Executive Summary

Overview of Building and Site

Consolidated School serves students in grades Pre-K through 2 in New Fairfield, Connecticut. The property sits on the northwest corner of the intersection of Gillotti Road and Ball Pond Road and is a sloped site from the west property line down in elevation to the east. The building was originally built in 194, has subsequently been added on to over time, and is now approximately 79,000 square feet in area. The school is built into the upper slope, and therefore has areas of the lower level which are lacking in natural light, and others which are unexcavated. Having been built along the slope, the current, elongated building configuration is challenging for these young students and staff to navigate to many of the shared spaces and services. While the building has grown to add typical classrooms, offices, and large group spaces, the need for special services has not been accommodated due to the constraints of the configuration, room sizes, and inefficiencies of the building layout. As the building became larger, the site has become very constrained. There is insufficient parking and drop off space, unacceptable for the student and staff safety. The steep grades make further development of the property a challenge.

Recognizing the fact that the physical plant at Consolidated School has served the community well for the past 78 years, and understanding the safety concerns, infrastructure needs and the impact on educational curriculum, the New Fairfield Board of Education retained the architectural firm of QA+M Architecture to review and update a facility study and develop a range of design concepts based on educational specification. The design concepts would evaluate scenarios that considered program needs, facility conditions, building, fire and life safety codes, accessibility, construction phasing and the estimated cost to the Town of New Fairfield. The options studied ranged from simple renovations and code updates, to a fully renovated facility with additions, as well as a new facility.

Existing Conditions

The Consolidated School is generally designed as double loaded corridors, and is further divided into sections, which correspond to the various additions made to the original building over time. Most of the additions are of stud frame construction with wood siding and asphalt shingle roofing, while the northern section is masonry with a mansard wood shake roof. The original 1941 building is still in use as classrooms, support services, and a gymnasium. Due to the overall building size of over 79,000 SF over two levels, the building contains various fire separations because it does not contain a fire protection (sprinkler) system. The fire separations are typically at the intersections of the additions, and these locations are also typically expansion joints. Many of these areas are experiencing leaks and joint weaknesses, although not of structural concern. The main concern with the original building, and the various stud framed additions, is that they are not of the exterior envelope construction type to be typically used in school buildings. The exterior walls and

glazing are lacking the insulating values and durability needed for educational use. In the interior of the building, there are corridors which are not compliant with current codes because of the lack of classroom door pockets. In addition, the elevator and portions of the MEP system are at end of life. Current state school requirements also have not been integrated into the existing building, such as requirements for school security, acoustics, and natural light. Some of the major infrastructure, building, programmatic and site concerns are:

SITE:

1. Inadequate, overcrowded parking & poor paving conditions
2. Inadequate site drainage
3. Inadequate site lighting
4. Lack of ADA site circulation compliance around the building
5. Inadequate well system

BUILDING:

6. Lack of energy efficiency of exterior walls and glazing, spaces are cold and drafty (lack of wall and ceiling insulation)
7. Cracking & leaks between building additions, structural issues in kindergarten area, and active roof leaks
8. Aging of exterior materials including concrete, masonry, roofing
9. Aged toilet rooms including finishes, partitions & fixtures
10. Kitchen & servery space and equipment inadequate
11. Stage is accessible via a lift
12. Elevator (1989) needs upgrade, ADA compliance an issue due to layout of building
13. Lack of door pockets for classrooms results in egress issues in some corridors
14. Aged interior finishes including flooring, ceramic tile, wood paneling
15. Lack of natural light in cafeteria and ELC reading center
16. Circuitous paths, illogical layout, and many repurposed spaces not conducive to educational facility design
17. Lack of collaboration, meeting and storage space
18. Potential non-compliance with code requirements for attic / ceiling, egress and plumbing fixtures
19. Groundwater issues cause flooding, including in a lower level electrical switch area

MEP (MECHANICAL, ELECTRICAL, PLUMBING) SYSTEMS:

20. Building is not fully sprinklered
21. HVAC system for cafeteria & auditorium is end of life
22. Unit ventilators are too loud for learning and office environments
23. Central battery system needs replacement

Existing Program Spaces

The existing Consolidated School building includes general classrooms for Pre-K (4), and classrooms for grades K-2. Grades K through 2 have 8-9 classrooms each, but due to declining enrollment, two of those grades will use only 7 rooms next academic year. Consolidated School also houses a school library with an adjoining maker space / TV studio, and two gymnasium spaces, ones of which is in the original 1941 section, and the other which is an original assembly space with stage (multi-purpose room). Neither of the gym spaces have convenient access to the outdoor spaces, therefore the students typically do not have physical education outside. The school also contains a subterranean cafeteria, devoid of natural light, which lacks the required kitchen receiving, staff, food storage, and servery space. The main office suite is in located in one of the newer additions, and serves as the main entry to the school, but is not configured to comply with the recently developed school safety standards. The school also contains music & art rooms, which are housed in typical classrooms, not specialized spaces with appropriate acoustics and fixtures. Currently, over 20% of the students at Consolidated School access intervention and / or special services. These spaces are carved out of various former storage rooms, offices, and even former bathrooms. Many of them do not have natural light and are insufficient in size and location to those they serve. On the grounds, Consolidated has sufficient playscapes and hardscapes for Pre-K through Grade 2 use, but the location is not convenient for Pre-K and Grade 1, as it is a very long walk. Also, the outdoor play space is not visually sheltered from the public in accordance with school security standards.

Priorities

Based on the priorities established by the Town of New Fairfield and New Fairfield Public Schools leadership, QA+M Architecture approached the Consolidated School project by creating three primary focus areas. The first focus area was energy management, the second was accessibility throughout the building and grounds and the third being that the facilities should support 21st century educational programming & curriculum. These priorities became the baseline for the evaluation of all design concepts.

1. The energy management area includes a complete evaluation of all existing mechanical and electrical systems, along with the condition of the exterior envelope, with the goal of meeting the State requirements for high performance buildings. The engineers spent numerous hours reviewing existing reports and analyzing all existing components to determine the needs of the facility. Although a majority of the school's heating system has received upgrades, based on the analysis and research it was determined that a replacement of the existing heating system would be the best solution for the facility. Portions of the system are at end of life, and additionally, a central air conditioning system would be included as part of the renovation project. The energy management analysis also included an evaluation of alternative energy systems. The team will explore several options for possible integration into the project. The selection of the systems would be based on available grants and overall feasibility for the

facility. At this time, several options still remain open for discussion. This includes, use of a photovoltaic system due to some significant incentives available for the project, geothermal systems based on significant advancement in the technology and co-generation, based on the short payback. A final decision on the systems will be made at the design development phase of the project. Other elements to be included into the proposed scope of work for energy management would be replacing or upgrading exterior wall construction for insulation upgrades, and complete window and roof replacement systems replacements.

2. The second focus area is school security, site safety, and ADA standards. The scope of this priority includes the entire Consolidated School building and site. Concerns to be addressed on the site will include parking, walkways and drop-off areas around the site as well as accessible routes within the building and on the grounds. The design team's evaluation and recommendation is that all security, safety, and ADA and code issues must be addressed through any new, renovation and/or addition project.

3. The third and perhaps the most significant focus area is the evaluation of the educational curriculum and program needs for Consolidated School. The QA+M team held meetings with the administration and educators, and facilities staff, and worked with the Consolidated School educational specification committee to develop the educational specification and space needs program. The program information, along with the facility study documents, has been used to generate various design approaches and concepts that address all the educational program requirements at Consolidated School. The design process also considered the following planning concepts integral to the design of educational facilities:

   Energy Conservation and Sustainable Design
   Codes – Building, Fire/Life Safety, ADA
   Technology
   Security & Safety
   Furniture Furnishing and Equipment
   Community Use
   Flexibility & Agility
   Student Display
   Site Analysis/Evaluation
   Land Use Requirements
   Site Selection
   Site Circulation
   Concept Designs
   Construction Phasing
   Project and Construction Schedule

Based on the educational specifications, the key educational program elements that need to be addressed in all project design scenarios are identified in the following program summary:

Educational Specification Committee – Process

A committee of educators gathered relevant information including current demographic reports and various constituents' input, explored current and future technologies. The committee worked with the Board of Education in developing the educational specifications and evaluated several scenarios including the potential of building a new facility. During this process, the committee adhered to the following parameters:

Acknowledgment of the current enrollment projections.
Focus on the use of the building for early elementary education.
Maintenance of class size under the district guidelines.
Gathering of constituents' input.
Assurance that the building is ready for increased technology.
Provision for flexibility in room usage.
Provision for special services spaces.
Provision for warm, playful, and welcoming aesthetics.
Provision for energy efficiency and high indoor air quality.
Addressing all building and life safety codes and ADA concerns.

Overview of Program Format

The educational programming section for the Consolidated School study is organized into five sections. Each section identifies program and support spaces that are programmatically related. All spaces within the facility are identified in one of the following sections:

1. Academic & Support Spaces
2. Fine and Performing Arts
3. Assembly and Community Use
4. Administration and Student Services
5. Facilities Management and Support

A space utilization program is developed for each space. The information is provided as a starting point for the architectural design team. Further review with the school for final room layout, furnishings and fixtures will be required prior to the development of the final design.

1. ACADEMIC & SUPPORT SPACES

- Pre-Kindergarten
- Kindergarten
- Grade 1
- Grade 2
- Special Education

2. **FINE AND PERFORMING ARTS**
   - Music
   - Art

3. **ASSEMBLY & COMMUNITY USE**
   - Learning Commons and Makerspace
   - Cafeteria and Servery
   - Assembly / Multipurpose
   - Physical Education

4. **ADMINISTRATION & STUDENT SERVICES**
   - Administrative Offices
   - Health/Nurse

5. **FACILITY MANAGEMENT & SUPPORT**
   - Mechanical / Electrical / Plumbing / Security Infrastructure
   - Facilities Offices & Building Storage

Overall Educational Program Concept

The overall program concept for Consolidated School is to arrange the main academic classrooms in succession of age, with the youngest students most convenient to drop off, pick up, and shared services. The individual grades should be further organized in "pods" of 3 or 4 classrooms each, so that the experience is not overwhelming for young children and assists teachers in organizing their instruction, which is often collaborative. The site shall include generous parking and accessible paths to entrances, with views of visitors arriving. Separate bus and parent drop off areas are necessary. On the interior of the building, classrooms and support spaces shall have a playful feel that sparks a child's creativity and imagination, meet state educational space acoustic requirements, along with natural daylight requirements

Academic Classroom Organization and Features

Pre-K shall have a separate entrance pick-up point, as they are operating at different hours than grades K-2. Individual entrances for each grade are desired if feasible, to minimize the overwhelming nature of the process for small children. Pre-K functions, for the most part, independently from the other grades, but some shared use of the facility and administration is beneficial.

Each classroom in grades Pre-K through 1 shall contain a single-use toilet room, to minimize disruptions to the learning day and enable maximum flexibility for the building. Between pods, support spaces such as the special education resource room and reading and math support rooms will be located to provide direct and inclusive daily work. There will be one resource room, one reading support and one math support per grade, in grades K-2. The Learning Commons (Library) which serves primarily grades K-2, will be located convenient to those grade level suites. Within the K-2 pods, a wider opening in the corridor shall be provided for multi-classrooms meetings, display, STEM maker activities, student work display, and break-out group work. For the Pre-K suite, the pods will contain a shared play / activity area with generous student work display. The open / breakout spaces for grades 1 & 2 each pod will contain lockers / cubbies and benches, while the Pre- K and K classrooms will have cubbie spaces within their classrooms. All classroom spaces should have flexible and varied furniture to allow for multiple learning environments and styles. Students arrive by car and bus. Upon arrival they will proceed directly to their "pod" and assemble in the collaborative break out space. For dismissal, each pod's break out space will be large enough to contain a line-up area for organizing student to get to busses and pickup vehicles.

Administrative Area

The main office shall be located at the front entrance with generous views of the approaching vehicles and visitors. The appropriate airlock shall be integrated into the design in accordance with state school security requirements. The health suite (nurse) shall also be located at the entrance of the building. A staff lounge with adequate storage for personal belongings will be provided.

Support and Shared Spaces

Between the main office area and the classrooms, the "Mental Health" suite will be located for convenient access for school administration and students & staff. The mental health suite will contain the special education suite and other related service spaces.

The art classroom, music classroom, learning commons (media center), and math lab shall be located within the academic area, provide convenient access for K-2 students, and be specialized spaces with appropriate acoustics and fixtures. The mental health suite and other school-wide support rooms shall be located between the administration area and the classrooms.

The spaces used by the public shall have convenient access from the main entrance so that the academic area of the school can be secured after hours. These large assembly spaces will include a large gym, which can be divided in half for two simultaneous PE classes, and a "cafetorium", which will serve lunch for portion of the day, and be used for assemblies, large group work, ceremonies and performances at other times of the day.

Outdoor Spaces

Outdoor exercise and learning will be used on a daily basis. Both play and instructional outdoor areas should be sheltered from vehicular traffic, visitor approaching, and ultimately not visible other than by students and staff from within the building.

Facility Management

Building systems infrastructure at Consolidated School must meet the latest building, fire and life safety codes adopted by the State of Connecticut. In addition, Consolidated School facility must meet and/or exceed the high performance building standards adopted by the State, and achieve a LEED Silver or equivalent certification. Alternative energy systems will be introduced for energy efficiency and sustainable solutions, with the goal of making Consolidated School an example of environmental stewardship.

Enrollment Projections

Each year the administration updates student enrollment projections for the New Fairfield Public Schools by grade, and by grade combinations from Kindergarten through Grade 12. These enrollment projections are used during the budget development process to anticipate future staffing needs as well as materials, equipment, and/or furniture needs associated with increases or decreases in projected enrollments.

The enrollment in the New Fairfield Public Schools peaked in 2008 and declined to 2,171 students in 2018. During the next eight years, the decline in enrollment will continue. The State Department of Administrative Services requires enrollment projections indicating the highest 8 year projected enrollment starting in October of the year the project application is submitted. Based on the proposed project for Consolidated School, enrollment projections would be required for October 2018 thru October 2026.

The following information was obtained from the enrollment project provided by Donald G. Kennedy, Ed.D., Demographic Specialist of NESDEC on October 25, 2018. Based on the enrollment projections by Donald G. Kennedy Ed.D. the enrollment at Consolidated School is as follows:

The enrollment at the Consolidated School peaked in 2008-2009 at 664 students, and has been declining with a low of 428 students projected in 2024-2025. Based on this projection the student enrollment of 485 (2018-2019) will be utilized for the Department of Administrative Services Grant application and the space standards calculations for Consolidated School.

Enrollment Projections and Space Standards

The State of Connecticut Department of Administrative Services provides grants for school construction projects to all public-school systems. The eligibility of a school project for State funding is governed by the Connecticut General Statutes (CGS) and the grant application is administered by the State Department of

Administrative Services Office of School Construction Grants and Review Division. Each municipality must apply for the grant by June 30th of each year and the funding is approved the following year. The Town of New Fairfield has applied for and received several school construction grants over the years and specifically was funded for the last construction project that included renovations and code updates.

In considering the renovations and additions or new facility project at Consolidated School for state reimbursement, several regulations must be evaluated. These include laws that will determine the project eligibility, priority and estimated percentage of the project cost that is for the state grant. Additionally, the Town of New Fairfield must meet the requirement of the Office of School Construction Grants & Review and ultimately an audit of the project. Regulations concerning school construction grants can be reviewed in the Connecticut General Statutes Section 10·287 c-J to 10·287 c-2J.

The first step in this process will be a meeting with representatives from the State Department of Administrative Services to review a waiver request for a partial or complete waiver of the space standards. This waiver request will be filed with the Commissioner of Department of Administrative Services. This waiver would be based on the inherent inefficiencies of the existing building design and changes in the program/ curricular requirements in education that have impacted the physical plant. If additional eligible area is approved by the State Department of Administrative Services, the Town of New Fairfield will receive greater reimbursement, with the potential of receiving the full percentage assigned to the Town if a full waiver of space standards is approved.

SPACE STANDARDS - For grant purposes, a maximum allowable square footage per pupil is determined for a facility. This maximum is based upon the projected enrollment for the project, grades housed at the school and the amount at square footage, if any, constructed prior to 1950. See C.G.S. 10·287c-] S(a)

Space standards do not apply to the following, projects solely for creation of code or health violations, roof replacements, vocational agriculture equipment projects, board of education central administration projects, and projects solely for purchase. In actual construction, districts are not limited to the maximum allowable square footage per pupil. However, grant reimbursement is reduced to reflect the degree by which a school exceeds the maximum allowable square footage.

SAMPLE SPACE STANDARDS CALCULATIONS - For grant computation purposes, the grade range and projected enrollment for a project are applied to the allowable square footage table to calculate a maximum allowable square footage per pupil. The maximum allowable square footage per pupil is compared to the actual square footage per pupil if the resulting ratio is less than one, the building is oversized for grant computation purposes. Therefore, the ratio is applied to all protect costs (except site and building purchase costs), and there is a corresponding grant reduction.

Based on the Space Standards Worksheet the allowable area per student is 120 SF. With the projected highest enrollment at 485 students based on the 2018-2019 school year the maximum allowable area for New Fairfield Consolidated School is 58,200 Net SF. The existing Consolidated School building is approximately 79,000 SF.

Key Planning & Design Concept

The reorganization of Consolidated School is based on a planning concept that focuses educational goals established by the Board of Education and improving the educational and space utilization of the existing facility. The design approach focuses on the following imperatives:

SITE

- Separation of the student, parent and bus traffic and points of entry to the building.
- Compliance with School Security Standards, and the Administrative and Special Services located at the entrance.
- A facility that is accessible to all individuals with disabilities.

BUILDING

- Groupings of classrooms and special services per grade to maximize educational efficiencies and enhance student learning.
- Simplification of internal building circulation.
- A single story solution.
- Reorganize and develop academic programs around 21st century educational pedagogy.
- Implement safety and security measures throughout the facility.
- Develop a plan that optimizes energy savings and infuses sustainable design principles in all aspects of the facility.

Key Planning Concept

Although several design concepts were evaluated for program adequacy and cost, each design was based on one of the following options:

i. Limited Renovations (capital needs – replacement of components at end of life)
ii. Full Renovations under the "Renovate as New" Status with the State Department of Administrative Services.
iii. Full Renovations with a portion of the building Replaced under the "Renovate as New" Status with the State Department of Administrative Services.
iv. New Facility on the Existing Site
v. New Facility on the Meeting House Hill School Site

The Limited Renovation approach included a design that replaces aging systems, materials and components, similar to a capital improvement plan. It also would include minor programmatic adjustments as space allows. The main emphasis for renovation was placed on improving the program by incorporating support services. During the review and programming process which took place with Consolidated School educators and administration, it was apparent that a limited renovation and addition approach would not meet the goals of the educational specifications and the priorities established for the project without a more significant construction project. The building infrastructure and envelope is in very poor condition. Although there is greater flexibility on a limited renovation project, when it comes to replacement of building systems, the State Department of Administrative Services: Office of School Construction Grants and Review reimbursement for a limited scope project is much lower compared to other options, resulting in cost differentials that are minimal.

The Full Renovation project under the "Renovate as New" Status was evaluated to identify the potential cost of a project that would incorporate all educational program needs and include a complete facility update. Under this scenario all building systems would be replaced and the facility would be brought into compliance with the latest building, fire, ADA and life safety codes. This approach included the evaluation of several design options with emphasis on all the key educational program areas. This approach would not accommodate the full educational program due to the existing building layout and inefficiencies. The greatest challenge with this approach is the abatement of hazmat and the replacement of the building systems. Although the state reimbursement could be higher than limited renovations, the construction in this approach would phased and would have significant impact on teaching and learning. Additionally, a recent meeting with the State Office of School Construction Grants and Review concluded that a grant for a full renovation project would not be approved and therefore not qualify for state reimbursement due to the condition of the existing building and site.

The Full Renovations with Partial Replacement project under the "Renovate as New" Status was evaluated to identify the potential cost of a project that would incorporate all educational program needs and include a complete facility update. Under this scenario all building systems would be replaced and the facility would be brought into compliance with the latest building, fire, ADA and life safety codes. This approach included the evaluation of which area of the building to replace, the northern section, or the southern portions. Either solution will meet most educational program requirements with the addition. However, due to the severe slope and limited size of the site, neither solution solved the site safety and capacity issues. Abatement of Hazmat and the replacement of the building systems would also be a major constraint in this option. The construction in this approach would be phased and would have significant impact on teaching and learning. Project cost and schedule delays based on the history of the original portions of the school must be anticipated. This approach should maximize reimbursement from the State Department of Administrative Services. However, a recent meeting with State Office of School Construction Grants and Review concluded that a grant for a full renovation with partial replacement would not be approved and

therefore not qualify for state reimbursement due to the condition of the existing building and site.

New Facility at the Existing Site – It is possible to replace the current building on the Consolidated School site, and therefore incorporate the full educational program, however full resolution of the site layout and safety will still be a challenge. The construction for a new building would also be much less disruptive, but the Town of New Fairfield would need to find temporary place for the PreK-Grade 2 students for a full academic year, if not more, while the new building is being built.

New Facility at the Meeting House Hill School Site - The QA+M team conducted a preliminary evaluation of a new facility at the Meeting House Hill School Site and identified the following items that would be considered in making a decision to construct a new facility:

1. Construction of a new facility will be minimally invasive to the educational programs at the current Consolidated School. The students would remain at Consolidated School while the new building was being built. The students at Meeting House Hill School would be affected in that a portion of their site, the north side of the school, would be fenced off while the construction took place for the future students. Due to the original design of Meeting House Hill School, and the projected declining enrollment, there is space for Grade 2 in the North Wing of Meeting House Hill School. Being a newer facility, Grade 2 would be well accommodated into these larger classrooms at Meeting House Hill School, and the Pre-K through Grade 1 students would be located in the new building immediately adjacent to the second grade. By constructing this new facility, the town would be building a smaller building than in the replacement scenario, and the town would save on facility, site and operating costs.
2. There is adequate space on the site to locate the new building.
3. Space standards waivers if necessary would be minimal as the building would be appropriately sized for the projected enrollment.
4. The new facility construction project would have a minimal impact on education.
5. Unforeseen conditions that adversely impact budgets and delay projects will be minimized.

Recommendation & Priority Considerations

Based on the design team's evaluation of the five scenarios, the design options developed for Consolidated School in concert with the school administration and town leaders, and feedback from the Office of School Construction Grants and Review, the option of moving grades Pre-K through 2 to a new facility on the site of Meeting House Hill School is recommended.

The Consolidated School project should be submitted for consideration as a **Priority Category A**. The proposed project is envisioned to renovate and expand the existing facility or to build a new facility to

provide mandatory instructional programs pursuant to Title 10 of the Connecticut General Statutes and Title IX of the U.S. Elementary and Secondary Education Act of 1972.