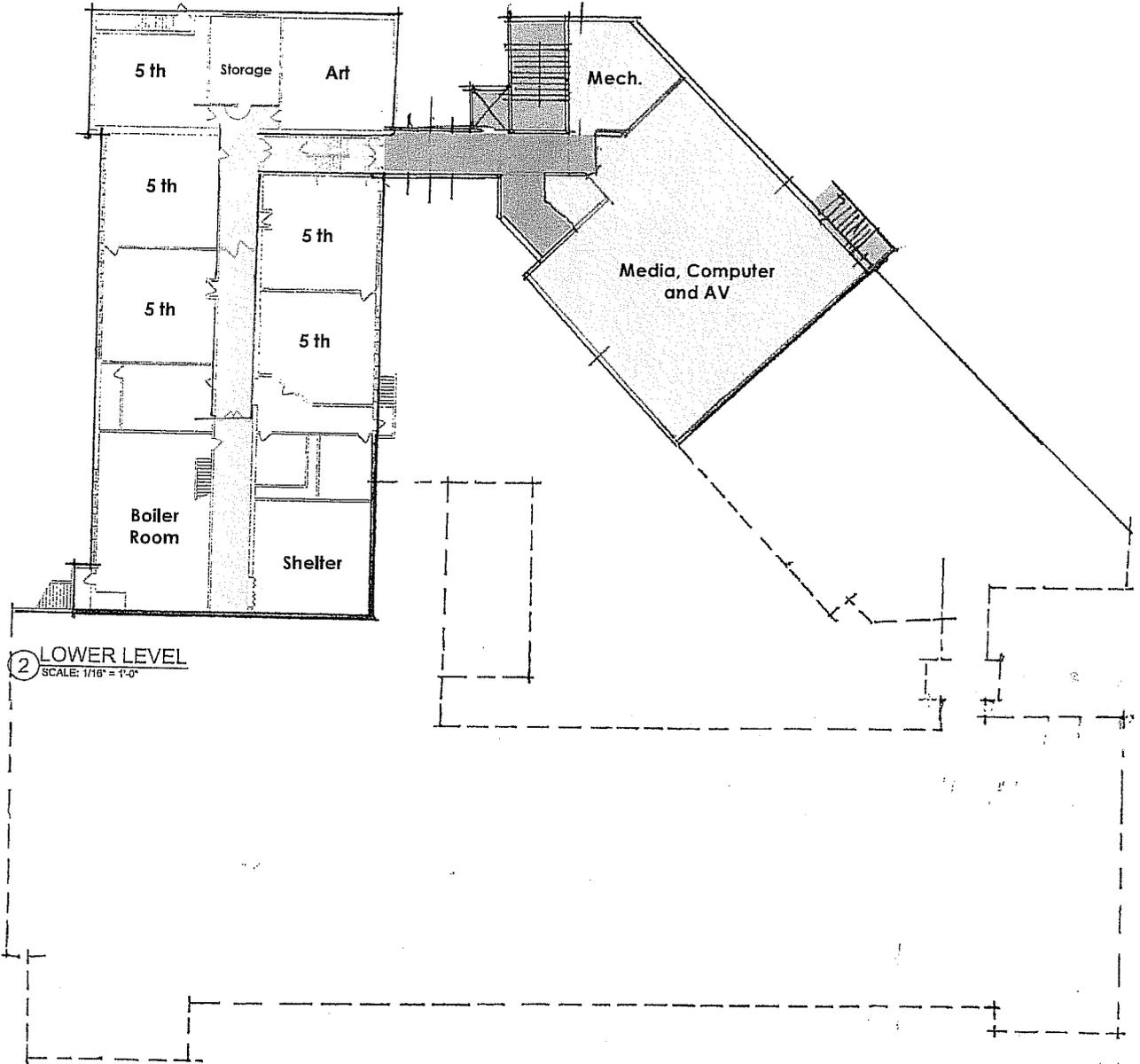


CITY OF DANBURY
PARK AVENUE ELEMENTARY SCHOOL
FACILITIES PLANNING STUDY AND MASTER PLAN FOR ADDITIONS AND ALTERATIONS



Proposed Expansion Building Floor Plan Level 1

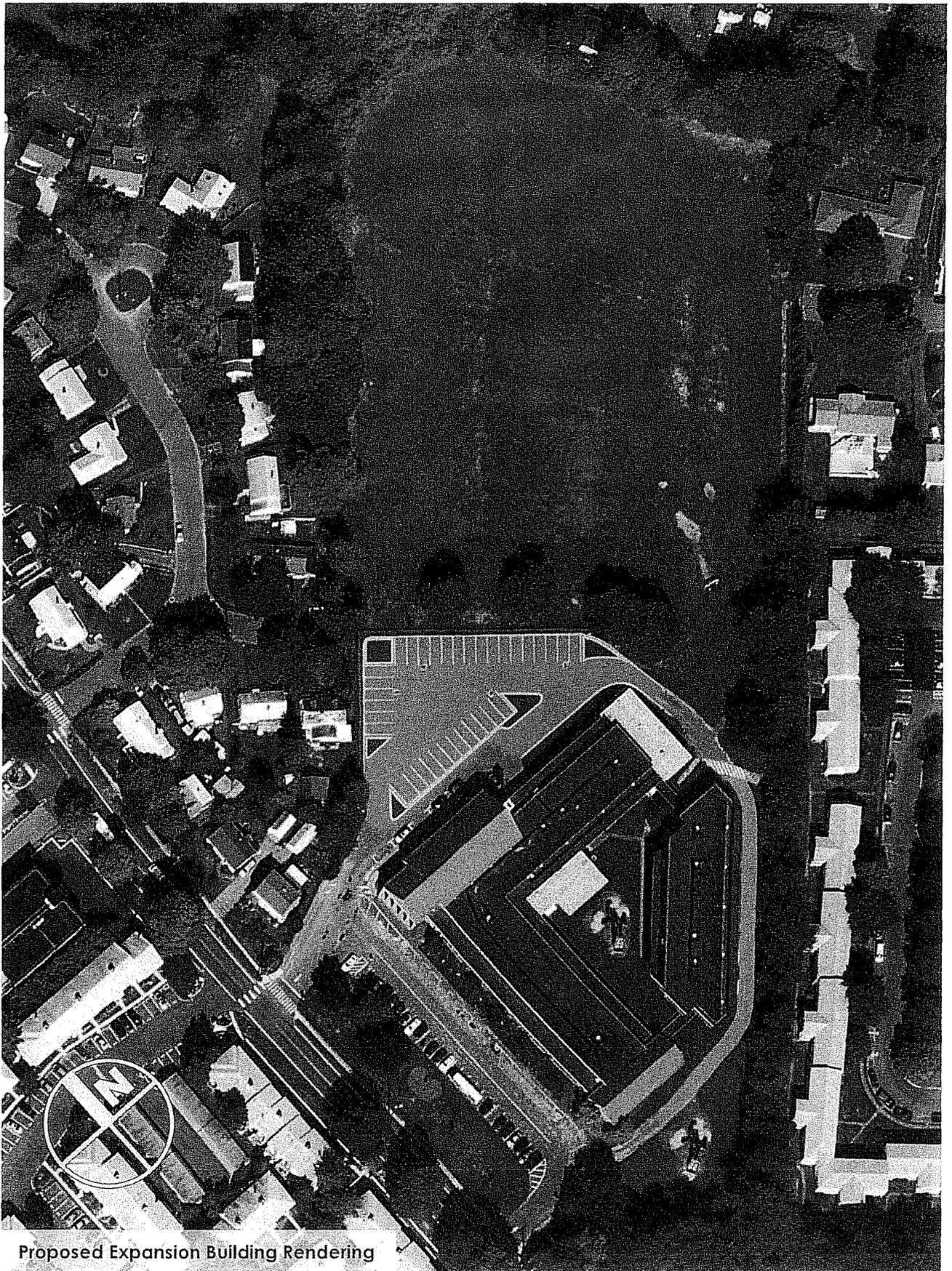




2 LOWER LEVEL
SCALE: 1/16" = 1'-0"

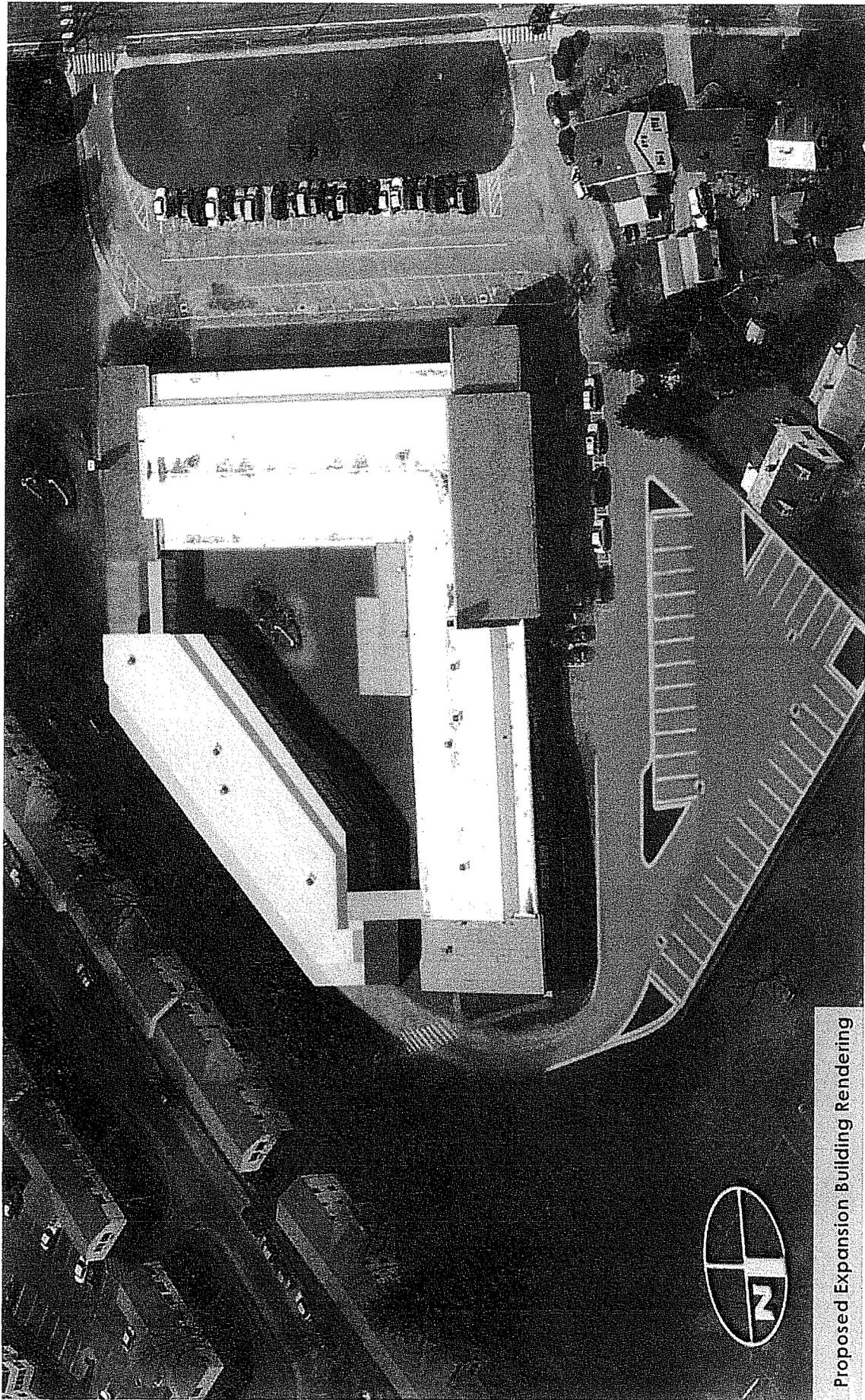
Proposed Expansion Building Floor Plan Level 0





Proposed Expansion Building Rendering



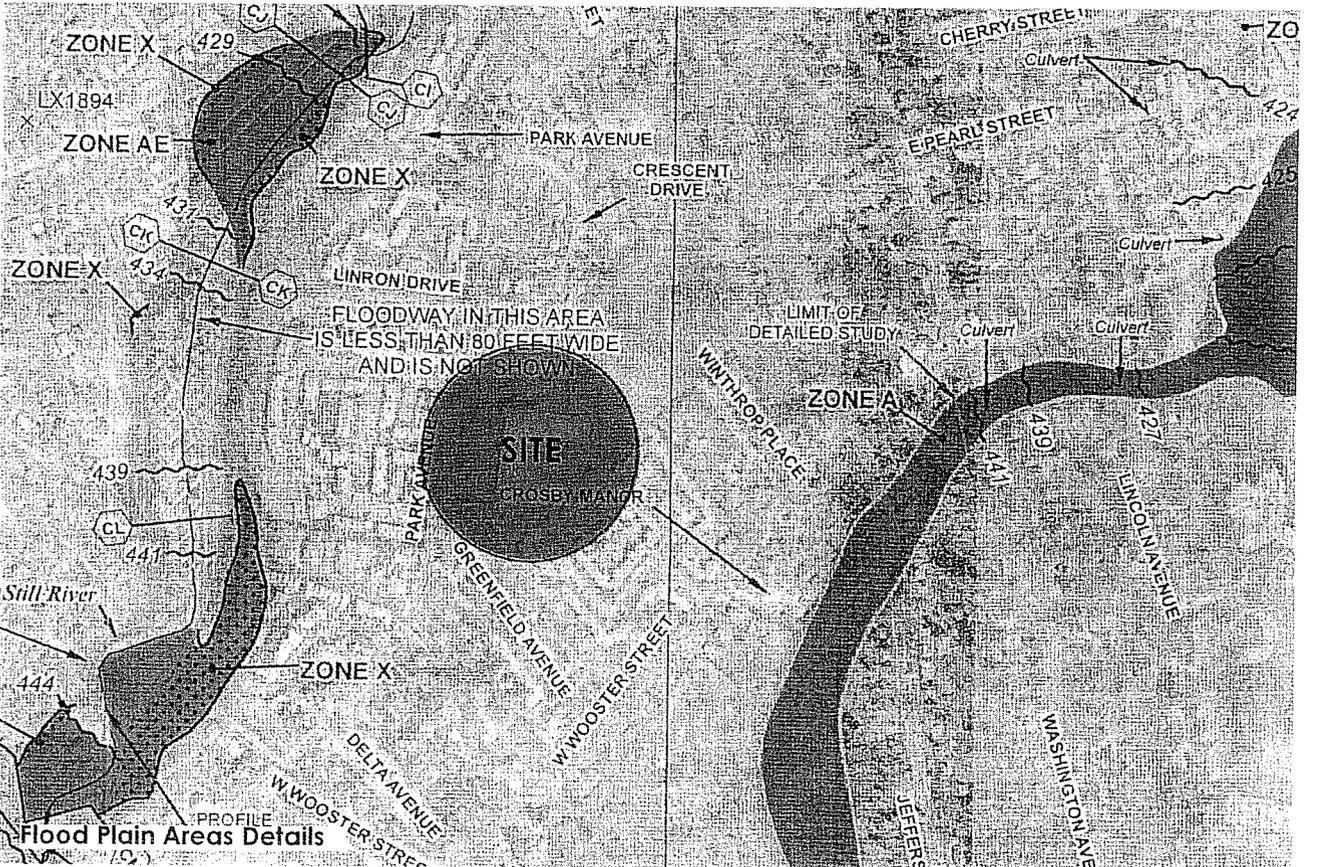
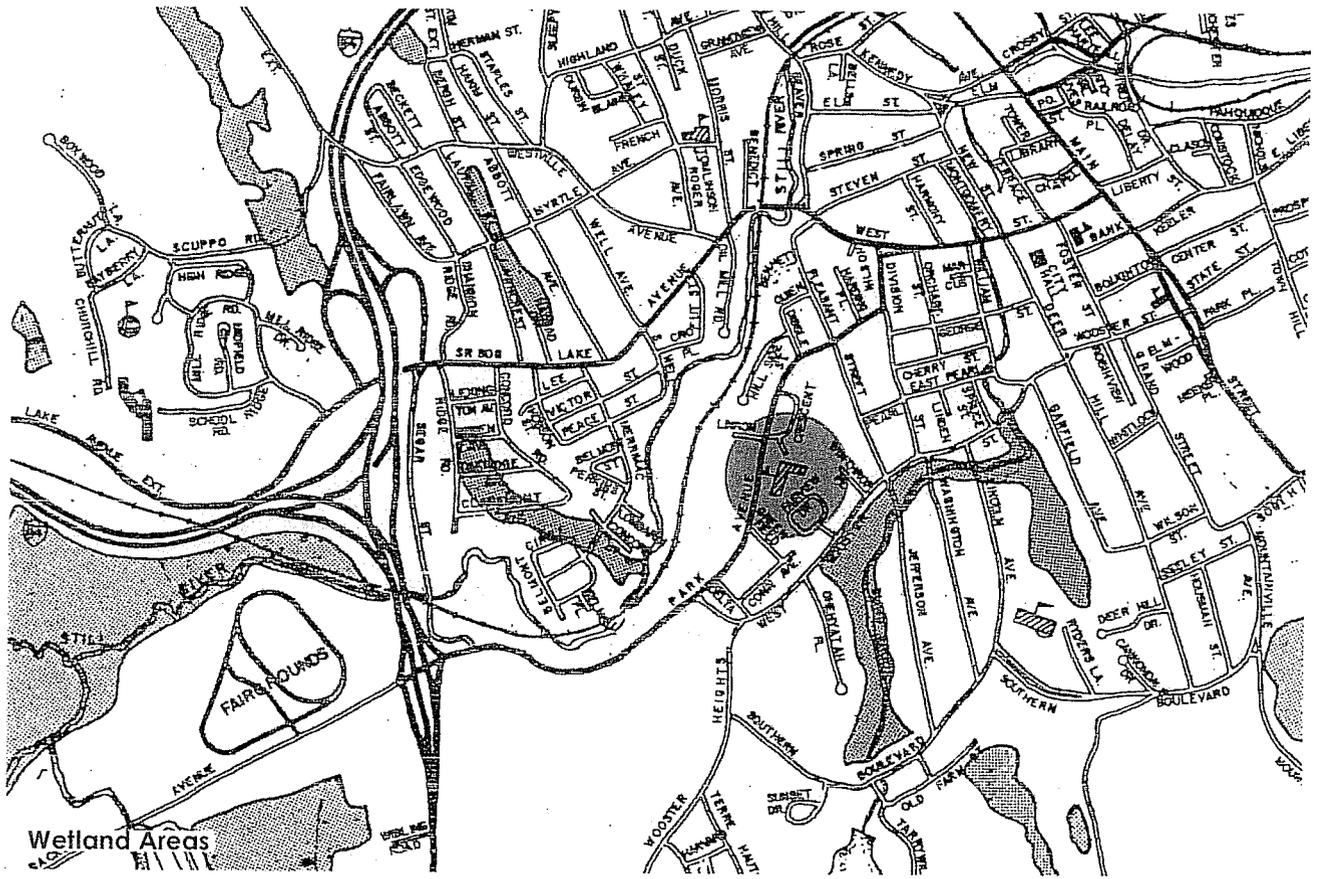


Proposed Expansion Building Rendering



CITY OF DANBURY
PARK AVENUE ELEMENTARY SCHOOL
FACILITIES PLANNING STUDY AND MASTER PLAN FOR ADDITIONS AND ALTERATIONS

FULLER
D'ANGELO
P.C.
ARCHITECTS
PLANNERS



CONCEPTUAL COST ESTIMATE
DETAIL

DATE: 6/4/2012
PAGE: 2 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%		
PARK AVENUE ELEMENTARY SCHOOL									
<u>NEW CONSTRUCTION AND ASSOCIATED ALTERATIONS ^{5,7}</u>									
MEDIA/MECHANICAL ADDITION (LEVEL 0)	7,200	SF	300.00	2,160,000	86,400	336,960	2,583,360	723,341	3,306,701
CLASSROOM ADDITION (LEVEL 1)	13,960	SF	260.00	3,629,600	145,184	566,218	4,341,002	1,215,480	5,556,482
CAFETERIA ADDITION (SEATING AREA ONLY)	1,160	SF	275.00	319,000	12,760	49,764	381,524	106,827	488,351
ELEVATOR AT CLASSROOM ADDITION	1	EA	110,000.00	110,000	4,400	17,160	131,560	36,837	168,397
MODIFICATIONS AT CONNECTION TO EXISTING	1	LS	50,000.00	50,000	2,000	7,800	59,800	16,744	76,544
HVAC PIPING TO NEW MECHANICAL ROOM	620	LF	90.00	55,800	2,232	8,705	66,737	18,686	85,423
ELECTRIC FEEDER TO ADDITION	310	LF	150.00	46,500	1,860	7,254	55,614	15,572	71,186
BUS DROP-OFF AROUND ADDITION:	1	LS	309,665.00	309,665	12,387	48,308	370,359	103,701	474,060
RELOCATE PLAYGROUNDS; INSTALL NEW SURFACING	1	LS	60,000.00	60,000	2,400	9,360	71,760	20,093	91,853
<u>RENOVATIONS ⁶</u>									
ART ROOM RENOVATIONS	3,000	SF	90.00	270,000	10,800	42,120	322,920	90,418	413,338
ESL ROOM RENOVATIONS	900	SF	90.00	81,000	3,240	12,636	96,876	27,125	124,001
ADMINISTRATION RENOVATIONS	1,050	SF	110.00	115,500	4,620	18,018	138,138	38,679	176,817
ENTRANCE/LOBBY RENOVATIONS	500	SF	150.00	75,000	3,000	11,700	89,700	25,116	114,816
PARKING AND DROP-OFF	1	LS	698,690.00	698,690	27,948	108,996	835,633	233,977	1,069,611
PARK AVENUE ELEMENTARY SCHOOL TOTAL				7,980,755	319,230	1,244,998	9,544,983	2,672,595	12,217,578

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 - COSTS ARE BASED ON PROPOSED DESIGN WHICH WILL INCLUDE A FUTURE 2ND STORY ADDITION; ADDITIONAL COSTS ARE COMPRISED OF:
 - CONCRETE FOUNDATION AND SITEWORK
 - CONCRETE ROOF SLAB (FUTURE 2ND FLOOR SLAB)
 - STRUCTURAL STEEL AND METAL DECK
 - PREP FOR SECOND STAIRWAY
 - TAPERED INSULATION (IN LIEU OF PITCHED STEEL AND DECK)
 - HVAC PIPE AND DUCT UPSIZING
 - HVAC EQUIPMENT UPSIZING
 - ELECTRIC FEEDER/CAPACITY UPSIZING
- 6 - ELEMENTARY SCHOOL ROOF REPLACEMENT NOT INCLUDED.
- 7 - NO AIR CONDITIONING IS INCLUDED. ROOFTOP HV UNITS TO ALLOW FOR COOLING COIL TO BE ADDED AT A LATER DATE.

CONSTRUCTION PROGRAM SOLUTIONS INC.
Project Planning Consultant

CONCEPTUAL COST ESTIMATE
DETAIL

DATE: 6/4/2012
PAGE: 3 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%		

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: PARK AVENUE SCHOOL ASSESSORS LOT: H16036
 ZONE: RMF-4 PRINCIPLE USE: SCHOOL
 EXISTING BUILDING FOOTPRINT (INCLUDES ROOF OVERHANGS): 40,340 SQ. FT.
 EXISTING LOT AREA: 431,577 SQ. FT. (9.908 ACRES)

ZONE CRITERIA	REQUIRED	EXISTING	PROPOSED
MINIMUM LOT AREA (ACRES)	1	9.908	---
MINIMUM FRONT YARD (FT.)	20	127.9	---
MINIMUM SIDE YARD (FT.)	25	56.9	---
MINIMUM REAR YARD (FT.)	50	500+	---
MAXIMUM BUILDING HEIGHT (FT.)	35	44.7	---
MAXIMUM BUILDING COVERAGE (%)	30	9.35	---



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

MAP SHOWING THE LAND OF
 THE CITY OF DANBURY
 PARK AVENUE SCHOOL
 PARK AVENUE DANBURY, CONNECTICUT
 ZONE: RMF-4 AREA: 9.908 ACRES
 SCALE: 1" = 40' FEBRUARY 22, 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 Park Avenue Elementary 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. Two boring were taken, due to the larger size of the addition in the rear 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 Park Avenue ES soil material findings are comprised of the below:

DEPTH FEET	CASING BLOWS PER FOOT	SAMPLE					BLOWS PER 6 IN ON SAMPLER (FORCE ON TUBE) 0 - 6 - 12 - 18			CORE TIME PER FT (MIN)	DENSITY OR CONSIST MOIST	STRATA CHANGE DEPTH		FIELD IDENTIFICATION OF SOIL REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.		
		NO	Type	PEN	REC	DEPTH @ BOT	3	4	5			6	7		8	ELEV
5		1	ss	24"	15"	2'0"	3	4					0'4"	TOPSOIL		
							6	8								
			2	ss	24"	18"	4'0"	5	10				2'6"	brn SILT, sm FM sand, lit F gravel		
								10	18							
			3	ss	24"	18"	6'0"	7	8					olv brn SILT & FMC SAND, lit F gravel, clay olv brn SILT, sm clay, FMC sand, lit F gravel sm cobbles, C gravel 5 - 8'		
								11	12							
10			4	ss	24"	16"	8'0"	10	15					SAME		
								16	15							
			5	ss	24"	12"	10'0"	19	20					olv brn SILT, sm clay, lit FM sand, F gravel		
								21	25							
			6	ss	24"	19"	12'0"	7	9					olv brn SILT CLAY, lit FMC sand, F gravel sm cobbles, C gravel 10 - 12'		
								13	17							

**CITY OF DANBURY
PARK AVENUE ELEMENTARY SCHOOL**

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 PB-2 were found at a level of 5'-1" below grade on June 14th, 2012, 7 days after the probe was drilled.

Water level findings noted ground water below the addition, close to current proposed slab elevations.

This will impose additional waterproofing requirements at this schools addition location, as the current water level is close to the lower floor elevation.

After consultation with the soil boring engineer it is thought this water level can be managed through extensive foundation and under slab 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 there 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
PARK AVENUE ELEMENTARY SCHOOL**

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. PB-2

PROJECT NO. G88-9119-12

PROJECT NAME
Park Avenue Elementary School

BORING LOCATIONS
per Plan

LOCATION
82 Park Avenue
Danbury, CT

OPERMAN - DRILLER
TP/tb

INSPECTOR

CASING	SAMPLER	CORE BAR
TYPE	HSA	SS
SIZE I.D.	3 3/4"	1 3/8"
HAMMER WT.	140#	BIT
HAMMER FALL	30"	

OFFSET	
DATE START	6/6/12
DATE FINISH	6/6/12
SURFACE ELEV.	
GROUND WATER ELEV.	

GROUND WATER OBSERVATIONS
AT 25 FT AFTER 0 HOURS
AT 5'1" FT on 6/14/12

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"	15"	2'0"	3	4				l moist compact	0'4"	TOPSOIL	
	2	ss	24"	18"	4'0"	5	10				l moist/dry compact	2'6"	brn SILT,sm FM sand,lit F gravel	
	3	ss	24"	18"	6'0"	7	8				l moist compact		olv brn SILT & FMC SAND,lit F gravel,clay olv brn SILT,sm clay,FMC sand,lit F gravel sm cobbles,C gravel 5 - 8'	
	4	ss	24"	16"	8'0"	10	15				l moist dense		SAME	
	5	ss	24"	12"	10'0"	19	20				l moist dense		olv brn SILT,sm clay,lit FM sand,F gravel	
10	6	ss	24"	19"	12'0"	7	9				l moist compact		olv brn SILT CLAY,lit FMC sand,F gravel sm cobbles,C gravel 10 - 12'	
	7	ss	18"	20"	17'0"	9	13				l moist dense		SAME lit cobbles 18 - 20'	
	8	ss	24"	21"	22'0"	7	9				moist compact		SAME	
	9	ss	18"	19"	26'6"	20	23				moist/wet v dense		SAME BOULDERS 27 - 29'	
	10	ss	18"	17"	31'6"	29	37				wet v dense	31'6"	olv gry FMC SAND & SILT,lit F gravel,tr clay	
35													E.O.B. 31'6"	
40													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. PB-2

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

SOILTESTING, INC. 90 DONOVAN RD. OXFORD, CT 06478 CT (203) 262-9328 NY (914) 946-4850	CLIENT: Fuller & D'Angelo Architects	SHEET <u>1</u> OF <u>1</u>
	PROJECT NO. G88-9119-12	HOLE NO. PB-1
	PROJECT NAME Park Avenue Elementary School	BORING LOCATIONS per Plan
FOREMAN - DRILLER TP/tb	LOCATION 82 Park Avenue Danbury, CT	OFFSET
INSPECTOR	CASING TYPE HSA	SAMPLER SS
GROUND WATER OBSERVATIONS AT <u>30</u> FT AFTER <u>0</u> HOURS	SIZE I.D. 3 3/4"	CORE BAR 1 3/8"
AT <u> </u> FT AFTER <u> </u> HOURS	HAMMER WT. 140#	BIT 30"
	HAMMER FALL	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				
5	1	ss	24"	19"	2'0"	4	7			dry compact	0'4"	ASPHALT	
	2	ss	24"	20"	4'0"	15	17			l moist dense		olv brn FM SAND & SILT, lit F gravel	
	3	ss	24"	22"	6'0"	23	26			l moist dense	6'0"	olv brn SILT, sm FM sand, lit F gravel, tr clay	
	4	ss	24"	20"	8'0"	10	16			l moist dense		olv brn SILT & FMC SAND, lit clay, F gravel	
	5					18	20			l moist dense			
10	4	ss	24"	20"	8'0"	27	28			l moist v dense		olv brn FMC SAND & SILT, F gravel, tr C gravel	
	5	ss	24"	17"	10'0"	35	28			dry dense		SAME	
	6	ss	24"	19"	12'0"	13	18			dry dense		SAME	
						14	17			dry v dense		BOULDERS 18 - 20'	
						36	38						
15	7	ss	18"	14"	16'6"	23	32			dry v dense		SAME	
						35							
20	8	ss	24"	20"	22'0"	18	25			dry v dense		SAME	
						28	38						
25	9	ss	18"	18"	26'6"	28	29			dry v dense		SAME	
						47							
30	10	ss	18"	18"	31'6"	27	31			wet v dense	31'6"	SAME	
						51							
35													
40													

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. **PB-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

