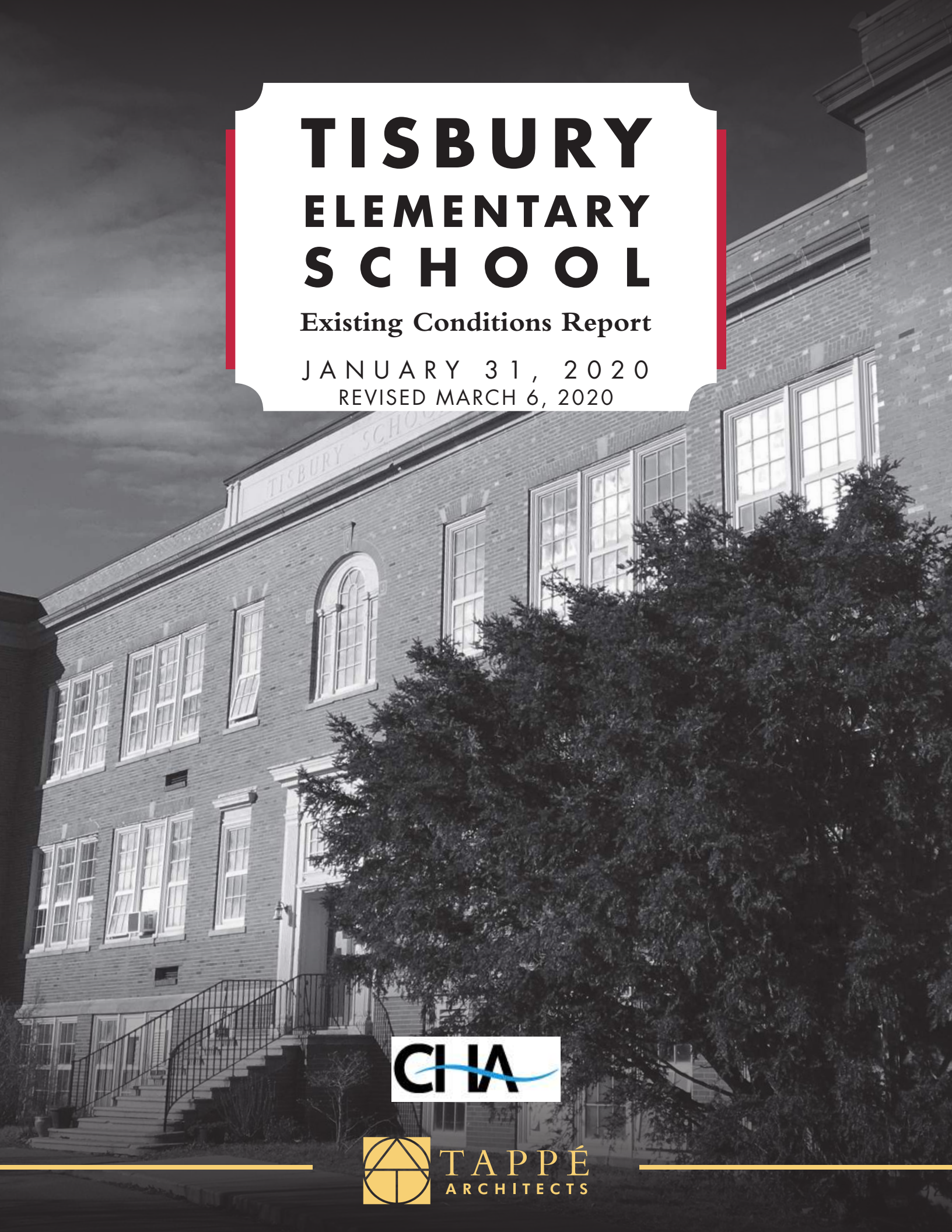
TISBURY ELEMENTARY SCHOOL

Existing Conditions Report

JANUARY 31, 2020

REVISED MARCH 6, 2020



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TAPPÉ ARCHITECTS

Executive Summary

The Town of Tisbury issued a request for qualifications in October 2019 for a designer to complete a feasibility study for the Tisbury School. The size of the existing facility is not enough for a program which has simply outgrown the space. The current design and layout also creates challenges in the delivery of a 21st century education infused with the latest learning concepts. In December 2019 Tappe Architects Inc. was selected to conduct the study.

As part of the study, Tappe and its consulting engineers performed a survey of the existing conditions in January 2020 to better understand how the existing conditions would inform the proposed options. This report describes our observations and findings.

Overview

The Tisbury School, at 40 West William Street in Vineyard Haven MA, is located a short distance from Vineyard Harbor. The facility is about 56,400 square feet laid out over three floors. The original building was built in 1929, with a gym addition added in 1938. In 1951, there was a small addition to the West side of the gymnasium, followed by a significant classroom addition in 1995. The enrollment of the school is about 300 students in grades K-8. It sits on a five-acre site in a residential neighborhood in the Town of Tisbury. In addition to the structure described above, the building area includes a small white modular building adjacent to the school which seems to have reached the end of its useful life.

Site Constraints

At 5.15 acres, the lot appears to be large enough to support an addition to the existing footprint. This addition could be built to the West of the school, in the area currently occupied by the modulars, or in the area currently occupied by the gym and music classrooms to the north. The school is situated at a higher elevation than the surrounding streets and the surrounding site which slopes down considerably on both sides, especially on the east side toward the softball field. The existing topography creates challenges to site circulation, particularly to accessibility by persons with disabilities. Location of accessible parking and entrances must take into account the gradient. The entire site needs substantial rework to bring it into compliance with current ADA and MAAB codes for accessibility. In addition to Universal Access deficiencies, the site also lacks adequate outdoor educational spaces.

The Tisbury Elementary School site is located within the Martha's Vineyard American Revolution Battlefield designation. Any projects that require funding, licenses, or permits from any state agency must be reviewed by MHC in compliance with Massachusetts General Laws Chapter 9, sections 26-27C.

Detailed findings as well as permitting considerations are described in the *Landscape Existing Conditions* and *Existing Civil Site Narrative* portions of this report.

Building Constraints

The Tisbury School is a collection of four interconnected buildings. The original building built in 1929 (see appendix for image of original building), the Gym addition built in 1938, the 1951 addition to the gym (see appendix for more information), and the classroom addition built in 1995. Structurally, the facility appears to be performing adequately, although the roof framing of the original structure would require stabilization and possible reinforcement. The existing masonry wall connections, if they exist, may require reinforcement as well.

The degree of structural modifications depends on the scope of proposed renovations. The Massachusetts Building Code allows for minor gravity and lateral load increases without requiring supplemental strengthening of the existing structure. However if substantial loads, such as photovoltaic panels on the roof or upgrading the existing facility to be an emergency shelter are contemplated, a more comprehensive structural analysis will be required. Alternatively, the new addition designed to meet the more stringent requirements could serve as the shelter.

Detailed findings are described in the *Structural Assessment* portion of this report.
In general, the facility will require both substantial renovation and addition to address physical and program deficiencies to meet current codes and provide a heathy learning environment.

Due to lead based paint falling, high carbon dioxide readings and asbestos contamination, large portions of the building were closed to students and staff, and Grades 5-8 were relocated on a temporary basis to the Martha's Vineyard Regional High School. The reuse of the existing facility will require extensive de-leading and abatement work.

Further description of findings appears in *Hazardous Materials portion* of this report.

Building Envelope

Over time, the original and addition buildings have weathered differently and thus some portions are in fair to good condition (newer portion) while others are in poor condition and need attention in the near future to mitigate further deterioration.

Physical deficiencies in the building envelope components make it necessary for significant upgrades. Windows have failed and masonry exhibits cracking and spalling. Water infiltration caused efflorescence and has rusted the masonry supporting lintels. Attempts to repair damage in certain areas may have exacerbated these conditions.

In addition to the issues with the façades, the exterior wall and roof thermal values are low. The 1995 addition was designed to meet thermal insulating requirements at the time, but is insufficient for today's energy codes. Drawings for the 1938 gym addition do not indicate insulation in the walls. The original building is presumed to be uninsulated. The roofing is newer and in good condition, but presumed to have little insulation.

Increasing the exterior walls and roof R-Value will bring numerous benefits, such as more comfortable space and reduction of the size of the HVAC system and energy savings. An analysis of the existing wall

assembly including testing actual masonry samples will be performed to determine how much insulation can be added without causing detrimental unintended consequences, such as trapping moisture.

Detailed findings are described in the *Building Envelope* portions of this report.

Interior Finishes

The interior of the facility appears well maintained, but some finish materials are approaching the end of their useful life. Depending on the magnitude of the proposed renovation, most existing finishes will be disturbed and will need to be replaced.

Detailed findings are described in the *Interiors* portion of this report.

Accessibility

Although 1995 work made most of the school accessible, certain areas such as the entrance to the 1929 building are inaccessible. Other accessible elements, such as exterior ramps, are in disrepair and need substantial repair.

Detailed findings are described in the *Accessibility* portion of this report.

Mechanical, Plumbing, Fire Protection, and Electrical Systems

HVAC

The HVAC system has been well maintained for its vintage. However, given today's advancements in improved efficiency and performance it is recommended to update the system to today's industry standards.

The classrooms are serviced by unit ventilators. However the intakes are blocked, thus creating inadequate ventilation. The kitchen hood exhaust system should be reviewed and brought up to code.

Plumbing

The building is served by a single four inch domestic water service supplied from the town municipal system. This service pipe enters the school in the Boiler Room. The main service is not provided with any backflow prevention or a full size by-pass.

Most of the original plumbing fixtures have been replaced with lower flow type fixtures. It appears that some of the original plumbing fixtures remain but are not in service. The building is supplied with a 120 gallon propane storage (vertical) tank with a single system regulator.

Fire protection

The building is fully sprinkled and is served by a single six-inch fire service supplied from the town municipal system. The system is provided with a double check valve assembly on the discharge side of the pump.

The building fire pump is a base mounted split case centrifugal type pump. The pump is 50 HP. There are rusted pipes, especially in the basement.

Electrical

The primary service runs underground from a utility pole on Spring Street to a pad mounted transformer. A standby, backup generator is installed on the exterior, adjacent to the pad mounted transformer.

Interior lighting is made up of mostly wraparounds, parabolic and prismatic lens troffers and recessed compact fluorescent downlights. In general, the lighting fixtures throughout the school are in fair condition. New fixtures must meet Code requirements, so consideration could be taken to replace existing fixtures with high efficiency LEDs to increase energy savings.

The service size should be reviewed at the time of design to verify its adequacy for any expansion /renovation project.

Detailed findings are described in the *Mechanical, Plumbing, Fire Protection, and Electrical Systems* portion of this report.

Conclusion

In conclusion, it is the belief of Tappe Architects that a gut or near-gut renovation down to the studs or masonry in most (if not all) of the building will be necessary to accommodate the building upgrades needed for this building to last another 100 years or more. It is also necessary to creatively design spaces to accommodate the educational program. It will be challenging to fit everything in the original building and one or more new additions will be required to support the town and schools enrollment and educational program.

SITE-CIVIL - EXISTING CIVIL SITE NARRATIVE

Nitsch Engineering has performed research of the existing site utility conditions and anticipated site permitting requirements for the Tisbury Elementary School located at 40 William Street (identified as Lot 1, Block A on Assessor Map 8) in Tisbury, Massachusetts. Nitsch Engineering's research included a site visit and research with the Tisbury Board of Health. Information included in this report is also based on record plans and compiled documents from T2 Architecture, Inc., Tisbury DPW, and the Tisbury Waste Water Treatment Facility. Nitsch Engineering reviewed the record plans and documents in preparing this document.

A summary of our observations and findings are listed below.

EXISTING SITE UTILITIES

Tisbury Elementary School consists of several buildings that includes the main school building, a temporary modular structure and some small shed outbuildings. The main school building was constructed in 1929 and has undergone renovations and additions from dates that range between 1939 and 1995. Based on record documents, and site observations, the summary descriptions below represent the site utility conditions/assumptions as we understand them at this time. (Nitsch Engineering understands that the temporary modular structure and small shed outbuildings are not served by utilities).

SEPTIC SYSTEM

The school is serviced by one (1) on-site septic system located on the easterly side of the school. Nitsch Engineering understands that the sewer flows that were previously directed to the septic system on the westerly side of the school were connected to the Tisbury sewage collection system, installed approximately 8-9 years ago.

Easterly Side

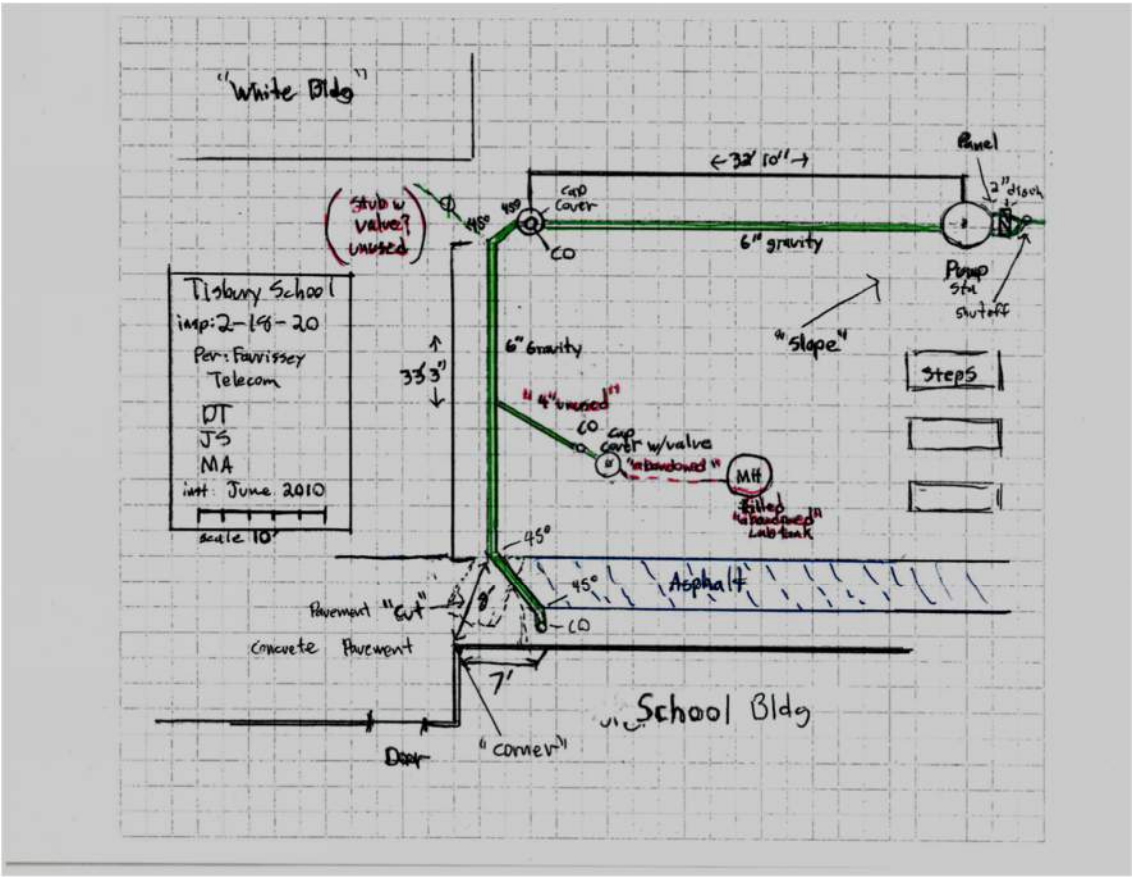
The easterly side of the school is serviced by an on-site septic system for the gymnasium showers. Sanitary flows from the gymnasium discharge by gravity through a 4-inch pipe to a cesspool being used as a septic tank. The sewage then flows by gravity via a 4-inch PVC pipe to a distribution box. From the distribution box, there are three (3) 4-inch plastic pipes discharging sewer flows to leaching pits, each consisting of a 8-foot diameter precast concrete drywell with 1.5 feet of stone around the pit for a total effective diameter of 11 feet. No vents were observed at the leaching pits.

Westerly Side

The majority of sewer flows from the school were previously discharged to an on-site septic system located to the west of the school. Originally, sanitary flows from the school discharged by gravity through a 6-inch cast iron pipe to +/- 10,000-gallon septic tank located on the westerly side of the building. The sewage then flowed by gravity via a 4-inch PVC pipe to a 9-outlet distribution box that acts

as a manhole. From this 'manhole', there are two (2) 4-inch pipes located to the north and south in the manhole in which each pipe gravity flows to another 9-outlet distribution box. From each of these 'north' and 'south' distribution boxes, there are seven (7) discharge pipes to leaching pits, each consisting of a 6-foot diameter precast concrete drywell with 4 feet of stone around the pit for a total effective diameter of 15 feet. Three (3) access manholes were observed for the manhole and distribution boxes. No vents were observed at the distribution boxes. Nitsch Engineering understands that the sanitary line to the septic tank was cut and capped, the tank was filled with sand and the soil absorption system was abandoned in place approximately 5-6 years ago when the school flows were connected to the Tisbury sewage collection system.

Nitsch Engineering understands that there is a sanitary sewer connection from the Elementary School to the sewer pump station located on the site near Spring Street that is then connected to the Town's Sewer System. Nitsch Engineering understands that this work was performed by the Town.
The project team received the sketch below from the Tisbury DPW that shows the layout of this sewer piping connection.



SEWER CONNECTION

Nitsch Engineering did not observe any external grease traps for the school. We did not observe any pumping records on file with the Board of Health.

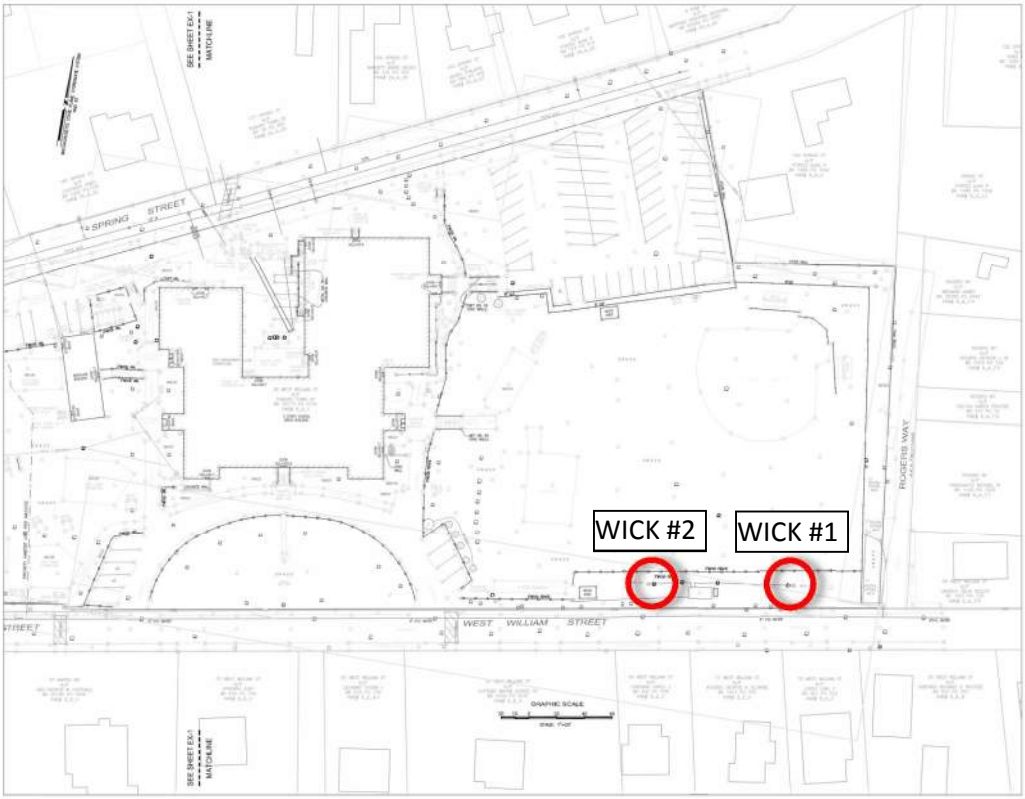
Record plans indicate a 55-gallon acid neutralizing tank located on the westerly side of the building. There is a separate 4-inch inlet pipe to the tank and a 4-inch outlet pipe that connects to the existing 6-inch sanitary sewer line from the building and prior to the septic tank.

There are two (2) effluent disposal wicks located on the school property off William Street. According to a report entitled, "Tisbury Effluent Disposal Engineering Report in support of Groundwater Discharge Permit Application for the Department of Public Works, Tisbury, Massachusetts" dated August 2015, prepared by Wright-Pierce, the 24-inch diameter wicks were installed in 2013. The report mentions that "An effluent disposal wick is a vertical subsurface structure built for the purpose of transporting highly treated effluent to the groundwater. A wick is basically a large diameter borehole that can be partially or completely filled with gravel pack. The entire top of the wick can be enclosed in a precast concrete structure to protect it from the elements and vandalism. This type of system has a low profile, utilizes a small footprint, and fits well within the Elementary School site." Each wick is connected to a 4-inch force main that connects to a Wick Flow Distribution Structure (8'x16') located between the wicks. There is a 6-inch sewer force main from the Wastewater Treatment Facility (extension from Pine Tree Road) to the structure. The wicks are not in service at this time. There will be restrictions on construction activity around the wicks to avoid damage to them.

MANHOLE COVERS OF SEPTIC DISTRIBUTION BOXES

SEPTIC WICK #1

SEPTIC WICK #2



WICK LOCATIONS

SEWER PUMPING STATION

STORM WATER SYSTEM

Other than some leaching catch basins that collect stormwater runoff at various locations of the Tisbury Elementary School site, a majority of the stormwater runoff from the site appears to sheet flow onto abutting roadways and properties. Nitsch Engineering did not observe any on-site collection storm drain system.

Rain water from flat roof areas is discharged with a series of roof drains connected to rain leaders and storm drains discharging to a collection system. The runoff from the sloped roofs areas is collected by gutters and downspouts which discharge to a collection system or on grade. The termination of the storm water is unknown and appears to be directed to an existing on site drywell system.

LEACHING CATCH BASIN AT SOUTHWEST BUILDING CORNER

SPRING STREET PARKING LOT TO THE NORTHEAST OF BUILDING

DOWNSPOUT CONNECTION IN GROUND AT BUILDING

GUTTER & DOWNSPOUT AT REAR OF BUILDING

WATER

The plans that were provided for this review indicate two (2) service connections from an existing 12-inch water main in Spring Street. One is a 6-inch fire protection service connection to the rear of the building. The other is a 4-inch domestic water service connection to the rear of the school. The water lines were installed by directional drilling.

During the site visit, Nitsch Engineering did not observe a post indicator valve on the fire service line.

Three (3) fire hydrants in close proximity to the school building were observed: one located at the rear of the school on Spring Street; one located at the front of the school at the intersection of William Street and Rogers Way and the other located on the westerly side of the school building on William Street at the half-circle shaped parking lot exit.

There is a fire department/service connection located at the rear of the school.

The domestic water service appears to be connected to a 2-inch water meter (No. 0060849005) located in the boiler room.

FIRE HYDRANT BEHIND SCHOOL ON SPRING STREET

FIRE HYDRANT IN FRONT OF SCHOOL ON WILLIAM STREET AT PARKING LOT

FIRE HYDRANT AT WILLIAM STREET AND ROGERS WAY

FIRE DEPARTMENT/SERVICE CONNECTION AT REAR OF SCHOOL

2-INCH WATER METER IN BOILER ROOM

GAS

The plans that were provided for this review indicate a 1¼-inch gas service to the building from a 120-gallon propane gas storage tank located at the rear of the building.

UNDER/ABOVE GROUND TANKS

Two (2) tanks, a below grade tank of an unknown size and a smaller above ground tank was observed behind the school.

BELOW GRADE TANK AND MONITORING WELL

DUMPSTER

A trash dumpster was observed on the southerly side of the building.

DUMPSTER BEHIND SCHOOL BUILDING

SOIL CONDITIONS

Based on the Natural Resources Conservation Service (NRCS) Web Soil Survey (2011), the majority of the soils are classified as Carver loamy coarse sand of varying slopes. Carver Loamy Coarse Sand is classified as a Hydrologic Soil Group (HSG) Type A and is described as very rapid with high permeability rates greater than 20 inches/hour. Further investigation (test pits and percolation tests) will be needed to determine groundwater elevations and in-situ infiltration capacities to support new septic and stormwater infrastructure.

SCHOOL ZONE SIGN

A solar powered flashing school zone sign was observed on each of the approaching streets (William Street, Spring Street, West Spring Street, Martin Street, Pine Street and Pine Tree Road) to the Tisbury Elementary School.

FLASHING SCHOOL ZONE SIGN ON WEST SPRING STREET

PRELIMINARY PERMITTING CONSIDERATIONS

WETLANDS/WETLANDS PROTECTION ACT (310 CMR 10.00)

The Wetlands Protection Act ensures the protection of Massachusetts' inland and coastal wetlands, tidelands, great ponds, rivers, and floodplains. It regulates activities in coastal and wetlands areas, and contributes to the protection of ground and surface water quality, the prevention of flooding and storm damage, and the protection of wildlife and aquatic habitat.

A review of the Massachusetts Department of Environmental Protection (DEP) wetland layers available on the Massachusetts Geographic Information System (MassGIS), dated April 2009 indicates no wetland resource areas located within 200 feet of the Tisbury Elementary School site.

Work performed within resource areas or buffer zones would require the filing of a Notice of Intent (NOI) with the Tisbury Conservation Commission and the Massachusetts Department of Environmental Protection.

FLOOD PLAIN

Based on the Flood Insurance Rate Map (FIRM), Community Panel Numbers 25007C0103J dated July 20, 2016, the Tisbury Elementary School site is located in Zone X (Areas determined to be outside the 0.2% annual chance floodplain).

NATIONAL HERITAGE AND ENDANGERED SPECIES ACT (NHESP)

A review of the 14th Edition of the Massachusetts Natural Heritage Atlas prepared by the Natural Heritage and Endangered Species Program (NHESP), effective August 1, 2017, indicates that no portion of the Tisbury Elementary School site is located within a Priority Habitat of Rare Species or an Estimated Habitat of Rare Wildlife and that there are no vernal pools on or adjacent to the site. The project should not require NHESP review.

MASSACHUSETTS HISTORICAL COMMISSION (MHC)

The Tisbury Elementary School site is located within the Martha's Vineyard American Revolution Battlefield designation.

Any projects that require funding, licenses, or permits from any state agency must be reviewed by MHC in compliance with Massachusetts General Laws Chapter 9, sections 26-27C. This law creates the MHC, the office of the State Archaeologist, and the State Register of Historic Places among other historic preservation programs. It provides for MHC review of state projects, State Archaeologist's Permits, the protection of archaeological sites on public land from unauthorized digging, and the protection of unmarked burials.

AREA of CRITICAL ENVIRONMENTAL CONCERN (ACEC)

A review of the Massachusetts Geographic Information System (MassGIS) dated April 2009, indicates that the Tisbury Elementary School site is NOT located within any Area of Critical Environmental Concern.

US EPA NPDES

Construction activities that disturb more than one (1) acre of area are regulated under the United States Environmental Protection Agency's (EPA) National Pollution Discharge Elimination System (NPDES) Program. In Massachusetts, the USEPA issues NPDES permits to operators of regulated construction

sites. Regulated projects are required to develop and implement stormwater pollution prevention plans (SWPPPs) in order to obtain permit coverage. All proposed options being considered will disturb more than one (1) acre and will require this permit.

SURFACE WATER SUPPLY PROTECTION (310 CMR 22.20)

The Massachusetts Department of Environmental Protection (DEP) ensures the protection of surface waters used as sources of drinking water supply from contamination by regulating land use and activities within critical areas of surface water sources and tributaries and associated surface water bodies to these surface water sources.

The Tisbury Water works receives it water from three (3) supply sources: The Sanborn Well, the Tashmoo Well and the Manter Well. All sources are groundwater supplied from the Island's sole source aquifer. A review of the Massachusetts DEP resource layers available on the MassGIS indicates the Tisbury Elementary School is not located within a Water Supply Protection Zone, and appears to not require permitting under 310 CMR 22.20.

MARTHA'S VINEYARD COMMISSION

If the project is determined to be classified as a Development of Regional Impact (DRI), the Martha's Vineyard Commission must approve the project before a town board may issue a required permit or take any action.

PERMITTING TABLE TIMELINE

Permit	Permitting Authority	Anticipated Filing Date	Anticipated Approval Date
MEPA Certificate	EOEA	After SD	Up to 6 months+
Planning Board Site Plan Review (If Required)	Town of Tisbury Planning Board	From SD to DD	Up to 6 months+
Massachusetts Historical Commission	Secretary of State	At SD	Up to 4 months+
National Pollutant Discharge Elimination System (NPDES) with EPA Notice of Intent (NOI)	Environmental Protection Agency (EPA)	After 100% CD	Once Submitted; Close NOI at end of Construction with Notice of Termination (NOT)

WARNER LARSON
LANDSCAPE ARCHITECTS

March 4, 2020

Landscape Existing Conditions Report

Tisbury School, Vineyard Haven, Massachusetts

Property Description

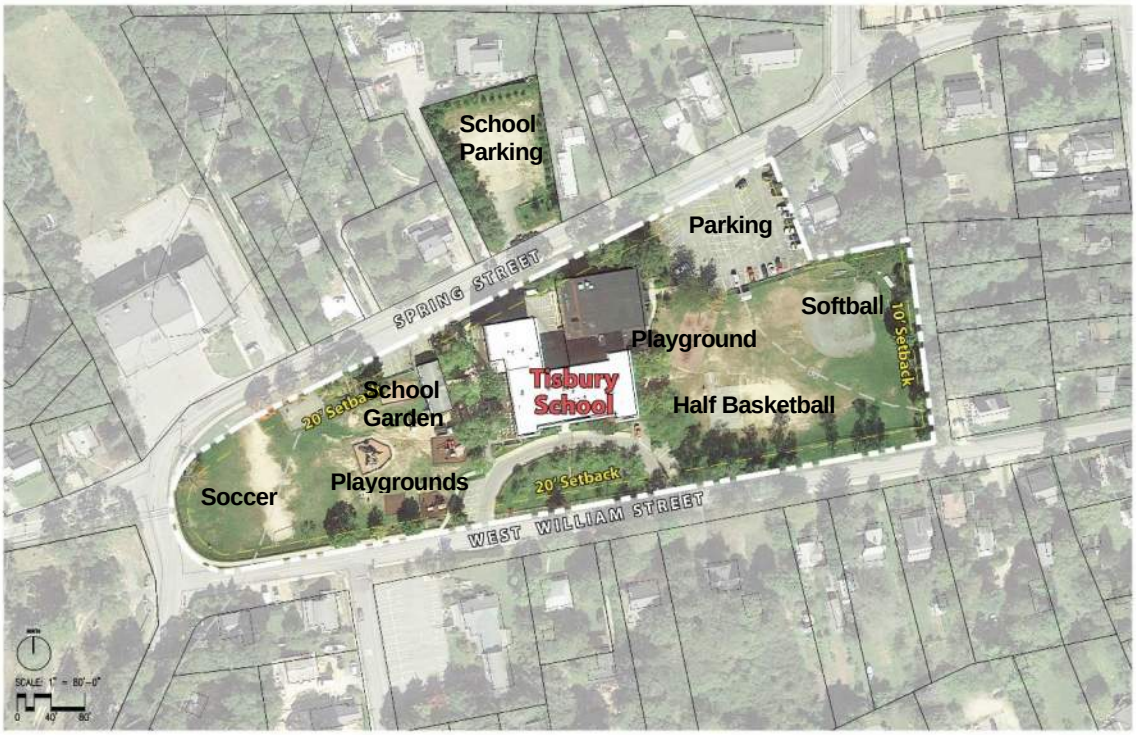
Parcel Size: 5.15 acres
Zoning District: R10
Address: 40 W. William St, Vineyard Haven, MA

SITE CONFIGURATION

Tisbury is the second smallest town in Martha's Vineyard compromising roughly 6.64 square miles of actual land excluding surface water. The school site is located close to the Town center with roughly 0.4 mile walk to Town Hall and less than a mile to Vineyard Harbor.

The 5.15-acre Tisbury School site is located within a residential neighborhood and abutting land uses include the Fire Department to the north and Oak Grove Cemetery to the west. The mostly two-story existing school building is centrally located on the high point of the site with open spaces/play fields sloping down on both sides to the east and west. The south façade of the building facing W. William St is sparsely planted and would benefit from shade.

PHYSICAL CONDITIONS SUMMARY



<u>Pickup/Drop-Off/Parking</u>

The school building is oriented toward W. William Street (as shown above) where a semi-circular driveway serves as the car drop-off and pick up with some parking spots along the driveway. It is our understanding that the bus queue for drop off and pick up is along Spring Street.

The primary parking areas are accessed from Spring Street along the north side of the site, the largest of which is located at the base of the hill. The service access is also off Spring Street leading into the north facing courtyard. The westerly lot has 18 parking spaces for staff, the service area includes about 3 parking spaces and the lower, easterly lot has about 53 parking spaces. Along with the 10 spaces in the loop of W. William Street, we counted 84 parking spaces on the site. In addition, there is another parking lot across Spring Street that is used by the school. The accessible parking spaces do not include the required access aisle adjacent to them and are therefore non-conforming

<u>Site Accessibility/Circulation</u>

Based on the existing conditions survey from 1992, the school building is situated at a high point from the surrounding streets and the surrounding site. Within the school parcel, there are several grade changes with the school entrance being at elevation 98' and the fields on either sides around

elevation 84'. The biggest grade change is from the school gymnasium to the lower parking lot on Spring Street which is about a 30% slope. The grade from the main entrance to the softball field on the east side is about 20%. The grade change from the soccer fields on the west side to the playgrounds is around 5%.


The elevation changes around the building has created accessibility challenges. Building accessibility is limited with some exterior doorways not accessible, and accessible routes to parking and play areas do not exist.

Pedestrian access is provided to the site from surrounding neighborhoods at multiple crosswalks to the sidewalk that exists around most of the school site. There is also a sidewalk on the opposite side of W. William St that leads to the Town Center. Accessible curb ramps do not conform to code. Examples of the sidewalks are shown below:


The sidewalks, driveways, and parking lot are in disrepair in multiple locations and will need repair to address safety hazards and code non-compliance. The building and site stairs and accessible ramps are also in poor condition, several with handrails that do not conform to building code.


There is one drop-off loop off W. William St that serves the school. The drop-off and the parking lot are shown below.


The service area is accessed from Spring Street and appears to include adequate paved space for service vehicles but maneuvering for larger vehicles appears challenging. The asphalt surfacing is cracked and in disrepair.


The entire site has compliance challenges with current ADA and MAAB codes for accessibility.

Emergency Vehicle Access/Security

Emergency access is provided to the building from all the surrounding streets and towards the school entrance on either side from W. William St or Spring St. The site benefits from its proximity to the new EMS building but the grade changes around the school creates challenges for the emergency vehicles to get close. Access from W. William St and Spring St should be maintained and improved as required to accommodate the largest emergency vehicles.

The design of the site and landscape is an important component to providing a safe educational environment and ability for building occupants to egress safely during emergencies. Strategies including providing transition zones between vehicular and pedestrian areas with barriers to stop vehicles while allowing free pedestrian egress. Clear sight lines at eye level and from security cameras and adequate site lighting are also critical factors that allow time to see and respond to dangers. Safe lighting should be provided along all egress routes. The existing light bollards are broken and not operational.

Outdoor Recreation

There is a soccer field, a softball field and a half size basketball court. Portable aluminum bleachers provide spectator seating that are in good condition along with the softball backstop and goals for the soccer. A storage shed in the vicinity appears to be in good condition.

The grass playing fields are exhibiting high wear areas with bare, compacted soil. Evidence of ponding water is apparent behind the softball backstop. Lack of irrigation and overuse has resulted in significant bare soil not providing a healthy playing environment as shown below. The basketball courts surfacing is worn with several cracks and needs to be repaired or renovated. The basketball posts and net are in poor condition. The court markings and the painted pavement games markings are worn out.


In general, the chain link and split rail fencing around the site is in reasonably good condition, but in few places it is in disrepair as shown below.


The school playgrounds are in fair to poor condition but lack accessible routes to the equipment. The wooden play structure, part of boat structure, independent concrete animal statues of elephant and camel are interesting and unique creative play elements but are not integrated well in the site landscape. The metal and plastic play structures appear in fair condition but they are outdated in terms for providing play variety. The surfacing is wood chips and likely does not meet safety impact attenuation standards and ADA standards.


Based on the school's athletic needs and the Town Open Space needs, the project should maintain and maximize the open play spaces that currently exists.

Structures/Fencing

A separate wood frame building known as "The Little White House" is located to the west of the main school building. In addition to the "Little White House", other structures include storage sheds in the north parking lot by the softball field on the east and another storage shed by the school garden on east side. There is also a storage shed on the north west parking lot, soccer field and couple of garden sheds. The sheds appear to be in fair to good condition but may need some minor repairs.


Additional or replacement fencing should be provided to separate pedestrian and athletic fields and playgrounds from vehicular areas. There is a lot of wooden split rail fencing around the perimeter of the school which looks contextual with the surroundings and also appears to be in fair to good condition.

Outdoor Educational Spaces

The school has 2 locations for school gardens that appear to be maintained well and used. There are accessibility issues in accessing the gardens and there no accessible planters.


There are no other defined outdoor classrooms for promoting outdoor learning other than just walking along the school site. There is some student art located along one of the entrances.

Vegetation

The site is fairly open but there are four significant and very mature oak trees along Spring St on the north side of the school which should be preserved and protected if possible. The cherry trees along the driveway entrance are in need of pruning. The density of tree cover appears sparse overall in the context of surrounding neighborhood. Shade canopy is lacking at the playgrounds. Some ornamental landscaping in fair condition exists around the school building, but worn pathways through the soil are eroding the grade in multiple locations. The soil is not optimal and compacted leading further to landscape erosion.


Site Amenities

For the school population, there is very little outdoor seating overall. Most the site furniture is metal with some wooden benches with all in varying conditions from new to complete disrepair. Most of the site furnishings lack accessible paths and picnic tables do not provide accessible seating. The trash

barrels and bike racks are deteriorated. All of the site furnishings do not appear cohesive aesthetically. There are 2 outdoor water fountains but were not functional at time of observation.

End of Report

Tisbury Elementary School

Vineyard Haven, Massachusetts

Structural Assessment

January 31, 2020

PURPOSE

The purpose of this report is to describe, in broad terms, the structure of the existing building; to comment on the condition of the existing building; and on the feasibility of renovation and expansion of the school.

SCOPE

1. Description of existing structure
2. Comments on the existing condition
3. Comments on the feasibility of renovation and expansion

BASIS OF THE REPORT

This report is based on our visual observations during our site visit on January 2, 2020, a review of several reports prepared by Turowski 2 Architects for the Feasibility Study and Schematic Design for the Tisbury Elementary School prepared in 2017 and 2018, the feasibility study report prepared by Flansburgh Architects, dated December 4, 2012, drawings of the Auditorium/Gymnasium addition dated October 1, 1938 prepared by H.E. Mason Architect and drawings for the additions and renovations prepared by Anthony Tappe and Associates dated December 9, 1992. The drawings of the original 1929 construction were not available at the time of the writing of this report.

During our site visit, we did not remove any finishes or take measurements, so our understanding of the structure is limited to the available drawings and observations of the exposed structure and the exterior facade.

BUILDING DESCRIPTION

The school is located on West William Street in Vineyard Haven, Massachusetts. The original portion of the school was constructed in 1929. There were two additions constructed, one in 1938 and one in 1995. The building is a three-story masonry, concrete, steel and wood structure.

ORIGINAL 1929 BUILDING

The original structure is essentially a three story structure. The structure is supported on traditional lightly reinforced concrete foundations. The lowest level slab is a concrete slab on grade. The second and third floors are wood planking spanning between open web metal joists spanning between interior steel beams, columns, bearing masonry walls and exterior bearing masonry walls. The typical roof is

flat and pitched to drain is framed with open web steel joists supported on interior wood stud cripple walls on steel beams and exterior masonry walls.

1938 GYMNASIUM/AUDITORIUM ADDITION

The Gymnasium/Auditorium structure is essentially a double story steel, concrete, masonry and wood structure with a single story wood and masonry connector structure to the original building. There is a partial lower level below the stage that used to house the girls and boys locker rooms and have since been refurbished for office use.

The structure is supported on traditional lightly reinforced concrete foundations. The lowest level slab and the typical gymnasium floor and the connector floor is a concrete slab on grade. The supported floor for the stage is a mix of reinforced concrete slab and wood framed floor supported on interior steel columns and beams and exterior load bearing masonry walls. The roof of the connector is a traditional wood framed roof supported on load bearing masonry walls. The roof of the Gymnasium is wood planking supported on wood joists spanning between steel trusses spanning between steel columns within the exterior masonry walls. The exterior walls are composed of interior terracotta tiles and exterior masonry.

1995 CLASSROOM WING ADDITION

The Classroom Wing Addition is a three story steel and concrete structure. The structure is supported on traditional reinforced concrete foundations. The lowest level is a concrete slab on grade. The second and third floors are 3" concrete slabs on 9/16" deep metal form deck supported on open web steel joists spanning between steel wide flange beams and columns. The roof is 1 ½" metal deck roof supported on open web steel joists spanning between wide flange steel girders.

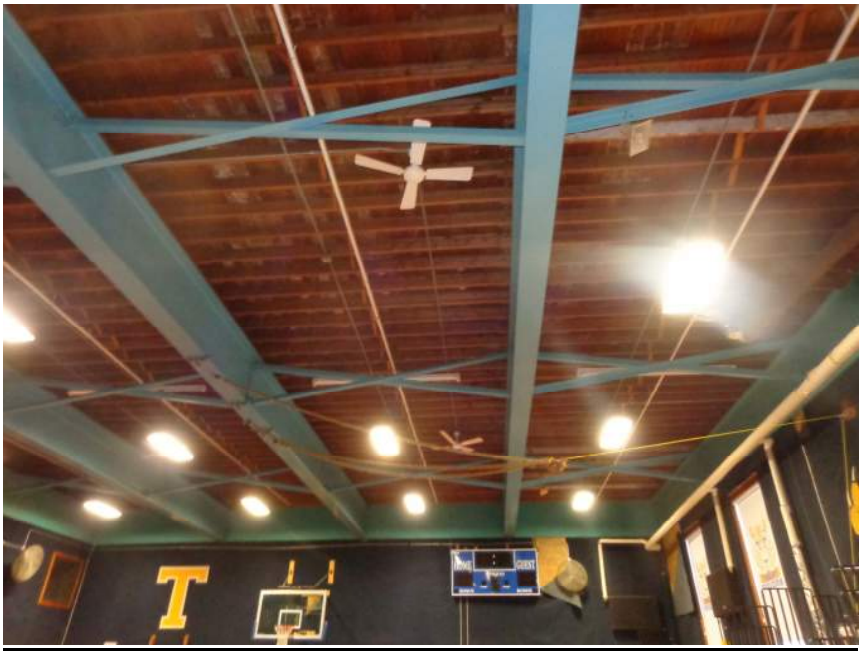
EXISTING CONDITIONS

Based on our observations, the school structure is in fair to poor condition. We observed signs of water leaks at numerous locations. The exterior masonry walls of the original construction are in poor condition and there are signs of water infiltration through these walls. The exterior lintels over the doors and windows are heavily corroded and need to be replaced. The corrosion of the lintels has caused distress in the masonry causing the masonry to sag and crack. We observed spalling of the cast stone in the masonry façade. We observed signs of water leaks in the upper levels even in the 1992 addition. The roof framing of the original construction requires stabilization. The roof pitch that is created by the wood stud cripple walls leaves the roof steel beams unbraced and does not appear to be well connected to the roof sheathing. The terracotta tile that is part of the composition of the exterior wall of the Gymnasium is especially brittle and does not have adequate structural integrity to resist lateral loads. We observed deterioration in the exterior concrete stairs and they are in need of repair or may require replacement. We did not observe positive connections of interior masonry walls to the building structure and these may require further investigation and may require new connections. We did not observe any signs of foundation settlement. We did not observe or perceive any undue vibrations due to footfalls on the floors. We observed excessive sound transmission in the classrooms between floors.

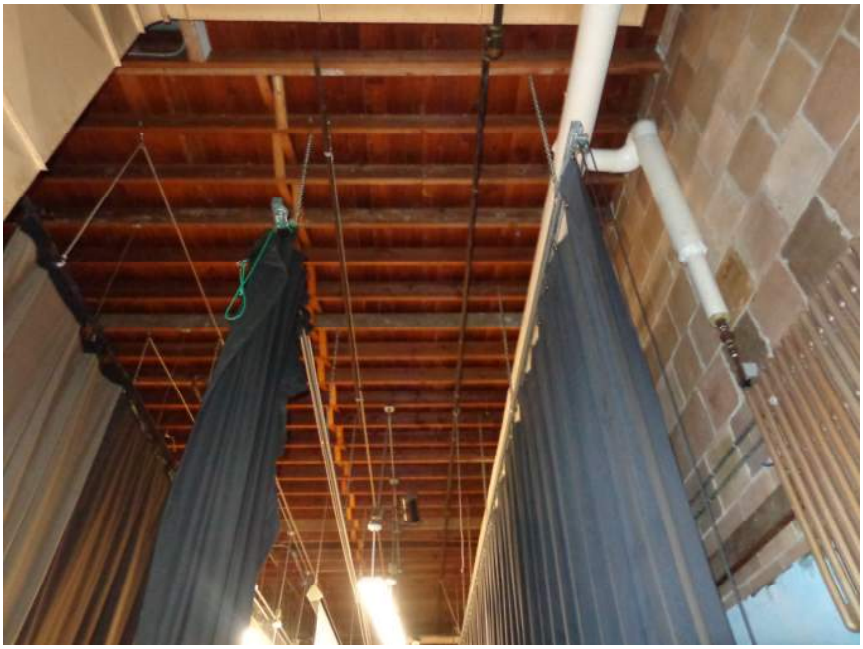
Roof framing of original 1929 Building

Cripple Wall supporting steel joists in original 1929 Building

Open web joist girder supporting steel joists in original 1929 Building



Gymnasium Roof Framing in 1938 addition



Roof framing above the Stage in the 1938 Addition

FEASIBILITY OF RENOVATION AND EXPANSION OF THE STRUCTURE

Depending on the scope of the renovations to the school, it may be feasible to make modifications to the existing structure without requiring full compliance with the code requirements for new construction. It should be noted that the school is located in wind borne debris zone as defined in the International Building Code (IBC) and the exterior glazing will have to comply with requirements in the IBC for structures within this zone. The existing roof framing members and connections to the supporting structure especially in the original portion of the structure will have to be reinforced to resist code mandated wind lateral and uplift loads. We would recommend that any additions be separated from the existing structure by way of expansion joints. We do not have adequate information about the floor and roof framing of the original structure, an investigation will be required to uncover the existing framing members and various connections between members and the load bearing masonry walls at the supported floors and the roof. The intent of the investigation is to map the existing framing members to verify that they can adequately support the design loads and the connections at all different conditions. This investigation is especially critical for the roof framing as the roof members appeared to be small with inadequate connections based on limited observation of the roof framing from the ceiling hatch at the top level. The requirements for design of roof structures have changed significantly for roof structures in hurricane prone areas since the time of the original construction. The investigation will require minimum 2'-0"x2'-0" cuts in the ceilings at all levels. The number and location of ceiling cuts will be based on differing framing and bearing conditions. It should be noted that it would not be possible to reinforce the terracotta tiles that are part of the exterior wall of the Gymnasium, if it is determined that these walls are required to be reinforced.

PRIMARY STRUCTURAL CODE ISSUES RELATED TO THE EXISTING STRUCTURE

If any repairs, renovations, additions or change of occupancy or use are made to the existing structure, a check for compliance with 780 CMR, Chapter 34 "Existing Structures" (Massachusetts Amendments to The International Existing Building Code 2009) of the Massachusetts Amendments to the International Building Code 2009 (IBC 2009) and reference code "International Existing Building Code 2009" (IEBC 2009) is required. The intent of the IEBC and the related Massachusetts Amendments to IEBC is to provide alternative approaches to alterations, repairs, additions and/or a change of occupancy or use without requiring full compliance with the code requirements for new construction.

The IEBC provides three compliance methods for the repair, alteration, change of use or additions to an existing structure. Compliance is required with only one of the three compliance alternatives. Once the compliance alternative is selected, the project will have to comply with all requirements of that particular method. The requirements from the three compliance alternatives cannot be applied in combination with each other.

The three compliance methods are as follows:

1. Prescription Compliance Method.
2. Work Area Compliance Method.
3. Performance Compliance Method.

Comment

The approach is to evaluate the compliance requirements for each of the three methods and select the method that would yield the most cost effective solution for the structural scope of the project. The selection of the compliance method may have to be re-evaluated after the impact of the selected method is understood and after analyzing the compliance requirements of the other disciplines, Architectural, Mechanical, Fire Protection, Electrical and Plumbing.

Since the existing building contains un-reinforced masonry wall structures, the analysis and reinforcement of the existing structure would be governed by the requirements of Appendix A1 "Seismic Strengthening Provisions for Un-reinforced Masonry Bearing Wall Buildings" in the IEBC.

Prescriptive Compliance Method

In this method, compliance with Chapter 3 of the IEBC is required. As part of the scope of this report, the extent of the compliance requirements identified are limited to the structural requirements of this chapter.

<u>Additions</u>

Based on the project scope, the following structural issues have to be addressed:

- All additions should comply with the code requirements for new construction in the IBC.
- For additions that are not structurally independent of an existing structure, the existing structure and its addition, acting as a single structure, shall meet the requirements of the code

for new construction for resisting lateral loads, except for the existing lateral load carrying structural elements whose demand-capacity ratio is not increased by more than 10 percent, these elements can remain unaltered.

- Any existing gravity, load-carrying structural element for which an addition or its related alterations causes an increase in the design gravity load of more than 5 percent shall be strengthened, supplemented or replaced.

Alterations

- Any existing gravity, load-carrying structural element for which an addition or its related alterations causes an increase in the design gravity load of more than 5 percent shall be strengthened, supplemented or replaced.
- For alterations that would increase the design lateral loads or cause a structural irregularity or decrease the capacity of any lateral load carrying structural element, the structure of the altered building shall meet the requirements of the code for new construction, except for the existing lateral load carrying structural elements whose demand-capacity ratio is not increased by more than 10 percent, these elements can remain unaltered.

Work Area Compliance Method

In this method, compliance with Chapter 4 through 12 of the IEBC is required. As part of the scope of this report, the extent of the compliance requirements identified are limited to the structural requirements of these chapters.

In this method, the extent of alterations has to be classified into LEVELS OF WORK based on the scope and extent of the alterations to the existing structure. The LEVEL OF WORK can be classified into LEVEL 1, LEVEL 2 or LEVEL 3 Alterations. In addition, there are requirements that have to be satisfied for additions to the existing structure.

The extent of the renovations (includes Architectural, FP and MEP renovations) for this project will exceed 50 percent of the aggregate area of the building, thus the LEVEL OF WORK for this project would be classified as LEVEL 3 Alterations. This would require compliance with provision of Chapter 6, 7 and 8 of the IEBC. If the scope of the project includes new additions to the existing structure; this would trigger compliance with provisions in Chapter 10 of the IEBC.

Level 3 Alterations

- Any existing gravity, load-carrying structural element for which an alteration causes an increase in the design gravity load of more than 5 percent shall be strengthened, supplemented or replaced.
- For alterations where more than 30 percent of the total floor area and roof areas of a building or structure have been, or proposed to be, involved in structural alterations within a 12 month period, the evaluation and analysis shall demonstrate that the altered building complies with

the full design wind loads as per the code requirements for new construction and with reduced IBC level seismic forces.

- For alterations where not more than 30 percent of the total floor and roof areas of a building are involved in structural alterations within a 12 month period, the evaluation and analysis shall demonstrate that the altered building or structure complies with the loads at the time of the original construction or the most recent substantial alteration (more than 30 percent of total floor and roof area). If these alterations increase the seismic demand-capacity ratio on any structural element by more than 10 percent, that particular structural element shall comply with reduced IBC level seismic forces.
- For alterations that involve structural alterations to more than 30 percent of the total floor and roof area of a building within a 12 month period, the evaluation and analysis shall demonstrate that the altered building structure complies with IBC for wind loading and with reduced IBC level seismic forces.
- For alterations where more than 25 percent of the roof is replaced for buildings assigned to seismic design category B, C, D, E or F, all un-reinforced masonry walls shall be anchored to the roof structure and un-reinforced masonry parapets shall be braced to the roof structure.

Additions

- All additions shall comply with the requirements for the code for new construction in the IBC.
- Any existing gravity, load-carrying structural element for which an addition or its related alterations cause an increase in design gravity load of more than 5 percent shall be strengthened, supplemented or replaced.
- For additions that are not structurally independent of any existing structures, the existing structure and its additions, acting as a single structure, shall meet the requirements of the code for new construction in the IBC for resisting wind loads and IBC Level Seismic Forces (may be lower than loads from the Code for New Construction in the IBC), except for small additions that would not increase the lateral force story shear in any story by more than 10 percent cumulative. In this case, the existing lateral load resisting system can remain unaltered.

Performance Compliance Method

Following the requirements of this method for the alterations and additions may be onerous on the project because this method requires that the altered existing structure and the additions meet the requirements for the code for new construction in the IBC.

PARTICULAR REQUIREMENTS OF COMPLIANCE METHODS

For our project, in order to meet compliance with one of the two compliance methods “Prescriptive Compliance Method” or the “Work Area Compliance Method”, we have to address the following:

Prescriptive Compliance Method

Additions

The proposed additions would be designed structurally independent of the existing structure, thus, would not impart any additional lateral loads on the existing structure.

If the proposed alterations are such that the alterations increase the design lateral loads on the existing building or cause any structural irregularity of decrease the lateral load carrying capacity of the building, the structure of the altered building shall meet the requirements of the Code for New Construction in the IBC.

If the proposed additions increase the design gravity load on portions of the existing roof members, these members would have to be reinforced and this incidental structural alteration of the existing structures would have to be accounted for in the scope of the alterations to the existing school and would trigger requirements for alterations.

Alterations

Alterations that would increase the design gravity loads by more than 5 percent on any structural members would have to be reinforced.

If the proposed alterations of the structure increase the effective seismic weight on the existing structure due to the greater snow loads from the drifted snow against any proposed additions, or, by addition of equipment on the roof, the increase of the effective seismic weight from the drifted snow and the equipment would require that the existing lateral load resisting system comply with the requirements of the code for new construction in the IBC and it would increase the demand-capacity ratio on certain structural elements of the existing lateral load resisting system.

Work Area Compliance Method

Level 3 Alterations

If the proposed structural alterations of an existing structure are less than 30 percent of the total floor and roof areas of the existing structure, we have to demonstrate that the altered structure complies with the loads applicable at the time of the original construction and that the seismic demand-capacity ratio is not increased by more than 10 percent on any existing structural element. Those structural elements whose seismic demand-capacity ratio is increased by more than 10 percent shall comply with reduced IBC level seismic forces. The percentage increase in seismic demand-capacity ratio on any particular structural element from the added snowdrift load against the proposed addition would be fairly low, thus, this would not have any major impact on the existing lateral load resisting system, though we would have to verify that the increase in seismic demand-capacity ratio on any of those particular structural elements is not greater than 10 percent.

If the proposed structural alterations of an existing structure exceed 30 percent of the total floor and roof areas of an existing structure, we have to demonstrate that the altered structure complies with the IBC for wind loading and with reduced IBC level seismic forces.

The seismic design category (SDC) of the existing structure is 'B'; thus, the replacement of the existing roof would trigger anchorage of un-reinforced masonry walls to the roof structure and bracing of un-reinforced masonry parapets to the roof structure. All un-reinforced masonry walls in the existing school will have to be identified. These un-reinforced masonry walls are required to be anchored to the roof structure. Since there are no existing un-reinforced masonry parapets, this requirement does not have any impact on the structural scope of the project.

Additions

The proposed additions would be designed structurally independent of the existing structure, thus, they would not impart any additional lateral loads on the existing structure.

Comment

The compliance requirements of the two methods, in most respects, are very similar. The Prescriptive Compliance Method would require that the existing lateral load resisting systems meet the requirements of the code for new construction of the IBC, even for small increases of design lateral loads. We are required to comply with some of the requirements of Appendix A1 of IEBC for either method, which requires anchorage of all existing masonry walls. Based on this, we would recommend the Work Area Compliance Method for the project.

SUMMARY

The existing school structure appears to be performing adequately. The exterior masonry walls of the original structure are in poor condition. The roof framing of the original structure would require stabilization and possible reinforcement. The existing masonry wall connections, if they exist, may require reinforcement. The exterior stairs may have to be replaced or repaired.

Any proposed renovations and additions would likely require that the structure be updated to meet the requirements for the code for new construction. This may require addition of some shear walls, connecting the floor and roof diaphragms to the existing masonry walls and the clipping of non-structural masonry walls to the structure. All of the existing masonry walls would have to be adequately connected to the roof and floor structure.

Architectural Existing Conditions Report

South Façade (W. William Street)

I. Introduction:

On January 2, 2020, Tappe Architects and the design team conducted an inspection and evaluation of the existing Tisbury Elementary School building and site. Our evaluation is based on field observations, the Preliminary Design Program report by Turowski2 Architecture, and the available existing conditions drawings. Architectural drawings of the 1929 building could not be obtained from the town, but the 1938 H.E. Mason auditorium / gymnasium addition were. We also had our original mylar drawings for the 1995 Addition and Renovation project (Anthony Tappé and Associates, Inc.).

The school is located at 40 West William Street in Vineyard Haven MA, and sits on a 5.15 acre site. The school currently houses kindergarten through eighth grade students. The 1929 three-story school building was designed by the architectural firm Haynes and Mason from Fitchburg. The exterior façade consists of brick masonry with large, tall aluminum windows, and precast concrete sills, medallions, and cornice. The gymnasium addition was added less than 10 years later in 1938. A small addition was added off the west side gym and corridor in 1951. The addition included two public toilet rooms, a large storage room for athletic equipment and chair storage, two dressing rooms, vocal and instrumental music rooms, and enlarged locker rooms. In 1995, a large addition and renovation project was completed. The three story classroom addition contained two kindergarten classrooms on the first floor, new library on the second floor, and two science classrooms on the third floor. An elevator was also part of this addition, allowing all three floors of the existing building to become accessible. A locker room addition was also added onto the south side of the gym, along with and exterior ramp up to the gym

entry vestibule. A three stop elevator was added behind the platform that accesses the platform and vocal music room, and the instrumental music room on the lower level.

In 2003, a new detached modular classroom building was added to the site on the west side of the building. The modular building, known as the Little White House, is clad in vinyl siding and houses four classroom spaces for the special education program. No toilet room facilities are located within the space. A generator was installed in 2010 on the North side of the building. The gymnasium addition, locker rooms, and cafeteria / kitchen serves as a shelter for the town of Tisbury, and are all connected to this generator for emergency power. The most recent project wrapped up work at the end of 2019. The scope included the scraping of lose and flaking lead paint and encapsulation in the 1929 building. Some areas were covered with sheetrock as part of the encapsulation. The majority of the lead paint remains, and will have to be addressed as part of the renovation project.

The building and district are not listed with the Massachusetts Historical Commission or National Register of Historic Places. The site is located within the Martha's Vineyard American Revolution Battlefield designation.

Square Footage Calculations:

Boiler Room:	2,040 SF
Basement / Music Room:	1,890 SF
Lower Level (First Floor):	22,935 SF
Main Level (Second Floor):	14,090 SF
Upper Level (Third Floor):	14,020 SF
Total (Main Building):	54,975 SF
Total (Modular Building):	1,435 SF
TOTAL ALL BUILDINGS:	56,410 SF

II. Zoning and Regulatory:

- R-10 is the Zoning District
- Per Town of Tisbury's Zoning By-Laws 04/09/2019
  13.01 Schedule A – Within Residential Districts

  - Minimum Frontage 80'-0"
  - Minimum Lot Depth 80'-0"
  - Front Setback (Minimum) 20'-0"
  - Side Yard Setback (Minimum) 10'-0"
  - Rear Yard Setback (Minimum) 20'-0"
  - Height (Maximum) 35'-0"

- There are no known historical restrictions, but per the Massachusetts Historical Commissions, the site is located within the Martha's Vineyard American Revolution Battlefield area.
- A review of the 14th Edition of the Massachusetts Natural Heritage Atlas prepared by the Natural Heritage and Endangered Species Program (NHESP), effective August 1, 2017, indicates that no

portion of the Tisbury Elementary School site is located within a Priority Habitat of Rare Species or an Estimated Habitat of Rare Wildlife. The project should not require NHESP review.

- No wetlands resource areas are located within 200 feet of the site.
- If the project is determined to be classified as a Development of Regional Impact (DRI), the Martha's Vineyard Commission must approve the project before a town board may issue a required permit or take any action.

III. Code Narrative:

The building is an educational facility for students and falls under Group E occupancy.

Construction Type:
Based upon the definitions in the current code, the minimum classification of the building is as follows:

1929 Building	3B Noncombustible
1938 Gymnasium Addition	3B Noncombustible
1995 Classroom Addition	2B Noncombustible
2003 Modular	2C Combustible
Code Type	Applicable Code (Model Code Basis)
Building:	780 CMR: Massachusetts State Building Code, 9th Edition 2015 International Building Code 2015 International Existing Building Code
Energy Conservation:	2018 International Energy Conservation Code
Accessibility	521 CMR: Massachusetts Architectural Access Board Regulations
Elevators	524 CMR: Massachusetts Elevator Code

The 2015 International Existing Building Code with Massachusetts amendments allows for 3 separate compliance methods, the Prescriptive Method (in general, altered areas must comply with the code for new construction), Work Area Method (level of compliance is based on the classification of work), and Performance Compliance Method (numerical method that allows tradeoffs for deficiencies). This report is based on the Work Area Method.

Work Area and Classification of Work:

For the purposes of this report we have assumed that a future renovation would be classified as an alteration Level 3 where the work area exceeds 50% of the aggregate area of the building. Alteration Level 3 includes the reconfiguration of spaces, the addition or elimination of doors and windows, the reconfiguration or extension of systems, and/or the installation of additional equipment in more than 50% of the aggregate area of the building. An addition could also be part of the future scope of work. The work must comply with IEBC Chapters 6, 7, 9 and 11.

In general, the work conducted in the existing building should comply with the requirements for the new construction. The renovation should not make the building less safe than the existing condition nor less stringent than the code requirements applicable at the time of construction. Unless specifically required in the code, the non-renovated portion of the building are not required to be upgraded to comply with the new construction requirements.

Occupancy Classification:

Non-Separated Mixed Uses:
• Use Group E (Classrooms, Cafeteria)
• Use Group A-4 (Gymnasium with bleachers)

Note it is assumed that the gym is used for non-school functions and therefore requires a separate assembly use classification.

Construction Type:

Based on the field observation the building construction is Type IIIB. This is based on the brick exterior bearing walls, wood interior, and unprotected steel.

Fire Resistance Ratings:

The following summarizes the required fire resistance ratings for the building elements of Type IIIB construction, based on 780 CMR Table 601 and other applicable code provisions:

Building Element	Fire Resistance Rating (Hrs)	Opening Protectives (Hrs)
Primary Structural Frame	0	---
Exterior Bearing Walls including columns along the exterior wall	2	0
Exterior Non-Bearing Walls	0	---
Interior Bearing Walls	0	---
Floor Construction	0	---
Roof Construction	0	---
- New Stair shafts < 4 Stories (780 CMR 1023.2)	1(b)	1
Other New Shafts <4 Stories (780 CMR 708.4)	1(b)	1
Exit access corridor (780 CMR 1020.1)	0(c)	0

(a) Includes beams, trusses, floor members, etc. having a direct connection to the columns (780 CMR 202).
(b) Basements count as a story
(c) Group E and A occupancies in fully sprinklered buildings do not require a fire rating.

Exterior Wall and Openings

The addition must comply with 780 CMR Table 602 and Table 705.8. The fire separation distance is measured perpendicular to the exterior wall to the centerline of public street, an interior lot line, or an imaginary lot line between two building on the same lot (780 CMR 702.0). Two buildings exist on this property so an imaginary lot line between the two buildings must be drawn to determine the fire separation distance of each wall and the required rating and opening limitations. The requirements are summarized below.

Exterior Wall Requirement- Group E-A-4, Type IIIB Construction, Sprinklered

Fire Separation Distance=X (ft.)	**Fire Rating of Exterior Wall**
X<5	1
5<X<10	1
10<X<30	1
X≥30	0

Means of Egress:
The means of egress including the number of exits and egress capacity must be sufficient for the number of occupants on all floors. The calculated occupant load for the original floor plans and the egress capacity are summarized in the table below (780 CMR Table 1004.1.2 Maximum Floor Area Allowances Per Occupant).

Floor	**Occupant load**	**Number of Exits Required / Provided**		**Exit Capacity (Persons)**
School Basement	7	1	1	155
Gym Basement	58	2	2	453
First Floor	503	2	5	2040
Second Floor	299	2	3	755
Third Floor	388	2	3	755
Little White house	62	2	3	680

General Egress Requirements
The means of egress in the work areas are required to comply with Chapters 6, 7, and 8 of the existing building code. The means of egress from the highest work area floor to the floor of exit discharge shall be provided with artificial lighting within the exit enclosure in accordance with the requirements of the IBC (IEBC 805.2). Means of egress from the highest work area to the floor of exit discharge shall be provided with exit signs in accordance with the requirements of the IBC. (IEBC 805.3). Since this is a single tenant space the provisions of chapter 7 do not apply.

Since the buildings is not used by multiple tenants, further egress provisions of the IEBC do not apply however the addition must comply with 780 CMR 10. This includes but not limited to the general requirements listed below.

• Maximum exit access travel distance for the E and A occupancy must not exceed 250 ft. for sprinklered buildings (780 CMR Table 1017.2).

• Maximum dead-end corridor length must not exceed 20 ft. or 2. 5 times the least width of the dead end corridor for the A occupancy. E occupancies in buildings equipped throughout with an automatic sprinkler system can have a dead end corridor not exceeding 50 feet

• All rooms or spaces with an occupant load greater than 50 people or a common path of egress travel distance over 75 ft, must be provided with two egress doors and illuminated exit signs at each exit.

• Doors serving an occupant load of 50 or more must swing in the direction of egress travel and have panic hardware.

Energy Code Provisions for Existing Buildings

The building is subject to the 2018 International Energy Conservation Code (IECC) including the amendments contained in 780 CMR Chapter 13. The addition must completely follow the IECC for new construction and Level 3 alterations to existing buildings are permitted without requiring the entire building to comply with the energy requirements of the International Energy Conservation Code (IECC). The alterations (new elements) shall conform to the energy requirements of the IECC as they relate to new construction only (IEBC 908).

IV. Exterior Building Envelope

WALLS:

1929 Building:
The exterior wall construction of the building consists of masonry brick bearing walls, which are assumed to be three wythes of brick, with no air cavity space. The masonry walls are in fair to poor condition around the building and need considerable repairs. Numerous cracks appear at locations around the perimeter, along with signs of water infiltration. It appears that an attempt was made to repair the cracks, but was done with sealant. The sealant has now also failed at these locations. A proper repair with mortar is required to prevent further water infiltration.


Failing sealant repair at cast stone


Sealant repairs at brick and cast stone

The majority of the bricks appears to be in good condition, but there are a few locations where bricks are damaged, cracked, or spalling. All cracked and damaged bricks should be replaced to prevent additional water infiltration into the walls. Cleaning of the brick is also recommended, and should be done so in a manner that does not drive more moisture into the walls. Future testing should be done on the walls and brick for water and air infiltration. This will be required in order to determine how the walls can be insulated in a manner to not trap moisture within the walls, and cause further deterioration.


Damaged bricks adjacent window head


Damaged bricks

There are also locations where the mortar joints are starting to fail or are completely missing. These locations should be repointed. A detailed inspection of the mortar joints should be completed to determine the extent of repointing required.

Decorative cast stone elements are also part of the façade. Cast stone sills are located below all of the windows, along with a cast stone band that wraps the building at the head of the first floor windows. A cast stone cornice wraps the building, with an entablature on the South façade above the main entry that reads "Tisbury School." The brick continues up above the cast stone cornice to the roof / parapet. A cast stone cap tops the walls, which is partial cover by a metal roof edge. The cast stone sills are cracked, chipped and spalling along with pieces of the cornice. Mortar joints between the pieces have failed at both the sills, banding, and cornice. Again it appears that repairs were done with sealant rather than grout, and the sealant has failed. Restoration and replacement of the decorative cast stone is necessary, along with the repointing of all vertical joints.


Damaged cast stone cornice


Deteriorated sill that needs replacement

The steel lintels at the heads of the windows and doors display signs of distress. Peeling paint and major corrosion are clearly seen on the majority of the steel lintels around the building. Sagging of the lintels can be seen at the cast stone banding at the heads of the first floor windows. Gaps can between the top of the lintels and bottom of the brick above. This is another sign of the lintels beginning to sag, which will lead to further damage to the brick masonry walls. Sealant was installed along this horizontal gap between the lintel and brick, likely as a repair to try and prevent further water penetration into the building. This could cause water that is already in the wall, back towards the interior of the building, since it no longer has a path out. Replacement of existing lintels with new galvanized steel lintels is recommended.


Oxidized steel lintel at window head


Sagging steel lintel with sealant repair

Some of the outside air intake louvers in these walls have been blocked off or covered with tape. This was likely done to prevent air infiltration back into the building from units or dampers that have failed.


Covered mechanical louver

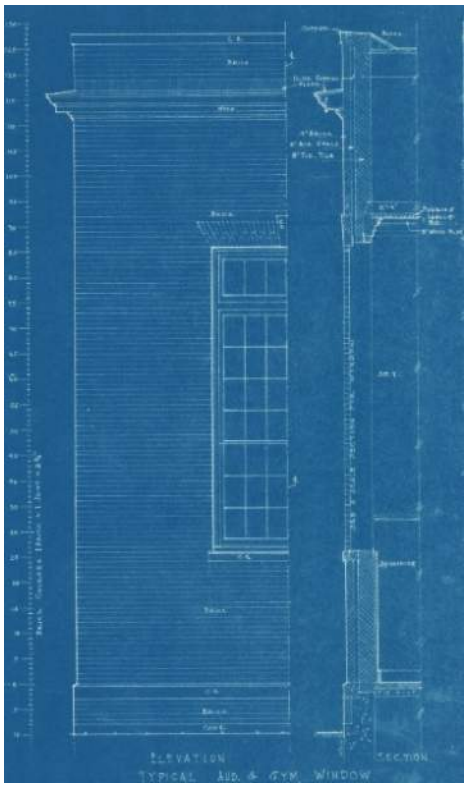
All exterior wood trim and decorative elements on the façade need to be restored and repainted or replaced. Chipping paint and disrepair are apparent around the building.

Peeling paint at wood trim

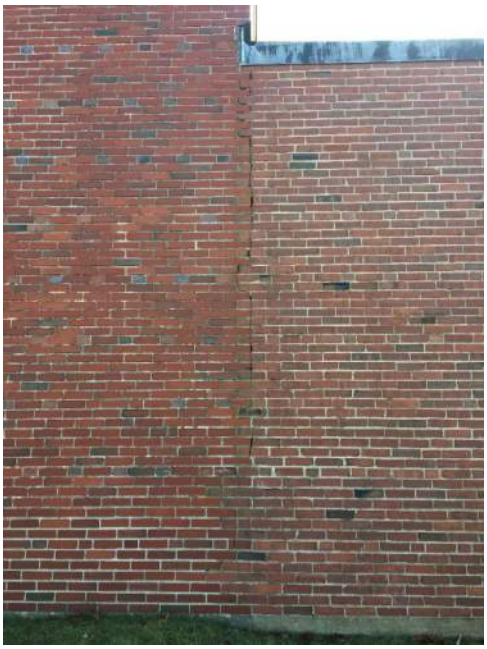
Damage wood and flaking paint at main entry

<u>1938 Gymnasium Addition</u>:

Based on the 1938 drawings by H.E. Mason, the exterior wall construction of the gym addition consists of 4” brick with an air space behind it, and 8” structural terra cotta tile backup wall. The terracotta backup walls runs between steel columns that support the large steel roof girders that run east to west along the length of the gym. The exterior brick is in need of repointing and repair. On the north side of the gym, there is a larger vertical crack at the transition from the high wall to low wall / roof. This is due to a control joint not being installed at this location. On this same façade, through wall steel fasteners and plates are visible, from the installation of the basketball backboard. This was likely done to reinforce the attachment of the backboard to the terracotta walls, which typically have a hollow core.



H.E. Mason exterior wall elevation and section

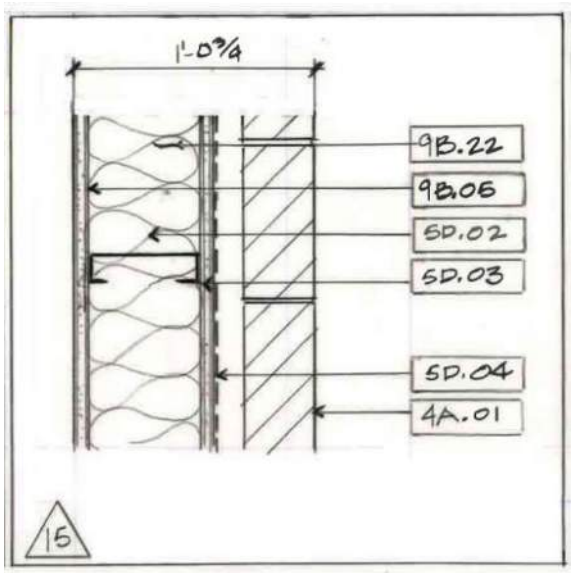


Gym - Crack due to lack of control joint.

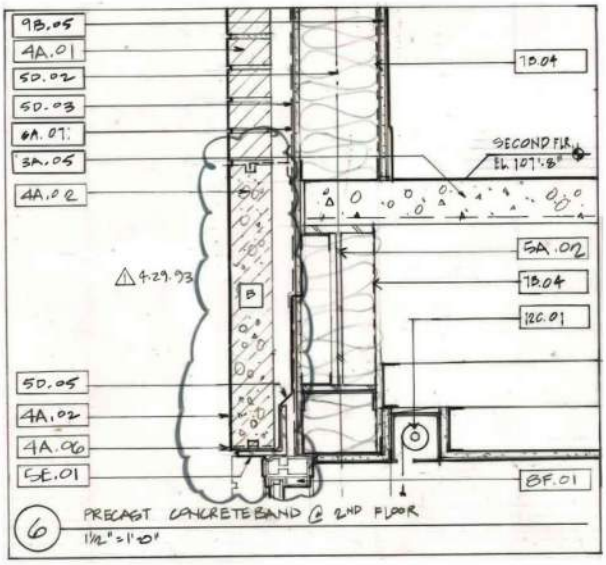
Gym - Through wall steel fasteners.

<u>1995 Addition</u>:

The exterior walls of the 1995 classroom addition are built of a masonry veneer with an air space, roofing felt applied to the ½" gypsum sheathing, 6" steels studs with batt insulation between them, and an interior finish of 5/8" gypsum wall board with 1/8" veneer plaster. These wall are not load bearing. Structurally the addition consists of steel columns and beams, open steel web joists, and metal decking. The brick veneer and mortar joints appear to be in good condition. Below are drawings from the construction documents showing the wall assembly.



1995 Classroom addition typical wall assembly.



1995 Classroom addition wall section detail.

The windows sills are brick and sloped to drain. A precast concrete band wraps the addition at the head of the first floor windows. Toward the top of the wall, there is a precast concrete trim piece / cornice, with brick continuing above up to the roof. Efflorescence is visible at multiple locations below this cornice piece. A metal roof edge caps the wall assembly at the top.


Typical sloped brick sills at classroom addition.

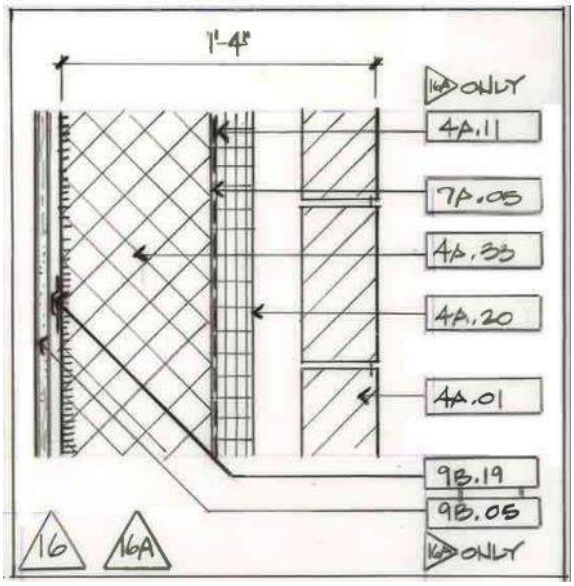

Efflorescence adjacent to kindergarten entrance.

On the North and West facades, portions of the concrete foundation wall are visible below the brick. The concrete parge coat that was applied over the exposed foundation has deteriorated, and has cracked or missing all together in multiple locations. The masonry veneer on the North façade rests on a steel angle rather than directly on the concrete foundation. The angle is rusting but appears to be structurally sound. It should be prepped, primed and painted to mitigate potential future deterioration.

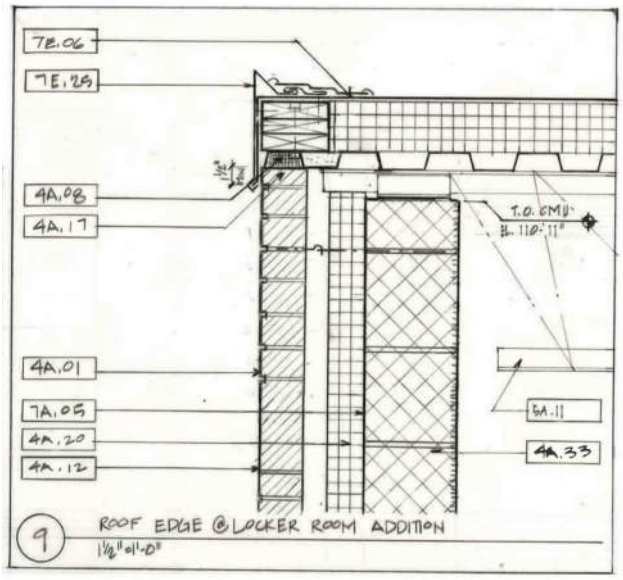

Failing foundation parge coat on West façade.


Failing foundation parge coat on North façade and rusted steel angle supporting the brick.

The exterior walls of the gym locker room addition consist of a brick masonry veneer with an air space, 3” rigid insulation, and damp proofing on 8” nominal concrete masonry units with a glazed interior finish. There is some staining of the brick at this location due to the corroding of surface mounted conduit that runs to the light fixtures.



1995 gym locker room addition wall assembly.



1995 gym locker room addition roof edge detail.

WINDOWS AND DOORS:

During the 1995 addition and renovation, all of the windows in the entire school were replaced with new double pane insulated aluminum windows. The majority of the windows are tall and have an outward opening awning at the lower sash. An insect screen is located on the interior side at the operable locations.

The majority of the glass seals have failed in the windows, which is evident from both the interior and exterior of the building. With the seals broken, the insulating value has been compromised, and condensation and fogging of the glazing units has occurred. Similar failure has also occurred in the aluminum curtainwall. Condensation, fogging, and even oxidization was witnessed inside some of these glazing units. Hardware is failing, so some of the operable windows no longer function properly.

Oxidization inside curtainwall glazing panel

Fogging of glazing panels with failed seals

Moisture and fogging inside glazing panels

The sealant around the perimeter of the windows and curtainwall is showing its age. It no longer has its flexibility, and will continue to harden and get brittle. This weakens its resistance to maintain a weather tight seal, and may be the reason for the window leaks that are occurring. There were a few locations where the sealant was seen hanging out of the joint at the head of the windows.

Non-flexible and deteriorating sealant

Sagging sealant at window head

Painted decorative wood surrounds occur at a few windows on the 1929 building. The paint is chipping and peeling, and the wood is deteriorating. There are locations where holes and rotting were evident, or the pieces are completely missing. Extensive repair and restoration is required.

Decorative wood window surround

Missing wood plinth block

Exterior doors and frames vary in condition ranging from fair to poor. Most show signs of considerable wear, while others have rusted frames. Field painting and touch ups have been completed to the doors over the years. On the West façade of the 1929 building, there is a pair of automatic sliding doors that open directly into the stair and corridor. These doors have a very poor perimeter seal. A wind tunnel effect is also felt when entering at this location, since there is no true vestibule. There is a set of double doors beyond, but these are past the first set of classroom doors. Another pair of doors on this west elevation are located in the 1995 addition. Since the main entry is not accessible, this currently serves as the main accessible entrance for the public into the school.

ROOF:

1929 Building:
The roof of the 1929 building is a white membrane roof. The principal, John Custer, informed us that the new roofing was installed in 2014, and should still be under warranty. The roof appears to be in relatively good condition, but there are many wrinkles at the underlayment seams. The amount of insulation and R-value was not able to be determined by visual inspection, but likely needs to be increased to meet the current code requirements. The roof is accessible by a ladder and roof hatch located in the janitor's closet on the third floor of the building. A small parapet wraps the perimeter of the original building, but no overflow scuppers or overflow roof drains are provided. A brick chimney extends from the first floor of the building up through the roof. There are some minor cracks visible on the chimney and repointing of the joints would be recommended if it remains. Five large vents on curbs extend up through the roof. They appear to have been repainted at some point, but rusting is still visible. There is a small, twelve panel photovoltaic array, angled to the south.

1929 building - white membrane roof & PV array

1929 building – roof hatch/vents/brick chimney

1938 Gymnasium Addition:

The roof of the gymnasium addition is a black membrane roof and was replaced in 2009, per the PDP report by Turowski 2 Architecture. The lower portion of the roof has gutters along with downspouts around the perimeter. The upper roof at the gym does not have gutters and only has a single roof drain for the entire roof. Additional roof drains would likely need to be added at this location. Minor puddling was visible on all of these roofs during our visit, but nothing that indicated any major issues. The amount of insulation and R-value was not able to be determined by visual inspection, but likely needs to be increased to meet the current code requirements. There is one roof top mechanical unit and a small condensing unit located on the lower portion of the roof.

1938 addition black membrane roof

1938 addition - minor roof

1995 Addition:

The 1995 addition has a white membrane roof that was replaced in 2014 at the same time as the 1929 roof, and should still be under warranty. The roof appears to be in relatively good condition, but there are many wrinkles at the underlayment seams. The amount of insulation and R-value was not able to be determined by visual inspection, but likely needs to be increased to meet the current code requirements. The roof slopes from the north and south toward the roof drains. This creates a small curb / parapet as a few locations on the perimeter, but overflow scuppers are provided. This roof is accessed via the 1929 building roof. A small roof curb separates the roof of the 1995 addition from the roof of the 1929 building. There are a few vents and three small condensing units. There appears to be

an elevator overrun that extends above the roof level, but is completely covered with roofing membrane. It is unclear if there was an elevator vent that may have been covered over with membrane when the roof was replaced. There is a small weather station that sits directly on the membrane roof that is only held down with CMU blocks. This weather station should be properly anchored to the roof.

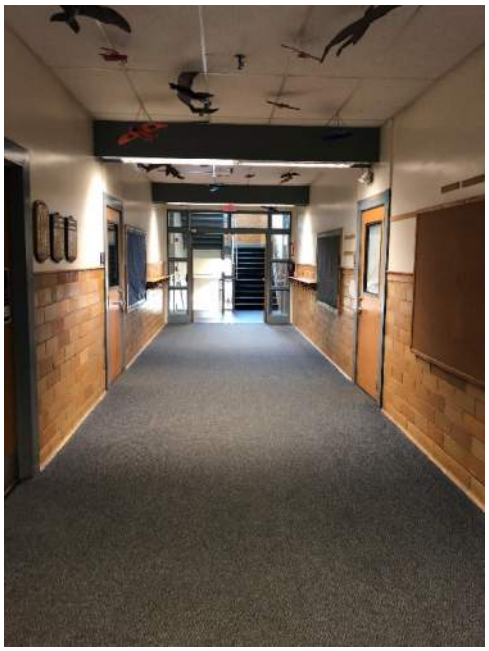
1995 addition – white membrane roof, condensing units & weather station

1995 addition – roof curb and elevator overrun

V. INTERIORS:

INTERIOR PARTITIONS:

1929 Building:
Based on field observations and construction methods of the period, the partitions appear to be a combination of structural clay glazed facing tile, structural clay tile with plaster, cmu with plaster, and wood framing with plaster. There are also a few areas with walls that are steel studs with gypsum wall board and veneer plaster from the 1995 renovation. The main corridors and stairs have the structural clay glazed facing tile as a wainscot with painted plaster above. The glazed facing tile is in fair condition, but the mortar joints are showing their age. The typical finish throughout the rest of the building is painted plaster, which is in fair condition. Repairs are need for cracking, especially in the stairways. Repainting of all walls is recommended for all walls after repairs have been completed.



Typical corridor

Damaged / patched plaster walls in stair

1938 Gymnasium Addition:
Wood wainscot paneling with wood base wraps the interior of the gym and runs up to just above the heads of the doors. The wood is in fair condition but requires refinishing. Fabric has been applied directly to the terracotta tile above the paneling. This was likely applied to help with acoustics in the space. The fabric is poor condition and is peeling and falling off the walls in numerous locations. Since the structural terra cotta tile walls are covered by the fabric, the condition of the finish is unknown.

In the instrumental music room, the walls are painted veneer plaster and gypsum wall board with vinyl base. Wood fiber acoustical panels are applied to some of the walls to help with the acoustics of the space. The walls in this space have significant damage, including a large hole at the base of the wall at the top of the ramp.

The vocal music room has painted masonry walls on the East and West sides of the room. Built-in painted, tall storage cabinets make up the entire wall to the North. The elevator opens into the room on the east side. The elevator shaft walls are 8” concrete masonry units with metal furring, 5/8” gypsum wall board and 1/8” veneer plaster that is painted.

1995 Addition:
The typical interior partitions of the classroom addition are steel studs with 5/8” gypsum wall board and 1/8” veneer plaster that is painted. These walls are in fairly good condition. There are a couple locations that show sign of water damage, others locations only require minor patching and repair. In the gym locker room addition, 8” glazed concrete masonry units were used for partitions. These partitions are in fair condition, with no signs of any major damage.

FLOORS:

1929 Building:

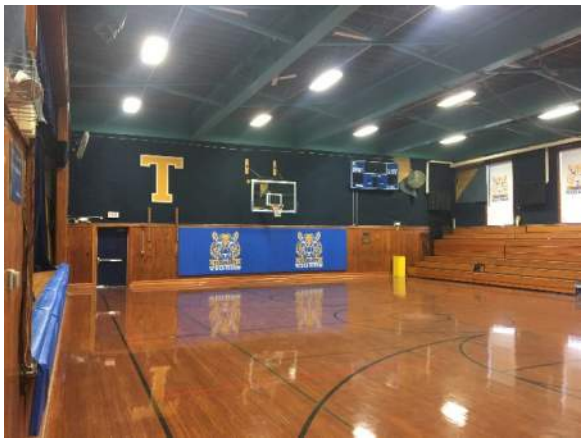
Flooring materials vary throughout this portion of the building. Ceramic tile is found in the main lobby, cafeteria, and toilet rooms. There is a tile mosaic "T" in the main entry stair, outside of the main office. The original wood flooring is still in some classrooms and office spaces. Generally they are in fair condition, but there are locations which are in poor condition due to buckling, and need to be replaced. The wood flooring was already replaced in some of the classrooms with vinyl wood look plank flooring, due to its poor condition. The first floor corridor has VCT, while the second and third floor corridors have carpet. The technology lab has 9"x9" vinyl tile that contain asbestos, and should be properly abated. The tile appears to have been replaced in front of the exterior door, but has failed and the concrete slab below is now visible.

Mosaic in entry stair.

Exposed slab at technology lab doorway.

1938 Gymnasium Addition:

The gymnasium and platform floors are both wood and appear to be from the original 1938 construction. The platform floor is in fair condition, and could use a refinishing. The gym floor is in poor condition due to buckling, unevenness and levelness issues. Students also informed us of "dead spots" in the floor where the ball does not exhibit the same rebound height, as the adjacent floor areas when bounced.



The Instrumental music room has a combination of carpet, vinyl wood look plank flooring, and resilient flooring with a non-slip surface pattern at the stairway and ramp. The carpeting and vinyl tile look to be fairly new and in good condition. The resilient flooring on the stair and ramp is in fair condition. The vocal music room has carpeting in the entire room that is in fair condition.

1995 Addition:
The 1995 classroom addition uses the following mix of flooring materials; carpet, VCT, ceramic tile, and resilient flooring. The kindergarten classrooms have VCT with small area rugs placed in a few locations around the room. Ceramic floor tile is used in the toilet rooms located within the kindergarten classrooms. The VCT flooring continues into the lobby / stair C in front of these classrooms and down the hallway back into the original building. This flooring layout is similar on all three floors in the lobby / Stair C.

VCT in Lobby / Stair C

VCT and area rug in kindergarten

The stair that connects the three floors has resilient treads and risers with a non-slip surface pattern. The library on the second floor has carpeting throughout the space. The Science classrooms on the third floor have VCT in the classroom and the prep rooms as well. Overall the flooring in the classroom

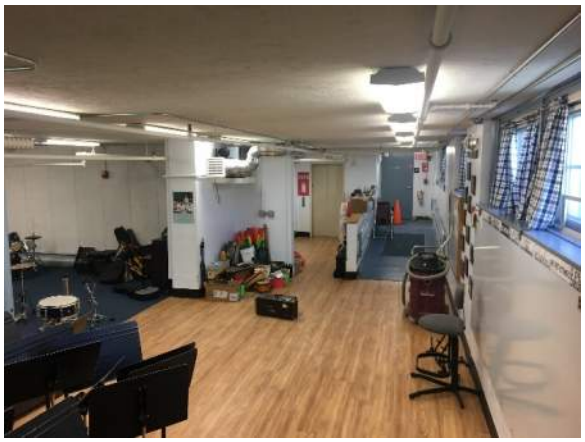
addition is in fairly good condition. The carpeting in the library is one area that is showing aging and has some areas where bulging was witnessed. In the gym locker room addition, the flooring is ceramic tile, similar to what was used in the kindergarten toilet rooms. These floors are in fair condition, but re-grouting may be required.

CEILINGS:

1929 Building:
A mix of exposed plaster ceilings and suspended acoustic ceiling tiles are used in this portion building. There is a plaster ceiling in the main entry stair lobby outside of the main office. It appears to be in good condition, but has a few areas where the paint is peeling and chipping. The corridors have ACT ceilings that vary from fair to poor condition. The classrooms ceilings vary, with a mix of exposed plaster and ACT ceilings. The majority of the classrooms have the suspended ACT ceilings with the existing plaster ceiling above. The ceiling height is lower than the heads of the exterior windows, so the ceilings do not run continuous to the walls within the space. These ceilings vary in condition. Some are in poor condition while others are newly installed as part of the recent work that took place to encapsulate the lead paint. Rooms such as Life Skills, Art, and Technology Lab are examples of classrooms spaces that have the exposed plaster ceilings.
If these ceiling are left exposed, they should be patched and repainted.

1938 Gymnasium Addition:

The gymnasium and platform and double height spaces, and are open the structure and framing above. The steel structure is painted, and the wood framing is unfinished. The Instrumental Music Room and Vocal Music Room both have plaster ceilings that are painted, but with different finishes. The plaster has a textured finish in the Instrumental Music room and a smooth finish in the Vocal Music Room. Both are in fair condition.



1995 Addition:
Suspended 2x2 acoustic ceiling tiles are used throughout the classroom addition in the corridors, classrooms, library, and toilet rooms. Some tiles show staining from water damage, while other tiles have been replaced and no longer match the original field tile used. The tiles should all be replaced eliminating the damaged and dissimilar tiles.

Suspended gypsum board veneer plaster ceilings are located outside the doors into the classrooms and also at the entry and around the perimeter of the library. These are in good condition, but there is a hole cut in the library ceiling that needs to be patched and repaired.

VI. ACOUSTICS:

Acoustical improvements will need to be made in order to bring the building up to today's recommendations and standards. The existing wood framing of the 1929 building contributes to the lack of sound isolation. With three floors, there is a lot of vertical movement in the building, especially with the shared spaces of the cafeteria, gym, art and music all being on the lowest level. Without acoustical isolation within the building, this movement can cause noise that is disruptive to teachers and students. Sound isolation is poor between the corridor and classroom, and also classroom to classroom where there are communicating doors are present. The lack of gasketing at these doors does not help the acoustical isolation.

Most classrooms have newer suspended acoustical ceilings that help with the reverberation time in the space. It is unlikely that the todays standards are meet in classrooms that still have the original exposed plaster ceilings. Unit ventilators within the classrooms tend to be noisy and create acoustical challenges within the space.

The music classroom layouts are not appropriate for musical activities or teaching. The classrooms are stacked vertically on top of each other and have poor sound isolation from floor to floor. It has been reported by school staff that when classes are happening concurrently in both spaces, they can hear sound from classroom to classroom. The adjacency of the classrooms to the platform is good, but issues likely occur with sound spilling from one space into the other.

The gymnasium has fabric on the walls above the wood wainscot, but lack sufficient sound absorptive treatment, especially if it is being used for a space that is also for performances.

VII. ACCESSIBILITY:

The current building and site will both need extensive work to become compliant with the current MAAB and ADA accessibility codes.

The building is located at the high point of the site, with the topography sloping away from the building. These elevation changes primarily only have stairs provide to traverse them. Accessible routes are not provided to all the building entrances or public spaces around the site. The existing stairs, walkways, and ramps all need to be brought up to the current standards, including the guardrail / handrail assemblies. Sidewalks around the building have deteriorated, with significant cracking, chipping and buckling. The lower parking lot on the East does not have an accessible route to or from the building. Similar issues occur at the playgrounds, and bus drop-off area. On the south side of the building, parent drop-off occurs at the semicircular drive off of West William Street. The main entrance is located here, but is not handicapped accessible since access up a flight of stairs is required.

Deteriorating and buckling walkways

Non-accessible route from lower parking lot

These stairs also do not meet the requirements of 521 CMR 27.00. The stair nosing has a projection greater than the maximum of 1 ½", the wrought iron railing does not have a handrail shape that is round or oval in cross-section, and the railing does not have the required handrail extensions. Cracking is evident on the sides of the stair along the brick, and sealant between the concrete and brick is failing. This could lead to further issues down the road. Another step exists at the double doors into the building, and once inside the building, you need to ascend an additional set of stairs to reach the second floor level. The stair nosing on this stair is also currently non-compliant. Anyone who needs an accessible entrance, needs to proceed to the West side of the building and use the two doorways here that enter into the first floor level.

Non-compliant main entry stair

Main entry stair

The modular building to the West of the school called the Little White House, is not accessible. There is a small step at the main door on the East side into the building and stairs at each of the doors on the west.

In the cafeteria, accessible seating is not currently provided at any of the tables to meet the 5% required. An accessible route needs to be provided in this space. The aisle access way between tables must be at least 36 inches. There is a floor transition at the door from Life Skills Center to the Cafeteria that appears to not meet the requirements of 521 CMR 29.00.

Lack of accessible aisle and seating

Non-conforming floor transition

All doors must have the maneuvering clearances and clear floor space as described in 521 CMR 26.6 There are instances where the push and pull clearances defined here are not meet, such as the Technology Lab classroom entry and second floor boys and girls toilet room doors.

Toilet rooms must meet the requirements of 521 CMR 30.00. Fixture heights in the student bathrooms of the 1929 building are not at the proper mounting heights for the grade levels they are serving. Clearances inside the handicap stall are compromised with the door swinging into the stall. The bottom of any mirror that is provided above a sink shall be set with the bottom edge of the reflecting surface no higher than 40 inches above the finish floor. In kindergarten toilet room, the rear grab bar is no longer installed on the back wall. Toilet rooms need to meet the requirements of 521 CMR 30. Proper

clearances need to be maintained, while fixtures and accessories need to be mounted at the appropriate elevation for grade level(s) they are serving.

Missing rear grab bar - kindergarten

The 1938 gymnasium addition was constructed at an elevation higher than the original first floor level. An interior ramp was added as part of the 1995 addition and renovation, along with an exterior ramp up to the gym entry vestibule. This long exterior ramp wraps around the southwest corner of the building, and has two intermediate landings before reaching the top landing. This ramp is in need of extensive repair. The first brick pier at the bottom of the ramp appears to have been run into. It is no longer parallel to the ramp and not sitting completely on its footing. The concrete along with the brick piers are spalling and cracked. The piers are covered with efflorescence from water penetration, likely due to the lack of flashing under the cast stone cap. From the gym entry vestibule, there is a small wood ramp to get down to the gym floor. This ramp does not meet the accessibility requires of 521 CMR 24.00. On either side of this ramp are the bleachers. Wheelchair spaces with adjacent companion seats need to be provided per 521 CMR 14.00. Wheelchair spaces are computed based on the total number of seats; 4 wheelchair spaces for 51 to 300 total seats and 6 spaces for 301 to 500 total seats. The platform is located on the opposite side of the gym across from the bleachers. Even though there is an elevator up to the platform level, it requires access is through the adjacent music classroom, which does not meet the current accessibility requirements. Access needs to be provided from within the gym, from the wheelchair seating locations, to the platform. In addition, an accessible route that coincides with the route for performers must be provided to the backstage area.

VIII. SAFETY AND SECURITY

The Tisbury School is a special place for many reasons and for many generations. Now more than ever, we are forced to consider the security and safety of students and faculty so that everyone feels safe and learn more. The building has several exterior doors some of which directly access areas that students and teachers are located. The controlled visitor entrance is also not an accessible entrance to the building and other entrances are not as secure as current best practices.

The concepts of Crime Prevention Through Environmental Design (CPTED), many of which are not addressed, would help this building create a safer environment for students and staff. Some of those strategies include visual surveillance by human eyes in and throughout the building, elimination of hiding spots, the ability to section of the school (if required), technological advances in communication, and lock-down/lock-in procedures, etc.
In a school with 3 stories, there needs to be careful consideration of how students move in and through spaces while feeling safe, secure and welcome.

IX. EXISTING SPACE SUMMARY

After review of the existing conditions and gaining a full understanding of how the existing building is laid out, Tappe has begun to review the space needs according to the updated *Tisbury School Education Program* dated November, 2019. In general, the ed program defines pretty well what a renovated project should be like and provides ideal adjacencies to be considered. Many of the core academic spaces appear to be laid out in ways that, with a little modification, could support the goals of the program in terms of grouping, etc. It also appears that the physical size of the classrooms might be putting a little strain on the class size. While 16 students can fit in most classrooms, there is a bubble currently in the 6th grade with 21 students per class. It will be important to find ways to make the “felt” size of the classrooms feel bigger by working to eliminate wasted space and utilizing every inch. We need to make this building do more for the community and feel bigger at the classroom level.

Reading through the program it is evident that the current school is deficient in a number of areas including SPED, support space, offices, small group spaces, etc. While these support spaces to the general classrooms are often smaller in nature, the school project team does need to identify strategies for harvesting spaces out of the existing building to the greatest extent possible. This may include corridor space, taking over shafts and chases and finding creative ways to schedule, use and share spaces.

The educational program does not adequately fit into the existing building and the addition and renovation needs to produce the most flexibility in the existing spaces as possible.

X. HAZARDOUS MATERIALS:

INTRODUCTION:

UEC was contracted by Tappe Architects to conduct a determination survey for hazardous materials at the Tisbury School.

FINDINGS:

Asbestos Containing Materials (ACM)
Various types of asbestos containing materials were found during the AHERA inspections. A complete survey per EPA NESHAP regulations will need to be performed.

The following suspect materials were either found or assumed to contain asbestos.

1. Joint compound at original building was found to contain asbestos.
2. Black sink damproofing was found to contain asbestos.
3. Grey 9” x 9” vinyl floor tile was found to contain asbestos.
4. Window framing caulking was assumed to contain asbestos.
5. Door framing caulking was assumed to contain asbestos.

Polychlorinated Biphenyls (PCB’s)-Electrical Equipment and Light Fixtures

Visual inspection of various equipment such as light fixtures, thermostats, exit signs and switches was performed for the presence of PCB’s and mercury. Ballasts in light fixtures were assumed not to contain PCBs since there were labels indicating that “No PCB’s” was found. Tubes in light fixtures, thermostats, signs and switches were assumed to contain mercury.

PCB’s in Caulking:

Building materials and caulking were assumed to contain PCBs.

Lead Based Paint (LBP):

LBP was found to exist on painted surfaces in all areas constructed prior to 1978. A school is not considered a regulated facility. Flaking paint at the original building were scraped and then encapsulated. Old painted plaster walls are covered with sheetrock.

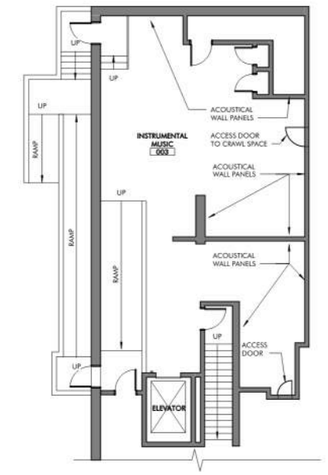
RECOMMENDATIONS/REQUIRED TESTING:

A complete asbestos survey per EPA NESHAP regulations will need to be performed.

Destructive testing of the exterior walls and excavation around foundation walls will be required to be performed to expose any suspect ACM (damproofing/flashing) and would need to be performed during the design development phase of the project.

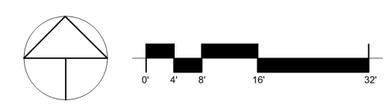
Testing for PCBs is not required to be performed by the EPA and is not recommended.

EXISTING FIRST FLOOR PLAN (LOWER LEVEL)

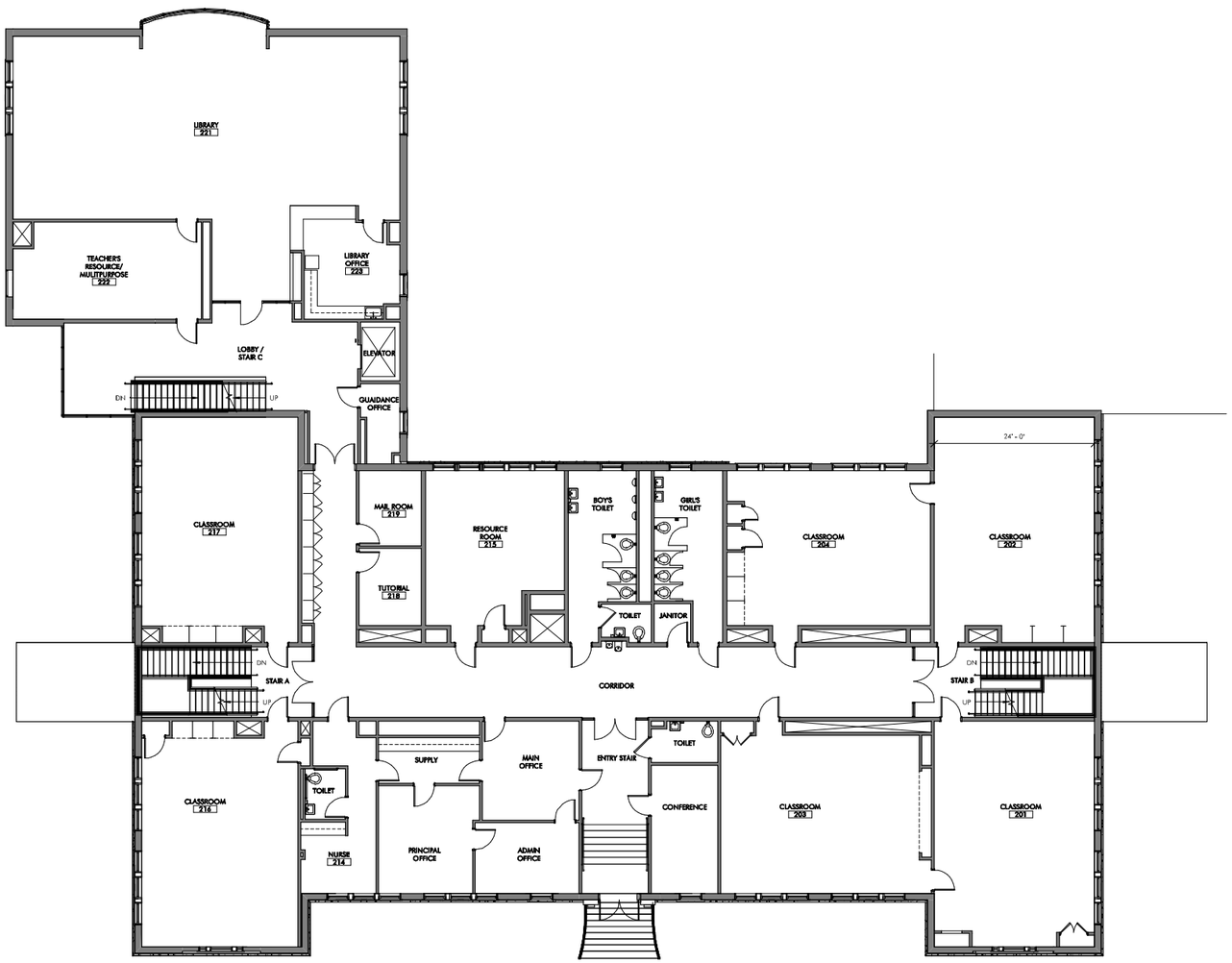


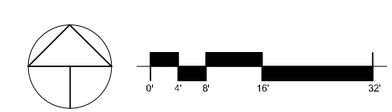
EXISTING GYM BASEMENT PLAN

EXISTING BOILER ROOM BASEMENT PLAN

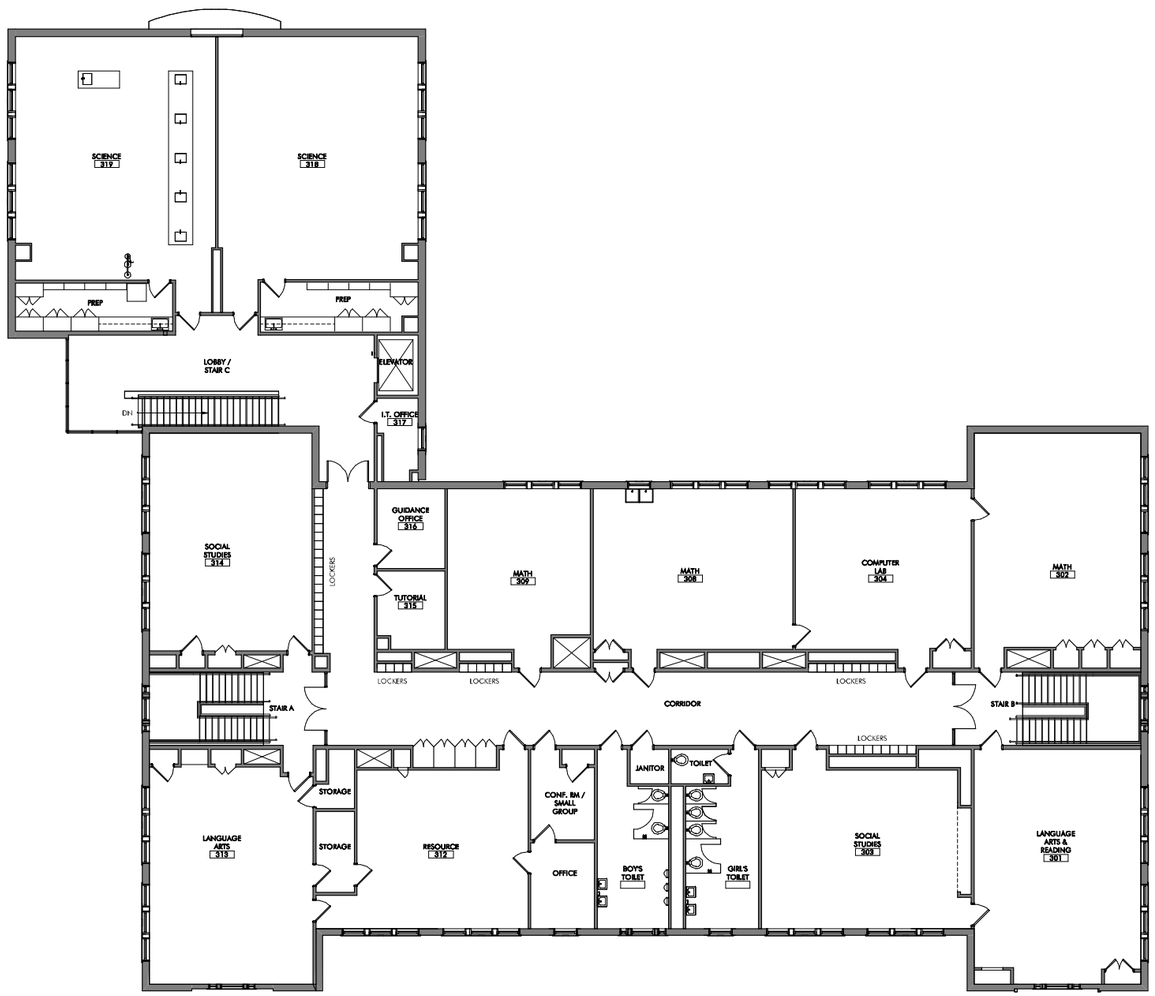


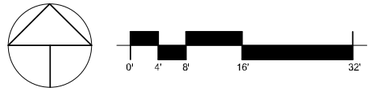
EXISTING SECOND FLOOR PLAN (MAIN LEVEL)





EXISTING THIRD FLOOR PLAN (UPPER LEVEL)





GRIFFITH & VARY, INC.

Mechanical, Electrical, Plumbing and Fire Protection Existing Condition Survey for Tisbury Elementary School

Tisbury Public Schools

Tisbury, Massachusetts

January 31, 2020

TABLE OF CONTENTS

HVAC SYSTEMS

Boiler Plant:

The building is heated by (2) two oil-fired cast iron steam boilers and (1) one oil fired cast iron hot water boiler. The single hot water boiler was installed to serve the 1995 addition. The two steam boilers are identical but not the same vintage. The far boiler was installed around 2015 while the middle boiler was installed around 2000. All three boilers appear to be in good working condition. The steam boilers are manufactured by Burnham model V9A with Carlin burners, each having a burning capacity of 13.2 gallons per hour on Number 2 fuel oil. The hot water boiler was manufactured by Buderus Logano model GE315 with a Riello burner having a burning capacity of 3 gallons per hour on Number 2 fuel oil.

CENTRAL BOILERS

The older sections of the building are heated by steam where the 1995 addition is heated by hot water. The hot water boiler is backed up by the steam boilers through a skid mounted steam to hot water shell and tube exchanger. The skid includes an expansion tank, air separator and two end suction pumps configured for primary/stand-by operation.

SHELL AND TUBE HEAT EXCHANGER SKID

Steam and hot water are delivered to the building via schedule 40 steel piping. The piping is insulated and appears to be in fair shape. Condensate is collected in the receiver equipped with a duplex pump set. The duplex pump set pumps feed water back to the steam boilers.

CONDENSATE RECEIVER

Fuel oil transfer pumps are used to feed the three boiler and domestic water heater. The oil tank is below grade located just outside the boiler room. The age and condition of the tank is unknown.

OIL LINES TO AND FROM UNDERGROUND TANK

UNDERGROUND OIL TANK

Combustion air for the boilers and water heater is provide though a single 36x16 galvanized sheet metal duct that terminates approximately 18" above the floor. There is a control damper which closes when boilers are off. The system appears to be providing enough combustion air to the equipment; however, the design does not meet today's codes of having two individual openings, one high and one low.

Products of combustion are exhausted through a welded black steel breeching system tied into a brick covered chimney. It is unknown if the chimney is lined. If lined the condition of the liner is unknown. The welded black steel is insulated with calcium silicate material with a canvas jacket. Sections of the insulation has been removed to allow the installation of the newer boiler.

BREECHING SYSTEM

BRICK CHIMNEY

Controls:

The automatic temperature control system is a combination of pneumatic and electric/electronic controls. There is an 80-gallon air storage tank with two tank mounted compressors, which appears to have been abandon in place. There is no central control system to make global changes, review device trends or trouble

shoot issues. The classroom unit ventilators, and some of the older radiation devices, have been fit with local electric/electronic control. These control devices are stand alone. Unit ventilators are controlled by standalone programmable thermostats. There is a small electric/electronic control system for the three boilers.

ABANDON PNEUMATIC CONTROLS COMPRESSOR

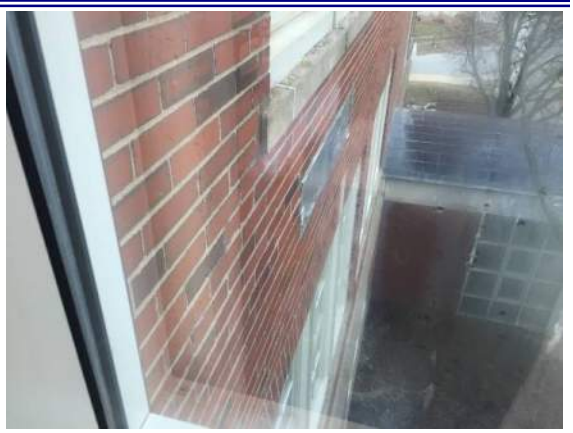
CONTROL PANEL FOR BOILERS

STAND ALONE THERMOSTAT INSTALLED IN 2019

Heating System:

The majority of the building is heated and ventilated by perimeter vertical unit ventilators. Outside air is supplied to the unit ventilators via wall louvers located below the windows. Each unit ventilator either has a steam or a hot water coil, filters, outside/return air dampers and supply fans. Each unit ventilator is controlled by a standalone programmable thermostat. It was noted that the majority of the outside air intake louvers have been blocked off on the outside. This could be due to control issues with the outside air dampers.

CLASSROOM UNIT VENTILATOR



BLOCKED OFF OUTSIDE AIR INTAKES

Areas not served by unit ventilators, such as Administration, are heated by either steam or hot water radiation such as fin tube, cabinet unit heaters or radiators. The devices appear to be in fair shape but show signs of wear.

FIN TUBE RADIATION

The gymnasium is heated and ventilated by two indoor air handling units. The air handling units are located on either side of the stage. Supply air is discharged into the gymnasium by galvanized sheet metal ductwork terminating with mesh side wall grilles. Return air is draw back through the stage opening. Outside air is ducted to the air hander units from a nearby wall louver. Exhaust air is discharge from the building by wall mounted propeller fans. The gymnasium also has steam radiators mounted mid height on the exterior walls. The gymnasium is also equipped with ceiling propeller fans for de-stratification.

GYM INDOOR AHU

The kitchen is heated and ventilated by an indoor make-up air unit located within the space. The air handler houses the steam coil, supply fan, mixing box and filters. The unit provides space ventilation as well as make up air to the kitchen hood. The kitchen hood is a stainless steel canopy with a side wall propeller fan mounted at the back of the hood. This design is not code compliant with grease laden air. The hood is not equipped with filters allowing the grease to build up on this hard to clean fan. The dishwasher is not equipped with an exhaust system.

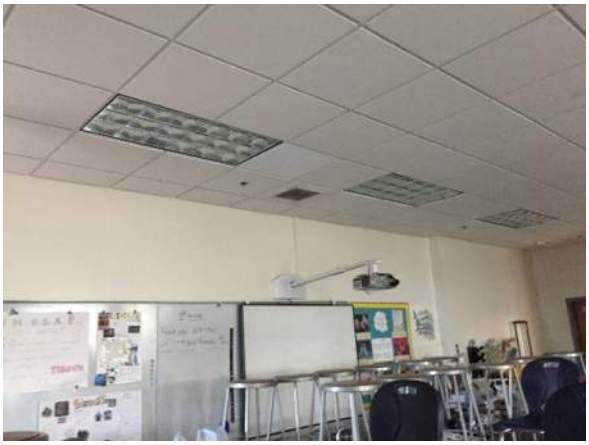
KITCHEN MAKE UP AIR UNIT

KITCHEN HOOD

DISH WASHER W/O EXHAUST

Ventilation Systems:

Classroom ventilation air is discharged to the space by the classroom unit ventilators. The majority of the outside air intakes to the classroom unit ventilators have been blocked up on the outside preventing outside air from entering the classroom unit ventilators. Classrooms are exhausted though ganged ducted exhaust systems to roof mounted exhaust fans. The exhaust inlets are located low to the floor in the old section of school and at the ceiling in the addition. In some room the exhaust opening has been block over.



CEILING CLASSROOM EXHAUST

Administration does not have mechanical ventilation. Rooms at the exterior have access to operable window however room without access to windows do not have any means of ventilation air. Ventilation is a code requirement either through natural or mechanical means.

Corridors do not have ventilation which by today's standards is a code violation.

Art room kiln does not have hood or kiln exhaust system.

KILN W/O EXHAUST

It is unknown if the 1995 addition, which has three connecting floors, is considered an atrium. Currently there is no smoke exhaust. If determined to be an atrium a smoke exhaust system will be required by code. Dust collection system has been abandoned in place.

Air Conditioning Systems:

Air conditioning is limited to administration area and media center. Both areas are air conditioned by dedicated ductless fan coil unit with remote outside condensers. The air conditioning units appear to be in good working order. Each ductless fan coil is controlled by a local thermostat.

DUCTLESS FAN COIL (MEDIA CENTER)

REMOTE CONDENSER

Summary:

Overall the HVAC system has been well maintained for the vintage. However, advancements have been made for improved efficiency and performance and we would recommend updating the system to today's industry standards.

One boiler is new while the other two are over 17 years old. The control system works but is in disarray with no central means to program schedules, review tends, make global adjustments, etc. There are code concerns regarding ventilation air requirements. The blocked classroom unit ventilator intakes should be reviewed and repaired. The kitchen hood exhaust system should be reviewed and brought up to code. The connected three floors in the 1995 addition should be reviewed to determine if it is considered an atrium. If determined to be an atrium, a smoke exhaust system will be required by code.

ELECTRICAL SYSTEMS

Electrical Distribution System:

The primary service runs underground from a utility pole on Spring Street to a pad mounted transformer.

The electric meter is mounted adjacent to the pad mounted transformer. The secondary service originates at the pad mounted transformer to a 120/208V, 1600A, 3 phase, 4 wire switchboard located in the Basement Main Electric Room off the Boiler Room. The switchboard is as manufactured by Westinghouse and was installed at the time of the 1995 expansion. The switchboard is two section, one for the 1600-amp main breaker and the second for distribution. The distribution section has two blank spaces left for expansion.

Although the switchboard appears to be in good shape it should be tested and cleaned to make sure lugs are properly torqued and breakers are functioning.

The service size should be reviewed at the time of design to verify its adequacy for any expansion / renovation project.

Pad Mounted Transformer

1600 AMP Switchboard

1600 AMP Main Breaker

There is a 1200-amp service for the fire pump connected ahead of the main service. The service comes into a 1200-amp switch located in the Fire Pump Room off the Boiler Room. Wiring in the fire pump room is in EMT.

Fire Pump Switch

Breaker panels are installed on each floor of the building. In the 1995 addition, the panels are flush mounted in the corridor. In the original 1938 building the panels are flush mounted in the corridors and surface mounted in the Janitors Closet. There is a surface mounted panel in the Cafeteria with no emergency off button, as well as a surface panel in the Shop and Home Economics Classrooms. The panelboards in the 1995 addition are in good condition; the panelboards in the 1938 building are in fair to poor condition and should be considered to be replaced during any construction project.

1997 Wing Panelboard

1938 Building Panelboard

A 120/240V, 200A, Single Phase, 3 Wire service is provided to the "White House". The building is provided with its own meter and is connected overhead to a pole mounted utility transformer on Spring Street. There is a 24 Circuit Panel in the building provided with a 200A Main circuit breaker fed from a 200A circuit breaker adjacent to the meter.

Accessory Building Overhead Service and 200A Main Breaker

Emergency Generator:

A building optional standby, backup generator is installed on the exterior, adjacent to the pad mounted transformer. The generator is located in an exterior enclosure with a below enclosure diesel fuel belly storage tank. The generator is rated at 120/208V, 3P, 300 kW and provided with a single 1200A circuit breaker. A 16 Circuit panel with a 100A main circuit breaker is provided for the enclosure lighting, GFCI type receptacles, and generator accessories. The generator was installed by the Town's Civil Defense and connects to a pad mounted automatic transfer switch adjacent to the generator. This automatic transfer switch appears to feed a manual transfer switch for distribution panel D1. Distribution panel D1 feeds panels in the 1995 addition as well as the Boiler Room and Cafeteria Panel. The generator also appears to feed a transfer switch for the fire pump. The generator appears to be in good condition.

Emergency Generator

Emergency Lighting System:

The emergency lighting system generally consists of emergency battery units and battery backup exit signs. Exit signs are LED. There are no exterior emergency lighting fixtures which is an NEC/IBC code violation. The emergency lighting appears to provide adequate coverage and appears to be in good condition with where the majority of the units were installed during the 1995 building project, they should be considered to be replaced under any new construction project.

Corridor with Emergency Battery Unit

Fire Alarm System:

The fire alarm system control panel is located behind the door of the upper level of the Boiler Room. The panel is a Silent Knight SK-5208 20 conventional type panel and appears to have been installed in the last 5-7 years and appears to be in good condition. The system is not a voice system. The system is central station connected via digital communicator.

Devices throughout the school were updated at the time of the panel installation and appear to meet ADA requirements for heights and locations.

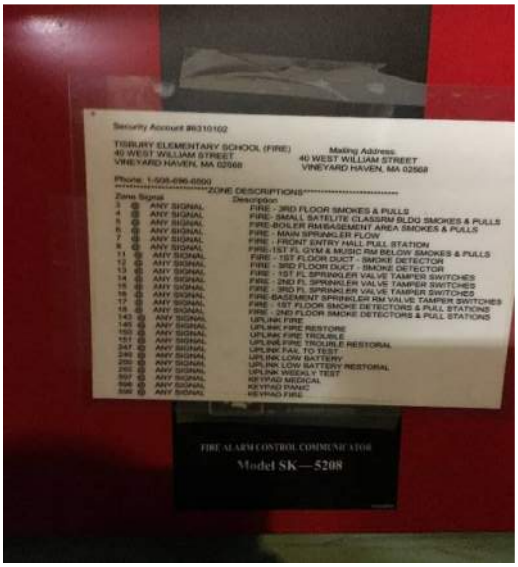
Smoke detectors are installed in the corridors and stairs.

Pull stations are installed at egress doors.

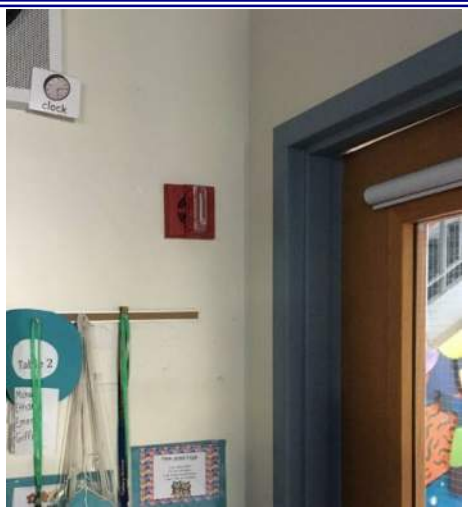
Audio/visual units are installed in the corridors and classrooms and strobe only units are installed in toilet rooms.

The accessory building on site is also provided with fire alarm devices, these devices originate from an EST panel in the accessory building. It could not be determined if the accessory building is an extension of the main building's system, or if it operated independently.

Fire Alarm Control Panel



Fire Alarm Zoning



Class Room Audio/Visual Unit

According to the 2015, International Building Code, 907.2.3, in a Group E occupancy of over 50 occupants, a voice alarm communication system is required.

Lighting System:

Interior lighting is made up of mostly wraparounds, parabolic and prismatic lens troffers and recessed compact fluorescent downlights.

In the 1938 building the lighting in the classrooms are primarily pendant mounted wrap around fluorescent light fixtures.

The lighting in the 1997 building classrooms are primarily recessed 2x4 parabolic fluorescent light fixtures.

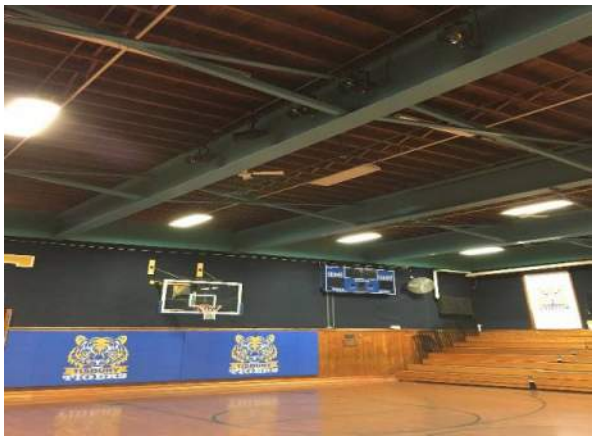
The lighting fixtures in the gymnasium consists of 2x4 high output fluorescent fixtures.

The lighting fixtures in the Media Center consist of 2x4 parabolic fluorescent fixtures and compact fluorescent downlights.

In general, the lighting fixtures throughout the school are in fair condition.

1938 Classroom Lighting

1997 Wing Classroom Lighting



Gymnasium Lighting

Lighting is controlled primarily via local switches with occupancy sensors in a few of the rooms.

The lighting controls do not meet the requirements of the latest edition of the International Energy Conservation Code for automatic controls and daylight harvesting.

Classroom Switching

Exterior Lighting System:

Site lighting consists of building mounted flood lighting. Exterior doors have wall mounted sconces in fair condition. Exterior doors with canopies have recessed compact HID fixtures. There is a pole light at the stair to the main parking lot which is in poor condition.

There is minimal lighting of the main parking lot which does not meet the standards set forth by the latest edition of the Illuminating Engineering Society Standards.

There is no lighting for the athletics fields.

Exterior Sconces

Canopy Lighting Fixtures

Pole Lighting Fixture

Solar Array:

There is a solar array located on the roof. The inverter for the system is Solectria which was registering 1500 watts at the time of observation.

Solar Inverter

General:

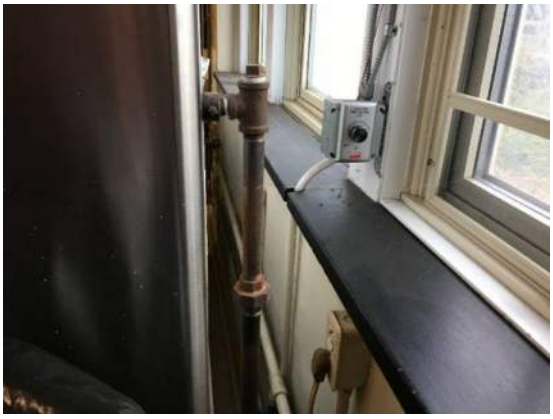
Although there is a kitchen panelboard, the breakers serving the equipment under the hood are not shunt trip type and Kitchen receptacles are not GFCI type.

Kindergarten classroom have been provided with an emergency off shunt trip system for the electric range.

Science classrooms do not have GFCI receptacles within 6 feet of sinks.

The building does not have a lightning protection system.

The building does not have an emergency responder radio amplification system.



KITCHEN RECEPTACLE

KITCHEN HOOD

PLUMBING

Domestic Water:

The building is served by a single four-inch domestic water service supplied from the town municipal system. This service pipe enters the school in the Boiler Room.

The water meter assembly is two four-inch OS&Y valves, spool connection, two-inch Neptune water meter. The service is not provided with any backflow prevention or a full-size by-pass.

WATER METER

WATER SERVICE

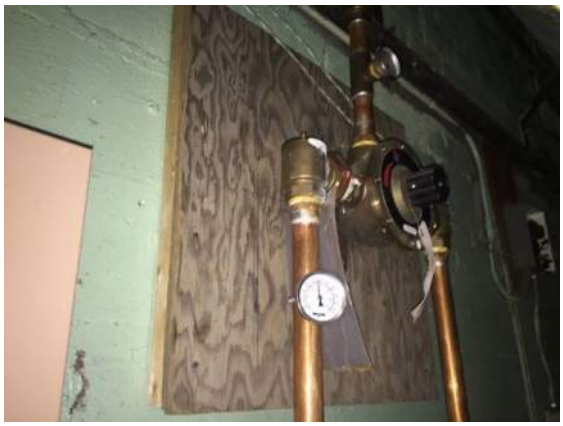
Domestic Hot Water:

Domestic hot water is provided from an oil-fired Bock storage tank type heater with 68-gallon storage capacity with 215 gallons per hour recovery. The water storage temperature appears to be set at 140 degree.

The water is piped to a building Leonard water temperature control valve and the discharge temperature at 120 degree.

The domestic hot water return system is provided with a single in-line pump with aquastat for temperature control.

WATER HEATER



MIXING VALVE

Plumbing Fixtures:

Most of the original plumbing fixtures have been replaced with lower flow type fixtures. It appears that some of the original plumbing fixtures remain but are not in service.

The science sinks are the molded sink with the countertop, single deck mounted faucet with atmospheric vacuum breaker for cross connection protection, deck mounted gas turret (dual).

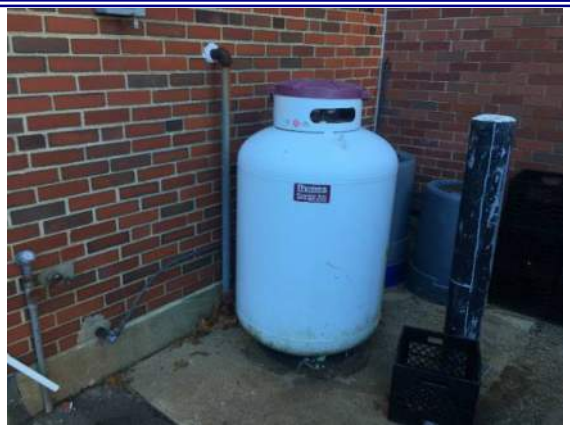
WATER CLOSET

LAVATORY

SCIENCE SINK

Gas System:

The building is supplied with a 120-gallon propane storage (vertical) tank with a single system regulator. This system supplies the kitchen and science rooms. The kitchen did not appear to be provided with a master gas shut off valve and box. The science classroom was provided with a master gas valve and box.



PROPANE TANK

Sanitary System:

The building sanitary system piping drains by gravity to the outside of the building except for the Basement which has couple of sumps which only handle the floor drains. The science waste and vent piping is schedule 40 polypropylene pipe with mechanical joints.

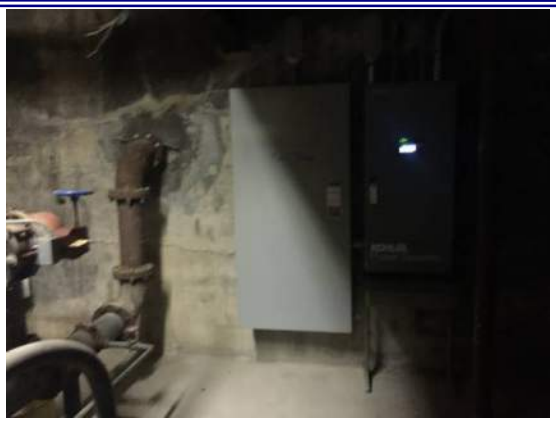
Storm System:

The building is a mix of roof drainage type collection systems. The flat roof areas are drained by interior piping system with cast iron roof drains. This system is collected and piped to the exterior of the building. All the storm water runoff for the pitched roofs is collected by an exterior gutter system and piped to grade.

FIRE PROTECTION

Fire Service:

The building is served by a single six-inch fire service supplied from the town municipal system. The system is provided with a double check valve assembly on the discharge side of the pump.



FIRE SERVICE

Fire Pump:

The building fire pump is a base mounted split case centrifugal type pump. The pump is 50 HP. The design and delivery gallons per minute and discharge pressure was not determined. The system was provided with a pump controller panel. It appears the transfer switch was added to the system at a later date.

FIRE PUMP

FIRE PUMP TEST HEADER

Fire and Sprinkler System:

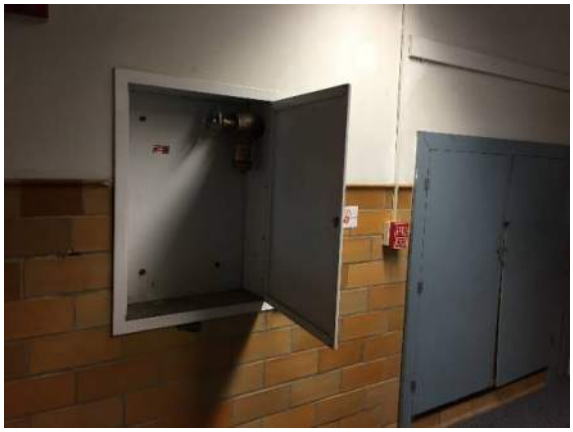
The building is fully sprinkled. There is a Gem four-inch alarm check valve provided on the discharge side of the fire pump. The building is protected by number of sprinkler zones which are addressed with a supervised switch (sprinkler zone). Some areas of the building are provided with sprinkler coverage above and below the hung ceilings.

There are number of fire valve cabinets, the cabinets have the hoses removed. The valves are 2 ½" X 1 ½" reducer.

ALARM CHECK VALVE

SPRINKLER HEAD

FIRE DEPARTMENT CONNECTION & ALARM BELL



FIRE HOSE CABINET

Appendix

- Maps Appendix
  - MHC Historic Area Map
  - Contours Map
  - Soils Maps
  - Flood Insurance Rate Maps
  - Assessor Map
  - Massachusetts Historical Commission Historic Inventory Map
  - Existing Conditions Survey

- Report of the School Committee – 1951[1]
  - 1951 Addition Summary

- Report of the Superintendent of Schools – 1951[2]
  - 1951 Addition

- The Journal of the National Education Association – Vol. 20, No.1 January 1931[3]
  - Consolidated elementary and high school, Tisbury, Massachusetts (picture)

[1] Courtesy of / research by Rachel Orr and the Town of Tisbury
[2] Courtesy of / research by Rachel Orr and the Town of Tisbury
[3] Courtesy of / research by Rachel Orr and Barra Peak

Figure X: MHC Historic Area
Tisbury Elementary School
Tisbury, Massachusetts

Data Source: MassGIS
Nitsch Project #11915

Nitsch Engineering

Figure X: Contours
Tisbury Elementary School
Tisbury, Massachusetts

Data Source: MassGIS
Nitsch Project #11915

Nitsch Engineering

Soil Map—Dukes County, Massachusetts
(Tisbury Elementary School)

Map Scale: 1:2,180 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 30 60 120 180

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Unit Polygons

Soil Map Unit Lines

Soil Map Unit Points

Special Point Features

Blowout

Borrow Pit

Clay Spot

Closed Depression

Gravel Pit

Gravelly Spot

Landfill

Lava Flow

Marsh or swamp

Mine or Quarry

Miscellaneous Water

Perennial Water

Rock Outcrop

Saline Spot

Sandy Spot

Severely Eroded Spot

Sinkhole

Slide or Slip

Sodic Spot

Spoil Area

Stony Spot

Very Stony Spot

Wet Spot

Other

Special Line Features

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Dukes County, Massachusetts
Survey Area Data: Version 12, Sep 14, 2016

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 30, 2011—Oct 8, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Dukes County, Massachusetts (MA007)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
259B	Carver loamy coarse sand, 3 to 8 percent slopes	22.3	95.1%
259C	Carver loamy coarse sand, 8 to 15 percent slopes	1.1	4.9%
Totals for Area of Interest		**23.5**	**100.0%**

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) Report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS Report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study Report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study Report for this jurisdiction.

The AE Zone category has been divided by a **Limit of Moderate Wave Action (LiMWA)**. The LiMWA represents the approximate landward limit of the 1.5-foot breaking wave. The effects of wave hazards between the VE Zone and the LiMWA (or between the shoreline and the LiMWA for areas where VE Zones are not identified) will be similar to, but less severe than those in the VE Zone.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study Report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Massachusetts State Plane Island Zone (FIPS zone 2002). The **horizontal datum** was NAD 83, GRS 1980 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713- 3242**, or visit its website at http://www.ngs.noaa.gov.

Base map information shown on this FIRM was derived from digital orthophotography. Base map files were provided in digital form by Massachusetts Geographic Information System (MassGIS). Ortho imagery was produced at a scale of 1:5000. Aerial photography is dated April 2005.

This map reflects more detailed and up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables for multiple streams in the Flood Insurance Study Report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

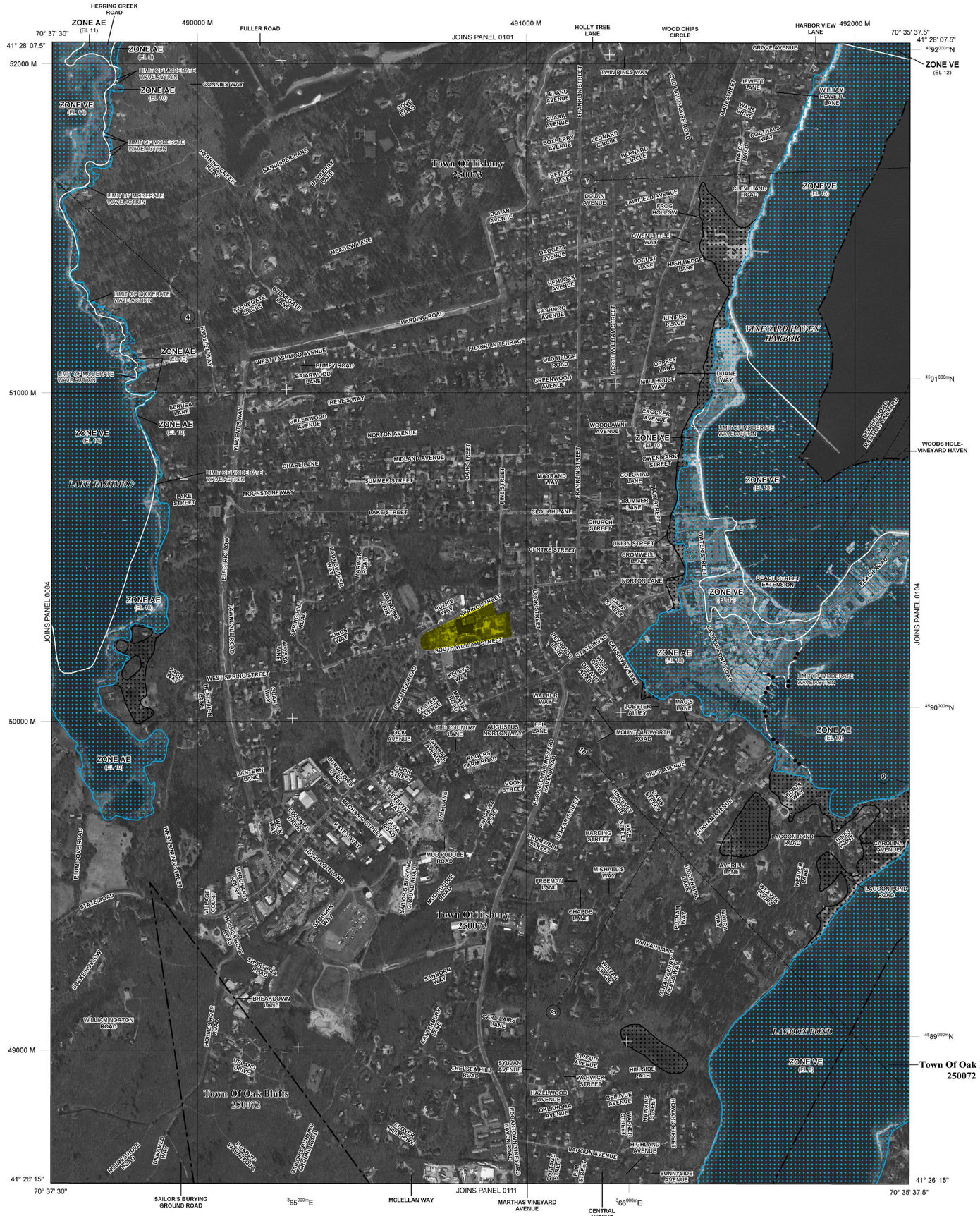
Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

For information on available products associated with this FIRM visit the **Map Service Center (MSC)** website at http://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the MSC website.

If you have **questions about this map,** how to order products, or the National Flood Insurance Program in general, please call the **FEMA Map Information eXchange (FMIX)** at **1-877-FEMA-MAP** (1-877-336-2627) or visit the FEMA website at http://www.fema.gov/business/nfip.

Only coastal structures that are certified to provide protection from the 1-perent-chance annual flood are shown on this panel. However, all structures taken into consideration for the purpose of coastal flood hazard analysis and mapping are present in the DFIRM database in S_Gen_Struct.



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Areas formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X	Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

1% Annual Chance Floodplain Boundary

0.2% Annual Chance Floodplain Boundary

Floodway boundary

Zone D boundary

CBRS and OPA boundary

Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities.

Limit of Moderate Wave Action

Limit of Moderate Wave Action coincident with Zone Break

513	Base Flood Elevation line and value; elevation in feet*
(EL 987)	Base Flood Elevation value where uniform within zone; elevation in feet*

*Referenced to the North American Vertical Datum of 1988

A — A	Cross section line
23 - - - - - 23	Transect line
45° 02' 08", 93° 02' 12"	Geographic coordinates referenced to the North American Datum of 1983 (NAD 83) Western Hemisphere
3100000 FT	1000-meter ticks: Massachusetts State Plane Island Zone (FIPS Zone 2002), Lambert Conformal Conic projection
$^{4}89^{000m}$ N	1000-meter Universal Transverse Mercator grid values, zone 19
DX5510 ×	Bench mark (see explanation in Notes to Users section of this FIRM panel)
• M1.5	River Mile

MAP REPOSITORIES
Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE
FLOOD INSURANCE RATE MAP
July 6, 2010

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

July 20, 2016 - to change Base Flood Elevations and Special Flood Hazard Areas, to change zone designations, to update the effects of wave action, to update corporate limits, to add roads and road names, to incorporate previously issues Letters of Map Revision, and to modify Coastal Barrier Resources System units.

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

250 0 500 1000 FEET

150 0 150 300 METERS

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0103J

FIRM

FLOOD INSURANCE RATE MAP

DUKES COUNTY, MASSACHUSETTS
(ALL JURISDICTIONS)

PANEL 103 OF 227

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

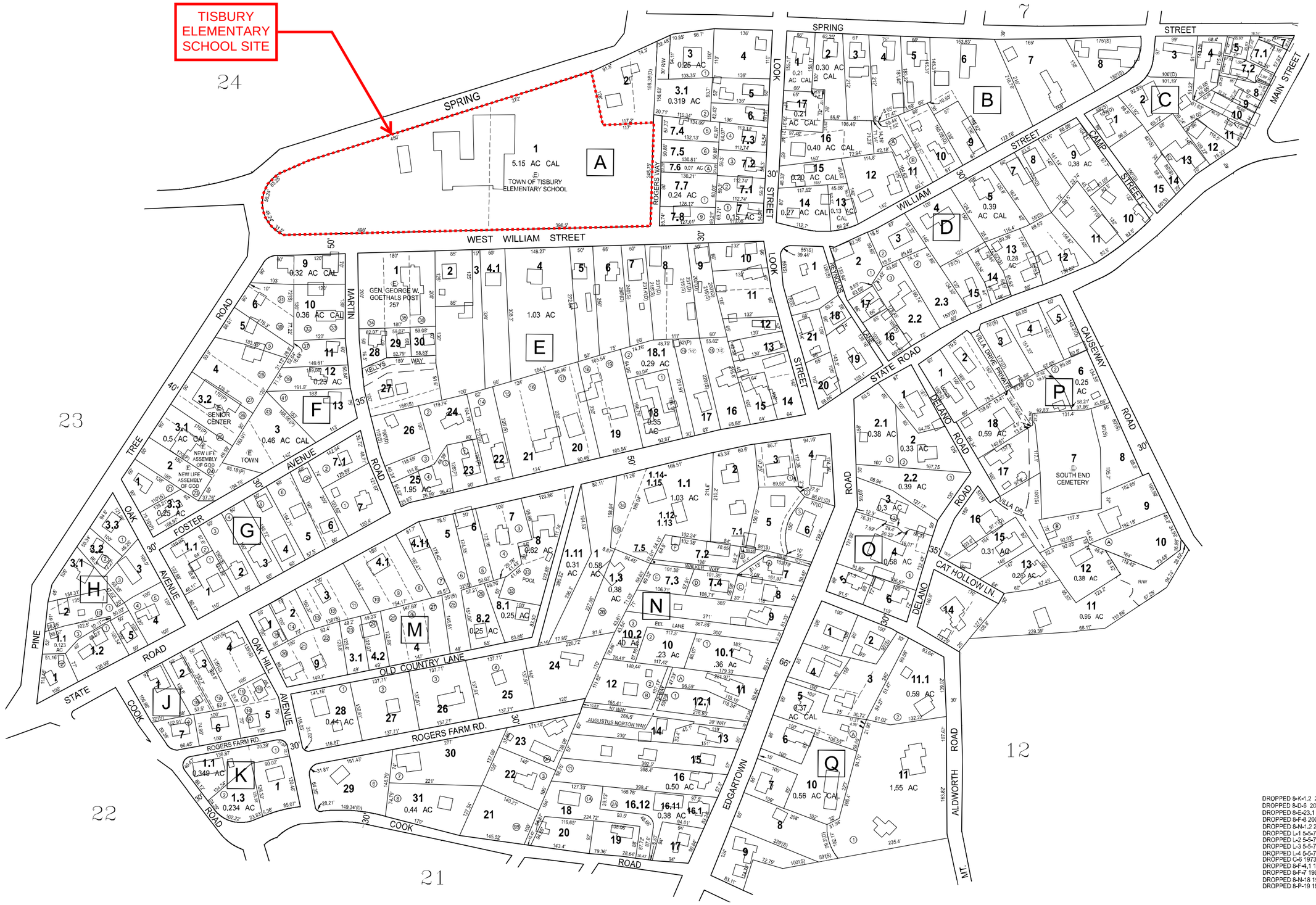
COMMUNITY	NUMBER	PANEL	SUFFIX
OAK BLUFFS, TOWN OF	250072	0103	J
TISBURY, TOWN OF	250073	0103	J

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
25007C0103J

MAP REVISED
JULY 20, 2016

Federal Emergency Management Agency



DROPPED 8-K-1,2 2017
DROPPED 8-D-6 2016
DROPPED 8-E-23,1 2010
DROPPED 8-F-8 2005
DROPPED 8-N-1,2 2005
DROPPED L-1 5-5-71
DROPPED L-2 5-5-71
DROPPED L-3 5-5-71
DROPPED L-4 5-5-71
DROPPED C-6 1973
DROPPED 8-F-4,1 1979
DROPPED 8-F-7 1982
DROPPED 8-N-18 1988
DROPPED 8-P-19 1993

THIS MAP IS FOR ASSESSMENT PURPOSES. IT IS NOT VALID FOR LEGAL DESCRIPTION OR CONVEYANCE.
THE HORIZONTAL DATUM IS THE MASSACHUSETTS STATE PLANE COORDINATE SYSTEM, NAD 83.
ORIGINAL MAPS PREPARED & DATED 4-29-70 BY GENERAL MAPPING INC. YOUNGWOOD, PA.
MAPS RECOMPILED TO AVAILABLE MASSGIS ORTHOIMAGERY BY CAI TECHNOLOGIES, DECEMBER 2011.

REVISED & REPRINTED BY
CAI Technologies
Precision Mapping. Geospatial. Solutions.
11 Pleasant Street, Littleton, NH 03561
800.322.4640 - www.cai-tech.com

LEGEND

AREA SURVEYED	AC
AREA CALCULATED	AC CAL
RECORD DIMENSION	100'
SCALED DIMENSION	100'(S)
MATCH LINE	
WATER	-W-
EXEMPT PROPERTY	E
SUBDIVISION LOT NO.	2
RIGHT OF WAY/ACCESS	50'
COMMON OWNERSHIP	OR
ADJACENT SHEET NO.	2
BLOCK LETTER	D

SCALE: 1" = 100'
FEET 100 50 0 100 200 300
METERS 25 12.5 0 25 50 75

REVISED TO: JANUARY 1, 2019

TOWN OF TISBURY

BOARD OF ASSESSORS
VINEYARD HAVEN, MASSACHUSETTS

N

MAP NO.
8

Figure X: MHC Historic Inventory
Tisbury Elementary School
Tisbury, Massachusetts

Data Source: MassGIS
Nitsch Project #11915

Nitsch Engineering

UTILITY INFORMATION STATEMENT

1. THE SUB-SURFACE UTILITY INFORMATION SHOWN HEREON IS COMPILED BASED ON FIELD SURVEY INFORMATION, RECORD INFORMATION AS SUPPLIED BY THE APPROPRIATE UTILITY COMPANIES, AND PLAN INFORMATION SUPPLIED BY THE CLIENT, IF ANY; THEREFORE WE CANNOT GUARANTEE THE ACCURACY OF SAID COMPILED SUB-SURFACE INFORMATION TO ANY CERTAIN DEGREE OF STATED TOLERANCE. ONLY PHYSICALLY LOCATED SUB-SURFACE UTILITY FEATURES FALL WITHIN NORMAL STANDARD OF CARE ACCURACIES.

2. THE LOCATIONS OF UNDERGROUND PIPES, CONDUITS, AND STRUCTURES HAVE BEEN DETERMINED FROM SAID INFORMATION, AND ARE APPROXIMATE ONLY. COMPILED LOCATIONS OF ANY UNDERGROUND STRUCTURES, NOT VISIBLY OBSERVED AND LOCATED, CAN VARY FROM THEIR ACTUAL LOCATIONS.

3. ADDITIONAL BURIED UTILITIES/STRUCTURES MAY BE ENCOUNTERED.

4. THE STATUS OF UTILITIES, WHETHER ACTIVE, ABANDONED, OR REMOVED, IS AN UNKNOWN CONDITION AS FAR AS OUR COMPILATION OF THIS INFORMATION.

5. IT IS INCUMBENT UPON INDIVIDUALS USING THIS INFORMATION TO UNDERSTAND THAT COMPILING UTILITY INFORMATION IS NOT EXACT, AND IS SUBJECT TO CHANGE BASED UPON VARYING PLAN INFORMATION RECEIVED AND ACTUAL LOCATIONS.

6. THE ACCURACY OF MEASURED UTILITY INVERTS AND PIPE SIZES IS SUBJECT TO FIELD CONDITIONS, THE ABILITY TO MAKE VISUAL OBSERVATIONS, DIRECT ACCESS TO THE VARIOUS ELEMENTS AND OTHER MATTERS.

7. THE PROPER UTILITY ENGINEERING/COMPANY SHOULD BE CONSULTED AND THE ACTUAL LOCATIONS OF SUBSURFACE STRUCTURES SHOULD BE VERIFIED IN THE FIELD (V.I.F.) BEFORE PLANNING FUTURE CONNECTIONS. CONTACT THE DIG SAFE CALL CENTER AT 1-888-344-7233, SEVENTY-TWO HOURS PRIOR TO EXCAVATION, BLASTING, GRADING, AND/OR PAVING.

8. AS OF THE DATE OF THIS PLAN RECORD INFORMATION HAS NOT BEEN RECEIVED BY NITSCH ENGINEERING FOR THE FOLLOWING UTILITIES:

NOTES

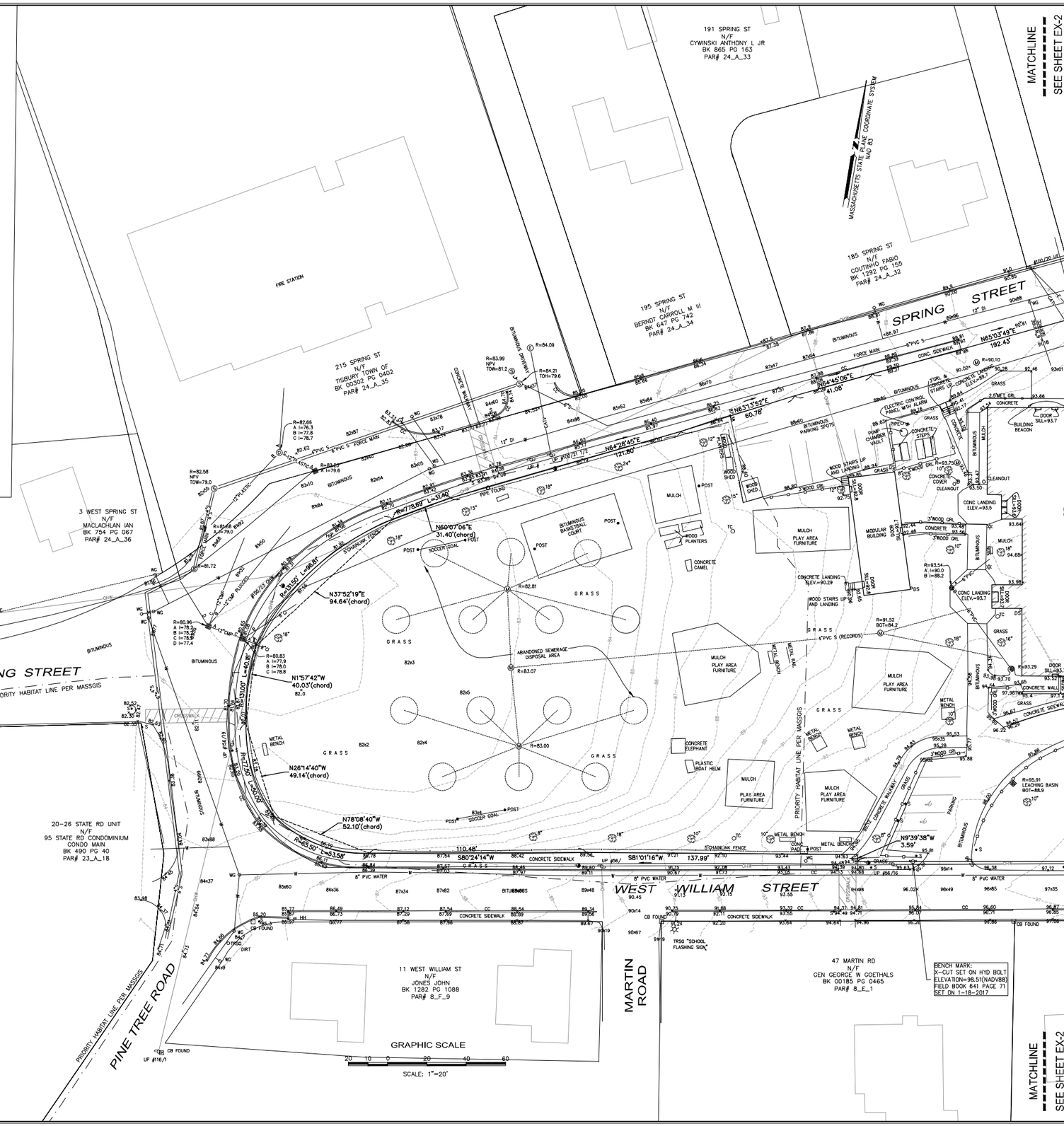
1. THIS DOCUMENT IS AN INSTRUMENT OF SERVICE OF NITSCH ENGINEERING. IT IS ISSUED TO TUROWSKI2 ARCHITECTURE, INC. FOR PURPOSES RELATED DIRECTLY AND SOLELY TO NITSCH ENGINEERING'S SCOPE OF SERVICES UNDER CONTRACT WITH TUROWSKI2 ARCHITECTURE, INC. FOR TISBURY ELEMENTARY SCHOOL. ANY USE OR REUSE OF THIS DOCUMENT FOR ANY REASON BY ANY PARTY FOR PURPOSES UNRELATED DIRECTLY AND SOLELY TO SAID CONTRACT AND PROJECT SHALL BE AT THE USER'S SOLE AND EXCLUSIVE RISK AND LIABILITY, INCLUDING LIABILITY FOR VIOLATION OF COPYRIGHT LAWS, UNLESS WRITTEN AUTHORIZATION IS GIVEN THEREFOR BY NITSCH ENGINEERING.

2. THE PURPOSE OF THIS PLAN IS TO SHOW EXISTING CONDITIONS AS THE RESULT OF AN ON-THE-GROUND INSTRUMENT SURVEY WHICH OCCURRED BETWEEN 01-16-17 AND 01-20-17.

3. HORIZONTAL COORDINATES REFER TO MASSACHUSETTS STATE PLANE ISLAND ZONE (NAD83) BASED ON RTK GPS OBSERVATIONS.

4. ELEVATION REFERS TO NAVD88 VERTICAL BASED ON RTK - GPS.

5. THE INFORMATION CONTAINED ON THE DISK OR ELECTRONIC DRAWING FILE ACCOMPANYING THIS PLAN MUST BE COMPARED TO THE SEALED AND SIGNED HARD COPY OF THE PLAN TO ENSURE THE ACCURACY OF ALL INFORMATION AND TO ENSURE NO CHANGES, ALTERATIONS, OR MODIFICATIONS HAVE BEEN MADE. RELIANCE SHALL NOT BE MADE ON A DOCUMENT TRANSMITTED BY COMPUTER OR OTHER ELECTRONIC MEANS UNLESS FIRST COMPARED TO THE ORIGINAL SEALED DOCUMENT ISSUED AT THE TIME OF THE SURVEY. DUE TO THE CRITICAL NATURE OF SURVEYING, DATA ACQUISITION, AND AUTOCAD PLAN DEVELOPMENT, IF CRITICAL DIMENSIONAL INFORMATION IS NEEDED AND IS NOT SPECIFICALLY SHOWN ON THE ELECTRONIC DRAWING FILE, PLEASE CONTACT NITSCH ENGINEERING.



LEGEND

	CATCH BASIN
	DRAIN MANHOLE
	ELECTRIC MANHOLE
	MISCELLANEOUS MANHOLE
	SEWER MANHOLE
	WATER MANHOLE
WSO	WATER SHUT-OFF
WG	WATER GATE
	FIRE HYDRANT
UP	UTILITY POLE
UP W/ UE	UTILITY POLE WITH CONDUIT LINE TO GROUND
	LIGHT POLE
HH	HAND HOLE
TC	TRASH CAN
FACB	FIRE ALARM CALL BOX
S	SIGN POST
TRSG	TRAFFIC SIGNAL
12"	DECIDUOUS TREE WITH TRUNK DIAMETER
12"	CONIFEROUS TREE WITH TRUNK DIAMETER
	HANDICAP PARKING
60H43	SPOT ELEVATION
CLF	CHAIN LINK FENCE
BB	BITUMINOUS CONCRETE BERM
SGC	SLOPED GRANITE CURB
VGC	VERTICAL GRANITE CURB
CC	CONCRETE CURB
EBX	ELECTRIC BOX
R=	RIM ELEVATION EQUALS
I=	INVERT ELEVATION EQUALS
TH=	TOP OF HOOD ELEVATION EQUALS
NPV	NO PIPES VISIBLE
TOW=	TOP OF WATER
60W43TW	TOP OF WALL ELEVATION
CATV	UNDERGROUND CABLE TELEVISION LINE
D	UNDERGROUND DRAIN LINE
E	UNDERGROUND ELECTRIC LINE
S	UNDERGROUND SEWER LINE
W	UNDERGROUND WATER LINE
OHW	OVERHEAD WIRES
	MONITORING WELL
	BENCH MARK

Nitsch Engineering
www.nitscheng.com
2 Center Plaza, Suite 430
Boston, MA 02108
T: (617) 338-0063
F: (617) 338-6472

- Civil Engineering
- Land Surveying
- Transportation Engineering
- Structural Engineering
- Green Infrastructure
- Planning
- GIS

EXISTING CONDITIONS

TISBURY ELEMENTARY SCHOOL
40 WEST WILLIAM STREET, VINEYARD HAVEN, MA 02568

PREPARED FOR:
TUROWSKI2 ARCHITECTURE, INC.
313 WAREHAM ROAD, MARION, MA 02738

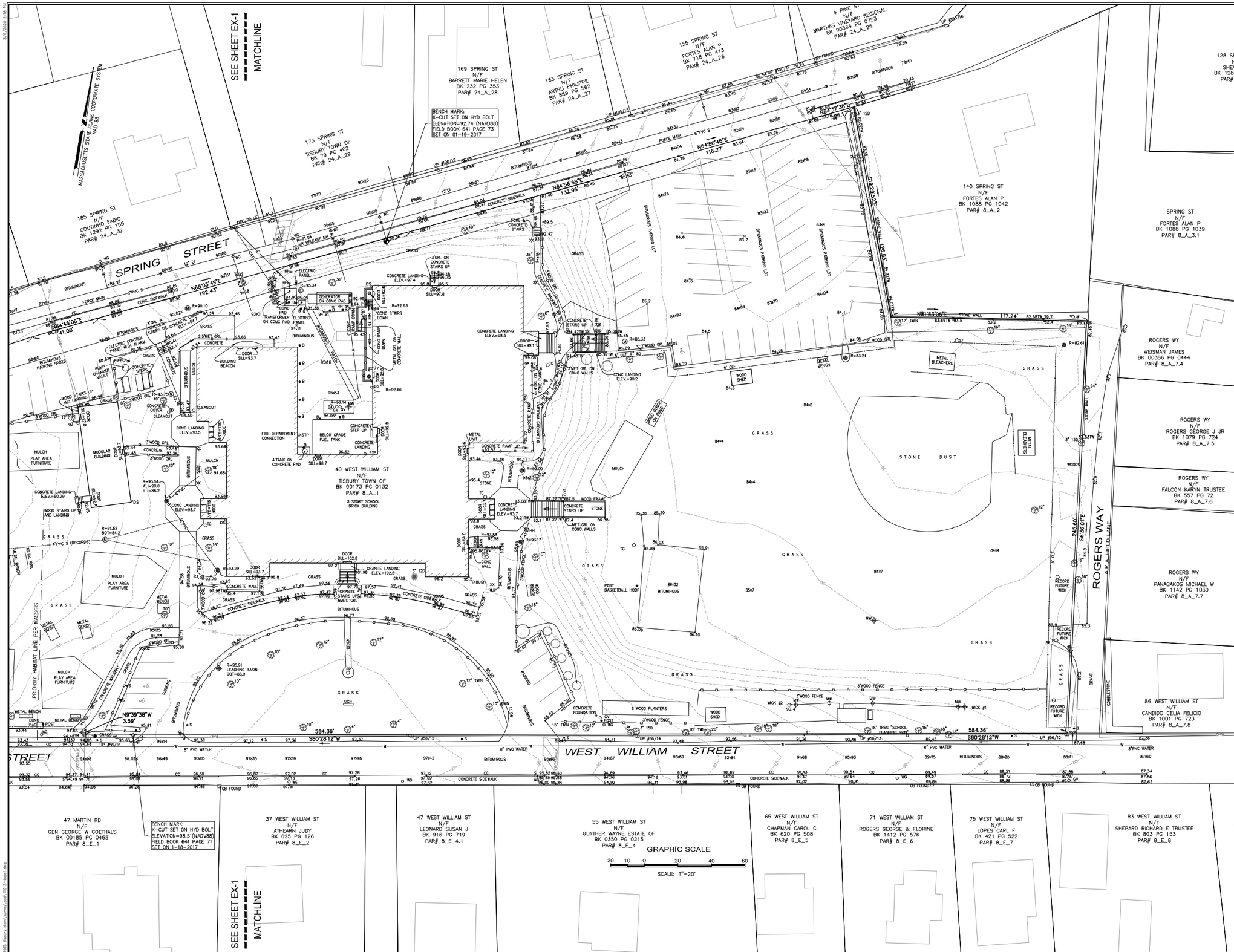
REV.	COMMENTS	DATE
	REVISIONS	

PROJECT #	11915
FILE:	11915-TOPO1.dwg
SCALE:	1"=20'
DATE:	08/16/17
DES./COMP:	MEV
FIELD BOOK:	641
DRAFTED BY:	MRD
CHECKED BY:	

SHEET:I

EX-1

OF 2 REV.



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DRAFTED BY:	MRD
CHECKED BY:	

SHEET:2

EX-2

OF 2 REV.

Report of the School Committee

To the Citizens of Tisbury:

For the year 1951, we wish to make the following report:

COST OF SCHOOLS

Expended		$81,289.50
Income:		
Received from State	$7,498.53	
Tuition	$7,348.30	
Rent of Gymnasium	$362.00	$15,208.83
Net Cost		$66,080.67

1951—414 pupils—net cost per pupil—$161.68

The average cost per pupil in Massachusetts was $222.86 for the school year ending last June. The cost in Tisbury for the same period was $195.25. We are pleased to have kept the cost per pupil below the State average and yet offered educational opportunities that are not found in many larger communities. For example Tisbury supports a kindergarten, a service offered in only 68 other school systems in a state of 351 towns and cities.

Addition

The addition to the gymnasium was authorized at the last annual town meeting. Thomas Rabbitt, Ashley Sturgis and Abraham Brickman were appointed to serve with the School Committee as a Building Committee.

Walter Gaffney of Hyannis was employed as the architect. Leo De Sorcy was the low bidder and was awarded the general contract. On the sub-contracts the low bidders were:

E. T. Walker & Co.—painting

Manuel Maciel—plumbing and heating

Donald A. Berube—electrical

The addition is now in use and adds to the plant two public toilet rooms, a large storeroom for athletic equipment and the auditorium seats, two dressing rooms off the stage, a music room for instruction in vocal and instrumental music and enlarged locker room space for both boys and girls.

The appropriation also purchased furniture for the dressing rooms, music room and locker room as well as trucks for moving seats from the gymnasium-auditorium directly to storage.

In connection with the new construction the lighting of the stage was changed and greatly improved. The under ground water, electrical and telephone lines serving the building were found to be too close together for safety. These were changed so this hazard was eliminated.

We hope that the voters will take the necessary time to look over the addition while at town meeting. We feel sure that all will appreciate the value to the school of this expansion.

The enlargement of the gymnasium has proved to be of great help in several departments including athletics, music and especially in dramatics. Both the seniors and the Martha's Vineyard Little Theatre Group have presented plays on the enlarged stage, and both have been lavish in their praise of the improved lighting and dressing-room facilities.

New Vacuum Pump

The pump was installed when the main building was erected. It has been in use for over twenty years. The addition of the gymnasium and now the enlargement of it has added considerable to the load and the pump is in action almost constantly to keep the steam pipes free of condensation.

Because of its age and load, we are told by the heating engineer, there is much danger of its breaking down. He recommends a new double action pump. Then in case one cylinder failed it could be cut out and the other carry on while the first was being replaced or repaired. A breakdown now would necessitate closing the school for such a contingency.

We recommend a special appropriation for a new pump.

Motorized Steam Valves

Installation of such valves would make possible the use of steam where needed without heating other parts of the building. The saving on fuel would be considerable. In fact we have been informed that the saving over a period of two or three years would more than equal the cost of the installation.

We recommend that the motorized valves be authorized.

In General

Painting of several class rooms was done during the summer. By doing a few rooms each year the building can be kept in good condition.

In a building over twenty years old there is need for continuing expenditures for upkeep. Among other things several radiators should be replaced, new modern washing facilities for the toilet rooms and improved artificial lighting for blackboards should be provided.

The new school budget includes provision for an additional teacher in the high school, a long felt need, to lighten the load on the present staff and to provide more thorough instruction, particularly in the college preparatory course.

Provision is also made for a higher salaried physical education teacher for girls and the seventh grade which will enable us to get a permanent experienced teacher for this very important position.

The maximum salary for teachers has been raised so that, in view of the steadily rising cost of living, the regular annual increase could be given to those teachers whose pay had reached the former ceiling.

In view of Mr. Lord's approaching retirement and the need for choosing his successor, the all-Island School Committees met last fall, at which time a sub-committee was appointed, with Samuel B. Norton of Edgartown as chairman and consisting of one member from each town. The subcommittee is to investigate and bring in a list of available qualified candidates, and to report to the entire committee before March 1st. It is hoped that before the annual Superintendency Union meeting in April the necessary groundwork will have been done and the field of candidates sufficiently narrowed down so that we can, at that time, choose the new Superintendent. However, if further study or investigation proves to be necessary or desirable, it will be done at subsequent meetings. The District Committee has voted to employ the new superintendent as assistant superintendent during September and October.

Conclusion

We greatly appreciate the interest and co-operation of the Finance Committee and other town officers in solving many of our problems. To the citizens who have given us their loyal support we are deeply grateful. We express, too, our appreciation to employees of the Committee who are directly responsible for the success of the school.

Respectfully submitted,

DONALD E. TILTON
EMILIA B. DUARTE
ALFRED HUNTINGTON

Report of the Superintendent of Schools

To the School Committee and Citizens of Tisbury:

I have the honor of submitting my sixteenth annual report.

Personnel

There were few changes during the year. The senior high school faculty remained unchanged. Those who resigned were Louise Nutter, Grade IV, Rose Bufalo Anthony, Grade V, Leona M. Milch, Grade VII and Physical Education for girls. Jo Anne Libby, who taught Domestic Science in Tisbury, Oak Bluffs and Edgartown also resigned. C. Ellery Norton retired because of ill health at the end of the school year. Fred Wilson, a graduate of the Manual Arts Department of the Fitchburg Teachers' College was employed for the general shop. Mr. Wilson's home is in Ipswich.

For Grade IV, Marianna McGuffin was employed. She was graduated from Framingham Teachers' College in June. Daniel J. Cole of Lynn, a graduate of Salem Teachers' College, filled the vacancy in Grade V. We were unable to fill the vacancy permanently in Grade VII and Physical Education for girls so Jane Cottle Gale was engaged as a substitute teacher for the school year. Patricia M. Linehan of Binghamton, New York, a graduate of Russell Sage College, was hired by the three towns to teach Domestic Science.

Lunchroom

The School Committe has taken over the operation of the lunchroom as the law requires. All income goes into a revolving fund from which all expenses except janitor service and electric current is paid. This plan will continue for such time as the project remains self supporting. The town receives a grant from the State and Federal Governments and considerable food stuffs are donated from the Federal Government. Included in the latter have been "surplus food commodities" as follows: butter, apples, honey, dry milk, peanut butter, orange juice, peaches, tomatoes, stringed beans, peas, dried eggs and cranberry sauce.

The price of a balanced lunch has been advanced from twenty-five cents to thirty cents to the pupils and to fifty cents for the teachers. With the increase and by cutting the amount of help, we have been able to meet expenses.

Health

Several new laws relative to health effect the school. In conforming to them, all teachers have had physical examinations and all teachers and other school employees have had chest X-ray examinations.

All pupils sixteen years of age and over have also been X-rayed. Under a 1951 law the annual examinations for children was changed to provide a more thorough examination to be given periodically. Individual children will now be examined once in a two year period.

Addition

The addition to the gymnasium has made a great improvement in school operations. Enlarged locker rooms makes possible regular showers for all pupils after physical education classes. The music room, in back of the stage, provides facilities for instrumental and vocal instruction without interference with other classes. The large storeroom allows for the removal of chairs from the gymnasium efficiently and

quickly so that little time is lost to the school while changes are being made. The public toilet rooms will be of general convenience to the public and will make possible keeping the locker rooms in order for school use.

The Shop

The general shop, which re-opened in September, is off with a good start. The boys, under the supervision of the instructor, Mr. Wilson, have renovated the room. They painted the walls and have made new benches. So far the work has been primarily in wood but electrical, metal and cement work are to follow.

Evaluation of Activities

The Tisbury school is one of the small systems of the state having a high school. Of the 231 high schools in the State there are but thirty-two smaller than that of Tisbury. Size does not measure efficiency, however. Many features of our school are outstandingly good and the training given is equal to that given in the larger schools of the State.

Among the activities in which we are justified in feeling pride are:

A homemaking course for girls

A general shop for boys

An outstanding school orchestra

A program of art education

Special instruction in penmanship

Special instruction in Nature in cooperation with the Audubon Society

An excellent program in vocal music

A course in driver training

Three courses taught by efficient teachers preparing pupils for college, business and citizenship (Civic Curriculum)

There is always an opportunity for improvement and we should be constantly endeavoring to give girls and boys the very best possible education. I, personally, feel great satisfaction as I evaluate our accomplishments to date.

In Conclusion

In my forty-one years of working in public school systems in three states, I have found no communities with finer boys and girls, more co-operative parents or a citizenry more ready to give schools moral and financial support. Working with school committees, principals, teachers and other school employees has been a pleasure that has contributed much toward making my sixteen years on Martha's Vineyard one of the happiest periods of my life.

Respectfuly submitted,

ARTHUR B. LORD,

Superintendent of Schools

The Journal of the National Education Association – Vol. 20, No.1 January 1931 (page 25).

Consolidated elementary and high school, Tisbury, Massachusetts