South Windsor Public Schools

Elementary School Facilities
Existing Condition Survey & Master Plan

FRIAR ASSOCIATES

Executive Summary
10/22/13

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SOUTH WINDSOR PUBLIC SCHOOLS
ELEMENTARY SCHOOL FACILITIES
EXISTING CONDITION SURVEY & MASTER PLAN
EXECUTIVE SUMMARY

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SOUTH WINDSOR ELEMENTARY SCHOOL FACILITIES
EXISTING CONDITION SURVEY & MASTER PLAN

Introduction

This report addresses the existing conditions at the five elementary schools expressly serving the Town of South Windsor, Connecticut. The purpose of this report is to add to the existing conditions report of the previously completed Master Plans. The report also evaluates code compliance requirements; specifically, compliance with the International Building Code (IBC), National Fire Protection Association (NFPA) and Americans with Disabilities Act (ADA) codes / regulations.

Surveys were conducted in June and July, 2013. This work included documenting existing conditions and updating AutoCAD drawings. After recording this and other pertinent information, the data was analyzed to verify the general conditions of the building, noting items such as the building enclosure, interior finishes and architectural conditions.

Following this work, Friar analyzed the previously completed Master Plans of Lawrence Associates in 2004 and Drumney Rosane Anderson inc. in 2007. Through the Study and Design process, Friar attended regular meetings with the Superintendent of Schools and her executive staff to discuss the previous studies, the existing conditions of the schools, and ideas about current needs of the building and its inhabitants. During these meetings, two main objectives emerged which guided the perspective through which ideas were evaluated and decisions made:

> **Primary Objective:** To insure all South Windsor children are able to attend a school that is safe, modern, compliant with building Codes and able to support its educational program; to facilitate completion of the Elementary Facilities Master Plan by exploring the feasibility of improving the elementary school buildings to support school programs that would meet the needs of South Windsor students and their families.
>
> **Secondary objective:** Remove all portable classrooms from the elementary schools, and provide adequately sized buildings of permanent construction to accommodate the projected population in an efficient and cost effective manner.

By these guidelines, the Elementary Facilities Master Plan recommendations and Opinion of Probable Costs were developed by Friar Associates in the weeks following the study, with estimating assistance from Newfield Construction. Through regular meetings, the plans were refined and the costs estimates adjusted accordingly.

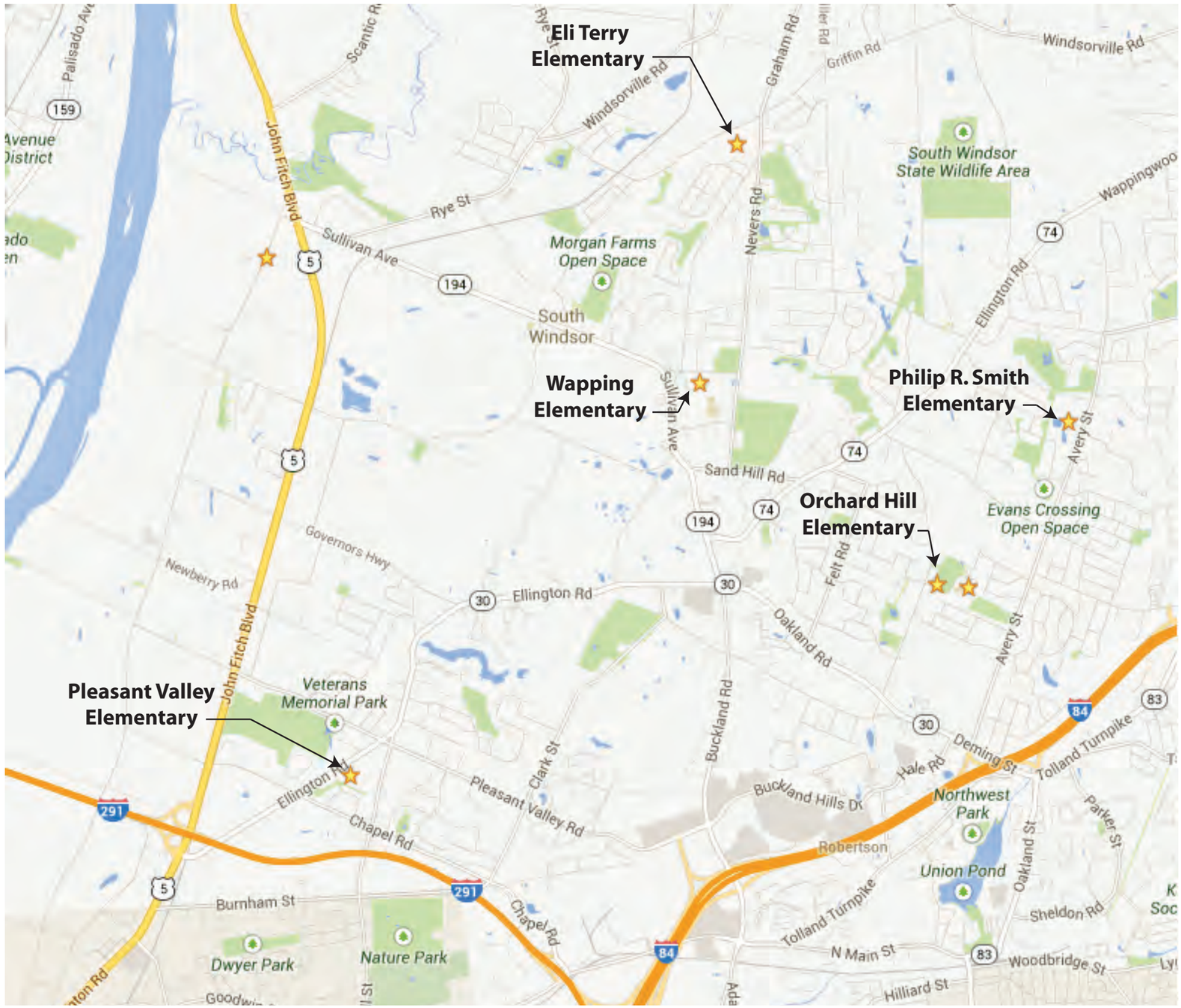
Sections included in this report are as follows:

<u>Section 1</u>
In addition to this brief introduction to the processes followed and work undertaken during the Existing Condition Study, Section 1 reviews the needs and objectives of the Facilities Master Plan, and contains a school location plan, and enrollment projections for each facility.

<u>Section 2</u>
The second section contains an Executive Summary of each building, which provides an overview and summarizes the existing condition survey results. Graphs are included to represent current conditions of the building components and conformity with code requirements.

Section 3

The final section summarizes the recommendations of the Master Plan along with associated costs. This information, in conjunction with the existing conditions data, will provide the Owner the ability to prioritize construction projects and develop a long-range planning process that addresses and protects the value of the Board of Education's facility assets.



Site Map

FRIAR ASSOCIATES
ARCHITECTURE
INTERIOR DESIGN
M/E/P ENGINEERING
LANDSCAPE ARCHITECTURE
281 Farmington Avenue | Farmington, CT 06032

South Windsor Elementary Schools

south windsor, connecticut

nts	09/17/2013	North
scale	date	2013-030

SOUTH WINDSOR ELEMENTARY SCHOOL FACILITIES
EXISTING CONDITION SURVEY & MASTER PLAN
OVERVIEW

NEED

In accordance with the Board of Education's goals of enhancing learning opportunities for students, and encouraging a positive culture in all schools, Friar Associates has worked with the Superintendent of Schools and her executive staff to evaluate and propose enhancements to the elementary school facilities.

Through the Elementary Facilities Master Plan, this group has explored the feasibility of improving school buildings to support appropriately sized schools with programs that would meet the needs of South Windsor students and their families. This would insure that all South Windsor children are able to attend a school that is safe, modern, compliant with current building codes and able to support its educational programs.

Currently, South Windsor's elementary schools do not meet all standards of 21st century learning. Not only does this affect the education of the students, but it also creates difficulty in continuing to retain the highest quality teachers and staff. Modern school buildings attract highly qualified teachers with the abilities to provide students with tools they need to succeed in today's competitive world. These qualities in our schools, in turn, maintain South Windsor's reputation as an attractive place to live, work and raise a family; and directly affect the overall value of property in South Windsor.

The need to improve schools stems not just from a need to invest in student learning but a need to invest in the future of the South Windsor community.

Time since last renovations

As demonstrated by the State Department of Education's (DOE) website, the majority of the South Windsor's elementary school facilities have not had significant improvements in the past 25 years. Based upon this report, three of the five elementary facilities are in need of work to bring the buildings in line with current Building Codes; however, all elementary buildings require upgrades of some significance.

2011 Report on the Condition of
Connecticut's Public School Facilities
General Building Conditions

Data Selection Page | Print | Download (CSV) | Query Criteria | Send E-Mail

District	School Name	Grade Range	Year Built	Last Major Update	Code Update	Handicap Access
SOUTH WINDSOR	Philip R. Smith School	K -05	1959	1988	N	GenArea
SOUTH WINDSOR	Pleasant Valley School	PK-05	1958	1988	N	GenArea
SOUTH WINDSOR	Wapping Elementary School	K -05	1953	1992	Y	AllPgms
SOUTH WINDSOR	Orchard Hill School	PK-05	1963	1988	N	GenArea
SOUTH WINDSOR	Eli Terry School	PK-05	1965	N/R	Y	AllAreas

CT State Department of Education, Report on the Condition of Connecticut's Public School Facilities
https://www.csde.state.ct.us/public/dgm/ed050/pickyear.aspx

While the facilities and maintenance staff have done an outstanding job of preserving and maintaining the buildings under their care, budget constraints have resulted in some deferred maintenance and the postponement of necessary, but cost-prohibitive improvements.

All of South Windsor's Elementary school buildings have dated mechanical systems that are near or at the end of their useful life. While these conditions may not pose a safety concern for our students, teachers and community groups that utilize the buildings, they could be upgraded or replaced with more efficient, energy-saving systems.

School capacity and portable classrooms

When school enrollments and populations peaked in the late 1990s, badly needed space was added to the facilities in the form of temporary, portable classrooms and modular construction. Those facilities are still in use, as indicated on the State Department of Education's website.

Connecticut State Department of Education
Bureau of School Facilities
Building Size and Capacity by School

District	School Name	Square Footage	Acreage	General Class-rooms	Portable Class-rooms	Portables in Use Since	Capacity	10/2010 Enrollment
SOUTH WINDSOR	Philip R. Smith School	44,182	15.0	26	5	2000	468	332
SOUTH WINDSOR	Pleasant Valley School	45,104	16.0	25	3	2000	468	388
SOUTH WINDSOR	Wapping Elementary School	43,400	20.0	22			349	279
SOUTH WINDSOR	Orchard Hill School	51,012	2.0	25	5	2000	480	388
SOUTH WINDSOR	Eli Terry School	51,525	16.0	27	2	2000	483	414
	Total	235,223	69.0	125	15	0	2,228	1,801

CT State Department of Education, Report on the Condition of Connecticut's Public School Facilities
https://www.csde.state.ct.us/public/dgm/ed050/pickyear.aspx

As evidenced by the State's calculation of each school building's size and capacity, current school enrollments have decreased, resulting in schools which are oversized for the population they serve. It is a primary goal of each school renovation in the Elementary Facilities Master Plan to remove the portable classrooms and consolidate those populations and programs within school buildings, correctly sized for the proposed student population.

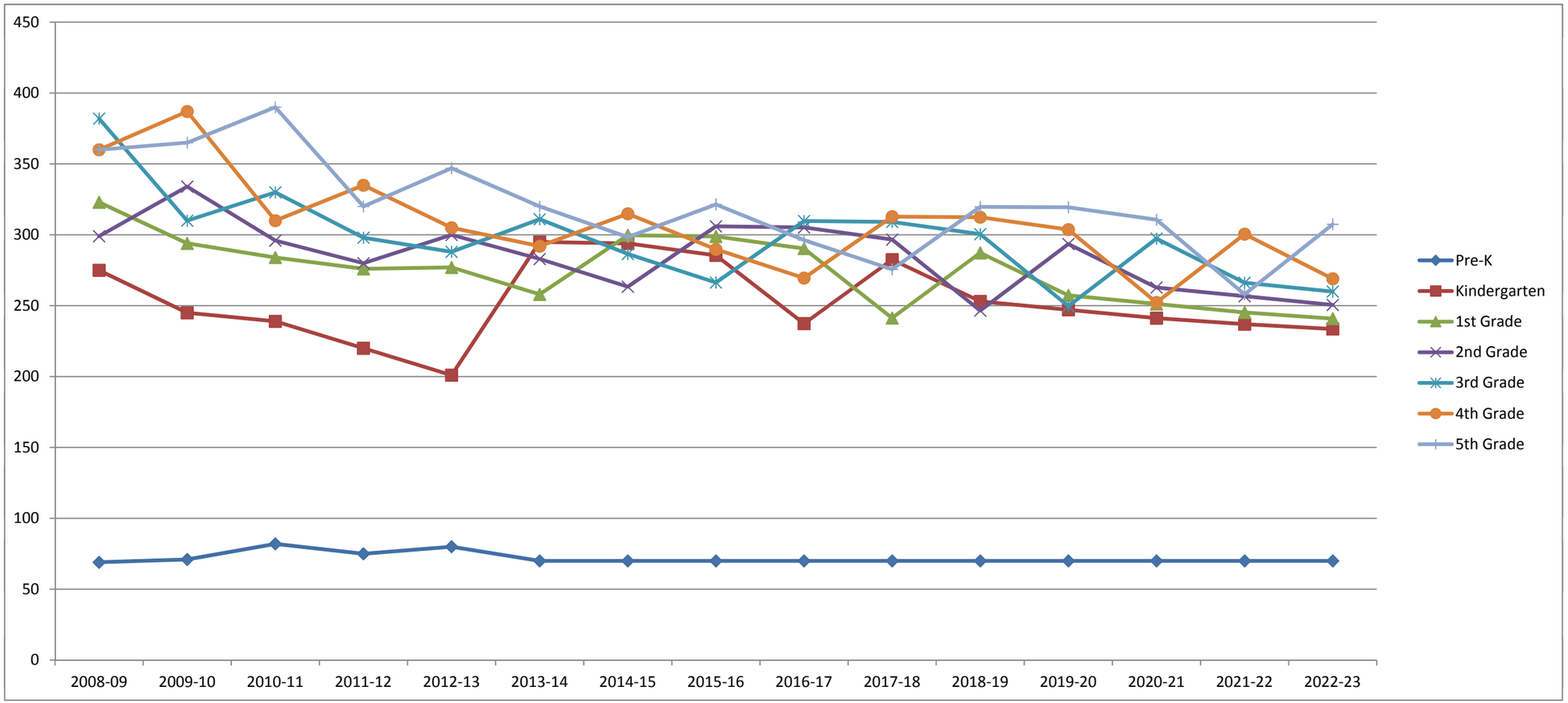
EFFICIENCIES

Enrollment

To gauge the projected enrollment for the school system, Friar Associates utilized the October 2013 population projection study performed by Peter Prowda for the Board of Education which studied the historical demographics of South Windsor and the public school enrollments.

The following page represents the projected enrollment for the South Windsor school system over the next eight years, as projected by Dr. Prowda's study. The calculated projections indicate a **population loss in grades K-5 of 10.7%** over the next eight years.

GR/Year	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	
PK	69	71	82	75	80	70	70	70	70	70	70	70	70	70	70	
K	275	245	239	220	201	295	294	286	237	283	253	247	241	237	234	
1	323	294	284	276	277	258	300	299	290	241	287	257	251	245	241	
2	299	334	296	280	300	283	263	306	305	297	247	294	263	257	251	
3	382	310	330	298	288	311	286	266	310	309	300	250	297	266	260	
4	360	387	310	335	305	292	315	290	270	313	312	304	252	301	269	
5	360	365	390	320	347	320	298	321	296	276	320	319	311	258	307	8 yr delta
PK-5 Total	2,068	2,006	1,931	1,804	1,798	1,829	1,827	1,838	1,778	1,788	1,789	1,741	1,686	1,634	1,631	-10.70%
K-5 Total	1,999	1,935	1,849	1,729	1,718	1,759	1,757	1,768	1,708	1,718	1,719	1,671	1,616	1,564	1,561	-11.12%



Consolidation

This information has been used to guide decisions on school development and sizing of facilities in the Facilities Master Plan that will promote:

- Consolidation of resources and facilities
- Efficiencies of facility maintenance and energy savings
  - Buildings will be designed to comply with Connecticut High Performance Building standards, equivalent in performance to a LEED Silver rating
- Availability of current assets will not result in cost expenditures for swing space during school renovations
- Balancing current staff resources with projected construction timelines
- Maximizing State reimbursement of renovations based upon accepted school population projections

While the notion of creating more efficient facilities are not new, having been considered in the previous Master Plan studies of Lawrence Associates in 2004 and Drumney Rosane Anderson inc. in 2007, the failure to pass two referenda support these efforts is reflected in the DOE's rating of the district in the area of long-term facility planning. South Windsor has earned a grade of one, or "poor".

2011 Report on the Condition of

Connecticut's Public School Facilities

Long-Term Facility Planning, Maintenance and Implementation

Data Selection Page | Print | Download (CSV) | Query Criteria | Send E-Mail

Town	Name	Long-Range Building Plan	Plan Implementation	Equipment Repair / Replacement	Building Maintenance	Plan Implementation
116	PUTNAM	2	2	2	3	3
117	REDDING	3	4	3	3	3
118	RIDGEFIELD	0	0	3	3	3
119	ROCKY HILL	2	1	2	3	3
121	SALEM	2	3	1	1	2
122	SALISBURY	4	4	4	4	4
123	SCOTLAND	4	4	3	4	4
124	SEYMOUR	3	3	3	3	3
125	SHARON	4	4	4	4	4
126	SHELTON	0	0	0	0	0
127	SHERMAN	0	0	3	3	3
128	SIMSBURY	3	3	3	3	3
129	SOMERS	3	2	3	3	3
131	SOUTHINGTON	3	4	2	3	3
132	SOUTH WINDSOR	4	1	3	4	3
133	SPRAGUE	4	4	4	4	4
134	STAFFORD	2	2	2	2	2
135	STAMFORD	0	0	0	0	0
136	STERLING	0	0	0	0	0
137	STONINGTON	3	2	1	4	3

INVESTMENT

The quality of learning environments directly affects a student's level of achievement. Few significant upgrades have been undertaken in South Windsor's elementary school buildings in the past 25 years, with the exception of adding temporary, portable classrooms and modular construction. Program and space needs have changed significantly over the past half century, and the existing facilities cannot effectively offer optimal teaching environments, or modern technologies to enhance the learning experiences to better prepare South Windsor's students for their continued education. In addition, many of the buildings physical systems are near or past their useful life.

Again, as evidenced by another report by the DOE on South Windsor's elementary facilities, the infrastructure of each building was graded from 1-4, with 4 being the highest grade. Each elementary school received at least one of the comparative low scores, with Wapping Elementary leading all schools with the lowest score in three categories.

2011 Report on the Condition of
Connecticut's Public School Facilities
Service Systems

Data Selection Page | Print | Download (CSV) | Query Criteria | Send E-Mail

District	School Name	Internal Comm	Tech Infra	Air Condtn	Heating	Interior Light	Exterior Light	Road & Walkways	Plumbing
SOUTH WINDSOR	Philip R. Smith School	3	3	0	2	3	1	2	3
SOUTH WINDSOR	Pleasant Valley School	3	3	0	3	3	1	2	3
SOUTH WINDSOR	Wapping Elementary School	3	2	0	2	3	3	2	3
SOUTH WINDSOR	Orchard Hill School	2	3	0	3	3	3	2	3
SOUTH WINDSOR	Eli Terry School	3	2	0	3	3	3	3	3

South Windsor's students have the right to an education based upon standards of excellence. The education provided by the South Windsor Public Schools is the shared responsibility of students, faculty, administration, support staff, parents and the community at large.

The Elementary Facilities Master Plan provides **enhanced learning and working areas for Students and Teachers**, promotes **healthy learning environments**, and **controls classroom sizes** by targeting optimal student populations for each building. The completed projects will provide **safe, efficient, modern facilities** that are compliant with all current building codes.

Through the implementation of these renovations, we will protect the most important investments of our community: our buildings, and our children's future.

SOUTH WINDSOR ELEMENTARY SCHOOL FACILITIES
EXISTING CONDITION SURVEY
ORCHARD HILL ELEMENTARY - Executive Summary

Orchard Hill Elementary is a 49,212 square-foot building with an additional 1,800 square-feet of modular construction, and 4,314 square-feet of relocatable classrooms. Located at 350 Foster Street in South Windsor, the school serves Grades K - 5. Constructed in 1964, the building received additions and renovations in 1966 & 2000.

The building consists of a single story west wing housing the cafeteria and classrooms, and a two-story east wing with classrooms, media center and gymatorium. The wings are joined by a single story connector with the main entrance and office areas. Circulation is provided by a central corridor with stairs at each end of the east wing. Portable classrooms are connected to the south side of the east wing by a separated corridor to the stair well.

Site Survey

- Existing exit doors, door hardware, and threshold conditions need to be upgraded, and the exit paths should be re-graded to provide a flush egress conditions.
- Rear exit walkway should be connected to the public way, with proper lighting.
- Accessibility to the playground, including marking paths, should be provided.
- Courtyard walkways and steps are in need of repair.
- The second means of egress from the Courtyard needs to be marked and proper exiting provided to the public way.
- Storm water drainage should be directed away from the building.

NFPA Code Survey

The school was also evaluated for compliance with the National Fire Protection Agency (NFPA) 101, 2003 edition. The Life Safety Code is used for evaluations of existing buildings and applicable systems. This building will require updates with any proposed renovation, to be compliant with current codes.

The work recommended to address NFPA code violations includes:

- Upgrade doors to provide proper fire ratings, and closers on the corridor doors.
- Adjust egress doors to swing in the direction of travel.
- At exit doors, provide signage, fire alarm pull stations, and proper clearances for accessibility.
- Provide emergency lighting and flush landings at exit doors.
- Stairs need to be upgraded with new handrails, guardrails, stair nosings, and balusters as well as a rated stair enclosure.
- Provide proper fire separation assemblies and doors between different occupancies.
- The existing storage areas located under the stage should be fire rated or sprinkler protected.
- Redirect exiting away from the loading dock area.

ADA Compliance Survey

The school was evaluated against the Americans with Disabilities Act (ADA), Title II, for public building accessibility. ADA is an act of Congress mandating certain standards for accessibility that are enforceable through the civil courts. Orchard Hill Elementary fails to meet some of these requirements, evident in the "ADA Compliance Survey". The evaluation was based on a review of existing documentation, field verification of existing space usage to confirm existing space allocation and usage.

The work recommended to address ADA compliance issues includes:

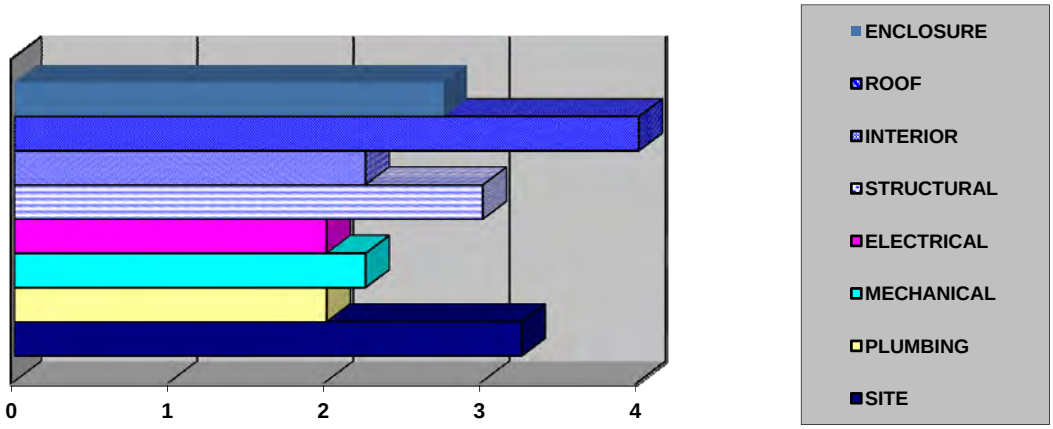
- An elevator should be added to provide accessibility at the east wing.
- The stage is currently not accessible from the auditorium or the corridor.
- Accessible entrances shall be identified by a sign showing the International Symbol of Accessibility.
  - At least 60% of public entrances must be accessible; the number of accessible entrances shall be equivalent to the number of exits required
- At least one accessible route complying with this section shall connect accessible building or facility entrances with all accessible spaces
  - Minimum Clear Headroom: 80". If a vertical clearance of an area adjoining an accessible route is reduced to less than 80", a barrier shall be provided.
- Ramps to have a maximum slope of 1:12; maximum rise for any run shall be 30".
  - Handrails: Provide handrail extensions , 12" minimum beyond top rise nosing
- Doors:
  - Doorways shall provide a clear opening of 32" minimum, with the door open 90°
  - Provide proper maneuvering clearances at all doors
  - Two doors in series: min. space between two hinged doors in series shall be 48" plus the width of any door swinging into the space
- Door hardware and operating mechanisms shall comply with standards, including:
  - Closers shall be adjusted closers so that, from an open position of 70°, the door will take at least 3 seconds to move to a point 3" from the latch
  - The maximum force for pushing or pulling open door shall be 5 lbf.

- Drinking Fountains:
  - Unit controls shall be front mounted or side mounted near the front edge, operable with one hand and force required to activate controls shall be no greater than 5 lbf.
  - Minimum 30" by 48" clear floor space shall be provided
- Existing classroom sink and drinking fountain need to be upgraded for accessibility.
- Toilets:
  - Accessible toilet rooms and bathrooms shall be located on an accessible route
  - Toilets shall be identified by a sign showing the International Symbol of Accessibility
  - Provide unobstructed turning spaces for wheelchairs
  - Controls and dispensers shall comply with the mounting height and operation requirements
  - Fixture size, stature, and reach ranges shall comply with the ADA Advisory Specifications for Water Closets Serving Children Ages 3 through 12

Survey Results

Each of the elements that were reviewed under this category was ranked on a scale of 0-4, with a 4 rating equating to excellent conditions. Components that received a ranking of 3 should be considered to be in good condition, while rankings of 2 and 1 are considered to be in fair and poor condition, respectively. The following chart graphically presents the survey results.

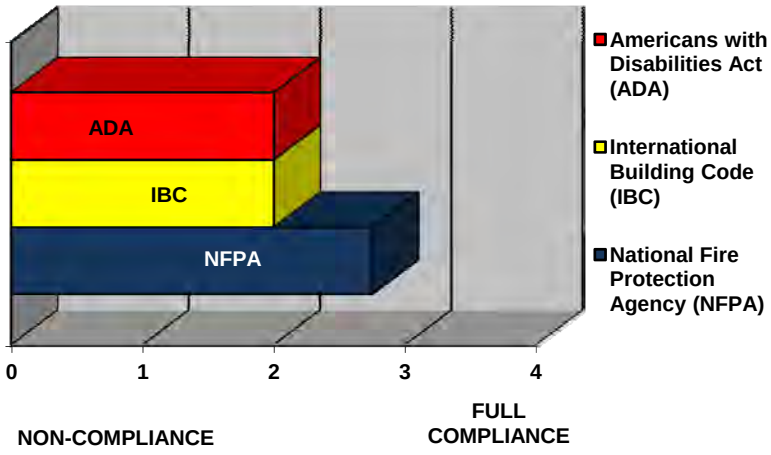
BUILDING CONDITION EVALUATION



Scale: 1 = Poor Condition, 4 = Excellent Condition

The following graph represents the building's overall conformity with IBC, NFPA and ADA requirements. Compliance was rated on a scale of 0-4, with a 4 rating equating to full compliance. A rating of 2 or under indicates that the building requires moderate to substantial code compliance updates in order to protect the safety of the building's occupants; the building contains non-compliant conditions.

CODE COMPLIANCE EVALUATION



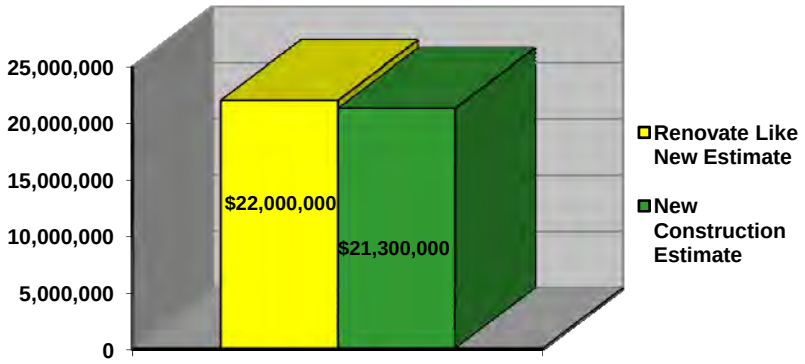
Based on the survey, Orchard Hill Elementary is in fair to good condition.

Projected Construction only costs

These conceptual estimates reflect bringing Orchard Hill Elementary in its present configuration into compliance with current applicable codes, addressing the needs of the various building components (architectural, structural, mechanical / electrical / plumbing / fire protection and site), and providing new additions. These costs were generated using Construction Cost Data and current local market conditions for buildings of this type.

Based on analysis and current conditions, the required Construction work to renovate this school facility "like new" per CT Department of Education standards will cost approximately $22,000,000. At a projected 71,000 square feet, additions and renovations at Orchard Hill Elementary equate to approximately $310 per square foot. This cost per-square-foot figure falls within industry standards for renovations / upgrades of this nature.

A similarly constructed new building would cost approximately $300 per square foot. Using this figure, the replacement cost for Orchard Hill Elementary is approximately $21,300,000, which follows state standards for structures of this type.



SOUTH WINDSOR ELEMENTARY SCHOOL FACILITIES
EXISTING CONDITION SURVEY & MASTER PLAN
ELI TERRY ELEMENTARY - Executive Summary

Eli Terry Elementary is a one-story, 49,725 square-foot building with 2,500 square-feet of relocatable classrooms. Located at 569 Griffin Road in South Windsor, the school serves Grades PK - 5. Constructed in 1965, the building received additions and renovations in 1966 & 2000. The building consists of multi-level slabs on grade, and elevated slabs. Circulation is provided by a central ring corridor with ramps.

Site Survey

- Tactile warnings are not provided at curb ramps to the parking lot.
- A sidewalk should be provided from both designated handicap parking spaces to the main building entrance.
- Existing exit doors, door hardware, and threshold conditions need to be upgraded, and the exit paths should be re-graded to provide a flush egress conditions.
- Accessibility to the playground, including marking paths, should be provided
- Courtyard walkways and steps are in need of repair.
- The second means of egress from the Courtyard needs to be marked and proper exiting provided to the public way.
- The exterior stair assembly at the loading dock needs compliant handrails, risers and treads.

NFPA Code Survey

The school was also evaluated for compliance with the National Fire Protection Agency (NFPA) 101, 2003 edition. The Life Safety Code is used for evaluations of existing buildings and applicable systems. This building will require updates with any proposed renovation, to be compliant with current codes.

The work recommended to address NFPA code violations includes:

- Upgrade doors to provide proper fire ratings, and closers on the corridor doors.
- At exit doors, provide signage, fire alarm pull stations, and proper clearances for accessibility.
- Provide emergency lighting and flush landings at exit doors.
- Exit signs descending more than 12” are not code compliant.
- The existing emergency lighting is original to the building and will need to be replaced.
- The second means of egress from the Cafeteria to the exterior loading dock requires a proper separations and signage if it is to be considered an exit way.
- Provide proper fire separation assemblies and doors between different occupancies.
- The existing storage areas located under the stage should be fire rated or sprinkler protected.

ADA Compliance Survey

The school was evaluated against the Americans with Disabilities Act (ADA), Title II, for public building accessibility. ADA is an act of Congress mandating certain standards for accessibility that are enforceable through the civil courts. Eli Terry Elementary fails to meet some of these requirements, evident in the "ADA Compliance Survey". The evaluation was based on a review of existing documentation, field verification of existing space usage to confirm existing space allocation and usage.

The work recommended to address ADA compliance issues includes:

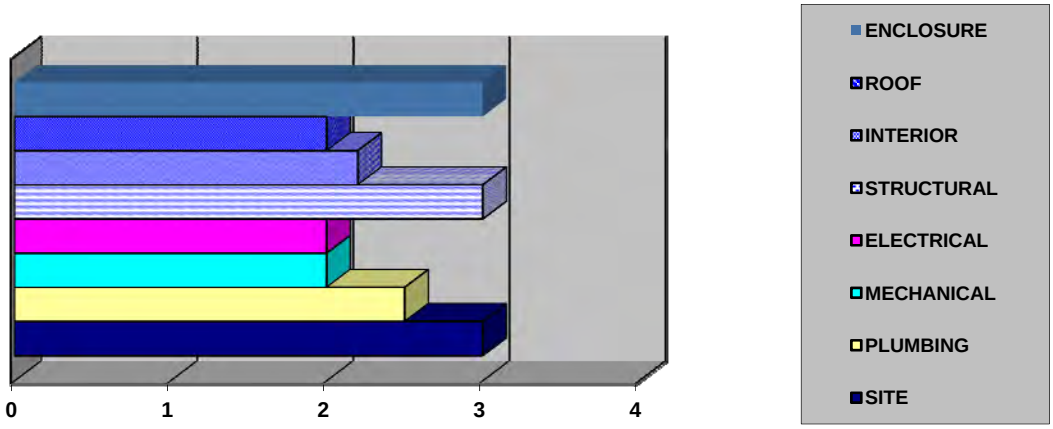
- Accessible entrances shall be identified by a sign showing the International Symbol of Accessibility.
  - At least 60% of public entrances must be accessible; the number of accessible entrances shall be equivalent to the number of exits required
- At least one accessible route complying with this section shall connect accessible building or facility entrances with all accessible spaces
  - Minimum Clear Headroom: 80". If a vertical clearance of an area adjoining an accessible route is reduced to less than 80", a barrier shall be provided.
- Ramps to have a maximum slope of 1:12; maximum rise for any run shall be 30".
  - Handrails: Provide handrail extensions , 12" minimum beyond top rise nosing
- Doors:
  - Doorways shall provide a clear opening of 32" minimum, with the door open 90°
  - Provide proper maneuvering clearances at all doors
  - Two doors in series: min. space between two hinged doors in series shall be 48" plus the width of any door swinging into the space
- Door hardware and operating mechanisms shall comply with standards, including:
  - Closers shall be adjusted closers so that, from an open position of 70°, the door will take at least 3 seconds to move to a point 3" from the latch
  - The maximum force for pushing or pulling open door shall be 5 lbf.
- Drinking Fountains:
  - Unit controls shall be front mounted or side mounted near the front edge, operable with one hand and force required to activate controls shall be no greater than 5 lbf.
  - Minimum 30" by 48" clear floor space shall be provided

- Toilets:
  - Accessible toilet rooms and bathrooms shall be located on an accessible route
  - Toilets shall be identified by a sign showing the International Symbol of Accessibility
  - Provide unobstructed turning spaces for wheelchairs
  - Controls and dispensers shall comply with the mounting height and operation requirements
  - Fixture size, stature, and reach ranges shall comply with the ADA Advisory Specifications for Water Closets Serving Children Ages 3 through 12

Survey Results

Each of the elements that were reviewed under this category was ranked on a scale of 0-4, with a 4 rating equating to excellent conditions. Components that received a ranking of 3 should be considered to be in good condition, while rankings of 2 and 1 are considered to be in fair and poor condition, respectively. The following chart graphically presents the survey results.

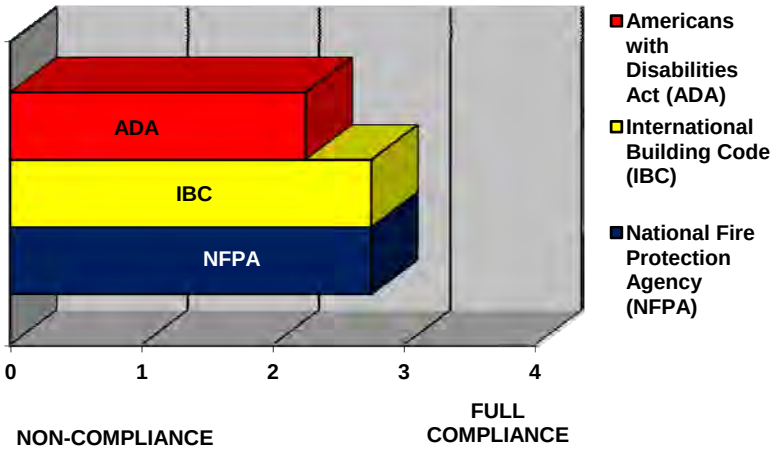
BUILDING CONDITION EVALUATION



Scale: 1 = Poor Condition, 4 = Excellent Condition

The following graph represents the building's overall conformity with IBC, NFPA and ADA requirements. Compliance was rated on a scale of 0-4, with a 4 rating equating to full compliance. A rating of 2 or under indicates that the building requires moderate to substantial code compliance updates in order to protect the safety of the building's occupants; the building contains non-compliant conditions.

CODE COMPLIANCE EVALUATION



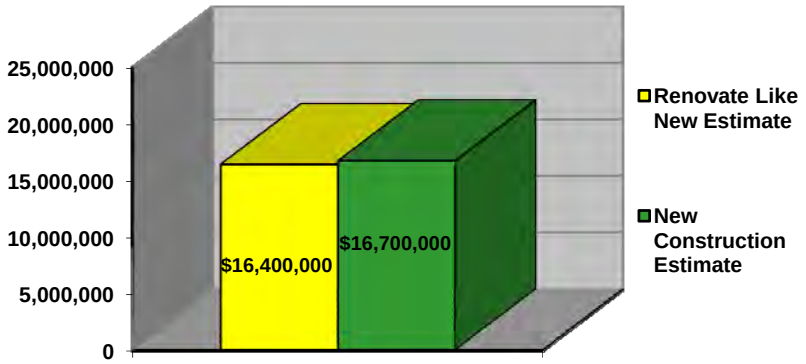
Based on the survey, Eli Terry Elementary is in fair to good condition.

Projected Construction only costs

These conceptual estimates reflect bringing Eli Terry Elementary in its present configuration into compliance with current applicable codes, addressing the needs of the various building components (architectural, structural, mechanical / electrical / plumbing / fire protection and site), and providing new additions. These costs were generated using Construction Cost Data and current local market conditions for buildings of this type.

Based on analysis and current conditions, the required Construction work to renovate this school facility "like new" per CT Department of Education standards will cost approximately $16,400,000. At a projected 55,675 square feet, additions and renovations at Eli Terry Elementary equate to approximately $295 per square foot. This cost per-square-foot figure falls within industry standards for renovations / upgrades of this nature.

A similarly constructed new building would cost approximately $300 per square foot. Using this figure, the replacement cost for Eli Terry Elementary is approximately $16,700,000, which follows state standards for structures of this type.



SOUTH WINDSOR ELEMENTARY SCHOOL FACILITIES
EXISTING CONDITION SURVEY
PHILIP R. SMITH ELEMENTARY - Executive Summary

Smith Elementary is a one-story, multi-level, 42,382 square-foot building with an additional 3,132 square-feet of relocatable classrooms. Located at 949 Avery Street in South Windsor, the school serves Grades K - 5. Constructed in 1959, the building received additions and renovations in 1961, 1988 & 2000. The building, set on a sloping site, consists of a single north wing housing the main entrance, cafeteria, gymatorium and office areas; the main entrance and gymnasium are set 3'-0" below the main level. The north wing connects to the west classroom wing, which leads to the south classroom wing. Circulation through the classroom wings is provided by a central corridor with grade level egress each end. Portable classrooms are connected to the south wing by a separated corridor.

<u>Site Survey</u>

- Tactile warnings are not provided at curb ramps to the parking lot.
- A sidewalk should be provided from designated handicap parking spaces to the main building entrance.
- Existing exit doors, door hardware, and threshold conditions need to be upgraded, and the exit paths should be re-graded to provide flush egress conditions.
- The exterior stair assembly at the loading dock needs compliant handrails, risers and treads.

NFPA Code Survey

The school was also evaluated for compliance with the National Fire Protection Agency (NFPA) 101, 2003 edition. The Life Safety Code is used for evaluations of existing buildings and applicable systems. This building will require updates with any proposed renovation, to be compliant with current codes.

The work recommended to address NFPA code violations includes:

- Provide fire separation between the Gymnasium and the Cafeteria; the size of the adjacent assembly occupancies may require sprinklers.
- Upgrade doors to provide proper fire ratings, and closers on the corridor doors.
- Affix recessed floor mats to the floor.
- At exit doors, provide signage, fire alarm pull stations, and proper clearances for accessibility.
- Provide exiting hardware, emergency lighting and flush landings at exit doors.
- Stairs need to be upgraded with new handrails, guardrails, stair nosings, and signage.
- Provide proper fire separation assemblies, rated windows and doors between different occupancies.
- The existing storage areas located under the stage should be fire rated or sprinkler protected.
- Redirect exiting away from the loading dock area; the cafeteria assembly areas currently traverse the loading dock to access the public way.

ADA Compliance Survey

The school was evaluated against the Americans with Disabilities Act (ADA), Title II, for public building accessibility. ADA is an act of Congress mandating certain standards for accessibility that are enforceable through the civil courts. Smith Elementary fails to meet some of these requirements, evident in the "ADA Compliance Survey". The evaluation was based on a review of existing documentation, field verification of existing space usage to confirm existing space allocation and usage.

The work recommended to address ADA compliance issues includes:

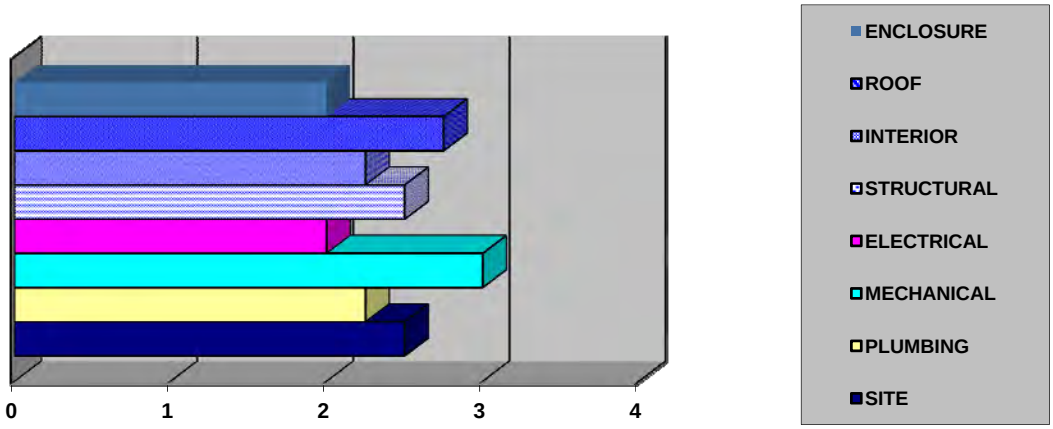
- Elevators and wheelchair lifts should be considered to provide interior access to all floor levels.
- Stairs to the portable classrooms are non-compliant.
- Accessible entrances shall be identified by a sign showing the International Symbol of Accessibility.
  - At least 60% of public entrances must be accessible; the number of accessible entrances shall be equivalent to the number of exits required
- At least one accessible route complying with this section shall connect accessible building or facility entrances with all accessible spaces
  - Minimum Clear Headroom: 80". If a vertical clearance of an area adjoining an accessible route is reduced to less than 80", a barrier shall be provided.
- Ramps to have a maximum slope of 1:12; maximum rise for any run shall be 30".
  - Handrails: Provide handrail extensions , 12" minimum beyond top rise nosing
- Doors:
  - Doorways shall provide a clear opening of 32" minimum, with the door open 90°
  - Provide proper maneuvering clearances at all doors
  - Two doors in series: min. space between two hinged doors in series shall be 48" plus the width of any door swinging into the space
- Door hardware and operating mechanisms shall comply with standards, including:
  - Closers shall be adjusted closers so that, from an open position of 70°, the door will take at least 3 seconds to move to a point 3" from the latch
  - The maximum force for pushing or pulling open door shall be 5 lbf.

- Drinking Fountains:
  - Unit controls shall be front mounted or side mounted near the front edge, operable with one hand and force required to activate controls shall be no greater than 5 lbf.
  - Minimum 30" by 48" clear floor space shall be provided
- Existing classroom sinks and drinking fountains need to be upgraded for accessibility.
- Toilets:
  - Accessible toilet rooms and bathrooms shall be located on an accessible route
  - Toilets shall be identified by a sign showing the International Symbol of Accessibility
  - Provide unobstructed turning spaces for wheelchairs
  - Controls and dispensers shall comply with the mounting height and operation requirements
  - Fixture size, stature, and reach ranges shall comply with the ADA Advisory Specifications for Water Closets Serving Children Ages 3 through 12

Survey Results

Each of the elements that were reviewed under this category was ranked on a scale of 0-4, with a 4 rating equating to excellent conditions. Components that received a ranking of 3 should be considered to be in good condition, while rankings of 2 and 1 are considered to be in fair and poor condition, respectively. The following chart graphically presents the survey results.

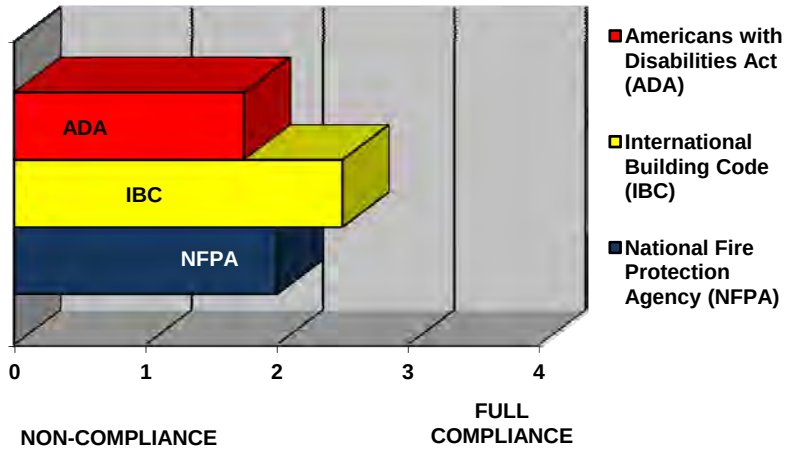
BUILDING CONDITION EVALUATION



Scale: 1 = Poor Condition, 4 = Excellent Condition

The following graph represents the building's overall conformity with IBC, NFPA and ADA requirements. Compliance was rated on a scale of 0-4, with a 4 rating equating to full compliance. A rating of 2 or under indicates that the building requires moderate to substantial code compliance updates in order to protect the safety of the building's occupants; the building contains non-compliant conditions.

CODE COMPLIANCE EVALUATION



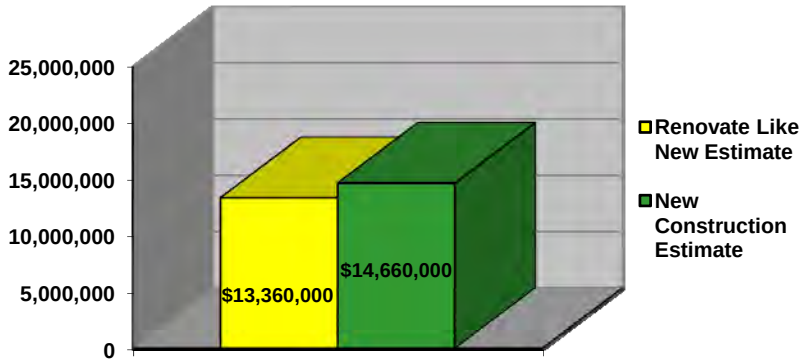
Based on the survey, Smith Elementary is in fair to good condition.

Projected Construction only costs

These conceptual estimates reflect bringing Smith Elementary in its present configuration into compliance with current applicable codes, addressing the needs of the various building components (architectural, structural, mechanical / electrical / plumbing / fire protection and site), and providing new additions. These costs were generated using Construction Cost Data and current local market conditions for buildings of this type.

Based on analysis and current conditions, the required Construction work to renovate this school facility "like new" per CT Department of Education standards will cost approximately $13,360,000. At a projected 48,875 square feet, additions and renovations at Smith Elementary equate to approximately $275 per square foot. This cost per-square-foot figure falls within industry standards for renovations / upgrades of this nature.

A similarly constructed new building would cost approximately $300 per square foot. Using this figure, and accounting for site costs, the replacement cost for Smith Elementary is approximately $14,660,000, which follows state standards for structures of this type.



SOUTH WINDSOR ELEMENTARY SCHOOL FACILITIES
EXISTING CONDITION SURVEY
PLEASANT VALLEY ELEMENTARY - Executive Summary

Pleasant Valley Elementary is a one-story, multi-level, 43,304 square-foot building with an additional 900 square-feet of modular construction and 3,132 square-feet of relocatable classrooms. Located at 591 Ellington Rd (Rte. 30) in South Windsor, the school serves Grades PK - 5. Constructed in 1958, the building received additions and renovations in 1964, 1988 & 2000. The building, set on a sloping site, consists of a single north wing housing the main entrance, cafeteria, gymatorium and office areas; the main entrance and gymnasium are set 3'-0" below the main level. The north wing connects to the west classroom wing, which leads to the south classroom wing. Circulation through the classroom wings is provided by a central corridor with grade level egress each end. Portable classrooms are connected to the south wing by a separated corridor.

Site Survey

- Tactile warnings are not provided at curb ramps to the parking lot.
- Accessible parking spaces need to be made compliant with ADA requirements including signage and clearances.
- Accessibility to the playground, including marking paths, should be provided
- Existing exit doors, door hardware, and threshold conditions need to be upgraded, and the exit paths should be re-graded to provide flush egress conditions.
- The exterior stair assembly at the loading dock needs compliant handrails, risers and treads.
- The ramp to the portable classrooms should be repaired and refinished.

NFPA Code Survey

The school was also evaluated for compliance with the National Fire Protection Agency (NFPA) 101, 2003 edition. The Life Safety Code is used for evaluations of existing buildings and applicable systems. This building will require updates with any proposed renovation, to be compliant with current codes.

The work recommended to address NFPA code violations includes:

- Provide fire separation between the Gymnasium and the Cafeteria; the size of the adjacent assembly occupancies may require sprinklers.
- Upgrade doors to provide proper fire ratings, and closers on the corridor doors.
- Affix recessed floor mats to the floor.
- At exit doors, provide signage, fire alarm pull stations, and proper clearances for accessibility.
- Provide exiting hardware, emergency lighting and flush landings at exit doors.
- Stairs need to be upgraded with new handrails, guardrails, stair nosings, and signage.
- Provide proper fire separation assemblies, rated windows and doors between different occupancies.
- The existing storage areas located under the stage should be fire rated or sprinkler protected.
- Redirect exiting away from the loading dock area; the cafeteria assembly areas currently traverse the loading dock to access the public way.

ADA Compliance Survey

The school was evaluated against the Americans with Disabilities Act (ADA), Title II, for public building accessibility. ADA is an act of Congress mandating certain standards for accessibility that are enforceable through the civil courts. Pleasant Valley Elementary fails to meet some of these requirements, evident in the "ADA Compliance Survey". The evaluation was based on a review of existing documentation, field verification of existing space usage to confirm existing space allocation and usage.

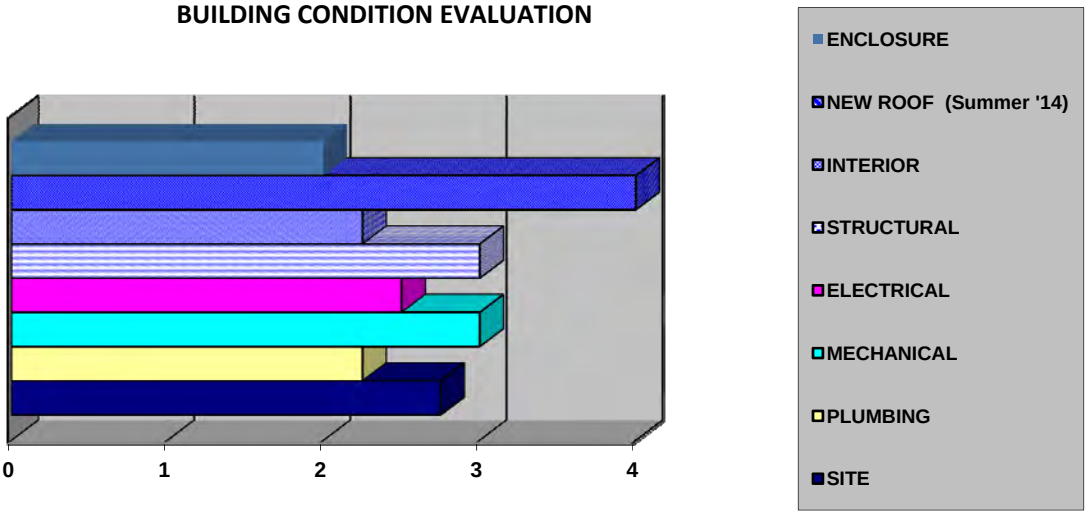
The work recommended to address ADA compliance issues includes:

- Elevators and wheelchair lifts should be considered to provide interior access to all floor levels.
- Accessible entrances shall be identified by a sign showing the International Symbol of Accessibility.
  - At least 60% of public entrances must be accessible; the number of accessible entrances shall be equivalent to the number of exits required
- At least one accessible route complying with this section shall connect accessible building or facility entrances with all accessible spaces
- Ramps to have a maximum slope of 1:12; maximum rise for any run shall be 30".
  - Handrails: Provide handrail extensions , 12" minimum beyond top rise nosing
- Doors:
  - Doorways shall provide a clear opening of 32" minimum, with the door open 90°
  - Provide proper maneuvering clearances at all doors
  - Two doors in series: min. space between two hinged doors in series shall be 48" plus the width of any door swinging into the space
- Door hardware and operating mechanisms shall comply with standards, including:
  - Closers shall be adjusted closers so that, from an open position of 70°, the door will take at least 3 seconds to move to a point 3" from the latch
  - The maximum force for pushing or pulling open door shall be 5 lbf.

- Drinking Fountains:
  - Unit controls shall be front mounted or side mounted near the front edge, operable with one hand and force required to activate controls shall be no greater than 5 lbf.
  - Minimum 30" by 48" clear floor space shall be provided
- Existing classroom sinks and drinking fountains need to be upgraded for accessibility.
- Toilets:
  - Accessible toilet rooms and bathrooms shall be located on an accessible route
  - Toilets shall be identified by a sign showing the International Symbol of Accessibility
  - Provide unobstructed turning spaces for wheelchairs
  - Controls and dispensers shall comply with the mounting height and operation requirements
  - Fixture size, stature, and reach ranges shall comply with the ADA Advisory Specifications for Water Closets Serving Children Ages 3 through 12

Survey Results

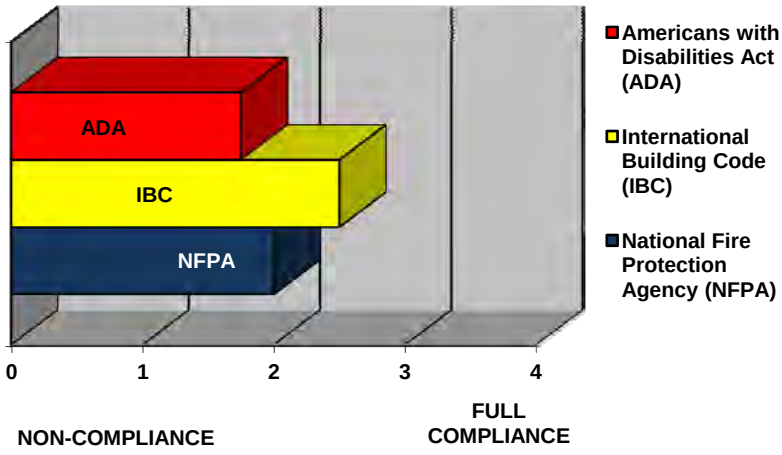
Each of the elements that were reviewed under this category was ranked on a scale of 0-4, with a 4 rating equating to excellent conditions. Components that received a ranking of 3 should be considered to be in good condition, while rankings of 2 and 1 are considered to be in fair and poor condition, respectively. The following chart graphically presents the survey results.



Scale: 1 = Poor Condition, 4 = Excellent Condition

The following graph represents the building's overall conformity with IBC, NFPA and ADA requirements. Compliance was rated on a scale of 0-4, with a 4 rating equating to full compliance. A rating of 2 or under indicates that the building requires moderate to substantial code compliance updates in order to protect the safety of the building's occupants; the building contains non-compliant conditions.

CODE COMPLIANCE EVALUATION



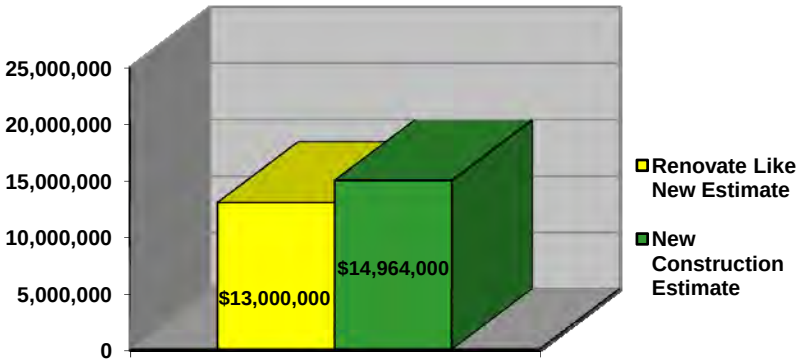
Based on the survey, Pleasant Valley Elementary is in fair to good condition.

Projected Construction only costs

These conceptual estimates reflect bringing Pleasant Valley Elementary in its present configuration into compliance with current applicable codes, addressing the needs of the various building components (architectural, structural, mechanical / electrical / plumbing / fire protection and site), and providing new additions. These costs were generated using Construction Cost Data and current local market conditions for buildings of this type.

Based on analysis and current conditions, the required Construction work to renovate this school facility "like new" per CT Department of Education standards will cost approximately $13,000,000. At a projected 48,240 square feet, additions and renovations at Pleasant Valley Elementary equate to approximately $270 per square foot. This cost per-square-foot figure falls within industry standards for renovations / upgrades of this nature.

A similarly constructed new building would cost approximately $300 per square foot. Using this figure, and accounting for site costs, the replacement cost for Pleasant Valley Elementary is approximately $14,964,000, which follows state standards for structures of this type.



SOUTH WINDSOR ELEMENTARY SCHOOL FACILITIES
EXISTING CONDITION SURVEY
WAPPING ELEMENTARY - Executive Summary

Wapping Elementary is a one-story, 43,400 square-foot building located at 91 Ayers Road in South Windsor serving Grades K - 5. Originally constructed in 1953, the building received additions and renovations in 1961 & 1992. The building consists of multi-level slabs on grade, and elevated slabs. Circulation is provided by a central corridor and two auxiliary corridors with ramps.

Site Survey

- The existing bituminous curb, walkway, and driveway are in poor to fair condition.
- Tactile warnings are not provided at curb ramps to the parking lot.
- Existing exit doors, door hardware, and threshold conditions need to be upgraded, and the exit paths should be re-graded to provide a flush egress condition.
- Repair the deteriorated stair to the high school property .
- The play area requires crack sealing and resurfacing.
- The storage room door to the exterior requires a proper landing and walkway if it is to be considered an exit way.
- Only one designated handicap parking space exists, and the location is not in close proximity to the main building entrance.

NFPA Code Survey

The school was also evaluated for compliance with the National Fire Protection Agency (NFPA) 101, 2003 edition. The Life Safety Code is used for evaluations of existing buildings and applicable systems. This building will require updates with any proposed renovation, to be compliant with current codes.

The work recommended to address NFPA code violations includes:

- Upgrade doors to provide proper fire ratings, and closers on the corridor doors.
- Provide Assembly areas with floor proximity exit signage.
- At exit doors, provide signage, fire alarm pull stations, and proper clearances for accessibility.
- Provide emergency lighting and flush landings at exit doors.
- Exit stairs require intermediate rail, handrail extensions, fixed floor mat, fire alarm pull station and exit signage.
- At the Kitchen, the electrical panel should not be located adjacent to a water source.
- At the Boiler Room, provide a closer on the door to the pipe tunnels, and closed risers at the exit stair.
- Provide proper fire separation assemblies in existing demising wall openings separating different occupancies.

ADA Compliance Survey

The school was evaluated against the Americans with Disabilities Act (ADA), Title II, for public building accessibility. ADA is an act of Congress mandating certain standards for accessibility that are enforceable through the civil courts. Wapping Elementary fails to meet some of these requirements, evident in the "ADA Compliance Survey". The evaluation was based on a review of existing documentation, field verification of existing space usage to confirm existing space allocation and usage.

The work recommended to address ADA compliance issues includes:

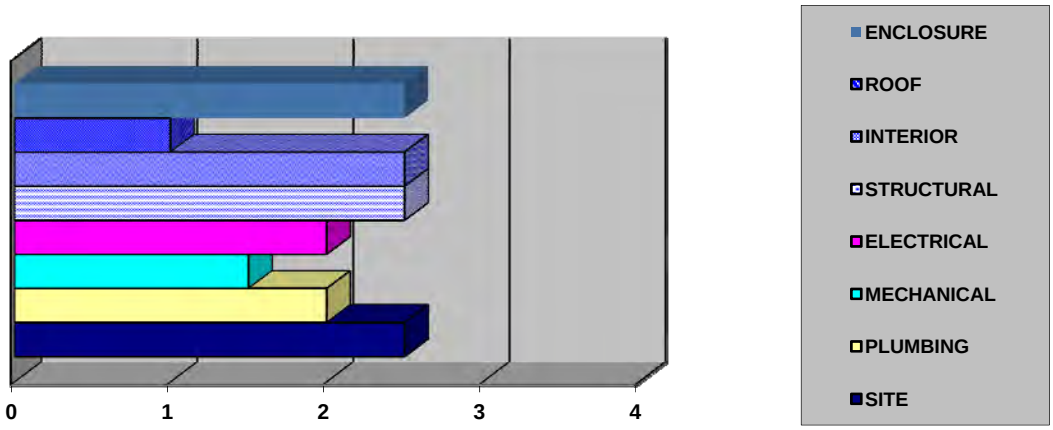
- Elevators and wheelchair lifts should be considered to provide interior access to all floor levels.
- Accessible entrances shall be identified by a sign showing the International Symbol of Accessibility.
  - At least 60% of public entrances must be accessible; the number of accessible entrances shall be equivalent to the number of exits required
- At least one accessible route complying with this section shall connect accessible building or facility entrances with all accessible spaces
  - Accessible routes serving any space or element shall also serve as a means of egress for emergencies or connect to an accessible area of rescue assistance. Where a required exit from an occupiable level above or below a level of accessible exit discharge is not accessible, an area of rescue assistance shall be provided on each level
- Provide rescue assistance areas: minimum of 2 spaces each being not less than 30" x 48"
- Handrails: Provide handrail extensions , 12" minimum beyond top rise nosing
- Doors:
  - Doorways shall provide a clear opening of 32" minimum, with the door open 90°
  - Provide proper maneuvering clearances at all doors
  - Two doors in series: min. space between two hinged doors in series shall be 48" plus the width of any door swinging into the space
- Door hardware and operating mechanisms shall comply with standards, including:
  - Closers shall be adjusted closers so that, from an open position of 70°, the door will take at least 3 seconds to move to a point 3" from the latch
  - The maximum force for pushing or pulling open door shall be 5 lbf.

- Drinking Fountains:
  - Spouts shall be no higher than 36", located 15” from the vertical support and 5” max. from the front edge
  - Unit controls shall be front mounted or side mounted near the front edge, operable with one hand and force required to activate controls shall be no greater than 5 lbf.
  - Minimum 30" by 48" clear floor space shall be provided
- Toilets:
  - Accessible toilet rooms and bathrooms shall be located on an accessible route
  - Toilets shall be identified by a sign showing the International Symbol of Accessibility
  - Provide unobstructed turning spaces for wheelchairs
  - Controls and dispensers shall comply with the mounting height and operation requirements
  - Fixture size, stature, and reach ranges shall comply with the ADA Advisory Specifications for Water Closets Serving Children Ages 3 through 12

Survey Results

Each of the elements that were reviewed under this category was ranked on a scale of 0-4, with a 4 rating equating to excellent conditions. Components that received a ranking of 3 should be considered to be in good condition, while rankings of 2 and 1 are considered to be in fair and poor condition, respectively. The following chart graphically presents the survey results.

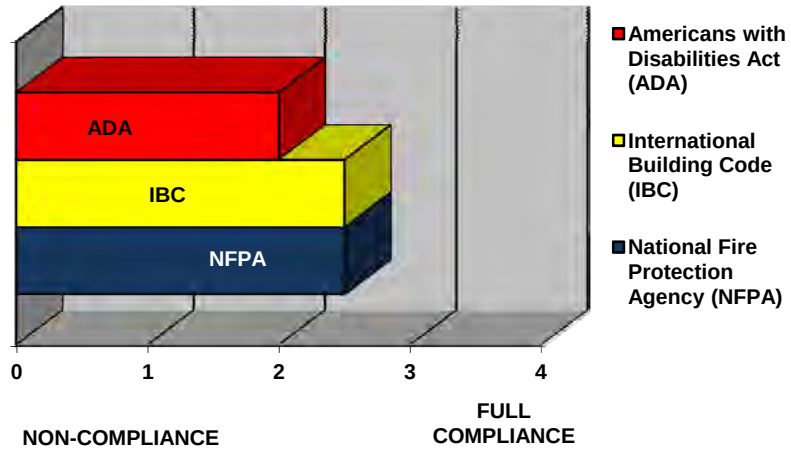
BUILDING CONDITION EVALUATION



Scale: 1 = Poor Condition, 4 = Excellent Condition

The following graph represents the building's overall conformity with IBC, NFPA and ADA requirements. Compliance was rated on a scale of 0-4, with a 4 rating equating to full compliance. A rating of 2 or under indicates that the building requires moderate to substantial code compliance updates in order to protect the safety of the building's occupants; the building contains non-compliant conditions.

CODE COMPLIANCE EVALUATION



Note: The building contains conditions that do not comply with applicable codes.

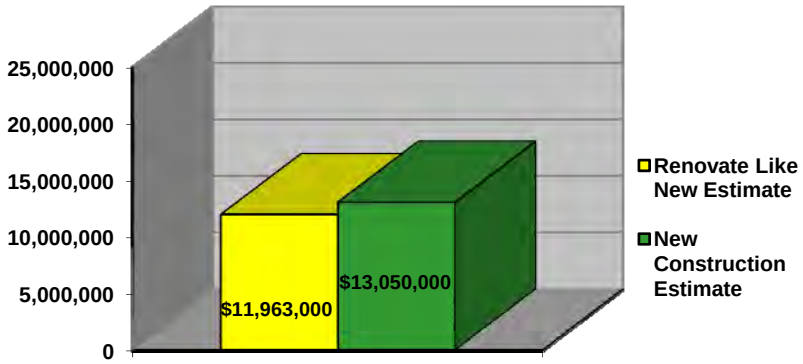
Based on the survey, Wapping Elementary is in fair condition.

Projected Construction only costs

These conceptual estimates reflect bringing Wapping Elementary in its present configuration into compliance with current applicable codes, addressing the needs of the various building components (architectural, structural, mechanical / electrical / plumbing / fire protection and site), and providing new additions. These costs were generated using Construction Cost Data and current local market conditions for buildings of this type.

Based on analysis and current conditions, the required Construction work to renovate this school facility "like new" per CT Department of Education standards will cost approximately $11,963,000. At a projected 43,500 square feet, additions and renovations at Wapping Elementary equate to approximately $275 per square foot. This cost per-square-foot figure falls within industry standards for renovations / upgrades of this nature.

A similarly constructed new building would cost approximately $300 per square foot. Using this figure, and accounting for site costs, the replacement cost for Wapping Elementary is approximately $13,050,000, which follows state standards for structures of this type.



SOUTH WINDSOR ELEMENTARY SCHOOL FACILITIES
EXISTING CONDITION SURVEY & MASTER PLAN

Master Plan Recommendations

As part of the study, and formulation of a Master Plan, Friar Associates' first task was to review the previous elementary planning study. The final recommendation of that effort was to consolidate five elementary schools into four facilities; building two new facilities, and renovating two existing buildings "like new". While those decisions presented sound logic behind the ideas, the plan was overly aggressive in other areas. Too many options were provided, including changing the existing K-5 community schools to specialized schools (K-2, 3-5), essentially redistricting the entire community. In the end, financing the entire project under one referendum may have proved to be too much for the voting public.

In beginning our own efforts, the goal was to first verify the existing conditions of the facilities, adding information which was lacking from the previous planning study and the BOE Facilities' plans, such as Fire Code and Americans with Disabilities (ADA) assessments. Using that information, we then re-analyzed the previous plan and verified the needs and priorities of each building. A review of Dr. Prowda's population study, combined with data from the State Department of Education, verified that declining enrollments will allow for the closing of one elementary facility.

We then verified that Wapping would make the most logical choice for consolidation, based on a number of elements:

- The existing site has little to no room for meaningful expansion of the building
- The district is central, bordering the four other elementary districts, thereby reducing probable transportation times and costs
- The existing population is the smallest of all existing schools, and could be redistributed among the existing schools after the completion of Phase I of the proposed Master Plan renovations, thus compressing the overall timeline and saving costs
- As evidenced by the State Department of Education's data and our own analysis, the existing building infrastructure is lacking in several areas, including an original steam based hydronic heating system, thereby increasing potential renovation costs

Next, we considered the idea of building two new facilities in place of Eli Terry and Orchard Hill, and renovating Philip Smith and Pleasant Valley "like new". School Building Projects which receive State funding, based upon the type of project and scope of work, are defined by the Connecticut General Statutes, and regulated by the State Department of Construction Services' Office of School Facilities. This master Plan will consider two project types: Renovate Like New and New Construction.

A "Renovate Like New" school building project totally refurbishes an existing building and results in the renovated facility taking on a useful life comparable to that of a new facility. This is much more comprehensive than an "Alteration" project, and must address all aspects of the building. Many of the costs considered ineligible for State reimbursement in an alteration may be considered eligible in a Renovation.

When new school construction is proposed, the State will scrutinize the reasons why a new school is being proposed by the district:

- Does the proposed project represent a cost-effective alternative after consideration of renovating an existing facility?
- Is it no longer possible or feasible to update and maintain a safe and appropriate learning environment in an old building?
- Does it reflect a decision to expand or enhance local educational opportunities through specialized programs?

The existing conditions analysis confirmed that of the four schools, Eli Terry and Orchard Hill not only had more significant challenges with potential renovations, including accessibility and existing Mechanical, Electrical and Plumbing (MEP) systems, but also had available land on which to build. Having the ability to build a new facility on an existing site already owned by the town would allow the students to stay in their existing school while their new school is being built.

Once the new Orchard Hill school is completed, the existing Orchard Hill can be used for "swing" space while the remaining schools are being renovated. This will save significant costs by not paying for swing space, and will prevent students from having to occupy a school building that is under construction.

As a back-check to this plan, our cost analysis did consider the renovation of all existing buildings "like new" as opposed to new construction. The results of this exercise are documented in the Executive Summaries for each building

The following section illustrates the analysis used to calculate the size and estimated costs for each project. These costs were used to shape the final recommendation for the Master Plan of South Windsor's elementary schools.

Each project was developed to meet the following objectives:

- Define improvements to support school programs that meet the needs of South Windsor's students and their families
- Create buildings that are safe, modern, compliant with Building Codes and able to support their educational programs
- Remove all portable classrooms and modular construction from the elementary schools, and provide adequately sized buildings of permanent construction
- Utilize swing space within the existing schools while the remaining schools are being renovated
- Maximize the State grant reimbursements based upon projected population and school size
- Prioritize projects based upon need, ease of construction, and overall cost efficiency

The district has also noted the needs of individual schools, based upon space utilization, which will be addressed with the refinement of each project. For example, Eli Terry Elementary does not have a dedicated classroom for art, nor a second computer lab. Both of these programs are currently provided via mobile carts. Also, Wapping Elementary is lacking dedicated space for vocal and instrumental music, intervention and a second computer lab. Music is taught both in regular classrooms and in shared space in the cafeteria or stage. Intervention teachers share a part of the computer lab, and the second computer lab is mobile.

It is also recommended that the Board of Education include within their Educational Specifications guidelines regarding energy-conscious design for the schools. Upon a successful referendum, the district should contract with professionals to assist with the implementation of said policies during the design and construction of the elementary school projects.

- An Architect with experience in developing projects using the State of Connecticut High Performance Building (HPB) standards.
- A Commissioning Agent to oversee the final design, construction, and testing.
- A Construction Manager with experience in completing projects with HPB standards.
- An Owner's representative to work on behalf of the Board of Education as the project facilitator for the HPB process.

SOUTH WINDSOR ELEMENTARY SCHOOL FACILITIES
EXISTING CONDITION SURVEY & MASTER PLAN

Estimate calculations

To gauge the projected enrollment for the school system, Friar Associates utilized the October 2013 population projection study performed by Dr. Peter Prowda for the Board of Education which studied the historical demographics of South Windsor and the public school enrollments.

Projects submitted to the State Department of Education (DOE) are subject to comply with the requirements of the DOE Space Standards, including:

- The enrollment projection must be taken from an 8-year window period which begins with projected enrollment for the October following your application.
- 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 of square footage, if any, constructed prior to 1950.
  See Regulations of the State Board of Education 10-287c-15(a).

Space Standards

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 considered to be oversized **for grant computation purposes.** Therefore, the ratio is applied to all project costs (except site and building purchase costs), and there is a corresponding grant reduction. See examples following the table on the next page.

STATE STANDARD SPACE SPECIFICATIONS													
Projected Enrollment	Grades												
	Pre-K K	1	2	3	4	5	6	7	8	9	10	11	12
0-350	124	124	124	124	124	156	156	180	180	180	194	194	194
351-750	120	120	120	120	120	152	152	176	176	176	190	190	190
751-1500	116	116	116	116	116	148	148	170	170	170	184	184	184
Over 1500	112	112	112	112	112	142	142	164	164	164	178	178	178

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.

The state school construction grants pay upon a 20% to 80% sliding scale, a percent of eligible expenditures in accordance with a relative wealth rank. Percentages are assigned to a project based upon date of grant commitment.

For the purposes of the Elementary Facilities Master Plan, the primary goal was to use the maximum projected enrollment (from Dr. Prowda's October 2013 report) at each facility, over an 8-year period, to calculate the maximum size of a facility that would not exceed the Space Standards Percentage. This will ensure the projects receive the maximum State funding reimbursement allowed.

The resulting square foot size is used to calculate the cost projections of the proposed project, whether it is decided to be a *Renovate Like New* or a *New Construction* project.

Example – Orchard Hill Elementary : Worksheet for Calculation of Local Share of School Construction

7A	Highest projected 8-year enrollment	**564**
7B	Type a "1" if grade is applicable to school. Type a "0" if grade is N/A to school.	

PK/K	1	2	3	4	5	6	7	8	9	10	11	12
1	1	1	1	1	1	0	0	0	0	0	0	0

7C	Pre-1950 Square Footage at Facility	0
7D	Post-1949 Square Footage at Facility (Include New Footage as Part of this Project)	**71,040**
7E	Adjusted Total Square Footage ((7C x .8) + 7D)	71,040
7F	Maximum Allowable Square Feet per Student	125.33
7G	Actual Square Feet per Student (7E / 7A)	125.33
7H	Space Standards Percentage (7F / 7G)	**1.00**

For Orchard Hill Elementary, based upon a maximum projected population of 564 students, the resulting maximum size of the school, renovated or new, would be 71,040 square-feet. If the building is built larger than this calculation, then the State grant reimbursement would be reduced to reflect the degree by which a school exceeds this number.

If Orchard Hill Elementary were proposed to be *Renovated Like New*, one example may look like this:

Maximum Allowable Facility based upon Calculation of State Standards	**71,040** s.f.
Subtract size of existing Orchard Hill Elementary - to be renovated (including portable classrooms and modular construction wing)	- 55,326 s.f.
Resulting size of new addition	15,714 s.f.

If the portable classrooms and modular construction wing were demolished at Orchard Hill Elementary, and the remainder of the existing building was proposed to be *Renovated Like New*, the resulting project may look like this:

Maximum Allowable Facility based upon Calculation of State Standards	**71,040** s.f.
Subtract size of existing Orchard Hill Elementary - to be renovated (not including portable classrooms and modular construction wing)	- 49,212 s.f.
Resulting size of new addition	21,828 s.f.

By these guidelines, the Elementary Facilities Master Plan recommendations and Opinion of Probable Costs were developed by Friar Associates in the weeks following the study, with estimating assistance from Newfield Construction.

Projected construction costs were developed utilizing data obtained by conducting a survey of the existing building as well as the collective knowledge of upgrades required at school facilities, industry standards, and current market data. These conceptual estimates reflect either bringing the buildings in their present configuration into compliance with current applicable codes, addressing the needs of the various building components (architectural, structural, mechanical / electrical / plumbing / fire protection and site), and providing new additions, or a new school construction project.

The Construction Cost estimates were generated with costs at this point in time, and based on a 20-year life expectancy for all building elements. The need for buildings to be provided with the same features and upgrades as a typical new school building has been taken into account.

The full Project Budget for Phase I has been provided in detail below, as this project is being proposed to go to referendum within the next six months.

Phase I project Orchard Hill Elementary: New Construction

Maximum allowed square footage	**71,040**
Construction value per sq. foot	x $300
Estimated Construction value	$21,312,000
Site Scope of Work	8 acres
Construction value per acre	x $390,000
Estimated Site value	$2,925,000
Total **Construction Costs**	**$24,237,000**
Estimated Soft Costs includes professional design fees, testing, FF&E, escalation at 4% per year, permitting fees	$8,219,124
Total **Project Budget**	**$32,456,124**

State Reimbursement

Estimated Ineligible Costs (3% of Project Budget) typically covers permits and fees, textbooks and software, service equipment/maintenance contracts, and certain athletic facility costs	$973,684
Estimated Eligible Costs	$31,482,440
State Reimbursement (34.64%)	**$10,905,517**

Total Project Budget	$32,456,124
State Reimbursement	- $10,905,517
Cost to South Windsor	**$21,550,607**

The following section summarizes the recommendations of the Elementary School facilities Master Plan. Projects have been defined to address the need of the facilities, and maintain the investment of the community. A design enrollment figure, scope of work, timeline, and projected Project Budgets has been outlined for each building.

A summary of Project Budgets for Phases II & III have been provided, as these projects are not being proposed to go to referendum for the next three to five years. Within that period, several variables could change, altering the data used to develop the project costs, including:

- Changes in economic conditions could affect construction costs, escalation and borrowing costs
- The State of CT could adjust the school construction grant reimbursement rates
- Actual enrollment could vary from the projected enrollments, affecting the resulting maximum allowed size of these schools

SOUTH WINDSOR ELEMENTARY SCHOOL FACILITIES MASTER PLAN

Primary Objective: To insure all South Windsor children are able to attend a school that is safe, modern, compliant with current Building Codes and able to support their educational program; to facilitate completion of the Elementary School Facilities Master Plan by exploring the feasibility of consolidating populations and improving school buildings to support programs that meet the needs of South Windsor students, their families, and the Community at large.

Secondary objective: Remove all portable classrooms, and modular construction from the Elementary Schools, and replace with permanent construction facilities.

The following Project Costs were developed using data from the October 2013 Prowda population study. "Design enrollment" is the highest projected 8-year enrollment used to calculate the maximum size of a facility that would not exceed the State's Space Standards Percentage. The Project Costs represent the district's aspiration to attain the maximum State grant reimbursements available, based upon projected population and school size.

Phase I

- **Orchard Hill Elementary** – New Construction: **$32.4 M Project Cost**
  - Construction timeline: Summer 2015 – Late Winter 2017 (1.5 years)
  - New School, approximately 71,000 s.f.
  - Design Enrollment of 564 students (369+ 125 Wapping+ 70PK = 564)
    - Includes space for inclusion of all Pre-K, and 125 Wapping Elem. students
    - Once completed:
      - Orchard Hill moves into new building
      - Old building used as swing space for Smith Elem. while their school is renovated
      - Once Smith renovations are complete, return Smith students
      - Old building then used as swing space for Pleasant Valley Elem.

Summer 2017: Orchard Hill students move into their new building

Total Phase I: $32.4 M **Projected Town share: $21.5 M** **Projected State share: $10.9 M**

FUTURE PHASES

It should be noted that the Master Plan timeline provides that Phases II & III would not go to referendum for the next three to five years. Within that period, several variables could change, altering the data used to develop the project costs, including:

- ❖ Changes in economic conditions could affect construction costs, escalation and borrowing costs
- ❖ The State of CT could adjust the school construction grant reimbursement rates
- ❖ Actual enrollment could vary from the projected enrollments, affecting the resulting maximum allowed size of these schools

Phase II

Summer 2017: Close **Wapping Elementary** - turn over building to Town

- **Eli Terry Elementary** - New Construction: **$30.3 M Project Cost**
  - Construction timeline: Summer 2018 – Late Winter 2020 (1.5 years)
  - New School, approximately 55,675 s.f.
  - Design Enrollment of 442 students
    - Eli Terry students stay in existing school until the new building is completed
    - Once construction is completed, the old building would be demolished, and new play fields created

- **Smith Elementary** - Renovate Like New: **$26.9 M Project Cost**
  - Construction timeline: Fall 2018 – Spring 2020 (16 months)
  - Renovation of approximately 42,350 s.f., addition of approximately 6,500 s.f.
  - Design Enrollment of 388 students (279+ 109 Wapping = 388)

Summer 2020: Smith Elementary moves back to their renovated school, Eli Terry students move into their new building

Summer/Fall 2020: **Old Eli Terry** demolished, and new play fields created: **$3.4 M Project Costs**

Total Phase II: $60.6 M **Projected Town share: $37.6 M** **Projected State share: $23 M**

Phase III

- **Pleasant Valley Elementary** - Renovate Like New: **$31.1 M Project Cost**
  - Construction timeline: Fall 2021 – Spring 2023 (14 months)
  - Renovation of approximately 43,300 s.f., addition of approximately 6,580 s.f.
  - Design Enrollment of 383 students (279+ 104 Wapping = 383)

Summer 2024: Close **Old Orchard Hill** - turn over to the Town

Total Phase III: $31.1 M **Projected Town share: $17.6 M** **Projected State share: $13.5 M**