GREENWICH BOARD OF EDUCATION
GREENWICH PUBLIC SCHOOLS
Greenwich, CT

Board of Education Meeting Agenda Document Cover Sheet

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Agenda Item Title: Old Greenwich School Education Specifications - REVISED 12/16/2020 (Appendix added)

Submitted by:

Name: Dr. Toni Jones

Title: Superintendent of Schools

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Recommended Motion (if applicable): (Max 350 Characters)

Approve the Old Greenwich School Education Specifications as presented.

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INTRODUCTION

Old Greenwich Elementary School was constructed in phases starting in 1902 with additions in 1950, 1957 & 1995. Some renovations were also completed in 1993. No significant capital projects have been completed at this campus in 25 years. The building currently comprises approximately 72,000 gross square feet with a current enrollment that varies between 360 and 400 students in grades Pre-K – 5. The most recent demographic report projects that the highest probable enrollment will not exceed 438 students. The campus is in a prominent location in the Old Greenwich section of Town and plays an important role in defining the traditional appearance of the broader community that it serves.

Executive Summary

The issues or key concerns that need to be addressed are summarized by category below:

- Educational Adequacy
  - Provision of an adequate number of grade level classrooms that meet the District's recommended minimum size standards.
  - Pre-Kindergarten, Kindergarten and 1st Grade Classrooms are all required to be located on the Ground Floor.
  - Support Spaces (i.e. Speech and Psychologist) are in under-sized spaces.
  - Nurse's suite is undersized and does not meet current demands.
  - Spaces for Next Generation Learning approaches (listed as Goal spaces in Model Program) are not currently provided.
- Security
  - Absence of a secure vestibule for visitor management.

  - Main entrance not visible by office or security personnel.
  - Main office is remote from main entrance.
  - All outdoor spaces are exposed to the public.
  - Kindergarten Classroom is in a potentially vulnerable location next to the main driveway.
- Accessibility
  - There is no elevator in the building and it has 6 different floor levels.
  - The main entrance is not accessible.
  - The gym / auditorium public entrance is not accessible.
  - Student toilet rooms are not fully ADA compliant on all levels.
- Health & Safety
  - At least two of the ground floor classrooms are located below a level identified as a flood plain and have experienced water intrusion. Based on existing documentation provided by the District this lowest floor level is at elevation 12.00. A survey by Redniss and Mead dated 10/31/95 lists the 100 year flood elevation at 11.50. Online FEMA flood maps, updated on 7/8/13 show a flood zone (AE) at elevation 13.00. The main (1902) portion of the Ground Floor is at elevation 13.41 and the later south wing of the Ground Floor is at elevation 14.59.
  - Powered ventilation systems are not present in older parts of the building and as a result do not meet current codes for school buildings.
  - Classrooms are partially air conditioned with window units which are not energy efficient, are damaging the window frames and masonry and are noisy.
  - Windows are not energy efficient and are difficult to operate.
  - A number of building systems have significantly exceeded their expected useful life and as a result require replacement including roofing, communications, fire alarm and emergency lighting.
  - An emergency generator is needed to maintain basic services and to operate sewage and storm water pumps.

The recommended solution is to construct a one story, 9,630 gross square foot, four classroom addition and selectively renovate portions of the existing building. This proposal does not solve or remedy all of the shortcomings in this facility but does address the highest priority needs in an integrated approach. Key upgrades to building systems are also proposed including; completely new Heating, Ventilating and Air Conditioning systems for all areas that are not currently served, selective roof and window replacement, installation of an emergency generator and upgrades to building Communications, Fire Alarm and Emergency Lighting Systems. The total projected budget for the project is $24.5 Million.

Study Process

This Feasibility Study is the result of a response to a Request for Proposals (RFP) issued by Greenwich which is to include the delivery of:

- Educational specifications for the reconstruction or expansion of Old Greenwich Elementary School.
- Identification and analysis of one or more site options consistent with land use and other relevant regulations and statutes, conceptual building plans including site plans showing parking and access.
- Cost estimates for the construction / renovation project (soft and hard) which will be used as the basis of the next capital budget funding request.
- Preliminary phasing and implementation strategy.

This document comprises the deliverables listed above. The National School Boards Association describes the purpose of ed. specs. as follows:

> *"The purpose of educational specifications ("Ed Specs") is to define the programmatic, functional, spatial, and environmental requirements of the educational facility, whether new or remodeled, in written and graphic form for review, clarification, and agreement as to scope of work and design requirements by the architect, engineer, and other professionals working on the building design."*

There is no current standard format for Educational Specifications in the State of Connecticut. This document and the referenced attachments meet the definition recited above and serve as the Educational specifications for this project for Old Greenwich.

Typically an educational specification focuses on the "What and Why" of the project and the subsequent design phases will develop "How" it should be best accomplished. For new or replacement buildings the quantity and sizes of spaces included in an ed. spec. can be more or less fully realized while for renovation and re-construction projects it is typical that it serves more as a guideline because it is more challenging to fully realize due to the constraints provided by the existing facility. It makes sense for renovation projects to include a conceptual approach as part of the Ed. Specs. to best describe how the project's goals are to be realized in the specific context of an existing school building. The conceptual design at this stage serves as a "proof of concept" and one possible way to meet the highest priority needs. This approach is also necessary in order to begin the development of a reasonable budget for the proposed improvements.

The goal of this process for Greenwich is to reach consensus on the scope of the project so that it can be approved by the BOE and moved to the next step of the budgeting and design process.

In accordance with the RFP this process was guided by a group of stakeholders listed below:

- Committee Members
  - Dr. Toni Jones, Superintendent
  - Jennifer Bencivengo, OGS Principal
  - Dan Watson, Director of Facilities
  - Karen Kowalski, BOE Member
  - Jennifer Webb
  - Tiffany Vaccari
  - Todd Mickel
  - Joe Dowling
  - Frank DeLuca
  - Carolyn Petersen

The process was completed through an interactive series of meetings summarized below:

8/24/20 – Introduction to Process & Key Concerns
9/14/20 – Review of Key Concerns and Earlier Studies
9/30/20 – Preliminary Discussion of Possible Approaches & Prioritization
10/8/20 – Review of Three Options
10/15/20 – Finalization of Selected Approach

During the process the group provided specific input on the prioritization of items to be included in the proposed project. The results of that input are summarized in the attached chart.

10/8/2020

Old Greenwich Elementary School
Prioritization Matrix

Name (optional)				
Please place an "X" in one of the three prioritzation choices for each row indicating your prioritization of that item.				
	PRIORITIZATION			
	Must Have	**Should Have**	**Like to Have**	Notes
Safety & Security				
Provide a secure vestibule at main entrance	8	1		Highly recommended in School Security Standard
Main office adjacent to main entrance	6	3		
Provide electromagnetic locks at all exterior doors	4	5		
Add cameras to increase coverage overall	4	4	1	
Provide a means of enclosing all or part of the campus	2	4	3	
Accessibility				
Provide an accessible main entrance on Ground Floor	8	1		
Provide an accessible entrance to the Gymnasium / Auditorium	7	2		
Provide an Interior Accessible Route to all areas - Elevator, Ramps & Lifts	7	2		
Provide an interior Accessible Route to most areas - Elevator & Ramp	5	3	1	This would exclude access to 2 of the 3 Kindergarten Rooms
Modify all Toilet rooms to be fully compliant and accessible	5	2	2	
Provide new single user handicapped accessible toilet rooms.	4	4	1	
Educational Program Spaces				
Update Classroom Furniture - Next Generation Learning Environments	1	4	3	
Replace Under-sized classrooms with full size rooms	4	4	1	
Replace 2 classrooms that are the lowest in elevation due to flooding issues	7	1	1	
Provide one "flex" classroom (capacity 24) as an innovation space on each floor.		3	6	
Provide one larger "flex" or STEAM space for a full grade level (+/-75).		2	7	
Provide some smaller group instruction (SGI) spaces for speech, math intervention & special education resource rooms	2	5	2	
Increase the size of the support areas behind the stage		3	6	
Infrastructure				
Update Ventilation Systems to current standards in older sections of the building.	9			
Central Air Conditioning for all Classrooms	8	1		
Central Air Conditioning for the Gymnasium / Auditorium	6	2		
Install Automatic Fire Protection System for entire building (sprinklers)	6	3		not mandated by code for buildings of this age but would be required for a new building of this size and construction
Provide an Emergency Generator for the full electrical load of the building	3	2	4	
Replace Interior Casework that is in poor condition	4	4	1	
Replace plumbing fixtures that are beyond their expected useful life	6	2	1	
Replace portions of roof that are beyond their expected useful life	6	2	1	
Repair masonry to preserve exterior of older building	5	3	1	
Provide dedicated staff toilets on each floor	4	2	3	
Provide an interior courtyard for protected outdoor space	2	3	4	
Upgrade all playground areas to provide age-appropriate play structures for all age groups	3	2	3	Parks & Recreation input needed

The contents of this document largely reflect the input of this group and their feelings that the proposed solution is necessary to meet the minimum requirements for sustaining Old Greenwich Elementary School for future generations of students.

EDUCATIONAL GOALS & OBJECTIVES

Elementary Learning Objectives

The District recently completed a Master Plan that established a Model Program of spaces for each size grouping of Elementary Schools. Old Greenwich Elementary School is in the 3 section per grade level group and so that document was utilized as the starting point for this review. During that process spaces were identified as “Core” or must-have spaces to minimally accommodate the educational program and “Goal” spaces that would be preferred to have to more fully offer the full range of educational programs.

During the Master Plan Architects and Planners engaged the Educational leadership of the District to review how instruction is projected to be delivered. A range of approaches were explored including traditional “homeroom” classroom styles and more innovative approaches broadly defined as “next generation learning” styles. With the latter more focused on project-based learning and self-guided instruction through the use of individual devices it seems to require additional or different and less formal types of learning spaces. The outcome of that process resulted in adoption of a sensible “hybrid” approach for the elementary levels that still relied on the fundamental grade level classroom approach with some additional spaces to support the “next generation learning” initiatives. That approach was confirmed during the earlier discussions for this specific project for Old Greenwich.

Enrollment Data

Significant changes in enrollment are not expected at Old Greenwich Elementary School and so they are not the prime generators of need for changes to the facility. The demographic report completed concurrently with the Master Plan (Statistical Forecasting, 2017) identified historic enrollments in the range of 430 students. Current enrollments are somewhat skewed by the pandemic but are reported in the range of 360 - 400 students. The Connecticut State Department of Education (SDE) supports planning facilities for the highest enrollment that is projected to be in place in the next 8 years. The highest probable enrollment for Old Greenwich Elementary school is projected to be 438 students in 2025 – 2026. This total enrollment still keeps Old Greenwich in the 3 section per grade level grouping with an occasional year where one grade level (most often 1st grade) requires a 4th section.

Building Capacity Analysis

Similar to the programming effort in the Master Plan there was also a detailed analysis of the capacity of the buildings to fully accommodate the enrollment and the Model Program. The use of each space was updated during the course of the current study and it was found that the building is adequate for approximately 408 students. There are several areas, primarily in the Goal category of spaces that are missing from the school but the prime reason for the capacity figure falling below the enrollment is the size of the classrooms used for grade level instruction.

There are many grade level classrooms for grades 2 and above in Old Greenwich Elementary School with a net (useable) square footage (NSF) in the 675 – 710 range. The Model Program developed for Greenwich set the size requirements for these rooms at 850 nsf based on the new buildings that have been recently constructed in the District (i.e. Glenville & New Lebanon). It is interesting to note that Connecticut SDE supports a size of 900 nsf for these types of classrooms utilized for grades 2 – 5. While the discrepancy may not seem that large it accumulates to an overall 10% shortage of space for grade 2 – 5 alone.

Educational Program Requirements

The chart included in the Appendix to this narrative summarizes the Model Program of spaces, existing space use and what is being proposed to be provided in these Ed Specs and conceptual design. While this describes the quantities involved in the provision of space it does not address qualitative issues which are equally if not more important to the provision of an adequate learning environment.

Some of the key quantitative issues include:

- Core Spaces
    - Undersized Pre-kindergarten Rooms
    - Undersized Grade level Classrooms for grades 2 – 5
    - Lack of Small Group Instruction Rooms
    - Undersized Special Education Resource Classroom
    - Lack of a Commons or Large Group Instruction Room
    - Undersized Cafeteria
    - Undersized Teacher's Lounge
    - Underprovided space for Specialists
    - Undersized Nurse's Suite
    - Lack of a Secure Vestibule

- Goal Spaces – Not Currently Provided
    - Commons / Transition Area
    - Small Group Instruction Rooms
    - Activity Commons
    - Project / Idea Lab
    - Flex Lab
    - Flex Special Programs Rooms
    - Sensory Room
    - Reflection / Small Group Room
    - After School Program Room
    - Separate Copy and Mail Rooms

The chart in the appendix highlights all of the areas where changes are realized as a result of this proposal. The total shortage of useable square footage represented by the existing deficiencies outlined above is over 12,000 nsf or 22% smaller than the full model program. The proposed additions and renovations would decrease this shortfall to 8,791 nsf or 16% smaller than the full model program.

Qualitative Issues include not only the condition of each space but also its location including its adjacency (or lack thereof) to related instructional spaces. Perhaps the most important adjacency issue is the requirement that all Pre-Kindergarten, Kindergarten and First Grade Classrooms be located on the ground floor of an elementary school. Further it is desirable to have all classrooms for a single grade nearby to each other and on the same floor of the building.

The other significant location or adjacency issue is the location on the main office on the opposite side of the corridor from the main entrance. This results in the undesirable situation of admitting visitors to the building and trusting that they will find their way to the office. It also does not allow for a direct visual connection to visitors by main office staff or security personnel.

PROGRAM COMPONENTS – SPECIFICATION REQUIREMENTS

The proposed building addition and renovations relocates and creates new uses through the comprehensive renovation of existing areas. The listings below provides preliminary, general specifications for each space which should be reviewed, modified and confirmed with "user groups" during the subsequent design phases.

3 New Kindergarten Classrooms (New Addition)

MARK	ELEMENT	DESCRIPTION
0	General	1,000 net square feet classroom with bay window and some "historic" character/charm similar to the older existing rooms.
1	Millwork / Casework	Built in window seat in bay window, cubbies for coats and backpacks for up to 25 students, full height locking wardrobe cabinet for teachers, low bookshelves under the window wall, full height storage cabinets with sliding whiteboard doors on upper portion of cabinets for a minimum of 12 feet of wall length, low base cabinets with sink for handwashing near toilet room.
2	Floors	Premium vinyl or linoleum – water cleanup only. Fire rated area rugs for teaching and gathering areas where students sit on the floor.
3	Walls	Painted drywall with wood base, chair rail and trim at wall ceiling.
4	Doors	Corridor door to be wood with vision light and sidelight (with blinds / shutter). Exterior door to be insulated FRP - half lite style (with blinds).
5	Windows	Generous window area with dual roller shades for light control / blackout. Operable elements should be low for easy reach – awning style preferred. Wood window surrounds, casings and sills / aprons.
6	Ceiling & Lighting	Acoustic Ceiling and some drywall soffits (at bay window) with LED lighting switched separately so that daylight can be utilized with partial artificial lighting.
7	Display / Teaching Wall	Generous tackboard coverage throughout and a minimum of 20 linear feet of fixed whiteboard or magnetic glass boards (preferred). Some portion of writing surface should extend to low levels for use by students.
8	Technology	Robust Wi-Fi coverage, two hard wired data outlets (minimum), large (90") flat touch screen monitor on vertical tracks for height adjustment. Space for laptop or tablet cart and charging.

9	Communication	IP phone through instructor's data port and intercom system with handset. Analog style wall-mounted clock connected to building clock system.
10	Security	Card key lock on exterior door, corridor lockset to have lock in function.
11	Electrical	Generous power outlets on perimeter and near casework (minimum four duplex per wall).
12	Furniture, Fixtures & Equipment	Moveable, re-configurable student tables and chairs, soft seating for reading areas, large soft chair for reading, instructor's table / desk and chair. Some mobile storage units for instructional materials.
13	Plumbing / Toilet Room	ADA accessible student toilet room with appropriately sized / scaled fixtures. Toilet room to have a handwash sink with soap and towel dispensers. Counter sink for handwashing with a bottle filler for drinking water and a soap and towel dispenser.

1 New First Grade Classroom (New Addition)

MARK	ELEMENT	DESCRIPTION
0	General	850 net square feet classroom.
1	Millwork / Casework	Cubbies for coats and backpacks for up to 25 students, full height locking wardrobe cabinet for teachers, low bookshelves under the window wall, full height storage cabinets with sliding whiteboard doors on upper portion of cabinets for a minimum of 12 feet of wall length, low base cabinets with sink for handwashing near toilet room.
2	Floors	Premium vinyl or linoleum – water cleanup only. Fire rated area rugs for teaching and gathering areas where students sit on the floor.
3	Walls	Painted drywall with wood base, chair rail and trim at wall ceiling.
4	Door	Corridor door to be wood with vision light and sidelight (with blinds / shutter). No exterior door to be provided in this room.
5	Windows	Generous window area with dual roller shades for light control / blackout. Operable elements should be low for easy reach – awning style preferred. Wood window surrounds, casings and sills / aprons.
6	Ceiling & Lighting	Acoustic Ceiling and some drywall soffits (at bay window) with LED lighting switched separately so that daylight can be utilized with partial artificial lighting.
7	Display / Teaching Wall	Generous tackboard coverage throughout and a minimum of 20 linear feet of fixed whiteboard or magnetic glass boards (preferred). Some portion of writing surface should extend to low levels for use by students.

8	Technology	Robust Wi-Fi coverage, two hard wired data outlets (minimum), large (90”) flat touch screen monitor on vertical tracks for height adjustment. Space for laptop or tablet cart and charging.
9	Communication	IP phone through instructor’s data port and intercom system with handset. Analog style wall-mounted clock connected to building clock system.
10	Security	Card key lock on exterior door, corridor lockset to have lock in function.
11	Electrical	Generous power outlets on perimeter and near casework (minimum four duplex per wall).
12	Furniture, Fixtures & Equipment	Moveable, re-configurable student tables and chairs, soft seating for reading areas, instructor’s table / desk and chair. Some mobile storage units for instructional materials.
13	Plumbing / Toilet Room	ADA accessible student toilet room with appropriately sized / scaled fixtures. Toilet room to have a handwash sink with soap and towel dispensers. Counter sink for handwashing with a bottle filler for drinking water and a soap and towel dispenser.

Multi-Purpose Room (Renovation)

MARK	ELEMENT	DESCRIPTION
0	General	This walk-through space will have a ramp and lift to provide accessibility to the Pre-K rooms on the south side of the building. It will be used by the lower grade levels as an indoor activity and assembly space. The floor level of this space is prone to flooding so “wet flood-proofing” approaches should be utilized.
1	Millwork / Casework	Fixed shelve in storage room, base and wall cabinets on west side of room.
2	Floors	Premium cushioned vinyl or linoleum – indoor sports flooring – water cleanup only.
3	Walls	Cement board with porcelain tile to 60” high with painted plaster or drywall above. Wood trim at wall ceiling intersection.
4	Door	Exterior door to be insulated FRP - half lite style (with blinds).
5	Windows	Existing openings to be used with new replacement windows to match the older portions of the building. Operable elements should be included in each opening – awning function preferred. Provide dual roller shades on all windows for light control / blackout.
6	Ceiling & Lighting	Acoustic Ceiling and some drywall soffits (at ramp or circulation areas) with LED lighting switched

		separately so that daylight can be utilized with partial artificial lighting.
7	Display / Teaching Wall	Some tackboards and magnetic glass boards on available wall areas.
8	Technology	Robust Wi-Fi coverage with hard wired connections to ceiling mounted projector and 90” flat screen monitor. Motorized projection screen mounted in ceiling.
9	Communication	IP phone through instructor’s data port and intercom system with handset. Analog style wall-mounted clock connected to building clock system.
10	Security	Card key lock on exterior door. Cameras to cover both entrances.
11	Electrical	Generous power outlets on perimeter and near casework (minimum four duplex per wall – 36” AFF).
12	Furniture, Fixtures & Equipment	Stackable sled-based molded plastic student chairs for up to 90 students. Provide mobile carts to put in storage room.
13	Plumbing / Toilet Room	Drinking fountain / bottle filler in adjacent corridor.

Teacher’s Room (Renovation)

MARK	ELEMENT	DESCRIPTION
0	General	345 net square feet space to replace area displaced by new main entrance.
1	Millwork / Casework	Wall and base cabinets to provide food preparation / warming area.
2	Floors	Premium vinyl or linoleum – water cleanup only.
3	Walls	Painted drywall with wood base, chair rail and trim at wall ceiling.
4	Door	Corridor door to be wood with vision lite.
5	Windows	None provided
6	Ceiling & Lighting	Acoustic Ceiling with LED lighting
7	Display / Teaching Wall	Tackboard and magnetic glass board for notices
8	Technology	Robust Wi-fi, 60” flat screen monitor.
9	Communication	IP phone and intercom system with handset. Analog style wall-mounted clock connected to building clock system.
10	Security	Door to have lock – in classroom function
11	Electrical	Generous power outlets and charging strip for devices at counter area.
12	Furniture, Fixtures & Equipment	Tables and chairs for up to 20 adults. Full size refrigerator, two wall mounted microwave ovens and a coffee maker.
13	Plumbing / Toilet Room	Kitchen sink and bottle filler.

Resource Room (Renovation)

MARK	ELEMENT	DESCRIPTION
0	General	220 net square feet room to replace area displaced by new Main Office. Generally used for small group instruction and resource space for special needs students.
1	Millwork / Casework	Full height locking wardrobe cabinet for teachers, low bookshelves under one exterior wall.
2	Floors	Premium vinyl or linoleum – water cleanup only. Fire rated area rugs for teaching and gathering areas where students sit on the floor.
3	Walls	Painted drywall with wood base, chair rail and trim at wall ceiling.
4	Door	Corridor door to be wood with vision light and sidelight (with blinds / shutter). No exterior door to be provided in this room.
5	Windows	Existing window openings to be re-used with new replacement window with dual roller shades for light control / blackout. Operable elements should be low for easy reach – awning style preferred. Wood window surrounds, casings and sills / aprons.
6	Ceiling & Lighting	Acoustic Ceiling with LED lighting.
7	Display / Teaching Wall	Some tackboard coverage and a minimum of 8 linear feet of fixed whiteboard or magnetic glass boards (preferred). Some portion of writing surface should extend to low levels for use by students.
8	Technology	Robust Wi-Fi coverage, two hard wired data outlets (minimum), 60” flat touch screen monitor on vertical tracks for height adjustment.
9	Communication	IP phone through instructor’s data port and intercom system with handset. Analog style wall-mounted clock connected to building clock system.
10	Security	Corridor lockset to have lock in function.
11	Electrical	Generous power outlets on perimeter and near casework (minimum two duplex per wall).
12	Furniture, Fixtures & Equipment	Moveable, re-configurable student tables and chairs (4-6 students) and one instructor’s table / desk and chair.
13	Plumbing / Toilet Room	None provided

Main Entrance / Security Vestibule (Renovation)

MARK	ELEMENT	DESCRIPTION
0	General	New Entry Loggia, Secure Vestibule (230 net square feet) and Security Office (115 square feet). This area will need to be completely reconfigured (gut renovation) and will displace a teacher’s room.

1	Millwork / Casework	Counter with storage below in security office with sliding transaction window with ballistic or laminated glass.
2	Floors	Loggia to have natural cleft stone flooring or colored, stamped concrete, Vestibule to be cast terrazzo, terrazzo tile or porcelain tile, Security office to be resilient flooring.
3	Walls	Loggia to have brick front and side walls, Vestibule to have porcelain tile to 60” AFF and painted drywall above, Security office to be painted drywall.
4	Doors	New main entrance & vestibule doors and sidelights to be custom color wide stile aluminum entrance system with ballistic or laminated glass. Wood door with vision panel between main office and security office.
5	Windows	See above
6	Ceiling & Lighting	Loggia to have cement plaster ceiling with recessed LED lighting, Vestibule to be acoustic plaster with recessed LED lighting and Security office to have acoustic ceiling tile with LED lighting.
7	Display / Teaching Wall	60” flat screen for notices and schedule on south wall of vestibule.
8	Technology	Robust Wi-fi and hard wired data ports in security office to support security system, multiple monitors and ID badge printer.
9	Communication	Intercom and IP phone in Security Office. Clock in Vestibule should be visible from Security Office. Intercom and camera to connect Loggia to Security Office and Main Office.
10	Security	Camera should cover Loggia, Front Walk & Vestibule. Security camera head end equipment and ID badge printer should be located in Security Office. Multiple monitors should be located on counter in Security Office to monitor multiple cameras.
11	Electrical	Power outlets for convenience located in Vestibule and Exterior Loggia. Security Office to have dedicated power for security infrastructure.
12	Furniture, Fixtures & Equipment	6’ exterior benches (2) for Loggia and 8’ interior bench for Vestibule. Security Office to have upholstered stool (counter height)
13	Plumbing / Toilet Room	Provide a keyed hose bibb at Loggia for washing walks etc.

Main Office Suite (Renovation)

MARK	ELEMENT	DESCRIPTION
0	General	Convert Existing north Kindergarten room and resource space (complete gut renovation) to a main office suite that contains an open office area,

		principal's office, assistant principal's office, conference room and two single user toilet rooms.
1	Millwork / Casework	Open Office – Built in transaction counter with storage below, wall mounted mailboxes for staff. Conference Room – Bay window seat and low counter on west wall.
2	Floors	Open Office, Security Office & passageway – resilient wood look plank flooring. Toilet Rooms – ceramic tile Private Offices and Conference Room – solid backed premium carpet tile.
3	Walls	Open Office, & passageway – porcelain tile to 60" AFF. Toilet Rooms – ceramic tile Private Offices - Painted drywall with wood base, chair rail and wall ceiling trim. Conference Room – Wood wainscoting to chair rail height with painted drywall above with wall ceiling trim.
4	Doors	Solid wood doors with vision lites except at toilet rooms.
5	Windows	Existing window openings to be re-used with new replacement window with dual roller shades for light control / blackout. Operable elements should be low for easy reach – awning style preferred. Wood window surrounds, casings and sills / aprons.
6	Ceiling & Lighting	Acoustic ceiling tile and gypsum ceilings with LED lighting
7	Display / Teaching Wall	Tackboards in open office (west wall) and in passageway.
8	Technology	Robuse Wi-fi with hard wired data for open office (2), private offices (2) and conference room (1).
9	Communication	IP phones and intercom and master clock panel.
10	Security	Cardkey access at suite entry, exterior door and principal's office. Camera coverage in open office area.
11	Electrical	Generous power supply in all areas.
12	Furniture, Fixtures & Equipment	Open office – 6 foot waiting bench, high stools and two workstations. Assistant Principal's office - desk, file, chair and two guest chairs. Principal's office – Desk, chair, credenza, two guest chairs and side table. Conference Room – Conference table and 10 chairs.
13	Plumbing / Toilet Room	Two single user toilet rooms with handwash sink, soap and towel dispensers.

Expanded Nurse's Suite (Renovation)

MARK	ELEMENT	DESCRIPTION
0	General	Expand and renovate existing area – 305 net square feet total. Provide office, rest room and toilet room
1	Millwork / Casework	Built in lockable storage
2	Floors	Resilient wood look vinyl plank flooring.
3	Walls	Painted drywall with wood base, chair rail and wall ceiling trim
4	Door	Wood door with sidelite at corridor and solid doors at toilet room and rest room.
5	Windows	Existing window openings to be re-used with new replacement window with dual roller shades for light control / blackout. Operable elements should be low for easy reach – awning style preferred. Wood window surrounds, casings and sills / aprons.
6	Ceiling & Lighting	Acoustic ceilings with LED lighting
7	Display / Teaching Wall	Tackboard for notices in office area.
8	Technology	Robust Wi-fi, data outlet for nurse's station and printer.
9	Communication	IP phone, intercom and clock
10	Security	Lock in feature on corridor door
11	Electrical	Generous power outlets in office and rest room.
12	Furniture, Fixtures & Equipment	Nurse's desk, chair, file and two guest chairs. Exam table, side chair and cot in rest room. Provide a small lock-able refrigerator for medications.
13	Plumbing / Toilet Room	Single user toilet with handwash sink, soap dispenser and towel dispenser. Provide a handwash sink with soap and towel dispenser in nurse's office.

Relocated Speech Instructional Area (Renovation)

MARK	ELEMENT	DESCRIPTION
0	General	345 net square feet – convert former main office
1	Millwork / Casework	Built in shelving on one wall to chair rail height and full height lockable wardrobe for staff.
2	Floors	Resilient wood look vinyl plank flooring.
3	Walls	Painted drywall with wood base, chair rail and wall ceiling trim
4	Door	Wood door with sidelite at corridor.
5	Windows	Existing window openings to be re-used with new replacement window with dual roller shades for light control / blackout. Operable elements should be low for easy reach – awning style preferred. Wood window surrounds, casings and sills / aprons.
6	Ceiling & Lighting	Acoustic ceilings with LED lighting.
7	Display / Teaching Wall	Tackboards flanking magnetic glass marker board.

8	Technology	Robust Wi-Fi with hard wired instructor's station. 60" flat touch screen.
9	Communication	IP phone, intercom and clock
10	Security	Lock in function on corridor door lock.
11	Electrical	2 power outlets per wall plus device charging station.
12	Furniture, Fixtures & Equipment	Student tables and chairs (12) plus instructor's desk chair and file.
13	Plumbing / Toilet Room	None Provided

Relocated Psychologist's Office / Counseling Studio (Renovation)

MARK	ELEMENT	DESCRIPTION
0	General	360 net square feet – convert main office
1	Millwork / Casework	Built in shelving on one wall to chair rail height and full height lockable wardrobe for staff.
2	Floors	Resilient wood look vinyl plank flooring.
3	Walls	Painted drywall with wood base, chair rail and wall ceiling trim
4	Door	Wood door with sidelite at corridor.
5	Windows	Existing window openings to be re-used with new replacement window with dual roller shades for light control / blackout. Operable elements should be low for easy reach – awning style preferred. Wood window surrounds, casings and sills / aprons.
6	Ceiling & Lighting	Acoustic ceilings with LED lighting.
7	Display / Teaching Wall	Tackboards flanking magnetic glass marker board.
8	Technology	Robust Wi-Fi with hard wired instructor's station. 60" flat touch screen.
9	Communication	IP phone, intercom and clock
10	Security	Lock in function on corridor door lock.
11	Electrical	2 power outlets per wall plus device charging station.
12	Furniture, Fixtures & Equipment	Student tables and chairs (6),soft seating / sofa for 6 plus instructor's desk chair and file.
13	Plumbing / Toilet Room	None Provided

Circulation Spaces

MARK	ELEMENT	DESCRIPTION
0	General	New corridors and entry pavilion at new addition.
2	Floors	Cast Terrazzo, Terrazzo tile or porcelain tile.
3	Walls	Terrazzo base or porcelain tile base. Porcelain wall tile to 60" AFF with painted drywall above.
4	Door	Exterior doors to be wide stile aluminum with side lites.
5	Windows	Glazed window walls to exterior with 12" high sill with radiation below.
6	Ceiling & Lighting	Acoustic tile ceilings with LED lighting.

7	Display / Teaching Wall	Tackboards and or display cases interspersed.
8	Technology	Robust Wi-fi
9	Communication	Analog clocks at periodic intervals
10	Security	Complete coverage with cameras. Card key locks at all exterior doors.
11	Electrical	Secure outlets for cleaning only.
12	Furniture, Fixtures & Equipment	No loose furniture in corridors.
13	Plumbing / Toilet Room	Staff toilet accessed from new corridor. Storage room also available from hallway for janitor's closet and or IT room.

Shared Toilet Facilities / Rest Rooms

MARK	ELEMENT	DESCRIPTION
0	General	Renovated areas in existing building adjacent to new elevator shaft
2	Floors	Ceramic Tile with floor drains.
3	Walls	Ceramic tile to 84" AFF.
4	Door	Solid wood door with push/pull function, closer and mop and kick plates.
5	Windows	Existing window openings to be re-used with new replacement windows and obscure glass. Operable elements should be low for easy reach – awning style preferred. Provide window guards at upper levels. Wood window surrounds, casings and sills / aprons.
6	Ceiling & Lighting	Hard drywall or plaster ceilings with recessed LED lighting.
7	Display / Teaching Wall	NA
8	Technology	Robust Wi-fi
9	Communication	NA
10	Security	NA
11	Electrical	Secure outlets for cleaning only.
12	Furniture, Fixtures & Equipment	Solid plastic / resin toilet partitions – floor mounted & ceiling braced.
13	Plumbing / Toilet Room	Self metering, touchless faucets, toilet valves and dispensers. Provide keyed hose bibb for washdown.

Outdoor Facilities

MARK	ELEMENT	DESCRIPTION
0	General	A number of new outdoor spaces are to be created: • **Kindergarten "gardens"** on south side of new addition. • **Interior Courtyard – west** – Primarily for use as outdoor dining space.

		• **Interior Courtyard – east** – Primarily for use as an outdoor classroom assembly space • **Relocated age group play areas** – Displaced by the building addition these will move west closer to the lined playfield area.
1	Millwork / Casework	Fixed play equipment to be relocated / replaced at age group play areas. Provide fixed benches / stools for kindergarten play areas. Cast in place concrete / stone faced retaining walls to create amphitheater – like area at east courtyard. Provide opaque, 6 foot high fencing at south property line for privacy at Kindergarten area.
2	Surfaces	Natural turf with rubber play surfaces under equipment and seating areas. Resilient paved (asphalt based) walkways at interior courtyards.
8	Technology	Robust Wi-fi
9	Communication	Provide intercom at main exterior doors from courtyard and western play areas.
10	Security	All areas to be covered by cameras and all exterior doors to have card key access.
11	Electrical	Provide weatherproof quad outlets at each of the four locations. Provide junction box for exterior sound system at east interior courtyard.
12	Furniture, Fixtures & Equipment	Provide exterior tables, chairs and sunshades at west interior courtyard.
13	Plumbing / Toilet Room	Provide keyed hose bibbs at all four locations.

OLD GREENWICH ELEMENTARY SCHOOL PROJECT RATIONALE

Educational Program Upgrades

Despite the magnitude of the shortfalls outlined in the comparison to the Core and Goal elements of the Model Program the view of the Committee was to focus on resolving key issues related to educational program adjacencies and replacement of classrooms in an unsuitable area of the building.

It is practically difficult and potentially very costly to remedy the primary issue of under-sized classrooms for grades 2 - 5 at Old Greenwich Elementary School. These rooms are located primarily in the 1902 and 1950 portions of the building. The distance from the load bearing corridor wall to the exterior bearing wall establishes the size and shape of the rooms and the relocation of either of those walls is not practical. If any of the rooms are required to be replaced they can certainly be provided at the full program size.

Security Improvements

The design of school facilities has been impacted by several tragic occurrences on school campuses that all occurred well after any portion of Old Greenwich Elementary School was designed. While several important improvements to harden the entrances and provide electronic surveillance have been in place for some time at the school, the basic layout of the building and campus is not in alignment with current best practices for school security. The key security related improvements that were prioritized by the Committee include:

- Relocation of the main office to be adjacent to the main entrance. This will allow main office personnel to maintain not only an electronic (camera) view of the entrance but also a direct visual connection.
- Provision of a secure vestibule at the main entrance. This design element is strongly recommended by both Connecticut standards and school safety studies published by the US Department of Homeland Security.
- Provision of protected outside space for use by students as dining, outdoor classroom or physical education.
- Relocation of the Kindergarten Classroom adjacent to the entrance driveway to a less vulnerable position on campus.

Accessibility Compliance

The Americans with Disabilities Act (ADA) is Federal civil rights legislation that was enacted in 1990. While in the first few years after it was passed there were a number of acceptable reasons to delay compliance after 30 years and the incorporation of many of the ADA's provisions into building codes it is no longer generally acceptable to have a public building with limited compliance. The major ADA compliance issues at Old Greenwich Elementary School include:

- Lack of an Interior Accessible Route – There should be an accessible means of traveling to all floor levels in the building. The Ground Floor of Old Greenwich School has 4 separate floor levels – only two of which are connected by an accessible ramp. The upper floors are not accessible at all and will require the installation of an elevator to comply.
- Main Entrance is not accessible. While there is an on-grade entrance to the Ground Floor in the back area by the mechanical room this is not generally viewed as an acceptable strategy for equivalent access for the disabled.

- This same issue exists for the public entrance to the Gym and Auditorium. There are special events where this entrance is made accessible by installation of a temporary ramp but a permanent solution is needed.
- Given the age of the building it is difficult absent total renovation to make toilet rooms fully accessible. There have been some modifications where they were "readily achievable" that have provided some level of accessibility in some of the toilet rooms in the older portions of the building.

There are other ADA issues of a less significant magnitude that should be addressed as well including updated communication systems, signage, door hardware and door access.

Infrastructure and Building Systems Upgrades

Given the age of the building and the date of the last major capital project there are many building systems that have exceeded their expected useful life and are now in need of replacement. In general the older portions of the building has significantly more needs. Most of the 1995 addition in the rear or west side of campus is in acceptable condition. The building was assessed in detail by a team of professionals during the recent Master Plan process and over $16 Million Dollars of improvements were identified for infrastructure replacement and upgrades to sustain the building in overall good condition.

During the Committee discussions the overall condition of the building's infrastructure and specific systems were reviewed. The prioritization process revealed that every Committee member felt that upgrades to the HVAC system were viewed as a must-have element of the project. The upgrading of the HVAC systems in the older sections of the building includes providing code compliant ventilation with the ability to mechanically introduce heated or cooled, filtered, fresh air. Indoor air quality improvements have always benefitted the health of all building occupants as well as improved the educational environment but with the advent of the pandemic they are viewed as even more critical. This is a typical issue with buildings of the age of Old Greenwich Elementary School which have older passive ventilation systems that did meet the codes at the time when they were originally constructed. The expectation of occupants of buildings of all types has evolved significantly with regard to temperature control and overall indoor air quality.

Another element that most thought was a must-have feature of the project was the replacement of the two undersized classrooms that are on the lowest level of the building that are below the flood elevation. These two spaces are now used as a Kindergarten and First Grade classroom. These two rooms were once a larger multi-purpose room and are on their own (low) floor level. To make these rooms accessible as well as provide access to the two classrooms that are further south and were part of the 1950 addition it would require the installation of two handicapped lifts or two ramps or some combination of the two. These improvements would take up additional space which would further reduce the available instructional space. So these two rooms are problematic from an educational adequacy, health and accessibility point of view.

The balance of the infrastructure items were identified in the detailed reports included in the Master Plan and are comprised of replacement of materials and systems that are at the end of their expected useful life or required to update the building to meet current codes. These include:

- Partial roof and window replacement.
- Installation of an automatic fire protection system (sprinklers).
- Interior upgrades including lighting, ceilings and casework replacement.
- Communications, fire alarm and emergency lighting updates.

- Installation of an emergency generator. This is especially important for this location that has pumps to move sanitary waste and storm water from the site.

Excerpts of the detailed reports on the building infrastructure are included in the Appendix to this document.

OLD GREENWICH ELEMENTARY SCHOOL PROJECT DESCRIPTION

The proposed concept for the improvements to Old Greenwich Elementary School involves the relocation of functions that result in the need for a one story four classroom addition and interior alterations. This approach results in an integrated solution to the major Educational, Security and Accessibility issues. Site and Floor Plans for the conceptual design are included in the Appendix to this report.

Safety and Security Improvements

The proposed new main entrance location involves a modification to a building connector that was part of the 1950 addition. By converting this to a main entrance it will match the north entrance, reinforcing the symmetrical appearance of the public facing side of the building. This approach creates a recessed arcade, creation of a secure vestibule and a security office. This will displace the teacher's room which will need to relocated.

The relocation of the main office to the north side of the Ground Floor to what is now used as a Kindergarten Room and a special ed. resource room can create a main office suite adjacent to an accessible and secure main entrance configuration. This move vacates a portion of the First Floor now used for the main office which then be used to expand the Nurse's office and provide adequately sized space for the Speech and Psychologist's functions.

Other security issues that are remedied by this approach include the provision of a large interior courtyard that can be used for dining, outdoor educational programs, large group gatherings and physical education. The proposed relocation also relocates a Kindergarten room from a somewhat vulnerable position to a more secure portion of the site.

Accessibility Upgrades

The new main entrance on the ground floor also solves the accessible main entry concern. Other accessibility improvements include:

- Installation of a permanent ramp at the Auditorium / Gym Entrance.
- Installation of a new three stop elevator in the interior of the existing building to provide and interior accessible route connecting the three main levels of the building.
- Installation of a ramp and lift in the lowest area of the Ground floor that now houses a Kindergarten and First Grade classroom. Ths area will be converted to an open Commons or Multi Purpose Room which is one of the spaces included in the Core Model Program that was not provided in the existing building configuration. This change will require the recreation of two classrooms in a new addition to replace those displaced by the ramps, handicapped lift and new Multi Purpose room. While this area will still be below the flood plain it will not be used as grade level classrooms and "wet floodproofing" improvements can be made during the renovations which will reduce the impact of water intrusion and reduce recovery and cleanup efforts.

- Interior renovations adjacent to the proposed elevator will include updated, fully accessible toilet rooms on all three floors of the building.

Educational Program Improvements

Most of the educational program improvements have already been mentioned as they are integrated with the security and accessibility solutions. The proposed conceptual layout for the new addition is proposed to be a single loaded corridor configuration (rooms on one side of a corridor rather than both) that connects the northwest side of the original 1902 building to the southwest corner of the 1995 addition. This configuration requires that some of the play equipment be relocated. The proposed addition connects to the 1902 original building at a point where a three story classroom addition was constructed. The connecting corridor goes through the lowest of these classrooms, which is a first grade classroom which will also require that it be replaced. The existing classroom is then renovated to provide in part for the new corridor as well as the relocated Teacher's room and Special Ed. Resource room that were displaced by the new entrance and relocated main office. A summary of the Educational Program Improvements includes:

- Replacement of four classrooms including two that were under-sized with four full sized classrooms for the youngest students.
- Pre-Kindergarten, Kindergarten and First Grade Rooms are all located on the Ground Floor and are grouped together.
- Provision of a Commons or Multi-Purpose Room that was included in the Core program and not able to be provided in the existing building.
- Expansion of the support functions for the Nurse, Speech program and Psychologist.
- New Main office suite adjacent to the accessible main entrance.
- New secure entrance vestibule.
- Provision of secure outdoor instructional space.
- Improved overall building circulation by providing and alternate pathway from the Cafeteria to classrooms.

Proposed Site Improvements

Most of the proposed site improvements are related to the area impacted by the new one story addition and the creation of the new main entrance. This includes the reconfiguration of walkways and landscaping at the new main entrance and relocation of play surfaces, equipment and related utilities work, landscaping, fencing, grading, drainage and paving.

PROJECT BUDGET, STATE REIMBURSEMENT, SCHEDULE & IMPLEMENTATION

Budget Development Process

Proposed budgets were developed for each element of the proposed improvements. A budget summary is included below and the more detailed budget development worksheet is included in the appendix to this report. Budgets for new construction, renovation and sitework are based on unit prices and the area that applies to each item of work. Budgets for infrastructure upgrades are developed from the baseline data and budgets included in the Master Plan. All budgets include a 10% contingency for items that are added but not yet known and unforeseen conditions discovered during the development of the design and during construction. The budgets are escalated to reflect four years of price escalation at 3% per year. This is a reasonable estimate based on past years but the actual cost escalation in the construction market can vary widely dependent upon overall economic conditions. They also include an allowance for soft costs equal to 18% of the hard costs. This allowance should be adequate to fund design professional fees, construction management fees, surveys, testing and other Owner expenses necessary to administer the project.

Project Budget

The budget for the proposed improvements described in the Ed. Specs. and the conceptual design is summarized below:

	2018 Master Plan	**2020 Study**
Site Development	$ 3,025,309	$ 1,700,000
New Construction	$ 10,700,000	$ 6,900,000
Renovation	$ 9,060,903	$ 2,900,000
Infrastructure	$ 15,848,542	$ 13,000,000
Subtotal	$ 38,634,754	$ 24,500,000
*Feasibility Study Options include estimated cost escalation to 2024		

This proposed budget is significantly less costly than the cost and scope of the project included in the Master Plan. The Committee guiding this process was interested in a more modest and cost-effective approach that addressed the highest priority issues.

State Grant Process

The development of an Ed. Spec. and budget is the first step in applying for State grants to assist the locality in the funding of the project. An overview of eligible and ineligible costs finds that most if not all of the budgeted expenses are sometimes allowed for reconstruction and addition projects. As most renovation and addition projects are by definition unique the confirmation of what portion of the costs are eligible can only be known during the full application process.

Project Delivery Method

The pre-construction planning and design process has several more steps prior to breaking ground including:

- Securing funding for the design phases of the Project.
- Establishing a project specific Town Building Committee.
- Selecting an Architect for the full basic architectural services necessary to deliver the project starting with Schematic Design.
- Updating existing building drawings to accurately reflect “as-built” conditions.
- Updating Site and topographic Survey to show accurate floodway locations and elevations.
- Obtaining local and State approvals including; State Grant review, Town of Greenwich Municipal Improvement and Site Plan Approval, Environmental Approvals and Building Permits.

The delivery method for the construction itself is most typically accomplished through conventional Design, Bid and Build type procurement. Some new building projects have benefitted from completing the Design up to the Design Development Level and then negotiating a Guaranteed Maximum Price (GMP) from a qualified Construction Manager (at risk). Typically with additions projects at occupied schools it makes sense to complete the new addition first so it can be occupied and then take existing rooms out of service and renovate them. While this can extend the duration of the project it allows for the existing building to stay in operation at full capacity during the course of the project.

Projected Timeline

A project of this scope and budget takes a few years to be developed and fully realized.

- 2022 – 2023 – Initial Design phases are funded and approvals initiated.
- 2023 – 2024 – Design Development, Construction Documents and approvals are finalized. Final pricing is established through the bidding or negotiation process.
- 2024 – 2026 – Construction in phases over the course of two school years. Full access to the school (no summer programs) for two summers will be required to complete the renovation work.

We feel based on experience that this is a reasonable approximation of a schedule for how the project would develop assuming that there is support for the funding from the Town of Greenwich. It is possible to complete the overall process faster if more planning and design funding is authorized in the 2021 – 2022 budget. If funding is restricted than the overall process can take longer.

APPENDIX (attached on following pages)

- Space Comparison Chart
- Proposed Site Plan
- Proposed Building Floor Plans (3)
- Existing Building Floor Plans (3)
- Project Estimate
- Master Plan Reports

Greenwich Public Schools

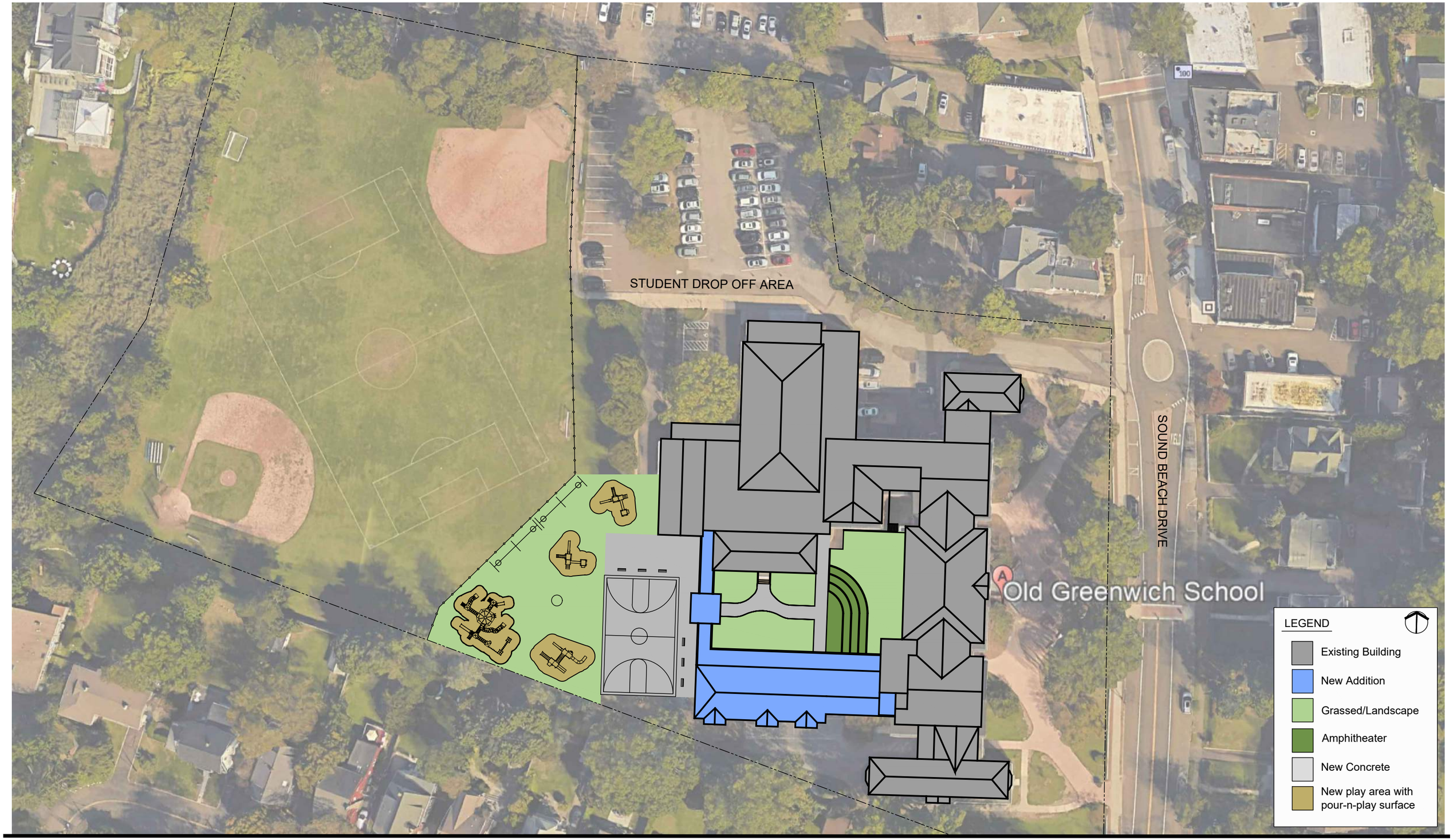
Old Greenwich Elementary School

Feasibility Study

Space Comparison

			Model Program 3 Section			Old Greenwich 2020 Use			Old Greenwich Proposed		
		Pre-Kindergarten (Opt.)	Qty	Avg. Size	Total NSF	Qty	Avg. Size	Total NSF	Qty	Avg. Size	Total NSF
PK.01	**CORE**	PK Learning Studios	3	1,000	3,000	2	958	1,916	2	1,120	2,240
PK.02	GOAL	Small Group Rooms	2	200	400	0		-	1	230	230
PK.03	GOAL	Commons/Transition Area	1	500	500	0		-			-
PK.04	GOAL	PK Storage Room	1	250	250	0		-			-
PK.05	**CORE**	PK Toilets	3	50	150	2	60	120	2	125	250
		Subtotals			**4,300**			**2,036**			**2,720**
		Instructional Core	Qty	Avg. Size	Total NSF	Qty	Avg. Size	Total NSF	Qty	Avg. Size	Total NSF
A.01	**CORE**	Kindergarten Learning Studios	3	1,000	3,000	3	1,072	3,216	3	1,000	3,000
A.01a	**CORE**	Kindergarten Toilets	3	50	150	2	135	270	3	125	375
A.01b	**CORE**	Kindergarten Storage	1	100	100	3	75	225			-
A.01c	**CORE**	First Grade Learning Studios	3	850	2,550	4	863	3,452	4	895	3,580
A.01d	**CORE**	First Grade Toilets	3	50	150	1	40	40	2	125	250
A.01e	**CORE**	First Grade Storage	3	100	300	1	50	50	2	100	200
A.02	**CORE**	2-5 Learning Studios	12	850	10,200	12	738	8,856	12	738	8,856
A.03	GOAL	FLEX Learning Studios	0	850	-	0		-			-
A.04	GOAL	Small Group Rooms	6	100	600	0		-			-
A.05	GOAL	Activity Commons	1	400	400	0		-			-
A.06	GOAL	Storage Rooms	1	100	100	5	137	685	7	137	959
A.07	**CORE**	Student Restrooms	8	150	1,200	4	163	652	4	163	652
A.08	**CORE**	Staff Restrooms	8	50	400	1	35	35	3	90	270
		Subtotals			**19,150**			**17,481**			**18,142**
		Activities Programs	Qty	Avg. Size	Total NSF	Qty	Avg. Size	Total NSF	Qty	Avg. Size	Total NSF
B.01	**CORE**	Gymnasium	1	4,500	4,500	1	4,410	4,410	1	4,410	4,410
B.09	**CORE**	Gym Storage & Supports	1	300	300	1	450	450	1	450	450
B.02	**CORE**	Music Labs	1	1,000	1,000	1	1,020	1,020	1	1,020	1,020
B.03	**CORE**	Music Lab (Band/Orch)	1	1,000	1,000	1	870	870	1	870	870
B.04	**CORE**	Art Lab	1	1,000	1,000	1	1,000	1,000	1	1,000	1,000
B.04a	**CORE**	Art Kiln, Glazing & Storage Rooms	2	150	300	1	150	150	1	150	150
B.10	GOAL	Computer Lab	0	850	-	1	540	540	1	540	540
B.11	GOAL	World Language Lab	0	850	-	1	685	685	1	685	685
B.05	**CORE**	Science Lab w/Prep Room	1	1,200	1,200	1	700	700	1	700	700
B.05a	GOAL	Additional Science Lab w/Prep Room	1	1,200	1,200	0		-	0		-
B.06	GOAL	Multi - Purpose /Project/Idea Lab	1	850	850	0		-	0	-	-
B.07	GOAL	Flex Lab	1	650	650	0		-	0		-
B.08	GOAL	Lab Storage Rooms	4	100	400	1		-	1		-
		Subtotals			**12,400**			**9,825**			**9,825**
		Special/Support Programs	Qty	Avg. Size	Total NSF	Qty	Avg. Size	Total NSF	Qty	Avg. Size	Total NSF
C.01	**CORE**	Accelerated Learning Program	1	850	850	1	700	700	1	700	700
C.02	**CORE**	Resource/Reading/Literacy/ESL	3	600	1,800	2	788	1,576	2	788	1,576
C.03	**CORE**	Special Ed Learning Studios / Resource	1	850	850	2	453	906	2	418	836
C.04	GOAL	Flex Special Programs Room	2	300	600	0		-	0		-
C.05	GOAL	Storage Room	1	100	100	0		-	0		-
C.06	**CORE**	Student Restroom/Changing	1	100	100	0		-	0		-
C.07	GOAL	Sensory Room	1	200	200	0		-	0		-
C.08	**CORE**	OT/PT	1	400	400	1	730	730	1	730	730
C.09	GOAL	Reflection/Small Group Room	1	100	100	0		-	0		-
		Subtotals			**5,000**			**3,912**			**3,842**
		Community Commons	Qty	Avg. Size	Total NSF	Qty	Avg. Size	Total NSF	Qty	Avg. Size	Total NSF
D.01	**CORE**	Library/Media Center	1	2,700	2,700	1	3,300	3,300	1	3,300	3,300
D.02	GOAL	Media Support Spaces	1	400	400	0		-	0		-
D.03	**CORE**	Commons/Large Group Instruction	1	1,000	1,000	0		-	1	1,475	1,475
D.04	**CORE**	Cafeteria/Dining	1	3,000	3,000	1	2,000	2,000	1	2,000	2,000
D.05	**CORE**	Kitchen	1	800	800	1	1,200	1,200	1	1,200	1,200
D.06	**CORE**	Performance Platform	1	1,400	1,400	1	900	900	1	900	900
D.07	GOAL	Audience Seating (shared w/adj.)	0	-	-	0		-	0		-
D.08	GOAL	Parent Center/Community Room	1	400	400	0		-	0		-
D.09	GOAL	After School Programs	1	400	400	0		-	0		-
		Subtotals			**10,100**			**7,400**			**8,875**
		Admin & Student Services	Qty	Avg. Size	Total NSF	Qty	Avg. Size	Total NSF	Qty	Avg. Size	Total NSF
E.01	GOAL	Welcome Center	1	400	400			-			-
E.02	**CORE**	Office Staff/Reception	1	200	200	1	350	350	1	500	500
E.03	**CORE**	Principal's Office	1	200	200	1	150	150	1	170	170
E.04	**CORE**	Admin Offices	3	150	450	1	300	300	2	200	400
E.05	**CORE**	Conference Room	1	300	300	1	200	200	1	385	385
E.06	GOAL	Work/Mail/Copy Room	2	250	500			-			-
E.07	**CORE**	Teacher's Lounge/Dining	1	600	600	1	360	360	1	345	345
E.08	**CORE**	Specialist Offices (Sp, Psy, Soc., etc)	4	150	600	2	120	240	2	310	620
E.09	GOAL	Small Conference Room	1	150	150			-			-
E.10	**CORE**	Nurse Suite	1	500	500	1	325	325	1	420	420
		Subtotals			**3,900**			**1,925**			**2,840**
		Building/Facilities Support	Qty	Avg. Size	Total NSF	Qty	Avg. Size	Total NSF	Qty	Avg. Size	Total NSF
F.01	**CORE**	Receiving	1	200	200			-			-
F.02	**CORE**	Storage	1	1,000	1,000	1	1,000	1,000	1	1,000	1,000
F.03	**CORE**	Custodial	2	100	200	1	415	415	1	415	415
F.04	**CORE**	Security Vestibule	1	200	200			-			-
		Subtotals			**1,600**			**1,415**			**1,415**
		NSF Total			**56,450**			**43,994**			**47,659**

Note - highlighted items in Proposed Column indicate changes included in the proposed improvements.

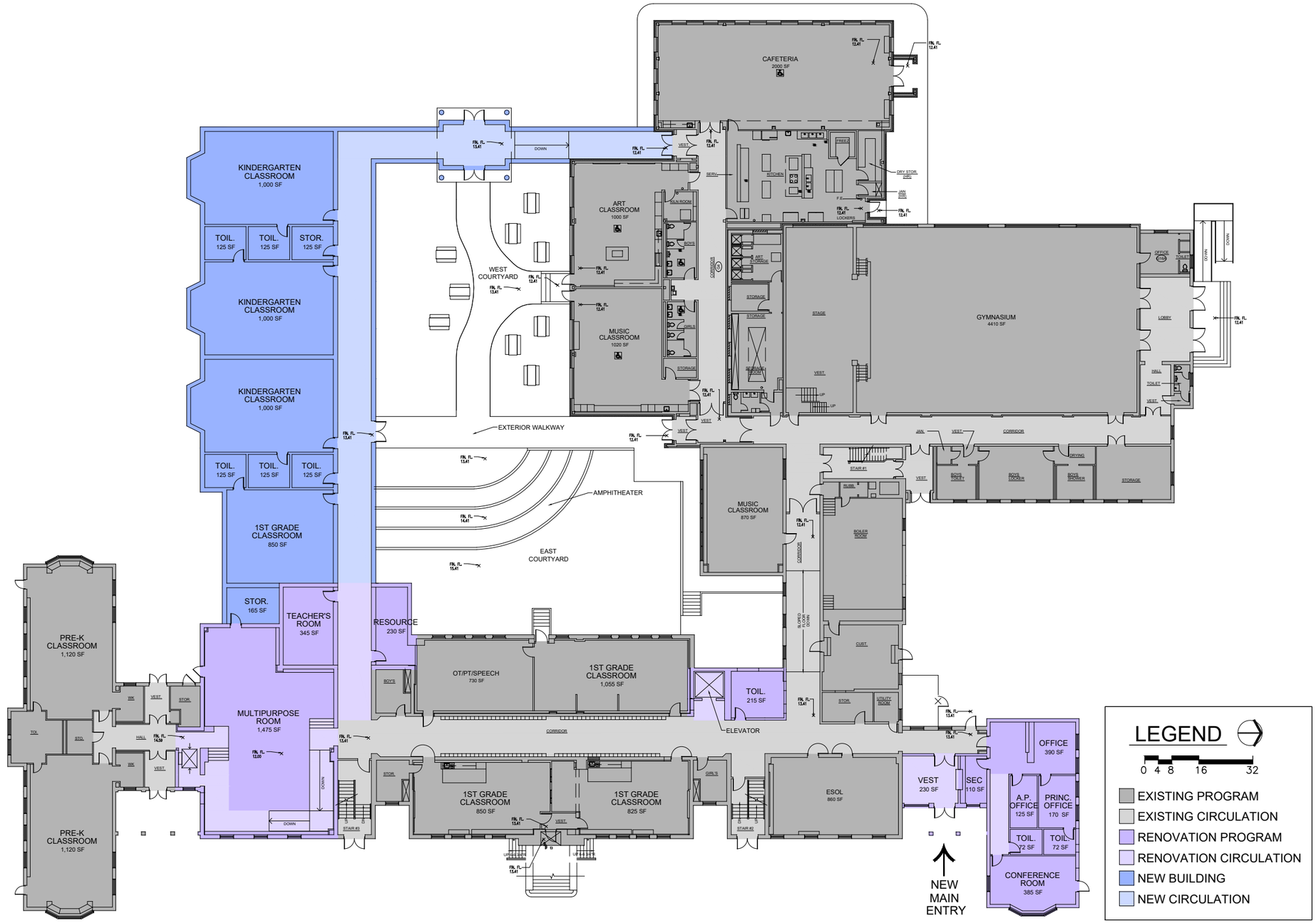


KG+D listen imagine build
Kaeyer, Garment + Davidson Architects, PC
285 Main Street, Mount Kisco, New York 10549
914.666.5900 kgdarchitects.com

OLD GREENWICH ELEMENTARY SCHOOL FEASIBILITY STUDY

PROPOSED SITE PLAN

0 8 16 32 64



Old Greenwich School

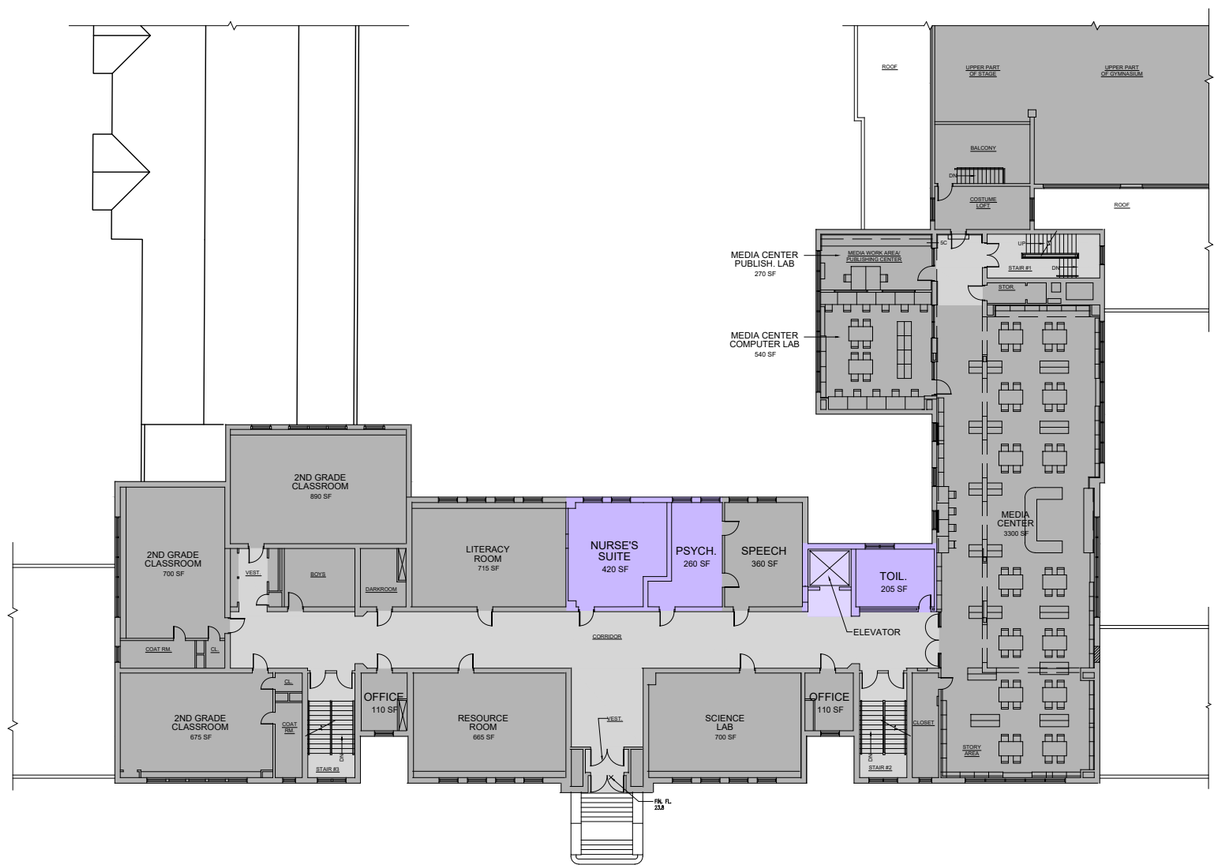
GROUND FLOOR PLAN

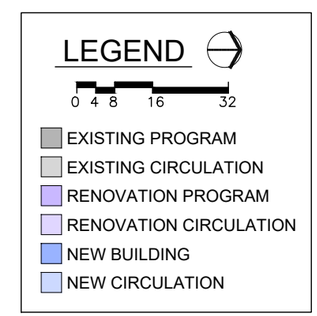
KG+D listen imagine build

Kaeyer, Garment + Davidson Architects, PC
285 Main Street, Mount Kisco, New York 10549
914.666.5900 kgdarchitects.com

OLD GREENWICH ELEMENTARY SCHOOL FEASIBILITY STUDY

PROPOSED GROUND FLOOR PLAN





Old Greenwich School

FIRST FLOOR PLAN

KG+D listen imagine build

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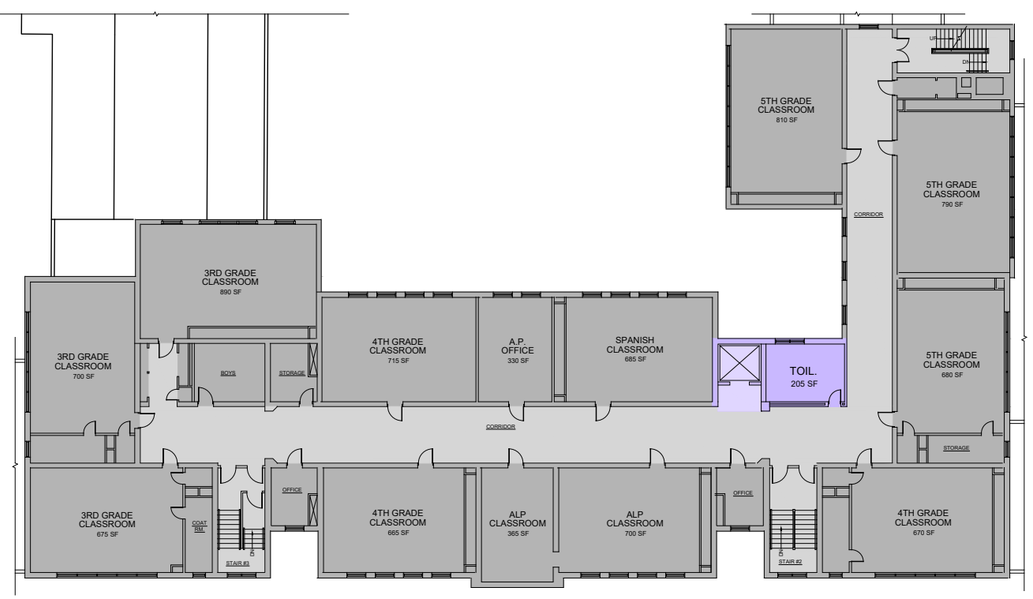
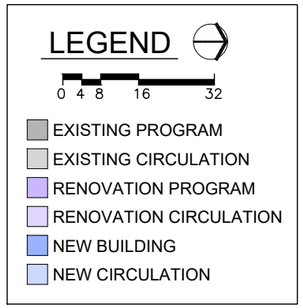
OLD GREENWICH ELEMENTARY SCHOOL FEASIBILITY STUDY

PROPOSED FIRST FLOOR PLAN





Old Greenwich School

SECOND FLOOR PLAN

KG+D listen imagine build

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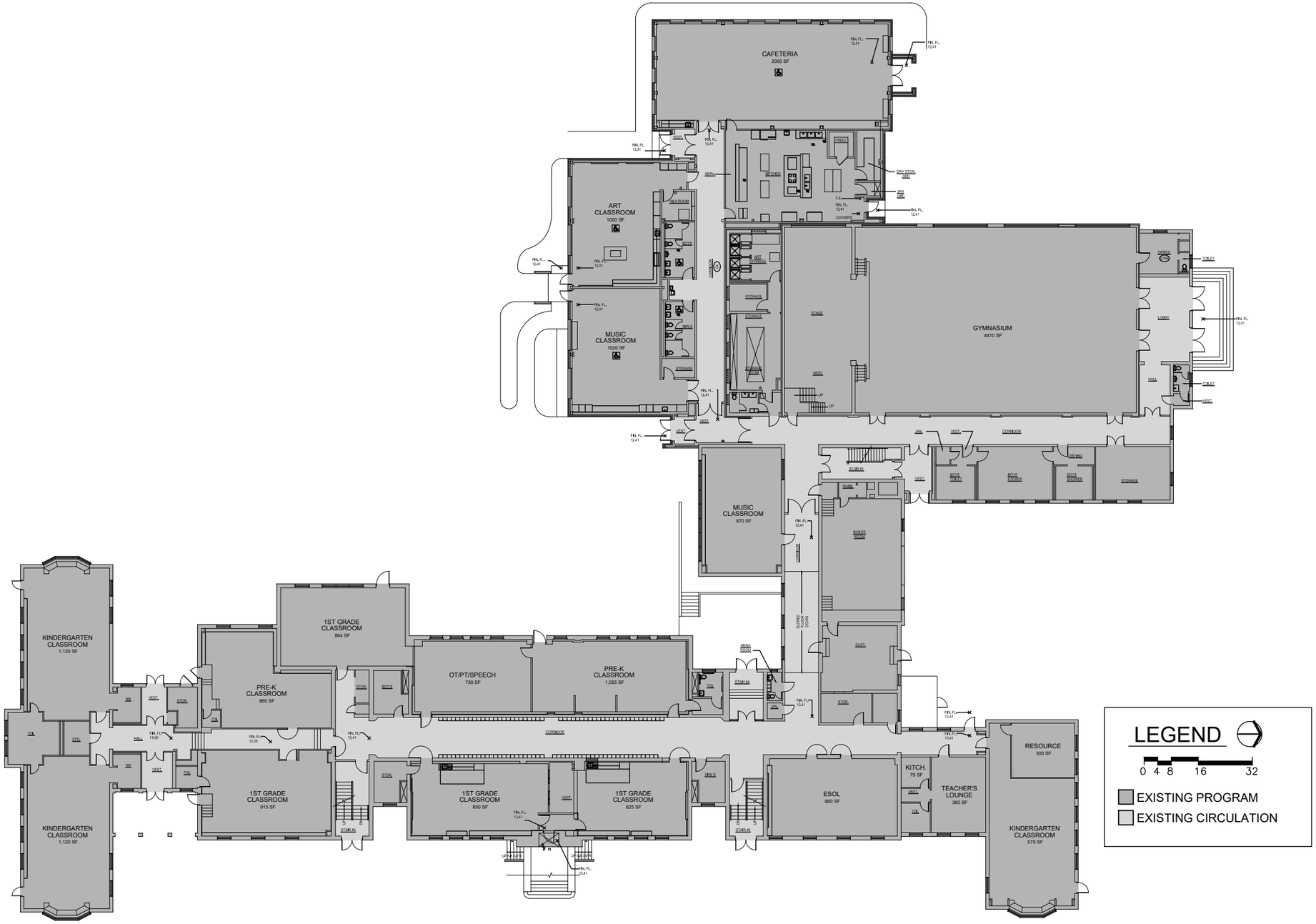
OLD GREENWICH ELEMENTARY SCHOOL
FEASIBILITY STUDY

PROPOSED SECOND FLOOR PLAN



Old Greenwich School

GROUND FLOOR PLAN

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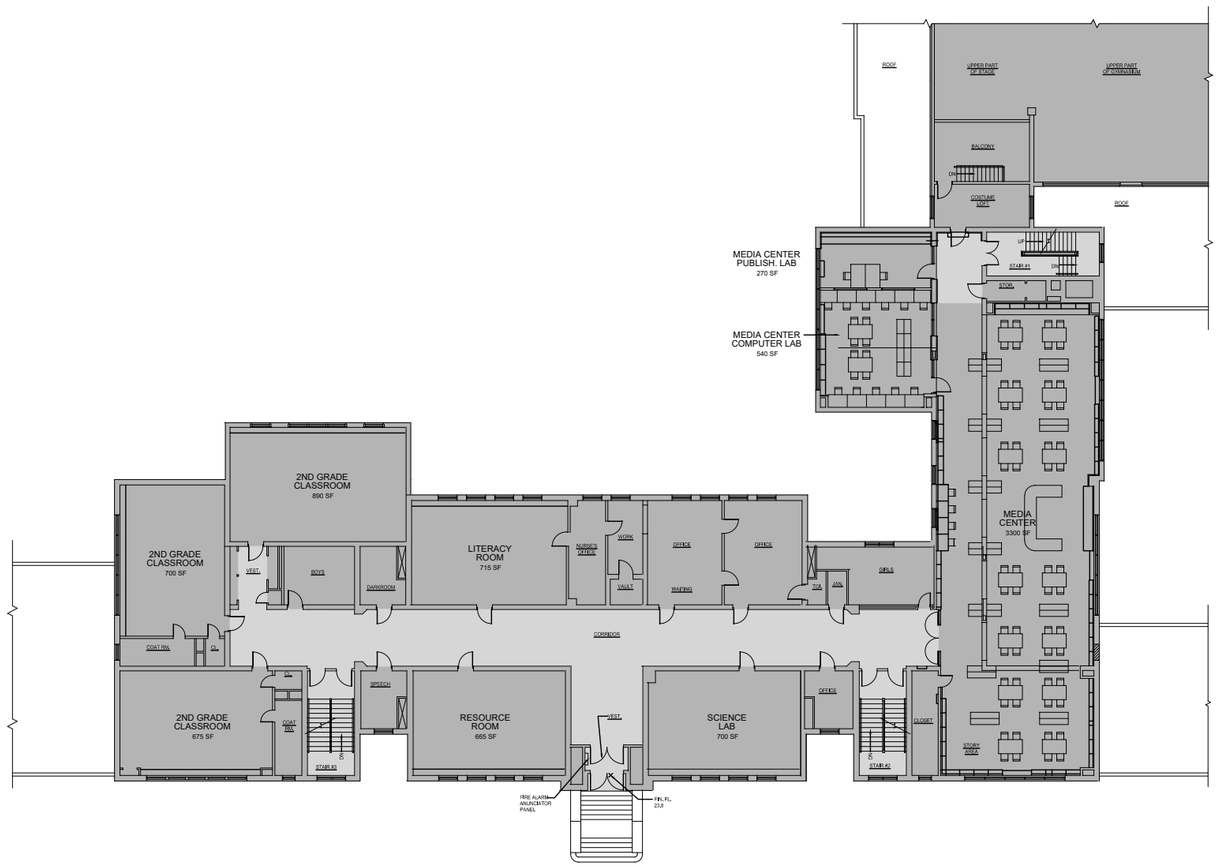
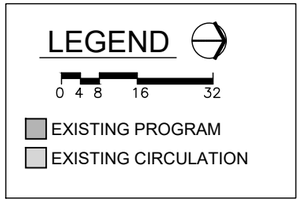
OLD GREENWICH ELEMENTARY SCHOOL FEASIBILITY STUDY

EXISTING GROUND FLOOR PLAN





Old Greenwich School

FIRST FLOOR PLAN

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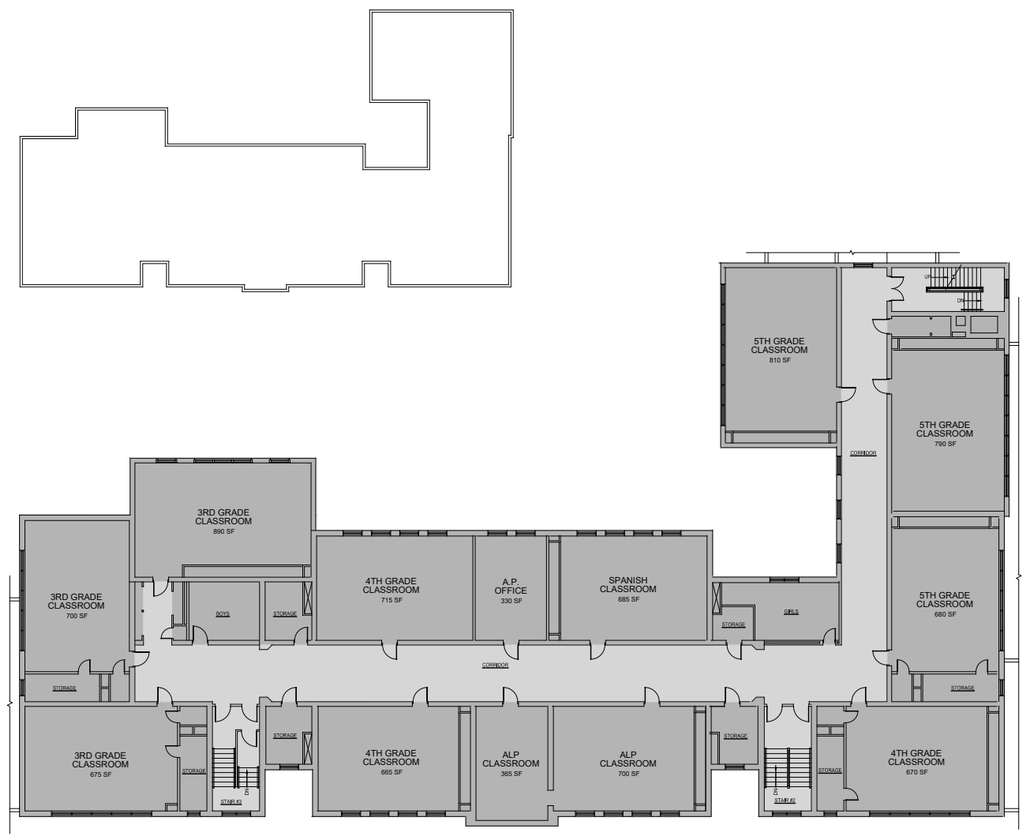
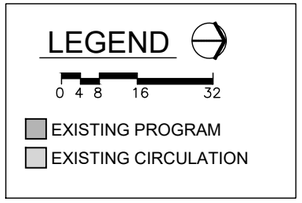
OLD GREENWICH ELEMENTARY SCHOOL FEASIBILITY STUDY

PROPOSED FIRST FLOOR PLAN





Old Greenwich School
SECOND FLOOR PLAN

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OLD GREENWICH ELEMENTARY SCHOOL
FEASIBILITY STUDY

PROPOSED SECOND FLOOR PLAN

12/14/2020

Greenwich Public Schools

Old Greenwich Elementary School - Feasibility Study

Conceptual Budget Development

	2018 Master Plan	**2020 Study**	
Site Development	$ 3,025,309	$ 1,700,000	
New Construction	$ 10,700,000	$ 6,900,000	
Renovation	$ 9,060,903	$ 2,900,000	
Infrastructure	$ 15,848,542	$ 13,000,000	
Subtotal	$ 38,634,754	$ 24,500,000	
*Feasibility Study Options include estimated cost escalation to 2024			

12/14/2020

Old Greenwich Feasibility Study
Budget Development
New Construction and Renovation

Item	Quantity	Unit	Unit Price	Subtotal
New Construction				
Four Classroom Addition	9,630	GSF	$ 475	$ 4,574,250
Furniture Allowance	4	rooms	$ 35,000	$ 140,000
Construction Subtotal				$ 4,714,250
Cost Escalation	4	years	3%	$ 565,710
Contingency			10%	$ 527,996
Project Costs			18%	$ 1,045,432
Project Total				$ 6,853,388
Renovation				
Convert Classrooms to MP Room	2,500	NSF	$ 250	$ 625,000
Renovate for Elevator access @ 1st Flo	200	NSF	$ 250	$ 50,000
Renovate for Elevator access @ 2nd Fl	820	NSF	$ 250	$ 205,000
Renovate Nurse's area & Psychologist	800	NSF	$ 250	$ 200,000
New HC lift	1	allow	$ 40,000	$ 40,000
Furniture Allowance	1	rooms	$ 65,000	$ 65,000
Construction Subtotal				$ 1,185,000
Cost Escalation	4	years	3%	$ 142,200
Contingency			10%	$ 132,720
Project Costs			18%	$ 262,786
Project Total				$ 1,722,706
Convert Classroom to Main Office				
First Floor Renovations to create entry	2,300	NSF	$ 250	$ 575,000
New Elevator	3	stop	$ 30,000	$ 90,000
Renovate Ground Floor Toilet Room	224	NSF	$ 300	$ 67,200
Furniture Allowance	1	allow	$ 75,000	$ 75,000
Construction Subtotal				$ 807,200
Cost Escalation	4	years	3%	$ 96,864
Contingency			10%	$ 90,406
Project Costs			18%	$ 179,005
Project Total				$ 1,173,475
			Renovation Subtotal	$ 2,896,181

12/14/2020

Old Greenwich Elementary School

Site work budget

Item	Quantity	Unit	Unit Price	Subtotal
New Front Entrance				
Paving	2,000	sf	$ 30	$ 60,000
Landscaping	1	allow	$ 75,000	$ 75,000
Construction Subtotal				$ 135,000
Cost Escalation	4	years	3%	$ 16,200
Contingency			10%	$ 15,120
Project Costs			18%	$ 29,938
Project Total				$ 196,258
Relocate Playground for Additions				
Demolition	1	allow	$ 75,000	$ 75,000
New Play Surfaces	8,000	GSF	$ 40	$ 320,000
New Play Equipment	1	allow	$ 130,000	$ 130,000
Landscaping	1	allow	$ 125,000	$ 125,000
Construction Subtotal				$ 650,000
Cost Escalation	4	years	3%	$ 78,000
Contingency			10%	$ 72,800
Project Costs			18%	$ 144,144
Project Total				$ 944,944
Courtyard Improvements				
Demolition	1	allow	$ 50,000	$ 50,000
Paving	4,000	NSF	$ 30	$ 120,000
Landscaping	1	allow	$ 65,000	$ 65,000
Walls	350	lft	$ 400	$ 140,000
Construction Subtotal				$ 375,000
Cost Escalation	4	years	3%	$ 45,000
Contingency			10%	$ 42,000
Project Costs			18%	$ 83,160
Project Total				$ 545,160
				$ 1,686,362

12/14/2020

Old Greenwich Elementary School Feasibility Study
Budget Development
Infrastructure Summary

		Must
Accessibility	$ 159,914	$ 159,914
Boiler	$ 666,258	
Casework	$ 205,271	$ 205,271
Communications	$ 174,451	$ 174,451
Envelope	$ 2,276,879	$ 2,276,879
Fire Alarm	$ 218,064	$ 218,064
Fire Protection	$ 1,056,151	$ 1,056,151
Furniture	$ 1,511,910	
Generator	$ 363,440	$ 363,440
GYM HVAC	$ 356,171	$ 356,171
HVAC	$ 4,503,810	$ 4,503,810
Interior Updates	$ 587,681	$ 587,681
Lighting	$ 1,129,451	$ 1,129,451
Plumbing	$ 557,044	$ 557,044
Roof	$ 1,362,900	$ 1,362,900
Site	$ 911,100	
		$ 12,951,227

Old Greenwich Elementary School
Infrastructure Breakdown from Master Plan

					Trade Cost	Total Project Cost	
north side/student drop off	replace granite steps with new entry design with	1	allowance	$75,000.00	$75,000	$109,032.00	Accessibility
Gym/Stage	Install ADA Lift	1	each	$35,000.00	$35,000	$50,881.60	
						$159,913.60	
New Wing Hall	Abatement - Boiler Room (Facilities)	1	allowance	$250,000.00	$250,000	$363,440.00	Boiler
Fuel Oil System	Fuel Oil System demolition	1	LS	$10,000.00	$10,000	$14,537.60	Boiler
Boilers	Boiler demolition	2	EA	$7,500.00	$15,000	$21,806.40	Boiler
HW Heating Pumps	Heating Pump demolition	2	EA	$650.00	$1,300	$1,889.89	Boiler
Boilers	Installation of new 2,000 MBH Gas Boiler - Condensing	2	EA	$75,000.00	$150,000	$218,064.00	Boiler
HW Heating Pumps	Installation of new HW Heating Pumps - 7.5 HP Basemou	2	EA	$16,000.00	$32,000	$46,520.32	Boiler
						$666,258.21	
PK-K Classrooms	Replace lockers in PK-K Classrooms	1	allowance	$35,000.00	$35,000	$50,881.60	Casework
Cafeteria	Replace Cabinets	9	lf	$600.00	$5,400	$7,850.30	Casework
Classrooms	Replace Cabinets	168	lf	$600.00	$100,800	$146,539.01	Casework
						$205,270.91	
PA/Comm Systems	Replace existing PA system and master clock systems	1	allowance	$120,000.00	$120,000	**$174,451.20**	Communications
Bldg Exterior	Repair Parge Foundation	350	sf	$20.00	$7,000	$10,176.32	Envelope
Bldg Exterior	Replace Window lintels	150	lf	$400.00	$60,000	$87,225.60	Envelope
Bldg Exterior	Replace Leaders	500	lf	$15.00	$7,500	$10,903.20	Envelope
Bldg Exterior	Replace UV Grilles	1	allowance	$5,000.00	$5,000	$7,268.80	Envelope
Bldg Exterior	Minor repairs to cornice and paint	350	lf	$60.00	$21,000	$30,528.96	Envelope
Bldg Exterior	Exterior Building Painting (Facilities)	1	allowance	$50,000.00	$50,000	$72,688.00	Envelope
Lobby	Install New Exterior Doors	4	each	$4,800.00	$19,200	$27,912.19	Envelope
front entry stair	replace railing	70	lf	$360.00	$25,200	$36,634.75	Envelope
Bidg Exterior	Replace Windows with new	7,836	sf	$175.00	$1,371,300	$1,993,541.09	Envelope
						$2,276,878.91	
Fire Alarm & Smoke Detection	Replace fire alarm system - 100 detectors and wiring incl	1	allowance	$150,000.00	$150,000	**$218,064.00**	Fire Alarm
New Fire Protection water serv	New Fire Protection water service	1	LS	$25,000.00	$25,000	$36,344.00	Fire Protection
Full Building Sprinkler System	Full Building Sprinkler System	75,187	SF	$8.00	$601,496	$874,430.82	Fire Protection
New Fire Pump	New Fire Pump	1	LS	$100,000.00	$100,000	$145,376.00	Fire Protection
						$1,056,150.82	
Classrooms	Update Classroom Furniture	26	each	$40,000.00	$1,040,000	**$1,511,910.40**	Furniture
Emergency/Standby Power	Provide new 750kW diesel generator and tarnsfer switch	1	allowance	$250,000.00	$250,000	**$363,440.00**	Generator
Gym and Stage	Gym and stage HVAC unit demolition	1	each	$5,000.00	$5,000	$7,268.80	Gym HVAC
Gymnasium & Stage	New HVAC system @ $40 / SF	6,000	SF	$40.00	$240,000	$348,902.40	Gym HVAC
						$356,171.20	
General Building	construction of new electrical equipment room (required f	1	allowance	$150,000.00	$150,000	$218,064.00	HVAC
General Building	Architectural work related to HVAC Improvements	1	allowance	$450,000.00	$450,000	$654,192.00	HVAC
Classrooms	Interior wall patching and casework related to UV replace	33	each	$2,000.00	$66,000	$95,948.16	HVAC
General	Ceiling repairs and patching at valve replacements	1	allowance	$12,000.00	$12,000	$17,445.12	HVAC
Interior Electric Distribution	Upgrade to 2000A switchgear new distribution & panelbo	1	allowance	$134,475.00	$134,475	$195,494.38	HVAC
Unit Ventilator demo	Unit Ventilator demo	33	each	$1,200.00	$39,600	$57,568.90	HVAC
Kitchen Makeup Air demolition	Kitchen Makeup Air demolition	1	each	$1,000.00	$1,000	$1,453.76	HVAC
Kitchen makeup air unit	Kitchen makeup air unit	1	each	$18,000.00	$18,000	$26,167.68	HVAC
New rooftop exhaust fans	New rooftop exhaust fans	15	each	$3,500.00	$52,500	$76,322.40	HVAC
Kitchen Make-Up Air Unit	Kitchen Make-Up Air Unit	1	EA	$18,000.00	$18,000	$26,167.68	HVAC
Rooftop Exhaust Fans	Rooftop Exhaust Fans	15	EA	$3,500.00	$52,500	$76,322.40	HVAC
Classrooms	VRF @ $12k / Ton	33	EA	$36,000.00	$1,188,000	$1,727,066.88	HVAC
Corridors	New HVAC system @ $40 / SF	10,000	SF	$40.00	$400,000	$581,504.00	HVAC
Cafeteria	New HVAC system @ $40 / SF	2,200	SF	$40.00	$88,000	$127,930.88	HVAC
Kitchen	New HVAC system @ $40 / SF	1,300	SF	$40.00	$52,000	$75,595.52	HVAC
Media / Story Area	New HVAC system @ $40 / SF	3,500	SF	$40.00	$140,000	$203,526.40	HVAC
Media / Computer Lab	New HVAC system @ $40 / SF	1,200	SF	$40.00	$48,000	$69,780.48	HVAC
HVAC Controls	HVAC Controls	75,187	SF	$2.50	$187,968	$273,259.63	HVAC
						$4,503,810.26	
Gymnasium	Replace gymnasium floor	4,590	sf	$25.00	$114,750	$166,818.96	Interior Update
New Wing Hall	Replace Tiling - New Wing Hall (CIP)	1	allowance	$75,000.00	$75,000	$109,032.00	Interior Update
Cafeteria/Corridor	Repair Damaged Wall Tile	75	sf	$35.00	$2,625	$3,816.12	Interior Update
Classrooms	Replace VCT Flooring	40,000	sf	$4.25	$170,000	$247,139.20	Interior Update

Cafeteria	Replace VCT Flooring	2,320	sf	$4.25	$9,860	$14,334.07	Interior Update
Art room	Replace VCT Flooring	940	sf	$4.25	$3,995	$5,807.77	Interior Update
Music Room	Install New Carpet	1,018	sf	$6.25	$6,363	$9,249.55	Interior Update
Media Room	Install New Carpet	3,465	sf	$6.25	$21,656	$31,482.99	Interior Update
						$587,680.66	
Entire Building	Replace Ceilings as part of light fixture replacement	1	allowance	$50,000.00	$50,000	$72,688.00	Lighting
Lighting Fixtures	Remove and replace all light fixtures with new LED	75,187	sf	$7.20	$541,346	$786,987.74	Lighting
Lighting Controls	New Lighting Controls. Cost based on RS Means Costworks Assembly Costs 2017 - D5020 295 1000, $1.43/sqft for Lighting On/Off Control System including occupancy and time switching, and conduit and wire.	75,187	SF		$134,397	$195,380.64	Lighting
Emergency/Exit Lighting	Cost taken from RS Means Costworks 2017 Square Footage Model for School in CT at $605 each.	68	EA	$605.00	$51,174	$74,394.94	Lighting
						$1,129,451.31	
General Building	Lead free valves at fixtures	145	each	$125.00	$18,125	$26,349.40	Plumbing Upgrades
General Building	Lead free valves at general locations	30	each	$175.00	$5,250	$7,632.24	Plumbing Upgrades
General Building	Sump Pump demo	2	each	$550.00	$1,100	$1,599.14	Plumbing Upgrades
General Building	Installation of new sump pumps	2	each	$3,000.00	$6,000	$8,722.56	Plumbing Upgrades
General Building	Hot water heater demo	2	each	$300.00	$600	$872.26	Plumbing Upgrades
General Building	Circulating pump demo	1	each	$500.00	$500	$726.88	Plumbing Upgrades
General Building	Installation of new hot water heaters	2	each	$18,000.00	$36,000	$52,335.36	Plumbing Upgrades
General Building	Installation of new circulating pump	1	each	$3,000.00	$3,000	$4,361.28	Plumbing Upgrades
Corridor	Install New Water Fountains	3	each	$5,700.00	$17,100	$24,859.30	Plumbing Upgrades
General Building	Plumbing Fixture demo	105	each	$300.00	$31,500	$45,793.44	Plumbing Upgrades
General Building	Installation of new toilets	53	EA	$3,500.00	$185,500	$269,672.48	Plumbing Upgrades
General Building	Installation of new urinals	8	EA	$2,000.00	$16,000	$23,260.16	Plumbing Upgrades
General Building	Installation of new lavatories	30	EA	$1,500.00	$45,000	$65,419.20	Plumbing Upgrades
General Building	Installation of new sinks	10	EA	$1,750.00	$17,500	$25,440.80	Plumbing Upgrades
						$557,044.49	
Roof	New Section Roof (CIP)	1	allowance	$160,000.00	$160,000	$232,601.60	Roof
Roof	Roof Replacement - LESS $160000 CIP	13,100	sf	$25.00	$167,500	$243,504.80	Roof
Roof	Roof Replacement - Gym (CIP)	1	allowance	$400,000.00	$400,000	$581,504.00	Roof
Roof	Upcoming Roof Replacement	8,400	sf	$25.00	$210,000	$305,289.60	Roof
						$1,362,900.00	
Demolition of UG Fuel Tank	Doubled pricing from Durst for smaller tank removal (DUF	1	allowance	$10,000.00	$10,000	$14,537.60	Site
Site Electrical	Cost includes excavation, backfill and compaction. Includes service feeders and conduit for 2000 Amps upgrade, taken from Costworks 2017 D5010130 underground electric service. Included temp generator at $10,000.	1	EA		$94,600	$137,525.70	Site
general site	add walkway lighting	12	each	$3,000.00	$36,000	$52,335.36	Site
general site	replace bollards	14	each	$1,500.00	$21,000	$30,528.96	Site
front of school	replace school billboard/sign on sound beach drive	1	allowance	$50,000.00	$50,000	$72,688.00	Site
north side/student drop off	add entry canopy	1	allowance	$60,000.00	$60,000	$87,225.60	Site
rear of building	replacement of basketball hoops and other equipment	1	allowance	$25,000.00	$25,000	$36,344.00	Site
general site	tree removal and trimming	1	allowance	$20,000.00	$20,000	$29,075.20	Site
south side of school	formalize landscape garden	1	allowance	$25,000.00	$25,000	$36,344.00	Site
general field	replace batting cage on softball field	1	allowance	$20,000.00	$20,000	$29,075.20	Site
playground fencing	provide new 4' chain link security fence at playground w/ 2 gates	300	lf	$150.00	$45,000	$65,419.20	Site
general site	replace existing chain link fence with new 6' high	975	lf	$100.00	$97,500	$141,741.60	Site
Rear of building	replace railings on steps and landing	67	lf	$360.00	$24,120	$35,064.69	Site
Rear of building	Masonry/concrete repair at rear entry (Facilities)	1	allowance	$25,000.00	$25,000	$36,344.00	Site
front entry stair	repair existing concrete stair and install stone treads and	500	sf	$75.00	$37,500	$54,516.00	Site
front entry stair	masonry cleaning and repointing	1	allowance	$20,000.00	$20,000	$29,075.20	Site
area near ball field	replace asphalt walk with concrete walk (5' wide)	800	sf	$20.00	$16,000	$23,260.16	Site
						$911,100.47	

Site Utilities:

Site Water
N/A.

Site Sanitary
N/A.

Site Gas
The school is provided with a single gas service that splits to two (2) gas meters and regulators at the exterior of the building.

Site Fuel Oil
The existing fuel oil system at the building has been partially demolished and abandoned in place. An underground fuel oil tank outside of the Boiler Room has been abandoned in place including the underground fuel oil supply and return piping to the boiler. It is recommended the abandoned fuel oil system be removed completely. It should be confirmed that the decommissioning of the underground fuel tank was done in the correct manner and all testing, local, state, and federal agency sign-offs were obtained.

Site Electrical
The electrical service for this school originates at a utility pole located at the northeast end of the property. The service is routed underground to a utility transformer located at the north end of the property where the voltage is stepped down to 208Y/120V, 3phase, 4 wire, and routed to a 1200 amp main service switch located in the utility room in the northeast corner of the building. The electrical service appears to be original and has not been upgraded recently. There will be a need for an electrical service upgrade to 2000 amps in the next 5 years due to the addition of AC for the entire school.

Site Storm Water
N/A.

Electrical/Fire Alarm/Lighting:

Interior Electric Distribution
The electrical distribution inside the school originates in the utility room in the northeast corner of the building where it is metered. The main switch is also located in this room and is rated for 1200 Amps at 208Y/120V, 3 phase, 4 wire. It then feeds the main distribution equipment which is located in the custodian's office adjacent to the utility room. The main distribution equipment should not be in a room shared with the custodians office. There is currently some electrical circuit capacity in the main electrical equipment of the school. The distribution throughout the school consists of

mainly ITE/Siemens equipment which appears to be over 30 years old and should be replaced to support additional loads. It is recommended that the service equipment is upgraded to 2000 amps and a new 800 amp panel is added for air conditioning in the next 5 years. It is also recommended that (4) 225 amp electrical panels are added throughout the school for circuit capacity for new technology.

Lighting Fixtures

The lighting fixtures throughout the school consists of mainly 2'x4' and 2'x2' fluorescent fixtures which would not be considered energy efficient by today's standards. The lighting fixtures should be replaced throughout the school with energy efficient LED lighting fixtures in the next 5 years. The exterior lights appear to be HID. They should also be replaced with LED fixtures in the next 5 years. Consideration should be given to installing energy efficient automatic controls such as occupancy and vacancy sensors throughout the building, with programmable time-based controls for exterior lighting within the next 5 years.

PA/Communications

The Public Address System is a TOA (TOA Electronics Inc.) 700 series amplifier system, model A-724 and is approximately 20 years old and functioning. There are no current issues. The system should be replaced in the next 5-15 years with new technology and when additional expansion is required.

The communications DATA/IT systems have been kept up to date but require regular maintenance and up keeping. New capacity is required as technology improves.

Fire Alarm and Smoke Detection

The current fire alarm system consists of a Notifier AFP-400 intelligent fire detection system with voice evacuation and is currently serviced by United Alarm Services, Inc.. There is full smoke detection coverage throughout the school. The system is approximately 20 years old and will need to be replaced within 5 years based on new technology and expansion of the system. Strobes should be added in classrooms to meet current code requirements.

Emergency and Exit Lighting

The emergency lighting is currently functioning. The exit lights appear to have fluorescent or incandescent lamps. The emergency and exit lights should be replaced with energy efficient LED fixtures throughout the school in the next 5 years.

Emergency/Standby Power

There is currently no emergency generator system for this building. A new generator is recommended to be installed for back-up power during utility outages to power entire facility in the next 5-15 years.

Plumbing:

Water Distribution
A 3-inch domestic water service enters the Boiler Room and is provided with a main house control valve, water meter, pressure reducing valve, and a reduced pressure zone (RPZ) backflow preventer. Pressure was observed at approximately 65 psi downstream of the RPZ. The RPZ catastrophic discharge drain terminates into an adjacent duplex sump pump pit. It is recommended the RPZ drain terminate above grade or into a gravity drainage system. If the drain must require a pumped discharge, it is recommended the respective pumps be provided with back-up power. Domestic water is distributed throughout the building through copper piping and utilizes the municipal water pressure. Domestic cold, hot, and hot water recirculation water piping is generally routed above ceilings with local branch piping dropping down within walls to serve fixtures. It is recommended all branch mains and branch piping serving individual fixtures be provided with lead-free ball shut-off valves.

A 1-inch RPZ is located within the Boiler Room for make-up water to the boiler system. The device was observed to have been last tested on July 27, 2016. The RPZ catastrophic discharge drain terminates into an adjacent duplex sump pump pit. It is recommended the RPZ drain terminate above grade or into a gravity drainage system. If the drain must require a pumped discharge, it is recommended the respective pumps be provided with back-up power.

Sanitary Drainage
The school sanitary main exits the building below grade. The sanitary mains exits through a pit below slab with a house-trap. Immediately exterior to the house trap is an underground pit with a check-valve installed on the sanitary main. It was brought to our attention that during periods of high tide and severe rainfalls, the building is subject to backups within the sanitary system and includes overflow and backup of the main house-trap and individual plumbing fixtures throughout the building. It was noted that additional sump pumps and generators are provided on-site during times of anticipated heavy rainfall and/or high tides. It is recommended the main sanitary system be snaked and/or scoped to confirm it is clear of any obstructions or blockages within the piping. Additional permanent sump pumps are recommended to be installed to assist in the remediation of flood waters and back-ups to the building. We recommend a review be performed by a Site Engineer to determine the exact cause of the back-ups into the sanitary piping within the building. Sanitary piping within the building consists of cast-iron hub-less piping.

A duplex sump pump and pit is located within the Boiler Room. It was undetermined at the time of our visit where the discharge of this pump terminates.

Storm Drainage
The school is provided with exterior gutters and leaders at the pitched roof areas. The leaders are routed below grade to an underground storm water main. It was not determined where this main terminates. Roof drains are provided at the flat roofs with internal storm drain piping routed down through the school and out below the building.

Hot Water Heaters
The school is provided domestic hot water through two (2) AO Smith gas-fired hot water heaters. The heaters are approximately 2 years old and appear to be in good condition. Expansion tanks are located at the floor adjacent to each hot water heater. It is recommended the expansion tanks be located up on a 4" curb for protection from water infiltration into the Boiler Room.

Plumbing Fixtures
The observed plumbing fixtures are of the non-water conserving type. The fixtures are generally in good condition. It is recommended plumbing fixtures be replaced and updated with new water-conserving type fixtures.

Gas
Gas is routed to the Boiler Room from the two (2) exterior gas meters. Gas piping is distributed within the Boiler Room to the two (2) boilers and two (2) domestic hot water heaters. Gas is distributed through the school to the Kitchen for cooking equipment.

Fuel Oil
The existing fuel oil system within the school has been partially demolished and abandoned in place. The fuel oil transfer pump and associated fuel oil supply and return piping within the Boiler Room has been abandoned in place. Fuel oil piping to the boiler burners has been partially demolished, capped, and abandoned in place. We recommend removal of all abandoned fuel oil equipment and piping.

Swimming Pool
N/A.

HVAC Systems:

Heating Systems
The original steam heating plant has been demolished with portions of steam heating elements remaining abandoned within the building. The existing heating system consists of two (2) HB Smith model 28A-10 sectional cast-iron hot water boilers with dual fuel burners. Each boiler has a rated gas input of 3,172 MBH. The oil piping to the burners has been cut, capped, and abandoned in place. We recommend removal of all abandoned fuel oil equipment and piping. The main boiler flue was observed to be installed with a Tjernlund assistance fan to modulate exhaust of the boilers through varying loads on the boilers. Two (2) B&G in-line primary pumps provide circulation through the boilers and two (2) B&G end-suction floor mounted secondary hot water circulating pumps provide hot water throughout the building. The secondary pumps are provided with VFD's for modulation with building heating demands. The system includes an expansion tank and in-line air separator located within the Boiler Room. The boilers and hot water pumps are approximately 10 years old and observed to be in good condition with no known problems. We recommended yearly preventative maintenance on the boiler system and associated equipment to maximize the life expectancy of the equipment. Combustion air is provided through ducts from the exterior to the boiler room.

Deleted: It is recommended the size of the ducts be confirmed to provide the required combustion air based on the installed gas-fired equipment within the Boiler Room.

Corridors throughout the building were observed with surface mounted hot water fin tube radiators (FTR) along the perimeter walls. The newer FTR enclosure have been installed over the original recessed steam heating coils within the wall construction. It is recommended the steam heating elements and associated piping be removed and new FTR located within the wall cavity; providing additional usable square footage within the Corridors.

Classrooms, offices, and common spaces throughout the school are provided with hot water fin-tube radiators along the perimeter walls to provide heating to the space. The overall condition of this system is good.

Ventilation Systems

The school is provided with ventilation through various systems and equipment located throughout the building. Common areas, corridors, classrooms, and offices are provided with unit ventilators or fan coil units with a variety of 2-pipe and 4-pipe units. Hot water is routed to the hot water coil at each unit. The 4-pipe units chilled water coils are currently not utilized. Ventilation to the spaces is provided by louvers through the exterior walls with outside air ducted to the unit ventilators and fan coil units. The unit ventilators and fan coil units are approximately 40 years old and have exceeded their useful life expectancy. It is recommended new energy efficient heating and ventilating equipment be installed to serve the spaces.

The kitchen is provided with a dedicated make-up air unit and kitchen exhaust hood fan located at the flat roof. The Reznor gas-fired rooftop unit is in fair condition and appears to be approaching its useful life expectancy. It is recommended this unit be replaced in the near future with a more efficient unit. The Greenheck kitchen exhaust fan is in fair condition. . We would recommend replacement of the kitchen exhaust fan at the same time the make-up air unit is replaced.

General exhaust fans and toilet exhaust fans are located throughout the school at the roof to provide exhaust from the spaces. The general condition of the fans are fair. It is recommended old fans be replaced with new, more efficient fans.

The Cafeteria is provided with ventilation through McQuay air-handling unit (AHU). The AHU is provided with a hot-water heating coil and outside air from an exterior louver. The AHU is in fair condition and approximately 15 years old. Consideration should be given to replacing this equipment with new energy efficient equipment.

The Gymnasium is provided with ventilation through a Trane AHU with a duct mounted hot water heating coil. Outside air is provided from an exterior louver. The AHU is approximately 45 years old and has exceeded its useful life expectancy. It is recommended a new energy efficient air-handling unit be installed to provide ventilation and heating to the gymnasium.

Air Conditioning Systems

The Classrooms are currently provided air conditioning with thru-window air conditioning units. The age of these units varies. It is recommended these units be removed and new energy efficient air conditioning equipment with energy recovery be installed to serve the Classrooms.

The Main Offices are provided with split system air conditioning units located throughout the offices. The outdoor condenser is supported from the exterior wall at the second level and was unable to be observed. The system is approximately 3-4 years old.

The Music Room and Art Room are provided with air conditioning with indoor air handling units above the ceiling. The outdoor Lennox condensers are located on the flat roof and supported on lengths of 4x4 wood lumber. The systems are approximately 20 years old and have exceeded their useful life expectancy. It is recommended new energy efficient air conditioning equipment with energy recovery be installed to serve these areas.

HVAC Controls
The school is currently provided with an Automatic Logic BMS system and a variety of Andover and Siemens control devices throughout the building. It was not confirmed as to the extent of equipment and systems throughout the building that are connected and controlled through the existing BMS. Portions of the abandoned pneumatic control system were observed throughout the building, including the main compressor within the Boiler Room. It is recommended the pneumatic system and associated tubing and devices be removed completely. Any equipment that is replaced should be provided with DDC controls such that the Automatic Logic system can communicate with the new equipment. We also recommend upgrading the controls system to include full graphics, trending, and alarms to assist Building Personnel with monitoring energy use and with maintenance.

Fire Protection:

Fire Water Service
The existing building is not provided with an existing water service for Fire Protection systems. We recommend a new fire protection water service and applicable backflow preventor equipment be installed for sprinklering of the full building.

Fire Protection Systems
Sprinkler heads, totaling less than ten (10) heads were observed within a storage room and within the Kitchen. The sprinkler heads are connected to the domestic water system within the building. We recommend these sprinkler heads be removed from the domestic system. We recommend the entire school be provided with an automatic sprinkler system for full sprinkler coverage within the building. Occupied and conditioned spaces should be provided with wet-sprinkler systems. Unoccupied and unconditioned spaces should be provided with dry-sprinkler systems.

Fire Pump

Pending hydrant flow tests to provide data of available water pressure and flow to the building, a Fire Pump has been assumed as being required to provide sufficient pressure and flow to the proposed sprinkler system throughout the building.

OLD GREENWICH SCHOOL

The Old Greenwich School has fifteen different sections of flat and sloped roof, that vary in height from one to three stories. The total roof area is approximately 56,400 square feet.

Approximately 34,500 square feet of roof area is covered with architectural style asphalt shingles. There are a few missing shingles that should be replaced immediately, but the shingles are in generally good condition.

Approximately 13,100 square feet of roof area is covered with older 3-tab asphalt shingles. These shingles are in fair to poor condition, and need replacing.

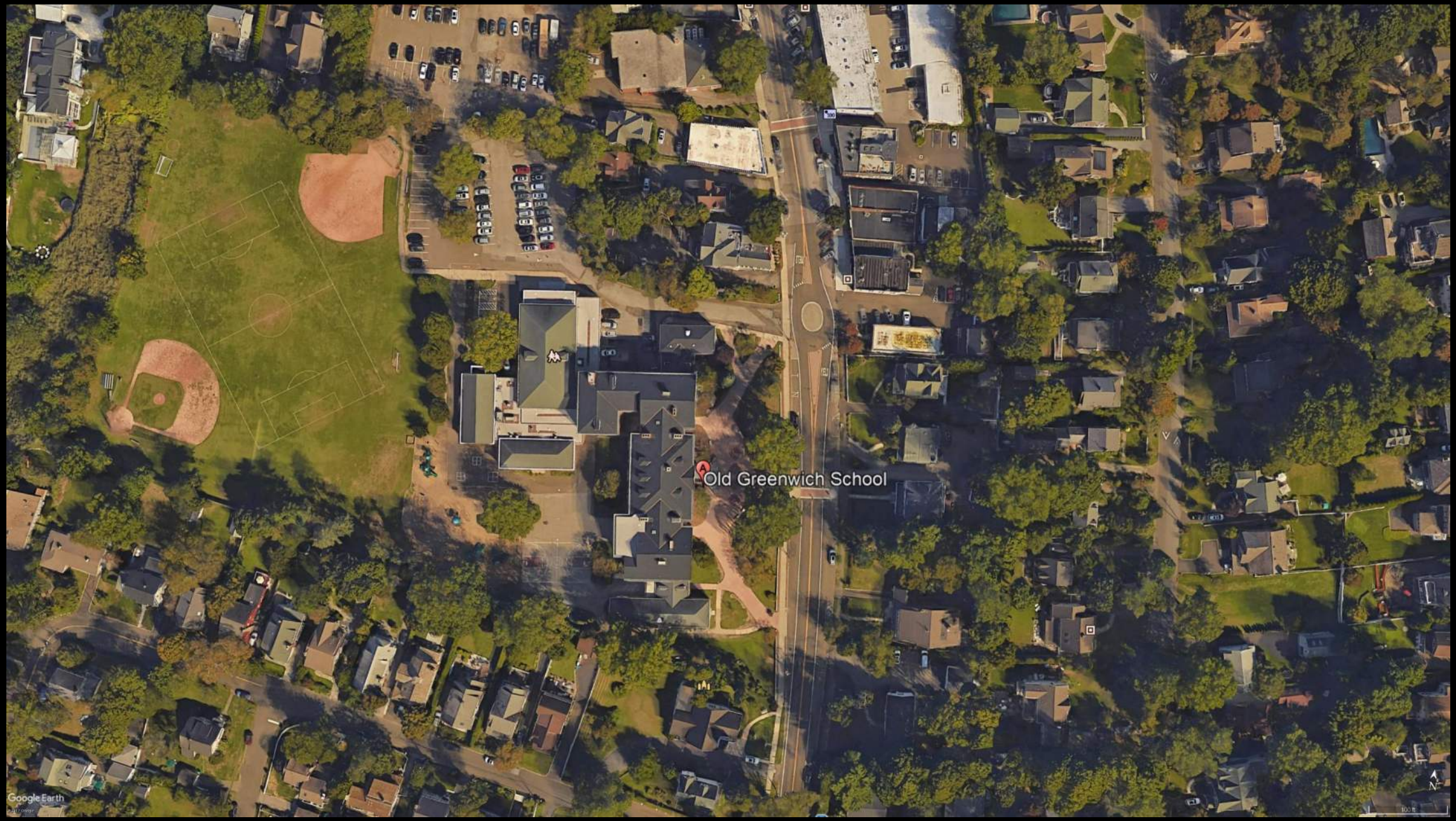
Approximately 8,400 square feet of roof is covered with modified bitumen roll roofing with a granular surfaced cap sheet. It is in generally good condition.

Approximately 200 square feet of roof area is covered with fully adhered reinforced ethylene propylene diene monomer {EPDM) rubber single ply roofing. The EPDM roofing is in good condition.

Three small bay window roofs are covered with copper, they are also in good condition.

The high sloped roof is accessible via a roof hatch. Flat roof areas and adjoining low sloped roof areas are accessible by climbing out second floor windows. Portable ladders are needed to access some of the lower roofs.
The newer architectural asphalt shingles, the EPDM and the copper roofs should provide at least 20 more years of service. The modified bitumen roll roofing should provide about 10 years of service. Plans should be made to replace the older 3-tab asphalt shingle roofs in 3 to 5 years.

Roof report above excerpted from 2017 Master Plan by Watsky Associates



Greenwich Public Schools

Old Greenwich Elementary School Feasibility Study

OGS Feasibility Study

- Educational Specifications for the reconstruction or expansion of Old Greenwich Elementary School.
- Identification and analysis of one or more site options consistent with land use and other relevant regulations and statutes, conceptual building plans including site plans showing parking and access.
- Cost estimates for the construction / renovation project (soft and hard) which will be used as the basis of the next capital budget funding request.
- Preliminary phasing and implementation strategy.

Summary

4 Classroom Addition

Replaces 4 existing rooms that are needed for other functions, are undersized and or not accessible.

- 1 existing room is needed for the new main office suite on the Ground Floor.
- 2 existing rooms are under-sized, not accessible and prone to flooding.
- 1 existing room is under-sized and is needed to make the corridor connection to the new addition and is partially converted to program spaces relocated from the new main entrance area.

Summary

Accessibility

New 3 stop elevator, 3 ramps & 1 lift – All areas Accessible.

Main Entrance is on grade and Accessible.

Gym / Auditorium Entrance Accessible with new ramp.

Student toilet rooms renovated to comply with ADA on all levels.

Security

New Secure Vestibule for Visitor Management at New Main Entrance.

Front Entrance is visible by staff / security personnel.

Main Office is adjacent to main entrance.

Two activity spaces / outdoor classrooms for students in fully enclosed Courtyard.

No Classrooms located in vulnerable location next to Driveway.

Summary

Educational Adequacy

4 New Classrooms comply with the District recommended size.

Pre-Kindergarten, Kindergarten and 1st Grade Classrooms are grouped together on the Ground Floor.

Support spaces (Speech and Psychologist) are relocated to renovated areas with adequately sized spaces.

Nurse's suite is expanded and renovated and remains centrally located.

Health & Safety

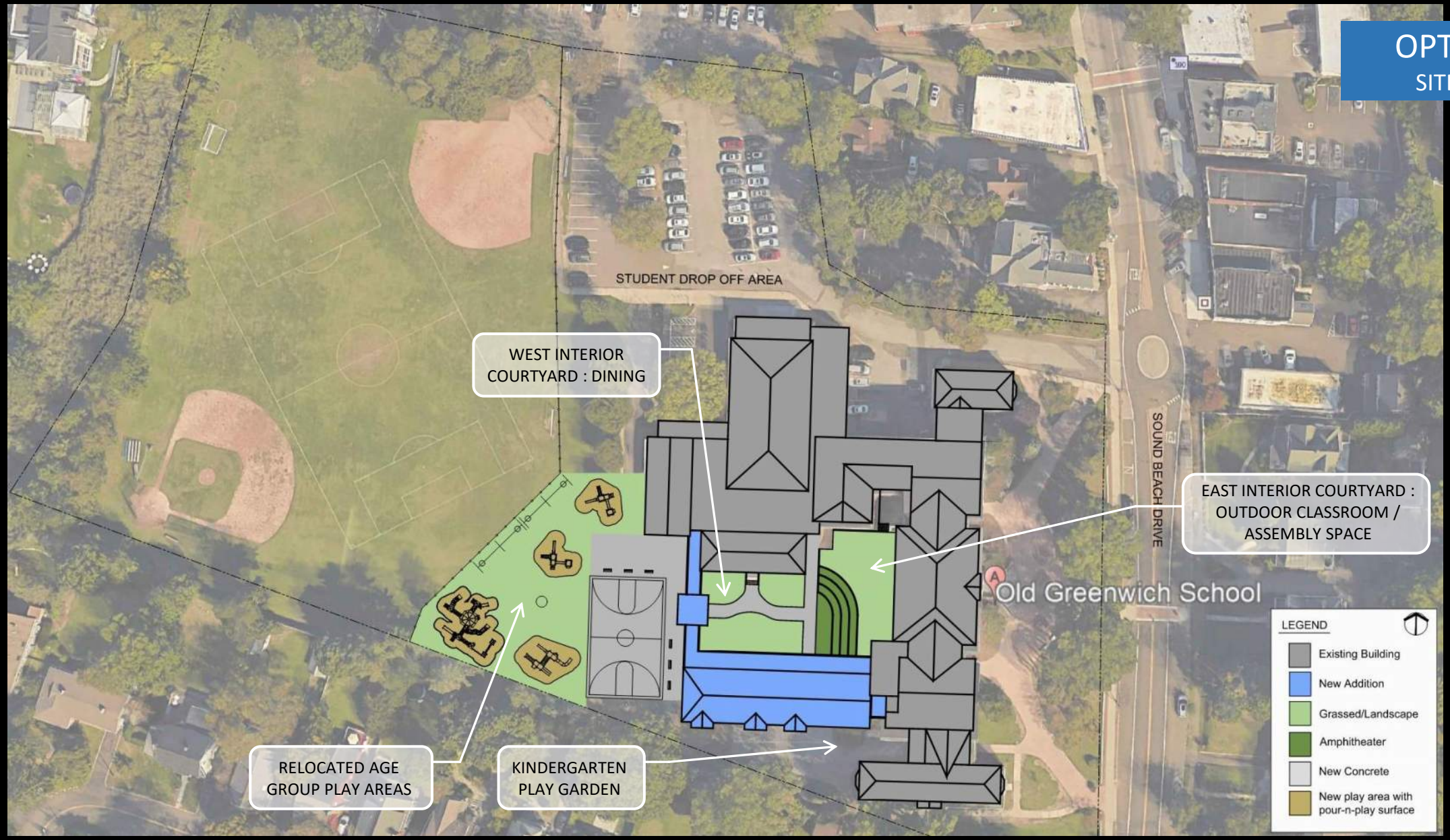
The 2 Classrooms that were below the flood plain are relocated and this area is converted to a walk through multi-purpose space.

Completely new Heating, Ventilating and Air Conditioning systems are proposed for all areas of the building that do not have them.

All older Windows are to be replaced.

Communications, Fire Alarm and Emergency Lighting Systems will be upgraded or replaced.

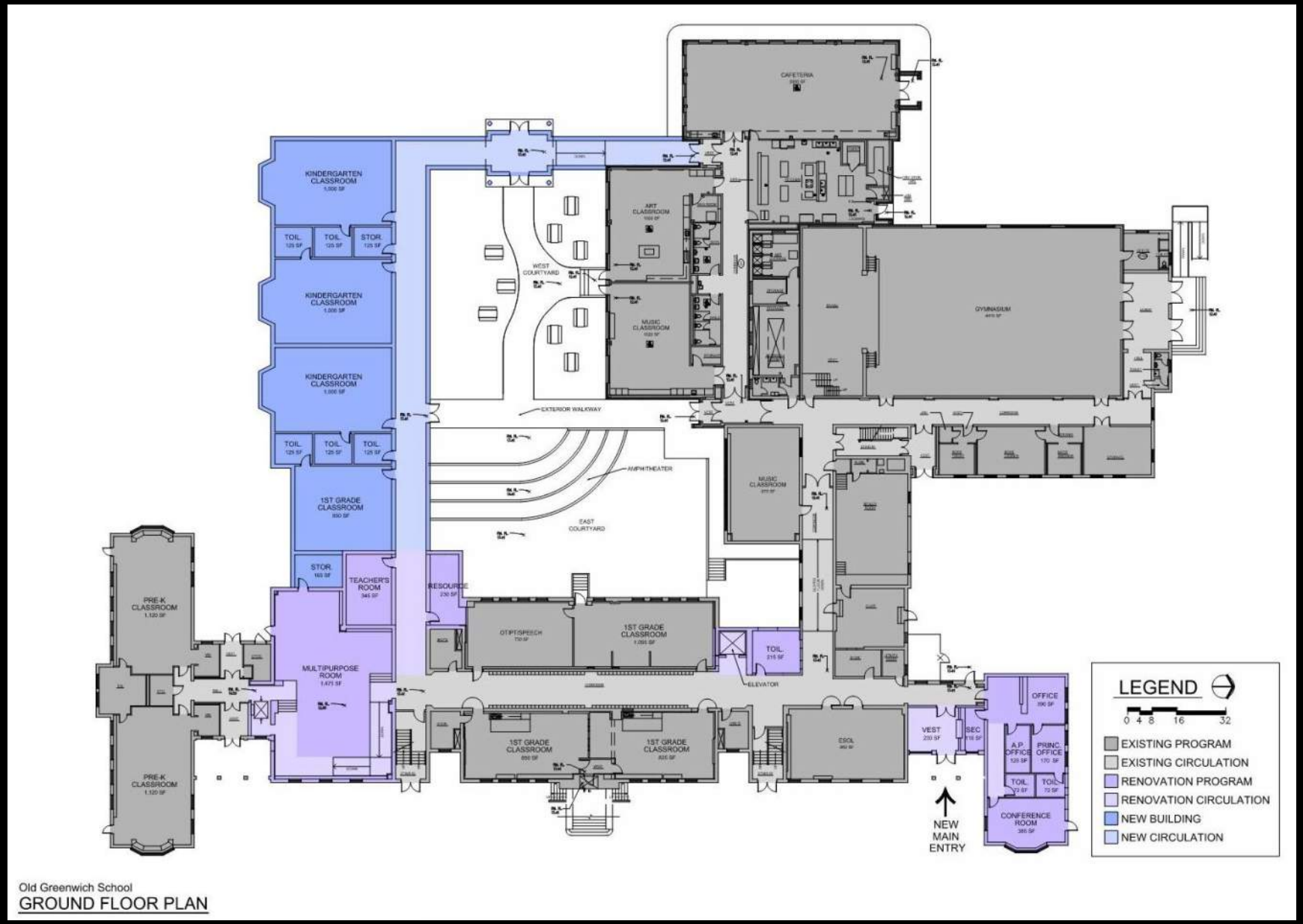
OPTION A
SITE PLAN



Greenwich Public Schools

Old Greenwich Elementary School Feasibility Study

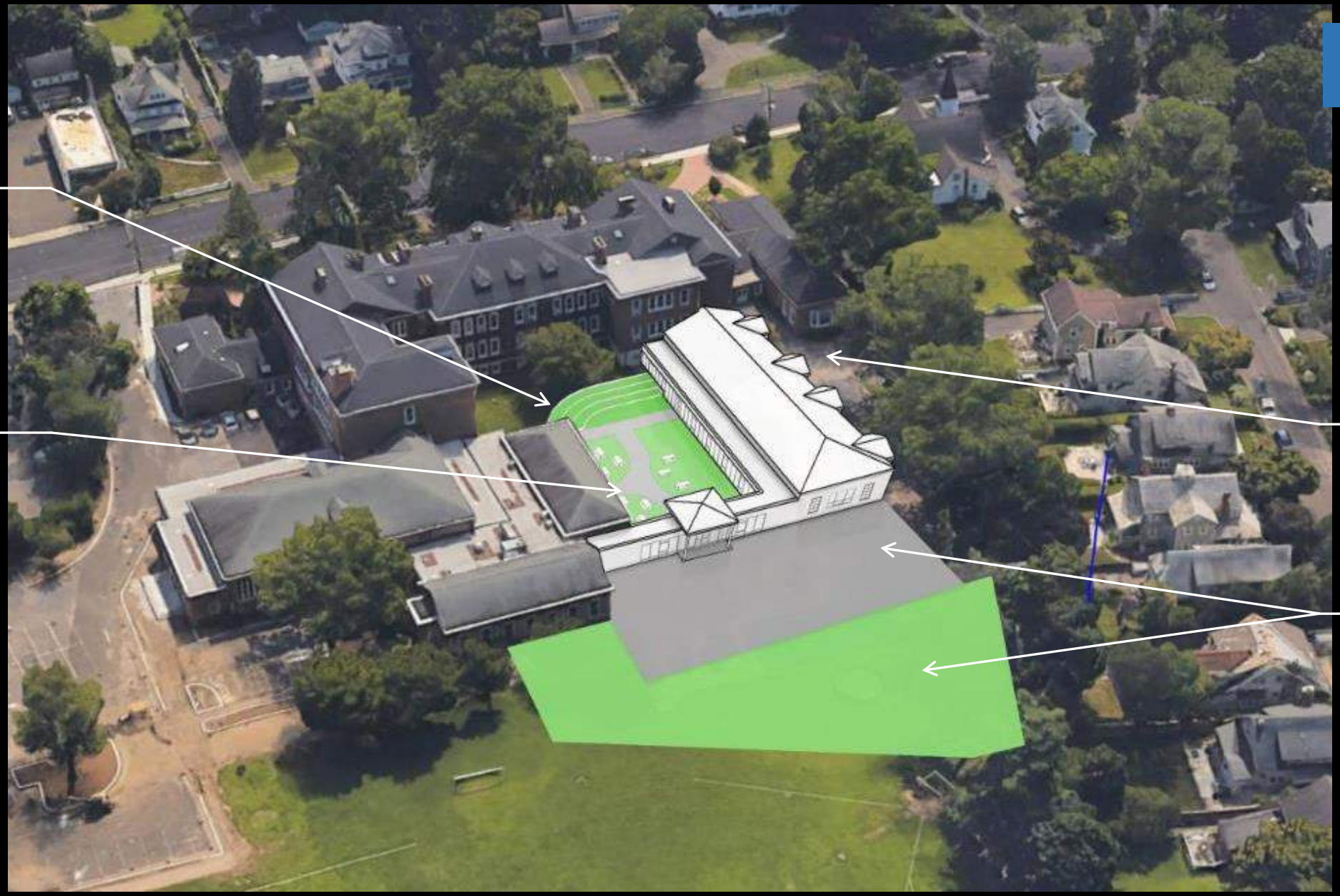
OPTION A
GROUND FLOOR



Greenwich Public Schools

Old Greenwich Elementary School Feasibility Study

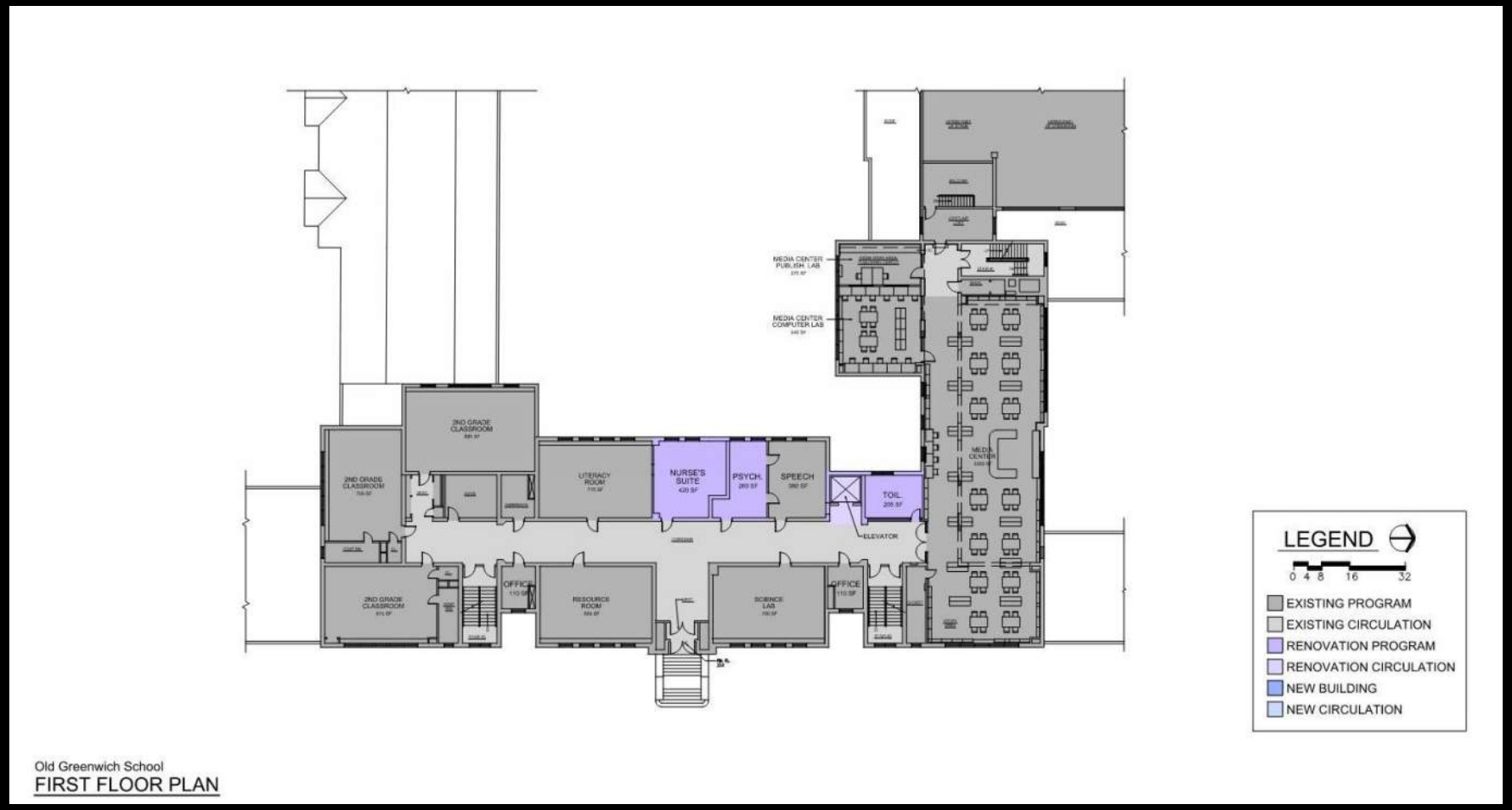
OPTION A
AERIAL VIEW



Greenwich Public Schools

Old Greenwich Elementary School Feasibility Study

OPTION A
FIRST FLOOR



Greenwich Public Schools

Old Greenwich Elementary School Feasibility Study

OPTION A
SECOND FLOOR

Old Greenwich School
SECOND FLOOR PLAN

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Old Greenwich Elementary School Feasibility Study

EXISTING
PHOTO

Greenwich Public Schools

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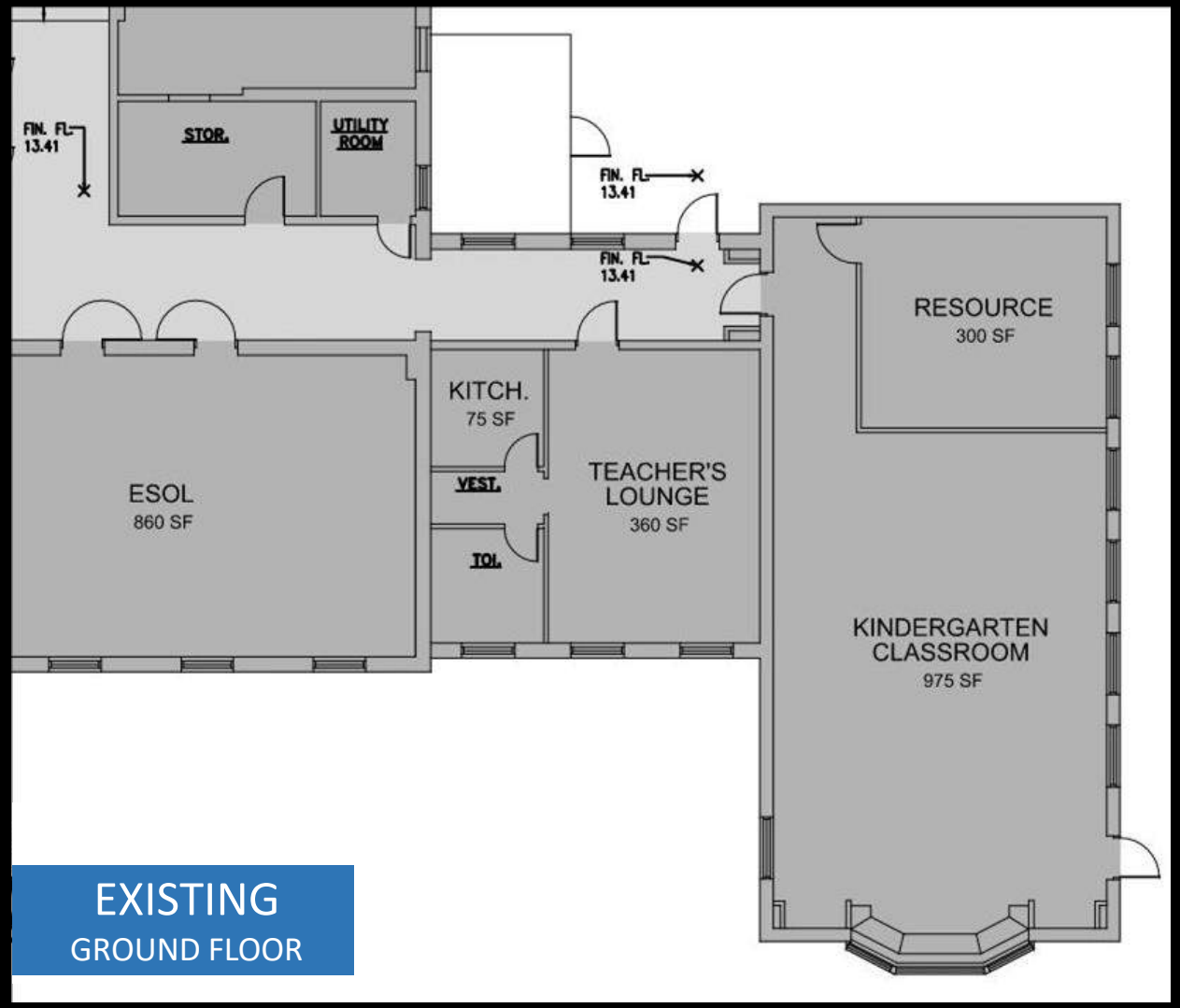
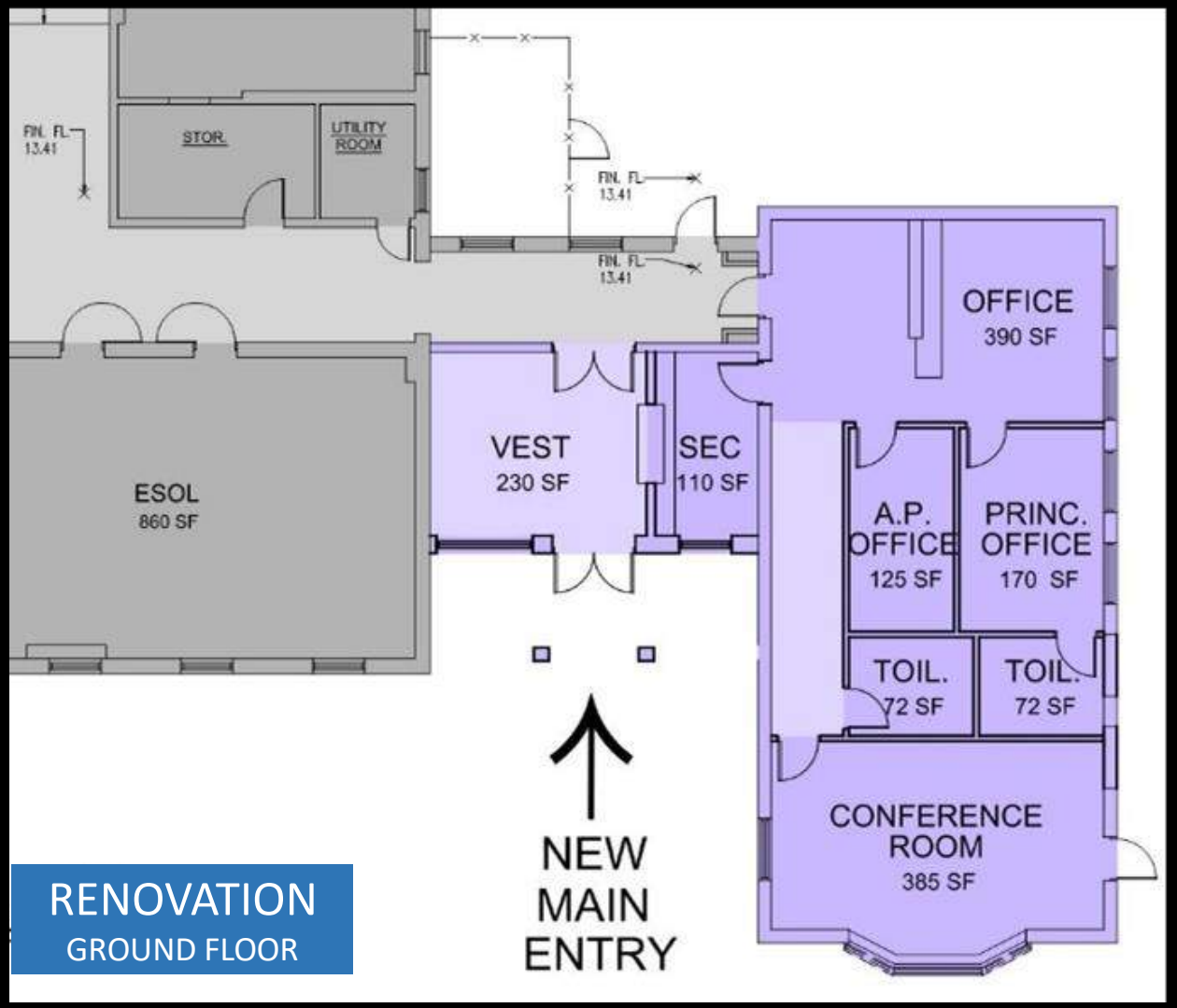


EXISTING
GROUND FLOOR



RENOVATION
GROUND FLOOR

Greenwich Public Schools

Old Greenwich Elementary School Feasibility Study

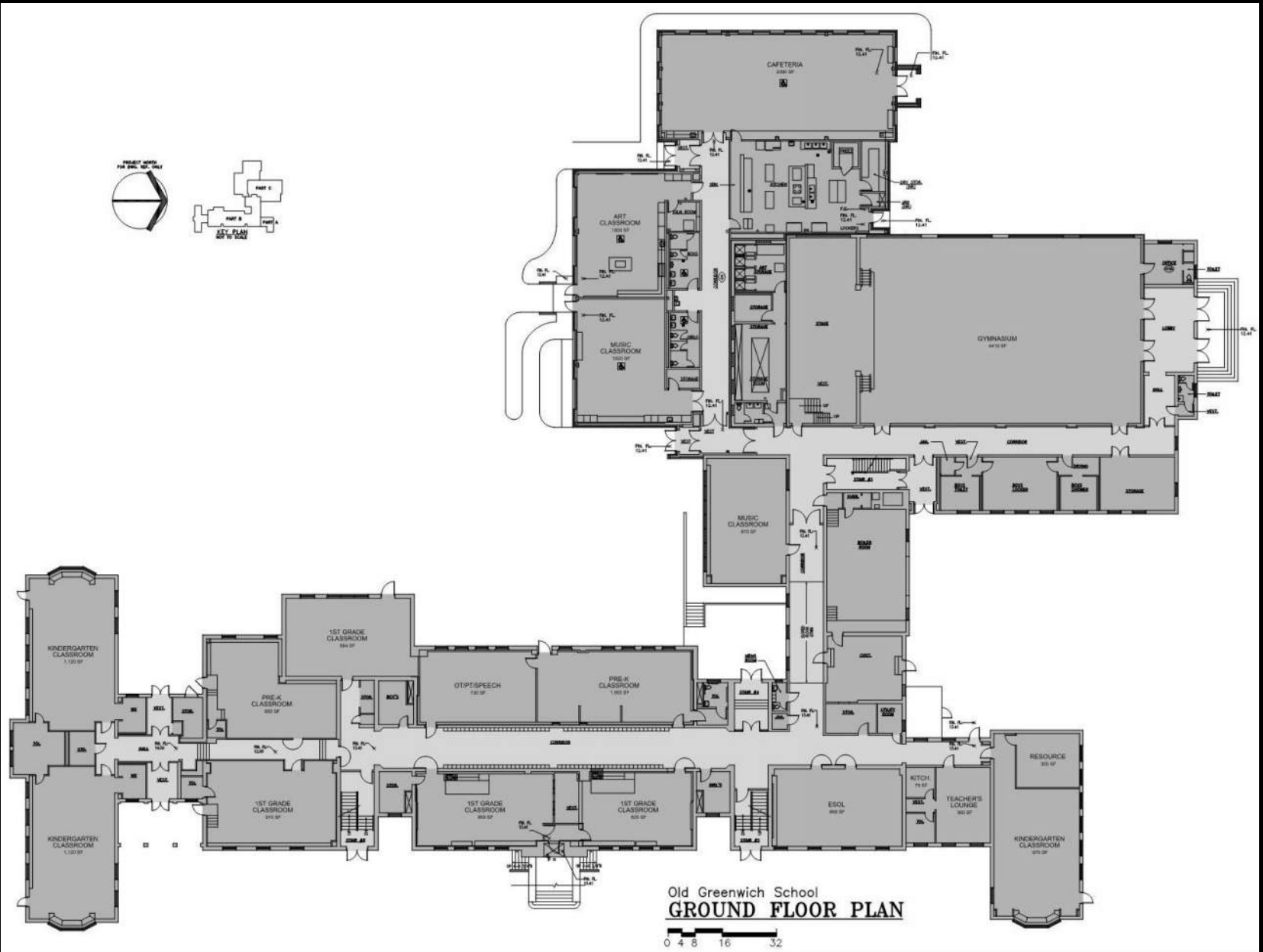
Greenwich Public Schools

Old Greenwich Elementary School Feasibility Study

KG+D

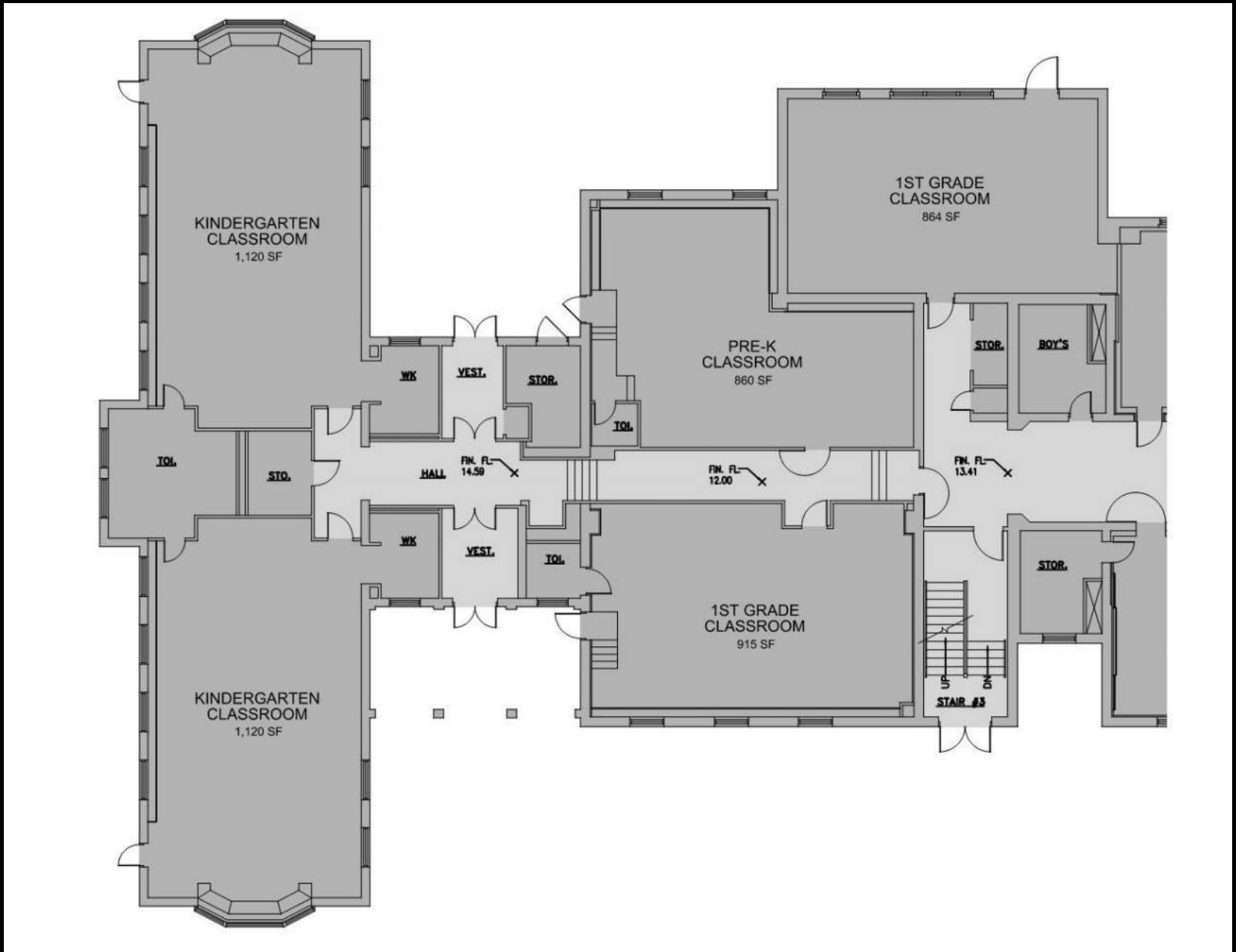
listen imagine build

STAY HEALTHY.



Greenwich Public Schools

Old Greenwich Elementary School Feasibility Study



Greenwich Public Schools

Old Greenwich Elementary School Feasibility Study

Greenwich Public Schools

Old Greenwich Elementary School

Feasibility Study

Space Comparison

			Model Program 3 Section			Old Greenwich 2020 Use			Old Greenwich Proposed		
		Pre-Kindergarten (Opt.)	Qty	Avg. Size	Total NSF	Qty	Avg. Size	Total NSF	Qty	Avg. Size	Total NSF
PK.01	**CORE**	PK Learning Studios	3	1,000	3,000	2	958	1,916	2	1,120	2,240
PK.02	GOAL	Small Group Rooms	2	200	400	0		-	1	230	230
PK.03	GOAL	Commons/Transition Area	1	500	500	0		-			-
PK.04	GOAL	PK Storage Room	1	250	250	0		-			-
PK.05	**CORE**	PK Toilets	3	50	150	2	60	120	2	125	250
		Subtotals			**4,300**			**2,036**			**2,720**
		Instructional Core	Qty	Avg. Size	Total NSF	Qty	Avg. Size	Total NSF	Qty	Avg. Size	Total NSF
A.01	**CORE**	Kindergarten Learning Studios	3	1,000	3,000	3	1,072	3,216	3	1,000	3,000
A.01a	**CORE**	Kindergarten Toilets	3	50	150	2	135	270	3	125	375
A.01b	**CORE**	Kindergarten Storage	1	100	100	3	75	225			-
A.01c	**CORE**	First Grade Learning Studios	3	850	2,550	4	863	3,452	4	895	3,580
A.01d	**CORE**	First Grade Toilets	3	50	150	1	40	40	2	125	250
A.01e	**CORE**	First Grade Storage	3	100	300	1	50	50	2	100	200
A.02	**CORE**	2-5 Learning Studios	12	850	10,200	12	738	8,856	12	738	8,856
A.03	GOAL	FLEX Learning Studios	0	850	-	0		-			-
A.04	GOAL	Small Group Rooms	6	100	600	0		-			-
A.05	GOAL	Activity Commons	1	400	400	0		-			-
A.06	GOAL	Storage Rooms	1	100	100	5	137	685	7	137	959
A.07	**CORE**	Student Restrooms	8	150	1,200	4	163	652	4	163	652
A.08	**CORE**	Staff Restrooms	8	50	400	1	35	35	3	90	270
		Subtotals			**19,150**			**17,481**			**18,142**
		Activities Programs	Qty	Avg. Size	Total NSF	Qty	Avg. Size	Total NSF	Qty	Avg. Size	Total NSF
B.01	**CORE**	Gymnasium	1	4,500	4,500	1	4,410	4,410	1	4,410	4,410
B.09	**CORE**	Gym Storage & Supports	1	300	300	1	450	450	1	450	450
B.02	**CORE**	Music Labs	1	1,000	1,000	1	1,020	1,020	1	1,020	1,020
B.03	**CORE**	Music Lab (Band/Orch)	1	1,000	1,000	1	870	870	1	870	870
B.04	**CORE**	Art Lab	1	1,000	1,000	1	1,000	1,000	1	1,000	1,000
B.04a	**CORE**	Art Kiln, Glazing & Storage Rooms	2	150	300	1	150	150	1	150	150
B.10	GOAL	Computer Lab	0	850	-	1	540	540	1	540	540
B.11	GOAL	World Language Lab	0	850	-	1	685	685	1	685	685
B.05	**CORE**	Science Lab w/Prep Room	1	1,200	1,200	1	700	700	1	700	700
B.05a	GOAL	Additional Science Lab w/Prep Room	1	1,200	1,200	0		-	0		-
B.06	GOAL	Multi - Purpose /Project/Idea Lab	1	850	850	0		-	0	-	-
B.07	GOAL	Flex Lab	1	650	650	0		-	0		-
B.08	GOAL	Lab Storage Rooms	4	100	400	1		-	1		-
		Subtotals			**12,400**			**9,825**			**9,825**
		Special/Support Programs	Qty	Avg. Size	Total NSF	Qty	Avg. Size	Total NSF	Qty	Avg. Size	Total NSF
C.01	**CORE**	Accelerated Learning Program	1	850	850	1	700	700	1	700	700
C.02	**CORE**	Resource/Reading/Literacy/ESL	3	600	1,800	2	788	1,576	2	788	1,576
C.03	**CORE**	Special Ed Learning Studios / Resource	1	850	850	2	453	906	2	418	836
C.04	GOAL	Flex Special Programs Room	2	300	600	0		-	0		-
C.05	GOAL	Storage Room	1	100	100	0		-	0		-
C.06	**CORE**	Student Restroom/Changing	1	100	100	0		-	0		-
C.07	GOAL	Sensory Room	1	200	200	0		-	0		-
C.08	**CORE**	OT/PT	1	400	400	1	730	730	1	730	730
C.09	GOAL	Reflection/Small Group Room	1	100	100	0		-	0		-
		Subtotals			**5,000**			**3,912**			**3,842**
		Community Commons	Qty	Avg. Size	Total NSF	Qty	Avg. Size	Total NSF	Qty	Avg. Size	Total NSF
D.01	**CORE**	Library/Media Center	1	2,700	2,700	1	3,300	3,300	1	3,300	3,300
D.02	GOAL	Media Support Spaces	1	400	400	0		-	0		-
D.03	**CORE**	Commons/Large Group Instruction	1	1,000	1,000	0		-	1	1,475	1,475
D.04	**CORE**	Cafeteria/Dining	1	3,000	3,000	1	2,000	2,000	1	2,000	2,000
D.05	**CORE**	Kitchen	1	800	800	1	1,200	1,200	1	1,200	1,200
D.06	**CORE**	Performance Platform	1	1,400	1,400	1	900	900	1	900	900
D.07	GOAL	Audience Seating (shared w/adj.)	0	-	-	0		-	0		-
D.08	GOAL	Parent Center/Community Room	1	400	400	0		-	0		-
D.09	GOAL	After School Programs	1	400	400	0		-	0		-
		Subtotals			**10,100**			**7,400**			**8,875**
		Admin & Student Services	Qty	Avg. Size	Total NSF	Qty	Avg. Size	Total NSF	Qty	Avg. Size	Total NSF
E.01	GOAL	Welcome Center	1	400	400			-			-
E.02	**CORE**	Office Staff/Reception	1	200	200	1	350	350	1	500	500
E.03	**CORE**	Principal's Office	1	200	200	1	150	150	1	170	170
E.04	**CORE**	Admin Offices	3	150	450	1	300	300	2	200	400
E.05	**CORE**	Conference Room	1	300	300	1	200	200	1	385	385
E.06	GOAL	Work/Mail/Copy Room	2	250	500			-			-
E.07	**CORE**	Teacher's Lounge/Dining	1	600	600	1	360	360	1	345	345
E.08	**CORE**	Specialist Offices (Sp, Psy, Soc., etc)	4	150	600	2	120	240	2	310	620
E.09	GOAL	Small Conference Room	1	150	150			-			-
E.10	**CORE**	Nurse Suite	1	500	500	1	325	325	1	420	420
		Subtotals			**3,900**			**1,925**			**2,840**
		Building/Facilities Support	Qty	Avg. Size	Total NSF	Qty	Avg. Size	Total NSF	Qty	Avg. Size	Total NSF
F.01	**CORE**	Receiving	1	200	200			-			-
F.02	**CORE**	Storage	1	1,000	1,000	1	1,000	1,000	1	1,000	1,000
F.03	**CORE**	Custodial	2	100	200	1	415	415	1	415	415
F.04	**CORE**	Security Vestibule	1	200	200			-			-
		Subtotals			**1,600**			**1,415**			**1,415**
		NSF Total			**56,450**			**43,994**			**47,659**

Note - highlighted items in Proposed Column indicate changes included in the proposed improvements.