

January 22, 2009

Mr. Ford Spalding, Chair
Dover Community Center Building Committee
Dover Board of Selectmen
5 Springdale Avenue
PO Box 250
Dover MA 02030-0250

Re: Dover Community Center at the Caryl School
 Renovation Items – Preliminary Budgets

Dear Mr. Spalding,

Attached please find our summary report regarding order-of-magnitude pricing for incremental renovation of the former Caryl School Building. We have also summarized the cost of performing all of the work as one project in case that approach was to be considered.

The summary report includes the following items:

1. Project Description: outline of methodology and project team.
2. Renovation Items: possible renovation items with brief descriptions.
3. Preliminary Budgets: itemized approximate budgets for each renovation item.
4. Existing Drawings: existing floor plans and elevations for your reference.

Please let me know if questions or comments regarding the attached report. It has been a pleasure to work with you on this project.

Sincerely,



Donald W. Mills, RA, LEED AP
Mills Whitaker Architects LLC

Attachment

cc: David Ramsay, Town Administrator
 Karl Warnick, Superintendent of Building Maintenance

**Dover Caryl School
Renovation Items**
22 January 2009

Prepared by: Mills Whitaker Architects LLC
Prepared for: Dover Community Center Building Committee

Study Description:

This study involved the development of order-of-magnitude pricing for incremental renovation of the former Caryl School Building. This involved the following services:

1. **EXISTING CONDITIONS:** Reviewed existing conditions of the former Caryl School, including observations of the building and reviews of various documents. We reviewed the 2003 *Deferred Maintenance Study* report, the 2006 *Preliminary Design Study for the Dover Community Center*, the 1971 *Construction Documents* and various correspondences regarding the cost of repairs and renovation. We also met with Karl Warnick, Superintendent of Building Maintenance, and David Ramsay, Town Administrator, to discuss any specific ongoing maintenance concerns.
2. **RENOVATION ISSUES:** Reviewed possible scope of renovating existing finishes and the building envelope where needed. We met with selected representatives of the Dover Community Center Building Committee to understand their renovation thoughts relative to incremental selective improvements to finishes and probable project phasing. Those representatives were Ford Spalding (Chair), Carl Lisbon (Selectman) and Dick Malcom.
3. **BUILDING SYSTEMS REVIEW:** Reviewed code issues related to accessibility improvements, seismic upgrades, septic modernization and automatic fire suppression systems. Reviewed functional upgrades to mechanical, electrical and life safety systems. Various code and functional upgrades may be required for the long-term care and operation of the building.
4. **PROJECT BUDGETING:** Developed project costs with approximate budgets for phased renovations and repairs. The budgets are very preliminary and approximate since they were not based on specific designs, construction documents or competitive bid proposals. More accurate pricing and scope can only be obtained through the design and bidding process.
5. **SUMMARY REPORT:** Prepared this brief report documenting the study process. This report does not reiterate the 2003 and 2006 reports but outlines preliminary budget implications for phased improvements to the building.

Our Project Team, in addition to the Town Representatives noted above, consisted of the following professional architectural and engineering firms:

Architect:	Mills Whitaker Architects LLC
Structural:	Structures North Consulting Engineers, Inc.
Mechanical:	Forte Engineering
Electrical:	Johnson Engineering & Design, Inc.

The team did not include a landscape architect, civil engineer, professional cost estimator, geotechnical engineer or environmental consultant. We reviewed the work that was performed by these particular consultants during the Dover Community Center study for any items that may involve these trades.

The scope of services during this study did not include drawings or specifications for repairs, renovations or alterations. Any architectural or engineering assistance that may be required in order to implement the possible renovations are beyond the scope of this study.

Renovation Items:

Existing conditions at the Dover Caryl School Building have been described in recent reports from 2003 and 2006, both of which were prepared by Mills Whitaker Architects. The 2003 *Deferred Maintenance Study* reviewed existing conditions and established budgets for items that needed repair. That report did not address renovation issues per se, but focused on fixing what was broken while not renewing finishes or appearances in general. The 2006 *Preliminary Design Study for the Dover Community Center* developed a community center program for the Caryl School site. During that study and based on its resultant program, it was determined that a new building would serve the long-term programmatic needs for a community center. When the cost of such a building was established, the project was considered to be too expensive.

Following completion of the 2006 study, the Dover Community Center Building Committee regrouped and expanded in order to reconsider the needs related to a community center. The Caryl School Building has been operating as a de facto community center since 2001 following relocation of the elementary school to new facilities. So, the possibility of retaining the existing resource for the indefinite future remains a viable option. This current study was commissioned in order to review possible incremental renovation of the building without a change of use, additions or site modifications. This study does not consider renovations that may introduce new uses (such as an athletic center or café) to the facility.

A list of possible renovation items along with their brief descriptions is noted below. The approximate budget for each component, including contingencies and fees, is provided. An elaboration of the approximate budget for each component is provided later in this report.

STRUCTURAL REPAIRS (2009 Work + Alternates)

Repair deteriorated exterior masonry walls and reinforce structural framing.

Exterior masonry repair work that is limited to essential, immediate needs has been planned for the 2009 construction season. It has been recommended, as a result of a structural study completed in the fall of 2008, that hip rafter framing of the 1931 roof also be reinforced as soon as possible. In addition to those essential repairs, other structural work requires attention. If the intent to keep the building becomes certain, then more structural repair work should be performed. The recommended work includes more masonry repairs (water table, lintels, chimney, ventilation stacks) and carpentry repairs (top plate to rafter connections at the 1910 attic). Planning for this work has been incremental and piecemeal due to the tentative nature of knowing the future of the building.

Approximate Budget = \$423,390.

REPLACE HEATING & VENTILATION SYSTEM

Replace and upgrade oil-fired boilers, piping, unit ventilators, radiation and temperature controls.

The existing boilers pre-date the 1971 addition and renovation to the school and are well past their anticipated life. Last year alone, the cost of repairs and maintenance approached \$6,000. Many unit ventilators have stopped working and have not been repaired. The pneumatic temperature control system is leaky and does not perform adequately. In the newer portions of the building, heating pipes in trenches are severely corroded. This renovation component recommends replacement of the heating system in its entirety – with the sole exception of retaining the existing underground oil tank.

Approximate Budget = \$1,089,856.

ALTERNATE AC-1: ADD AIR CONDITIONING SYSTEM TO UPGRADED H&V WORK

Provide air conditioning system for all occupied areas except Gymnasium (Chiller or ACCU's).

Air conditioning could be added to the heating and ventilation system by introducing cooling via the unit ventilators. A central chiller or zoned air-cooled condensing units could be added to provide cooling. Given the intermittent occupancy of various areas of the building, ACCU's may be more efficient than a central chiller. The specific approach to cooling must be studied more carefully. Since the provision of cooling affects the overall HVAC system, a decision to pursue this alternate must be made prior to designing the replacement heating and ventilation system.

Adding cooling to the building would require an increase in electrical service capacity. If the service were to be updated, the main panels in the Electrical Room would be replaced. At the same time, the emergency generator should be replaced due to its age, and in so doing, it should be sized to carry the full load of the building. (The existing generator has limited capacity for emergency functions only.) A new, larger generator should be an outdoor unit served by the existing indoor fuel tank. Providing emergency power for the whole facility would enable the Caryl School to serve as a second building in the Town Center, in addition to the Town House, for use during emergency management operations.

Approximate Budget = \$722,064 (in addition to Heating & Ventilation Upgrade).

NOTE: about 45% of the cost is attributable to a new electrical service (\$325,000).

ALTERNATE AC-2: ADD AIR CONDITIONING VIA GEOTHERMAL HEAT PUMP SYSTEM

Provide air conditioning system for all occupied areas except Gymnasium (distributed heat pumps).

Upgrade HVAC via water-source geothermal standing column system in lieu of boilers chillers.

Another approach to adding air conditioning would involve a water-source distributed heat pump system that could be utilized to provide heating, cooling and ventilation. This type of system would employ a series of deep standing-column wells in lieu of boilers or chillers. Water circulating through the wells utilizes the stable temperatures of the earth to gather or reject heat for heating or cooling. With this type of system, different portions of the facility could be heated or cooled simultaneously when needed. A big component of the cost for this option would be the deep wells and their associated piping, pumps and heat exchangers. If this option is of interest, a detailed study with budgeting should be done.

Approximate Budget = \$642,350 (in addition to Alternate AC-1).

PROVIDE WHEELCHAIR ACCESS TO GYMNASIUM & MEZZANINE

Provide handicap access to the two locations that are not served by the elevator.

Two areas of the existing building, the Gym and Library Mezzanine, are not accessible via the existing two-stop elevator. Providing access to these two areas expands the usability of the facility for persons in wheelchairs.

The code requirement to provide access to the entire building will be mandated when renovation costs reach 30% or more of the building's value over a three-year period. The 2008 value of the building is \$3,293,700. Therefore, an expenditure of \$988,110 or more will require the whole facility to comply with current Massachusetts Architectural Access Board regulations. Providing access to the Gym and Mezzanine would be a significant component of upgrading accessibility.

Approximate Budget = \$158,050.

IMPROVE TOILET ROOM FACILITIES

Fully renovate existing multi-fixture bathrooms and relocate existing First Floor Mens' (Boys') Room.

Replace fixtures in five existing unisex toilet rooms and retain existing unisex rooms intact.

The existing toilet rooms, especially the multi-fixture toilet rooms, are poignant reminders that this is a former school that has not yet been renovated for general community use. A prime example is the First Floor Boys' Room with its gang showers and myriad urinals. The First Floor Girls' Room also has showers. Accessible features within the toilet rooms are lacking and do not conform to current regulations. Toilets are high water consumers that do not meet current low consumption requirements. It is proposed to fully renovate all multi-fixture toilet rooms, including piping, fixtures, lighting and finishes. The existing First Floor Boys' Room, which is located in the back stairway, should be relocated to the core of the building adjacent to the Girls' Room. The terms "girls" and "boys" should no longer be used for toilet room identification. Second Floor toilet rooms should be renovated within their existing locations. Accessible fixtures should be provided at both floor levels. All existing unisex bathroom fixtures will be replaced with updated fixtures.

Approximate Budget = \$451,675.

IMPROVE CORRIDOR FINISHES AND LIGHTING

Replace existing flooring, paint walls, replace ceilings and replace lighting.

The existing corridors fully retain the appearance of the former elementary school with finishes dating from the 1971 renovation and addition. Renewing the flooring, walls, ceilings and lighting in the corridors will freshen the appearance and replace aging materials. Deteriorated hallway lockers on the Second Floor should be removed. Hallway lighting should be controlled with photocells and motion sensors to respond to the availability of natural light and the presence of occupants.

Approximate Budget = \$263,153.

IMPROVE CAFETERIA FINISHES, LIGHTING & CATERING KITCHEN

Replace existing flooring, paint walls, replace ceilings, replace lighting and renovate catering kitchen.

The existing cafeteria and adjacent kitchen serve a variety of activities. As in the corridors noted above, this room retains its elementary school appearance. All finishes and lighting should be replaced. The cafeteria-style warming-serving kitchen should be renovated to better serve as a modest, non-commercial catering kitchen.

Approximate Budget = \$279,247.

IMPROVE LIBRARY AND MEZZANINE; ADD NORTH & SOUTH DORMERS

Renovate Second & Third Floors of 1971 addition for multi-purpose usage.

The Second and Third Floors of the 1971 addition served as the Library (media center) of the former elementary school. The Second Floor contains a double-height space on the north side facing Springdale Avenue while the south side consists of a single-height open area with two severely deteriorated operable partitions. An enclosed stair partially separates the two halves of the Second Floor and a small counter and sink area is located in the open area adjacent to the enclosed stair. An open stair leads to the Mezzanine at the Third Floor. The Mezzanine level is open to the Second Floor below.

Windows in this part of the facility have sills at floor level and head heights about 4 1/2 feet above the Second Floor. A ceiling of steeply sloping exposed wood decking starts at 8 feet above the Second Floor and continues up to a high flat ceiling above the Mezzanine of the Third Floor. The low, continuous ribbon windows make the ambience of the Library somewhat oppressive, directing views down to the ground rather than out into the Town Center. As a result, the voluminous double-height space has a curiously claustrophobic demeanor. There is a complete absence of natural light in the Mezzanine, doing little to welcome or inspire any particular use to that portion of the facility.

Operable casements in the ribbon window array have been fixed in place due to safety concerns. A single metal guardrail provides limited protection from the low glass. Interior magnetic storm panels have been applied to the fixed portions of window frames in order to improve energy efficiency of the single-paned windows, but many of the storms are loose and not sealed to the frames.

With modifications, this portion of the building has significant potential for being an attractive gathering space for various community events. If the central two bays of the structure were to become double-height dormers with floor-to-ceiling glass, the large room would be transformed. If matching dormers were to be installed on the south side, natural light could flood the Mezzanine and attract various uses to that neglected space. Operable partitions at the Second Floor should be replaced in order to retain flexibility. An operable partition should be added at the Mezzanine to allow for simultaneous use of that space when its openness to the large room below might not be desired. Existing finishes and lighting on both floors should be replaced, along with appropriately sized and more useful kitchenettes.

Approximate Budget = \$710,022.

IMPROVE NON-DESIGNATED 2ND FLOOR CLASSROOMS 2A, 2B & 2C

Replace existing flooring, paint walls and ceilings, replace lighting and replace operable partitions.

Three classrooms on the Second Floor are managed by the Selectmen and have not been assigned to tenants or other municipal departments. These three classrooms could be renovated with new finishes, lighting, lighting controls and operable partitions.

Renovations in assigned spaces (Child Development Center, Erin's Dance Studio, Parent Talk, Park & Recreation Department) are assumed to be the responsibility of the tenants. Therefore, costs for assigned spaces are not included in the renovation budget.

Approximate Budget = \$212,191.

REPLICATE ORIGINAL WINDOWS IN 1910 & 1931 PORTIONS

Replace First and Second Floor windows in original two buildings, including driveway side of Link.

Existing windows in the original school building and its first addition are aluminum units that do not complement the architectural character of the building. These windows could be replaced with units that replicate the original multi-light colonial revival double-hung units. Custom Window manufactures an excellent aluminum double-hung window (<http://www.customwindow.com/9250.html>) that could serve this purpose well. They have a self-balancing commercial double-hung unit that interconnects the upper and lower sashes with a stainless steel cable and pulley system, allowing the upper sash to lower when the lower sash is raised. This design simplifies the balancing system, which is the most vulnerable component of aluminum windows. This window also complements the original ventilation intentions of double-hung windows by allowing air circulation through the upper and lower sashes simultaneously for the greatest airflow.

Approximate Budget = \$713,656.

PROVIDE FIXED LADDER TO ATTIC IN 1931 PORTION

Provide access ladder from Second Floor to Attic Level in 1931 portion of building.

The attic area of the 1931 addition is currently accessed via a ceiling hatch in the Second Floor classroom area that is currently rented by Erin's Dance Studio. The hatch requires the use of tall, portable ladder that disrupts the use and cleanliness of the room. A closet with a permanently fixed ladder should be constructed to provide a readily available service entrance to the attic area. (Such a ladder already exists for the 1910 attic.)

Approximate Budget = \$21,025.

PROVIDE SOLAR DOMESTIC HOT WATER

Provide domestic hot water heating via an active solar array on south-facing roof of 1910 portion.

The domestic hot water needed to serve toilet rooms, catering kitchen and kitchenettes could be largely provided by a solar collector array and associated pump and storage tank. A web-based monitoring of the system could be provided to link the renewable energy system to the schools' science curricula and relevant continuing education classes.

Approximate Budget = \$105,850.

PROVIDE AUTOMATIC SPRINKLER SYSTEM

If required by code or directed by Town, provide automatic fire suppression system.

The existing building does not have an automatic sprinkler system for fire suppression. The 7th Edition of the Massachusetts State Building Code stipulates the triggers for mandating the provision of sprinklers for this existing building and use group. If the cost of providing sprinklers were less than 15% of the cost of renovations, then a sprinkler system would be mandated. The cost of sprinklers for this building is significant since there is not adequate water pressure and flow to serve a system. Therefore, a water storage tank, fire pump and emergency power are required in addition to standpipes and distribution piping. The provision of a sprinkler system would also require upgrading the fire alarm system, including replacement of the panel and removal of numerous smoke detectors.

Approximate Budget = \$1,101,710.

NOTE: An approximate project cost of \$7,344,733 or more would mandate sprinklers.

PROVIDE SEISMIC UPGRADE FOR LATERAL RESISTANCE

Level 2 seismic upgrade for lateral resistance if > 20,000 SF renovation work is undertaken.

The 7th Edition of the Massachusetts State Building Code stipulates that this existing building should be seismically upgraded for lateral resistance if more than 20,000 square feet of renovation work is performed. A time period for this amount of renovation does not appear to be stipulated in the new code and this point may need clarification. The overall size of the building is approximately 41,000 gross square feet. The targeted areas of renovation as noted herein encompass about 22,000 net square feet. Taking a conservative view of the code's silence on project duration, we assume that lateral resistance upgrades should be performed. This work involves reinforcing the connection between floor and attic framing members to exterior bearings walls and/or columns.

Approximate Budget = \$669,900.

MISCELLANEOUS DEFERRED MAINTENANCE & RENOVATION WORK

2003 Deferred Maintenance items not addressed in other projects and other renovations as noted.

Many of the deferred maintenance items identified in the 2003 report would be addressed in the renovation components noted below. Miscellaneous remaining items that would still need to be addressed include repairs to exterior doors, removal of the redundant exit from the Dance Studio and reconstruction of the roof over the Gymnasium's areaway exit.

Another renovation item that should be performed, but that was not a maintenance item in the 2003 report, would be to renovate the various storage rooms in the building, including reconfiguration of the area to be vacated by the Boys' Room at the First Floor. Storage could be used for general building supplies, janitorial functions, user groups and tenants.

Approximate Budget = \$205,755.

Preliminary Budgets:

Itemizations of the Preliminary Budgets for each of the possible renovation components as described above are attached on pages A.1 through A.5. These budgets are not the result of detailed estimates from construction documents and thereby represent order-of-magnitude costs for preliminary planning purposes only.

In addition to indicating the approximate value of individual component costs, we also provide an approximate cost if all the work were to be performed as a single project by a General Contractor with the overview of an Owner's Project Manager. This option is not likely to be executed since it would require the building to be vacated for the duration of construction.

Site improvement costs have not been included since these would not be essential and minor improvements could be performed by the Town. Hence, there are no costs indicated for items such as paving, parking, play area, septic/leaching, fencing, landscaping, signage or site lighting.

Existing Drawings:

Following the Preliminary Budgets, existing floor plans and elevations are included in order to represent existing configurations of the facility.

Proposed modifications to the existing configuration of the floor plans and elevations as described in the renovation items are limited to the following, none of which have been designed or indicated as of yet on the drawings:

- Wheelchair Lift to Gymnasium: A wheelchair lift to provide handicap access to the Gymnasium should be added in a location that does not impact the footprint of the Gym or disrupt other activity areas. Hence, it is recommended that access to the Boiler Room from the Corridor be reconfigured in order to place the lift adjacent to the northeast corner of the Gym without projecting into the Gym's floor area. The lift would be accessed from the First Floor Corridor.
- Wheelchair Lift to Library Mezzanine: A wheelchair lift to provide handicap access to the Third Floor (Library Mezzanine) should be added in the central portion of the Second Floor Library corridor system in order to minimize any disruption to adjacent activity areas. The lift hoistway should be placed within the open area between the doors leading into the Library and the back stairway enclosure. This will allow the lift to come alongside the Third Floor without requiring structural openings in the floor.
- Toilet Room Plans: The existing First Floor Boys' Room will be removed completely and relocated more toward the center of the building. A new First Floor plumbing core will be created in the vicinity of the existing First Floor Girls' Room.
- Corridor Plans: Existing lockers will be removed from the Second Floor corridor of the 1931 portion of the building. These alcoves could be used, in part, for coat hooks to serve the adjacent classrooms.

- Catering Kitchen Plans: The former school Kitchen will be gut renovated within its current footprint (or smaller), changing the configuration of cabinetry, counters and appliances. The Kitchen should not need to be a commercial kitchen per se.
- Library Plans and Exterior Elevations: Double-height dormers two bays wide are proposed for the front and rear facades (north and south) that will extend from the Second Floor to the ceiling of the Third Floor. This will enhance the use of the Library, provide natural light to the Mezzanine and improve the appearance of the 1971 building. An operable partition will be added in order to close off the open-sided Mezzanine Level from the Library in the event of simultaneous use of those adjacent spaces.
- Attic Access: A small room in the 1931 portion of the building to house a fixed attic access ladder will need to be constructed. The room should be accessible from the corridor and placed to avoid structural bearing conflicts and to minimize the intrusion into classroom and activity spaces.
- Storage Room Plans: When the First Floor Boys' Room is removed (see "Toilet Room Plans" above), that portion of the building should be reconfigured for storage.

Following the existing drawings, a one-page summary analysis of existing and proposed plumbing fixture counts delineate proposed changes to the distribution and quantity of fixtures. It is assumed that no changes are required to the existing septic system and leaching field since the number of fixtures will be diminished significantly by the removal of showers and provision of low water-consumption plumbing fixtures.

Changes proposed for the catering kitchen are not addressed by the fixture count analysis; only the toilet rooms are reviewed. It is not the intent of the Kitchen to include dishwashing or any fixtures that would add loads to the existing septic system.

Dover Caryl School
Renovation Items - Preliminary Budgets

Budget	Description and Itemization
\$423,390	STRUCTURAL REPAIRS (2009 Work + Prioritized Alternates) <i>Repair deteriorated exterior masonry walls and reinforce structural framing.</i>
	\$132,562 Exterior masonry repairs planned for 2009 construction season
	\$55,000 ALT 1: Steel reinforcement of hip rafters at 1931 portion of structure
	\$14,431 ALT 2: Additional exterior wall repairs (water table, lintels) if building's future is certain
	\$15,000 ALT 3: Rafter to top plate connectors at 1910 attic structure if bldg's. future is certain
	\$45,000 ALT 4: Repoint masonry chimney serving boiler (defer if geothermal selected)
	\$30,000 ALT 5: Repoint masonry ventilation stacks at 1931 roof if building's future is certain
	\$291,993 Subtotal of Approximate Itemized Costs
	\$131,397 Preliminary Related Costs (45% - GC OH&P, Fees, Contingency)
\$423,390 Total of Approximate Cost	

\$1,089,856	REPLACE HEATING & VENTILATION SYSTEM <i>Replace & upgrade oil-fired boilers, piping, unit ventilators, radiation and temperature controls.</i>
	\$560,000 Mechanical Work for Heating & Ventilating
	\$30,975 Cutting, Patching, Refinishing
	\$15,000 Renovate Mechanical Room
	\$75,000 Power Wiring to Equipment
	\$25,000 Boiler Removal
	\$25,000 Pipe Insulation Abatement
	\$20,650 Exterior Wall and Roof Penetrations, Louvers, Sealants
	\$751,625 Subtotal of Approximate Itemized Costs
	\$338,231 Preliminary Related Costs (45% - GC OH&P, Fees, Contingency)
\$1,089,856 Total of Approximate Cost	

\$722,064	ALTERNATE AC-1: ADD AIR CONDITIONING SYSTEM TO UPGRADED H&V WORK <i>Provide air conditioning system for all occupied areas except gymnasium (chiller or ACCU's).</i>
	\$220,000 Mechanical Work for Air Conditioning in addition of H&V replacement work
	\$162,000 Upgrade Main Electrical Service, Main Panels and Emergency Generator
	\$45,000 Renovate Electrical Room
	\$25,000 Additional Power Wiring to Equipment
	\$15,000 Sitework - Equipment Pads, Trenching, Paving, Core Holes
	\$30,975 Exterior Wall and Roof Penetrations, Louvers, Sealants
	\$497,975 Subtotal of Approximate Itemized Costs
	\$224,089 Preliminary Related Costs (45% - GC OH&P, Fees, Contingency)
	\$722,064 Total of Approximate Cost (in addition to Heating & Ventilation Upgrade)

\$642,350	ALTERNATE AC-2: HVAC SYSTEM VIA GEOTHERMAL HEAT PUMP SYSTEM <i>Provide air conditioning system for all occupied areas except gymnasium (distributed heat pumps). Upgrade HVAC via water-source geothermal standing column system in lieu of boilers chillers.</i>
	\$590,000 Mechanical Work for Air Conditioning and modified H&V replacement work
	\$162,000 Upgrade Main Electrical Service, Main Panels and Emergency Generator
	\$45,000 Renovate Electrical Room
	\$35,000 Additional Power Wiring to Equipment
	\$30,000 Remove Existing Oil Tanks
	\$48,000 Sitework - Equipment Pads, Trenching, Paving, Core Holes
	\$30,975 Exterior Wall and Roof Penetrations, Louvers, Sealants
	\$940,975 Subtotal of Approximate Itemized Costs
	\$423,439 Preliminary Related Costs (45% - GC OH&P, Fees, Contingency)
\$1,364,414 Subtotal of Approximate Cost (in addition to Heating & Ventilating Cost)	
(\$722,064) Subtract Value of Alternate AC-1	
\$642,350 Total of Approximate Cost (in addition to Alternate AC-1)	

Dover Caryl School
Renovation Items - Preliminary Budgets

Budget	Description and Itemization
\$158,050	PROVIDE WHEELCHAIR ACCESS TO GYMNASIUM AND MEZZANINE <i>Provide handicap access to the two locations that are not served by the elevator.</i>
	\$24,000 Pair of one-stop wheelchair lifts
	\$35,000 Hoistway Construction
	\$25,000 Modifications to Adjacent Construction at Gymnasium
	\$12,500 Modifications to Adjacent Construction at Library
	\$12,500 Doors, Frames, Hardware, Finishes
	\$109,000 Subtotal of Approximate Itemized Costs
\$49,050 Preliminary Related Costs (45% - GC OH&P, Fees, Contingency)	
\$158,050 Total of Approximate Cost	
\$451,675	IMPROVE TOILET ROOM FACILITIES <i>Fully renovate existing multi-fixture bathrooms & relocate existing First Floor Mens' (Boys') Room. Replace fixtures in five existing unisex toilet rooms and retain existing unisex rooms intact.</i>
	\$100,000 Plumbing Work for Toilet Rooms
	\$20,000 Demolish Existing Finishes, Fixtures, Piping, Electrical
	\$25,000 Reconfigure First Floor Womens' and Mens' Rooms (Boys' and Girls')
	\$166,500 Renovate Each of Four Multi-Fixture Toilet Rooms
	\$311,500 Subtotal of Approximate Itemized Costs
	\$140,175 Preliminary Related Costs (45% - GC OH&P, Fees, Contingency)
\$451,675 Total of Approximate Cost	
\$263,153	IMPROVE CORRIDOR FINISHES AND LIGHTING <i>Replace existing flooring, paint walls, repair ceilings and replace lighting.</i>
	\$33,043 Remove existing vinyl composition tile flooring; level slab; replace expansion joints
	\$51,632 Provide replacement vinyl composition tile flooring and base in corridors
	\$38,724 Repair/refinish ceilings; paint walls; remove abandoned lockers
	\$58,086 Provide upgrading lighting, receptacles & switching (occupancy/photocell sensors)
	\$181,485 Subtotal of Approximate Itemized Costs
	\$81,668 Preliminary Related Costs (45% - GC OH&P, Fees, Contingency)
\$263,153 Total of Approximate Cost	
\$279,247	IMPROVE CAFETERIA FINISHES, LIGHTING AND CATERING KITCHEN <i>Replace existing flooring, paint walls, replace ceilings, replace lighting and renovate catering kitchen.</i>
	\$10,152 Remove existing vinyl composition tile flooring & base; level slab
	\$20,304 Provide replacement vinyl composition tile flooring and base
	\$12,768 Paint walls; replace acoustical tile ceiling; maintain existing bleachers
	\$1,800 Provide replacement window coverings
	\$22,560 Provide upgrading lighting, receptacles & switching (occupancy/photocell sensors)
	\$125,000 Renovate kitchen (cabinets, warming oven, counters, finishes, no increased water usage)
	\$192,584 Subtotal of Approximate Itemized Costs
	\$86,663 Preliminary Related Costs (45% - GC OH&P, Fees, Contingency)
	\$279,247 Total of Approximate Cost

Dover Caryl School
Renovation Items - Preliminary Budgets

Budget	Description and Itemization
\$710,022	IMPROVE LIBRARY AND MEZZANINE; ADD NORTH/SOUTH DORMERS <i>Renovate Second & Third Floors of 1971 addition for multi-purpose usage.</i>
	\$24,363 Remove existing carpet, resilient flooring & base; prepare substrate
	\$29,777 Provide replacement flooring and base
	\$188,690 Provide full-height dormers at central two bays of north and south elevations
	\$5,000 Reinforce (bolt & glue) drying splits in glue-lam roof framing bents where present
	\$33,210 Replace interior storms at low perimeter windows and improve guardrail system
	\$12,720 Provide window coverings
	\$43,740 Paint walls and ceilings
	\$54,870 Replace operable partitions at SE and SW portions of Library (2nd Floor)
	\$25,160 Provide operable partition at Mezzanine Level (3rd Floor)
	\$54,140 Provide upgrading lighting, receptacles & switching (occupancy/photocell sensors)
	\$18,000 Renovate kitchenette and cabinets
\$489,670 Subtotal of Approximate Itemized Costs	
\$220,352 Preliminary Related Costs (45% - GC OH&P, Fees, Contingency)	
\$710,022 Total of Approximate Cost	
\$212,191	IMPROVE NON-DESIGNATED 2ND FLOOR CLASSROOMS 2A, 2B & 2C <i>Replace existing flooring, paint walls and ceilings, replace lighting and replace operable partitions.</i>
	\$15,206 Remove existing carpet, resilient flooring & base; prepare substrate
	\$30,411 Provide replacement flooring and base
	\$18,697 Paint walls and ceilings
	\$44,860 Replace operable partitions that demise 2A and subdivide 2B/2C
	\$33,790 Provide upgrading lighting, receptacles & switching (occupancy/photocell sensors)
	\$3,375 Provide replacement window coverings
	\$146,339 Subtotal of Approximate Itemized Costs
\$65,852 Preliminary Related Costs (45% - GC OH&P, Fees, Contingency)	
\$212,191 Total of Approximate Cost	
\$713,656	REPLICATE ORIGINAL WINDOWS IN 1910 & 1931 PORTIONS <i>Replace First and Second Floor windows in original two buildings, including driveway side of Link.</i>
	\$352,451 Remove existing windows and provide replacement, multi-light double-hung units
	\$139,725 Patch interior surrounds; provide window covering; exterior sealant
	\$492,176 Subtotal of Approximate Itemized Costs
	\$221,479 Preliminary Related Costs (45% - GC OH&P, Fees, Contingency)
\$713,656 Total of Approximate Cost	
\$21,025	PROVIDE FIXED LADDER TO ATTIC IN 1931 PORTION <i>Provide access ladder from Second Floor to Attic Level in 1931 portion of building.</i>
	\$1,500 Remove existing attic hatch in Dance Studio; infill ceiling
	\$9,500 Provide closet, door, fixed ladder and attic hatch
	\$3,500 Provide vinyl composition tile flooring & base; paint walls & ceiling
	\$14,500 Subtotal of Approximate Itemized Costs
\$6,525 Preliminary Related Costs (45% - GC OH&P, Fees, Contingency)	
\$21,025 Total of Approximate Cost	

Dover Caryl School
Renovation Items - Preliminary Budgets

Budget	Description and Itemization
\$105,850	PROVIDE SOLAR DOMESTIC HOT WATER <i>Provide domestic hot water heating via an active solar array on south-facing roof of 1910 portion.</i>
	\$30,000 Provide flat panel and/or evaporated tube solar collectors on roof
	\$10,000 Provide solar pre-heat storage tank and heat exchanger with domestic water tank.
	\$12,000 Provide circulation pump station and insulated piping loop
	\$10,000 Provide web-based monitoring system for educational purposes
	\$11,000 Structural reinforcement, roofing work, electrical wiring
	\$73,000 Subtotal of Approximate Itemized Costs
	\$32,850 Preliminary Related Costs (45% - GC OH&P, Fees, Contingency)
\$105,850 Total of Approximate Cost	

\$1,101,710	PROVIDE AUTOMATIC SPRINKLER SYSTEM <i>If required by code or directed by Town, provide automatic fire suppression system.</i>
	\$365,300 Provide fire protection supply piping, storage tank, pump house & emergency power
	\$206,500 Provide zoned fire suppression system and standpipes for existing building
	\$83,000 Replace existing fire alarm system and devices throughout
	\$105,000 Cutting, patching, wiring and related general work
	\$759,800 Subtotal of Approximate Itemized Costs
	\$341,910 Preliminary Related Costs (45% - GC OH&P, Fees, Contingency)
	\$1,101,710 Total of Approximate Cost

\$669,900	PROVIDE SEISMIC UPGRADE FOR LATERAL RESISTANCE <i>Level 2 seismic upgrade for lateral resistance if > 20,000 SF renovation work is undertaken.</i>
	\$352,000 Improve connections of suspended floor framing to bearing walls
	\$110,000 Cutting, patching, protection of adjacent materials
	\$462,000 Subtotal of Approximate Itemized Costs
	\$207,900 Preliminary Related Costs (45% - GC OH&P, Fees, Contingency)
\$669,900 Total of Approximate Cost	

\$205,755	MISCELLANEOUS DEFERRED MAINTENANCE & RENOVATION WORK <i>2003 Deferred Maintenance items not addressed in other projects and other renovations as noted.</i>
	\$6,750 Repair existing exterior doors and frames to the extent required
	\$35,000 Remove redundant exit stair from Dance Studio; provide cover at Gym's exit areaway
	\$24,036 Abate carpeting and vinyl asbestos floor tiles from storage rooms
	\$76,114 Renovate storage rooms including finishes, lighting, shelving, etc.
	\$141,900 Subtotal of Approximate Itemized Costs
	\$63,855 Preliminary Related Costs (45% - GC OH&P, Fees, Contingency)
\$205,755 Total of Approximate Cost	

\$5,303,769	Approximate Subtotal of Components (no air conditioning, no sprinklers, no escalation)
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Dover Caryl School
Renovation Items - Preliminary Budgets

Budget	Description and Itemization
\$5,303,769	Approximate Subtotal of Components (no air conditioning, no sprinklers, no escalation)

ALTERNATIVES TO PROJECT SCOPE & DELIVERY

Component Totals with Traditional Air Conditioning System	
\$5,303,769	Approximate Subtotal of Components (no air conditioning, no sprinklers, no escalation)
\$722,064	Add Alternate AC-1: Air Conditioning, New Electrical Service & Emergency Generator
\$6,025,833	Approximate Component Cost with AC-1 Included

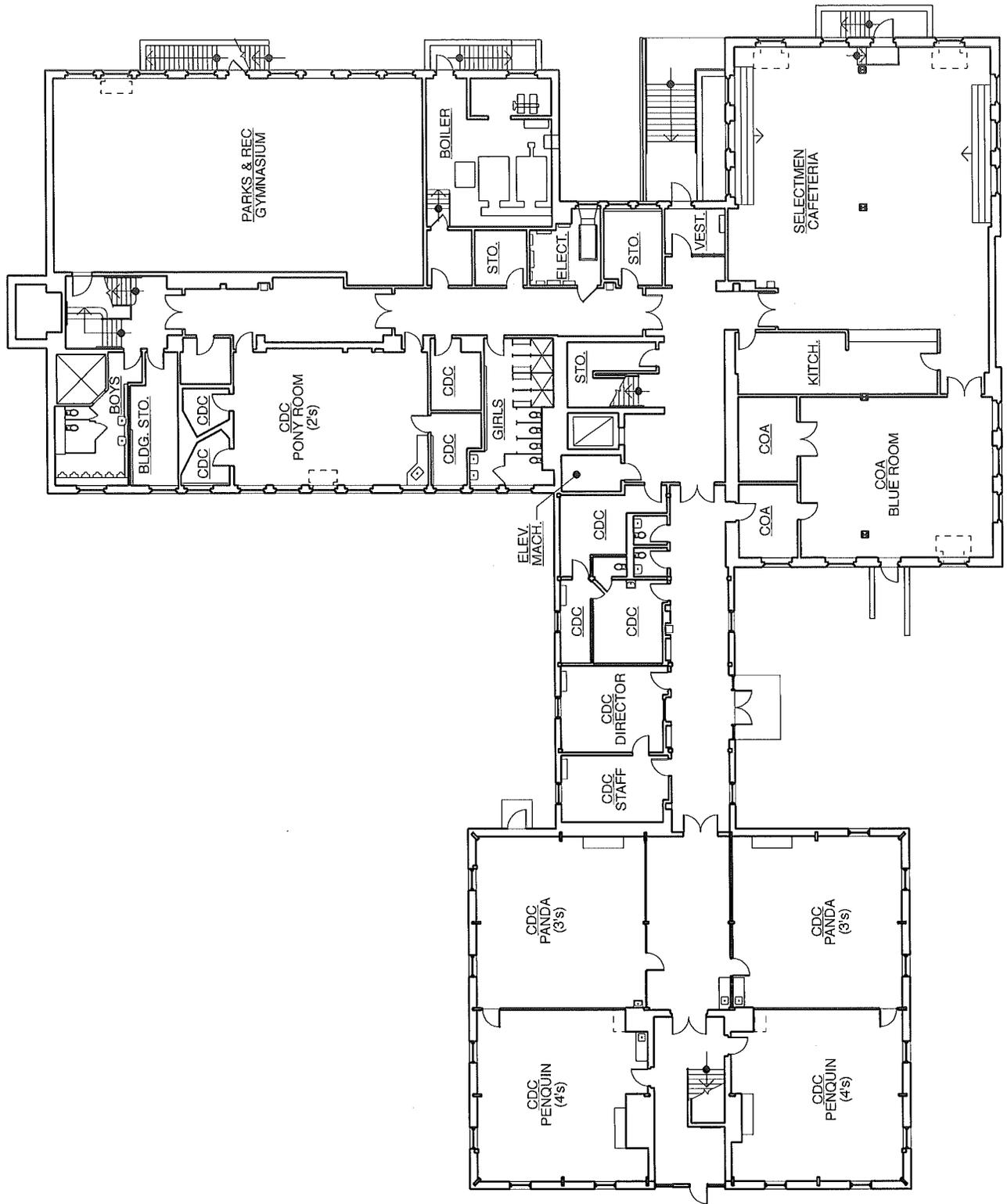
Component Totals with Geothermal Heating & Cooling System	
\$6,025,833	Approximate Component Cost with AC-1 Included
\$642,350	Add Alternate AC-2: Geothermal Heat Pump HVAC System
\$6,668,183	Approximate Component Cost with AC-1 and AC-2 Included

Component Totals with Automatic Sprinkler System	
\$6,668,183	Approximate Component Cost with AC-1 and AC-2 Included
\$1,101,710	Add Automatic Sprinkler System & Upgrade Fire Alarm System
\$7,769,893	Approximate Component Cost with AC-1, AC-2 and Sprinklers

Single Project Total with Alternates Included	
\$7,769,893	Approximate Component Cost with AC-1, AC-2 and Sprinklers
\$1,165,484	Add General Contractor's General Conditions, Overhead & Profit (15%)
\$175,000	Add Owner's Project Manager for Project Duration
\$9,110,376	Approximate Single Project Cost with Alternates Included

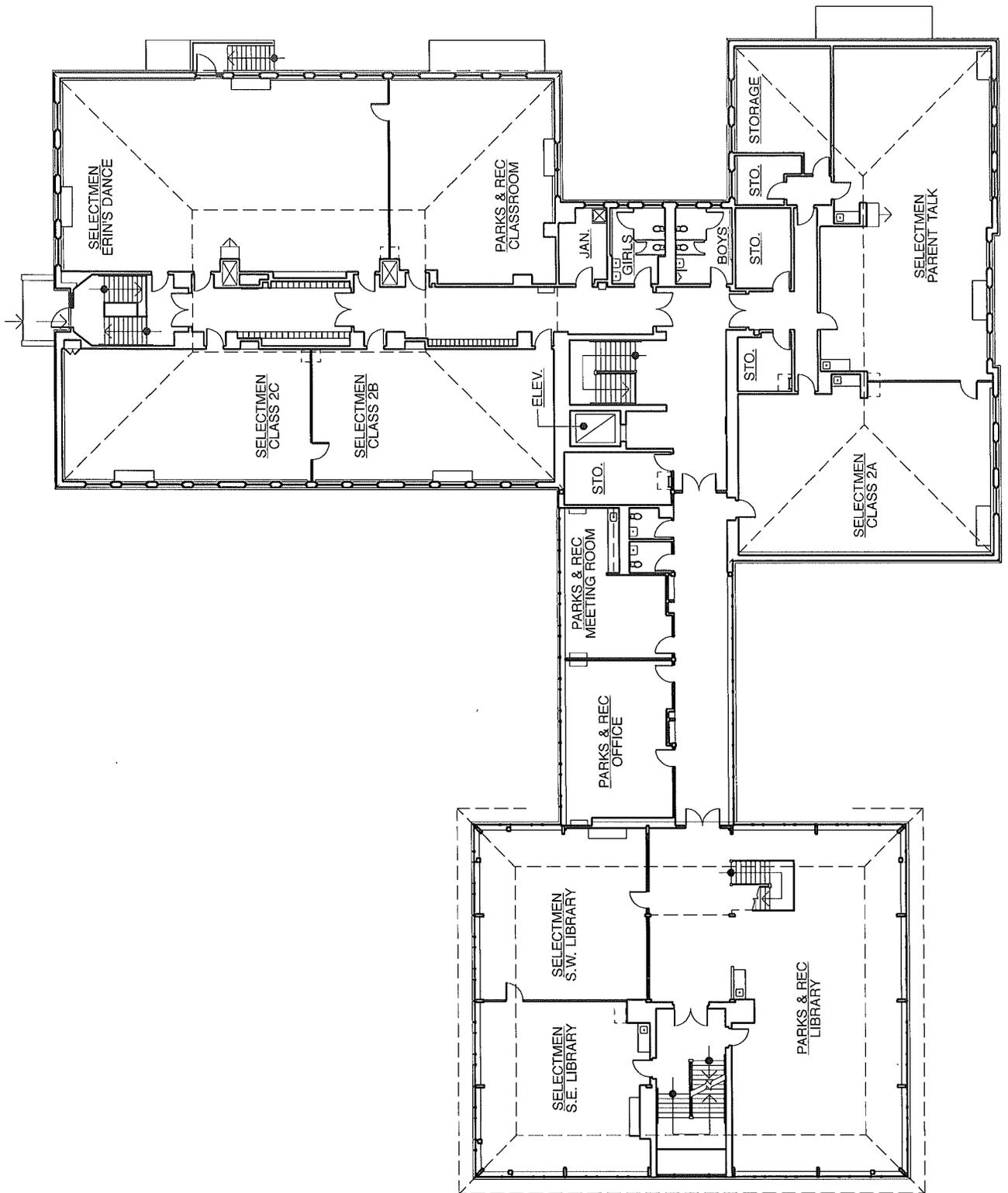
NOTES:

1. These costs are preliminary order-of-magnitude budgets only, not detailed cost estimates.
2. "Preliminary Related Costs" are budgets for contractor's overhead/profit, arch/engr fees and owner's contingence
3. These costs do not include reconfigurations of partitions within the existing building except as noted.
4. These costs do not include site improvements such as paving, fencing, signage, landscaping, drainage, septic or parking changes. It is assumed that minor upgrades will be performed directly by the Town.
5. These costs do not include recurring operating expenses or annual maintenance costs for the facility.
6. These costs do not include the owner's cost of financing, relocation or moving expenses.
7. Budgets are approximate 2009 values and must be adjusted in subsequent years for escalation .



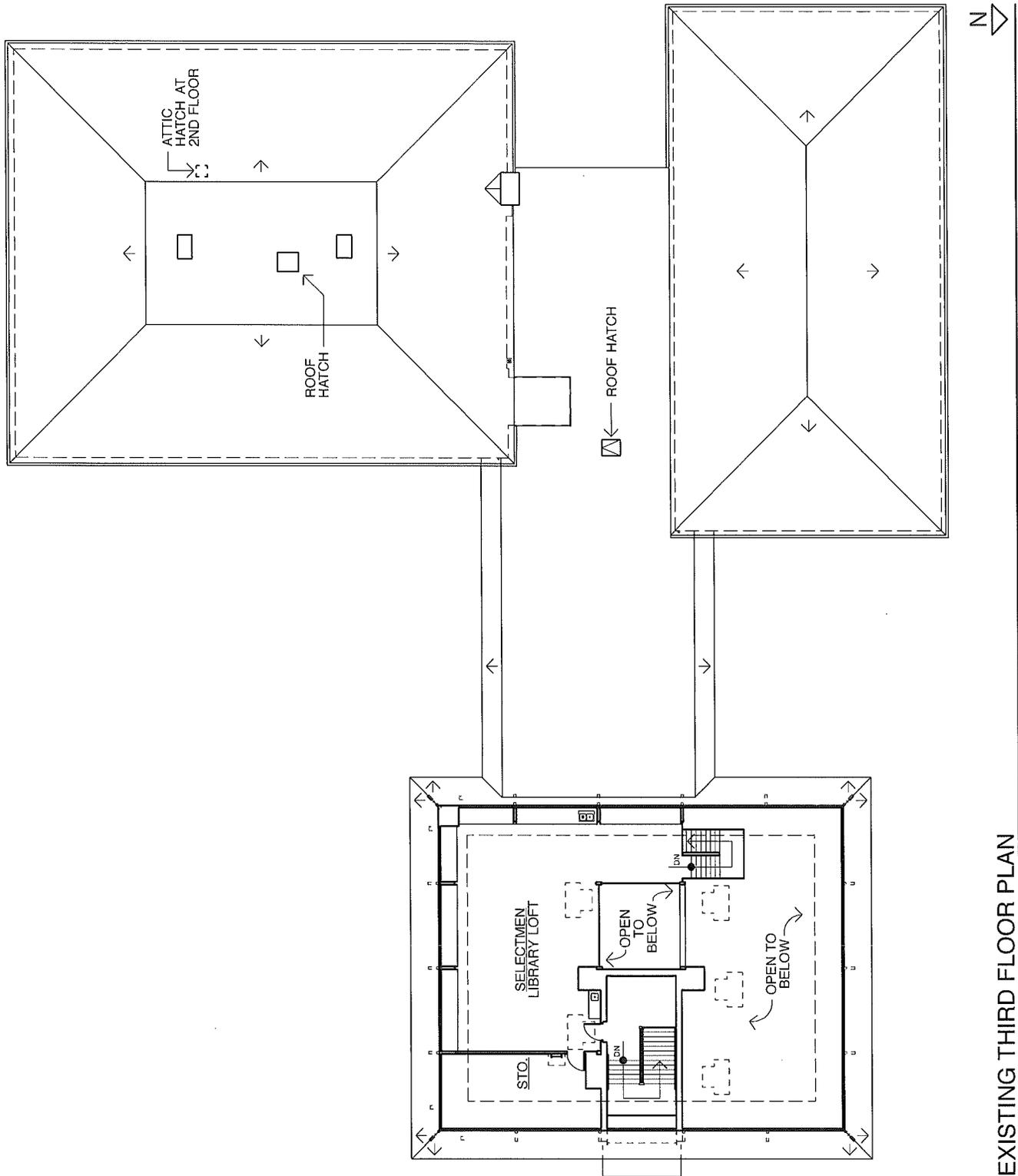
EXISTING FIRST FLOOR PLAN

<p>PROJECT: DOVER CARYL SCHOOL BUILDING 4 SPRINGDALE AVENUE DOVER MASSACHUSETTS</p>	<p>MILLS WHITAKER ARCHITECTS, LLC P.O. Box 750089 Arlington MA 02475</p>	<p>EX-1</p>
<p>SCALE: 1" = 25'-0" (1:300)</p>		
<p>DRAWING: EXISTING FIRST FLOOR PLAN</p>	<p>DATE: 22 JANUARY 2009</p>	



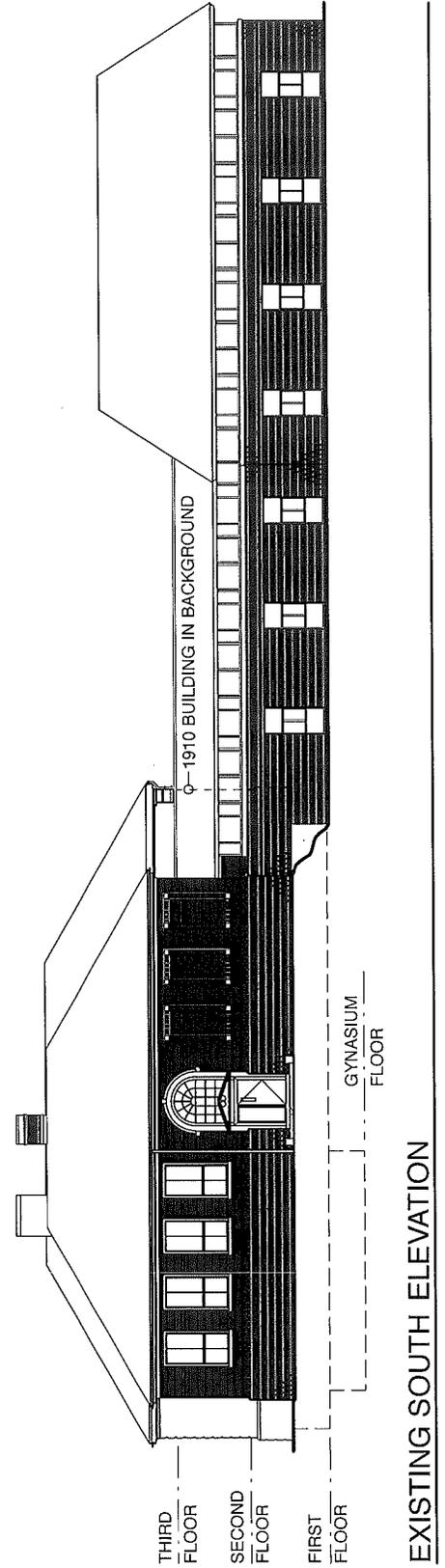
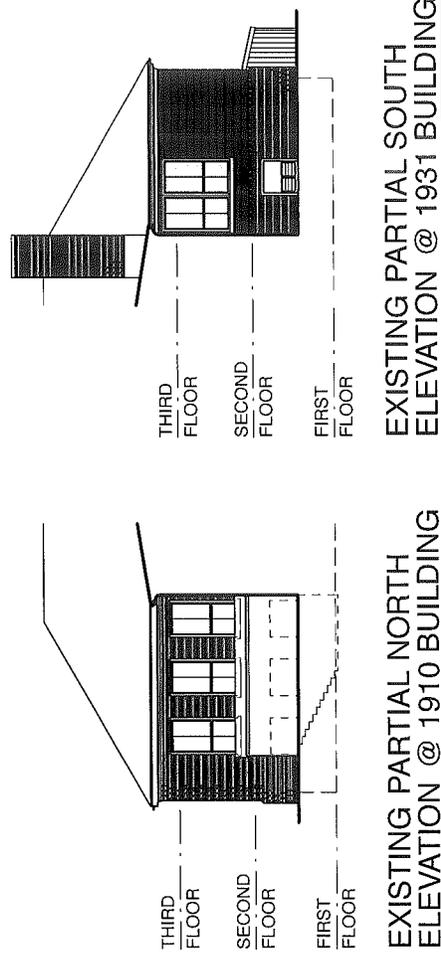
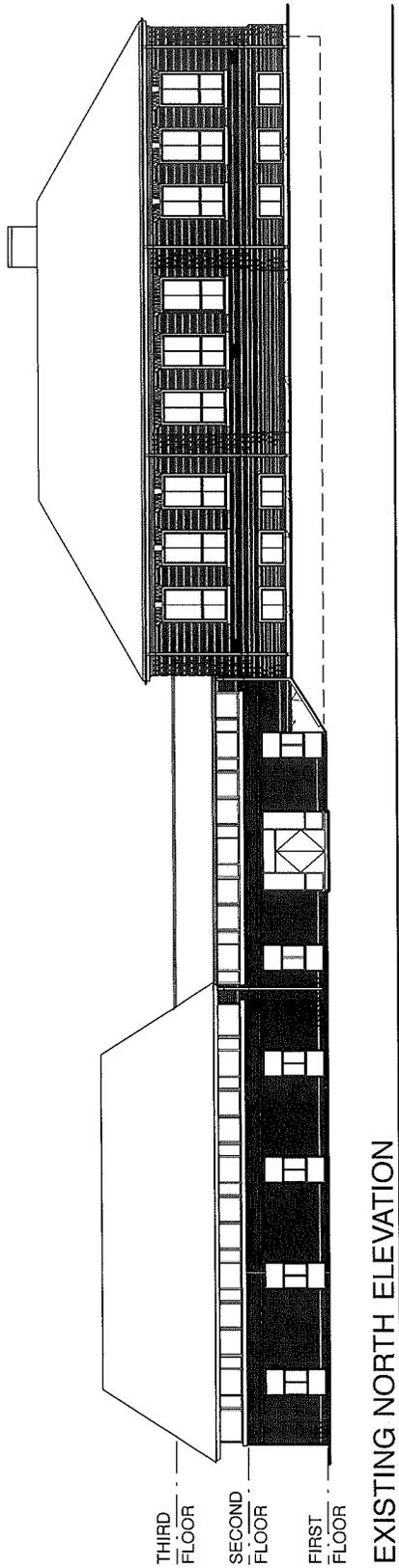
EXISTING SECOND FLOOR PLAN

<p>PROJECT: DOVER CARYL SCHOOL BUILDING 4 SPRINGDALE AVENUE DOVER MASSACHUSETTS</p>	<p>MILLS WHITAKER ARCHITECTS, LLC P.O. Box 750089 Arlington MA 02475</p>	<p>EX-2</p>
<p>SCALE: 1" = 25'-0" (1:300)</p>	<p>DATE: 22 JANUARY 2009</p>	
<p>DRAWING: EXISTING SECOND FLOOR PLAN</p>		



EXISTING THIRD FLOOR PLAN

<p>PROJECT: DOVER CARYL SCHOOL BUILDING 4 SPRINGDALE AVENUE DOVER MASSACHUSETTS</p>	<p>MILLS WHITAKER ARCHITECTS, LLC P.O. Box 750089 Arlington MA 02475</p>	<p>EX-3</p>
<p>SCALE: 1" = 25'-0" (1:300)</p>	<p>DATE: 22 JANUARY 2009</p>	
<p>DRAWING: EXISTING THIRD FLOOR PLAN</p>		



PROJECT: DOVER CARYL SCHOOL BUILDING
 4 SPRINGDALE AVENUE
 DOVER MASSACHUSETTS

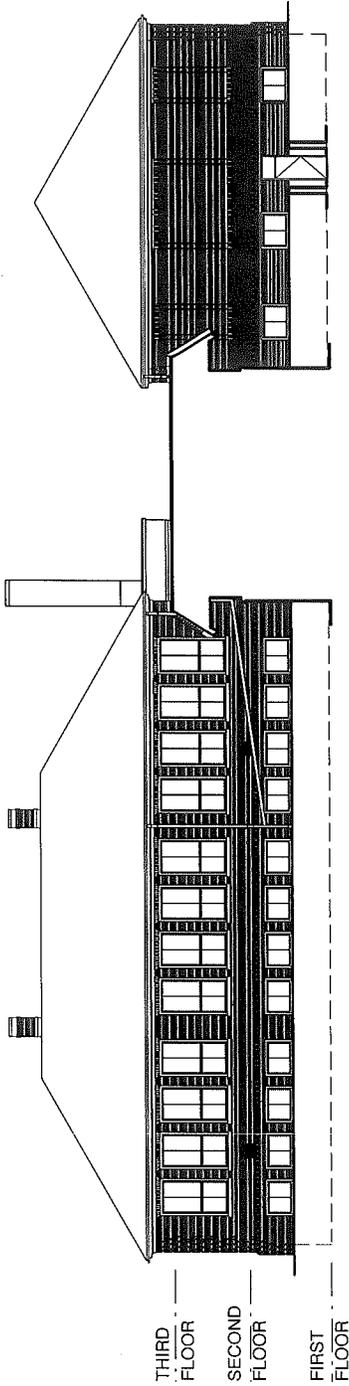
MILLS WHITAKER ARCHITECTS, LLC
 P.O. Box 750089
 Arlington MA 02475

SCALE: 1" = 25'-0" (1:300)

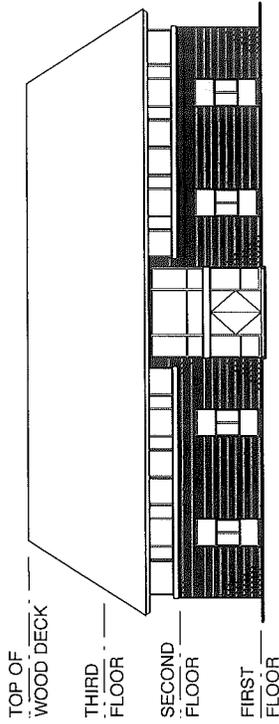
DRAWING: EXISTING NORTH & SOUTH ELEVATIONS

DATE: 22 JANUARY 2009

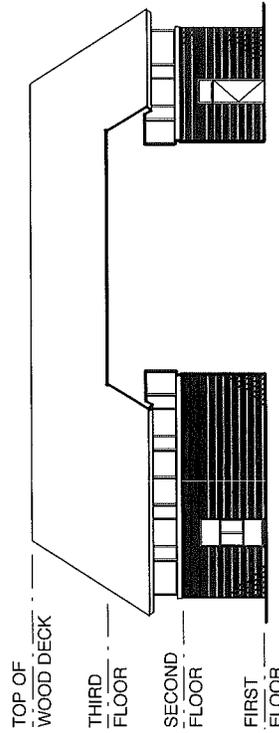
EX-4



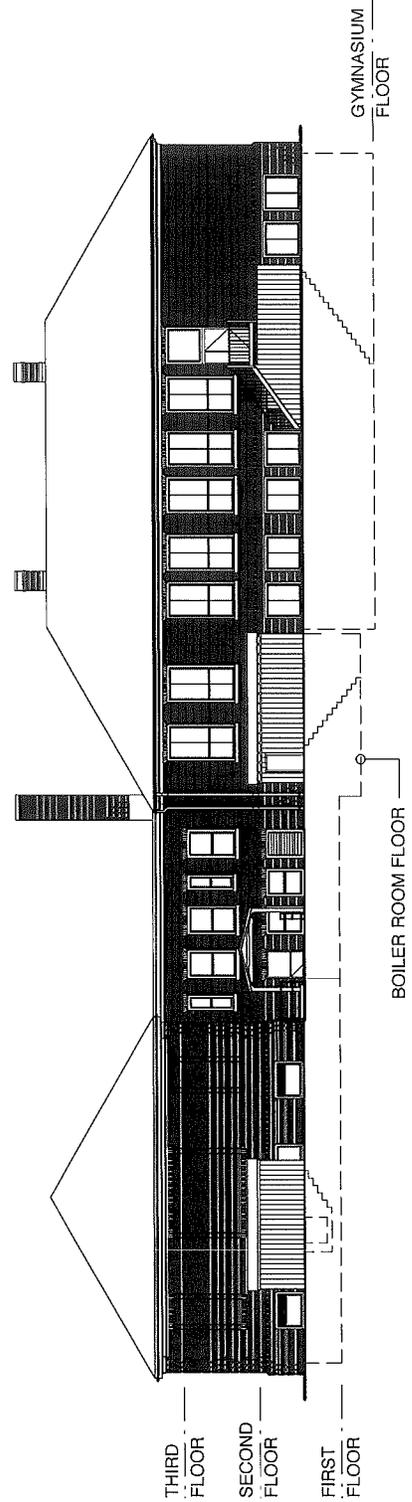
EXISTING EAST ELEVATION THRU 1971 LINK



EXISTING EAST ELEVATION



EXISTING WEST ELEVATION THRU 1971 LINK



EXISTING WEST ELEVATION

<p>PROJECT: DOVER CARYL SCHOOL BUILDING 4 SPRINGDALE AVENUE DOVER MASSACHUSETTS</p>	<p>MILLS WHITAKER ARCHITECTS, LLC P.O. Box 750089 Arlington MA 02475</p>	<p>EX-5</p>
<p>SCALE: 1" = 25'-0" (1:300)</p>	<p>DATE: 22 JANUARY 2009</p>	
<p>DRAWING: EXISTING EAST & WEST ELEVATIONS</p>		

**DOVER CARYL SCHOOL
TOILET FIXTURE COUNTS**

January 2009

Existing Use Groups

Multi-use community center (gym, meeting rooms, classrooms);
Child Development Center with maximum of 72 students & 15 staff;
Offices for CDC; Office for Park & Recreation administration

Existing	WC	Urinal	Lav	Showers
Unisex	5	0	5	0
Male	4	7	3	4 (Gang)
Female	6	0	4	4
Totals	15	7	12	8

Simultaneous Occupancy Estimates	
72 students	Child Development Center
15 staff	CDC Staff
2 staff	Park & Recreation Staff
30 attendees	COA Luncheon
45 maximum	Simultaneous with CDC
147 / 17	Students / Staff

Minimum Proposed Fixture Requirements

Proposed Min.	WC	Urinal	Lav	Showers
Unisex	2	0	2	0
Male	3	1	3	0
Female	4	0	4	0
Totals	9	1	9	0

Assumes 1:20 for CDC / Others Based on Secondary Educ. & Staff

Since the occupancy locations could be concentrated on the First or Second Floors, we will exceed the minimum requirements for the total of both floors.

Recommendations:

First Floor:

- Unisex - Replace fixtures in 3 existing unisex bathrooms (CDC kids + staff).
- Female - Remodel existing with 3 wc, 3 lavs.
- Male - Eliminate existing; provide new next to Women; 1 wc, 2 urinals, 2 lavs.

Second Floor:

- Unisex - Replace fixtures in 2 existing unisex bathrooms for staff.
- Female - Remodel existing with 2 wc, 2 lavs.
- Male - Remodel existing w/ 1 wc, 1 urinal, 1 lav.

Changes in Fixture Quantity:

- Water Closets (WC): Total of 12 proposed - Reduction of 3 fixtures.
- Urinals: Total of 3 proposed - Reduction of 4 fixtures.
- Lavatories: Total of 13 proposed - Increase of 1 fixture.
- Showers: None proposed - Reduction of 8 fixtures.